

Remote Maintenance



Terminal Strip Assembly



Enclosure Assembly



Industrial Analytics

## Field



IE connections



Unmanaged switches IP 67



Contactless power transmission



SAI remote I/O



SAI passive



SAI interfaces



Decentralised power bus systems



Heavy-duty connectors



HighPower connectors



IE interfaces



Cord sets



Cable entry systems



Stainless steel enclosures



Aluminium enclosures



Plastic enclosures



Cable glands

## Workplace



Weidmüller Configurator



Systemised marking software



Printers (ink application)



Printers (thermal transfer)



Wire markers



Cable markers



Terminal markers



Device markers



Testing



Other tools



Cutting



Stripping



Crimping



Machines

# Relays and solid-state relays

## An overview of our portfolio

### TERMSERIES relay modules

Page A.8



- All-purpose, pluggable relay modules
- Space-saving width
- AgNi contact with and without gold plating
- AgSnO contact variations
- Screw and tension clamp connection

### TERMSERIES – solid-state relays

Page A.30



- All-purpose, pluggable solid-state relays
- Space-saving width
- DC and AC output variants
- Screw and tension clamp connection

### TERMSERIES adapters

Page A.56



- Suitable for input and output logic
- Version for TERMSERIES base

### TERMOPTO – solid-state relays

Page A.62



- Isolation of potentials in terminal format
- With PUSH IN technology
- Compact, enclosed design

### MICROOPTO – solid-state relays

Page A.74



- Compact semiconductor switch in terminal format
- High power for loads up to 10 A
- Electrically isolates high-speed signals
- International approvals

### MCZ SERIES relay modules

Page A.84



- Low profile with tension clamp connection
- TRAK version developed for the rail industry
- Large temperature range of -40 °C to +70 °C

### MCZ-SERIES – solid-state relays

Page A.90



- Low profile with tension clamp connection
- Universal interface between controller and sensor/actuator
- TRAK version developed for the rail industry

### D-SERIES relay modules

Page B.6



- Modularly designed product line
- Pluggable variants with 1 to 4 CO contacts
- Special variants for switching high DC loads

### RIDERSERIES relay modules

Page B.60



- Modularly designed product line
- Pluggable variants with 1 to 4 CO contacts
- Innovative relay base with PUSH IN connection

**RIDERSERIES FG relay modules**

Page B.96



- Modularly designed product line
- Relays with forcibly guided contacts
- Screw or tension clamp connection

**PSSR 1-phase Power solid-state relays**

Page C.4



- Load circuit: 12...275 V AC / 25 A or 24...600 V AC/35 A
- Zero-cross switch
- Ready to use
- Attachable monitoring module

**PSSR 1-phase Power solid-state relays**

Page C.6



- Load circuit 24...510 V AC/22 A
- Instantaneous-switching output
- Ready to use
- Attachable monitoring module

**PSSR 1-phase Power solid-state relays**

Page C.9



- Load circuit: 24...600 V/50 A or 75 A
- No-voltage switch
- Compact design

**PSSR 3-phase Power solid-state relays**

Page C.12



- Load circuit: 24...520 V AC / 20 A at 55 °C
- No-voltage switch
- Ready to use

**SIL relay**

Page D.6



- TÜV "Safety-Approved"
- SIL3 acc. to EN61508
- De-energise/Energise to Safe applications

**IT-Timer - industry timing relay**

Page E.4



- Multi-voltage input 24...48 V DC / 24...20 V AC
- Space-saving construction
- 7 time functions with separate control input

**BT-SERIES - Timer**

Page E.8



- Time range: 0.10 s...120 h
- Screw or tension clamp connection
- International approvals

**Timer with 6 mm width**

Page E.12



- Components for lengthening short pulses for the PLC
- Low input power
- DKZ Series with adjustable switch-off delay

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# Relay modules and solid-state relays in 6 mm width

## Relay modules and solid-state relays in 6 mm width

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MCZ-SERIES - solid-state relays	A.90

## Coupling modules in a terminal block design

### Relay modules and solid-state relays in 6 mm width

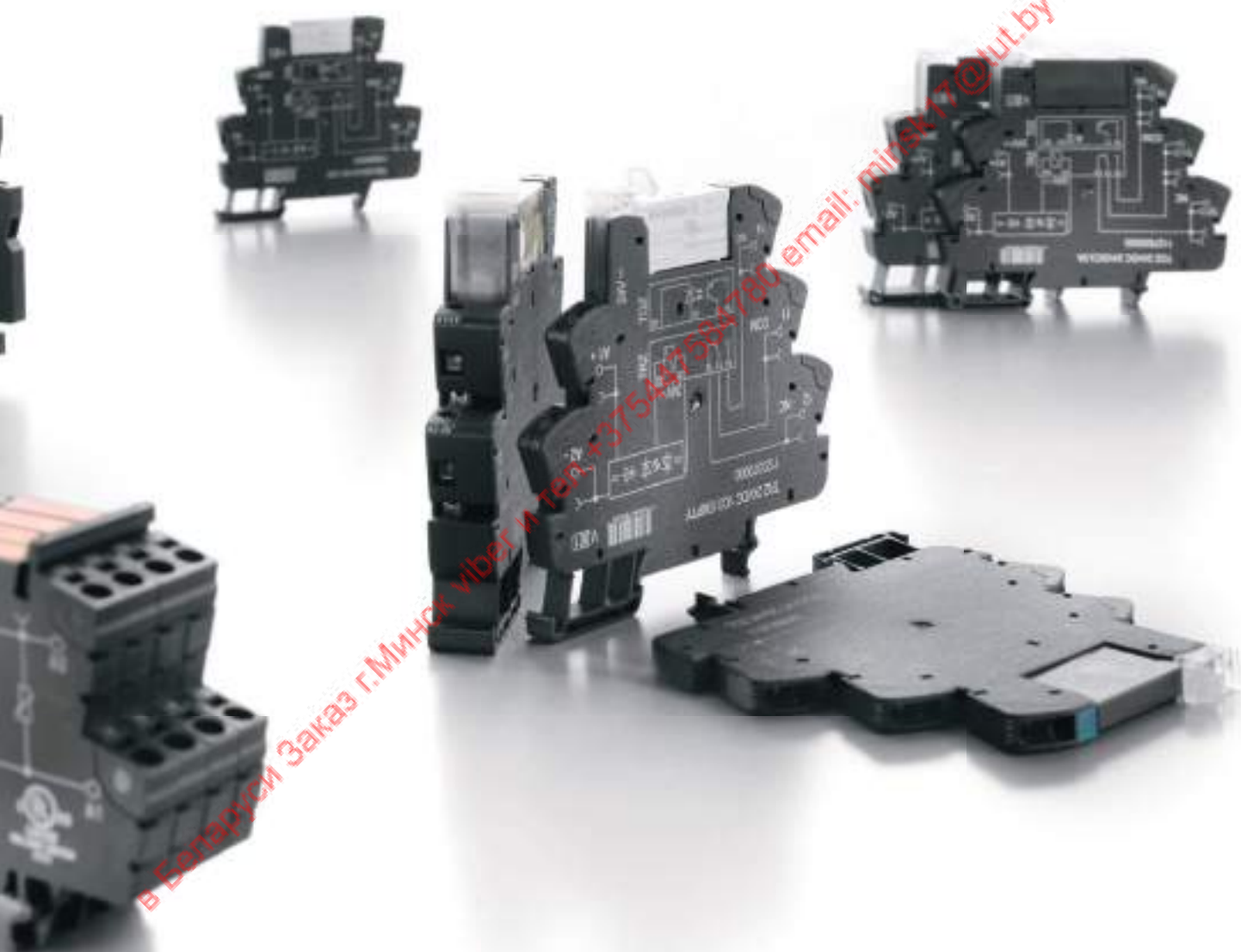
Weidmüller's relay modules and solid-state relays feature excellent electrical characteristics. They also take advantage of the same reliable connection technology that has proven itself countless times in terminal products. This product line is ideally complimented by a wide variety of system accessories such as labelling material and end brackets. This helps to reduce your inventory overhead and stock levels.

During the design of compact components, it is especially challenging to maintain minimal power loss since the small housing can exchange very little power with its surroundings. This challenge has already been mastered by Weidmüller since 1989. It was the first product in the terminal block format to come to market and it has been continually improved since then. Two compact but powerful solid-state relay switches TERMOPTO and MICROOPTO also meet this challenge.

The new TERMSERIES combines the proven properties of the established product lines with innovative technical solutions. A variable-voltage input has been specifically developed for the 6 mm disc design. This is the first time that the control of relay modules and solid-state relays can be used with voltages from 24 to 230 V DC/DC in this width. Another highlight is the ejector with integrated fibre-optic technology, which apart from allowing the simple and safe removal of the relay module and the solid-state relay, also illuminates the status indicator.

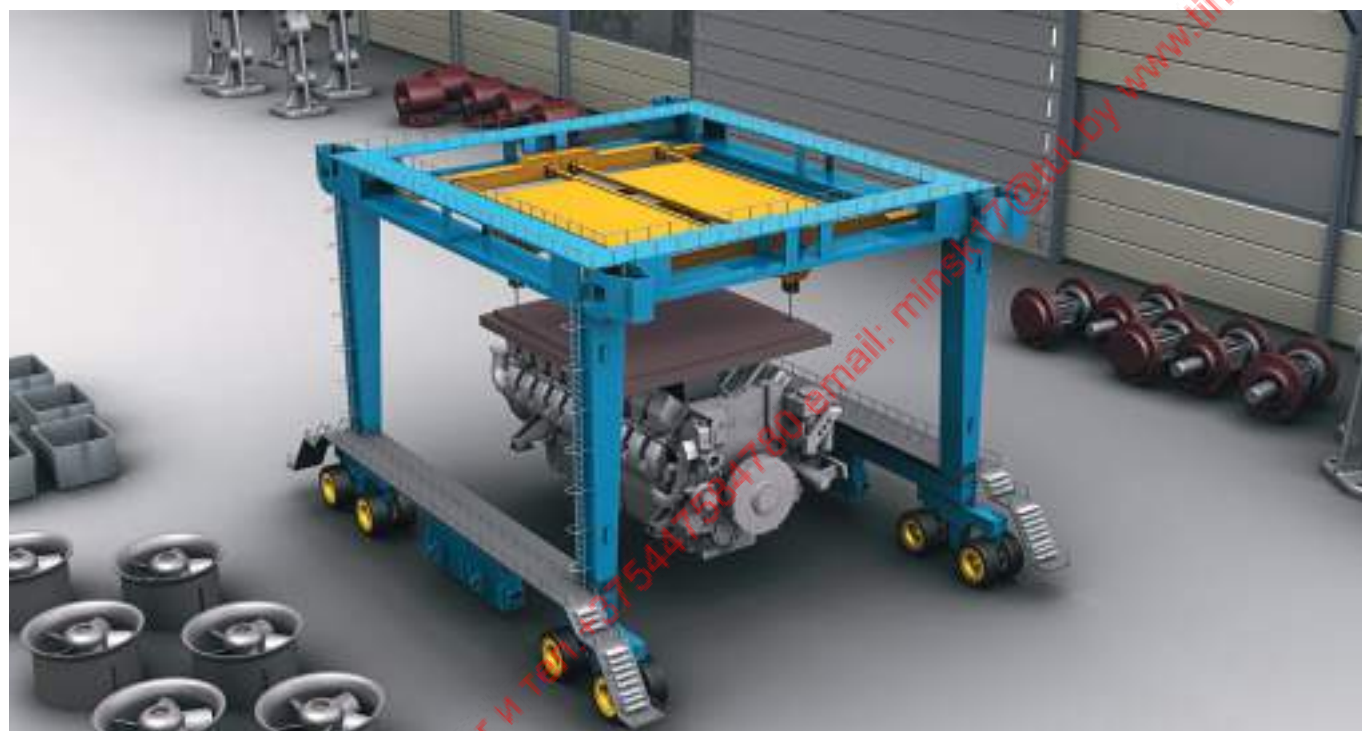
See for yourself, the quality of the Weidmüller's 6 mm products.





## Seamless integration is your wish

Enjoy the solutions in our TERMSERIES, MICROOPTO and SAI series



Materials and time savings in system and process automation are influenced by two critical factors. On the one hand, it is important to be able to work on complex systems with numerous sensor connections and a broad range of voltage inputs. On the other hand, the reliability of the actuator connections in terms of lifetime and speed play a major role.

The components in our TERMSERIES, MICROOPTO and SAI distributor series offer you this, in perfect combination. Our unique TERMSERIES multi-voltage input represents a universal relay module for all voltage inputs between 24 V and 230 V UC. These products also boast a slim terminal format and an eye-catching LED status display.

The MICROOPTO short circuit-proof solid-state relay switch has the benefit of a practically unlimited lifetime, compared to traditional relay technology. Any alarms, e.g. such as those set off by a short circuit on the output side, are directly analysed by the SPS, which reports the service needed – for instance, examining the supply line or a solenoid valve – to the relevant post.

Our solution is rounded off with the SAI distributor in IP68, which ensures safe, protected and flexible signal connections in the field, such as those for the crane forward/reverse switch and for wear-and-tear monitors, overheating switches and impact sensors in materials handling technology.





### TERMSERIES

- 6 and 12 mm relay modules and solid-state relays switches
- Multi-voltage input for 24 V to 230 V DC and AC
- Ideal visibility thanks to the illuminated ejector
- Partition plates and cross-connections for universal use



### MICROOPTO Solenoid

- Solid-state relays of 6 mm width earthed to mounting rail
- Short-circuit-proof output
- Short circuit alarm via signal contact
- MTBF means a long lifetime of more than 1,100 years



### SAI distributors and lines

- M12 distributors which can be freely assembled in various formats
- Torsion-resistant wires available
- Very slim M8 distributor in line format
- All-metal distributor available

## Reliably switch industrial loads on a permanent basis

### TERMSERIES extension with increased power and longer service life

Generally speaking, industrial loads consist of either a capacitive element or an inductive element, which causes sparks during switch-on and switch-off operations. This shortens the service life of the relay contacts, thereby increasing the costs involved in running a plant.

The new relay modules from our TERMSERIES family feature special contacts that have been optimised (as regards arrangement and material selection) to the severe stresses of industrial use.

Whether they're deployed in machinery and plant engineering, robot technology, wind power, offshore technology or marine engineering – the compact variants from the TERMSERIES family of products allow you to reliably switch industrial loads for a long time and permanently minimise your application's operating costs.



LED lamps feature an electronic ballast, with a switching regulator that guarantees a start-up peak more than 100 times higher thanks to its capacitive design. When plants are converted from conventional filament lamps to LED lighting, this quickly causes conventional relay contacts to overload. The compact and powerful TERMSERIES relays can be upgraded quickly and without any complications.

## Your special advantages:

### Permanently reliable

An pre-making tungsten contact prevents contacts from welding during switch-on when capacitive loads are being switched. This extends their service life.



**Customised system approach**

With suitable supply terminals, partition plates, cross-connections, other relay modules and solid-state relay variants, we offer you a flexible modular system to isolate and amplify signals.



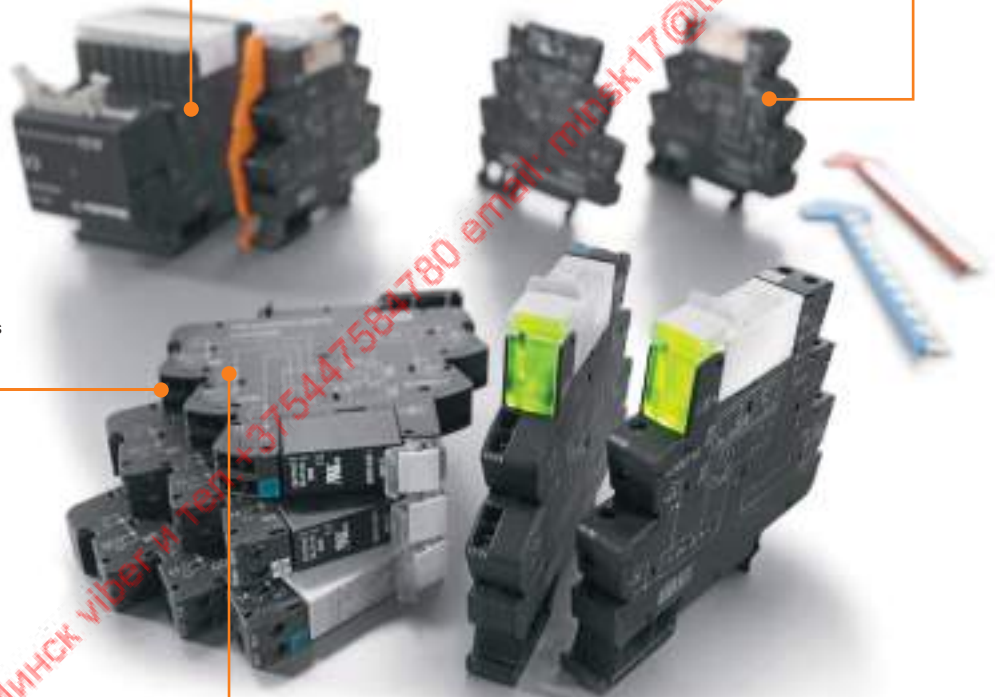
**All-purpose in use**

TERMSERIES is also available with the unique 24–230 V AC/DC multi-voltage input, which can be used with all relay and solid-state relay variants.



**Extremely compact**

Thanks to their compact width of just 12.8 mm, the modules fit just about anywhere on the DIN rail. This creates space in the cabinet.



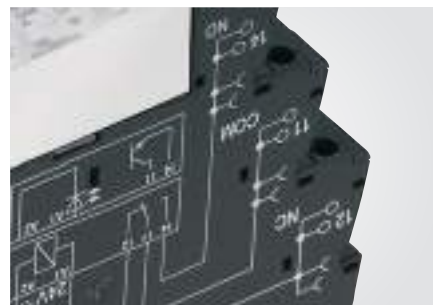
**Interface adapter for TERMSERIES relays**

Our pre-assembled plug-and-play solution with TERMSERIES interface adapter enables minimised cabling effort. The adapter has a universal fit and offers a genuine space advantage in interaction with the TERMSERIES products with identical contours.



**Minimal intervention**

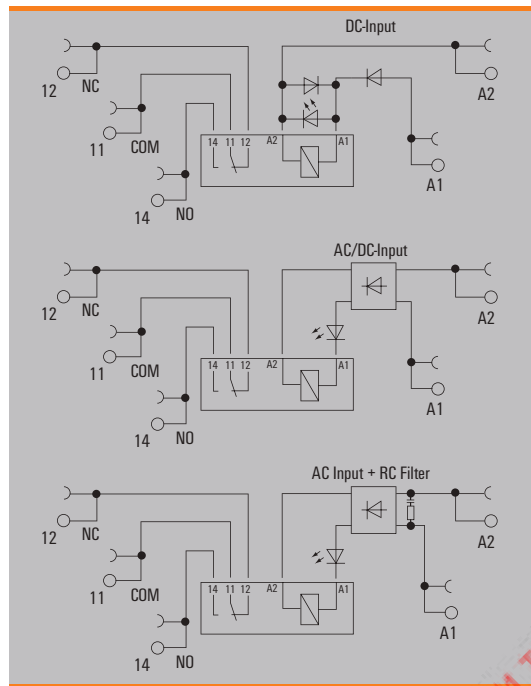
The new TERMSERIES variants can instantly switch the full 16 A load current thanks to the integrated cross-connection system.



1 CO contact

AC/DC/UC coil

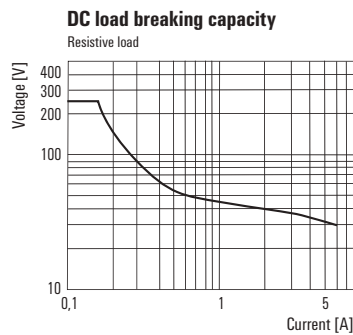
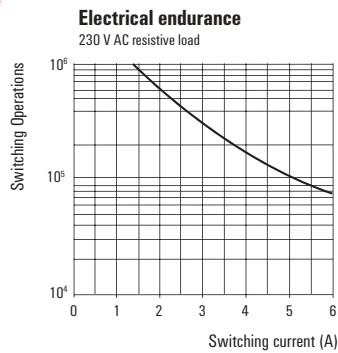
- Space saving, just 6.4 mm modular width
- AgNi contact
- Screw and tension clamp connection



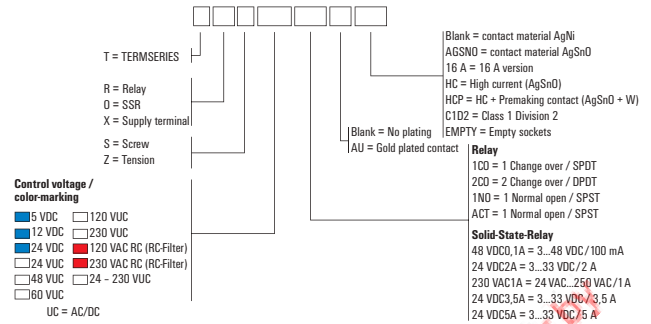
Technical data

Output			
Rated switching voltage / Continuous current	250 V AC / 6 A		
Max. switching voltage, AC	250 V		
Inrush current	20 A / 20 ms		
Min. switching power	1 mA @ 24 V, 10 mA @ 12 V, 100 mA @ 5 V		
DC / AC Switching capacity (resistive), max.	144 W @ 24 V / 1500 VA		
Contact material	AgNi		
Mechanical service life	5 x 10 <sup>6</sup> switching cycles		
Max. switching frequency at rated load	0.1 Hz		
Rated data			
Ambient temperature (operational)	-40 °C...60 °C		
Storage temperature	-40 °C...85 °C		
Humidity	5-95% rel. humidity, T <sub>v</sub> = 40°C, no condensation		
Approvals	CE, cULus, DNVGL, EAC		
Insulation coordinates			
Rated voltage	300 V		
Impulse withstand voltage	6 kV (1.2/50 µs)		
Dielectric strength input - output	4 kV <sub>eff</sub> / 1 min.		
Dielectric strength of neighbouring contacts			
Dielectric strength to mounting rail	4 kV <sub>eff</sub> / 1 min.		
Creepage and clearance distance input - output	≥ 5.5 mm		
Overtoltage category	III		
Pollution degree	2		
Dimensions		Screw connection	Tension clamp connection
Clamping range (nominal / min. / max.)	mm <sup>2</sup>	1.5 / 0.14 / 2.5	1.5 / 0.14 / 2.5
Depth x width x height	mm	87.8 / 6.4 / 89.6	87.8 / 6.4 / 90.5
Note		Accessories and dimensional drawings: refer to the TERMSERIES Accessories page.	

Applications



1 CO contact  
AC/DC/UC coil



Ordering data	5 V DC	12 V DC	24 V DC	24 V UC	48 V UC
<b>Input</b>					
Rated control voltage	5 V DC ± 20 %	12 V DC ± 20 %	24 V DC ± 20 %	24 V UC ± 10 %	48 V UC ± 10 %
Rated current AC / DC	/ 33 mA	/ 18 mA	/ 11.5 mA	11.7 mA / 6.4 mA	8 mA / 7 mA
Power rating	170 mW	210 mW	280 mW	270 mVA / 154 mW	240 mVA / 192 mW
Pull-in/drop-out voltage, typ.	4 V / 1 V DC	9 V / 2 V DC	16 V / 3 V DC	16 V / 5 V AC 20 V / 6 V DC	32 V / 9 V AC 33 V / 8.5 V DC
Pull-in/drop-out current, typ.	22.5 mA / 4.5 mA DC	11.5 mA / 2 mA DC	7.5 mA / 1 mA DC	8.5 mA / 2 mA AC 5 mA / 1 mA DC	5.3 mA / 1.2 mA AC 4.5 mA / 0.8 mA DC
Status indicator	Green LED	Green LED	Green LED	Green LED	Green LED
Protective circuit	Free-wheel diode, Reverse polarity protection	Free-wheel diode, Reverse polarity protection	Free-wheel diode, Reverse polarity protection	Rectifier	Rectifier
<b>Output</b>					
Switch-on delay	≤ 7 ms	≤ 6 ms	≤ 6 ms	≤ 6 ms	≤ 9 ms
Switch-off delay	≤ 6 ms	≤ 8 ms	≤ 15 ms	≤ 40 ms	≤ 23 ms
<b>Ordering data</b>					
Screw connection Type	TRS 5VDC 1CO	TRS 12VDC 1CO	TRS 24VDC 1CO	TRS 24VUC 1CO	TRS 48VUC 1CO
Order No.	<b>1122740000</b>	<b>1122750000</b>	<b>1122770000</b>	<b>1122780000</b>	<b>1122790000</b>
Tension-clamp conn. Type	TRZ 5VDC 1CO	TRZ 12VDC 1CO	TRZ 24VDC 1CO	TRZ 24VUC 1CO	TRZ 48VUC 1CO
Order No.	<b>1122860000</b>	<b>1122870000</b>	<b>1122880000</b>	<b>1122890000</b>	<b>1122900000</b>
<b>Note</b>	Spare relay Type: RSS113005 Orderno.: 4061580000	Spare relay Type: RSS113012 Orderno.: 4061610000	Spare relay Type: RSS113024 Orderno.: 4060120000	Spare relay Type: RSS113024 Orderno.: 4060120000	Spare relay Type: RSS113024 Orderno.: 4060120000
<b>Ordering data</b>					
<b>Input</b>					
Rated control voltage	60 V UC ± 10 %	120 V UC ± 10 %	230 V UC ± 10 %	120 V AC RC ± 10 %	230 V AC RC ± 10 %
Rated current AC / DC	4,8 mA / 2,85 mA	4 mA / 3,5 mA	3,5 mA / 2,9 mA	7 mA /	8,8 mA /
Power rating	170 mW	0,48 VA, 420 mW	0,8 VA, 700 mW	840 mVA	2,3 VA
Pull-in/drop-out voltage, typ.	33 V / 8 V AC 41,5 V / 9 V DC	89 V / 50 V AC 100 V / 57 V DC	164 V / 87 V AC 166 V / 89 V DC	88 V / 43 V AC	122 V / 45,5 V AC
Pull-in/drop-out current, typ.	2,8 mA / 0,6 mA AC 1,8 mA / 0,3 mA DC	2,7 mA / 1 mA AC 1,9 mA / 0,5 mA DC	2,4 mA / 0,9 mA AC 1,8 mA / 0,4 mA DC	4,8 mA / 2 mA AC	5,5 mA / 2 mA AC
Status indicator	Green LED	Green LED	Green LED	Green LED	Green LED
Protective circuit	Rectifier	Rectifier	Rectifier	Rectifier, RC element	Rectifier, RC element
<b>Output</b>					
Switch-on delay	≤ 7 ms	≤ 11 ms	≤ 14,5 ms	≤ 15 ms	≤ 16 ms
Switch-off delay	≤ 43 ms	≤ 40 ms	≤ 45 ms	≤ 45 ms	≤ 41 ms
<b>Ordering data</b>					
Screw connection Type	TRS 60VUC 1CO	TRS 120VUC 1CO	TRS 230VUC 1CO	TRS 120VAC RC 1CO	TRS 230VAC RC 1CO
Order No.	<b>1122800000</b>	<b>1122810000</b>	<b>1122820000</b>	<b>1122830000</b>	<b>1122840000</b>
Tension-clamp conn. Type	TRZ 60VUC 1CO	TRZ 120VUC 1CO	TRZ 230VUC 1CO	TRZ 120VAC RC 1CO	TRZ 230VAC RC 1CO
Order No.	<b>1122910000</b>	<b>1122920000</b>	<b>1122930000</b>	<b>1122940000</b>	<b>1122950000</b>
<b>Note</b>	Spare relay Type: RSS113060 Orderno.: 4061630000	Spare relay Type: RSS113060 Orderno.: 4061630000	Spare relay Type: RSS113060 Orderno.: 4061630000	Spare relay Type: RSS113060 Orderno.: 4061630000	Spare relay Type: RSS113060 Orderno.: 4061630000

1 CO contact with hard gold-plated contacts

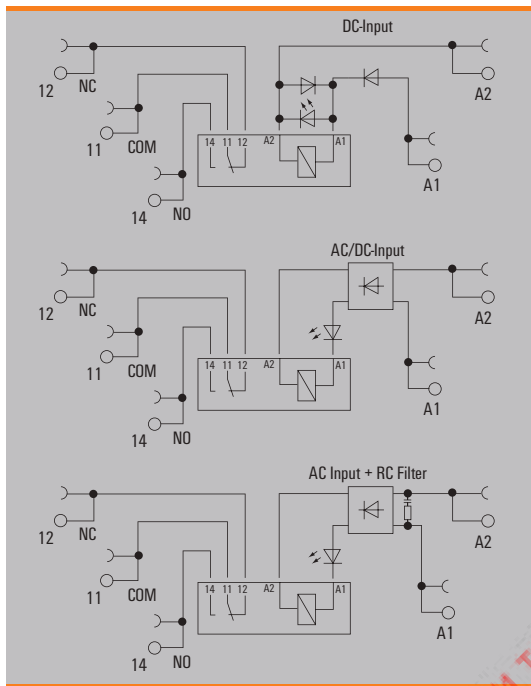
AC/DC/UC coil

- Space saving, just 6.4 mm modular width
- AgNi contact with gold plating
- Screw and tension clamp connection



Relay modules and solid-state relays in 6 mm width

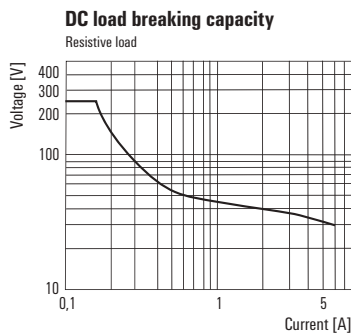
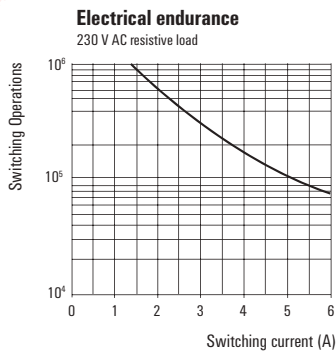
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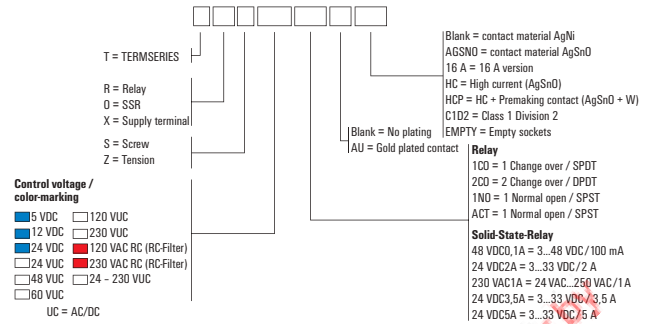
Technical data

<b>Output</b>		
Rated switching voltage / Continuous current	250 V AC / 6 A	
Max. switching voltage, AC	250 V	
Inrush current	20 A / 20 ms	
Min. switching power	1 mA @ 1 V	
DC / AC Switching capacity (resistive), max.	144 W @ 24 V / 1500 VA	
Contact material	AgNi 50m Au	
Mechanical service life	5 x 10 <sup>6</sup> switching cycles	
Max. switching frequency at rated load	0.1 Hz	
<b>Rated data</b>		
Ambient temperature (operational)	-40 °C...60 °C	
Storage temperature	-40 °C...85 °C	
Humidity	5-95% rel. humidity, T <sub>v</sub> = 40°C, no condensation	
Approvals	CE, cULus, DNVGL, EAC	
<b>Insulation coordinates</b>		
Rated voltage	300 V	
Impulse withstand voltage	6 kV (1.2/50 μs)	
Dielectric strength input - output	4 kV <sub>eff</sub> / 1 min.	
Dielectric strength of neighbouring contacts		
Dielectric strength to mounting rail	4 kV <sub>eff</sub> / 1 min.	
Creepage and clearance distance input - output	≥ 5.5 mm	
Overtension category	III	
Pollution degree	2	
<b>Dimensions</b>		
	<b>Screw connection</b>	<b>Tension clamp connection</b>
Clamping range (nominal / min. / max.)	mm <sup>2</sup> 1.5 / 0.14 / 2.5	1.5 / 0.14 / 2.5
Depth x width x height	mm 87.8 / 6.4 / 89.6	87.8 / 6.4 / 90.5
<b>Note</b>		
Accessories and dimensional drawings: refer to the TERMSERIES Accessories page.		

Applications



1 CO contact with hard gold-plated contacts  
AC/DC/UC coil

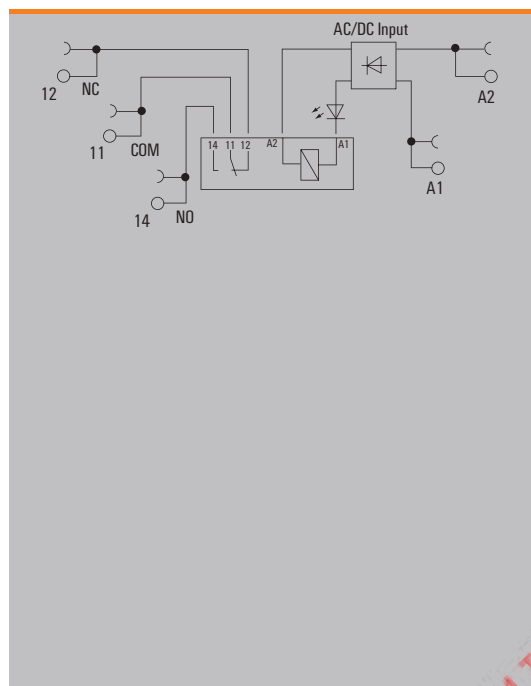


Ordering data	5 V DC	12 V DC	24 V DC	24 V UC	48 V UC
<b>Input</b>					
Rated control voltage	5 V DC ± 20 %	12 V DC ± 20 %	24 V DC ± 20 %	24 V UC ± 10 %	48 V UC ± 10 %
Rated current AC / DC	/ 33 mA	/ 18 mA	/ 11.5 mA	11.7 mA / 6.4 mA	8 mA / 7 mA
Power rating	170 mW	210 mW	280 mW	270 mVA / 154 mW	240 mVA / 192 mW
Pull-in/drop-out voltage, typ.	4 V / 1 V DC	9 V / 2 V DC	16 V / 3 V DC	16 V / 5 V AC 20 V / 6 V DC	32 V / 9 V AC 33 V / 8.5 V DC
Pull-in/drop-out current, typ.	22.5 mA / 4.5 mA DC	11.5 mA / 2 mA DC	7.5 mA / 1 mA DC	8.5 mA / 2 mA AC 5 mA / 1 mA DC	5.3 mA / 1.2 mA AC 4.5 mA / 0.8 mA DC
Status indicator	Green LED	Green LED	Green LED	Green LED	Green LED
Protective circuit	Free-wheel diode, Reverse polarity protection	Free-wheel diode, Reverse polarity protection	Free-wheel diode, Reverse polarity protection	Rectifier	Rectifier
<b>Output</b>					
Switch-on delay	≤ 7 ms	≤ 6 ms	≤ 6 ms	≤ 6 ms	≤ 9 ms
Switch-off delay	≤ 6 ms	≤ 8 ms	≤ 15 ms	≤ 40 ms	≤ 23 ms
<b>Ordering data</b>					
Screw connection Type	TRS 5VDC 1CO AU	TRS 12VDC 1CO AU	TRS 24VDC 1CO AU	TRS 24VUC 1CO AU	TRS 48VUC 1CO AU
Order No.	1122980000	1122990000	1123000000	1123010000	1123020000
Tension-clamp conn. Type	TRZ 5VDC 1CO AU	TRZ 12VDC 1CO AU	TRZ 24VDC 1CO AU	TRZ 24VUC 1CO AU	TRZ 48VUC 1CO AU
Order No.	1123100000	1123110000	1123120000	1123130000	1123140000
<b>Note</b>	Spare relay Type: RSS112005 Orderno.: 1174540000	Spare relay Type: RSS112012 Orderno.: 1220670000	Spare relay Type: RSS112024 Orderno.: 4061590000	Spare relay Type: RSS112024 Orderno.: 4061590000	Spare relay Type: RSS112024 Orderno.: 4061590000
<b>Ordering data</b>					
<b>Input</b>					
Rated control voltage	60 V UC ± 10 %	120 V UC ± 10 %	230 V UC ± 10 %	120 V AC ± 10 %	230 V AC ± 10 %
Rated current AC / DC	4,8 mA / 2,85 mA	4 mA / 3,5 mA	3,5 mA / 2,9 mA	7 mA /	10,1 mA /
Power rating	170 mW	0,48 VA, 420 mW	0,8 VA, 700 mW	840 mVA	2,3 VA
Pull-in/drop-out voltage, typ.	33 V / 8 V AC 41,5 V / 9 V DC	89 V / 50 V AC 100 V / 57 V DC	164 V / 87 V AC 166 V / 89 V DC	88 V / 43 V AC	169 V / 85 V AC
Pull-in/drop-out current, typ.	2,8 mA / 0,6 mA AC 1,8 mA / 0,3 mA DC	2,7 mA / 1 mA AC 1,9 mA / 0,5 mA DC	2,4 mA / 0,9 mA AC 1,8 mA / 0,4 mA DC	4,8 mA / 2 mA AC	7 mA / 3,3 mA AC
Status indicator	Green LED	Green LED	Green LED	Green LED	Green LED
Protective circuit	Rectifier	Rectifier	Rectifier	Rectifier, RC element	Rectifier, RC element
<b>Output</b>					
Switch-on delay	≤ 7 ms	≤ 11 ms	≤ 14,5 ms	≤ 15 ms	≤ 16 ms
Switch-off delay	≤ 43 ms	≤ 40 ms	≤ 45 ms	≤ 45 ms	≤ 41 ms
<b>Ordering data</b>					
Screw connection Type	TRS 60VUC 1CO AU	TRZ 120VUC 1CO AU	TRS 230VUC 1CO AU	TRS 120VAC RC 1CO AU	TRS 230VAC RC 1CO AU
Order No.	1123030000	1123170000	1123050000	1123070000	1123080000
Tension-clamp conn. Type	TRZ 60VUC 1CO AU	TRS 120VUC 1CO AU	TRZ 230VUC 1CO AU	TRZ 120VAC RC 1CO AU	TRZ 230VAC RC 1CO AU
Order No.	1123150000	1123040000	1123180000	1123190000	1123200000
<b>Note</b>	Spare relay Type: RSS112060 Orderno.: 4061600000	Spare relay Type: RSS112060 Orderno.: 4061600000	Spare relay Type: RSS112060 Orderno.: 4061600000	Spare relay Type: RSS112060 Orderno.: 4061600000	Spare relay Type: RSS112060 Orderno.: 4061600000

1 CO contact

multi-voltage input

- Space saving, just 6.4 mm modular width
- AgNi contact
- Screw and tension clamp connection
- Multi-voltage input: 24...230 V UC in one module



Technical data

Output	
Rated switching voltage / Continuous current	250 V AC / 6 A
Max. switching voltage, AC	250 V
Inrush current	20 A / 20 ms
Min. switching power	1 mA @ 24 V, 10 mA @ 12 V, 100 mA @ 5 V
DC / AC Switching capacity (resistive), max.	144 W @ 24 V / 1500 VA
Contact material	AgNi
Mechanical service life	5 x 10 <sup>6</sup> switching cycles
Max. switching frequency at rated load	0.1 Hz
Rated data	
Ambient temperature (operational)	-40 °C...60 °C
Storage temperature	-40 °C...85 °C
Humidity	5-95% rel. humidity, T <sub>v</sub> = 40°C, no condensation
Approvals	CE, cULus, DNVGL, EAC
Insulation coordinates	
Rated voltage	300 V
Impulse withstand voltage	6 kV (1.2/50 µs)
Dielectric strength input - output	4 kV <sub>eff</sub> / 1 min.
Dielectric strength of neighbouring contacts	
Dielectric strength to mounting rail	4 kV <sub>eff</sub> / 1 min.
Creepage and clearance distance input - output	≥ 5.5 mm
Overvoltage category	III
Pollution degree	2
Dimensions	
Clamping range (nominal / min. / max.)	mm <sup>2</sup> 1.5 / 0.14 / 2.5
Depth x width x height	mm 87.8 / 6.4 / 89.6
	mm 87.8 / 6.4 / 90.5
Note	
Accessories and dimensional drawings: refer to the TERMSERIES Accessories page.	

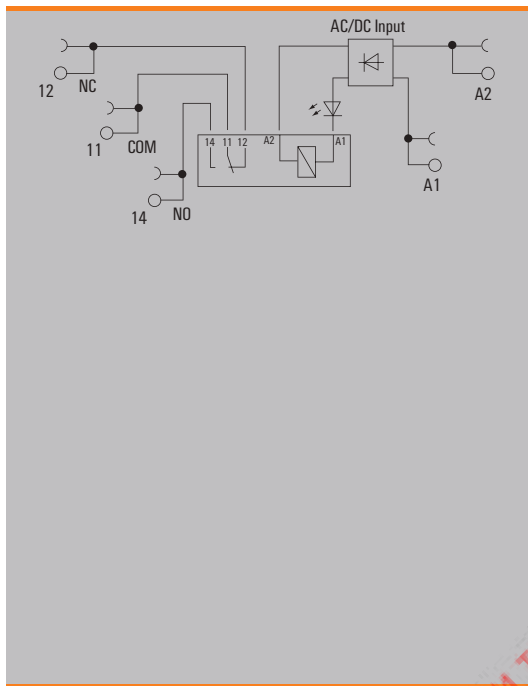
Ordering data

24 V - 230 V UC	
Input	
Rated control voltage	24...230 V UC ± 10 %
Rated current AC / DC	4 mA @ 230 V AC ± 10 %, 28 mA @ 24 V AC ± 10 % / 22 mA @ 24 V DC ± 10 %
Power rating	530 mW @ 24 V DC, 930 mVA @ 230 V AC
Pull-in/drop-out voltage, typ.	13 V / 7 V AC, 13 V / 5 V DC
Pull-in/drop-out current, typ.	28.5 mA / 11 mA AC, 23 mA / 6.5 mA DC
Status indicator	Green LED
Protective circuit	Rectifier
Output	
Switch-on delay	≤ 30 ms
Switch-off delay	≤ 130 ms
Ordering data	
Screw connection	Type TRS 24-230VUC 1CO
Order No.	1122850000
Tension-clamp conn.	Type TRZ 24-230VUC 1CO
Order No.	1122970000
Note	
Spare relay Type: RSS113024 Orderno.: 4060120000	



**1 CO contact with hard gold-plated contacts  
multi-voltage input**

- Space saving, just 6.4 mm modular width
- AgNi contact with gold plating
- Screw and tension clamp connection
- Multi-voltage input: 24...230 V UC in one module



**Technical data**

<b>Output</b>		
Rated switching voltage / Continuous current	250 V AC / 6 A	
Max. switching voltage, AC	250 V	
Inrush current	20 A / 20 ms	
Min. switching power	1 mA @ 1 V	
DC / AC Switching capacity (resistive), max.	144 W @ 24 V / 1500 VA	
Contact material	AgNi 50µm Au	
Mechanical service life	5 × 10 <sup>6</sup> switching cycles	
Max. switching frequency at rated load	0.1 Hz	
<b>Rated data</b>		
Ambient temperature (operational)	-40 °C...60 °C	
Storage temperature	-40 °C...85 °C	
Humidity	5-95% rel. humidity, T <sub>v</sub> = 40°C, no condensation	
Approvals	CE, cULus, DNVGL, EAC	
<b>Insulation coordinates</b>		
Rated voltage	300 V	
Impulse withstand voltage	6 kV (1.2/50 µs)	
Dielectric strength input - output	4 kV <sub>eff</sub> / 1 min.	
Dielectric strength of neighbouring contacts		
Dielectric strength to mounting rail	4 kV <sub>eff</sub> / 1 min.	
Creepage and clearance distance input - output	≥ 5.5 mm	
Overvoltage category	III	
Pollution degree	2	
<b>Dimensions</b>		
	<b>Screw connection</b>	<b>Tension clamp connection</b>
Clamping range (nominal / min. / max.)	mm <sup>2</sup> 1.5 / 0.14 / 2.5	1.5 / 0.14 / 2.5
Depth x width x height	mm 87.8 / 6.4 / 89.6	87.8 / 6.4 / 90.5
<b>Note</b>		
Accessories and dimensional drawings: refer to the TERMSERIES Accessories page.		

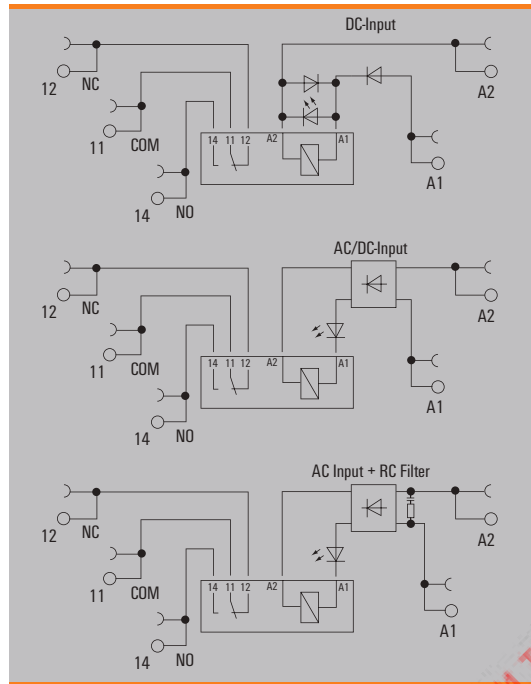
**Ordering data**

<b>Input</b>		<b>24 V - 230 V UC</b>
Rated control voltage	24...230 V UC ± 10 %	
Rated current AC / DC	4 mA @ 230 V AC ± 10 % 28 mA @ 24 V AC ± 10 % / 22 mA @ 24 V DC ± 10 %	
Power rating	530 mW @ 24 V DC, 930 mVA @ 230 V AC	
Pull-in/drop-out voltage, typ.	13 V / 7 V AC 13 V / 5 V DC	
Pull-in/drop-out current, typ.	28.5 mA / 11 mA AC 23 mA / 6.5 mA DC	
Status indicator	Green LED	
Protective circuit	Rectifier	
<b>Output</b>		
Switch-on delay	≤ 30 ms	
Switch-off delay	≤ 130 ms	
<b>Ordering data</b>		
Screw connection	Type	TRS 24-230VUC 1CO AU
	Order No.	<b>1123090000</b>
Tension-clamp conn.	Type	TRZ 24-230VUC 1CO AU
	Order No.	<b>1123210000</b>
<b>Note</b>		
Spare relay Type: RSS112024 Orderno.: 4061590000		

1 CO contact (AgSnO)

AC / DC / UC coil

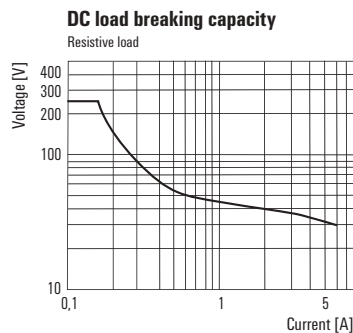
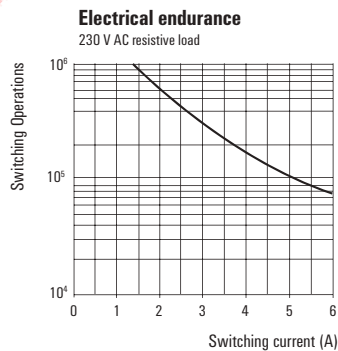
- Space-saving, only 6.4 mm wide
- AgSnO contact
- For capacitive and inductive loads
- Screw and tension clamp connection



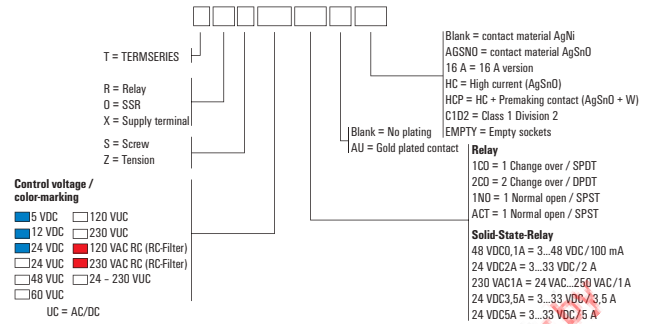
Technical data

Output			
Rated switching voltage / Continuous current	250 V AC / 6 A		
Max. switching voltage, AC	250 V		
Inrush current	30 A / 20 ms		
Min. switching power	100 mA @ 12 V		
DC / AC Switching capacity (resistive), max.	144 W @ 24 V / 1500 VA		
Contact material	AgSnO		
Mechanical service life	5 x 10 <sup>6</sup> switching cycles		
Max. switching frequency at rated load	0.1 Hz		
Rated data			
Ambient temperature (operational)	-40 °C...60 °C		
Storage temperature	-40 °C...85 °C		
Humidity	5-95% rel. humidity, T <sub>v</sub> = 40°C, no condensation		
Approvals	CE, cULus, DNVGL		
Insulation coordinates			
Rated voltage	300 V		
Impulse withstand voltage	6 kV (1.2/50 µs)		
Dielectric strength input - output	4 kV <sub>eff</sub> / 1 min.		
Dielectric strength of neighbouring contacts			
Dielectric strength to mounting rail	4 kV <sub>eff</sub> / 1 min.		
Creepage and clearance distance input - output	≥ 5.5 mm		
Oversvoltage category	III		
Pollution degree	2		
Dimensions		Screw connection	Tension clamp connection
Clamping range (nominal / min. / max.)	mm <sup>2</sup>	1.5 / 0.14 / 2.5	1.5 / 0.14 / 2.5
Depth x width x height	mm	87.8 / 6.4 / 89.6	87.8 / 6.4 / 90.5
Note			

Applications



1 CO contact (AgSnO)  
AC / DC / UC coil



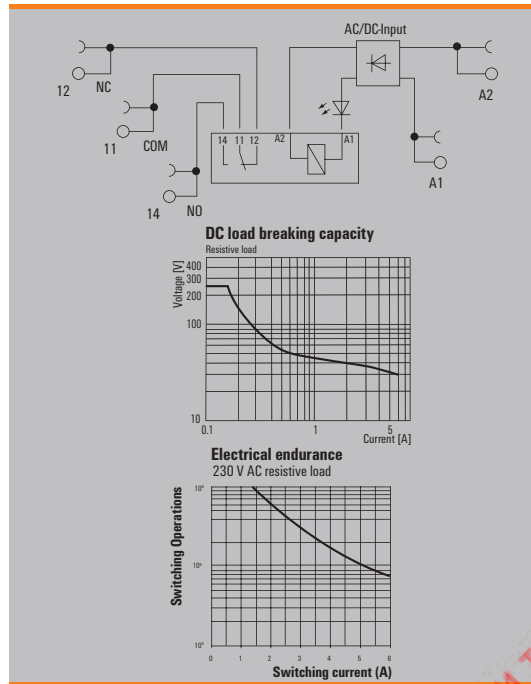
Ordering data	5 V DC	12 V DC	24 V DC	24 V UC	48 V UC
<b>Input</b>					
Rated control voltage	5 V DC ± 20 %	12 V DC ± 20 %	24 V DC ± 20 %	24 V UC ± 10 %	48 V UC ± 10 %
Rated current AC / DC	/ 33 mA	/ 18 mA	/ 11.5 mA	11.7 mA / 6.4 mA	8 mA / 7 mA
Power rating	170 mW	210 mW	280 mW	270 mVA / 154 mW	240 mVA / 192 mW
Pull-in/drop-out voltage, typ.	4 V / 1 V DC	9 V / 2 V DC	16 V / 3 V DC	16 V / 5 V AC 20 V / 6 V DC	32 V / 9 V AC 33 V / 8.5 V DC
Pull-in/drop-out current, typ.	22.5 mA / 4.5 mA DC	11.5 mA / 2 mA DC	7.5 mA / 1 mA DC	8.5 mA / 2 mA AC 5 mA / 1 mA DC	5.3 mA / 1.2 mA AC 4.5 mA / 0.8 mA DC
Status indicator	Green LED	Green LED	Green LED	Green LED	Green LED
Protective circuit	Free-wheel diode, Reverse polarity protection	Free-wheel diode, Reverse polarity protection	Free-wheel diode, Reverse polarity protection	Rectifier	Rectifier
<b>Output</b>					
Switch-on delay	≤ 7 ms	≤ 6 ms	≤ 6 ms	≤ 6 ms	≤ 9 ms
Switch-off delay	≤ 6 ms	≤ 8 ms	≤ 15 ms	≤ 40 ms	≤ 23 ms
<b>Ordering data</b>					
Screw connexion Type	TRS 5VDC 1CO AGSNO	TRS 12VDC 1CO AGSNO	TRS 24VDC 1CO AGSNO	TRS 24VUC 1CO AGSNO	TRS 48VUC 1CO AGSNO
Order No.	2152860000	2152880000	1984540000	2152940000	2153060000
Tension-clamp conn. Type	TRZ 5VDC 1CO AGSNO	TRZ 12VDC 1CO AGSNO	TRZ 24VDC 1CO AGSNO	TRZ 24VUC 1CO AGSNO	TRZ 48VUC 1CO AGSNO
Order No.	2152870000	2152890000	1984550000	2152970000	2153080000
<b>Note</b>					

Ordering data	60 V UC	120 V UC	230 V UC	120 V AC RC	230 V AC RC
<b>Input</b>					
Rated control voltage	60 V UC ± 10 %	120 V UC ± 10 %	230 V UC ± 10 %	120 V AC ± 10 %	230 V AC ± 10 %
Rated current AC / DC	4,8 mA / 2,85 mA	4 mA / 3,5 mA	3,5 mA / 2,9 mA	7 mA /	10,1 mA /
Power rating	170 mW	0,48 VA, 420 mW	0,8 VA, 700 mW	840 mVA	2,3 VA
Pull-in/drop-out voltage, typ.	33 V / 8 V AC 41,5 V / 9 V DC	89 V / 50 V AC 100 V / 57 V DC	164 V / 87 V AC 166 V / 89 V DC	88 V / 43 V AC	169 V / 85 V AC
Pull-in/drop-out current, typ.	2,8 mA / 0,6 mA AC 1,8 mA / 0,3 mA DC	2,7 mA / 1 mA AC 1,9 mA / 0,5 mA DC	2,4 mA / 0,9 mA AC 1,8 mA / 0,4 mA DC	4,8 mA / 2 mA AC	7 mA / 3,3 mA AC
Status indicator	Green LED	Green LED	Green LED	Green LED	Green LED
Protective circuit	Rectifier	Rectifier	Rectifier	Rectifier, RC element	Rectifier, RC element
<b>Output</b>					
Switch-on delay	≤ 7 ms	≤ 11 ms	≤ 14,5 ms	≤ 15 ms	≤ 16 ms
Switch-off delay	≤ 43 ms	≤ 40 ms	≤ 45 ms	≤ 45 ms	≤ 41 ms
<b>Ordering data</b>					
Screw connexion Type	TRS 60VUC 1CO AGSNO	TRS 120VUC 1CO AGSNO	TRS 230VUC 1CO AGSNO	TRS 120VAC RC 1CO AGSNO	TRS 230VAC RC 1CO AGSNO
Order No.	2153550000	2153570000	2153590000	2152900000	2152920000
Tension-clamp conn. Type	TRZ 60VUC 1CO AGSNO	TRZ 120VUC 1CO AGSNO	TRZ 230VUC 1CO AGSNO	TRZ 120VAC RC 1CO AGSNO	TRZ 230VAC RC 1CO AGSNO
Order No.	2153560000	2153580000	2153690000	2152910000	2152930000
<b>Note</b>					

1 CO contact (AgSnO)

Multi-voltage input

- Space-saving, only 6.4 mm wide
- AgSnO contact
- For capacitive and inductive loads
- Screw and tension clamp connection
- Multi-voltage input: 24...230 V UC in one module



Technical data

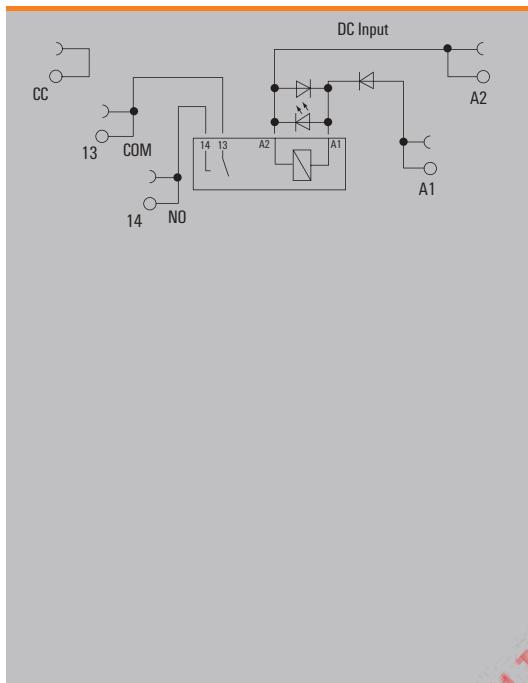
<b>Output</b>		
Rated switching voltage / Continuous current	250 V AC / 6 A	
Max. switching voltage, AC	250 V	
Inrush current	30 A / 20 ms	
Min. switching power	100 mA @ 12 V	
DC / AC Switching capacity (resistive), max.	144 W @ 24 V / 1500 VA	
Contact material	AgSnO	
Mechanical service life	5 x 10 <sup>6</sup> switching cycles	
Max. switching frequency at rated load	0.1 Hz	
<b>Rated data</b>		
Ambient temperature (operational)	-40 °C...60 °C	
Storage temperature	-40 °C...85 °C	
Humidity	5-95% rel. humidity, T <sub>v</sub> = 40°C, no condensation	
Approvals	CE, cULus, DNVGL	
<b>Insulation coordinates</b>		
Rated voltage	300 V	
Impulse withstand voltage	6 kV (1.2/50 µs)	
Dielectric strength input - output	4 kV <sub>eff</sub> / 1 min.	
Dielectric strength of neighbouring contacts		
Dielectric strength to mounting rail	4 kV <sub>eff</sub> / 1 min.	
Creepage and clearance distance input - output	≥ 5.5 mm	
Oversoltage category	III	
Pollution degree	2	
<b>Dimensions</b>		
	<b>Screw connection</b>	<b>Tension clamp connection</b>
Clamping range (nominal / min. / max.)	mm <sup>2</sup> 1.5 / 0.14 / 2.5	1.5 / 0.14 / 2.5
Depth x width x height	mm 87.8 / 6.4 / 89.6	87.8 / 6.4 / 90.5
<b>Note</b>		

Ordering data

<b>Input</b>		<b>24 V - 230 V UC</b>
Rated control voltage	24...230 V UC ± 10 %	
Rated current AC / DC	4 mA @ 230 V AC ± 10 % 28 mA @ 24 V AC ± 10 % / 22 mA @ 24 V DC ± 10 %	
Power rating	530 mW @ 24 V DC, 930 mVA @ 230 V AC	
Pull-in/drop-out voltage, typ.	13 V / 7 V AC 13 V / 5 V DC	
Pull-in/drop-out current, typ.	28.5 mA / 11 mA AC 23 mA / 6.5 mA DC	
Status indicator	Green LED	
Protective circuit	Rectifier	
<b>Output</b>		
Switch-on delay	≤ 30 ms	
Switch-off delay	≤ 130 ms	
<b>Ordering data</b>		
Screw connection	Type	TRS 24-230VUC 1CO AGSNO
	Order No.	<b>2154970000</b>
Tension-clamp conn.	Type	TRZ 24-230VUC 1CO AGSNO
	Order No.	<b>2154980000</b>
<b>Note</b>		

**1 NO contact (actuator)**

- Space-saving, only 6.4 mm wide
- AgNi contact
- Screw and tension clamp connection
- 24 V DC actuator version:  
Bridgeable, potential-free connection in the output (CC)



**Technical data**

<b>Output</b>		
Rated switching voltage / Continuous current	250 V AC / 6 A	
Max. switching voltage, AC	250 V	
Inrush current	20 A / 20 ms	
Min. switching power	1 mA @ 24 V, 10 mA @ 12 V, 100 mA @ 5 V	
DC / AC Switching capacity (resistive), max.	144 W @ 24 V / 1500 VA	
Contact material	AgNi	
Mechanical service life	5 x 10 <sup>6</sup> switching cycles	
Max. switching frequency at rated load	0.1 Hz	
<b>Rated data</b>		
Ambient temperature (operational)	-40 °C...60 °C	
Storage temperature	-40 °C...85 °C	
Humidity	5-95% rel. humidity, T <sub>v</sub> = 40°C, no condensation	
Approvals	CE, cULus, DNVGL, EAC	
<b>Insulation coordinates</b>		
Rated voltage	300 V	
Impulse withstand voltage	6 kV (1.2/50 µs)	
Dielectric strength input - output	4 kV <sub>eff</sub> / 1 min.	
Dielectric strength of neighbouring contacts		
Dielectric strength to mounting rail	4 kV <sub>eff</sub> / 1 min.	
Creepage and clearance distance input - output	≥ 5.5 mm	
Oversoltage category	III	
Pollution degree	2	
<b>Dimensions</b>		
	<b>Screw connection</b>	<b>Tension clamp connection</b>
Clamping range (nominal / min. / max.)	mm <sup>2</sup> 1.5 / 0.14 / 2.5	1.5 / 0.14 / 2.5
Depth x width x height	mm 87.8 / 6.4 / 89.6	87.8 / 6.4 / 90.5
<b>Note</b>		
Accessories and dimensional drawings: refer to the TERMSERIES Accessories page.		

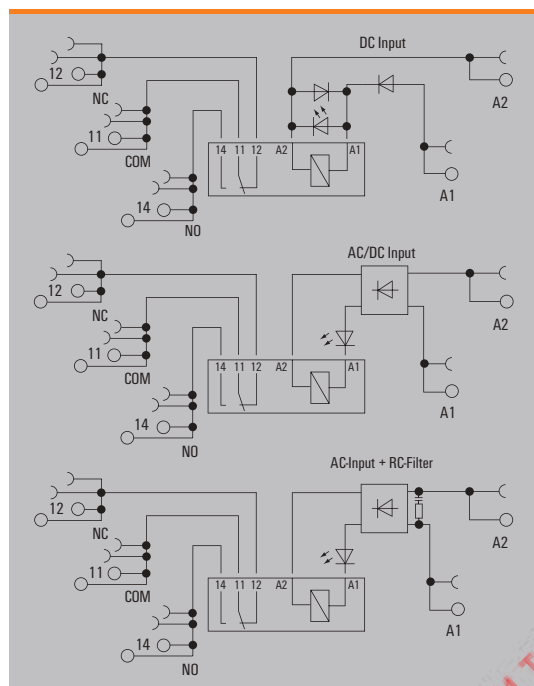
**Ordering data**

<b>Input</b>		<b>24 V DC ACT</b>
Rated control voltage	24 V DC ± 20 %	
Rated current AC / DC	/ 11.5 mA	
Power rating	280 mW	
Pull-in/drop-out voltage, typ.	16 V / 3 V DC	
Pull-in/drop-out current, typ.	7.5 mA / 1 mA DC	
Status indicator	Green LED	
Protective circuit	Free-wheel diode, Reverse polarity protection	
<b>Output</b>		
Switch-on delay	≤ 6 ms	
Switch-off delay	≤ 15 ms	
<b>Ordering data</b>		
Screw connection	Type	TRS 24VDC ACT
	Order No.	<b>1381900000</b>
Tension-clamp conn.	Type	TRZ 24VDC ACT
	Order No.	<b>1391670000</b>
<b>Note</b>		

1 CO contact

AC / DC / UC coil

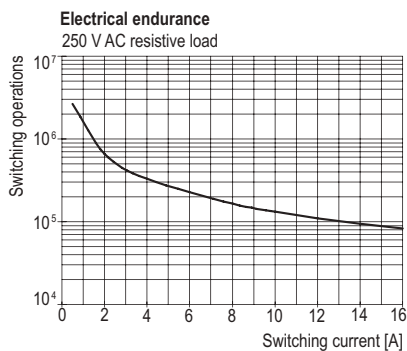
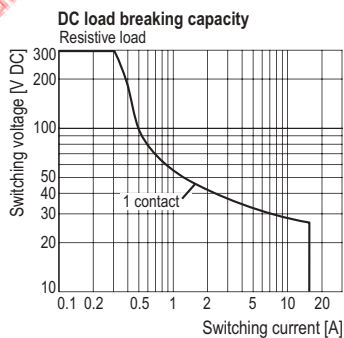
- Space-saving, 12.8 mm wide
- 16 A AgNi contact
- Internal cross-connection of the output terminals
- Screw and tension clamp connection



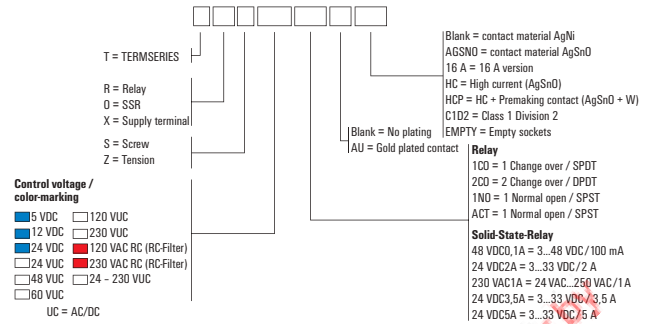
Technical data

<b>Output</b>		
Rated switching voltage / Continuous current	250 V AC / 16 A	
Max. switching voltage, AC	250 V	
Inrush current	30 A / 4 s	
Min. switching power	10 mA @ 10 V, 100 mA @ 5 V	
DC / AC Switching capacity (resistive), max.	384 W @ 24 V / 4000 VA	
Contact material	AgNi	
Mechanical service life	30 x 10 <sup>6</sup> switching cycles	
Max. switching frequency at rated load	0.1 Hz	
<b>Rated data</b>		
Ambient temperature (operational)	-40 °C...60 °C	
Storage temperature	-40 °C...85 °C	
Humidity	5-95% rel. humidity, T <sub>v</sub> = 40°C, no condensation	
Approvals	CE, cULus, DNVGL	
<b>Insulation coordinates</b>		
Rated voltage	300 V	
Impulse withstand voltage	6 kV (1.2/50 µs)	
Dielectric strength input - output	1.2 kV <sub>eff</sub> / 5 s	
Dielectric strength of neighbouring contacts		
Dielectric strength to mounting rail	4 kV <sub>eff</sub> / 1 min.	
Creepage and clearance distance input - output	≥ 5.5 mm	
Oversoltage category	III	
Pollution degree	2	
<b>Dimensions</b>		
	<b>Screw connection</b>	<b>Tension clamp connection</b>
Clamping range (nominal / min. / max.)	mm <sup>2</sup> 1.5 / 0.14 / 2.5	1.5 / 0.14 / 2.5
Depth x width x height	mm 87.8 / 12.8 / 89.6	87.8 / 12.8 / 90.5
<b>Note</b>		

Applications



1 CO contact  
AC / DC / UC coil



Ordering data

	5 V DC	12 V DC	24 V DC	24 V UC	48 V UC
<b>Input</b>					
Rated control voltage	5 V DC ± 20 %	12 V DC ± 20 %	24 V DC ± 20 %	24 V UC ± 10 %	48 V UC ± 10 %
Rated current AC / DC	/ 70 mA	/ 33.3 mA	/ 21 mA	16 mA / 14 mA	9 mA / 7 mA
Power rating	400 mW	420 mW	530 mW	390 mVA / 350 mW	340 mW / 0.4 VA
Pull-in/drop-out voltage, typ.	3 V / 1.6 V DC	8 V / 3 V DC	18 V / 4 V DC	16 V / 9 V AC 18 V / 8 V DC	29 V / 11 V AC 33 V / 11 V DC
Pull-in/drop-out current, typ.	21.6 mA / 8 mA DC	21 mA / 5 mA DC	15.5 mA / 2.8 mA DC	11 mA / 4 mA AC 10 mA / 2 mA DC	6 mA / 3 mA AC 5 mA / 1.5 mA DC
Status indicator	Green LED	Green LED	Green LED	Green LED	Green LED
Protective circuit	Free-wheel diode, Reverse polarity protection	Free-wheel diode, Reverse polarity protection	Free-wheel diode, Reverse polarity protection	Rectifier	Rectifier
<b>Output</b>					
Switch-on delay	≤ 11 ms	≤ 11 ms	≤ 7 ms	≤ 11 ms	≤ 11 ms
Switch-off delay	≤ 7 ms	≤ 8 ms	≤ 16 ms	≤ 7 ms	≤ 7 ms

Ordering data

Screw connexion	Type	TRS 5VDC 1CO 16A	TRS 12VDC 1CO 16A	TRS 24VDC 1CO 16A	TRS 24VUC 1CO 16A	TRS 48VUC 1CO 16A
	Order No.	1479650000	1479670000	1479680000	1479690000	1479700000
Tension-clamp conn.	Type	TRZ 5VDC 1CO 16A	TRZ 12VDC 1CO 16A	TRZ 24VDC 1CO 16A	TRZ 24VUC 1CO 16A	TRZ 48VUC 1CO 16A
	Order No.	1479800000	1479820000	1479840000	1479850000	1479870000

Note

Ordering data

	60 V UC	120 V UC	230 V UC	120 V AC RC	230 V AC RC
<b>Input</b>					
Rated control voltage	60 V UC ± 10 %	120 V UC ± 10 %	230 V UC ± 5 %	120 V AC ± 10 %	230 V AC ± 5 %
Rated current AC / DC	8 mA / 6.1 mA	3.5 mA / 3.5 mA	4 mA / 4 mA	5.5 mA /	10 mA /
Power rating	480 mVA / 360 mW	420 mVA / 420 mW	920 mVA / 920 mW	0.73 VA	2.1 VA
Pull-in/drop-out voltage, typ.	36 V / 13 V AC 40 V / 14 V DC	64 V / 26 V AC 69 V / 22 V DC	112 V / 43 V AC 129 V / 36 V DC	65 V / 23 V AC	112 V / 45 V AC
Pull-in/drop-out current, typ.	5 mA / 2.5 mA AC 4 mA / 1.2 mA DC	2 mA / 1 mA AC 2 mA / 1 mA DC	2 mA / 1 mA AC 2 mA / 1 mA DC	3.5 mA / 1 mA AC	5 mA / 2 mA AC
Status indicator	Green LED	Green LED	Green LED	Green LED	Green LED
Protective circuit	Rectifier	Rectifier	Rectifier	Rectifier, RC element	Rectifier, RC element
<b>Output</b>					
Switch-on delay	≤ 11 ms	≤ 11 ms	≤ 14 ms	≤ 11 ms	≤ 14 ms
Switch-off delay	≤ 7 ms	≤ 7 ms	≤ 22 ms	≤ 7 ms	≤ 12 ms

Ordering data

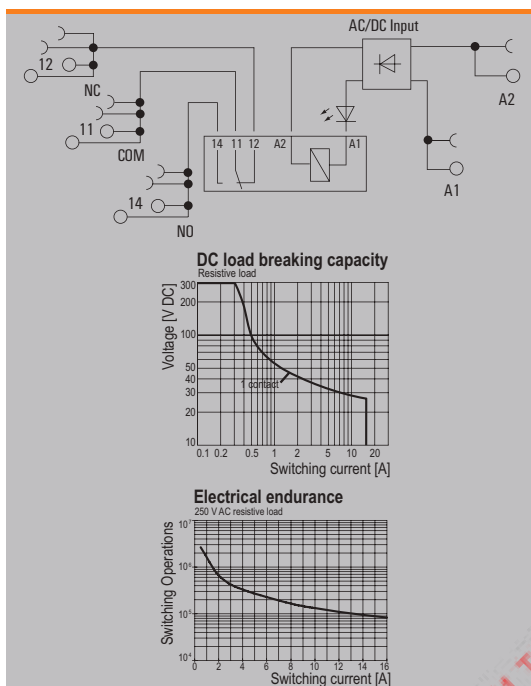
Screw connexion	Type	TRS 60VUC 1CO 16A	TRS 120VUC 1CO 16A	TRS 230VUC 1CO 16A	TRS 120VAC RC 1CO 16A	TRS 230VAC RC 1CO 16A
	Order No.	1479710000	1479730000	1479740000	1479750000	1479760000
Tension-clamp conn.	Type	TRZ 60VUC 1CO 16A	TRZ 120VUC 1CO 16A	TRZ 230VUC 1CO 16A	TRZ 120VAC RC 1CO 16A	TRZ 230VAC RC 1CO 16A
	Order No.	1479880000	1479890000	1479900000	1479910000	1479920000

Note

1 CO contact

Variable-voltage input

- Space-saving, 12.8 mm wide
- 16 A AgNi contact
- Internal cross-connection of the output terminals
- Screw and tension clamp connection
- Multi-voltage input: 24...230 V UC in one module



Technical data

<b>Output</b>		
Rated switching voltage / Continuous current	250 V AC / 16 A	
Max. switching voltage, AC	250 V	
Inrush current	30 A / 4 s	
Min. switching power	10 mA @ 10 V, 100 mA @ 5 V	
DC / AC Switching capacity (resistive), max.	384 W @ 24 V / 4000 VA	
Contact material	AgNi	
Mechanical service life	30 x 10 <sup>6</sup> switching cycles	
Max. switching frequency at rated load	0.1 Hz	
<b>Rated data</b>		
Ambient temperature (operational)	-40 °C...40 °C	
Storage temperature	-40 °C...85 °C	
Humidity	5-95% rel. humidity, T <sub>v</sub> = 40°C, no condensation	
Approvals	CE, cULus, DNVGL	
<b>Insulation coordinates</b>		
Rated voltage	300 V	
Impulse withstand voltage	6 kV (1.2/50 µs)	
Dielectric strength input - output	1.2 kV <sub>eff</sub> / 5 s	
Dielectric strength of neighbouring contacts		
Dielectric strength to mounting rail	4 kV <sub>eff</sub> / 1 min.	
Creepage and clearance distance input - output	≥ 5.5 mm	
Overvoltage category	III	
Pollution degree	2	
<b>Dimensions</b>		
	<b>Screw connection</b>	<b>Tension clamp connection</b>
Clamping range (nominal / min. / max.)	mm <sup>2</sup> 1.5 / 0.14 / 2.5	1.5 / 0.14 / 2.5
Depth x width x height	mm 87.8 / 12.8 / 89.6	87.8 / 12.8 / 90.5
<b>Note</b>		

Ordering data

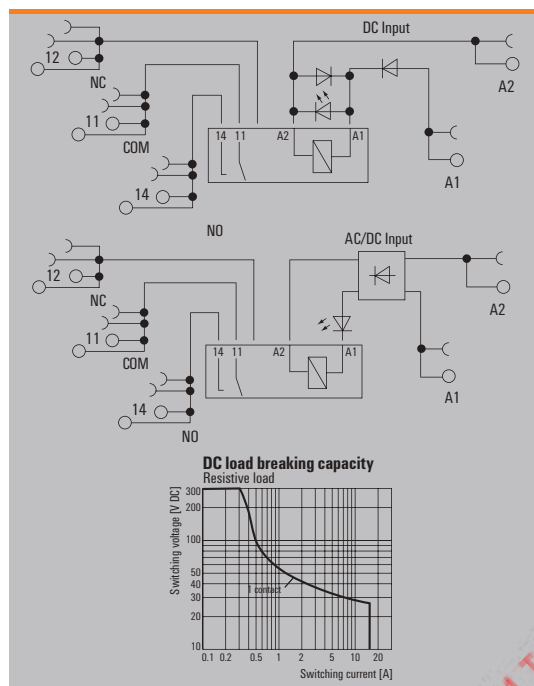
<b>Input</b>	
Rated control voltage	24...230 V UC ± 10 %
Rated current AC / DC	6 mA @ 230 V UC / 45 mA @ 24 VUC
Power rating	1.08 W @ 24 V UC, 1.38 W @ 230 V UC
Pull-in/drop-out voltage, typ.	15 V / 7 V AC 15 V / 5 V DC
Pull-in/drop-out current, typ.	42 mA / 15.5 mA AC 34 mA / 10 mA DC
Status indicator	Green LED
Protective circuit	Rectifier
<b>Output</b>	
Switch-on delay	≤ 30 ms
Switch-off delay	≤ 75 ms
<b>Ordering data</b>	
Screw connection	Type TRS 24-230VUC 1CO 16A
Order No.	1479770000
Tension-clamp conn.	Type TRZ 24-230VUC 1CO 16A
Order No.	1479930000
<b>Note</b>	



в Беларусі Заказ г.Мінск viber и тел. +375447584780 email: minsk17@tut.by www.tiristor.by

1 NO contact, inrush power HC

- Space-saving, 12.8 mm wide
- 16 A AgSnO contact
- Internal cross-connection of the output terminals
- Especially for inductive loads
- Screw and tension clamp connection
- Multi-voltage input: 24...230 V UC in one module



Technical data

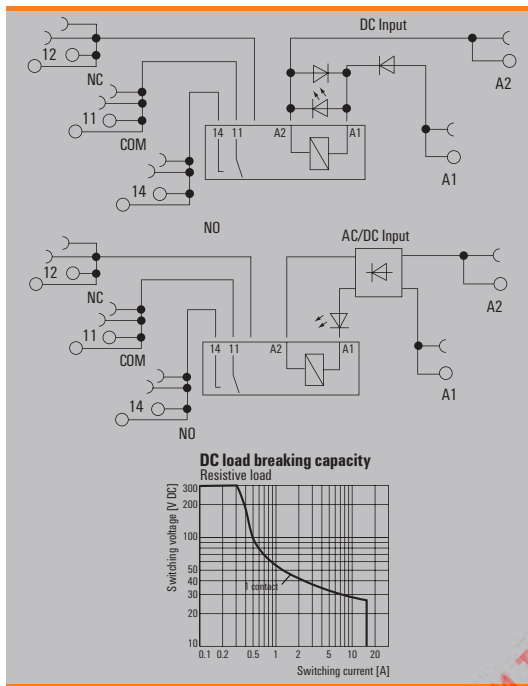
<b>Output</b>		
Rated switching voltage / Continuous current	250 V AC / 16 A	
Max. switching voltage, AC	250 V	
Inrush current	80 A / 20 ms	
Min. switching power	1 W	
DC / AC Switching capacity (resistive), max.	384 W @ 24 V / 4000 VA	
Contact material	AgSnO	
Mechanical service life	10 x 10 <sup>6</sup> switching cycles	
Max. switching frequency at rated load	0.1 Hz	
<b>Rated data</b>		
Ambient temperature (operational)	-40 °C...40 °C	
Storage temperature	-40 °C...85 °C	
Humidity	5-95% rel. humidity, T <sub>v</sub> = 40°C, no condensation	
Approvals	CE, cULus, DNVGL	
<b>Insulation coordinates</b>		
Rated voltage	300 V	
Impulse withstand voltage	6 kV (1.2/50 µs)	
Dielectric strength input - output	1.2 kV <sub>eff</sub> / 5 s	
Dielectric strength of neighbouring contacts		
Dielectric strength to mounting rail	4 kV <sub>eff</sub> / 1 min.	
Creepage and clearance distance input - output	≥ 5.5 mm	
Overtoltage category	III	
Pollution degree	2	
<b>Dimensions</b>		
	<b>Screw connection</b>	<b>Tension clamp connection</b>
Clamping range (nominal / min. / max.)	mm <sup>2</sup> 1.5 / 0.14 / 2.5	1.5 / 0.14 / 2.5
Depth x width x height	mm 87.8 / 12.8 / 89.6	87.8 / 12.8 / 90.5
<b>Note</b>		

Ordering data

	24 V DC	24 - 230 V UC
<b>Input</b>		
Rated control voltage	24 V DC ± 20 %	24...230 V UC ± 10 %
Rated current AC / DC	/ 21 mA	6 mA @ 230 V UC / 45 mA @ 24 VUC
Power rating	530 mW	1.08 W @ 24 V UC, 1.38 W @ 230 V UC
Pull-in/drop-out voltage, typ.	18 V / 4 V DC	15 V / 7 V AC 15 V / 5 V DC
Pull-in/drop-out current, typ.	15.5 mA / 2.8 mA DC	42 mA / 15.5 mA AC 34 mA / 10 mA DC
Status indicator	Green LED	Green LED
Protective circuit	Free-wheel diode, Reverse polarity protection	Rectifier
<b>Output</b>		
Switch-on delay	≤ 7 ms	≤ 30 ms
Switch-off delay	≤ 16 ms	≤ 75 ms
<b>Ordering data</b>		
Screw connection Type	TRS 24VDC 1NO HC	TRS 24-230VUC 1NO HC
Order No.	1479780000	1479790000
Tension-clamp conn. Type	TRZ 24VDC 1NO HC	TRZ 24-230VUC 1NO HC
Order No.	1479940000	1479950000
<b>Note</b>		

**1 NO contact, inrush power HCP**

- Space-saving, only 12.8 mm wide
- 16 A AgSnO contact + leading tungsten contact
- Internal cross-connection of the output terminals
- Especially for capacitive loads
- Screw and tension clamp connection
- Multi-voltage input: 24...230 V UC in one module



**Technical data**

<b>Output</b>		
Rated switching voltage / Continuous current	250 V AC / 16 A	
Max. switching voltage, AC	250 V	
Inrush current	165 A / 20 ms, 800 A / 200 μs	
Min. switching power	1 W	
DC / AC Switching capacity (resistive), max.	384 W @ 24 V / 4000 VA	
Contact material	AgSnO <sub>2</sub> + W	
Mechanical service life	5 × 10 <sup>6</sup> switching cycles	
Max. switching frequency at rated load	0.1 Hz	
<b>Rated data</b>		
Ambient temperature (operational)	-40 °C...40 °C	
Storage temperature	-40 °C...85 °C	
Humidity	5-95% rel. humidity, T <sub>v</sub> = 40°C, no condensation	
Approvals	CE, cULus, DNVGL	
<b>Insulation coordinates</b>		
Rated voltage	300 V	
Impulse withstand voltage	6 kV (1.2/50 μs)	
Dielectric strength input - output	1.2 kV <sub>eff</sub> / 5 s	
Dielectric strength of neighbouring contacts		
Dielectric strength to mounting rail	4 kV <sub>eff</sub> / 1 min.	
Creepage and clearance distance input - output	≥ 5.5 mm	
Overtoltage category	III	
Pollution degree	2	
<b>Dimensions</b>		
	<b>Screw connection</b>	<b>Tension clamp connection</b>
Clamping range (nominal / min. / max.)	mm <sup>2</sup> 1.5 / 0.14 / 2.5	1.5 / 0.14 / 2.5
Depth x width x height	mm 87.8 / 12.8 / 89.6	87.8 / 12.8 / 90.5
<b>Note</b>		

**Ordering data**

	24 V DC	24 V - 230 V UC
<b>Input</b>		
Rated control voltage	24 V DC ± 20 %	24...230 V UC ± 10 %
Rated current AC / DC	/ 21 mA	6 mA @ 230 V UC / 45 mA @ 24 VUC
Power rating	530 mW	1.08 W @ 24 V UC, 1.38 W @ 230 V UC
Pull-in/drop-out voltage, typ.	18 V / 4 V DC	15 V / 7 V AC 15 V / 5 V DC
Pull-in/drop-out current, typ.	15.5 mA / 2.8 mA DC	42 mA / 15.5 mA AC 34 mA / 10 mA DC
Status indicator	Green LED	Green LED
Protective circuit	Free-wheel diode, Reverse polarity protection	Rectifier
<b>Output</b>		
Switch-on delay	≤ 7 ms	≤ 30 ms
Switch-off delay	≤ 16 ms	≤ 75 ms
<b>Ordering data</b>		
Screw connection Type	TRS 24VDC 1NO HCP	TRS 24-230VUC 1NO HCP
Order No.	<b>1479810000</b>	<b>1479830000</b>
Tension-clamp conn. Type	TRZ 24VDC 1NO HCP	TRZ 24-230VUC 1NO HCP
Order No.	<b>1479970000</b>	<b>1479980000</b>
<b>Note</b>		

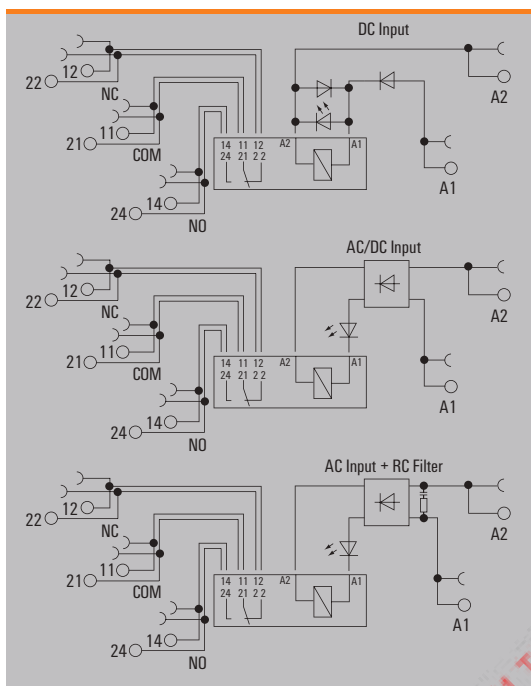
**2 CO contacts**  
**AC/DC/UC coil**

- Space saving, just 12.8 mm modular width
- AgNi contact
- Screw and tension clamp connection



Relay modules and solid-state relays in 6 mm width

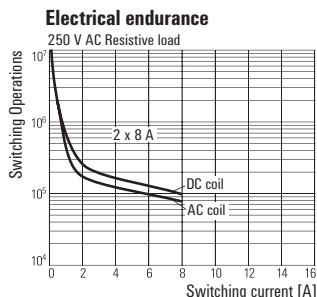
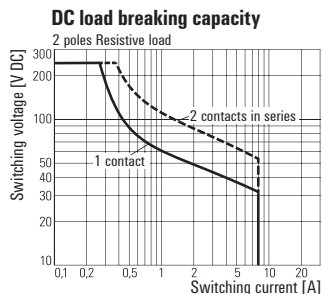
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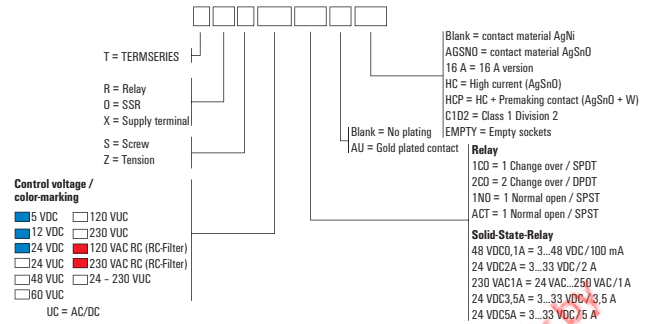
**Technical data**

<b>Output</b>			
Rated switching voltage / Continuous current	250 V AC / 8 A		
Max. switching voltage, AC	250 V		
Inrush current	15 A / 4 s		
Min. switching power	10 mA @ 10 V, 100 mA @ 5 V		
DC / AC Switching capacity (resistive), max.	192 W @ 24 V / 2000 VA		
Contact material	AgNi		
Mechanical service life	30 x 10 <sup>6</sup> switching cycles		
Max. switching frequency at rated load	0.1 Hz		
<b>Rated data</b>			
Ambient temperature (operational)	-40 °C...60 °C		
Storage temperature	-40 °C...85 °C		
Humidity	5-95% rel. humidity, T <sub>v</sub> = 40°C, no condensation		
Approvals	CE, cULus, DNVGL, EAC		
<b>Insulation coordinates</b>			
Rated voltage	300 V		
Impulse withstand voltage	6 kV (1.2/50 µs)		
Dielectric strength input - output	1.2 kV <sub>eff</sub> / 5 s		
Dielectric strength of neighbouring contacts	2.5 kV <sub>eff</sub>		
Dielectric strength to mounting rail	4 kV <sub>eff</sub> / 1 min.		
Creepage and clearance distance input - output	≥ 5.5 mm		
Overtoltage category	III		
Pollution degree	2		
<b>Dimensions</b>			
Clamping range (nominal / min. / max.)	mm <sup>2</sup>	<b>Screw connection</b>	<b>Tension clamp connection</b>
		1.5 / 0.14 / 2.5	1.5 / 0.14 / 2.5
Depth x width x height	mm	87.8 / 12.8 / 89.6	87.8 / 12.8 / 90.5
<b>Note</b>		Accessories and dimensional drawings: refer to the TERMSERIES Accessories page.	

**Applications**



2 CO contacts  
AC/DC/UC coil



Ordering data

	5 V DC	12 V DC	24 V DC	24 V UC	48 V UC
<b>Input</b>					
Rated control voltage	5 V DC ± 20 %	12 V DC ± 20 %	24 V DC ± 20 %	24 V UC ± 10 %	48 V UC ± 10 %
Rated current AC / DC	/ 70 mA	/ 33 mA	/ 20 mA	16 mA / 14 mA	9 mA / 7 mA
Power rating	400 mW	400 mW	480 mW	390 mVA / 350 mW	340 mW / 0.4 VA
Pull-in/drop-out voltage, typ.	3 V / 1.6 V DC	9 V / 2 V DC	17 V / 3 V DC	19 V / 6.5 V AC 20.5 V / 6 V DC	29 V / 11 V AC 33 V / 11 V DC
Pull-in/drop-out current, typ.	21.6 mA / 8 mA DC	24 mA / 5 mA DC	14 mA / 2 mA DC	13 mA / 3 mA AC 12 mA / 2 mA DC	6 mA / 3 mA AC 5 mA / 1.5 mA DC
Status indicator	Green LED	Green LED	Green LED	Green LED	Green LED
Protective circuit	Free-wheel diode, Reverse polarity protection	Free-wheel diode, Reverse polarity protection	Free-wheel diode, Reverse polarity protection	Rectifier	Rectifier
<b>Output</b>					
Switch-on delay	≤ 11 ms	≤ 11 ms	≤ 6 ms	≤ 11 ms	≤ 11 ms
Switch-off delay	≤ 7 ms	≤ 8 ms	≤ 18 ms	≤ 20 ms	≤ 7 ms

Ordering data	5 V DC	12 V DC	24 V DC	24 V UC	48 V UC
Screw connection Type	TRS 5VDC 2CO	TRS 12VDC 2CO	TRS 24VDC 2CO	TRS 24VUC 2CO	TRS 48VUC 2CO
Order No.	<b>1123470000</b>	<b>1123480000</b>	<b>1123490000</b>	<b>1123500000</b>	<b>1123510000</b>
Tension-clamp conn. Type	TRZ 5VDC 2CO	TRZ 12VDC 2CO	TRZ 24VDC 2CO	TRZ 24VUC 2CO	TRZ 48VUC 2CO
Order No.	<b>1123590000</b>	<b>1123600000</b>	<b>1123610000</b>	<b>1123620000</b>	<b>1123630000</b>
Note	Spare relay Type: RCL424005 Orderno.: 8693790000	Spare relay Type: RCL424012 Orderno.: 4058860000	Spare relay Type: RCL424024 Orderno.: 4058570000	Spare relay Type: RCL424024 Orderno.: 4058570000	Spare relay Type: RCL424048 Orderno.: 4058750000

Ordering data

	60 V UC	120 V UC	230 V UC	120 V AC RC	230 V AC RC
<b>Input</b>					
Rated control voltage	60 V UC ± 10 %	120 V UC ± 10 %	230 V UC ± 5 %	120 V AC ± 10 %	230 V AC ± 5 %
Rated current AC / DC	8 mA / 6.1 mA	3.5 mA / 3.5 mA	4 mA / 4 mA	5.5 mA /	10 mA /
Power rating	480 mVA / 360 mW	420 mVA / 420 mW	920 mVA / 920 mW	0.73 VA	2.3 VA
Pull-in/drop-out voltage, typ.	36 V / 13 V AC 40 V / 14 V DC	83 V / 28 V AC 90 V / 22 V DC	125 V / 39 V AC 140 V / 30 V DC	81 V / 30 V AC	112 V / 45 V AC
Pull-in/drop-out current, typ.	5 mA / 2.5 mA AC 4 mA / 1.2 mA DC	2.5 mA / 0.7 mA AC 2.6 mA / 0.58 mA DC	2.3 mA / 0.6 mA AC 2.5 mA / 0.4 mA DC	3.8 mA / 1.3 mA AC	5 mA / 2 mA AC
Status indicator	Green LED	Green LED	Green LED	Green LED	Green LED
Protective circuit	Rectifier	Rectifier	Rectifier	Rectifier, RC element	Rectifier, RC element
<b>Output</b>					
Switch-on delay	≤ 11 ms	≤ 12 ms	≤ 4.5 ms	≤ 9 ms	≤ 14 ms
Switch-off delay	≤ 7 ms	≤ 9 ms	≤ 15 ms	≤ 10 ms	≤ 12 ms

Ordering data	60 V UC	120 V UC	230 V UC	120 V AC RC	230 V AC RC
Screw connection Type	TRS 60VUC 2CO	TRS 120VUC 2CO	TRS 230VUC 2CO	TRS 120VAC RC 2CO	TRS 230VAC RC 2CO
Order No.	<b>1123520000</b>	<b>1123530000</b>	<b>1123540000</b>	<b>1123550000</b>	<b>1123570000</b>
Tension-clamp conn. Type	TRZ 60VUC 2CO	TRZ 120VUC 2CO	TRZ 230VUC 2CO	TRZ 120VAC RC 2CO	TRZ 230VAC RC 2CO
Order No.	<b>1123640000</b>	<b>1123650000</b>	<b>1123670000</b>	<b>1123680000</b>	<b>1123690000</b>
Note	Spare relay Type: RCL424060 Orderno.: 4058760000	Spare relay Type: RCL424110 Orderno.: 4058590000	Spare relay Type: RCL424110 Orderno.: 4058590000	Spare relay Type: RCL424110 Orderno.: 4058590000	Spare relay Type: RCL424110 Orderno.: 4058590000

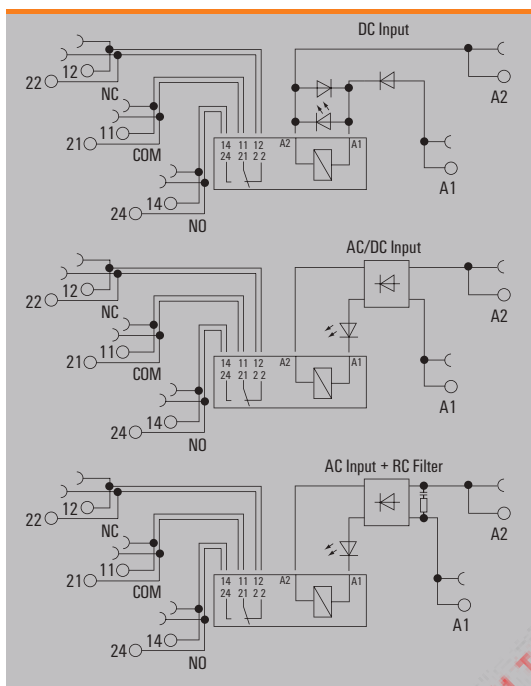
**2 CO contact with hard gold-plated contacts**  
**AC/DC/UC coil**

- Space saving, just 12.8 mm modular width
- AgNi contact with gold plating
- Screw and tension clamp connection



Relay modules and solid-state relays in 6 mm width

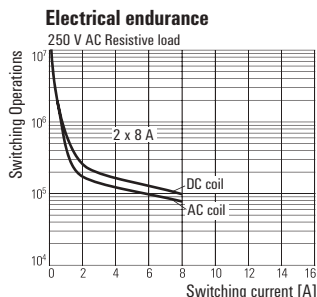
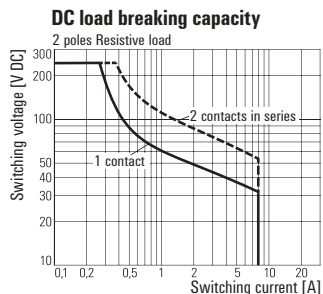
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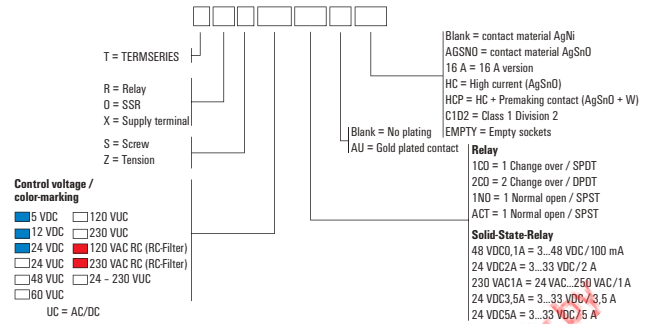
**Technical data**

<b>Output</b>			
Rated switching voltage / Continuous current	250 V AC / 8 A		
Max. switching voltage, AC	250 V		
Inrush current	15 A / 4 s		
Min. switching power	1 mA @ 1 V		
DC / AC Switching capacity (resistive), max.	192 W @ 24 V / 2000 VA		
Contact material	AgNi 50µm Au		
Mechanical service life	30 x 10 <sup>6</sup> switching cycles		
Max. switching frequency at rated load	0.1 Hz		
<b>Rated data</b>			
Ambient temperature (operational)	-40 °C...60 °C		
Storage temperature	-40 °C...85 °C		
Humidity	5-95% rel. humidity, T <sub>v</sub> = 40°C, no condensation		
Approvals	CE, cULus, DNVGL, EAC		
<b>Insulation coordinates</b>			
Rated voltage	300 V		
Impulse withstand voltage	6 kV (1.2/50 µs)		
Dielectric strength input - output	1.2 kV <sub>eff</sub> / 5 s		
Dielectric strength of neighbouring contacts	2.5 kV <sub>eff</sub>		
Dielectric strength to mounting rail	4 kV <sub>eff</sub> / 1 min.		
Creepage and clearance distance input - output	≥ 5.5 mm		
Overtoltage category	III		
Pollution degree	2		
<b>Dimensions</b>			
Clamping range (nominal / min. / max.)	mm <sup>2</sup>	<b>Screw connection</b>	<b>Tension clamp connection</b>
		1.5 / 0.14 / 2.5	1.5 / 0.14 / 2.5
Depth x width x height	mm	87.8 / 12.8 / 89.6	87.8 / 12.8 / 90.5
<b>Note</b>		Accessories and dimensional drawings: refer to the TERMSERIES Accessories page.	

**Applications**



2 CO contact with hard gold-plated contacts  
AC/DC/UC coil



Ordering data

	5 V DC	12 V DC	24 V DC	24 V UC	48 V UC
<b>Input</b>					
Rated control voltage	5 V DC ± 20 %	12 V DC ± 20 %	24 V DC ± 20 %	24 V UC ± 10 %	48 V UC ± 10 %
Rated current AC / DC	/ 70 mA	/ 33 mA	/ 20 mA	16 mA / 14 mA	9 mA / 7 mA
Power rating	400 mW	400 mW	480 mW	390 mVA / 350 mW	340 mW / 0.4 VA
Pull-in/drop-out voltage, typ.	3 V / 1.6 V DC	9 V / 2 V DC	17 V / 3 V DC	19 V / 6.5 V AC 20.5 V / 6 V DC	29 V / 11 V AC 33 V / 11 V DC
Pull-in/drop-out current, typ.	21.6 mA / 8 mA DC	24 mA / 5 mA DC	14 mA / 2 mA DC	13 mA / 3 mA AC 12 mA / 2 mA DC	6 mA / 3 mA AC 5 mA / 1.5 mA DC
Status indicator	Green LED	Green LED	Green LED	Green LED	Green LED
Protective circuit	Free-wheel diode, Reverse polarity protection	Free-wheel diode, Reverse polarity protection	Free-wheel diode, Reverse polarity protection	Rectifier	Rectifier
<b>Output</b>					
Switch-on delay	≤ 11 ms	≤ 11 ms	≤ 6 ms	≤ 11 ms	≤ 11 ms
Switch-off delay	≤ 7 ms	≤ 8 ms	≤ 18 ms	≤ 20 ms	≤ 7 ms

Ordering data					
Screw connection Type	TRS 5VDC 2CO AU	TRS 12VDC 2CO AU	TRS 24VDC 2CO AU	TRS 24VUC 2CO AU	TRS 48VUC 2CO AU
Order No.	1123710000	1123720000	1123730000	1123740000	1123750000
Tension-clamp conn. Type	TRZ 5VDC 2CO AU	TRZ 12VDC 2CO AU	TRZ 24VDC 2CO AU	TRZ 24VUC 2CO AU	TRZ 48VUC 2CO AU
Order No.	1123830000	1123840000	1123850000	1123870000	1123880000
Note	Spare relay Type: RCL425005 Orderno.: 1174490000	Spare relay Type: RCL425012 Orderno.: 4074580000	Spare relay Type: RCL425024 Orderno.: 4058580000	Spare relay Type: RCL425024 Orderno.: 4058580000	Spare relay Type: RCL425048 Orderno.: 1201230000

Ordering data

	60 V UC	120 V UC	230 V UC	120 V AC RC	230 V AC RC
<b>Input</b>					
Rated control voltage	60 V UC ± 10 %	120 V UC ± 10 %	230 V UC ± 5 %	120 V AC ± 10 %	230 V AC ± 5 %
Rated current AC / DC	8 mA / 6.1 mA	3.5 mA / 3.5 mA	4 mA / 4 mA	5.5 mA /	10 mA /
Power rating	480 mVA / 360 mW	420 mVA / 420 mW	920 mVA / 920 mW	0.73 VA	2.3 VA
Pull-in/drop-out voltage, typ.	36 V / 13 V AC 40 V / 14 V DC	83 V / 28 V AC 90 V / 22 V DC	125 V / 39 V AC 140 V / 30 V DC	81 V / 30 V AC	112 V / 45 V AC
Pull-in/drop-out current, typ.	5 mA / 2.5 mA AC 4 mA / 1.2 mA DC	2.5 mA / 0.7 mA AC 2.6 mA / 0.58 mA DC	2.3 mA / 0.6 mA AC 2.5 mA / 0.4 mA DC	3.8 mA / 1.3 mA AC	5 mA / 2 mA AC
Status indicator	Green LED	Green LED	Green LED	Green LED	Green LED
Protective circuit	Rectifier	Rectifier	Rectifier	Rectifier, RC element	Rectifier, RC element
<b>Output</b>					
Switch-on delay	≤ 11 ms	≤ 12 ms	≤ 4.5 ms	≤ 9 ms	≤ 14 ms
Switch-off delay	≤ 7 ms	≤ 9 ms	≤ 15 ms	≤ 10 ms	≤ 12 ms

Ordering data					
Screw connection Type	TRS 60VUC 2CO AU	TRS 120VUC 2CO AU	TRS 230VUC 2CO AU	TRS 120VAC RC 2CO AU	TRS 230VAC RC 2CO AU
Order No.	1123770000	1123780000	1123790000	1123800000	1123810000
Tension-clamp conn. Type	TRZ 60VUC 2CO AU	TRZ 120VUC 2CO AU	TRZ 230VUC 2CO AU	TRZ 120VAC RC 2CO AU	TRZ 230VAC RC 2CO AU
Order No.	1123890000	1123900000	1123910000	1123920000	1123930000
Note	Spare relay Type: RCL425060 Orderno.: 1201260000	Spare relay Type: RCL425110 Orderno.: 8828370000	Spare relay Type: RCL425110 Orderno.: 8828370000	Spare relay Type: RCL425110 Orderno.: 8828370000	Spare relay Type: RCL425110 Orderno.: 8828370000

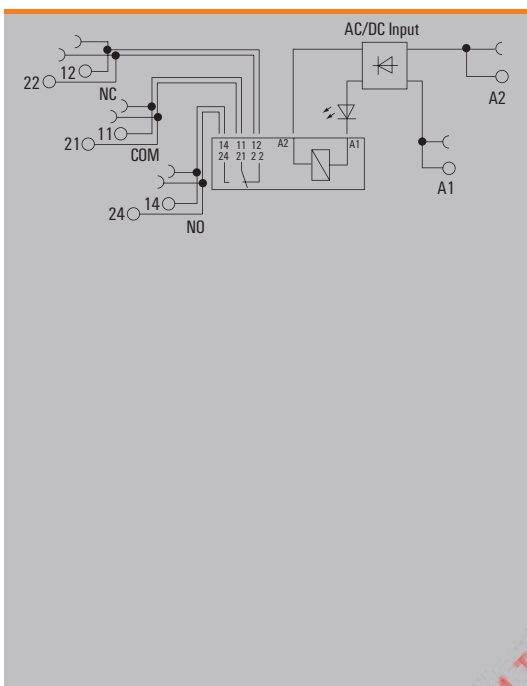
**2 CO contacts**  
**multi-voltage input**

- Space saving, just 12.8 mm modular width
- AgNi contact
- Screw and tension clamp connection
- Multi-voltage input: 24...230 V UC in one module



Relay modules and solid-state relays in 6 mm width

**A**



**Technical data**

<b>Output</b>		
Rated switching voltage / Continuous current	250 V AC / 8 A	
Max. switching voltage, AC	250 V	
Inrush current	15 A / 4 s	
Min. switching power	10 mA @ 10 V, 100 mA @ 5 V	
DC / AC Switching capacity (resistive), max.	192 W @ 24 V / 2000 VA	
Contact material	AgNi	
Mechanical service life	30 x 10 <sup>6</sup> switching cycles	
Max. switching frequency at rated load	0.1 Hz	
<b>Rated data</b>		
Ambient temperature (operational)	-40 °C...40 °C	
Storage temperature	-40 °C...85 °C	
Humidity	5-95% rel. humidity, T <sub>v</sub> = 40°C, no condensation	
Approvals	CE, cULus, DNVGL, EAC	
<b>Insulation coordinates</b>		
Rated voltage	300 V	
Impulse withstand voltage	6 kV (1.2/50 µs)	
Dielectric strength input - output	1.2 kV <sub>eff</sub> / 5 s	
Dielectric strength of neighbouring contacts	2.5 kV <sub>eff</sub>	
Dielectric strength to mounting rail	4 kV <sub>eff</sub> / 1 min.	
Creepage and clearance distance input - output	≥ 5.5 mm	
Overvoltage category	III	
Pollution degree	2	
<b>Dimensions</b>		
	<b>Screw connection</b>	<b>Tension clamp connection</b>
Clamping range (nominal / min. / max.)	mm <sup>2</sup> 1.5 / 0.14 / 2.5	1.5 / 0.14 / 2.5
Depth x width x height	mm 87.8 / 12.8 / 89.6	87.8 / 12.8 / 90.5
<b>Note</b>		
Accessories and dimensional drawings: refer to the TERMSERIES Accessories page.		

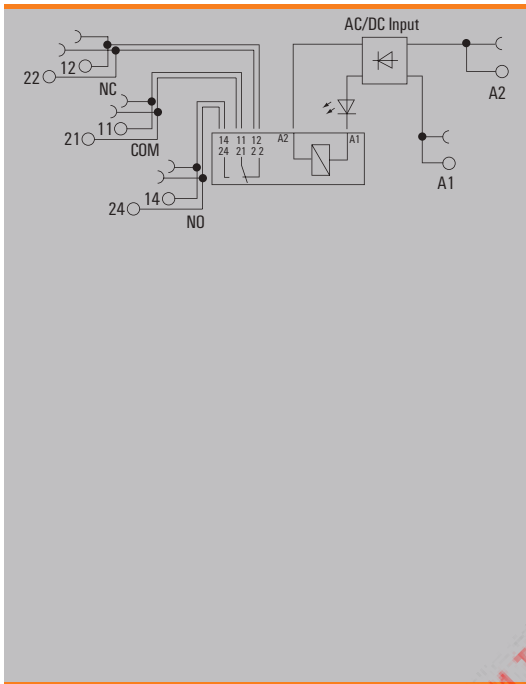
**Ordering data**

<b>Input</b>	
Rated control voltage	24...230 V UC ± 10 %
Rated current AC / DC	6 mA @ 230 V UC / 45 mA @ 24 VUC
Power rating	1.08 W @ 24 V UC, 1.38 W @ 230 V UC
Pull-in/drop-out voltage, typ.	18.5 V / 7 V AC 17.5 V / 5 V DC
Pull-in/drop-out current, typ.	42 mA / 14 mA AC 38 mA / 10 mA DC
Status indicator	Green LED
Protective circuit	Rectifier
<b>Output</b>	
Switch-on delay	≤ 40 ms
Switch-off delay	≤ 80 ms
<b>Ordering data</b>	
Screw connection Type	TRS 24-230VUC 2CO
Order No.	<b>1123580000</b>
Tension-clamp conn. Type	TRZ 24-230VUC 2CO
Order No.	<b>1123700000</b>
<b>Note</b>	
Spare relay Type: RCL424024 Orderno.: 4058570000	



**2 CO contact with hard gold-plated contacts  
multi-voltage input**

- Space saving, just 12.8 mm modular width
- AgNi contact with gold plating
- Screw and tension clamp connection
- Multi-voltage input: 24...230 V UC in one module



**Technical data**

<b>Output</b>		
Rated switching voltage / Continuous current	250 V AC / 8 A	
Max. switching voltage, AC	250 V	
Inrush current	15 A / 4 s	
Min. switching power	1 mA @ 1 V	
DC / AC Switching capacity (resistive), max.	192 W @ 24 V / 2000 VA	
Contact material	AgNi 50µm Au	
Mechanical service life	30 x 10 <sup>6</sup> switching cycles	
Max. switching frequency at rated load	0.1 Hz	
<b>Rated data</b>		
Ambient temperature (operational)	-40 °C...40 °C	
Storage temperature	-40 °C...85 °C	
Humidity	5-95% rel. humidity, T <sub>v</sub> = 40°C, no condensation	
Approvals	CE, cULus, DNVGL, EAC	
<b>Insulation coordinates</b>		
Rated voltage	300 V	
Impulse withstand voltage	6 kV (1.2/50 µs)	
Dielectric strength input - output	1.2 kV <sub>eff</sub> / 5 s	
Dielectric strength of neighbouring contacts	2.5 kV <sub>eff</sub>	
Dielectric strength to mounting rail	4 kV <sub>eff</sub> / 1 min.	
Creepage and clearance distance input - output	≥ 5.5 mm	
Overvoltage category	III	
Pollution degree	2	
<b>Dimensions</b>		
	<b>Screw connection</b>	<b>Tension clamp connection</b>
Clamping range (nominal / min. / max.)	mm <sup>2</sup> 1.5 / 0.14 / 2.5	1.5 / 0.14 / 2.5
Depth x width x height	mm 87.8 / 12.8 / 89.6	87.8 / 12.8 / 90.5
<b>Note</b>		
Accessories and dimensional drawings: refer to the TERMSERIES Accessories page.		

**Ordering data**

<b>Input</b>	
Rated control voltage	24...230 V UC ± 10 %
Rated current AC / DC	6 mA @ 230 V UC / 45 mA @ 24 VUC
Power rating	1.08 W @ 24 V UC, 1.38 W @ 230 V UC
Pull-in/drop-out voltage, typ.	18.5 V / 7 V AC 17.5 V / 5 V DC
Pull-in/drop-out current, typ.	42 mA / 14 mA AC 38 mA / 10 mA DC
Status indicator	Green LED
Protective circuit	Rectifier
<b>Output</b>	
Switch-on delay	≤ 40 ms
Switch-off delay	≤ 85 ms
<b>Ordering data</b>	
Screw connection	Type TRS 24-230VUC 2CO AU
Order No.	<b>1123820000</b>
Tension-clamp conn.	Type TRZ 24-230VUC 2CO AU
Order No.	<b>1123940000</b>
<b>Note</b>	
Spare relay Type: RCL425024 Orderno.: 4058580000	

Solid-state relay, 3...48 V DC / 100 mA

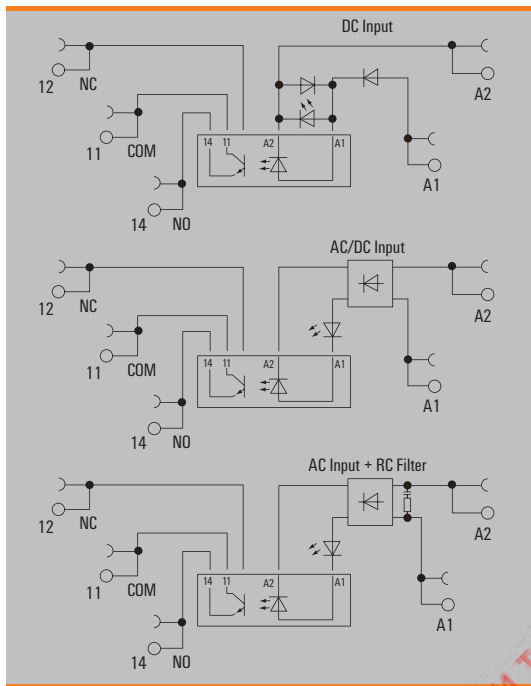
Output versions

- Space saving, just 6.4 mm modular width
- 5 cross-connection levels
- Screw and tension clamp connection



Relay modules and solid-state relays in 6 mm width

A



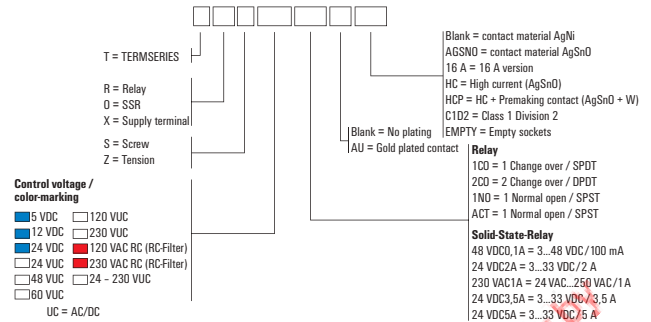
Technical data

Load side		
Rated switching voltage	0...48 V DC	
Continuous current	100 mA	
Inrush current		
Solid-state type	Bipolar transistor	
Voltage drop at max. load	≤ 1 V	
Leakage current	< 10 µA	
Protective circuit, load side	Free-wheel diode	
Short-circuit-proof / Protective circuit, load side	No / Free-wheel diode	
General data		
Ambient temperature (operational)	-20 °C...60 °C	
Storage temperature	-40 °C...70 °C	
Humidity	5-95% rel. humidity, T <sub>v</sub> = 40°C, no condensation	
Approvals	CE, cULus, DNVGL, EAC	
Insulation coordinates		
Rated voltage	300 V	
Impulse withstand voltage	6 kV (1.2/50 µs)	
Dielectric strength for control side - load side	2.5 kV <sub>eff</sub>	
Dielectric strength to mounting rail	4 kV <sub>eff</sub> / 1 min.	
Clearance and creepage distances for control side - load side	≥ 5.5 mm	
Overvoltage category	III	
Pollution degree	2	
Dimensions		
	Screw connection	Tension clamp conn.
Clamping range (nominal / min. / max.)	mm <sup>2</sup> 1.5 / 0.14 / 2.5	1.5 / 0.14 / 2.5
Depth x width x height	mm 87.8 / 6.4 / 89.6	87.8 / 6.4 / 90.5
Note		
Accessories and dimensional drawings: refer to the TERMSERIES Accessories page.		

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Solid-state relay, 3...48 V DC / 100 mA

Output versions



Ordering data

	5 V DC	12 V DC	24 V DC	24 V UC	48 V UC
<b>Control side</b>					
Rated control voltage	5 V DC ±20 %	12 V DC ±20 %	24 V DC ±20 %	24 V UC ±10 %	48 V UC ±10 %
Nominal control current	7 mA DC (±20 %)	5 mA DC (±20 %)	10 mA DC ±20 %	10 mA AC ±20 %, 6 mA DC (±20 %)	8 mA AC (±20 %), 7 mA DC (±20 %)
Power rating	35 mW	112 mW	280 mW	154 mW	290 mVA / 192 mW
Cut-in / dropout voltage	3.4 V / 1.5 V DC	4.9 V / 4 V DC	14.5 V / 11.5 V DC	18 V / 12 V AC, 14 V / 13 V DC	36 V / 19 V AC, 36 V / 19 V DC
max. switching frequency (DC control voltage)	10 Hz	10 Hz	300 Hz	100 Hz	100 Hz
max. switching frequency (AC control voltage)				3 Hz	3 Hz
Status indicator	Green LED	Green LED	Green LED	Green LED	Green LED
Protective circuit	Free-wheel diode, Reverse polarity protection	Free-wheel diode, Reverse polarity protection	Free-wheel diode, Reverse polarity protection	Rectifier	Rectifier
<b>Load side</b>					
Switch-on delay	< 6.5 ms	≤ 0.4 ms	< 50 μs	< 55 μs	< 55 μs
Switch-off delay	< 10 ms	≤ 3 ms	< 600 μs	< 4 ms	< 4 ms

Ordering data					
Screw connection Type	TOS 5VDC 48VDC0,1A	TOS 12VDC 48VDC0,1A	TOS 24VDC 48VDC0,1A	TOS 24VUC 48VDC0,1A	TOS 48VUC 48VDC0,1A
Order No.	1126920000	1126930000	1126940000	1126950000	1126960000
Tension-clamp conn. Type	TOZ 5VDC 48VDC0,1A	TOZ 12VDC 48VDC0,1A	TOZ 24VDC 48VDC0,1A	TOZ 24VUC 48VDC0,1A	TOZ 48VUC 48VDC0,1A
Order No.	1127030000	1127040000	1127050000	1127060000	1127070000
Note	Spare solid-state relay Type: SSS 5 V/24 V 0.1 A DC Orderno.: 4064320000	Spare solid-state relay Type: SSS 5 V/24 V 0.1 A DC Orderno.: 4064320000	Spare solid-state relay Type: SSS 24 V/24 V 0.1 A DC Orderno.: 4061180000	Spare solid-state relay Type: SSS 24 V/24 V 0.1 A DC Orderno.: 4061180000	Spare solid-state relay Type: SSS 24 V/24 V 0.1 A DC Orderno.: 4061180000

Ordering data

	60 V UC	120 V UC	230 V UC	120 V AC RC	230 V AC RC
<b>Control side</b>					
Rated control voltage	60 V UC ±10 %	120 V UC ±10 %	230 V UC ±10 %	120 V AC ±10 %	230 V AC ±10 %
Nominal control current	5 mA AC (±20 %), 3 mA DC (±20 %)	5 mA AC (±30 %), 3 mA DC (±30 %)	3.5 mA AC (±30 %), 3 mA DC (±30 %)	7 mA AC (±20 %)	9 mA AC
Power rating	< 300 mW	0.48 VA	0.8 VA / 660 mW	0.84 VA	2.1 VA
Cut-in / dropout voltage	37 V / 20 V AC, 35 V / 26 V DC	82 V / 65 V AC, 86 V / 74 V DC	159 V / 99 V AC, 145 V / 128 V DC	79 V / 60 V AC	129 V / 90 V AC
max. switching frequency (DC control voltage)	10 Hz	3 Hz	3 Hz		
max. switching frequency (AC control voltage)	3 Hz	3 Hz	3 Hz	3 Hz	3 Hz
Status indicator	Green LED	Green LED	Green LED	Green LED	Green LED
Protective circuit	Rectifier	Rectifier	Rectifier	RC element	RC element
<b>Load side</b>					
Switch-on delay	< 6.5 ms	< 6.5 ms	< 7 ms	< 6.5 ms	< 7 ms
Switch-off delay	< 10 ms	< 10 ms	< 10 ms	< 10 ms	< 10 ms

Ordering data					
Screw connection Type	TOS 60VUC 48VDC0,1A	TOS 120VUC 48VDC0,1A	TOS 230VUC 48VDC0,1A	TOS 120VAC RC 48VDC0,1A	TOS 230VAC RC 48VDC0,1A
Order No.	1126970000	1126980000	1126990000	1127000000	1127010000
Tension-clamp conn. Type	TOZ 60VUC 48VDC0,1A	TOZ 120VUC 48VDC0,1A	TOZ 230VUC 48VDC0,1A	TOZ 120VAC RC 48VDC0,1A	TOZ 230VAC RC 48VDC0,1A
Order No.	1127080000	1127090000	1127100000	1127110000	1127120000
Note	Spare solid-state relay Type: SSS 60 V/24 V 0.1 A DC Orderno.: 4061230000	Spare solid-state relay Type: SSS 60 V/24 V 0.1 A DC Orderno.: 4061230000	Spare solid-state relay Type: SSS 60 V/24 V 0.1 A DC Orderno.: 4061230000	Spare solid-state relay Type: SSS 60 V/24 V 0.1 A DC Orderno.: 4061230000	Spare solid-state relay Type: SSS 60 V/24 V 0.1 A DC Orderno.: 4061230000

**Solid-state relay, 3...48 V DC / 100 mA**

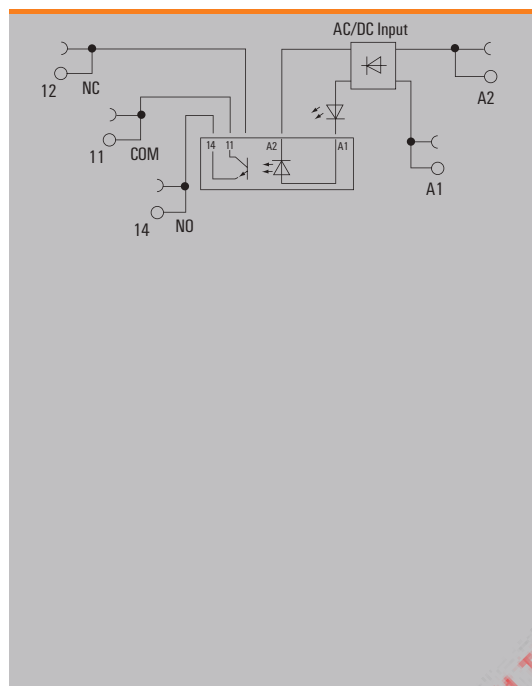
**Output versions, multi-voltage input**

- Space saving, just 6.4 mm modular width
- 5 cross-connection levels
- Screw and tension clamp connection
- Multi-voltage input: 24...230 V UC in one module



Relay modules and solid-state relays in 6 mm width

A



**Technical data**

Load side	
Rated switching voltage	0...48 V DC
Continuous current	100 mA
Inrush current	
Solid-state type	Bipolar transistor
Voltage drop at max. load	≤ 1 V
Leakage current	< 10 µA
Protective circuit, load side	Free-wheel diode
Short-circuit-proof / Protective circuit, load side	No / Free-wheel diode
General data	
Ambient temperature (operational)	-20 °C...60 °C
Storage temperature	-40 °C...70 °C
Humidity	5-95% rel. humidity, T <sub>v</sub> = 40°C, no condensation
Approvals	CE, cULus, DNVGL, EAC
Insulation coordinates	
Rated voltage	300 V
Impulse withstand voltage	6 kV (1.2/50 µs)
Dielectric strength for control side - load side	2.5 kV <sub>eff</sub>
Dielectric strength to mounting rail	4 kV <sub>eff</sub> / 1 min.
Clearance and creepage distances for control side - load side	≥ 5.5 mm
Overvoltage category	III
Pollution degree	2
Dimensions	
Clamping range (nominal / min. / max.)	mm <sup>2</sup> 1.5 / 0.14 / 2.5
Depth x width x height	mm 87.8 / 6.4 / 89.6
	mm 87.8 / 6.4 / 90.5
Note	
Accessories and dimensional drawings: refer to the TERMSERIES Accessories page.	

**Ordering data**

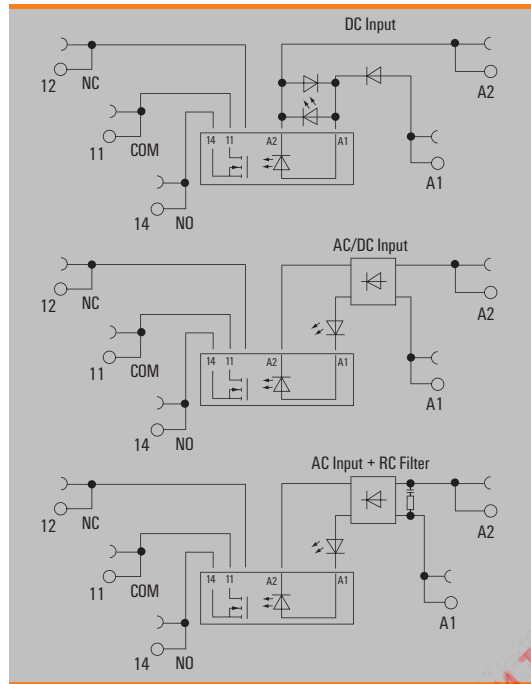
Control side	
Rated control voltage	24...230 V UC ±10 %
Nominal control current	22 mA @ 24 V DC, 4 mA @ 230 V AC
Power rating	530 mW @ 24 V DC, 930 mVA @ 230 V AC
Cut-in / dropout voltage	11.5 V / 9.5 V AC 11 V / 9 V DC
max. switching frequency (DC control voltage)	3 Hz
max. switching frequency (AC control voltage)	3 Hz
Status indicator	Green LED
Protective circuit	Rectifier
Load side	
Switch-on delay	< 20 ms
Switch-off delay	< 70 ms
Ordering data	
Screw connection Type	TOS 24-230VUC 48VDC0,1A
Order No.	<b>1127020000</b>
Tension-clamp conn. Type	TOZ 24-230VUC 48VDC0,1A
Order No.	<b>1127130000</b>
Note	
Spare solid-state relay Type: SSS 24 V/24 V 0.1A DC Orderno.: 4061180000	

**24 V - 230 V UC**

в Беларусі Заказ г.Мінск viber и тел. +375447584780 email: [minsk17@tut.by](mailto:minsk17@tut.by) [www.tiristor.by](http://www.tiristor.by)

**Solid-state relay, 3...33 V DC / 2 A**
**Output versions**

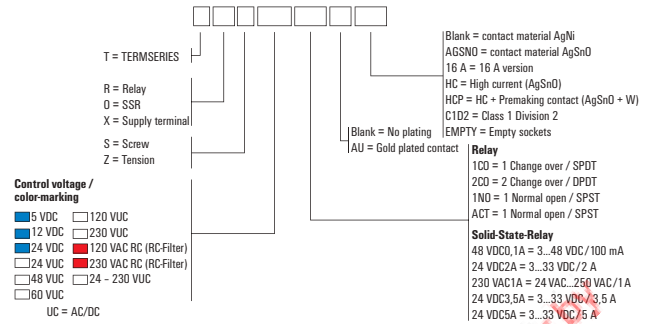
- Space saving, just 6.4 mm modular width
- 5 cross-connection levels
- Screw and tension clamp connection


**Technical data**

Load side		
Rated switching voltage	3...33 V DC	
Continuous current	2 A	
Inrush current	15 A / 10 ms	
Solid-state type	MOS-FET	
Voltage drop at max. load	≤ 120 mV	
Leakage current	< 10 µA	
Protective circuit, load side	Free-wheel diode	
Short-circuit-proof / Protective circuit, load side	No / Free-wheel diode	
General data		
Ambient temperature (operational)	-20 °C...60 °C	
Storage temperature	-40 °C...70 °C	
Humidity	5-95% rel. humidity, T <sub>v</sub> = 40°C, no condensation	
Approvals	CE, cULus, DNVGL, EAC	
Insulation coordinates		
Rated voltage	300 V	
Impulse withstand voltage	6 kV (1.2/50 µs)	
Dielectric strength for control side - load side	2.5 kV <sub>eff</sub>	
Dielectric strength to mounting rail	4 kV <sub>eff</sub> / 1 min.	
Clearance and creepage distances for control side - load side	≥ 5.5 mm	
Overvoltage category	III	
Pollution degree	2	
Dimensions		
Clamping range (nominal / min. / max.)	mm <sup>2</sup>	1.5 / 0.14 / 2.5
	mm	87.8 / 6.4 / 89.6
Depth x width x height	mm	87.8 / 6.4 / 90.5
Note		
Accessories and dimensional drawings: refer to the TERMSERIES Accessories page.		

Solid-state relay, 3...33 V DC / 2 A

Output versions



Ordering data

	5 V DC	12 V DC	24 V DC	24 V UC	48 V UC
<b>Control side</b>					
Rated control voltage	5 V DC ±20 %	12 V DC ±20 %	24 V DC ±20 %	24 V UC ±10 %	48 V UC ±10 %
Nominal control current	11.5 mA DC (±20%)	9.6 mA DC (±20 %)	11.5 mA DC (±20%)	10 mA AC ±20 %, 6 mA DC (±20 %)	8 mA AC (±20 %), 7 mA DC (±20 %)
Power rating	50 mW	112 mW	0.29 W	154 mW	290 mVA / 192 mW
Cut-in / dropout voltage	2.3 V / 1.8 V DC	5.2 V / 4.5 V DC	14 V / 12.5 V DC	18 V / 12 V AC 14 V / 13 V DC	36 V / 19 V AC 36 V / 19 V DC
max. switching frequency (DC control voltage)	300 Hz	300 Hz	300 Hz	10 Hz	10 Hz
max. switching frequency (AC control voltage)				3 Hz	3 Hz
Status indicator	Green LED	Green LED	Green LED	Green LED	Green LED
Protective circuit	Free-wheel diode, Reverse polarity protection	Free-wheel diode, Reverse polarity protection	Free-wheel diode, Reverse polarity protection	Rectifier	Rectifier
<b>Load side</b>					
Switch-on delay	≤0,1 ms	≤0,1 ms	≤0,1 ms	< 6.5 ms	< 6.5 ms
Switch-off delay	< 1 ms	< 1 ms	< 1 ms	< 10 ms	< 10 ms

Ordering data	5 V DC	12 V DC	24 V DC	24 V UC	48 V UC
Screw connection Type	TOS 5VDC 24VDC2A	TOS 12VDC 24VDC2A	TOS 24VDC 24VDC2A	TOS 24VUC 24VDC2A	TOS 48VUC 24VDC2A
Order No.	1127140000	1127150000	1127170000	1127180000	1127190000
Tension-clamp conn. Type	TOZ 5VDC 24VDC2A	TOZ 12VDC 24VDC2A	TOZ 24VDC 24VDC2A	TOZ 24VUC 24VDC2A	TOZ 48VUC 24VDC2A
Order No.	1127270000	1127280000	1127290000	1127300000	1127310000
Note	Spare solid-state relay Type: SSS 5 V/24 V 2 A DC Orderno.: 4064310000	Spare solid-state relay Type: SSS 5 V/24 V 2 A DC Order no.: 4064310000	Spare solid-state relay Type: SSS 24 V/24 V 2 A DC Orderno.: 4061190000	Spare solid-state relay Type: SSS 24 V/24 V 2 A DC Orderno.: 4061190000	Spare solid-state relay Type: SSS 24 V/24 V 2 A DC Orderno.: 4061190000

Ordering data

	60 V UC	120 V UC	230 V UC	120 V AC RC	230 V AC RC
<b>Control side</b>					
Rated control voltage	60 V UC ±10 %	120 V UC ±10 %	230 V UC ±10%	120 V AC ±10 %	230 V AC ±10 %
Nominal control current	5 mA AC (±20 %), 3 mA DC (±20 %)	4.1 mA AC (±10 %), 2.6 mA DC (±10%)	3.5 mA AC (±30 %), 3 mA DC (±30 %)	7 mA AC (±20 %)	9 mA AC
Power rating	< 300 mW	0.49 VA, 0.31 W	0.8 VA / 660 mW	0.84 VA	2.1 VA
Cut-in / dropout voltage	37 V / 20 V AC 35 V / 26 V DC	83 V / 61 V AC 91 V / 72 V DC	159 V / 99 V AC 145 V / 128 V DC	79 V / 60 V AC	129 V / 90 V AC
max. switching frequency (DC control voltage)	10 Hz	10 Hz	3 Hz		
max. switching frequency (AC control voltage)	3 Hz	10 Hz	3 Hz	3 Hz	3 Hz
Status indicator	Green LED	Green LED	Green LED	Green LED	Green LED
Protective circuit	Rectifier	Rectifier	Rectifier	RC element	RC element
<b>Load side</b>					
Switch-on delay	< 6.5 ms	< 6.5 ms	< 7 ms	< 6.5 ms	< 7 ms
Switch-off delay	< 10 ms	≤ 16 ms	< 10 ms	< 10 ms	< 10 ms

Ordering data	60 V UC	120 V UC	230 V UC	120 V AC RC	230 V AC RC
Screw connection Type	TOS 60VUC 24VDC2A	TOS 120VUC 24VDC2A	TOS 230VUC 24VDC2A	TOS 120VAC RC 24VDC2A	TOS 230VAC RC 24VDC2A
Order No.	1127200000	1127210000	1127220000	1127230000	1127240000
Tension-clamp conn. Type	TOZ 60VUC 24VDC2A	TOZ 120VUC 24VDC2A	TOZ 230VUC 24VDC2A	TOZ 120VAC RC 24VDC2A	TOZ 230VAC RC 24VDC2A
Order No.	1127320000	1127330000	1127340000	1127350000	1127370000
Note	Spare solid-state relay Type: SSS 60 V/24 V 2 A DC Orderno.: 4061200000	Spare solid-state relay Type: SSS 60 V/24 V 2 A DC Orderno.: 4061200000	Spare solid-state relay Type: SSS 60 V/24 V 2 A DC Orderno.: 4061200000	Spare solid-state relay Type: SSS 60 V/24 V 2 A DC Orderno.: 4061200000	Spare solid-state relay Type: SSS 60 V/24 V 2 A DC Orderno.: 4061200000

**Solid-state relay, 3...33 V DC / 2 A**

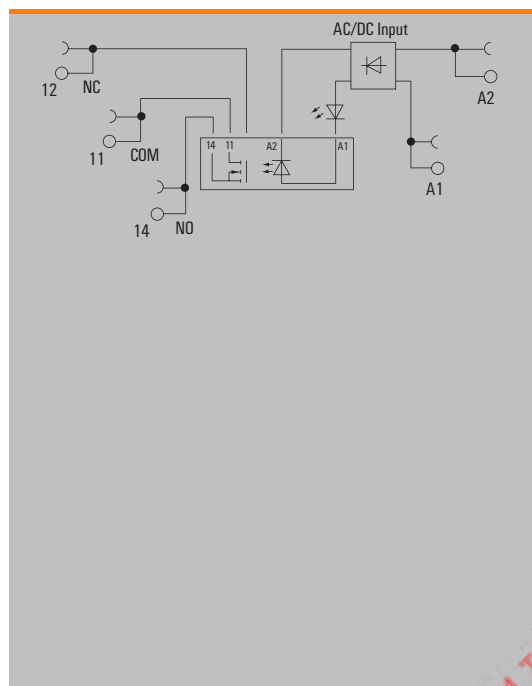
**Output versions, multi-voltage input**

- Space saving, just 6.4 mm modular width
- 5 cross-connection levels
- Screw and tension clamp connection
- Multi-voltage input: 24...230 V UC in one module



Relay modules and solid-state relays in 6 mm width

A



**Technical data**

Load side	
Rated switching voltage	3...33 V DC
Continuous current	2 A
Inrush current	15 A / 10 ms
Solid-state type	MOS-FET
Voltage drop at max. load	≤ 120 mV
Leakage current	< 10 µA
Protective circuit, load side	Free-wheel diode
Short-circuit-proof / Protective circuit, load side	No / Free-wheel diode
General data	
Ambient temperature (operational)	-20 °C...60 °C
Storage temperature	-40 °C...70 °C
Humidity	5-95% rel. humidity, T <sub>v</sub> = 40°C, no condensation
Approvals	CE, cULus, DNVGL, EAC
Insulation coordinates	
Rated voltage	300 V
Impulse withstand voltage	6 kV (1.2/50 µs)
Dielectric strength for control side - load side	2.5 kV <sub>eff</sub>
Dielectric strength to mounting rail	4 kV <sub>eff</sub> / 1 min.
Clearance and creepage distances for control side - load side	≥ 5.5 mm
Overvoltage category	III
Pollution degree	2
Dimensions	
Clamping range (nominal / min. / max.)	mm <sup>2</sup> 1.5 / 0.14 / 2.5
Depth x width x height	mm 87.8 / 6.4 / 89.6
	mm 87.8 / 6.4 / 90.5
Note	
Accessories and dimensional drawings: refer to the TERMSERIES Accessories page.	

**Ordering data**

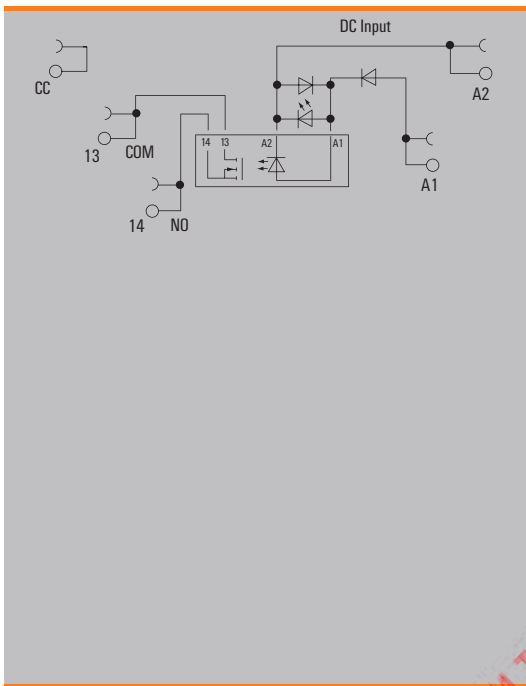
Control side	
Rated control voltage	24...230 V UC ±10 %
Nominal control current	22 mA @ 24 V DC, 4 mA @ 230 V AC
Power rating	530 mW @ 24 V DC, 930 mVA @ 230 V AC
Cut-in / dropout voltage	11.5 V / 6 V AC 11.5 V / 5 V DC
max. switching frequency (DC control voltage)	3 Hz
max. switching frequency (AC control voltage)	3 Hz
Status indicator	Green LED
Protective circuit	Rectifier
Load side	
Switch-on delay	< 20 ms
Switch-off delay	< 100 ms
Ordering data	
Screw connection Type	TOS 24-230VUC 24VDC2A
Order No.	<b>1127250000</b>
Tension-clamp conn. Type	TOZ 24-230VUC 24VDC2A
Order No.	<b>1127380000</b>
Note	
Spare solid-state relay Type: SSS 24 V/24 V 2 A DC Orderno.: 4061190000	

**24 V - 230 V UC**



**Solid-state relay, 3...33 V DC / 2 A actuator versions**

- Space-saving, only 6.4 mm wide
- AgNi contact
- Screw and tension clamp connection
- 24 V DC actuator version:  
Bridgeable, potential-free connection in the output (CC)



**Technical data**

Load side	
Rated switching voltage	3...33 V DC
Continuous current	2 A
Inrush current	15 A / 10 ms
Solid-state type	MOS-FET
Voltage drop at max. load	≤ 120 mV
Leakage current	< 10 µA
Protective circuit, load side	Free-wheel diode
Short-circuit-proof / Protective circuit, load side	No / Free-wheel diode
General data	
Ambient temperature (operational)	-20 °C...60 °C
Storage temperature	-40 °C...70 °C
Humidity	5-95% rel. humidity, T <sub>v</sub> = 40°C, no condensation
Approvals	CE, cULus, DNVGL, EAC
Insulation coordinates	
Rated voltage	300 V
Impulse withstand voltage	6 kV (1.2/50 µs)
Dielectric strength for control side - load side	2.5 kV <sub>eff</sub>
Dielectric strength to mounting rail	4 kV <sub>eff</sub> / 1 min.
Clearance and creepage distances for control side - load side	≥ 5.5 mm
Overvoltage category	III
Pollution degree	2
Dimensions	
Clamping range (nominal / min. / max.)	mm <sup>2</sup> 1.5 / 0.14 / 2.5
Depth x width x height	mm 87.8 / 6.4 / 89.6
	mm 87.8 / 6.4 / 90.5
Note	
Accessories and dimensional drawings: refer to the TERMSERIES Accessories page.	

**Ordering data**

Control side		24 V DC
Rated control voltage		24 V DC ±20 %
Nominal control current		11.5 mA DC (±20%)
Power rating		280 mW
Cut-in / dropout voltage		14 V / 12.5 V DC
max. switching frequency (DC control voltage)		300 Hz
max. switching frequency (AC control voltage)		
Status indicator		Green LED
Protective circuit		Free-wheel diode, Reverse polarity protection
Load side		
Switch-on delay		≤ 0,1 ms
Switch-off delay		< 1 ms
Ordering data		
Screw connection	Type	TOS 24VDC ACT
	Order No.	1391680000
Tension-clamp conn.	Type	TOZ 24VDC ACT
	Order No.	1391690000
Note		

Solid-state relay, 24...230 V AC / 1 A

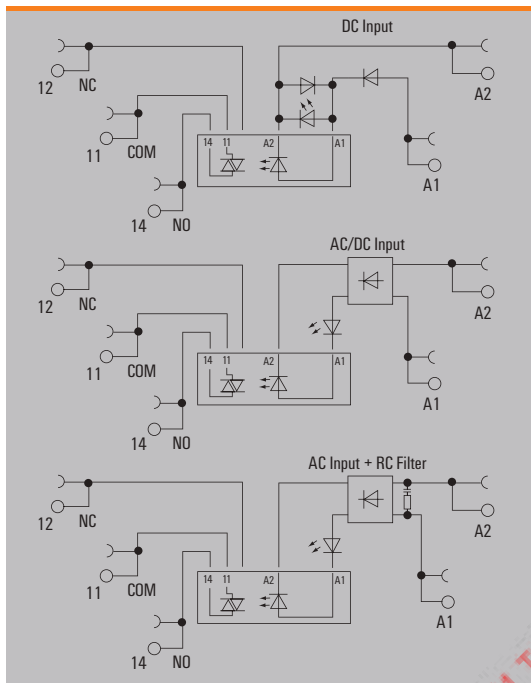
Output versions

- Space saving, just 6.4 mm modular width
- 5 cross-connection levels
- Screw and tension clamp connection



Relay modules and solid-state relays in 6 mm width

A



Technical data

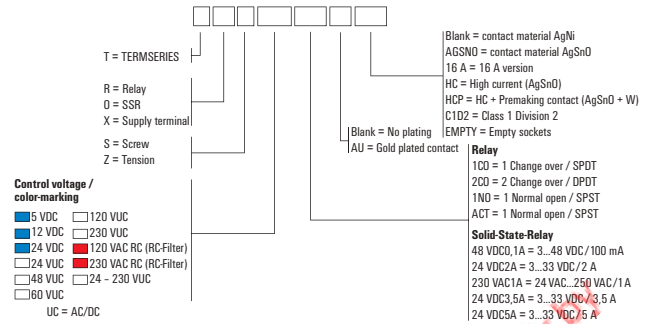
Load side			
Rated switching voltage	24...240 V AC		
Continuous current	1 A		
Inrush current	15 A / 10 ms		
Solid-state type	Triac (zero-cross switch)		
Voltage drop at max. load	≤ 1.6 V		
Leakage current	< 1.5 mA		
Protective circuit, load side	RC element		
Short-circuit-proof / Protective circuit, load side	No / RC element		
General data			
Ambient temperature (operational)	-20 °C...60 °C		
Storage temperature	-40 °C...70 °C		
Humidity	5-95% rel. humidity, T <sub>v</sub> = 40°C, no condensation		
Approvals	CE, cULus, DNVGL, EAC		
Insulation coordinates			
Rated voltage	300 V		
Impulse withstand voltage	6 kV (1.2/50 µs)		
Dielectric strength for control side - load side	2.5 kV <sub>eff</sub>		
Dielectric strength to mounting rail	4 kV <sub>eff</sub> / 1 min.		
Clearance and creepage distances for control side - load side	≥ 5.5 mm		
Overvoltage category	III		
Pollution degree	2		
Dimensions		Screw connection	Tension clamp conn.
Clamping range (nominal / min. / max.)	mm <sup>2</sup>	1.5 / 0.14 / 2.5	1.5 / 0.14 / 2.5
Depth x width x height	mm	87.8 / 6.4 / 89.6	87.8 / 6.4 / 90.5
<b>Note</b>		Accessories and dimensional drawings: refer to the TERMSERIES Accessories page.	

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Solid-state relay, 24...230 V AC / 1 A

Output versions



Ordering data

	5 V DC	12 V DC	24 V DC	24 V UC	48 V UC
<b>Control side</b>					
Rated control voltage	5 V DC ±20 %	12 V DC ±20 %	24 V DC ±20 %	24 V UC ±10 %	48 V UC ±10 %
Nominal control current	15 mA DC (±20 %)	9.6 mA DC (±20 %)	10 mA DC ±20 %	10 mA AC ±20 %, 6 mA DC (±20 %)	6 mA AC (±20 %), 4 mA DC (±20 %)
Power rating	75 mW	112 mW	280 mW	154 mW	290 mVA / 192 mW
Cut-in / dropout voltage	3.4 V / 1.5 V DC	4.7 V / 4.6 V DC	12 V / 6.5 V DC	18 V / 12 V AC, 14 V / 13 V DC	36 V / 19 V AC, 36 V / 19 V DC
max. switching frequency (DC control voltage)	3 Hz	3 Hz	3 Hz	3 Hz	3 Hz
max. switching frequency (AC control voltage)				3 Hz	3 Hz
Status indicator	Green LED	Green LED	Green LED	Green LED	Green LED
Protective circuit	Free-wheel diode, Reverse polarity protection	Free-wheel diode, Reverse polarity protection	Free-wheel diode, Reverse polarity protection	Rectifier	Rectifier
<b>Load side</b>					
Switch-on delay	< 12 ms	< 12 ms	≤ 12 ms	< 11 ms	< 11 ms
Switch-off delay	< 12 ms	< 12 ms	≤ 12 ms	< 11 ms	< 11 ms

Ordering data					
Screw connection	Type	TOS 5VDC 230VAC1A	TOS 12VDC 230VAC1A	TOS 24VDC 230VAC1A	TOS 24VUC 230VAC1A
	Order No.	1127390000	1127400000	1127410000	1127420000
Tension-clamp conn.	Type	TOZ 5VDC 230VAC1A	TOZ 12VDC 230VAC1A	TOZ 24VDC 230VAC1A	TOZ 24VUC 230VAC1A
	Order No.	1127510000	1127520000	1127530000	1127540000
<b>Note</b>		Spare solid-state relay Type: SSS 5 V/230 V 1 A AC Orderno.: 1132260000	Spare solid-state relay Type: SSS 5 V/230 V 1 A AC Orderno.: 1132260000	Spare solid-state relay Type: SSS 24 V/230 V 1 A AC Orderno.: 4061210000	Spare solid-state relay Type: SSS 24 V/230 V 1 A AC Orderno.: 4061210000

Ordering data

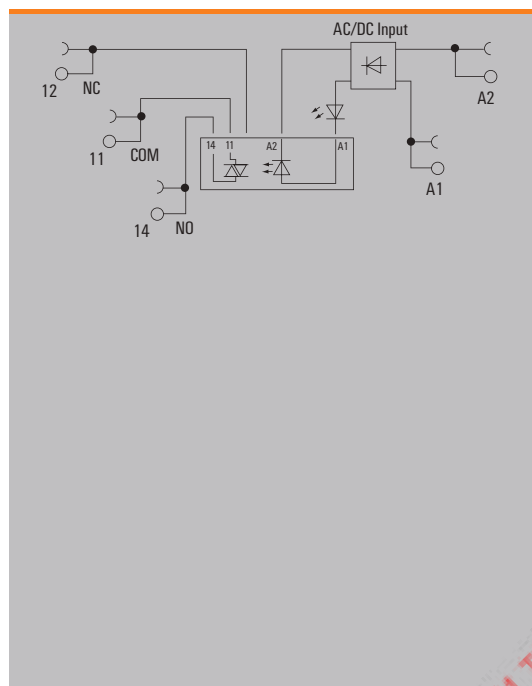
	60 V UC	120 V UC	230 V UC	120 V AC RC	230 V AC RC
<b>Control side</b>					
Rated control voltage	60 V UC ±10 %	120 V UC ±10 %	230 V UC +5 %/-10 %	120 V AC ±10 %	230 V AC +5 %/-10 %
Nominal control current	5 mA AC (±20 %), 3 mA DC (±20 %)	5 mA AC (±30 %), 3 mA DC (±30 %)	3.5 mA AC (±30 %), 3 mA DC (±30 %)	7 mA AC (±20 %)	9 mA AC
Power rating	< 300 mW	0.48 VA	0.8 VA / 660 mW	0.84 VA	2.1 VA
Cut-in / dropout voltage	35 V / 20 V AC, 35 V / 26 V DC	82 V / 65 V AC, 86 V / 74 V DC	159 V / 99 V AC, 145 V / 128 V DC	79 V / 60 V AC	142 V / 90 V AC
max. switching frequency (DC control voltage)	3 Hz	3 Hz	3 Hz		
max. switching frequency (AC control voltage)	3 Hz	3 Hz	3 Hz	3 Hz	3 Hz
Status indicator	Green LED	Green LED	Green LED	Green LED	Green LED
Protective circuit	Rectifier	Rectifier	Rectifier	RC element	RC element
<b>Load side</b>					
Switch-on delay	< 11 ms	< 11 ms	< 20 ms	< 11 ms	< 20 ms
Switch-off delay	< 11 ms	< 11 ms	< 20 ms	< 11 ms	< 20 ms

Ordering data					
Screw connection	Type	TOS 60VUC 230VAC1A	TOS 120VUC 230VAC1A	TOS 230VUC 230VAC1A	TOS 120VAC RC 230VAC1A
	Order No.	1127440000	1127450000	1127470000	1127480000
Tension-clamp conn.	Type	TOZ 60VUC 230VAC1A	TOZ 120VUC 230VAC1A	TOZ 230VUC 230VAC1A	TOZ 120VAC RC 230VAC1A
	Order No.	1127570000	1127580000	1127590000	1127600000
<b>Note</b>		Spare solid-state relay Type: SSS 60 V/230 V 1 A AC Orderno.: 4061220000	Spare solid-state relay Type: SSS 60 V/230 V 1 A AC Orderno.: 4061220000	Spare solid-state relay Type: SSS 60 V/230 V 1 A AC Orderno.: 4061220000	Spare solid-state relay Type: SSS 60 V/230 V 1 A AC Orderno.: 4061220000

**Solid-state relay, 24 - 230 V AC / 1 A**

**Output versions, multi-voltage input**

- Space saving, just 6.4 mm modular width
- 5 cross-connection levels
- Screw and tension clamp connection
- Multi-voltage input: 24...230 V UC in one module



**Technical data**

Load side	
Rated switching voltage	24...240 V AC
Continuous current	1 A
Inrush current	15 A / 10 ms
Solid-state type	Triac (zero-cross switch)
Voltage drop at max. load	≤ 1 V
Leakage current	< 1.5 mA
Protective circuit, load side	RC element
Short-circuit-proof / Protective circuit, load side	No / RC element
General data	
Ambient temperature (operational)	-20 °C...60 °C
Storage temperature	-40 °C...70 °C
Humidity	5-95% rel. humidity, T <sub>v</sub> = 40°C, no condensation
Approvals	CE, cULus, DNVGL, EAC
Insulation coordinates	
Rated voltage	300 V
Impulse withstand voltage	6 kV (1.2/50 μs)
Dielectric strength for control side - load side	2.5 kV <sub>eff</sub>
Dielectric strength to mounting rail	4 kV <sub>eff</sub> / 1 min.
Clearance and creepage distances for control side - load side	≥ 5.5 mm
Overvoltage category	III
Pollution degree	2
Dimensions	
Clamping range (nominal / min. / max.)	mm <sup>2</sup> 1.5 / 0.14 / 2.5
Depth x width x height	mm 87.8 / 6.4 / 89.6
	87.8 / 6.4 / 90.5
Note	
Accessories and dimensional drawings: refer to the TERMSERIES Accessories page.	

**Ordering data**

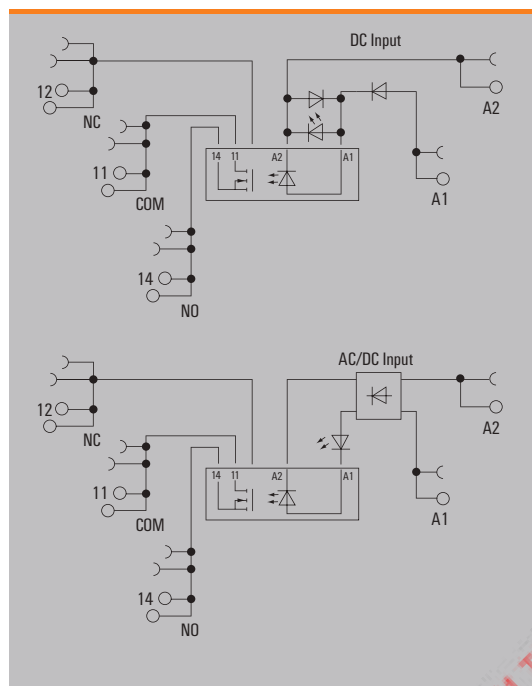
Control side		24 V - 230 V UC
Rated control voltage		24...230 V UC ±10%
Nominal control current		22 mA @ 24 V DC, 4 mA @ 230 V AC
Power rating		530 mW @ 24 V DC, 930 mVA @ 230 V AC
Cut-in / dropout voltage		10.5 V / 7.7 V AC 11.5 V / 6.5 V DC
max. switching frequency (DC control voltage)		3 Hz
max. switching frequency (AC control voltage)		3 Hz
Status indicator		Green LED
Protective circuit		Rectifier
Load side		
Switch-on delay		< 20 ms
Switch-off delay		< 125 ms
Ordering data		
Screw connection	Type	TOS 24-230VUC 230VAC1A
	Order No.	<b>1127500000</b>
Tension-clamp conn.	Type	TOZ 24-230VUC 230VAC1A
	Order No.	<b>1127620000</b>
Note		
		Spare solid-state relay Type: SSS 24 V/230 V 1 A AC Orderno.: 4061210000

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Solid-state relay, 0...33 V DC / 3.5 A

Output versions

- Space saving, just 12.8 mm modular width
- 5 cross-connection levels
- Screw and tension clamp connection
- Multi-voltage input: 24...230 V UC in one module



Technical data

Load side	
Rated switching voltage	3...33 V DC
Continuous current	3.5 A
Inrush current	
Solid-state type	MOS-FET
Voltage drop at max. load	≤ 0.3 V
Leakage current	< 10 µA
Protective circuit, load side	Free-wheel diode
Short-circuit-proof / Protective circuit, load side	No / Free-wheel diode
General data	
Ambient temperature (operational)	-20 °C...60 °C
Storage temperature	-40 °C...85 °C
Humidity	5-95% rel. humidity, T <sub>v</sub> = 40°C, no condensation
Approvals	CE, cULus, DNVGL, EAC
Insulation coordinates	
Rated voltage	300 V
Impulse withstand voltage	6 kV (1.2/50 µs)
Dielectric strength for control side - load side	2.5 kV <sub>eff</sub>
Dielectric strength to mounting rail	4 kV <sub>eff</sub> / 1 min.
Clearance and creepage distances for control side - load side	≥ 5.5 mm
Overvoltage category	III
Pollution degree	2
Dimensions	
Clamping range (nominal / min. / max.)	mm <sup>2</sup> 1.5 / 0.14 / 2.5
Depth x width x height	mm 87.8 / 12.8 / 89.6
Screw connection	
Clamping range (nominal / min. / max.)	mm <sup>2</sup> 1.5 / 0.14 / 2.5
Depth x width x height	mm 87.8 / 12.8 / 89.6
Note	
Accessories and dimensional drawings: refer to the TERMSERIES Accessories page.	

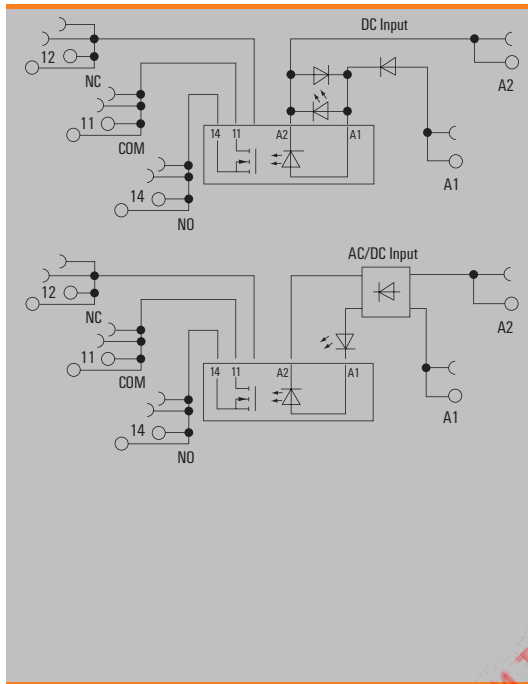
Ordering data

	24 V DC	24 V - 230 V UC
Control side		
Rated control voltage	24 V DC ±20 %	24...230 V UC ±10 %
Nominal control current	10 mA DC ±20 %	28 mA @ 24 V UC, 4 mA @ 230 V UC
Power rating	240 mW	672 mW @ 24 V UC, 920 mW @ 230 V UC
Cut-in / dropout voltage	15 V / 5 V DC	12 V / 6 V AC 12 V / 5 V DC
max. switching frequency (DC control voltage)	300 Hz	3 Hz
max. switching frequency (AC control voltage)		3 Hz
Status indicator	Green LED	Green LED
Protective circuit	Free-wheel diode, Reverse polarity protection	Rectifier
Load side		
Switch-on delay	< 55 µs	≤ 10 ms
Switch-off delay	< 600 µs	< 100 ms
Ordering data		
Screw connection Type	TOS 24VDC 24VDC3,5A	TOS 24-230VUC 24VDC3,5A
Order No.	<b>1127630000</b>	<b>1127640000</b>
Tension-clamp conn. Type	TOZ 24VDC 24VDC3,5A	TOZ 24-230VUC 24VDC3,5A
Order No.	<b>1127650000</b>	<b>1127670000</b>
Note		
	Spare solid-state relay Type: SSR 10-32 V DC/0-35 V DC 5 A Orderno.: 1132310000	Spare solid-state relay Type: SSR 10-32 V DC/0-35 V DC 5 A Orderno.: 1132310000

**Solid-state relay, 0...33 VDC / 5 A**

**Output versions**

- Space-saving, 12.8 mm wide
- 5 A DC output current
- Internal cross-connection of the output terminals
- Screw and tension clamp connection
- Multi-voltage input: 24...230 V UC in one module



**Technical data**

Load side	
Rated switching voltage	3...33 V DC
Continuous current	5 A
Inrush current	
Solid-state type	MOS-FET
Voltage drop at max. load	≤ 0.3 V
Leakage current	< 10 µA
Protective circuit, load side	Free-wheel diode
Short-circuit-proof / Protective circuit, load side	No / Free-wheel diode
General data	
Ambient temperature (operational)	-20 °C...60 °C
Storage temperature	-40 °C...70 °C
Humidity	5-95% rel. humidity, T <sub>v</sub> = 40°C, no condensation
Approvals	CE, cULus, DNVGL
Insulation coordinates	
Rated voltage	300 V
Impulse withstand voltage	6 kV (1.2/50 µs)
Dielectric strength for control side - load side	2.5 kV <sub>eff</sub>
Dielectric strength to mounting rail	4 kV <sub>eff</sub> / 1 min.
Clearance and creepage distances for control side - load side	≥ 5.5 mm
Overvoltage category	III
Pollution degree	2
Dimensions	
Clamping range (nominal / min. / max.)	mm <sup>2</sup> 1.5 / 0.14 / 2.5
Depth x width x height	mm 87.8 / 12.8 / 89.6
	87.8 / 12.8 / 90.5
Note	

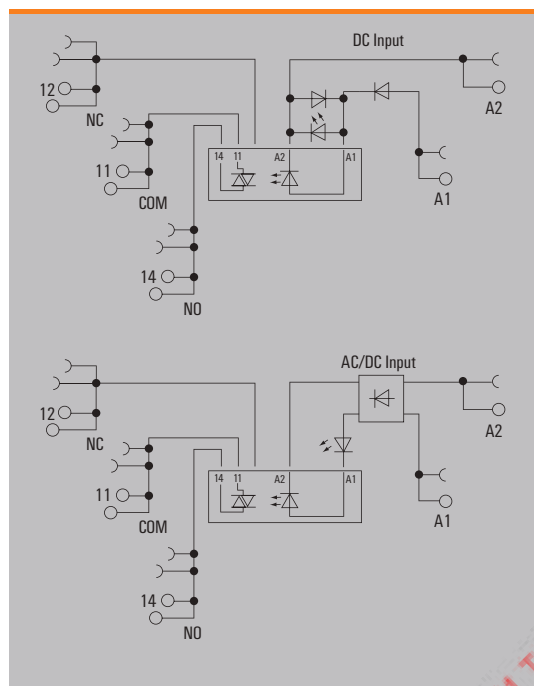
**Ordering data**

	24 V DC	24 V - 230 V UC
<b>Control side</b>		
Rated control voltage	24 V DC ±20 %	24...230 V UC ±10 %
Nominal control current	10 mA DC ±20 %	28 mA @ 24 V UC, 4 mA @ 230 V UC
Power rating	240 mW	672 mW @ 24 V UC, 920 mW @ 230 V UC
Cut-in / dropout voltage	4.5 V / 3 V DC	12 V / 6 V AC 12 V / 5 V DC
max. switching frequency (DC control voltage)	300 Hz	3 Hz
max. switching frequency (AC control voltage)		3 Hz
Status indicator	Green LED	Green LED
Protective circuit	Free-wheel diode, Reverse polarity protection	Rectifier
<b>Load side</b>		
Switch-on delay	< 55 µs	≤ 10 ms
Switch-off delay	< 600 µs	< 100 ms
<b>Ordering data</b>		
Screw connection	Type TOS 24VDC 24VDC5A	Type TOZ 24-230VUC 24VDC5A
Order No.	<b>1990960000</b>	<b>1990970000</b>
Tension-clamp conn.	Type TOZ 24VDC 24VDC5A	Type TOZ 24-230VUC 24VDC5A
Order No.	<b>1990980000</b>	<b>1990990000</b>
<b>Note</b>		

**Solid-state relay, 12...275 V AC / 1 A**

**Output versions**

- Space saving, just 12.8 mm modular width
- 5 cross-connection levels
- Screw and tension clamp connection
- Multi-voltage input: 24...230 V UC in one module



**Technical data**

Load side	
Rated switching voltage	12...275 V AC
Continuous current	1 A
Inrush current	15 A / 10 ms
Solid-state type	Triac (zero-cross switch)
Voltage drop at max. load	≤ 1.1 V
Leakage current	< 1.5 mA
Protective circuit, load side	RC element
Short-circuit-proof / Protective circuit, load side	No / RC element
General data	
Ambient temperature (operational)	-20 °C...40 °C
Storage temperature	-40 °C...70 °C
Humidity	5-95% rel. humidity, T <sub>v</sub> = 40°C, no condensation
Approvals	CE, DNVGL; EAC
Insulation coordinates	
Rated voltage	300 V
Impulse withstand voltage	6 kV (1.2/50 μs)
Dielectric strength for control side - load side	2.5 kV <sub>eff</sub>
Dielectric strength to mounting rail	4 kV <sub>eff</sub> / 1 min.
Clearance and creepage distances for control side - load side	≥ 5.5 mm
Overvoltage category	III
Pollution degree	2
Dimensions	
Clamping range (nominal / min. / max.)	mm <sup>2</sup> 1.5 / 0.14 / 2.5
Depth x width x height	mm 87.8 / 12.8 / 89.6
Screw connection	
Accessories and dimensional drawings: refer to the TERMSERIES Accessories page.	

**Ordering data**

	24 V DC	24 V - 230 V UC
<b>Control side</b>		
Rated control voltage	24 V DC ±20 %	24...230 V UC ±10 %
Nominal control current	10 mA DC ±20 %	28 mA @ 24 V UC, 4 mA @ 230 V UC
Power rating	240 mW	672 mW @ 24 V UC, 920 mW @ 230 V UC
Cut-in / dropout voltage	15 V / 5 V DC	12 V / 6 V AC 12 V / 5 V DC
max. switching frequency (DC control voltage)	3 Hz	3 Hz
max. switching frequency (AC control voltage)		3 Hz
Status indicator	Green LED	Green LED
Protective circuit	Free-wheel diode, Reverse polarity protection	Rectifier
<b>Load side</b>		
Switch-on delay	< 1 ms	≤ 12 ms
Switch-off delay	< 4 ms	< 125 ms
<b>Ordering data</b>		
Screw connection Type	TOS 24VDC 230VAC1A	TOS 24-230VUC 230VAC1A
Order No.	<b>1127680000</b>	<b>1127690000</b>
Tension-clamp conn. Type	TOZ 24VDC 230VAC1A	TOZ 24-230VUC 230VAC1A
Order No.	<b>1127700000</b>	<b>1127710000</b>
<b>Note</b>		
	Spare solid-state relay Type: SSR 10 - 32 VDC/ 12 - 275 VAC 3A Orderno.: 1132290000	Spare solid-state relay Type: SSR 10 - 32 VDC/ 12 - 275 VAC 3A Orderno.: 1132290000

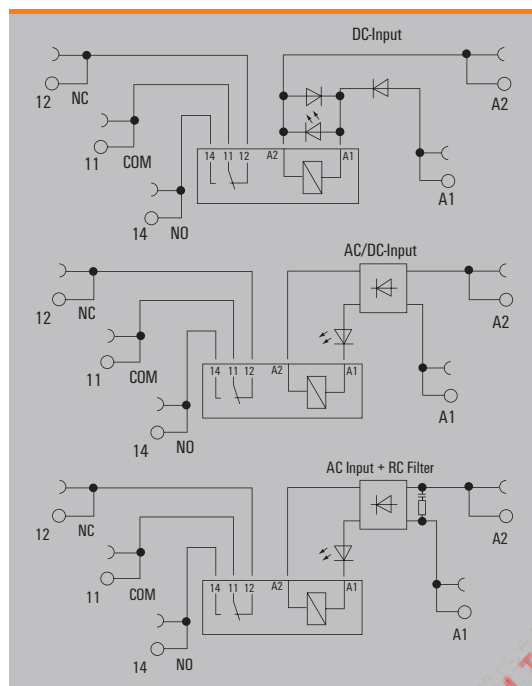


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1 CO contact, cl. 1, div. 2

AC / DC / UC coil

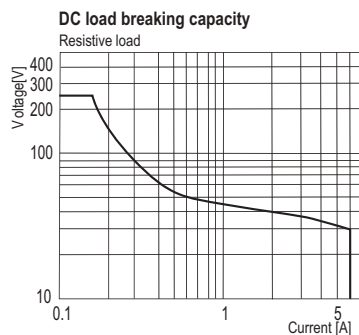
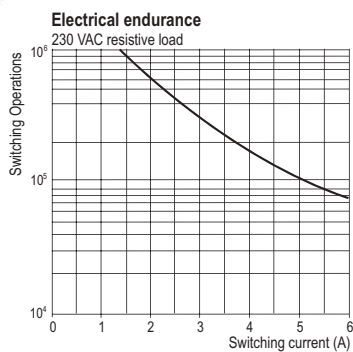
- Space-saving, only 6.4 mm wide
- AgNi contact
- Multi-voltage input: 24...230 V UC in one module



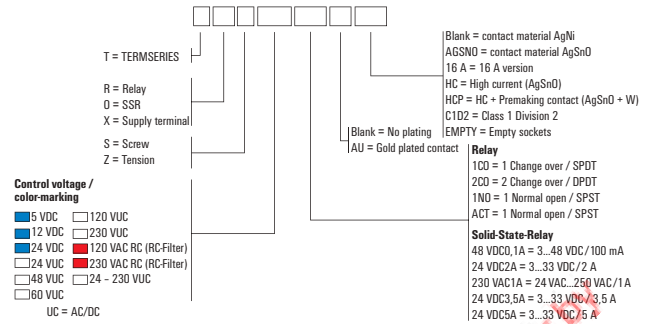
Technical data

Output	
Rated switching voltage / Continuous current	250 V AC / 6 A
Max. switching voltage, AC	250 V
Inrush current	20 A / 20 ms
Min. switching power	1 mA @ 24 V, 10 mA @ 12 V, 100 mA @ 5 V
DC / AC Switching capacity (resistive), max.	144 W @ 24 V / 1500 VA
Contact material	AgNi
Mechanical service life	5 x 10 <sup>6</sup> switching cycles
Max. switching frequency at rated load	0.1 Hz
Rated data	
Ambient temperature (operational)	-40 °C...60 °C
Storage temperature	-40 °C...85 °C
Humidity	5-95% rel. humidity, T <sub>v</sub> = 40°C, no condensation
Approvals	CE, cULusEX
Insulation coordinates	
Rated voltage	300 V
Impulse withstand voltage	6 kV (1.2/50 μs)
Dielectric strength input - output	4 kV <sub>eff</sub> / 1 min.
Dielectric strength of neighbouring contacts	
Dielectric strength to mounting rail	4 kV <sub>eff</sub> / 1 min.
Creepage and clearance distance input - output	≥ 5.5 mm
Overtolerance category	III
Pollution degree	2
Dimensions	
Clamping range (nominal / min. / max.)	mm <sup>2</sup> 1.5 / 0.14 / 2.5
Depth x width x height	mm 87.8 / 6.4 / 89.6
Screw connection	
<b>Note</b>	

Applications



1 CO contact, cl. 1, div. 2  
AC / DC / UC coil



Ordering data	12 V DC	24 V DC	24 V UC	120 V AC RC	230 V AC RC
<b>Input</b>					
Rated control voltage	12 V DC ± 20 %	24 V DC ± 20 %	24 V UC ± 10 %	120 V AC ± 10 %	230 V AC ± 10 %
Rated current AC / DC	/ 18 mA	/ 11.5 mA	11.7 mA / 6.4 mA	7 mA /	10.1 mA /
Power rating	210 mW	280 mW	270 mVA / 154 mW	840 mVA	2.3 VA
Pull-in/drop-out voltage, typ.	9 V / 2 V DC	16 V / 3 V DC	16 V / 5 V AC 21 V / 6 V DC	79 V / 60 V AC	169 V / 85 V AC
Pull-in/drop-out current, typ.	11.5 mA / 2 mA DC	7.5 mA / 1 mA DC	8.5 mA / 2 mA AC 5 mA / 1 mA DC	4 mA / 2.5 mA AC	7 mA / 3.3 mA AC
Status indicator	Green LED	Green LED	Green LED	Green LED	Green LED
Protective circuit	Free-wheel diode, Reverse polarity protection	Free-wheel diode, Reverse polarity protection	Rectifier	Rectifier, RC element	Rectifier, RC element
<b>Output</b>					
Switch-on delay	≤ 6 ms	≤ 6 ms	≤ 6 ms	≤ 5.3 ms	≤ 16 ms
Switch-off delay	≤ 8 ms	≤ 15 ms	≤ 40 ms	≤ 4 ms	≤ 41 ms
<b>Ordering data</b>					
Screw connection	TRS 12VDC 1CO C1D2	TRS 24VDC 1CO C1D2	TRS 24VUC 1CO C1D2	TRS 120VACRC 1CO C1D2	TRS 230VACRC 1CO C1D2
Type Order No.	<b>1984560000</b>	<b>1984570000</b>	<b>1984580000</b>	<b>1984590000</b>	<b>1984600000</b>
Type Order No.					
<b>Note</b>					

Ordering data	24...230 V UC
<b>Input</b>	
Rated control voltage	24...230 V UC ± 10 %
Rated current AC / DC	4 mA @ 230 V AC ± 10 % 28 mA @ 24 V AC ± 10 % / 22 mA @ 24 V DC ± 10 %
Power rating	530 mW @ 24 V DC, 930 mVA @ 230 V AC
Pull-in/drop-out voltage, typ.	13 V / 7 V AC 13 V / 5 V DC
Pull-in/drop-out current, typ.	28.5 mA / 11 mA AC 23 mA / 6.5 mA DC
Status indicator	Green LED
Protective circuit	Rectifier
<b>Output</b>	
Switch-on delay	≤ 30 ms
Switch-off delay	≤ 130 ms
<b>Ordering data</b>	
Screw connection	TRS 24-230VUC 1CO C1D2
Type Order No.	<b>1984610000</b>
Type Order No.	
<b>Note</b>	

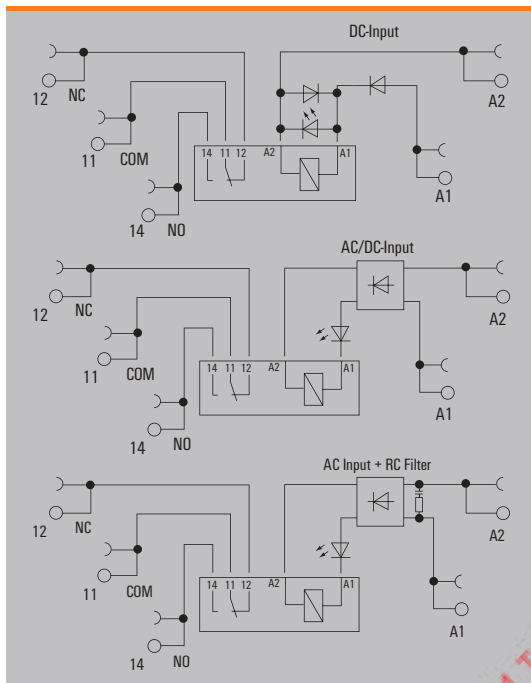
1 CO contact, cl. 1, div. 2  
 With hard gold-plated contacts  
 AC / DC / UC coil

- Space-saving, only 6.4 mm wide
- AgNi contact
- Multi-voltage input: 24...230 V UC in one module



Relay modules and solid-state relays  
 in 6 mm width

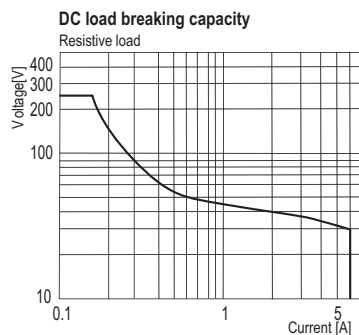
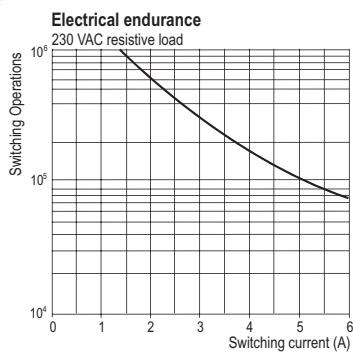
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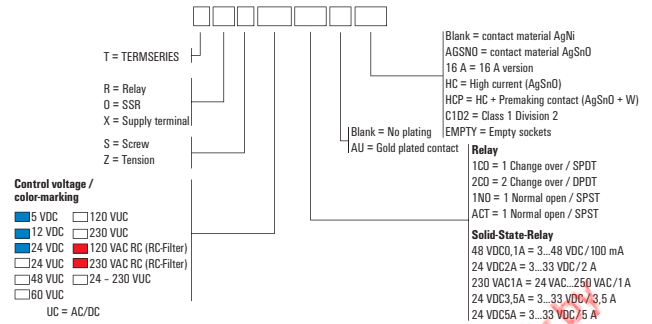
Technical data

<b>Output</b>	
Rated switching voltage / Continuous current	250 V AC / 6 A
Max. switching voltage, AC	250 V
Inrush current	20 A / 20 ms
Min. switching power	1 mA @ 24 V, 10 mA @ 12 V, 100 mA @ 5 V
DC / AC Switching capacity (resistive), max.	144 W @ 24 V / 1500 VA
Contact material	AgNi 50µm Au
Mechanical service life	5 x 10 <sup>6</sup> switching cycles
Max. switching frequency at rated load	0.1 Hz
<b>Rated data</b>	
Ambient temperature (operational)	-40 °C...60 °C
Storage temperature	-40 °C...85 °C
Humidity	5-95% rel. humidity, T <sub>v</sub> = 40°C, no condensation
Approvals	CE, cULusEX
<b>Insulation coordinates</b>	
Rated voltage	300 V
Impulse withstand voltage	6 kV (1.2/50 µs)
Dielectric strength input - output	4 kV <sub>eff</sub> / 1 min.
Dielectric strength of neighbouring contacts	
Dielectric strength to mounting rail	4 kV <sub>eff</sub> / 1 min.
Creepage and clearance distance input - output	≥ 5.5 mm
Overtolerance category	III
Pollution degree	2
<b>Dimensions</b>	
Clamping range (nominal / min. / max.)	mm <sup>2</sup> 1.5 / 0.14 / 2.5
Depth x width x height	mm 87.8 / 6.4 / 89.6
<b>Note</b>	

Applications



1 CO contact, cl. 1, div. 2  
 With hard gold-plated contacts  
 AC / DC / UC coil



Ordering data

	12 V DC	24 V DC	120 V AC RC	24-230 V UC
<b>Input</b>				
Rated control voltage	12 V DC ± 20 %	24 V DC ± 20 %	120 V AC ± 10 %	24...230 V UC ± 10 %
Rated current AC / DC	/ 18 mA	/ 11.5 mA	7 mA /	4 mA @ 230 V AC ± 10 % 28 mA @ 24 V AC ± 10 % / 22 mA @ 24 V DC ± 10 %
Power rating	210 mW	280 mW	840 mVA	530 mW @ 24 V DC, 930 mVA @ 230 V AC
Pull-in/drop-out voltage, typ.	9 V / 2 V DC	16 V / 3 V DC	79 V / 60 V AC	13 V / 7 V AC 13 V / 5 V DC
Pull-in/drop-out current, typ.	11.5 mA / 2 mA DC	7.5 mA / 1 mA DC	4 mA / 2.5 mA AC	28.5 mA / 11 mA AC 23 mA / 6.5 mA DC
Status indicator	Green LED	Green LED	Green LED	Green LED
Protective circuit	Free-wheel diode, Reverse polarity protection	Free-wheel diode, Reverse polarity protection	Rectifier, RC element	Rectifier
<b>Output</b>				
Switch-on delay	≤ 6 ms	≤ 6 ms	≤ 5.3 ms	≤ 30 ms
Switch-off delay	≤ 8 ms	≤ 15 ms	≤ 4 ms	≤ 130 ms
<b>Ordering data</b>				
Screw connexion	TRS 12VDC 1COAU C1D2	TRS 24VDC 1COAU C1D2	TRS 120VACRC 1COAU C1D2	TRS 24-230VUC 1COAUC1D2
Order No.	<b>1984620000</b>	<b>1984630000</b>	<b>1984640000</b>	<b>1984650000</b>
Type				
Order No.				
<b>Note</b>				

Relay modules and solid-state relays  
 in 6 mm width

A

RSS Relais



Technical data	RSS113...	RSS112...	RSS111...
Contact type	1 CO contact (AgNi)	1 CO contact (AgNi 5uAu) <sup>1)</sup>	1 CO contact (AgSnO)
Max. switching voltage, AC	250 V	250 V	250 V
Max. switching voltage, DC	250 V	250 V	250 V
Rated switching voltage	6 A	6 A	6 A
Min. switching power	100 mA @ 5 V 10 mA @ 10 V 1 mA @ 24 V	1 mA @ 1 V	100 mA @ 12 V
Mechanical service life	5 x 10 <sup>6</sup>	5 x 10 <sup>6</sup>	5 x 10 <sup>6</sup>
Switch-on delay	< 8 ms	< 8 ms	< 8 ms
Switch-off delay	< 4 ms	< 4 ms	< 4 ms
Operating temperature	-40 °C...85 °C	-40 °C...85 °C	-40 °C...85 °C
Storage temperature	-40 °C...85 °C	-40 °C...85 °C	-40 °C...85 °C
Pull-in/drop-out voltage, typ.	70 % / 5 % U <sub>NOM</sub>	70 % / 5 % U <sub>NOM</sub>	70 % / 5 % U <sub>NOM</sub>
Note		1) AU-plate operate up to 0.25 W	

Similar to figure

Type	Rated control voltage	Rated current DC	Order No.	Order No.	Order No.
RSS...005	5 V DC	34 mA	4061580000	1174540000	1984100000
RSS...012	12 V DC	14 mA	4061610000	1220670000	1984110000
RSS...024	24 V DC	7 mA	4060120000	4061590000	1984090000
RSS...060	60 V DC	3 mA	4061630000	4061600000	1984120000

RCL relay module



Technical data	RCL424...	RCL425...
Contact type	2 CO contact (AgNi)	1 CO contact (AgNi 5uAu) <sup>1)</sup>
Max. switching voltage, AC	250 V	250 V
Max. switching voltage, DC	250 V	250 V
Rated switching voltage	8 A	8 A
Min. switching power	100 mA @ 5 V 10 mA @ 10 V 1 mA @ 24 V	1 mA @ 1 V
Mechanical service life	30 x 10 <sup>6</sup>	30 x 10 <sup>6</sup>
Switch-on delay	< 8 ms	< 8 ms
Switch-off delay	< 6 ms	< 6 ms
Operating temperature	-40 °C...85 °C	-40 °C...85 °C
Storage temperature	-40 °C...85 °C	-40 °C...85 °C
Pull-in/drop-out voltage, typ.	70 % / 10 % U <sub>NOM</sub>	70 % / 10 % U <sub>NOM</sub>
Note		1) AU-plate operate up to 0.25 W

Similar to figure

Type	Rated control voltage	Rated current DC	Order No.	Order No.
RCL...005	5 V DC	80 mA	8693790000	1174490000
RCL...012	12 V DC	33 mA	4058560000	4074580000
RCL...024	24 V DC	16 mA	4058570000	4058580000
RCL...048	48 V DC	8 mA	4058750000	1201230000
RCL...060	60 V DC	6 mA	4058760000	1201260000
RCL...110	110 V DC	3 mA	4058590000	8828370000

**Small solid-state relay**



Technical data
Contact type
Rated switching voltage
Continuous current
Min. switching current
Peak reverse voltage
Voltage drop at max. load
Leakage current
Dielectric strength for control side - load side
Operating temperature
Storage temperature

SSS...24 V 0,1 A DC
1 NO contact (Bipolar transistor)
0...48 V DC
100 mA DC
500 µA
54 V
≤ 1 V
< 10 µA
2.5 kV <sub>eff</sub>
-20 °C...60 °C
-40 °C...70 °C

SSS...24 V 2 A DC
1 NO contact (MOS-FET)
0...24 V DC
2 A
5 mA
33 V
≤ 120 mV
< 10 µA
2.5 kV <sub>eff</sub>
-20 °C...60 °C
-40 °C...70 °C

SSS...230 V 1 A AC
Contact type 1 NO contact (Triac (zero-cross switch))
24...240 V AC
1 A
20 mA
600 V
≤ 1 V
< 1.5 mA
2.5 kV <sub>eff</sub>
-20 °C...60 °C
-40 °C...70 °C

**Similar to figure**

Note

Note

Note

Note

Type
SSS 5 V...
SSS 24 V...
SSS 60 V...
SSS 5 V...
SSS 24 V...
SSS 60 V...
SSS 5 V...
SSS 24 V...
SSS 60 V...

Rated control voltage
5 V DC
24 V DC
60 V DC
5 V DC
24 V DC
60 V DC
5 V DC
24 V DC
60 V DC

Nominal control current
4 mA
7 mA
3 mA
9 mA
7 mA
3 mA
15 mA
7 mA
3 mA

Order No.
4064320000
4061180000
4061230000
-
-
-
-
-
-
-

Order No.
-
-
-
4064310000
4061190000
4061200000
-
-
-
-
-

Order No.
-
-
-
-
-
1132260000
4061210000
4061220000

**Solid-state relay**



Technical data
Contact type
Rated switching voltage
Continuous current
Min. switching current
Peak reverse voltage
Voltage drop at max. load
Leakage current
Dielectric strength for control side - load side
Operating temperature
Storage temperature

SSR.../0-35 V DC 3,5 A
1 NO contact (MOS-FET)
0...33 V DC
3.5 A
10 mA
35 V
≤ 0.3 V
< 10 µA
2.5 kV <sub>eff</sub>
-20 °C...60 °C
-40 °C...70 °C

SSR.../0-35VDC 5A
1 NO contact (MOS-FET)
0...35 V DC
5 A
1 mA
35 V
≤ 0.3 V
< 20 µA
2.5 kV <sub>eff</sub>
-20 °C...80 °C
-40 °C...100 °C

SSR.../12-275 V AC 1 A
Contact type 1 NO contact (Triac (zero-cross switch))
12...275 V AC
1 A
50 mA
600 V
≤ 1 V
< 1.5 mA
2.5 kV <sub>eff</sub>
-20 °C...60 °C
-40 °C...70 °C

**Similar to figure**

Note

Note

Note

Note

Type
SSR10...32 V DC/...

Rated control voltage
10...32 V DC

Nominal control current
3...13 mA

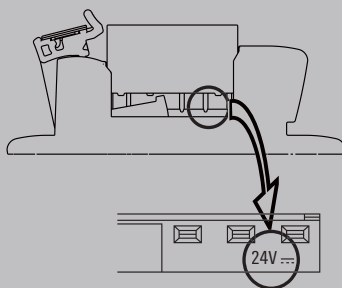
Order No.
1132310000

Order No.
1421450000

Order No.
1132290000

Accessories

The TERMSERIES relay bases are fitted with internal circuitry in the input which adapts the control voltage to the coil voltage of the connected relay. It should be ensured that the voltages of the base and the pluggable relay are compatible, since the control voltage and coil voltage are not always identical (see table below). For this reason, the coil voltage is printed on the relay sockets (refer to figure).



E.g.:  
A 24 V DC relay is plugged into the TERMSERIES 24 V DC base (item no. 1123240000). The control voltage is transferred almost unchanged to the relay coil for this relay base.  
Conversely, a 60V DC relay is plugged into the TERMSERIES 230 V AC relay base (item no. 1123320000). The internal circuitry adapts the applied coil voltage to the control voltage.

Empty socket 6,4 mm

	Rated control voltage	Pluggable relay version	Qty.	Type / 1CO Screw connection	Order No.	Type / 1CO Tension clamp connection	Order No.
	5 V DC	1	10	TRS 5VDC 1CO EMPTY	1123220000	TRZ 5VDC 1CO EMPTY	1123340000
	12 V DC	2	10	TRS 12VDC 1CO EMPTY	1123230000	TRZ 12VDC 1CO EMPTY	1123350000
	24 V DC	3	10	TRS 24VDC 1CO EMPTY	1123240000	TRZ 24VDC 1CO EMPTY	1123370000
	24 V UC	3	10	TRS 24VUC 1CO EMPTY	1123250000	TRZ 24VUC 1CO EMPTY	1123380000
	48 V UC	3	10	TRS 48VUC 1CO EMPTY	1123270000	TRZ 48VUC 1CO EMPTY	1123390000
	60 V UC	4	10	TRS 60VUC 1CO EMPTY	1123280000	TRZ 60VUC 1CO EMPTY	1123400000
	120 V UC	4	10	TRS 120VUC 1CO EMPTY	1123290000	TRZ 120VUC 1CO EMPTY	1123410000
	230 V UC	4	10	TRS 230VUC 1CO EMPTY	1123300000	TRZ 230VUC 1CO EMPTY	1123420000
	120 V AC	4	10	TRS 120VAC RC 1CO EMPTY	1123310000	TRZ 120VAC RC 1CO EMPTY	1123430000
	230 V AC	4	10	TRS 230VAC RC 1CO EMPTY	1123320000	TRZ 230VAC RC 1CO EMPTY	1123440000
	24...230 V AC / DC	3	10	TRS 24-230VUC 1CO EMPTY	1123330000	TRZ 24-230VUC 1CO EMPTY	1123450000

Pluggable relay version	Electromechanical relay	Solid-state relay
1	RSS...005	SSS 5V/...
2	RSS...012	
3	RSS...024	SSS 24V/...
4	RSS...060	SSS 60V/...



Empty socket 12,8 mm



Rated control voltage	Plugable relay version	Qty.	Type / 1CO Screw connection	Order No.	Type / 1CO Tension clamp connection	Order No.
24 V DC	1	10	TOS 24VDC EMPTY	1127720000	TOZ 24VDC EMPTY	1127740000
24...230 V UC	1	10	TOS 24-230VUC EMPTY	1127730000	TOZ 24-230VUC EMPTY	1127750000
Rated control voltage		Qty.	2CO Screw connection	Order No.	2CO Tension clamp connection	Order No.
5 V DC	2	10	TRS 5VDC 2CO EMPTY	1123950000	TRZ 5VDC 2CO EMPTY	1124080000
12 V DC	3	10	TRS 12VDC 2CO EMPTY	1123970000	TRZ 12VDC 2CO EMPTY	1124090000
24 V DC	4	10	TRS 24VDC 2CO EMPTY	1123980000	TRZ 24VDC 2CO EMPTY	1124100000
24 V UC	4	10	TRS 24VUC 2CO EMPTY	1123990000	TRZ 24VUC 2CO EMPTY	1124110000
48 V UC	5	10	TRS 48VUC 2CO EMPTY	1124000000	TRZ 48VUC 2CO EMPTY	1124120000
60 V UC	6	10	TRS 60VUC 2CO EMPTY	1124010000	TRZ 60VUC 2CO EMPTY	1124130000
120 V UC	7	10	TRS 120VUC 2CO EMPTY	1124020000	TRZ 120VUC 2CO EMPTY	1124140000
230 V UC	7	10	TRS 230VUC 2CO EMPTY	1124030000	TRZ 230VUC 2CO EMPTY	1124150000
120 V AC	7	10	TRS 120VAC RC 2CO EMPTY	1124040000	TRZ 120VAC RC 2CO EMPTY	1124170000
230 V AC	7	10	TRS 230VAC RC 2CO EMPTY	1124050000	TRZ 230VAC RC 2CO EMPTY	1124180000
24...230 V AC / DC	7	10	TRS 24-230VUC 2CO EMPTY	1124070000	TRZ 24-230VUC 2CO EMPTY	1124190000

Plugable relay version	Electromechanical relay	Solid-state relay
1	RCL31024 ; RCLS3L024W ; RCLS3T024W	SSR 10-32VDC... ; SSR 24 VDC...
2	RCL424005 ; RCL425005	
3	RCL424012 ; RCL425012	
4	RCL424024 ; RCL425024	SSR 10-32VDC... ; SSR 24 VDC...
5	RCL424048 ; RCL425048	-
6	RCL424060 ; RCL425060	-
7	RCL424110 ; RCL425110	SSR 10-32VDC... ; SSR 24 VDC...

Connection data

Gauge to IEC 60947-1		Size	Screw connection		A1 / B1	Tension clamp connection		A1 / B1
1 conductor								
Solid H07V-U		mm <sup>2</sup>	0.14...2.5			0.14...1.5		
Finely stranded H07V-K		mm <sup>2</sup>	0.14...1.5			0.14...1.5		
... with ferrule without collar		mm <sup>2</sup>	0.25...1.5			0.14...1.5		
... with ferrule with collar		mm <sup>2</sup>	0.25...1.5			0.14...1.5		
American Wire Gauge AWG.../1		AWG	26...14			26...16		
American Wire Gauge AWG.../7		AWG	26...16			26...16		
American Wire Gauge AWG.../19		AWG	26...16			26...16		
2 conductor with same size								
Solid H07V-U		mm <sup>2</sup>	0.5...1.0					
Finely stranded H07V-K		mm <sup>2</sup>	0.5...1.0					
... with twin ferrule		mm <sup>2</sup>	0.5...1.0			0.5...1.0		
Tightening torque, max.		Nm	0.4					
Stripping length		mm	8			8		

Pluggable cross connection



Type	No. of poles / Pitch	Colour	Qty.	Order No.
ZQV 1.5N/R6.4/2 GE	2 / 6.4 mm	yellow	10	1193670000
ZQV 1.5N/R6.4/10 GE	10 / 6.4 mm	yellow	10	1193680000
ZQV 1.5N/R6.4/19 GE	19 / 6.4 mm	yellow	10	1193690000
ZQV 1.5N/R12.8/10 GE	10 / 12.8 mm	yellow	10	1193700000
ZQV 1.5N/R6.4/10 SW	10 / 6.4 mm	black	10	1391630000
ZQV 1.5N/R6.4/19 SW	19 / 6.4 mm	black	10	1391600000
ZQV 1.5N/R6.4/10 RT	10 / 6.4 mm	red	10	1391640000
ZQV 1.5N/R6.4/19 RT	19 / 6.4 mm	red	10	1391610000
ZQV 1.5N/R6.4/10 BL	10 / 6.4 mm	blue	10	1390350000
ZQV 1.5N/R6.4/19 BL	19 / 6.4 mm	blue	10	1391620000

Supply terminal



Type	Connection technology	Qty.	Order No.
TXS SUPPLY	Screw connection	10	1240780000
TXZ SUPPLY	Tension clamp connection	10	1240790000

Other accessories



Isolation plate	Note	Qty.	Order No.
TW TXS/TXZ R3.2	Isolation plate 3.2 mm pitch	10	1240800000

Markers	Note	Qty.	Order No.
WS 10/6 MC Middle	10 * 6 mm	600	1818400000

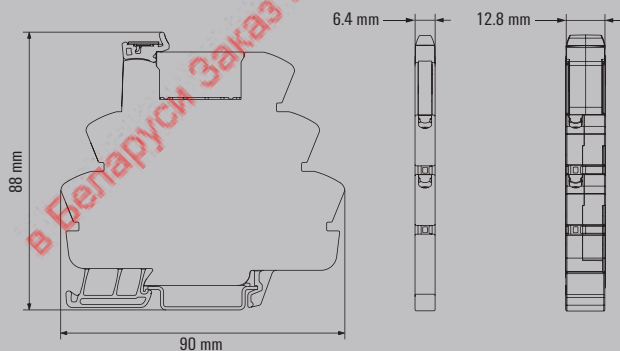


Screwdriver	Note	Qty.	Order No.
SDK PH0	only screw connection	1	9008470000
SD 0.6 x 3.5 x 100		1	9008330000
SD TO 0.6 x 3.0	only tension clamp connection (angled)	1	1323880000

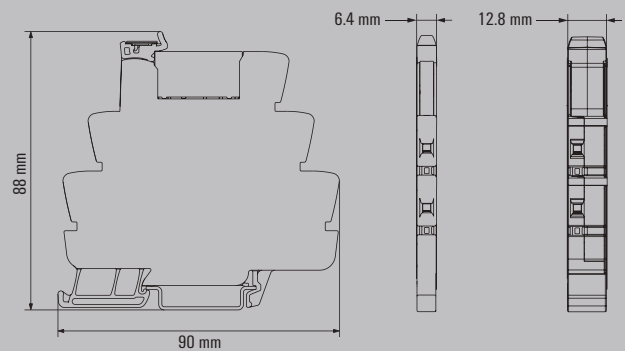
End bracket	Qty.	Order No.
WEW35/2 SW	100	1061210000

Dimensions

Tension clamp connection



Screw connection



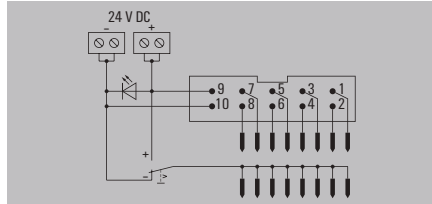
в Беларусі Заказ г.Мінск viber и тел. +375447584780 email: minsk17@tut.by www.tiristor.by

**TERMSERIES – adapters**

**TERMSERIES – adapters**

- Suitable for input and output logic
- Version for 6.4 mm TERMSERIES base
- Supply connections (PUSH IN) in double version for supply voltage bridging
- User-friendly and clear marking
- 10-pole connecting plug according to DIN EN 60603-13

**TIA F10**



**Technical data**

<b>Supply</b>	
Supply voltage	24 V DC ± 20 %
Status display	Green LED
<b>Signals</b>	
Rated voltage	24 V DC
Voltage, max.	30 V DC
Rated current (per signal path)	125 mA
Current (per signal path), max.	1 A
Total current of all signals, max.	1 A
Number of signal paths	8
<b>Connection data (supply)</b>	
Wire connection method	PUSH IN
Clamping range, rated connection, min.	0.13 mm <sup>2</sup>
Clamping range, rated connection, max.	1.5 mm <sup>2</sup>
Number of terminals	4 (+, +, -, -)
<b>Connection data (signal)</b>	
Plug type	10-pole plug according to DIN EN 60603-13, long locking lever
<b>General data</b>	
Ambient temperature (operational)	-40 °C...60 °C
Storage temperature	-40 °C...85 °C
Humidity	5...95% (indoor), T <sub>v</sub> = 40°C, no condensation
UL 94 flammability rating	V-0
Approvals	CE; cULus; DNVGL
<b>Insulation coordination</b>	
Pollution degree	2
Overvoltage category	III
Impulse withstand voltage	1.5 kV
Rated voltage	32 V
Protection degree	IP20 in installed state
<b>Dimensions</b>	
Depth x width x height	62 / 51 / 43 mm
<b>Note</b>	

**Ordering data**

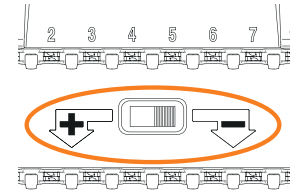
Type	Qty.	Order No.
TIA F10	1	1463520000

**Note** Suitable for 6.4 mm wide TERMSERIES base

**Accessories**

<b>Note</b>	
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**Potential change-over switch**



The potential change-over switch is located between contact rows of the TERMSERIES adaptor. It is used to switch the potential of the lower contact row to "+" or "-" potential of the supply voltage.

**Installation input**

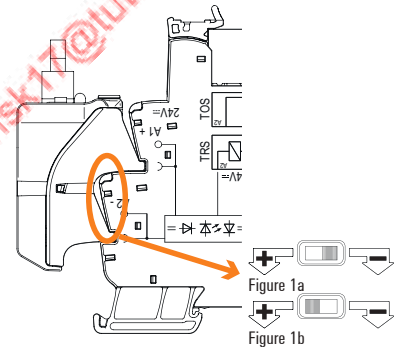


Figure 1a: **Positive-switching logic:** Potential change-over switch to "-", installation on **24 V DC input** (A1/A2).  
Figure 1b: **Negative-switching logic:** Potential change-over switch to "+", installation on **24 V UC input** (A1/A2).

**Installation output**

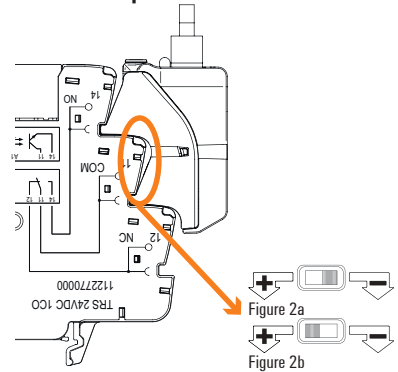


Figure 2a: **Positive-switching logic:** Potential change-over switch to "+", installation on **output** (11/14).  
Figure 2b: **Negative-switching logic:** Potential change-over switch to "-", installation on **output** (11/14).

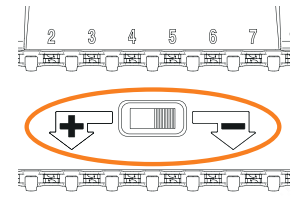
**TERMSERIES – adapters**

- Suitable for input and output logic
- Version for 6.4 mm TERMSERIES base
- User-friendly and clear marking
- 15-pole Sub-D plug-in connector according to DIN 41652 / IEC 60807

**TIA SUBD 15S**



**Potential change-over switch**



The potential change-over switch is located between contact rows of the TERMSERIES adaptor. It is used to switch the potential of the lower contact row to “+” or “-” potential of the supply voltage.

**Installation input**

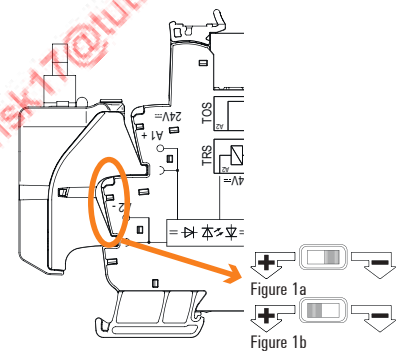


Figure 1a: **Positive-switching logic:** Potential change-over switch to “-”, installation on **24 V DC input** (A1/A2).  
Figure 1b: **Negative-switching logic:** Potential change-over switch to “+”, installation on **24 V UC input** (A1/A2).

**Installation output**

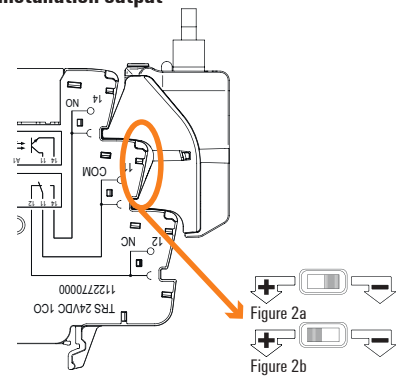
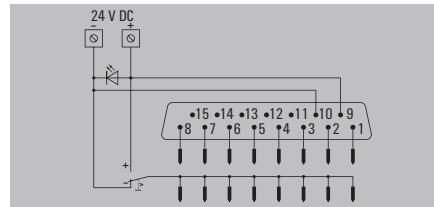


Figure 2a: **Positive-switching logic:** Potential change-over switch to “+”, installation on **output** (11/14).  
Figure 2b: **Negative-switching logic:** Potential change-over switch to “-”, installation on **output** (11/14).



**Technical data**

<b>Supply</b>	
Supply voltage	24 V DC ± 20 %
Status display	Green LED
<b>Signals</b>	
Rated voltage	24 V DC
Voltage, max.	30 V DC
Rated current (per signal path)	125 mA
Current (per signal path), max.	1 A
Total current of all signals, max.	1 A
Number of signal paths	8
<b>Connection data (supply)</b>	
Wire connection method	PUSH IN
Clamping range, rated connection, min.	0.13 mm <sup>2</sup>
Clamping range, rated connection, max.	1.5 mm <sup>2</sup>
Number of terminals	2 (+,-)
<b>Connection data (signal)</b>	
Plug type	Sub-D, 15-pole, DIN 41652 / IEC 60807
<b>General data</b>	
Ambient temperature (operational)	-40 °C...60 °C
Storage temperature	-40 °C...85 °C
Humidity	5...95% (indoor, T <sub>a</sub> = 40°C, no condensation)
UL 94 flammability rating	V0
Approvals	CE; cULus; DNVGL
<b>Insulation coordination</b>	
Pollution degree	2
Overvoltage category	III
Impulse withstand voltage	1.5 kV
Rated voltage	32 V
Protection degree	IP20 in installed state
<b>Dimensions</b>	
Depth x width x height	52 / 51 / 43 mm
<b>Note</b>	

<b>Supply</b>		
Supply voltage	24 V DC ± 20 %	
Status display	Green LED	
<b>Signals</b>		
Rated voltage	24 V DC	
Voltage, max.	30 V DC	
Rated current (per signal path)	125 mA	
Current (per signal path), max.	1 A	
Total current of all signals, max.	1 A	
Number of signal paths	8	
<b>Connection data (supply)</b>		
Wire connection method	PUSH IN	
Clamping range, rated connection, min.	0.13 mm <sup>2</sup>	
Clamping range, rated connection, max.	1.5 mm <sup>2</sup>	
Number of terminals	2 (+,-)	
<b>Connection data (signal)</b>		
Plug type	Sub-D, 15-pole, DIN 41652 / IEC 60807	
<b>General data</b>		
Ambient temperature (operational)	-40 °C...60 °C	
Storage temperature	-40 °C...85 °C	
Humidity	5...95% (indoor, T <sub>a</sub> = 40°C, no condensation)	
UL 94 flammability rating	V0	
Approvals	CE; cULus; DNVGL	
<b>Insulation coordination</b>		
Pollution degree	2	
Overvoltage category	III	
Impulse withstand voltage	1.5 kV	
Rated voltage	32 V	
Protection degree	IP20 in installed state	
<b>Dimensions</b>		
Depth x width x height	52 / 51 / 43 mm	
<b>Note</b>		

**Ordering data**

<b>Type</b>		
TIA SUBD 15S	Qty. 1	Order No. 1463530000
<b>Note</b>		
Suitable for 6.4 mm wide TERMSERIES base		

<b>Type</b>		
TIA SUBD 15S	Qty. 1	Order No. 1463530000
<b>Note</b>		
Suitable for 6.4 mm wide TERMSERIES base		

**Accessories**

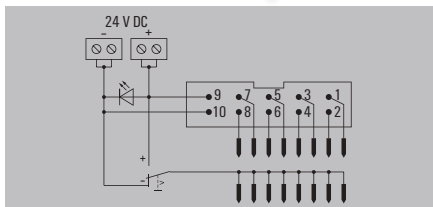
<b>Note</b>		
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**TERMSERIES – adapters**

**TERMSERIES – adapters**

- Suitable for input and output logic
- Version for 12.8 mm TERMSERIES base
- Supply connections (PUSH IN) in double version for supply voltage bridging
- User-friendly and clear marking
- 10-pole connecting plug according to DIN EN 60603-13

**TIAL F10**



**Technical data**

<b>Supply</b>	
Supply voltage	24 V DC ± 20 %
Status display	Green LED
<b>Signals</b>	
Rated voltage	24 V DC
Voltage, max.	30 V DC
Rated current (per signal path)	125 mA
Current (per signal path), max.	1 A
Total current of all signals, max.	1 A
Number of signal paths	8
<b>Connection data (supply)</b>	
Wire connection method	PUSH IN
Clamping range, rated connection, min.	0.13 mm <sup>2</sup>
Clamping range, rated connection, max.	1.5 mm <sup>2</sup>
Number of terminals	4 (+, +, -, -)
<b>Connection data (signal)</b>	
Plug type	10-pole plug according to DIN EN 60603-13, long locking lever
<b>General data</b>	
Ambient temperature (operational)	-40 °C...60 °C
Storage temperature	-40 °C...85 °C
Humidity	5...95% (indoor, T <sub>a</sub> = 40°C, no condensation)
UL 94 flammability rating	V-0
Approvals	CE; cULus; DNVGL
<b>Insulation coordination</b>	
Pollution degree	2
Overvoltage category	III
Impulse withstand voltage	1.5 kV
Rated voltage	32 V
Protection degree	IP20 in installed state
<b>Dimensions</b>	
Depth x width x height	62 / 102 / 43 mm
<b>Note</b>	

**Ordering data**

Type	Qty.	Order No.
TIAL F10	1	1463540000

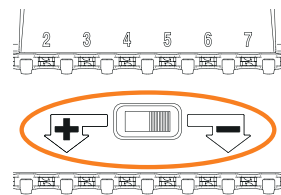
**Note**

Suitable for 12.8 mm wide TERMSERIES base

**Accessories**

**Note**

**Potential change-over switch**



The potential change-over switch is located between contact rows of the TERMSERIES adaptor. It is used to switch the potential of the lower contact row to "+" or "-" potential of the supply voltage.

**Installation input**

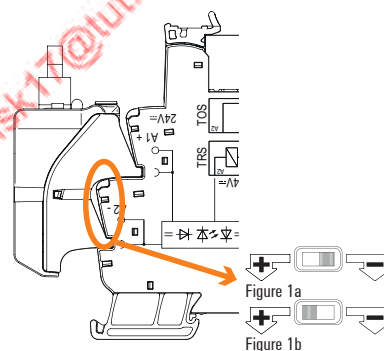


Figure 1a: **Positive-switching logic:** Potential change-over switch to "-", installation on 24 V DC input (A1/A2).  
Figure 1b: **Negative-switching logic:** Potential change-over switch to "+", installation on 24 V UC input (A1/A2).

**Installation output**

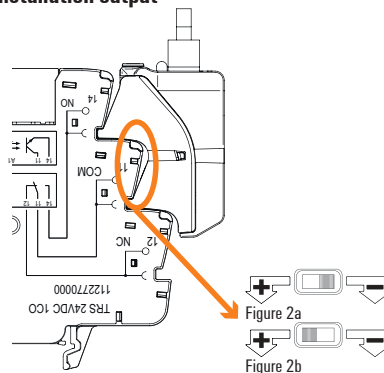
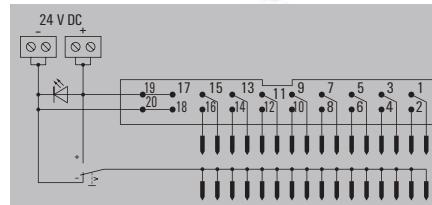


Figure 2a: **Positive-switching logic:** Potential change-over switch to "+", installation on output (11/14).  
Figure 2b: **Negative-switching logic:** Potential change-over switch to "-", installation on output (11/14).

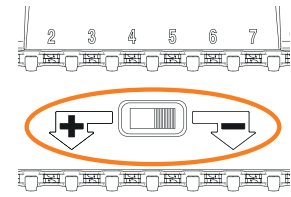
**TERMSERIES – adapters**

- Suitable for input and output logic
- Version for 6.4 mm TERMSERIES base
- Supply connections (PUSH IN) in double version for supply voltage bridging
- User-friendly and clear marking
- 20-pole connecting plug according to DIN EN 60603-13

**TIAL F20**



**Potential change-over switch**



The potential change-over switch is located between contact rows of the TERMSERIES adaptor. It is used to switch the potential of the lower contact row to “+” or “-” potential of the supply voltage.

**Installation input**

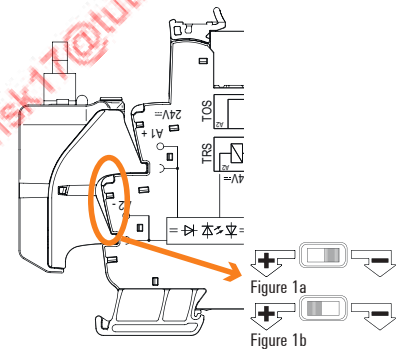


Figure 1a: **Positive-switching logic:** Potential change-over switch to “-”, installation on **24 V DC input** (A1/A2).  
Figure 1b: **Negative-switching logic:** Potential change-over switch to “+”, installation on **24 V UC input** (A1/A2).

**Installation output**

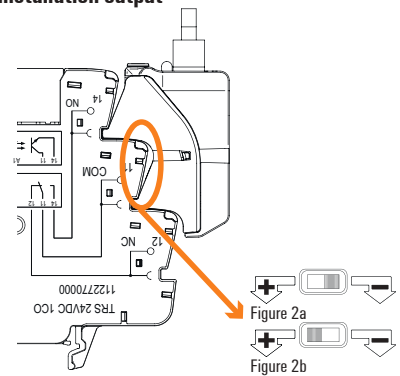


Figure 2a: **Positive-switching logic:** Potential change-over switch to “+”, installation on **output** (11/14).  
Figure 2b: **Negative-switching logic:** Potential change-over switch to “-”, installation on **output** (11/14).

**Technical data**

<b>Supply</b>	
Supply voltage	24 V DC ± 20 %
Status display	Green LED
<b>Signals</b>	
Rated voltage	24 V DC
Voltage, max.	30 V DC
Rated current (per signal path)	60 mA
Current (per signal path), max.	1 A
Total current of all signals, max.	1 A
Number of signal paths	16
<b>Connection data (supply)</b>	
Wire connection method	PUSH IN
Clamping range, rated connection, min.	0.13 mm <sup>2</sup>
Clamping range, rated connection, max.	1.5 mm <sup>2</sup>
Number of terminals	4 (+,+,+,-)
<b>Connection data (signal)</b>	
Plug type	20-pole plug according to DIN EN 60603-13, long locking lever
<b>General data</b>	
Ambient temperature (operational)	-40 °C...60 °C
Storage temperature	-40 °C...85 °C
Humidity	5...95% (indoor), T <sub>a</sub> = 40°C, no condensation
UL 94 flammability rating	V-0
Approvals	CE; cULus; DNVGL
<b>Insulation coordination</b>	
Pollution degree	2
Overvoltage category	III
Impulse withstand voltage	1.5 kV
Rated voltage	32 V
Protection degree	IP20 in installed state
<b>Dimensions</b>	
Depth x width x height	62 / 102 / 43 mm
<b>Note</b>	

**Ordering data**

Type	Qty.	Order No.
TIAL F20	1	1463550000

**Note** Suitable for 6.4 mm wide TERMSERIES base

**Accessories**

<b>Note</b>	
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# No-wear isolation of potentials in terminal block design

## Space saving solid-state relay with PUSH IN connection technology



The TERMOPTO opto modules are characterised by a particularly compact design, pluggable cross-connections and an optimal price-performance ratio.

TERMOPTO offers a compact, electronic alternative to the electromechanical relay for electrical isolation and signal conditioning. Instead of an electromechanical solution that is susceptible to wear, a maintenance-free and compact terminal block with integrated electrical isolation is used. This saves space, reduces the amount of servicing and increases system availability. In addition, the overall accessory needs are reduced, because cross-connectors and markers from the terminal portfolio can be used.

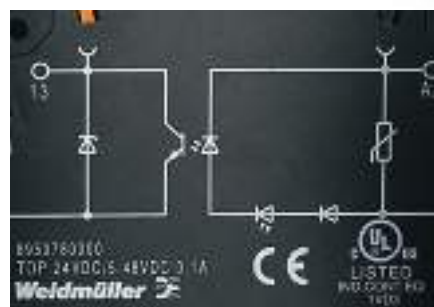
### Compact

Compact design reduces space requirements in the switching cabinet by > 80 % compared to conventional relay solutions.



### Long lifetime

Wear-free semiconductor switches and extensive protective circuits ensure long service life and reliable switching cycles.





**Status indicator**

LED status indicator provides information on the switching state.



**Closed design**

Closed design for space-saving, side-by-side arrangement. No end plate necessary; the electronics are mechanically protected.



**Time-saving**

PUSH IN screwless connection system and the pluggable cross-connection reduce wiring time by > 50 %.

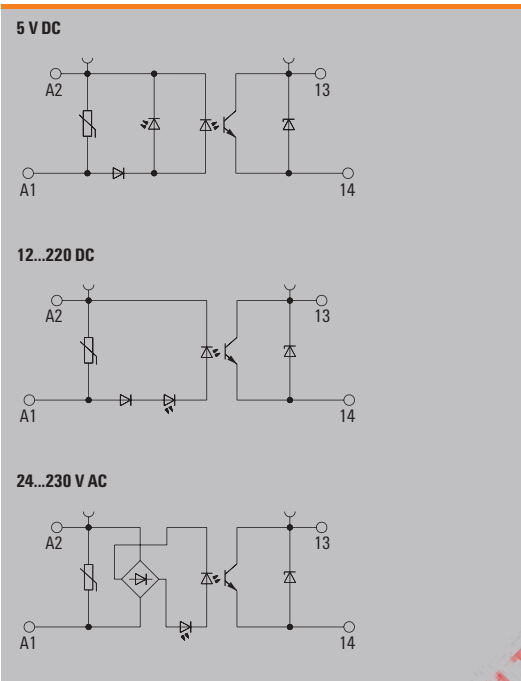


В Беларуси Заказ г.Минск вiber и тел. +375447584780 Email: minsk17@tut.by www.tiristor.by

Solid-state relays 5...48 V DC / 100 mA

Output versions

- Space-saving 6.1 mm width
- Plug-in cross-connections
- Screw and PUSH IN wire connection
- Enclosed design



Technical data

Load side		
Rated switching voltage	5...48 V DC	
Continuous current	100 mA	
Inrush current		
Solid-state type	Transistor	
Voltage drop at max. load	< 1 V	
Leakage current	< 10 µA	
Protective circuit, load side	Free-wheel diode	
Short-circuit-proof / Protective circuit, load side	No / Free-wheel diode	
General data		
Ambient temperature (operational)	-20 °C...60 °C	
Storage temperature	-40 °C...80 °C	
Humidity	5-95% rel. humidity, T <sub>v</sub> = 40°C, no condensation	
Approvals	CE, cULus, EAC	
Insulation coordinates		
Rated voltage	300 V	
Impulse withstand voltage	4 kV (1.2/50 µs)	
Dielectric strength for control side - load side	1.2 kV <sub>eff</sub> / 1 min.	
Dielectric strength to mounting rail		
Clearance and creepage distances for control side - load side	> 3 mm	
Overvoltage category	III	
Pollution degree	2	
Dimensions		
Clamping range (nominal / min. / max.)	mm <sup>2</sup>	2.5 / 0.5 / 4
Depth x width x height	mm	55 / 6.1 / 74.4
		55 / 6.1 / 79.4
Note		
Accessories and dimensioned drawings: refer to the TERMOPTO Accessories page.		

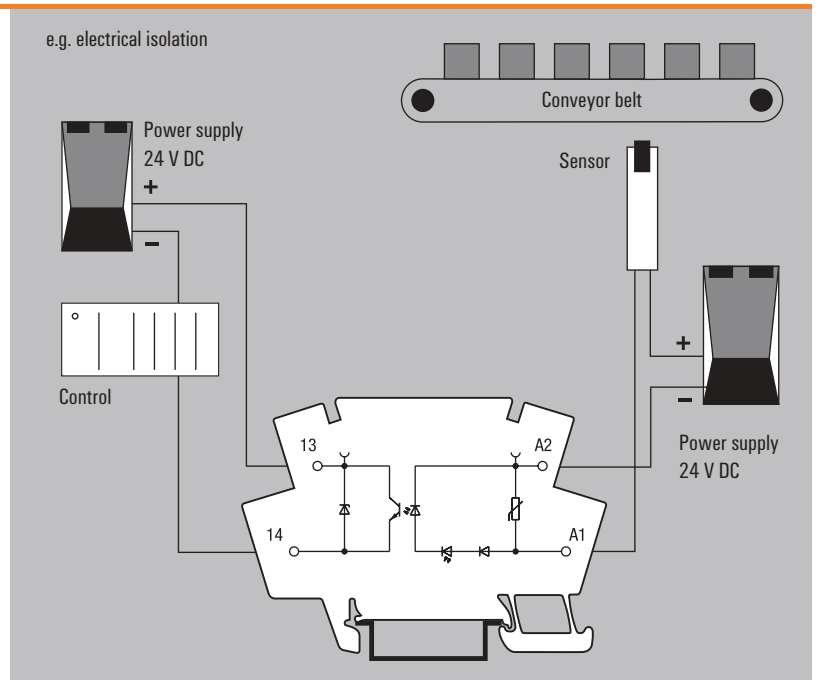
Applications

The TERMOPTO opto module is used in industrial applications in which electrical isolation and signal conditioning without switching amplification is sufficient.

The compact design in terminal-block format saves space on the rail and offers the option of a pluggable cross connection.

The choice between 10 input voltages and 3 output voltages, as well as screw or PUSH IN connection technology, gives 60 variations for different applications.

The integrated protective circuit ensures sufficient protection in applications with resistive, as well as slightly inductive and capacitive loads. For purely inductive, capacitive or comparable loads with high switch-on and switch-off peaks, such as solenoid valves or filament lamps, ensure that the module is dimensioned appropriately or an additional safeguard is used.



Solid-state relays 5...48 V DC / 100 mA

Output versions

Ordering data	5 V DC	12 V DC	24 V DC	48...60 V DC	110 V DC
<b>Control side</b>					
Rated control voltage	5 V DC ±20 %	12 V DC ±20 %	24 V DC ±20 %	48...60 V DC ±20 %	110 V DC ±20 %
Nominal control current	7.7 mA DC	7.8 mA DC	7 mA DC	4.3 mA DC	2.6 mA DC
Power rating	< 40 mW	< 95 mW	≤ 170 mW	< 200 mW	< 280 mW
Cut-in / dropout voltage	4 V / 1.25 V DC	9.6 V / 3 V DC	19.2 V / 6 V DC	38.4 V / 12 V DC	88 V / 27.5 V DC
max. switching frequency (DC control voltage)	3000 Hz	3000 Hz	3000 Hz	500 Hz	500 Hz
max. switching frequency (AC control voltage)					
Status indicator	Green LED	Green LED	Green LED	Green LED	Green LED
Protective circuit	Varistor, Reverse polarity protection	Varistor, Reverse polarity protection	Varistor, Reverse polarity protection	Varistor, Reverse polarity protection	Varistor, Reverse polarity protection
<b>Load side</b>					
Switch-on delay	< 13 µs	< 13 µs	< 13 µs	< 170 µs	< 170 µs
Switch-off delay	< 42 µs	< 42 µs	< 42 µs	< 310 µs	< 310 µs

Ordering data					
Screw connection	Type	TOS 5VDC/48VDC 0,1A	TOS 12VDC/48VDC 0,1A	TOS 24VDC/48VDC 0,1A	TOS 48-60VDC/48VDC 0,1A
	Order No.	8950700000	8950710000	8950720000	8950730000
PUSH IN connection	Type	TOP 5VDC/48VDC 0,1A	TOP 12VDC/48VDC 0,1A	TOP 24VDC/48VDC 0,1A	TOP 48-60VDC/48VDC 0,1A
	Order No.	8950760000	8950770000	8950780000	8950790000
<b>Note</b>					

Ordering data	220 V DC	24 V AC	48...60 V AC	120 V AC	230 V AC
<b>Control side</b>					
Rated control voltage	220 V DC +10 % / -15 %	24 V AC ±20%	48...60 V AC ±20 %	120 V AC ±20 %	230 V AC +10 % / -20 %
Nominal control current	1.65 mA DC	7.4 mA AC	4.3 mA AC	2.9 mA AC	1.75 mA AC
Power rating	≤ 360 mW	< 0.18 VA	≤ 0.2 VA	≤ 0.3 VA	≤ 0.4 VA
Cut-in / dropout voltage	187 V / 55 V DC	21.6 V / 9.6 V AC	38.4 V / 19.2 V AC	102 V / 48 V AC	207 V / 92 V AC
max. switching frequency (DC control voltage)	500 Hz				
max. switching frequency (AC control voltage)		10 Hz	10 Hz	10 Hz	10 Hz
Status indicator	Green LED	Green LED	Green LED	Green LED	Green LED
Protective circuit	Varistor, Reverse polarity protection	Varistor	Varistor	Varistor	Varistor
<b>Load side</b>					
Switch-on delay	< 170 µs	< 12 ms	< 12 ms	< 12 ms	< 12 ms
Switch-off delay	< 310 µs	< 14 ms	< 14 ms	< 14 ms	< 14 ms

Ordering data					
Screw connection	Type	TOS 220VDC/48VDC 0,1A	TOS 24VAC/48VDC 0,1A	TOS 48-60VAC/48VDC 0,1A	TOS 120VAC/48VDC 0,1A
	Order No.	8950750000	8950820000	8950830000	8950840000
PUSH IN connection	Type	TOP 220VDC/48VDC 0,1A	TOP 24VAC/48VDC 0,1A	TOP 48-60VAC/48VDC 0,1A	TOP 120VAC/48VDC 0,1A
	Order No.	8950810000	8950860000	8950870000	8950880000
<b>Note</b>					

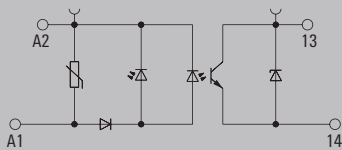
Solid-state relays, 5...48 V DC / 500 mA

Output versions

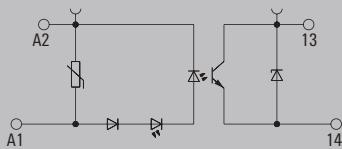
- Space-saving 6.1 mm width
- Plug-in cross-connections
- Screw and PUSH IN wire connection
- Enclosed design



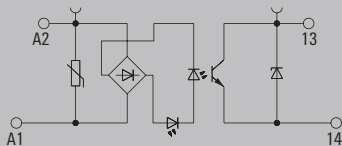
5 V DC



12...220 DC



24...230 V AC



Technical data

Load side		
Rated switching voltage	5...48 V DC	
Continuous current	500 mA	
Inrush current		
Solid-state type	Transistor	
Voltage drop at max. load	< 1 V	
Leakage current	< 10 µA	
Protective circuit, load side	Free-wheel diode	
Short-circuit-proof / Protective circuit, load side	No / Free-wheel diode	
General data		
Ambient temperature (operational)	-20 °C...60 °C	
Storage temperature	-40 °C...80 °C	
Humidity	5-95% rel. humidity, T <sub>v</sub> = 40°C, no condensation	
Approvals	CE, cULus, EAC	
Insulation coordinates		
Rated voltage	300 V	
Impulse withstand voltage	4 kV (1.2/50 µs)	
Dielectric strength for control side - load side	1.2 kV <sub>eff</sub> / 1 min.	
Dielectric strength to mounting rail		
Clearance and creepage distances for control side - load side	> 3 mm	
Overvoltage category	III	
Pollution degree	2	
Dimensions		
Clamping range (nominal / min. / max.)	mm <sup>2</sup>	2.5 / 0.5 / 4
Depth x width x height	mm	55 / 6.1 / 74.4
		55 / 6.1 / 79.4
Note		
Accessories and dimensioned drawings: refer to the TERMOPTO Accessories page.		

Applications

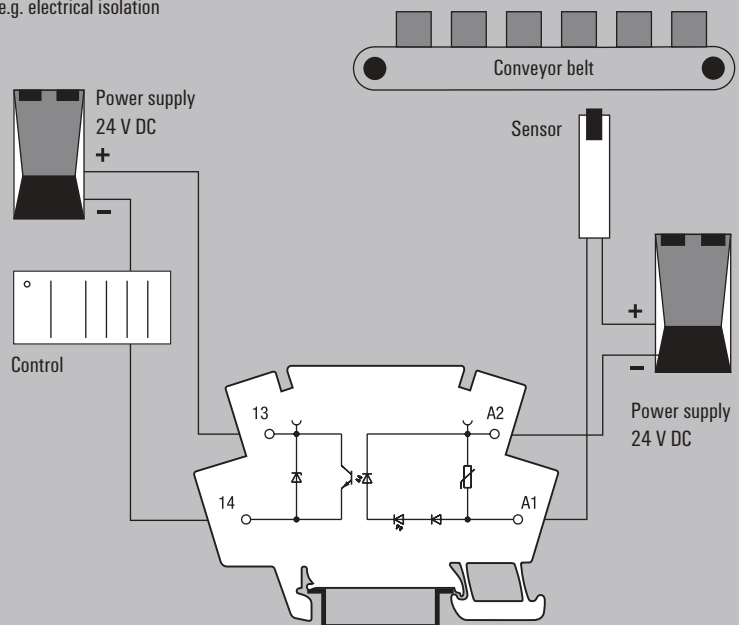
The TERMOPTO opto module is used in industrial applications in which electrical isolation and signal conditioning without switching amplification is sufficient.

The compact design in terminal-block format saves space on the rail and offers the option of a pluggable cross connection.

The choice between 10 input voltages and 3 output voltages, as well as screw or PUSH IN connection technology, gives 60 variations for different applications.

The integrated protective circuit ensures sufficient protection in applications with resistive, as well as slightly inductive and capacitive loads. For purely inductive, capacitive or comparable loads with high switch-on and switch-off peaks, such as solenoid valves or filament lamps, ensure that the module is dimensioned appropriately or an additional safeguard is used.

e.g. electrical isolation



Solid-state relays, 5...48 V DC / 500 mA

Output versions

Ordering data	5 V DC	12 V DC	24 V DC	48...60 V DC	110 V DC
<b>Control side</b>					
Rated control voltage	5 V DC ±20 %	12 V DC ±20 %	24 V DC ±20 %	48...60 V DC ±20 %	110 V DC ±20 %
Nominal control current	7.7 mA DC	7.8 mA DC	7 mA DC	4.3 mA DC	2.6 mA DC
Power rating	< 40 mW	< 95 mW	≤ 170 mW	≤ 200 mW	≤ 280 mW
Cut-in / dropout voltage	4 V / 1.25 V DC	9.6 V / 3 V DC	19.2 V / 6 V DC	38.4 V / 12 V DC	88 V / 27.5 V DC
max. switching frequency (DC control voltage)	200 Hz	200 Hz	200 Hz	200 Hz	200 Hz
max. switching frequency (AC control voltage)					
Status indicator	Green LED	Green LED	Green LED	Green LED	Green LED
Protective circuit	Varistor, Reverse polarity protection	Varistor, Reverse polarity protection	Varistor, Reverse polarity protection	Varistor, Reverse polarity protection	Varistor, Reverse polarity protection
<b>Load side</b>					
Switch-on delay	< 20 µs	< 20 µs	< 20 µs	< 18 µs	< 18 µs
Switch-off delay	< 200 µs	< 200 µs	≤ 600 µs	< 340 µs	< 340 µs

Ordering data	5 V DC	12 V DC	24 V DC	48...60 V DC	110 V DC
Screw connection Type	TOS 5VDC/48VDC 0,5A	TOS 12VDC/48VDC 0,5A	TOS 24VDC/48VDC 0,5A	TOS 48-60VDC/48VDC 0,5A	TOS 110VDC/48VDC 0,5A
Order No.	8950900000	8950910000	8950920000	8950930000	8950940000
PUSH IN connection Type	TOP 5VDC/48VDC 0,5A	TOP 12VDC/48VDC 0,5A	TOP 24VDC/48VDC 0,5A	TOP 48-60VDC/48VDC 0,5A	TOP 110VDC/48VDC 0,5A
Order No.	8950960000	8950970000	8950980000	8950990000	8951000000
Note					

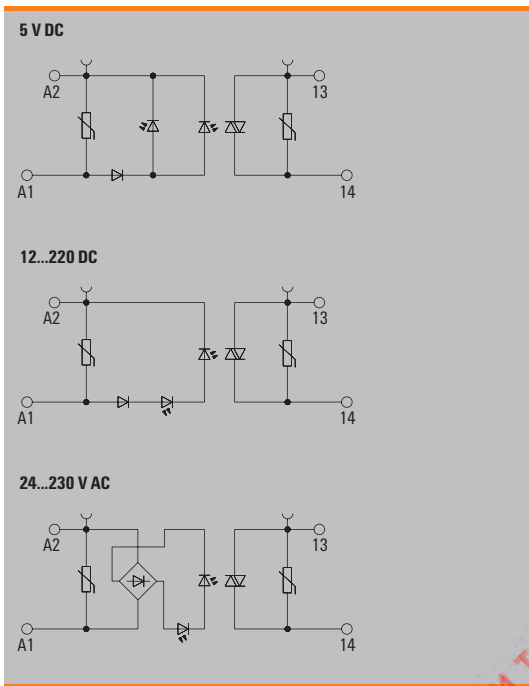
Ordering data	220 V DC	24 V AC	48...60 V AC	120 V AC	230 V AC
<b>Control side</b>					
Rated control voltage	220 V DC +10 % / -15 %	24 V AC ±20%	48...60 V AC ±20 %	120 V AC ±20 %	230 V AC +10 % / -20 %
Nominal control current	1.65 mA DC	7.4 mA AC	4.3 mA AC	2.9 mA AC	1.75 mA AC
Power rating	≤ 360 mW	< 0.18 VA	≤ 0.2 VA	≤ 0.3 VA	≤ 0.4 VA
Cut-in / dropout voltage	187 V / 55 V DC	21.6 V / 9.6 V AC	38.4 V / 19.2 V AC	102 V / 48 V AC	207 V / 92 V AC
max. switching frequency (DC control voltage)	200 Hz				
max. switching frequency (AC control voltage)		10 Hz	10 Hz	10 Hz	10 Hz
Status indicator	Green LED	Green LED	Green LED	Green LED	Green LED
Protective circuit	Varistor, Reverse polarity protection	Varistor	Varistor	Varistor	Varistor
<b>Load side</b>					
Switch-on delay	< 18 µs	< 12 ms	< 12 ms	< 12 ms	< 12 ms
Switch-off delay	< 340 µs	< 14 ms	< 14 ms	< 14 ms	< 14 ms

Ordering data	220 V DC	24 V AC	48...60 V AC	120 V AC	230 V AC
Screw connection Type	TOS 220VDC/48VDC 0,5A	TOS 24VAC/48VDC 0,5A	TOS 48-60VAC/48VDC 0,5A	TOS 120VAC/48VDC 0,5A	TOS 230VAC/48VDC 0,5A
Order No.	8950950000	8951020000	8951030000	8951040000	8951050000
PUSH IN connection Type	TOP 220VDC/48VDC 0,5A	TOP 24VAC/48VDC 0,5A	TOP 48-60VAC/48VDC 0,5A	TOP 120VAC/48VDC 0,5A	TOP 230VAC/48VDC 0,5A
Order No.	8951010000	8951060000	8951070000	8951080000	8951090000
Note					

Solid-state relays 24...230 V AC / 100 mA

Output versions

- Space-saving 6.1 mm width
- Plug-in cross-connections
- Screw and PUSH IN wire connection
- Enclosed design



Technical data

Load side			
Rated switching voltage	24...230 V AC		
Continuous current	100 mA		
Inrush current			
Solid-state type	Triac (zero-cross switch)		
Voltage drop at max. load	< 1.8 V		
Leakage current	< 1 mA		
Protective circuit, load side	Varistor, RC element		
Short-circuit-proof / Protective circuit, load side	No / Varistor, RC element		
General data			
Ambient temperature (operational)	-20 °C...60 °C		
Storage temperature	-40 °C...80 °C		
Humidity	5-95% rel. humidity, T <sub>v</sub> = 40°C, no condensation		
Approvals	CE, cULus, EAC		
Insulation coordinates			
Rated voltage	300 V		
Impulse withstand voltage	4 kV (1.2/50 µs)		
Dielectric strength for control side - load side	1.2 kV <sub>eff</sub> / 1 min.		
Dielectric strength to mounting rail			
Clearance and creepage distances for control side - load side	> 3 mm		
Overvoltage category	III		
Pollution degree	2		
Dimensions		Screw connection	PUSH IN
Clamping range (nominal / min. / max.)	mm <sup>2</sup>	2.5 / 0.5 / 4	1.5 / 0.5 / 2.5
Depth x width x height	mm	55 / 6.1 / 74.4	55 / 6.1 / 79.4
<b>Note</b>		Accessories and dimensioned drawings: refer to the TERMOPTO Accessories page.	

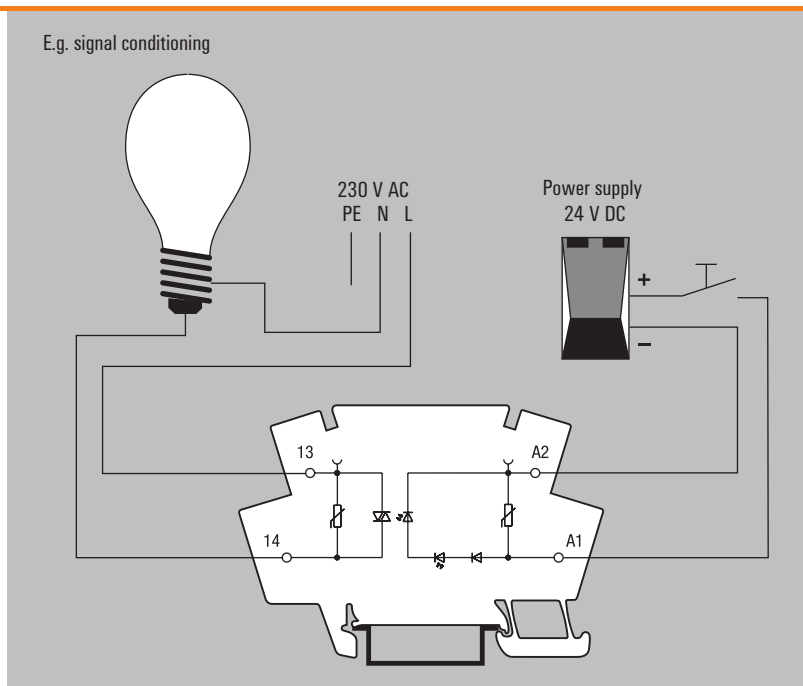
Applications

The TERMOPTO opto module is used in industrial applications in which electrical isolation and signal conditioning without switching amplification is sufficient.

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The choice between 10 input voltages and 3 output voltages as well as between screw or PUSH IN connection technology gives 60 variations for different applications.

The integrated protective circuit ensures sufficient protection in applications with resistive as well as slightly inductive and capacitive loads. For purely inductive, capacitive or comparable loads with high switch-on and switch-off peaks, such as solenoid valves or filament lamps, ensure that the module is dimensioned appropriately or an additional safeguard is used.



Solid-state relays 24...230 V AC / 100 mA

Output versions

Ordering data	5 V DC	12 V DC	24 V DC	48...60 V DC	110 V DC
<b>Control side</b>					
Rated control voltage	5 V DC ±20 %	12 V DC ±20 %	24 V DC ±20 %	48...60 V DC ±20 %	110 V DC ±20 %
Nominal control current	7.8 mA DC	3.6 mA DC	3.6 mA DC	3.7 mA DC	3.6 mA DC
Power rating	< 40 mW	< 45 mW	≤ 80 mW	≤ 170 mW	≤ 360 mW
Cut-in / dropout voltage	4 V / 1.25 V DC	9.6 V / 3 V DC	19.2 V / 6 V DC	38.4 V / 12 V DC	88 V / 27.5 V DC
max. switching frequency (DC control voltage)	10 Hz	10 Hz	10 Hz	10 Hz	10 Hz
max. switching frequency (AC control voltage)					
Status indicator	Green LED	Green LED	Green LED	Green LED	Green LED
Protective circuit	Varistor, Reverse polarity protection	Varistor, Reverse polarity protection	Varistor, Reverse polarity protection	Varistor, Reverse polarity protection	Varistor, Reverse polarity protection
<b>Load side</b>					
Switch-on delay	≤ 10 ms	≤ 10 ms	≤ 10 ms	≤ 10 ms	≤ 10 ms
Switch-off delay	< 12 ms	< 12 ms	< 12 ms	< 12 ms	< 12 ms
<b>Ordering data</b>					
Screw connection Type	TOS 5VDC/230VAC 0,1A	TOS 12VDC/230VAC 0,1A	TOS 24VDC/230VAC 0,1A	TOS 48-60VDC/230VAC 0,1A	TOS 110VDC/230VAC 0,1A
Order No.	8951100000	8951110000	8951120000	8951130000	8951140000
PUSH IN connection Type	TOP 5VDC/230VAC 0,1A	TOP 12VDC/230VAC 0,1A	TOP 24VDC/230VAC 0,1A	TOP 48-60VDC/230VAC 0,1A	TOP 110VDC/230VAC 0,1A
Order No.	8951160000	8951170000	8951180000	8951190000	8951200000
<b>Note</b>					
<b>Ordering data</b>					
<b>Control side</b>					
Rated control voltage	220 V DC +10 % / -15 %	24 V AC ±20%	48...60 V AC ±20 %	120 V AC ±20 %	230 V AC +10 % / -20 %
Nominal control current	2.9 mA DC	8.8 mA AC	6.4 mA AC	8.5 mA AC	7.7 mA AC
Power rating	≤ 640 mW	≤ 0.2 VA	≤ 0.3 VA	≤ 1 VA	≤ 1.7 VA
Cut-in / dropout voltage	187 V / 55 V DC	19.2 V / 9.6 V AC	38.4 V / 19.2 V AC	96 V / 48 V AC	184 V / 92 V AC
max. switching frequency (DC control voltage)	10 Hz				
max. switching frequency (AC control voltage)		10 Hz	10 Hz	10 Hz	10 Hz
Status indicator	Green LED	Green LED	Green LED	Green LED	Green LED
Protective circuit	Varistor, Reverse polarity protection	Varistor	Varistor	Varistor	Varistor
<b>Load side</b>					
Switch-on delay	≤ 10 ms	< 14 ms	< 14 ms	< 22 ms	< 22 ms
Switch-off delay	< 12 ms	< 16 ms	< 16 ms	< 18 ms	< 18 ms
<b>Ordering data</b>					
Screw connection Type	TOS 220VDC/230VAC 0,1A	TOS 24VAC/230VAC 0,1A	TOS 48-60VAC/230VAC 0,1A	TOS 120VAC/230VAC 0,1A	TOS 230VAC/230VAC 0,1A
Order No.	8951150000	8951220000	8951230000	8951240000	8951250000
PUSH IN connection Type	TOP 220VDC/230VAC 0,1A	TOP 24VAC/230VAC 0,1A	TOP 48-60VAC/230VAC 0,1A	TOP 120VAC/230VAC 0,1A	TOP 230VAC/230VAC 0,1A
Order No.	8951210000	8951260000	8951270000	8951280000	8951290000
<b>Note</b>					

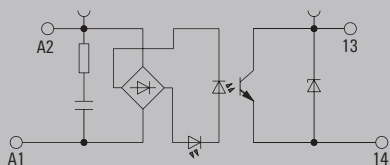
**Solid-state relays, 5...48 V DC / 500 mA**

**Output versions with RC element**

- Space-saving 6.1 mm width
- Plug-in cross-connections
- Screw and PUSH IN wire connection
- Enclosed design
- RC input circuitry for improved interference immunity



**120 V...230 V AC**



**Technical data**

<b>Load side</b>		
Rated switching voltage	5...48 V DC	
Continuous current	500 mA	
Inrush current		
Solid-state type	Transistor	
Voltage drop at max. load	< 1 V	
Leakage current	< 10 µA	
Protective circuit, load side	Diode	
Short-circuit-proof / Protective circuit, load side	No / Diode	
<b>General data</b>		
Ambient temperature (operational)	-20 °C...60 °C	
Storage temperature	-40 °C...80 °C	
Humidity	5-95% rel. humidity, T <sub>v</sub> = 40°C, no condensation	
Approvals	CE, cULus, EAC	
<b>Insulation coordinates</b>		
Rated voltage	300 V	
Impulse withstand voltage	4 kV (1.2/50 µs)	
Dielectric strength for control side - load side	1.2 kV <sub>eff</sub> / 1 min.	
Dielectric strength to mounting rail		
Clearance and creepage distances for control side - load side	> 3 mm	
Overvoltage category	III	
Pollution degree	2	
<b>Dimensions</b>		
	<b>Screw connection</b>	<b>PUSH IN connection</b>
Clamping range (nominal / min. / max.)	mm <sup>2</sup> 2.5 / 0.5 / 4	1.5 / 0.5 / 2.5
Depth x width x height	mm 55 / 6.1 / 74.4	55 / 6.1 / 79.4
<b>Note</b>		
Accessories and dimensioned drawings: refer to the TERMOPTO Accessories page.		

**Ordering data**

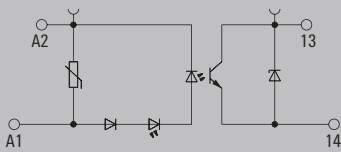
	120 V AC	230 V AC
<b>Control side</b>		
Rated control voltage	120 V AC ±20 %	230 V AC +10 %/-15 %
Nominal control current	6.4 mA AC	6.4 mA AC
Power rating	≤ 0.61 VA	≤ 1.5 VA
Cut-in / dropout voltage	102 V / 48 V AC	207 V / 92 V AC
max. switching frequency (DC control voltage)		
max. switching frequency (AC control voltage)	10 Hz	10 Hz
Status indicator	Green LED	Green LED
Protective circuit	RC element	RC element
<b>Load side</b>		
Switch-on delay	< 12.6 ms	< 12.6 ms
Switch-off delay	< 20.8 ms	< 20.8 ms

Ordering data		120 V AC	230 V AC
Screw connection	Type	TOS 120VAC/48VDC 0.5A RC	TOS 230VAC/48VDC 0.5A RC
	Order No.	<b>1180290000</b>	<b>1189270000</b>
PUSH IN connection	Type	TOP 120VAC/48VDC 0.5A RC	TOP 230VAC/48VDC 0.5A RC
	Order No.	<b>1188830000</b>	<b>1189260000</b>
<b>Note</b>			



**Solid-state relay, 3...33 V DC / 4 A**
**Output versions**

- Space-saving 6.1 mm width
- Plug-in cross-connections
- Screw and PUSH IN wire connection
- Enclosed design


**24 V DC**

**Technical data**

Load side		
Rated switching voltage	3...33 V DC	
Continuous current	4 A	
Inrush current		
Solid-state type	MOS-FET	
Voltage drop at max. load	90 mV	
Leakage current	< 10 µA	
Protective circuit, load side	Varistor	
Short-circuit-proof / Protective circuit, load side	No / Varistor	
General data		
Ambient temperature (operational)	-20 °C...60 °C	
Storage temperature	-40 °C...80 °C	
Humidity	5-95% rel. humidity, T <sub>v</sub> = 40°C, no condensation	
Approvals	CE, cULus, EAC	
Insulation coordinates		
Rated voltage	300 V	
Impulse withstand voltage	4 kV (1.2/50 µs)	
Dielectric strength for control side - load side	1.2 kV <sub>eff</sub> / 1 min.	
Dielectric strength to mounting rail		
Clearance and creepage distances for control side - load side	> 3 mm	
Overvoltage category	III	
Pollution degree	2	
Dimensions		
	Screw connection	PUSH IN connection
Clamping range (nominal / min. / max.)	mm <sup>2</sup> 2.5 / 0.5 / 4	1.5 / 0.5 / 2.5
Depth x width x height	mm 55 / 6.1 / 74.4	55 / 6.1 / 79.4
Note	Accessories and dimensioned drawings: refer to the TERMOPTO Accessories page.	

**Ordering data**

Control side	
Rated control voltage	24 V DC ±20 %
Nominal control current	7 mA DC
Power rating	≤ 170 mW
Cut-in / dropout voltage	16.8 V / 6 V DC
max. switching frequency (DC control voltage)	10 Hz
max. switching frequency (AC control voltage)	
Status indicator	Green LED
Protective circuit	Varistor, Reverse polarity protection
Load side	
Switch-on delay	< 12 ms
Switch-off delay	< 14 ms

Ordering data	
Screw connection	Type TOS 24VDC/24VDC 4A
Order No.	1275100000
PUSH IN connection	Type TOP 24VDC/24VDC 4A
Order No.	1254880000
Note	

Accessories



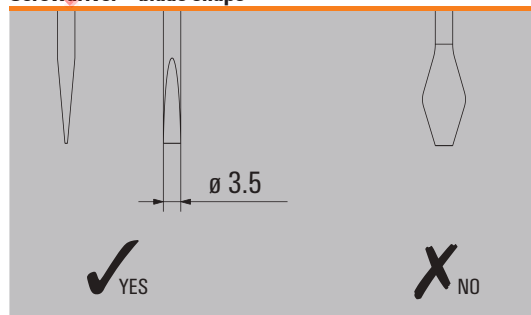
Plug-in cross-connection

Type	No. of poles	Qty.	Order No.
<b>yellow</b>			
ZQV 4N / 2 GE	2	60	1758250000
ZQV 4N / 3 GE	3	60	1762630000
ZQV 4N / 4 GE	4	60	1762620000
ZQV 4N / 10 GE	10	20	1758260000
ZQV 4N / 20 GE	20	20	1909020000
<b>red</b>			
ZQV 4N / 2 RT	2	60	1793950000
ZQV 4N / 3 RT	3	60	1793980000
ZQV 4N / 4 RT	4	60	1794010000
ZQV 4N / 10 RT	10	20	1794040000
ZQV 4N / 20 RT	20	20	1909150000
<b>blue</b>			
ZQV 4N / 2 BL	2	60	1793960000
ZQV 4N / 3 BL	3	60	1793990000
ZQV 4N / 4 BL	4	60	1794020000
ZQV 4N / 10 BL	10	20	1794050000
ZQV 4N / 20 BL	20	20	1909100000
<b>black</b>			
ZQV 4N / 2 SW	2	60	1793970000
ZQV 4N / 3 SW	3	60	1794000000
ZQV 4N / 4 SW	4	60	1794030000
ZQV 4N / 10 SW	10	20	1794060000
ZQV 4N / 20 SW	20	20	1909120000

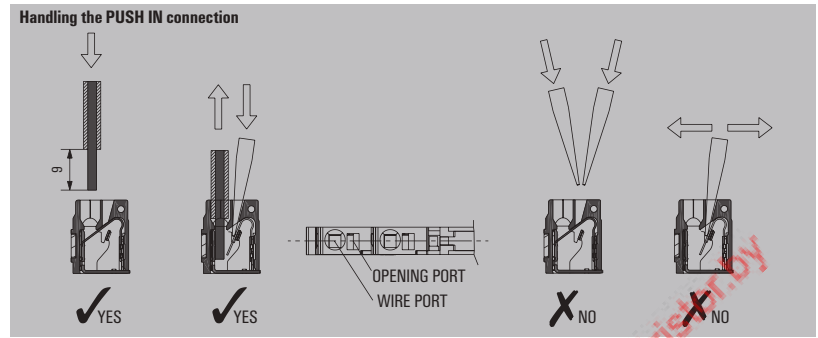
Other accessories

Type	Qty.	Order No.	
<b>Markers</b>			
WS 12/6	12 x 6 mm	600	1609900000
<b>Screwdriver</b>			
SD 0.6 x 3.5 x 100		10	9008330000

Screwdriver - blade shape



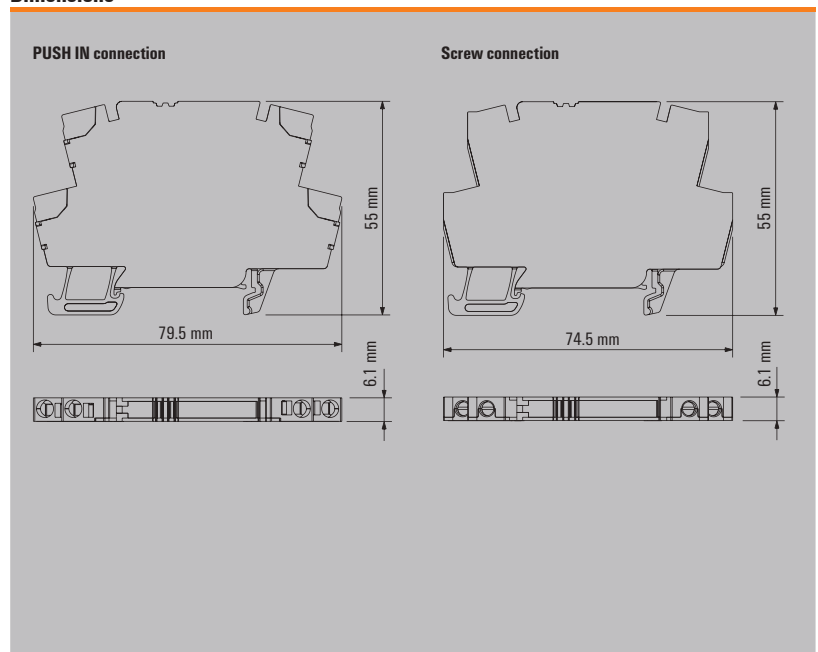
General data - TERMOPTO



Technical data

Conductor		PUSH IN connection	Screw-connection
Solid H07V-U	mm <sup>2</sup>	0.5...1.5	0.5...2.5
Stranded H07V-K	mm <sup>2</sup>	0.5...1.5	0.5...2.5
"f" with wire end ferrules to DIN 46228-1	mm <sup>2</sup>	0.5...1.5	0.5...1.5
"f" with wire end ferrules with plastic collar	mm <sup>2</sup>	0.5...1.5	0.5...1.5
Max. clamping range	mm <sup>2</sup>	0.13...1.5	0.13...2.5
Plug gauge to IEC 60947-1	Size	A 2	A 3
<b>General technical data</b>			
Nominal torque	Nm	-	0.6
Continuous current for 2-pole cross-connection	A	10	10
Continuous current for multi-pole cross-connection	A	10	10
Stripping length	mm	10	9
Ingress protection class		IP 20	IP 20
Housing material		Wemid	Wemid
UL94 flammability rating		V-0	V-0
Nominal current	A	6	6
Nominal voltage	V	250	250

Dimensions



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# Short-circuit-proof switching amplifier for inductive loads up to 10 A

## Powerful, compact solid-state relay with error signalling contact

The MICROOPTO family offers the customer high-quality optos and solid-state relays for application-oriented problem solutions. All products are designed in the space-saving 6 mm terminal size. The new solid-state relay can be connected in the output circuits of control systems and feedback control modules for selective activation of inductive loads up to 24 V DC / 10 A, such as solenoid valves, contactors etc. The error controlled output monitors short-circuits and, if necessary, switched off; a potential-free signalling contact provides feedback to the control system – the system can be shut down in a controlled manner for error rectification.

The powerful output of the MICROOPTO SOLENOID switches 10 A at 55 °C. The product can be used worldwide thanks to international approvals: CE, cULus and GL.

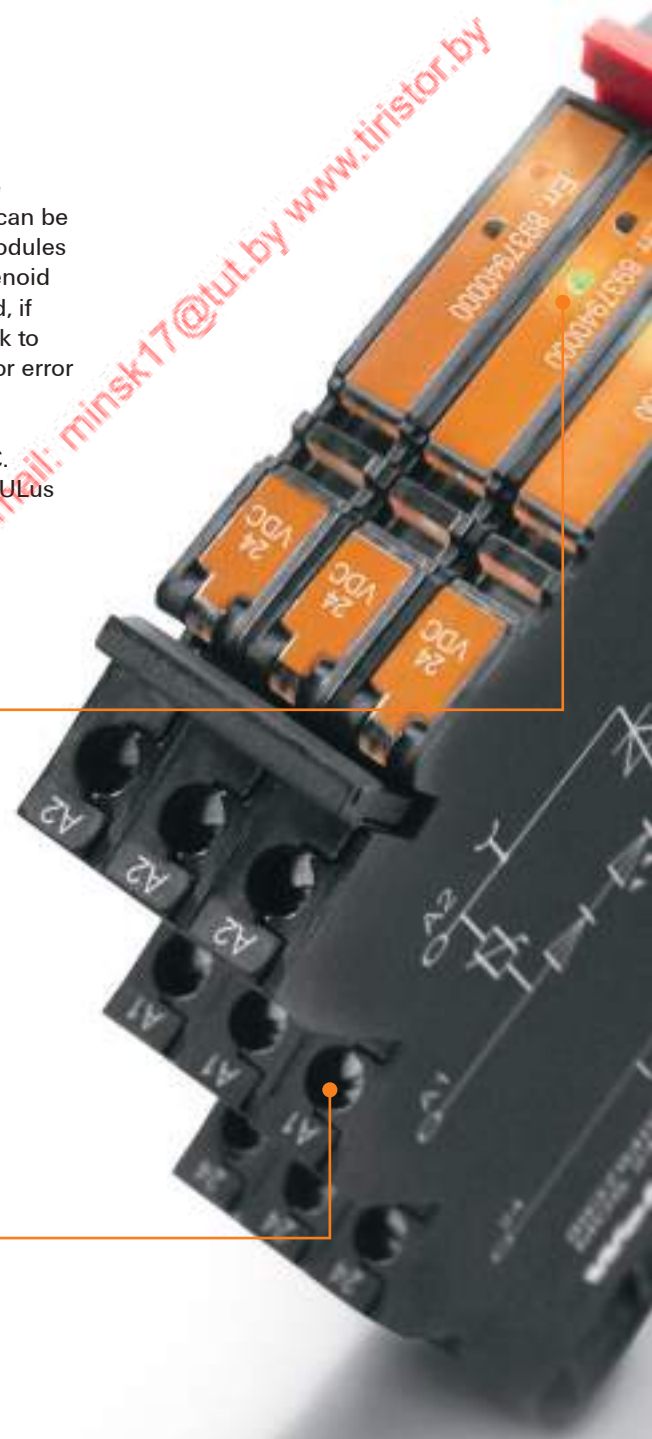
### Alarm function

Clear condition display through status and error LEDs in the output.



### Space-saving

Space-saving 6 mm modular width.



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**Not sensitive**

Protected by suppressor circuit on input and output circuits.



**Tough and sturdy**

With a short-circuit-proof output.



**Auxiliary contact**

An auxiliary contact issues alerts in event of short circuits.

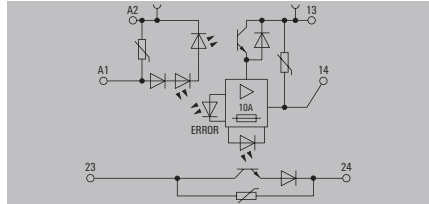


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**For switching valves up to  
24 VDC 10 A**

- Width only 6 mm
- Plug-in cross-connector
- For mounting on TS 35
- Status display and error signaling contact with an error in the output

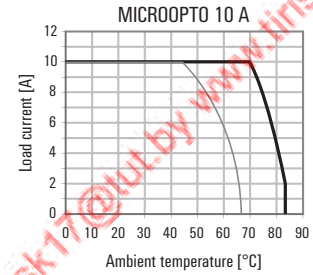
**24 V DC / 5-33 V DC 10 A**



The **MICROOPTO SOLENOID** solid-state relay is used specifically as a switching amplifier for actuators up to 24 V DC and 10 A with inductive loads such as solenoid valves and contactors.

A potential-free signalling contact transmits errors, such as short circuits, to the controller.

The **MICROOPTO SOLENOID** solid-state relay is short-circuit-proof and protected against power-related transients and voltage peaks by extensive protective circuits. The closed housing also offers a high level of protection against contact.



**Technical data**

Control side	
Rated control voltage	24 V DC ±20 %
Power rating	400 mW
Cut-in / dropout voltage	18 V / 13 V DC
Input frequency	50 Hz
Status indicator	Green LED
Protective circuit	Varistor, Reverse polarity protection
Load side	
Solid-state type	POWER MOS-FET
Rated switching voltage	5...33 V DC
Continuous current	10 A
Voltage drop at max. load	approx. 100 mV
Leakage current	< 1 mA
Short-circuit-proof / Protective circuit, load side	Yes (limited for 4 h / current limitation external < 200 A) / Current sensor, Varistor, Free-wheel diode
Switch-on delay / Switch-off delay	typical: 250 µs / typical: 700 µs
Pulse load, max. current	≤ 11 A (≤ 200 µs)
Load category	LC A
General data	
Ambient temperature (operational)	-25 °C...60 °C
Storage temperature	40 °C...60 °C
UL 94 flammability rating	V-0
Humidity	5 - 93% rel. humidity, Tu = 40°C, no condensation
Approvals	CE; cULus; EAC; GL
Insulation coordinates	
Rated voltage	300 V
Impulse withstand voltage	4 kV (1.2/50 µs)
Dielectric strength for control side - load side	3 kV <sub>eff</sub> / 1 min.
Dielectric strength to mounting rail	4 kV <sub>eff</sub> / 1 min.
Clearance and creepage distances for control side - load side	> 3 mm
Overvoltage category	III
Pollution degree	2

Dimensions	
Clamping range (nominal / min. / max.)	mm <sup>2</sup>
Depth x width x height	mm

**Ordering data**

Screw connection
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<b>Note</b>
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**Accessories**

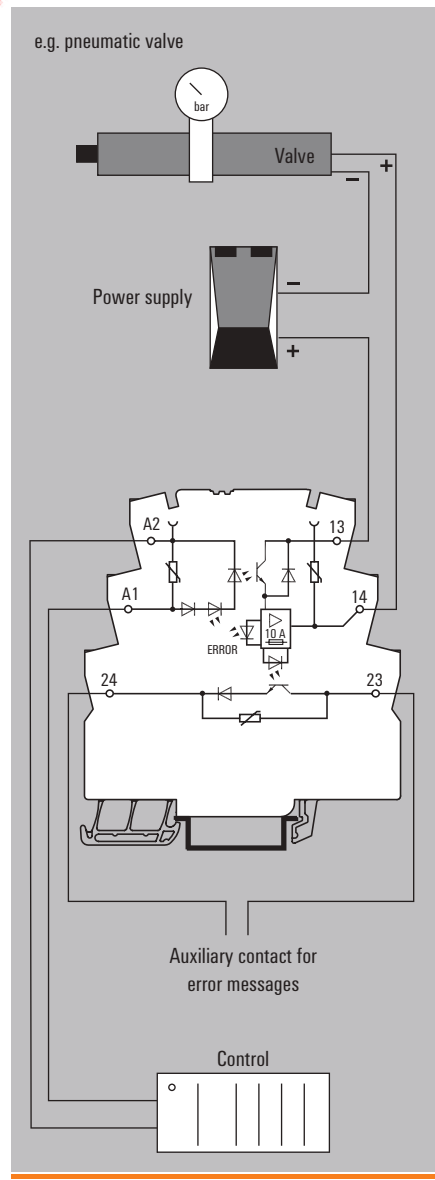
<b>Note</b>
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Screw connection		
Type	MOS 24VDC/5-33VDC 10A	Qty. 1
Order No.	8937940000	

Suppressor circuitry for inductive loads, 10 cm installation clearance to inductive switching devices.		
Type	MOS 24VDC/5-33VDC 10A	Qty. 1
Order No.	8937940000	

Type	Qty.	Order No.
MOS 24VDC/5-33VDC 10A	1	8937940000

<b>Note</b>
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**For DC loads up to 300 V DC and 1A**

- Only 6 mm modular width
- Plug-in cross-connection
- Power Boost: 20 A / 20 ms, 5 A / 1 sec

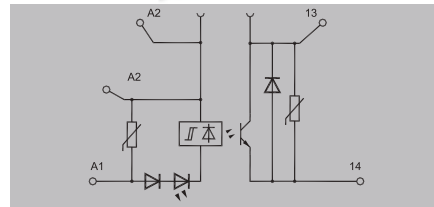
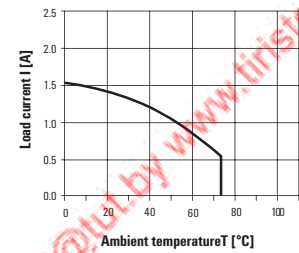
**12...300 V DC 1 A**



The solid-state relay **MICROOPTO 300 V DC** has been developed as a switching amplifier for high inductive loads up to 300 V DC and 1 A in motor brakes and contactors.

A power boost in the load circuit compensates transient overloads (20 A for 20 ms / 5 A for 1 s) such as making or breaking spikes. Additional protective circuits counter higher overloads.

**derating curve**



**Technical data**

Control side	
Rated control voltage	24 V DC ±20 %
Power rating	0.36 W
Cut-in / dropout voltage	18.8 V / 14.7 V DC
Input frequency	50...60 Hz
Status indicator	Green LED
Protective circuit	Varistor, Reverse polarity protection
Load side	
Solid-state type	POWER MOS-FET
Rated switching voltage	12...300 V DC
Continuous current	1 A
Voltage drop at max. load	≤ 0.4 V
Leakage current	< 1 µA
Short-circuit-proof / Protective circuit, load side	No / Varistor, Free-wheel diode
Switch-on delay / Switch-off delay	< 18 µs / < 1 ms
Pulse load, max. current	27 A (10 ms)
Load category	LC A
General data	
Ambient temperature (operational)	-25...60 °C
Storage temperature	40 °C...80 °C
UL 94 flammability rating	V-0
Humidity	5-95% rel. humidity, T <sub>b</sub> = 55°C, no condensation
Approvals	CE; cULus; EAC; GL
Insulation coordinates	
Rated voltage	300 V
Impulse withstand voltage	2.5 kV (1.2/50 µs)
Dielectric strength for control side - load side	3 kV <sub>eff</sub> / 1 min.
Dielectric strength to mounting rail	4 kV <sub>eff</sub> / 1 min.
Clearance and creepage distances for control side - load side	> 3 mm
Overvoltage category	III
Pollution degree	2
Dimensions	
Clamping range (nominal / min. / max.)	mm <sup>2</sup>
Depth x width x height	mm
Note	

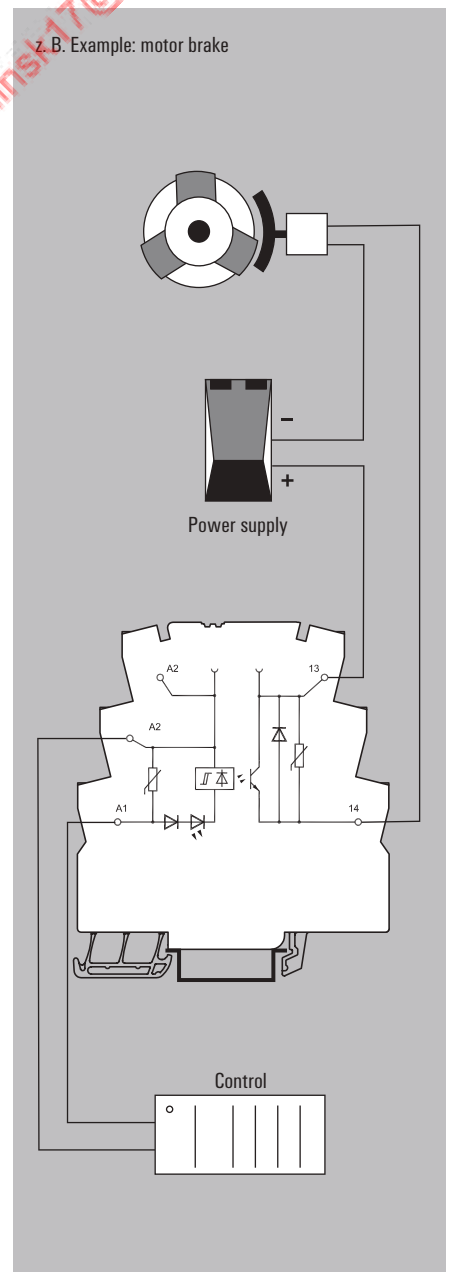
Screw connection		
Type	Qty.	Order No.
MOS 24VDC/12-300VDC 1A	1	8937830000

**Ordering data**

Screw connection	
Note	

**Accessories**

Note	
Accessories and dimensioned drawings: refer to the MICROOPTO Accessories page.	



**For direct connection of actuators  
up to 24 V DC 2 A**

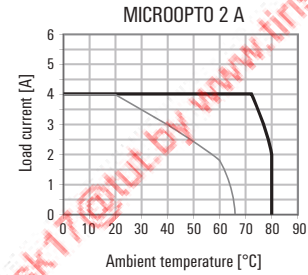
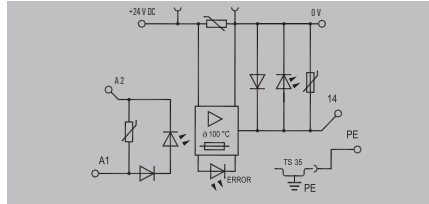
- Only 6 mm modular width
- Plug-in cross-connection
- PE connection direct to mounting rail
- Status display when error in output

**8...30 V DC 2 A**



The solid-state relay **MICROOPTO ACTOR** has been specifically designed as a switching amplifier for actuators up to 24 V DC and 2 A with inductive loads such as solenoid valves and contactors. 3-wire actuators can be connected directly to the module.

This is short-circuit proof and protected against application-related transients and spikes by extensive protective circuitry.



**Technical data**

<b>Control side</b>	
Rated control voltage	24 V DC ±20 %
Power rating	≤ 170 mW
Cut-in / dropout voltage	13.8 V / 13.6 V DC
Input frequency	125 Hz
Status indicator	Varistor, Reverse polarity protection
Protective circuit	Intelligent POWER MOS-FET
<b>Load side</b>	
Solid-state type	8...30 V DC
Rated switching voltage	2 A
Continuous current	≤ 50 mV
Voltage drop at max. load	< 10 µA
Leakage current	Yes (thermal cut-out) / Varistor, Free-wheel diode
Short-circuit-proof / Protective circuit, load side	0.1 ms / < 0.5 ms
Switch-on delay / Switch-off delay	LC A
Pulse load, max. current	-25 °C...60 °C
Load category	40 °C...80 °C
<b>General data</b>	
Ambient temperature (operational)	V-0
Storage temperature	5-95% rel. humidity, T <sub>b</sub> = 55°C, no condensation
UL 94 flammability rating	CE; cULus; EAC; GL
Humidity	
Approvals	
<b>Insulation coordinates</b>	
Rated voltage	30 V
Impulse withstand voltage	500 V (1,2/50 µ)
Dielectric strength for control side - load side	350 V <sub>eff</sub> / 1 min.
Dielectric strength to mounting rail	350 V <sub>eff</sub> / 1 min.
Clearance and creepage distances for control side - load side	
Overvoltage category	III
Pollution degree	2
<b>Dimensions</b>	
Clamping range (nominal / min. / max.)	mm <sup>2</sup>
Depth x width x height	
<b>Note</b>	

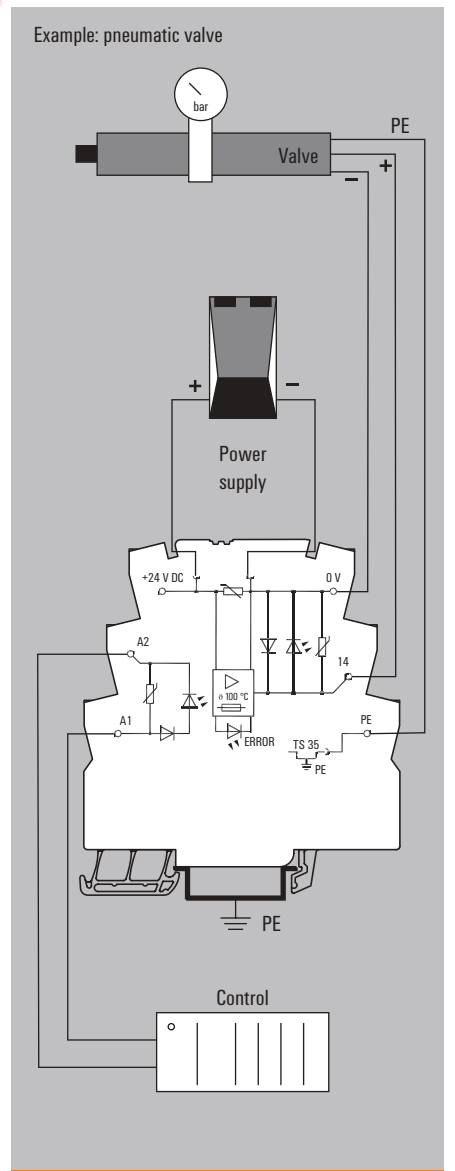
<b>Screw connection</b>		
Type	Qty.	Order No.
MOS 24VDC/8-30VDC 2A	1	8937970000

**Ordering data**

Screw connection
<b>Note</b>

**Accessories**

<b>Note</b>
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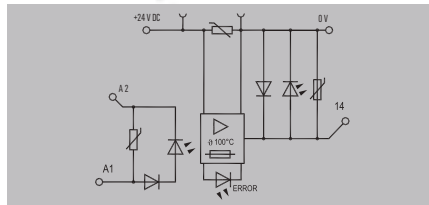
**For direct connection  
of actuators up to 24 VDC 2 A**

- Width only 6 mm
- Plug-in cross-connector
- Status display when error in output

**24 V DC / 8-30 V DC 2 A E**



The solid-state relay **MICROOPTO ACTOR** has been specifically designed as a switching amplifier for actuators up to 24 V DC and 2 A with inductive loads such as solenoid valves and contactors. 3-wire actuators can be connected directly to the module. This is short-circuit proof and protected against application-related transients and spikes by extensive protective circuitry.



**Technical data**

<b>Control side</b>	
Rated control voltage	24 V DC ±20 %
Power rating	≤ 170 mW
Cut-in / dropout voltage	13.8 V / 13.6 V DC
Input frequency	10 Hz
Status indicator	
Protective circuit	Varistor, Reverse polarity protection
<b>Load side</b>	
Solid-state type	Intelligent POWER MOS-FET
Rated switching voltage	8...30 V DC
Continuous current	2 A
Voltage drop at max. load	≤ 50 mV
Leakage current	< 10 µA
Short-circuit-proof / Protective circuit, load side	Yes (thermal cut-out) / Varistor, Free-wheel diode
Switch-on delay / Switch-off delay	0.1 ms / < 0.5 ms
Pulse load, max. current	
Load category	LC A
<b>General data</b>	
Ambient temperature (operational)	-25 °C...60 °C
Storage temperature	40 °C...80 °C
UL 94 flammability rating	V-0
Humidity	5-95% rel. humidity, T <sub>b</sub> = 55°C, no condensation
Approvals	EAC; GL
<b>Insulation coordinates</b>	
Rated voltage	30 V
Impulse withstand voltage	500 V (1,2/50 µ)
Dielectric strength for control side - load side	350 V <sub>eff</sub> / 1 min.
Dielectric strength to mounting rail	350 V <sub>eff</sub> / 1 min.
Clearance and creepage distances for control side - load side	
Overvoltage category	III
Pollution degree	2
<b>Dimensions</b>	
Clamping range (nominal / min. / max.)	mm <sup>2</sup>
Depth x width x height	
<b>Note</b>	

<b>Screw connection</b>		
Type	Qty.	Order No.
MOS 24VDC/8-30VDC 2A E	10	1283230000

**Ordering data**

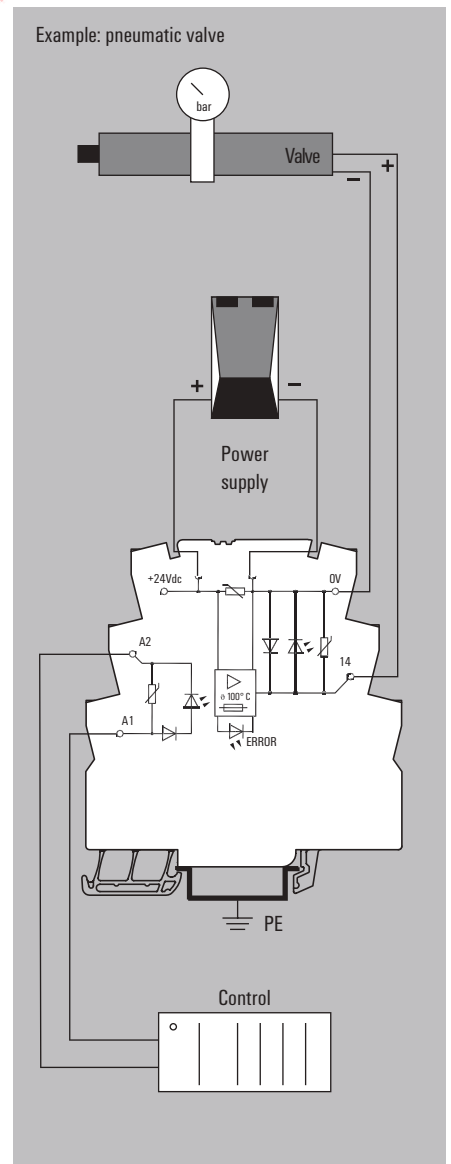
Screw connection
<b>Note</b>

**Accessories**

<b>Note</b>
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Accessories and dimensional drawings: refer to the MICROOPTO Accessories page		
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www.tiristor.by email: minsk17@tut.by



For electronically switching or inverting signals

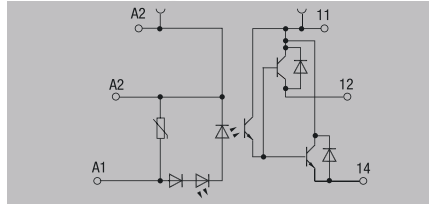
24 V DC / 5-48 V DC 0.5 A



Electronic CO contacts are used anywhere output signals need to be changed over.

For this purpose, the input signal is directly switched through to the output side and inverted; as a result, the opto module can also be used as a pure inverter.

The advantage over electromechanical relays lies in the wear-free switching and the possibility of realising high switching frequencies.



**Technical data**

<b>Control side</b>	
Rated control voltage	24 V DC ±20 %
Power rating	160 mW
Cut-in / dropout voltage	19.5 V / 12 V DC
Input frequency	1 kHz
Status indicator	Green LED
Protective circuit	Varistor, Reverse polarity protection
<b>Load side</b>	
Solid-state type	Transistor
Rated switching voltage	5...48 V DC
Continuous current	500 mA
Voltage drop at max. load	Max. 1 V
Leakage current	< 1.5 mA
Short-circuit-proof / Protective circuit, load side	No / Free-wheel diode
Switch-on delay / Switch-off delay	< 30 µs / < 50 µs
Pulse load, max. current	LC A
Load category	LC A
<b>General data</b>	
Ambient temperature (operational)	-25 °C...60 °C
Storage temperature	-40 °C...60 °C
UL 94 flammability rating	V-0
Humidity	5 - 93% rel. humidity, Tu = 40°C, no condensation
Approvals	CE; cULus; EAC; GL
<b>Insulation coordinates</b>	
Rated voltage	300 V
Impulse withstand voltage	4 kV (1.2/50 µs)
Dielectric strength for control side - load side	3 kV <sub>eff</sub> / 1 min.
Dielectric strength to mounting rail	4 kV <sub>eff</sub> / 1 min.
Clearance and creepage distances for control side - load side	> 3 mm
Overvoltage category	III
Pollution degree	2
<b>Dimensions</b>	
Clamping range (nominal / min. / max.)	mm <sup>2</sup>
Depth x width x height	mm
<b>Note</b>	
<b>Screw connection</b>	
	2.5 / 0.5 / 4
	97.8 / 6.1 / 88.1

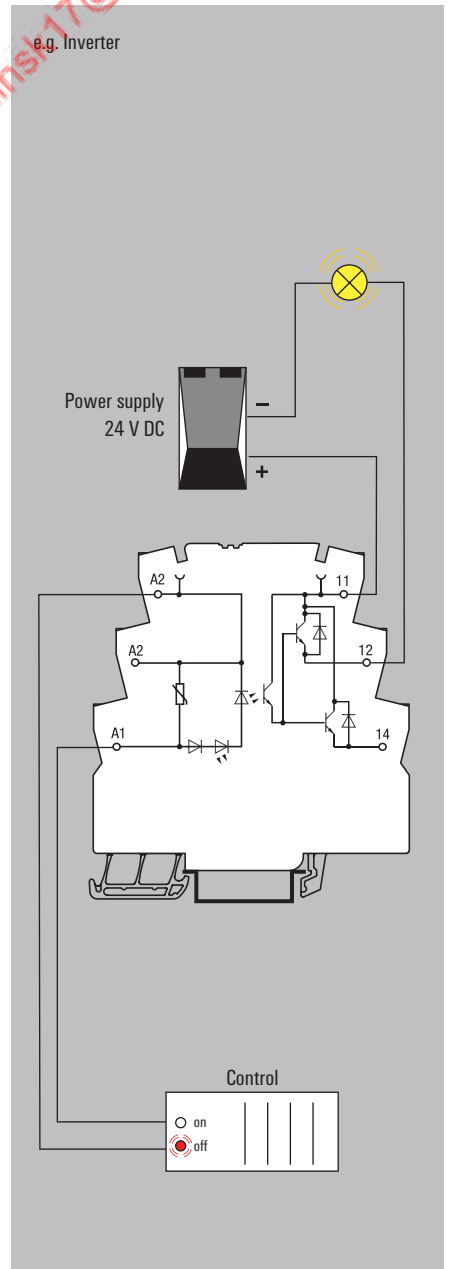
**Ordering data**

Type	Qty.	Order No.
MOS 24VDC/5-48VDC 0,5A	1	8937980000

**Note**

**Accessories**

<b>Note</b>	Accessories and dimensioned drawings: refer to the MICROOPTO Accessories page.
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**For high switching frequency  
up to 100 kHz**

- Width only 6 mm
- Plug-in cross-connector
- For mounting on TS 35

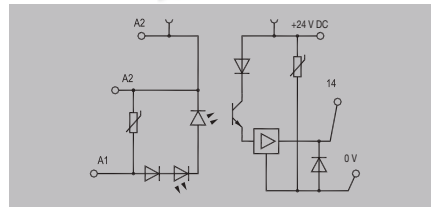
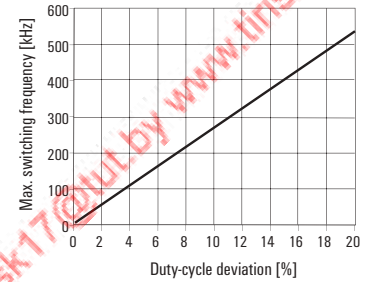
**12...28 V DC 100 kHz**



A special interior circuit in the opto module **MICROOPTO 100 kHz** ensures that rapidly transmitted signals are isolated from one another and that they can be transferred practically without delay. This allows switching frequencies up to 100 kHz to be achieved. Comprehensive suppressor circuits safeguard the module against conducted transients and voltage spikes.

**Max. switching frequency is dependent  
on the duty cycle deviation**

MOS 12-28 V DC 100 kHz (switching current 50 mA, ohmic load)



**Technical data**

**Control side**

Rated control voltage  
Power rating  
Cut-in / dropout voltage

Input frequency  
Status indicator  
Protective circuit

**Load side**

Solid-state type  
Rated switching voltage  
Continuous current  
Voltage drop at max. load  
Leakage current  
Short-circuit-proof / Protective circuit, load side

Switch-on delay / Switch-off delay  
Pulse load, max. current  
Load category

**General data**

Ambient temperature (operational)  
Storage temperature  
UL 94 flammability rating  
Humidity  
Approvals

**Insulation coordinates**

Rated voltage  
Impulse withstand voltage  
Dielectric strength for control side - load side  
Dielectric strength to mounting rail  
Clearance and creepage distances for control side - load side  
Overvoltage category  
Pollution degree

**Dimensions**

Clamping range (nominal / min. / max.) mm<sup>2</sup>  
Depth x width x height mm

**Note**

**Ordering data**

Screw connection

**Note**

**Accessories**

**Note**

12 V DC...28 V DC  
≤ 280 mW  
5.6 V / 5 V DC

100 kHz  
Green LED  
Varistor, Reverse polarity protection

Transistor  
19.6...28.8 V  
50 mA  
≤ 2 V  
< 1 μA  
No / Varistor, Reverse polarity protection

< 200 ns / < 400 ns  
0.6 A (20 ms)  
LC A

-25 °C...60 °C  
40 °C...80 °C  
V-0  
5-95% rel. humidity, T<sub>b</sub> = 55 °C, no condensation  
CE; cULus; EAC; GL

30 V  
500 V (1,2/50 μ)  
350 V<sub>eff</sub> / 1 min.  
350 V<sub>eff</sub> / 1 min.

II  
2

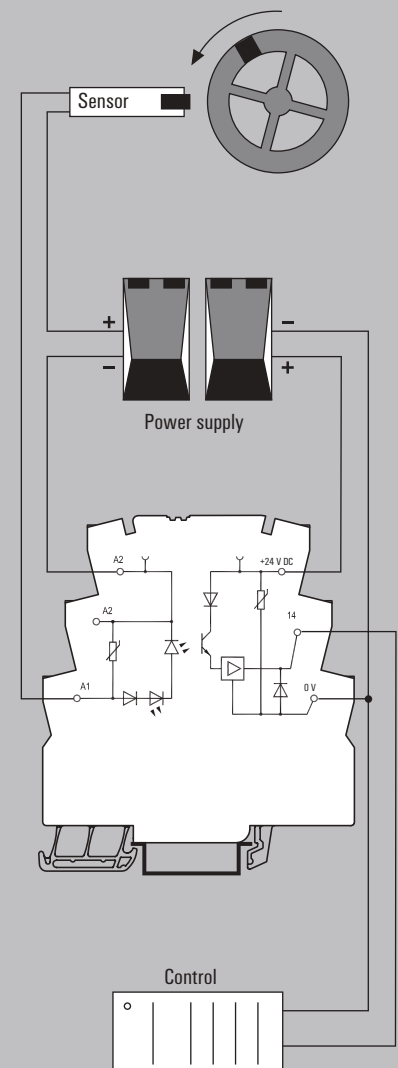
**Screw connection**

2.5 / 0.5 / 4  
97.8 / 6.1 / 88.1

Type	Qty.	Order No.
MOS 12-28VDC 100kHz	1	8937990000

Accessories and dimensioned drawings: refer to the MICROOPTO Accessories page.

**For example rotational speed measurement**



For adjusting TTL signals

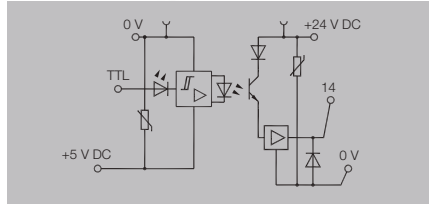
5 V TTL / 24 V DC 0.1 A



To adjust sensitive TTL signals to the typical voltage level of 24 V DC used in industrial automation applications, the MICROOPTO TTL modules are used.

For the protection of the electronics, the sensitive TTL signals require electrical isolation from the 24 V world.

To control the optical coupler circuit via the 5 V TTL signal, an additional auxiliary voltage is fed in.



Technical data

Control side	
Rated control voltage	5 V TTL
Power rating	< 0.5 mW
Cut-in / dropout voltage	2 V / 1 V DC
Input frequency	100 kHz
Status indicator	Green LED
Protective circuit	Varistor, Reverse polarity protection
Load side	
Solid-state type	Bipolar transistor
Rated switching voltage	24 VDC ±20%
Continuous current	100 mA
Voltage drop at max. load	< 1 V
Leakage current	< 20 µA
Short-circuit-proof / Protective circuit, load side	No / Free-wheel diode
Switch-on delay / Switch-off delay	< 1.3 µs / < 1 µs
Pulse load, max. current	LC A
Load category	LC A
General data	
Ambient temperature (operational)	-25 °C...60 °C
Storage temperature	-40 °C...60 °C
UL 94 flammability rating	V-0
Humidity	5 - 93% rel. humidity, Tu = 40°C, no condensation
Approvals	CE; cULus; EAC; GL
Insulation coordinates	
Rated voltage	300 V
Impulse withstand voltage	4 kV (1.2/50 µs)
Dielectric strength for control side - load side	3 kV <sub>eff</sub> / 1 min.
Dielectric strength to mounting rail	4 kV <sub>eff</sub> / 1 min.
Clearance and creepage distances for control side - load side	> 3 mm
Overvoltage category	III
Pollution degree	2
Dimensions	
Clamping range (nominal / min. / max.)	mm <sup>2</sup>
Depth x width x height	mm
Note	

Screw connection		
Type	Qty.	Order No.
MOS 5VTTL/24VDC 0,1A	1	8937920000

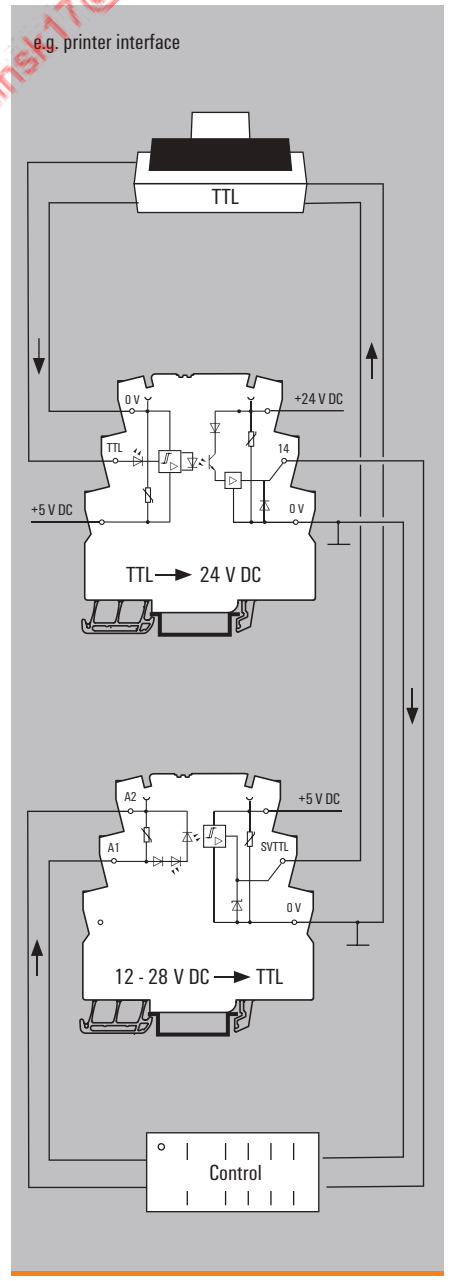
Ordering data

Screw connection
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Note

Accessories

Accessories and dimensioned drawings: refer to the MICROOPTO Accessories page.
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For adjusting TTL signals

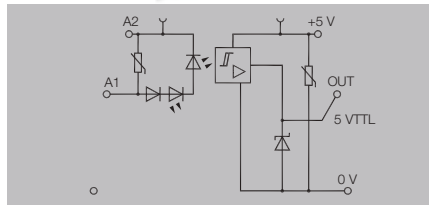
12-28 V DC / 5 V TTL



To adjust sensitive TTL signals to the typical voltage level of 24 V DC used in industrial automation applications, the MICROOPTO TTL modules are used.

For the protection of the electronics, the sensitive TTL signals require electrical isolation from the 24 V world.

To control the optical coupler circuit via the 5 V TTL signal, an additional auxiliary voltage is fed in.



Technical data

Control side	
Rated control voltage	12 V DC...28 V DC
Power rating	150 mW
Cut-in / dropout voltage	10.7 V / 10.6 V DC
Input frequency	100 kHz
Status indicator	Green LED
Protective circuit	Varistor, Reverse polarity protection
Load side	
Solid-state type	TTL
Rated switching voltage	5 V TTL
Continuous current	50 mA
Voltage drop at max. load	90 mV
Leakage current	< 1 µA
Short-circuit-proof / Protective circuit, load side	No / Varistor
Switch-on delay / Switch-off delay	typical. < 1 µs / typical. < 4 µs
Pulse load, max. current	LC A
Load category	LC A
General data	
Ambient temperature (operational)	-25 °C...60 °C
Storage temperature	40 °C...60 °C
UL 94 flammability rating	V-0
Humidity	5 - 93% rel. humidity, Tu = 40°C, no condensation
Approvals	CE; cULus; EAC; GL
Insulation coordinates	
Rated voltage	300 V
Impulse withstand voltage	4 kV (1.2/50 µs)
Dielectric strength for control side - load side	3 kV <sub>eff</sub> / 1 min.
Dielectric strength to mounting rail	4 kV <sub>eff</sub> / 1 min.
Clearance and creepage distances for control side - load side	> 3 mm
Overvoltage category	III
Pollution degree	2
Dimensions	
Clamping range (nominal / min. / max.)	mm <sup>2</sup>
Depth x width x height	mm
Note	

Screw connection		
Type	Qty.	Order No.
MOS 12-28VDC/5VTTL	1	8937930000

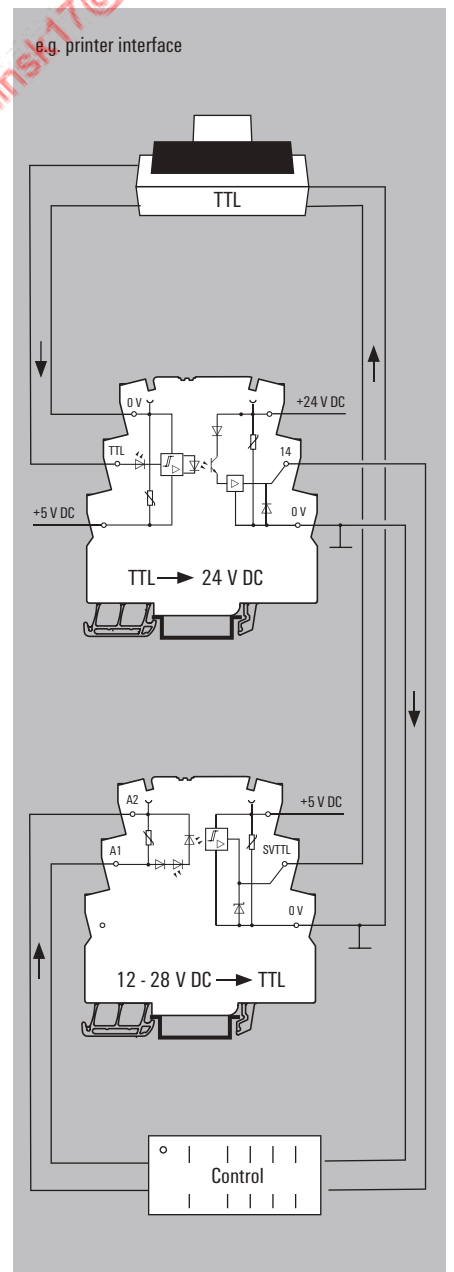
Ordering data

Screw connection
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Note

Accessories

Accessories and dimensioned drawings: refer to the MICROOPTO Accessories page.
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Accessories

General data – MICROOPTO

Relay modules and solid-state relays in 6 mm width

A



Plug-in cross-connection

Type	No. of poles	Qty.	Order No.
<b>yellow</b>			
ZQV 4N / 2 GE	2	60	1758250000
ZQV 4N / 3 GE	3	60	1762630000
ZQV 4N / 4 GE	4	60	1762620000
ZQV 4N / 10 GE	10	20	1758260000
ZQV 4N / 20 GE	20	20	1909020000
<b>red</b>			
ZQV 4N / 2 RT	2	60	1793950000
ZQV 4N / 3 RT	3	60	1793980000
ZQV 4N / 4 RT	4	60	1794010000
ZQV 4N / 10 RT	10	20	1794040000
ZQV 4N / 20 RT	20	20	1909150000
<b>blue</b>			
ZQV 4N / 2 BL	2	60	1793960000
ZQV 4N / 3 BL	3	60	1793990000
ZQV 4N / 4 BL	4	60	1794020000
ZQV 4N / 10 BL	10	20	1794050000
ZQV 4N / 20 BL	20	20	1909100000
<b>black</b>			
ZQV 4N / 2 SW	2	60	1793970000
ZQV 4N / 3 SW	3	60	1794000000
ZQV 4N / 4 SW	4	60	1794030000
ZQV 4N / 10 SW	10	20	1794060000
ZQV 4N / 20 SW	20	20	1909120000

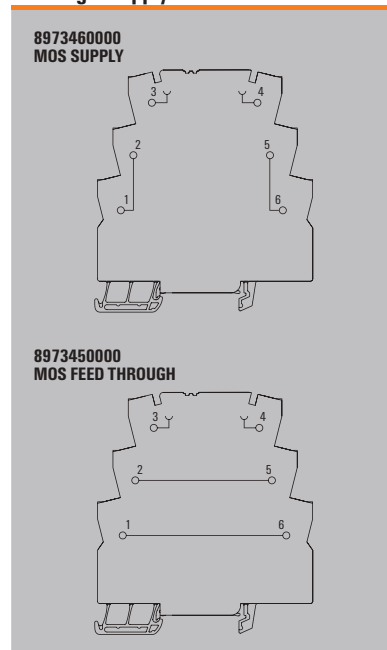
Technical data

Conductor		Screw-connection
Solid H07V-U	mm <sup>2</sup>	0.5 ... 4.0
Stranded H07V-K	mm <sup>2</sup>	0.5 ... 2.5
"f" with wire end ferrules to DIN 46228-1	mm <sup>2</sup>	0.5 ... 1.5
"f" with wire end ferrules with plastic collar	mm <sup>2</sup>	0.5 ... 1.5
Max. clamping range	mm <sup>2</sup>	0.13 ... 4.0
Plug gauge to IEC 60947-1	Size	A 3
<b>General technical data</b>		
Nominal torque	Nm	0.6
Continuous current for 2-pole cross-connection	A	10
Continuous current for multi-pole cross-connection	A	10
Stripping length	mm	7
Ingress protection class		IP 20
Housing material		Wemid
UL 94 flammability rating		V-0
Nominal current	A	6
Nominal voltage	V	250

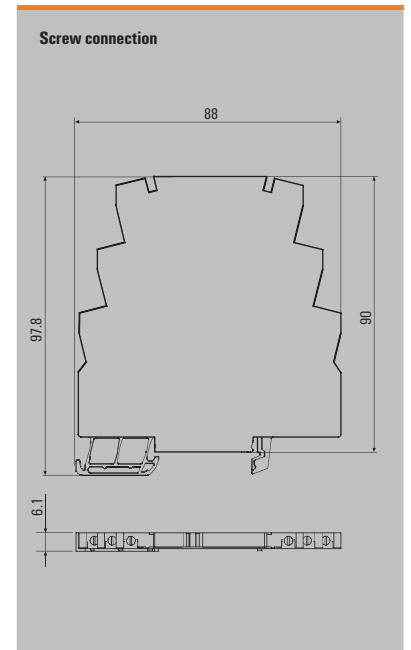
Other accessories

Type	Qty.	Order No.	
<b>Supply terminals</b>			
MOS SUPPLY	1	8973460000	
MOS FEED THROUGH	1	8973450000	
<b>Markers</b>			
WS 12/6	12 x 6 mm	600	1609900000
<b>Screwdriver</b>			
SD 0.6 x 3.5 x 100		10	9008330000
<b>Cross-connector for plugging into the clamping point</b>			
QB 75/6.2/15		10	0535200000
<b>Coloured insulating profile for QB</b>			
ISPF QB75 black		10	0526700000
ISPF QB75 blue		10	0526780000
ISPF QB75 red		10	0526760000
<b>End bracket</b>			
WEW 35/2		100	1061210000

Drawings: Supply terminals



Dimensions



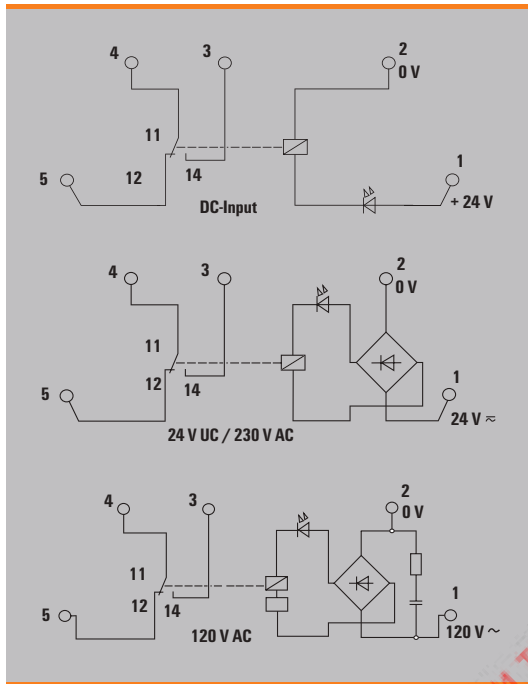
в Беларусі Заказ г.Мінск viber и тел. +375447584780 email: minsk17@tut.by www.tiristor.by

**MiniConditioner MCZ R**

**1 CO contact AC/DC/UC coil**

The module can be used as a universal interface between the controller and the actuator to switch small and medium-sized loads

- Reduced installation and commissioning costs, thanks to the use of the proven tension-spring connection system
- Pluggable cross-connection at input and output minimises the wiring workload.
- Width 6 mm
- For mounting on TS 35

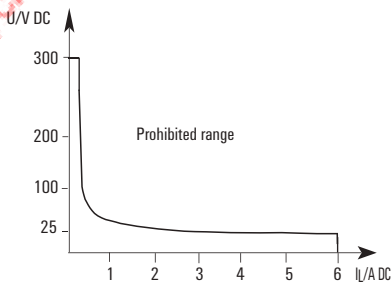


**Technical data**

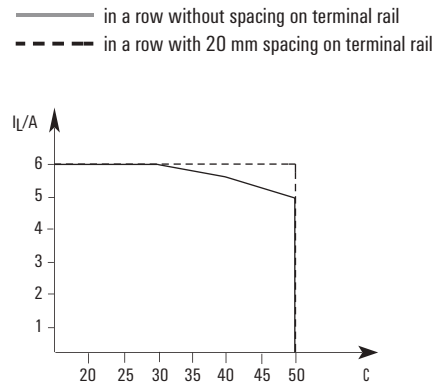
Output	
Rated switching voltage / Continuous current	250 V AC / 6 A
Max. switching voltage, AC	250 V
Inrush current	6 A
Min. switching power	1 mA @ 24 V, 10 mA @ 10 V, 100 mA @ 5 V
DC / AC Switching capacity (resistive), max.	144 W @ 24 V / 1500 VA
Contact material	AgSnO
Mechanical service life	10 x 10 <sup>6</sup> switching cycles
Max. switching frequency at rated load	0.1 Hz
Rated data	
Ambient temperature (operational)	-25 °C...50 °C
Storage temperature	-40 °C...60 °C
Humidity	5 - 93% rel. humidity, Tu = 40°C, no condensation
Approvals	CE, CSA, cURus, EAC, GL
Insulation coordinates	
Rated voltage	300 V
Impulse withstand voltage	4 kV (1.2/50 µs)
Dielectric strength input - output	4 kV <sub>eff</sub> / 1 s
Dielectric strength of neighbouring contacts	
Dielectric strength to mounting rail	4 kV <sub>eff</sub> / 1 min.
Creepage and clearance distance input - output	≥ 5.5 mm
Overvoltage category	III
Pollution degree	2
Dimensions	
Clamping range (nominal / min. / max.)	mm <sup>2</sup> 1.5 / 0.5 / 1.5
Depth x width x height	mm 63.2 / 6.1 / 9.1
Note	
End plate AP MCZ 1.5: 8389030000 Accessories and dimensional drawings: refer to the MCZ Accessories page.	

**Applications**

**Limit curve**



**Derating curve**





**MiniConditioner MCZ R**  
**1 CO contact AC/DC/UC coil**

**Ordering data**

	24 V DC 1 CO	24 V DC 1 CO Au	24 V UC 1 CO	110 V DC 1 CO
<b>Input</b>				
Rated control voltage	24 V DC ±20 %	24 V DC ±20 %	24 V UC ±10 %	110 V DC ±10 %
Rated current AC / DC	/ 6.3 mA	/ 6.3 mA	11 mA / 6.4 mA	/ 2.85 mA
Power rating	156 mW	156 mW	160 mVA / 150 mW	340 mW
Pull-in/drop-out voltage, typ.	19 V / 4 V DC	19 V / 4 V DC	19.5 V / 3 V AC 19.5 V / 3 V DC	68 V / 19 V DC
Pull-in/drop-out current, typ.				1.6 mA / 0.6 mA DC
Status indicator	Green LED	Green LED	Green LED	Green LED
Protective circuit	Free-wheel diode, Reverse polarity protection	Free-wheel diode, Reverse polarity protection	Rectifier	Rectifier
<b>Load side</b>				
Switch-on delay	< 5 ms	< 5 ms	< 6 ms	< 6 ms
Switch-off delay	< 15 ms	< 15 ms	< 35 ms	< 15 ms

**Ordering data**

<b>Complete module</b>					
CO contact	Type	MCZ R 24VDC	MCZ R 24VDC 50Au	MCZ R 24VUC	MCZ R 110VDC
	Order No.	8365980000	8442960000	8390590000	8467470000
	Type				
	Order No.				

**Note**

Can safely switch a load of:  
1...60 V AC/DC, 1...300 mA.  
If higher loads are switched  
this can damage the gold plating.

**Ordering data**

	120 V AC 1 CO	230 V AC 1 CO
<b>Input</b>		
Rated control voltage	120 V AC -15 % / +10 %	230 V AC ±10 %
Rated current AC / DC	7 mA /	9.5 mA /
Power rating	0.85 VA	2.1 VA
Pull-in/drop-out voltage, typ.	85 V / 17 V AC	150 V / 60 V AC
Pull-in/drop-out current, typ.	4 mA / 1.3 mA AC	5 mA / 2.5 mA AC
Status indicator	Green LED	Green LED
Protective circuit	RC element, Rectifier	Rectifier
<b>Load side</b>		
Switch-on delay	< 17 ms	< 11 ms
Switch-off delay	< 35 ms	< 35 ms

**Ordering data**

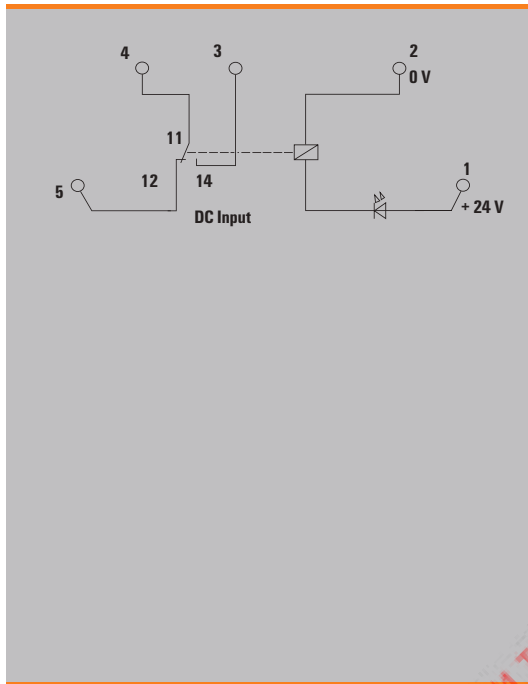
<b>Complete module</b>			
CO contact	Type	MCZ R 120VAC	MCZ R 230VAC
	Order No.	8420880000	8237710000
	Type		
	Order No.		

**Note**

**MCZ R TRAK**

**1 CO contact or 1 NO contact DC coil**

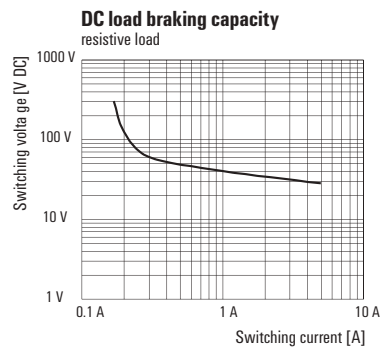
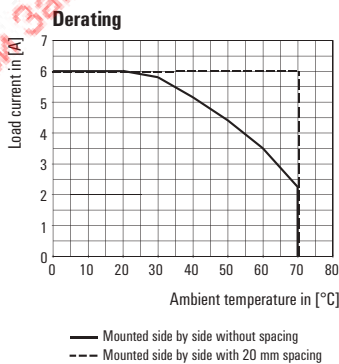
- 1 CO contact
- Component for rail industry applications
- Vibration requirements according to EN 61373, requirements category 1 class B
- Voltage fluctuations -30 %/+25 % and ±40 % for 0.1 sec
- Voltage interruptions at input up to 10 ms
- Condensation permissible



**Technical data**

Output	
Rated switching voltage / Continuous current	250 V AC / 6 A
Max. switching voltage, AC	250 V
Inrush current	6 A
Min. switching power	100 mA @ 12 V
DC / AC Switching capacity (resistive), max.	120 W @ 24 V / 1500 VA
Contact material	AgSnO
Mechanical service life	10 x 10 <sup>6</sup> switching cycles
Max. switching frequency at rated load	0.1 Hz
Rated data	
Ambient temperature (operational)	-25 °C...70 °C
Storage temperature	-40 °C...85 °C
Humidity	95 % for 30 days, minimal condensation to EN 50155
Approvals	CE, EAC
Insulation coordinates	
Rated voltage	300 V
Impulse withstand voltage	4 kV (1.2/50 µs)
Dielectric strength input - output	4 kV <sub>eff</sub> / 1 s
Dielectric strength of neighbouring contacts	
Dielectric strength to mounting rail	4 kV <sub>eff</sub> / 1 min.
Creepage and clearance distance input - output	≥ 5.5 mm
Overvoltage category	III
Pollution degree	2
Dimensions	
Clamping range (nominal / min. / max.)	mm <sup>2</sup> 1.5 / 0.5 / 1.5
Depth x width x height	mm 63.2 / 6.1 / 9.1
Tension clamp connection	
<b>Note</b> End plate AP MCZ 1.5: 8389030000 Accessories and dimensional drawings: refer to the MCZ Accessories page.	

**Applications**



**MCZ R TRAK**

1 CO contact or 1 NO contact DC coil

**Ordering data**

	24 V DC TRAK	36 V DC TRAK	48...110 V DC TRAK
<b>Input</b>			
Rated control voltage	24 V DC +25 % / -30 %	36 V DC +25 % / -30 %	48 V...110 V DC +25 % / -30 %
Rated current AC / DC	/ 11.5...16.5 mA	/ 8...12 mA	/ < 3 mA
Power rating	195...500 mW	200...540 mW	< 300 mW
Pull-in/drop-out voltage, typ.	14 V / 3 V DC	18 V / 4.5 V DC	25 V / 6 V DC
Pull-in/drop-out current, typ.			
Status indicator	Green LED	Green LED	Green LED
Protective circuit	Free-wheel diode, Varistor, Reverse polarity protection	Free-wheel diode, Varistor, Reverse polarity protection	Free-wheel diode, Varistor, Reverse polarity protection
<b>Load side</b>			
Switch-on delay	< 11 ms	< 6 ms	< 4 ms
Switch-off delay	< 50 ms	< 70 ms	< 100 ms

**Ordering data**

<b>Complete module</b>				
CO contact	Type	MCZ R 24Vdc 1CO TRAK	MCZ R 36Vdc 1CO TRAK	MCZ R 48...110Vdc 1CO TRAK
	Order No.	<b>8713890000</b>	<b>8713900000</b>	<b>8713910000</b>
NO contact	Type	MCZ R 24Vdc 1NO TRAK		MCZ R 48...110Vdc 1NO TRAK
	Order No.	<b>8499550000</b>		<b>8574070000</b>

**Note**

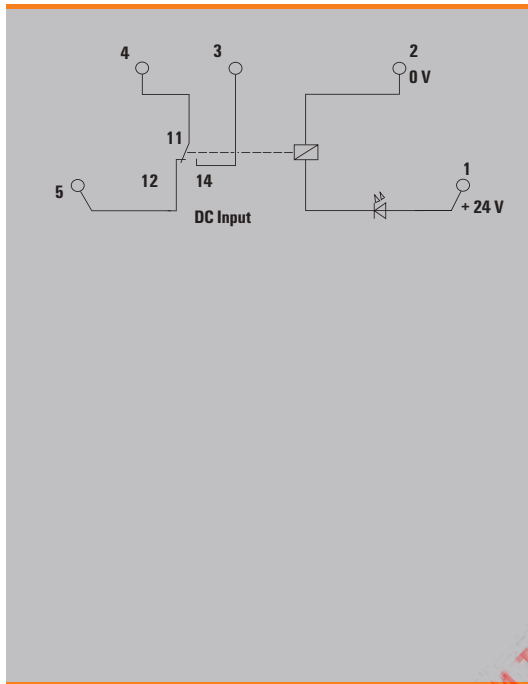
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в Беларусі Закаж г.Мінск вібер н тел. +37544 24780 email: min@tut.by www.tiristor.by

**MCZ R TRAK Au**

**1 CO contact DC coil**

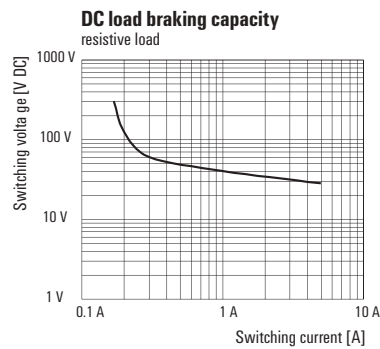
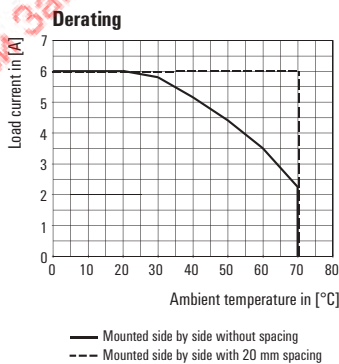
- 1 CO with hard gold-plated contacts
- Component for rail industry applications
- Vibration requirements according to EN 61373, requirements category 1 class B
- Voltage fluctuations -30 %/+25 % and ±40 % for 0.1 sec
- Voltage interruptions at input up to 10 ms
- Condensation permissible



**Technical data**

Output	
Rated switching voltage / Continuous current	250 V AC / 6 A
Max. switching voltage, AC	250 V
Inrush current	6 A
Min. switching power	1 mA @ 1 V
DC / AC Switching capacity (resistive), max.	120 W @ 24 V / 1500 VA
Contact material	AgSnO 5µm Au
Mechanical service life	10 x 10 <sup>6</sup> switching cycles
Max. switching frequency at rated load	0.1 Hz
Rated data	
Ambient temperature (operational)	-25 °C...70 °C
Storage temperature	-40 °C...85 °C
Humidity	95 % for 30 days, minimal condensation to EN 50155
Approvals	CE, EAC
Insulation coordinates	
Rated voltage	300 V
Impulse withstand voltage	4 kV (1.2/50 µs)
Dielectric strength input - output	4 kV <sub>eff</sub> / 1 s
Dielectric strength of neighbouring contacts	
Dielectric strength to mounting rail	4 kV <sub>eff</sub> / 1 min.
Creepage and clearance distance input - output	≥ 5.5 mm
Overvoltage category	III
Pollution degree	2
Dimensions	
Clamping range (nominal / min. / max.)	mm <sup>2</sup> 1.5 / 0.5 / 1.5
Depth x width x height	mm 63.2 / 6.1 / 9.1
Note	
End plate AP MCZ 1.5: 8389030000 Accessories and dimensional drawings: refer to the MCZ Accessories page.	

**Applications**



**MCZ R TRAK Au**  
**1 CO contact DC coil**

**Ordering data**

	24 V DC TRAK Au	36 V DC TRAK Au	48...110 V DC TRAK Au
<b>Input</b>			
Rated control voltage	24 V DC +25 % / -30 %	36 V DC +25 % / -30 %	48 V...110 V DC +25 % / -30 %
Rated current AC / DC	11.5...16.5 mA	8...12 mA	< 3 mA
Power rating	195...500 mW	200...540 mW	< 300 mW
Pull-in/drop-out voltage, typ.	14 V / 3 V DC	18 V / 4.5 V DC	25 V / 6 V DC
Pull-in/drop-out current, typ.			
Status indicator	Green LED	Green LED	Green LED
Protective circuit	Free-wheel diode, Varistor, Reverse polarity protection	Free-wheel diode, Varistor, Reverse polarity protection	Free-wheel diode, Varistor, Reverse polarity protection
<b>Load side</b>			
Switch-on delay	< 11 ms	< 6 ms	< 4 ms
Switch-off delay	< 50 ms	< 70 ms	< 100 ms

**Ordering data**

CO contact	Type	24 V DC TRAK Au	36 V DC TRAK Au	48...110 V DC TRAK Au
	Order No.	MCZ R 24VDC 1CO AU TRAK <b>8790520000</b>	MCZ R 36VDC 1CO AU TRAK <b>8790510000</b>	MCZ R 48...110VDC 1CO AU TRAK <b>8790500000</b>
	Type			
	Order No.			

**Note**

Can safely switch a load of: 1...60 V AC/DC, 1...300 mA. If higher loads are switched this can damage the gold plating.	Can safely switch a load of: 1...60 V AC/DC, 1...300 mA. If higher loads are switched this can damage the gold plating.	Can safely switch a load of: 1...60 V AC/DC, 1...300 mA. If higher loads are switched this can damage the gold plating.
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в Беларусі Закаў г.Мінск вібер н тел +37544 724780 email: min@tut.by www.tiristor.by

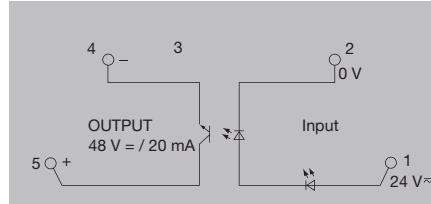
**MCZ-SERIES – solid-state relays**

**MiniConditioner MCZ 0**

- Universal interface between controller and sensor/ actuator
- Tension-clamp connection system
- Plug-in cross-connection
- 6 mm modular wide

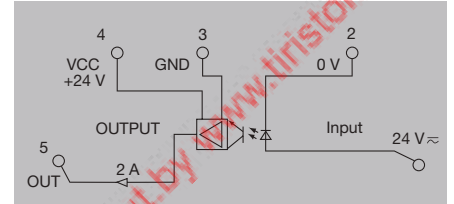
**24 V UC**

**Connection system**



**24 V UC / 24 V 2 A**

**Connection system**



**Technical data**

Control side	
Rated control voltage	24 V UC ±20 %
Nominal control current	10 mA DC ±20 %, 10 mA AC ±20 %
Cut-in / dropout voltage	14.4 V / 13 V AC 16.8 V / 15.7 V DC
Input frequency	AC: 5 Hz / DC: 10 Hz
Power rating	230 mW / 280 mVA
Status indicator	Green LED
Protective circuit	
Load side	
Rated switching voltage	5...48 V DC
Continuous current	20 mA
Inrush current	
Solid-state type	Transistor
Voltage drop at max. load	≤ 1 V
Leakage current	
Protective circuit, load side	Free-wheel diode
Short-circuit-proof	No
Switch-on delay	AC: 10 ms / DC: 20 ms
Switch-off delay	AC: 45 ms / DC: 40 ms
General data	
Ambient temperature (operational)	-25 °C...50 °C
Storage temperature	-40 °C...85 °C
Humidity	40 °C / 93 % rel. humidity, no condensation
Approvals	CE; CSA; cURus; EAC
Insulation coordinates	
Rated voltage	300 V
Impulse withstand voltage	6 kV (1.2/50 µs)
Dielectric strength for control side - load side	1 kV <sub>eff</sub> / 1 s
Dielectric strength to mounting rail	4 kV <sub>eff</sub> / 1 min.
Clearance and creepage distances for control side - load side	≥ 5.5 mm
Overvoltage category	III
Pollution degree	2
Dimensions	
Clamping range (nominal / min. / max.)	mm <sup>2</sup>
Depth x width x height	mm
Note	

Rated control voltage	24 V UC ±20 %
Nominal control current	10 mA DC ±20 %, 10 mA AC ±20 %
Cut-in / dropout voltage	14.4 V / 13 V AC 16.8 V / 15.7 V DC
Input frequency	AC: 5 Hz / DC: 10 Hz
Power rating	230 mW / 280 mVA
Status indicator	Green LED
Protective circuit	
Rated switching voltage	5...48 V DC
Continuous current	20 mA
Inrush current	
Solid-state type	Transistor
Voltage drop at max. load	≤ 1 V
Leakage current	
Protective circuit, load side	Free-wheel diode
Short-circuit-proof	No
Switch-on delay	AC: 10 ms / DC: 20 ms
Switch-off delay	AC: 45 ms / DC: 40 ms
Ambient temperature (operational)	-25 °C...50 °C
Storage temperature	-40 °C...85 °C
Humidity	40 °C / 93 % rel. humidity, no condensation
Approvals	CE; CSA; cURus; EAC
Rated voltage	300 V
Impulse withstand voltage	6 kV (1.2/50 µs)
Dielectric strength for control side - load side	1 kV <sub>eff</sub> / 1 s
Dielectric strength to mounting rail	4 kV <sub>eff</sub> / 1 min.
Clearance and creepage distances for control side - load side	≥ 5.5 mm
Overvoltage category	III
Pollution degree	2
Tension clamp connection	
Clamping range (nominal / min. / max.)	1.5 / 0.5 / 1.5
Depth x width x height	63.2 / 6.1 / 91

Rated control voltage	24 V UC ±20 %
Nominal control current	10 mA DC ±20 %, 10 mA AC ±20 %
Cut-in / dropout voltage	14.4 V / 13 V AC 15 V / 15 V DC
Input frequency	AC: 10 Hz / DC: 30 Hz
Power rating	195 mW / 220 mVA
Status indicator	LED
Protective circuit	
Rated switching voltage	24 VDC ±20%
Continuous current	2 A
Inrush current	
Solid-state type	Transistor
Voltage drop at max. load	≤ 1.8 V
Leakage current	
Protective circuit, load side	Varistor
Short-circuit-proof	Yes
Switch-on delay	≤ 10 ms
Switch-off delay	≤ 10 ms
Ambient temperature (operational)	-25 °C...40 °C
Storage temperature	-40 °C...60 °C
Humidity	40 °C / 93 % rel. humidity, no condensation
Approvals	CE; CSA; cURus; EAC
Rated voltage	300 V
Impulse withstand voltage	6 kV (1.2/50 µs)
Dielectric strength for control side - load side	1 kV <sub>eff</sub> / 1 s
Dielectric strength to mounting rail	4 kV <sub>eff</sub> / 1 min.
Clearance and creepage distances for control side - load side	≥ 5.5 mm
Overvoltage category	III
Pollution degree	2
Tension clamp connection	
Clamping range (nominal / min. / max.)	1.5 / 0.5 / 1.5
Depth x width x height	63.2 / 6.1 / 91

\* Status indicator: green = OK, yellow = partial short circuit, blinking red = short circuit

**Ordering data**

Tension-clamp connection	
Note	

Type	Qty.	Order No.
MCZ 0 24VUC	10	8365940000
Note		

Type	Qty.	Order No.
MCZ 0 24VUC	10	8287730000
Note		

**Accessories**

Note
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End plate AP MCZ 1.5: 8389030000 Accessories and dimensional drawings: refer to the MCZ Accessories page.
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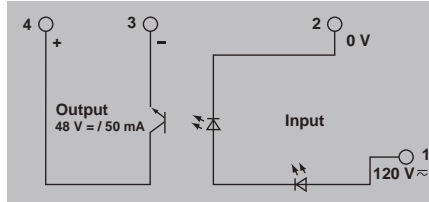
End plate AP MCZ 1.5: 8389030000 Accessories and dimensional drawings: refer to the MCZ Accessories page.
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**MiniConditioner MCZ O**

- Universal interface between controller and sensor/ actuator
- Tension-clamp connection system
- Plug-in cross-connection
- 6 mm modular wide

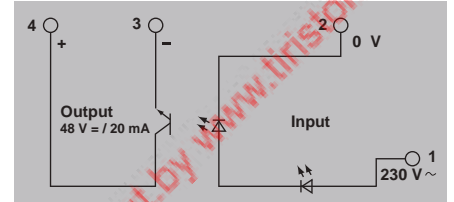
**120 V UC**

**Connection system**



**230 V AC**

**Connection system**



**Technical data**

Control side	
Rated control voltage	120 V UC +5 / -15 %
Nominal control current	3 mA DC (±10 %), 3 mA AC (±10 %)
Cut-in / dropout voltage	65 V / 64 V AC 70 V / 64 V DC
Input frequency	AC: 5 Hz / DC: 20 Hz
Power rating	350 mW / 400 mVA
Status indicator	Green LED
Protective circuit	
Load side	
Rated switching voltage	5...48 V DC
Continuous current	50 mA
Inrush current	
Solid-state type	Transistor
Voltage drop at max. load	1.6 V
Leakage current	≤ 1 mA
Protective circuit, load side	Free-wheel diode
Short-circuit-proof	No
Switch-on delay	≤ 30 ms
Switch-off delay	≤ 40 ms
General data	
Ambient temperature (operational)	-25 °C...40 °C
Storage temperature	-40 °C...60 °C
Humidity	40 °C / 93 % rel. humidity, no condensation
Approvals	CE; CSA; cURus; EAC
Insulation coordinates	
Rated voltage	300 V
Impulse withstand voltage	6 kV (1.2/50 µs)
Dielectric strength for control side - load side	1 kV <sub>eff</sub> / 1 s
Dielectric strength to mounting rail	4 kV <sub>eff</sub> / 1 min.
Clearance and creepage distances for control side - load side	≥ 5.5 mm
Overvoltage category	III
Pollution degree	2

Rated control voltage	120 V UC +5 / -15 %
Nominal control current	3 mA DC (±10 %), 3 mA AC (±10 %)
Cut-in / dropout voltage	65 V / 64 V AC 70 V / 64 V DC
Input frequency	AC: 5 Hz / DC: 20 Hz
Power rating	350 mW / 400 mVA
Status indicator	Green LED
Protective circuit	
Rated switching voltage	5...48 V DC
Continuous current	50 mA
Inrush current	
Solid-state type	Transistor
Voltage drop at max. load	1.6 V
Leakage current	≤ 1 mA
Protective circuit, load side	Free-wheel diode
Short-circuit-proof	No
Switch-on delay	≤ 30 ms
Switch-off delay	≤ 40 ms
Ambient temperature (operational)	-25 °C...40 °C
Storage temperature	-40 °C...60 °C
Humidity	40 °C / 93 % rel. humidity, no condensation
Approvals	CE; CSA; cURus; EAC
Rated voltage	300 V
Impulse withstand voltage	6 kV (1.2/50 µs)
Dielectric strength for control side - load side	1 kV <sub>eff</sub> / 1 s
Dielectric strength to mounting rail	4 kV <sub>eff</sub> / 1 min.
Clearance and creepage distances for control side - load side	≥ 5.5 mm
Overvoltage category	III
Pollution degree	2

Rated control voltage	230 V AC +5 % / -15 %
Nominal control current	10 mA AC ±20 %
Cut-in / dropout voltage	175 V / 125 V AC
Input frequency	AC: 5 Hz duty factor 1:2
Power rating	2.3 VA
Status indicator	Green LED
Protective circuit	
Rated switching voltage	5...48 V DC
Continuous current	20 mA
Inrush current	
Solid-state type	Transistor
Voltage drop at max. load	1.6 V
Leakage current	≤ 1 mA
Protective circuit, load side	Free-wheel diode
Short-circuit-proof	No
Switch-on delay	≤ 30 ms
Switch-off delay	≤ 40 ms
Ambient temperature (operational)	-25 °C...40 °C
Storage temperature	-40 °C...60 °C
Humidity	40 °C / 93 % rel. humidity, no condensation
Approvals	CE; CSA; cURus; EAC
Rated voltage	300 V
Impulse withstand voltage	6 kV (1.2/50 µs)
Dielectric strength for control side - load side	1 kV <sub>eff</sub> / 1 s
Dielectric strength to mounting rail	4 kV <sub>eff</sub> / 1 min.
Clearance and creepage distances for control side - load side	≥ 5.5 mm
Overvoltage category	III
Pollution degree	2

**Dimensions**

Clamping range (nominal / min. / max.)	mm <sup>2</sup>
Depth x width x height	mm

**Note**

**Tension clamp connection**

1.5 / 0.5 / 1.5
63.2 / 6.1 / 91

**Tension clamp connection**

1.5 / 0.5 / 1.5
63.2 / 6.1 / 91

**Ordering data**

Tension-clamp connection
--------------------------

Type	Qty.	Order No.
MCZ O 120VUC	10	8421060000

Type	Qty.	Order No.
MCZ O 230VAC	10	8421380000

**Note**

**Accessories**

<b>Note</b>
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End plate AP MCZ 1.5: 8389030000 Accessories and dimensional drawings: refer to the MCZ Accessories page.
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End plate AP MCZ 1.5: 8389030000 Accessories and dimensional drawings: refer to the MCZ Accessories page.
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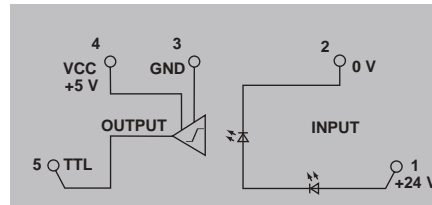
**MCZ-SERIES – solid-state relays**

**MiniConditioner MCZ 0**

- Universal interface between controller and sensor/ actuator
- Tension-clamp connection system
- Plug-in cross-connection
- 6 mm modular wide

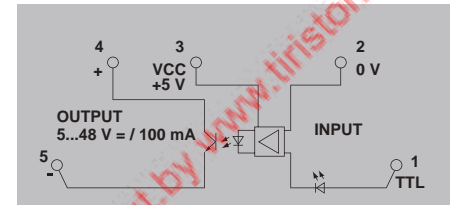
**24 V DC / 5 V TTL**

**Connection system**



**5 V TTL / 5...48 V DC**

**Connection system**



**Technical data**

Control side	
Rated control voltage	24 V DC ±16 %
Nominal control current	5 mA DC (±20 %)
Cut-in / dropout voltage	16.8 V / 16.5 V DC
Input frequency	100 kHz
Power rating	112 mW
Status indicator	Green LED
Protective circuit	
Load side	
Rated switching voltage	5 V TTL
Continuous current	8 ma, Fan out = 20 LS-TTL
Inrush current	
Solid-state type	TTL
Voltage drop at max. load	
Leakage current	
Protective circuit, load side	
Short-circuit-proof	No
Switch-on delay	1 µs (at 20 V DC)
Switch-off delay	2.5 µs (at 28 V DC)
General data	
Ambient temperature (operational)	-25 °C...40 °C
Storage temperature	-40 °C...60 °C
Humidity	40 °C / 93 % rel. humidity, no condensation
Approvals	CE, CSA; cURus; EAC
Insulation coordinates	
Rated voltage	300 V
Impulse withstand voltage	6 kV (1.2/50 µs)
Dielectric strength for control side - load side	1 kV <sub>eff</sub> / 1 s
Dielectric strength to mounting rail	4 kV <sub>eff</sub> / 1 min.
Clearance and creepage distances for control side - load side	≥ 5.5 mm
Overvoltage category	III
Pollution degree	2

Dimensions	
Clamping range (nominal / min. / max.)	mm <sup>2</sup>
Depth x width x height	mm
Note	

**Ordering data**

Tension-clamp connection
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**Note**

**Accessories**

<b>Note</b>	End plate AP MCZ 1.5: 8389030000 Accessories and dimensional drawings: refer to the MCZ Accessories page.
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Control side	
Rated control voltage	24 V DC ±16 %
Nominal control current	5 mA DC (±20 %)
Cut-in / dropout voltage	16.8 V / 16.5 V DC
Input frequency	100 kHz
Power rating	112 mW
Status indicator	Green LED
Protective circuit	
Load side	
Rated switching voltage	5 V TTL
Continuous current	8 ma, Fan out = 20 LS-TTL
Inrush current	
Solid-state type	TTL
Voltage drop at max. load	
Leakage current	
Protective circuit, load side	
Short-circuit-proof	No
Switch-on delay	1 µs (at 20 V DC)
Switch-off delay	2.5 µs (at 28 V DC)
General data	
Ambient temperature (operational)	-25 °C...40 °C
Storage temperature	-40 °C...60 °C
Humidity	40 °C / 93 % rel. humidity, no condensation
Approvals	CE, CSA; cURus; EAC
Insulation coordinates	
Rated voltage	300 V
Impulse withstand voltage	6 kV (1.2/50 µs)
Dielectric strength for control side - load side	1 kV <sub>eff</sub> / 1 s
Dielectric strength to mounting rail	4 kV <sub>eff</sub> / 1 min.
Clearance and creepage distances for control side - load side	≥ 5.5 mm
Overvoltage category	III
Pollution degree	2

Tension clamp connection	
Clamping range (nominal / min. / max.)	mm <sup>2</sup>
Depth x width x height	mm
Note	

Type	Qty.	Order No.
MCZ 0 24VDC	10	8324610000

**Note**

Control side	
Rated control voltage	5 V TTL
Nominal control current	1.65 mA DC
Cut-in / dropout voltage	
Input frequency	2.4 kHz
Power rating	10 mW
Status indicator	Green LED
Protective circuit	
Load side	
Rated switching voltage	5...48 V DC
Continuous current	100 mA
Inrush current	
Solid-state type	TTL
Voltage drop at max. load	≤ 1.8 V
Leakage current	
Protective circuit, load side	
Short-circuit-proof	No
Switch-on delay	< 17 µs
Switch-off delay	< 250 µs
General data	
Ambient temperature (operational)	-25 °C...40 °C
Storage temperature	-40 °C...60 °C
Humidity	40 °C / 93 % rel. humidity, no condensation
Approvals	CE, CSA; cURus; EAC
Insulation coordinates	
Rated voltage	300 V
Impulse withstand voltage	6 kV (1.2/50 µs)
Dielectric strength for control side - load side	1 kV <sub>eff</sub> / 1 s
Dielectric strength to mounting rail	4 kV <sub>eff</sub> / 1 min.
Clearance and creepage distances for control side - load side	≥ 5.5 mm
Overvoltage category	III
Pollution degree	2

Tension clamp connection	
Clamping range (nominal / min. / max.)	mm <sup>2</sup>
Depth x width x height	mm
Note	

Type	Qty.	Order No.
MCZ 0 5VTTL	10	8398940000

**Note**

<b>Note</b>	End plate AP MCZ 1.5: 8389030000 Accessories and dimensional drawings: refer to the MCZ Accessories page.
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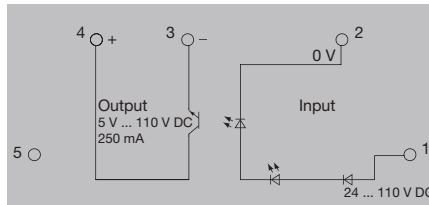


**MCZ O TRAK**

- Component for railway engineering
- Meets the requirements of EN 50155
- Voltage fluctuations of -30% / +25%
- Operating temperature: -25 °C...+70 °C (85 °C / 10 min.) acc. to EN 50155
- Condensation permissible

**24 V DC TRAK**

**Connection system**



**Technical data**

**Control side**

Rated control voltage  
Nominal control current  
Cut-in / dropout voltage

24...110 V DC -30 / +25 %  
2.8 mA DC  
14 V / 13.5 V DC

Input frequency  
Power rating  
Status indicator  
Protective circuit

10 Hz  
Green LED

**Load side**

Rated switching voltage  
Continuous current  
Inrush current  
Solid-state type  
Voltage drop at max. load  
Leakage current  
Protective circuit, load side  
Short-circuit-proof  
Switch-on delay  
Switch-off delay

5...137.5 V DC  
250 mA @ 50 °C  
Transistor  
≤ 1.7 V  
Varistor, Free-wheel diode  
No  
≤ 10 ms  
≤ 50 ms

**General data**

Ambient temperature (operational)  
Storage temperature  
Humidity  
Approvals

25 °C...70 °C  
-40 °C...85 °C  
95 % for 30 days, minimal condensation to EN 50155  
CE, EAC

**Insulation coordinates**

Rated voltage  
Impulse withstand voltage  
Dielectric strength for control side - load side  
Dielectric strength to mounting rail  
Clearance and creepage distances for control side - load side  
Overvoltage category  
Pollution degree

300 V  
6 kV (1.2/50 µs)  
1 kV<sub>eff</sub> / 1 s  
4 kV<sub>eff</sub> / 1 min.  
≥ 5.5 mm  
III  
2

**Dimensions**

Clamping range (nominal / min. / max.) mm<sup>2</sup>  
Depth x width x height mm

**Tension clamp connection**

1.5 / 0.5 / 1.5  
63.2 / 6.1 / 91

**Note**

**Ordering data**

Tension-clamp connection

Type	Qty.	Order No.
MCZ O TRAK 24.110VDC	10	8820710000

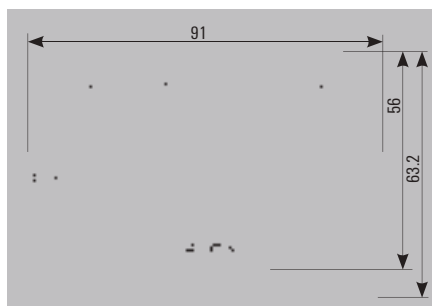
**Note**

**Accessories**

**Note**

End plate AP MCZ 1.5: 8389030000  
Accessories and dimensional drawings: refer to the MCZ Accessories page.

MCZ accessories



Ordering data

End plate
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Type	Qty.	Order No.
AP MCZ 1.5	50	8389030000



Ordering data

	No. of poles
Plug-in cross-connection, yellow	2
Plug-in cross-connection, yellow	3
Plug-in cross-connection, yellow	4
Plug-in cross-connection, yellow	10
Plug-in cross-connection, yellow	20
<b>red</b>	
Plug-in cross-connection, red	2
Plug-in cross-connection, red	3
Plug-in cross-connection, red	4
Plug-in cross-connection, red	10
Plug-in cross-connection, red	20
<b>blue</b>	
Plug-in cross-connection, blue	2
Plug-in cross-connection, blue	3
Plug-in cross-connection, blue	4
Plug-in cross-connection, blue	10
Plug-in cross-connection, blue	20
<b>black</b>	
Plug-in cross-connection, black	2
Plug-in cross-connection, black	3
Plug-in cross-connection, black	4
Plug-in cross-connection, black	10
Plug-in cross-connection, black	20

Type	Qty.	Order No.
ZQV 4N / 2 GE	60	1758250000
ZQV 4N / 3 GE	60	1762630000
ZQV 4N / 4 GE	60	1762620000
ZQV 4N / 10 GE	20	1758260000
ZQV 4N / 20 GE	20	1909020000
<b>red</b>		
ZQV 4N / 2 RT	60	1793950000
ZQV 4N / 3 RT	60	1793980000
ZQV 4N / 4 RT	60	1794010000
ZQV 4N / 10 RT	20	1794040000
ZQV 4N / 20 RT	20	1909150000
<b>blue</b>		
ZQV 4N / 2 BL	60	1793960000
ZQV 4N / 3 BL	60	1793990000
ZQV 4N / 4 BL	60	1794020000
ZQV 4N / 10 BL	20	1794050000
ZQV 4N / 20 BL	20	1909100000
<b>black</b>		
ZQV 4N / 2 SW	60	1793970000
ZQV 4N / 3 SW	60	1794000000
ZQV 4N / 4 SW	60	1794030000
ZQV 4N / 10 SW	20	1794060000
ZQV 4N / 20 SW	20	1909120000



Ordering data

Terminal markers
Screwdriver
End bracket

Type	Qty.	Order No.
WS 10/6 MC NEUTRAL	600	1828450000
SDS 0.6x3.5x100	1	9008330000
WEW 35/2	100	1061200000

# Industrial relay modules

<b>Industrial relay modules</b>	Industrial relay modules - Overview	B.2
	D-SERIES - Overview	B.4
	D-SERIES - relay modules	B.6
	RIDERSERIES - Overview	B.58
	RIDERSERIES - relay modules	B.60
	RIDERSERIES FG - Overview	B.94
	RIDERSERIES FG - relay module with forcibly guided contacts	B.96

## Industrial relay module with the proven connection technology

### Easy handling and safe connections

#### B

Weidmüller's relay bases are remarkable for their secure connection systems and their ease of use during wiring and installation. Pluggable cross-connection and the extra-quick PUSH IN connection help you to further reduce wiring times. In combination with the established relay technology, our industrial relay modules provide users with excellent reliability and service convenience. The wide range of relay modules provides the right solution for every industrial application.





в Беларуси Заказ г.Минск viber и тел. +375447584780 email: minsk17@tut.by www.tiristor.by

## A long service life is a key factor in a wide range of industrial applications

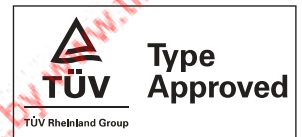
D-SERIES relay modules deliver impressively long-lasting high performance

### B

In many industrial applications, voltages between 110 and 220 V are used to control actuators. Load currents greater than 100 mA cause these high voltages to create wear-intensive light arcs on the relay contacts.

We have specially designed our D-SERIES relay modules for all-purpose use in a wide range of industrial applications. They are much more reliable than conventional solutions and so help to minimise maintenance and replacement costs.

The formation of light arcs is effectively avoided with D-SERIES products thanks to contact series connection, built-in blow magnets and low-wear contacts – for a noticeably longer service life.



#### Reliable at high currents and voltages

Requirements increase where current consumption is high. D-SERIES industrial relay modules are used where high voltages and load currents impact on the actuators. For example, when motors, solenoid valves or brakes are actuated in machine construction.

**For convenient servicing**

Optional LED status indicator and test button.

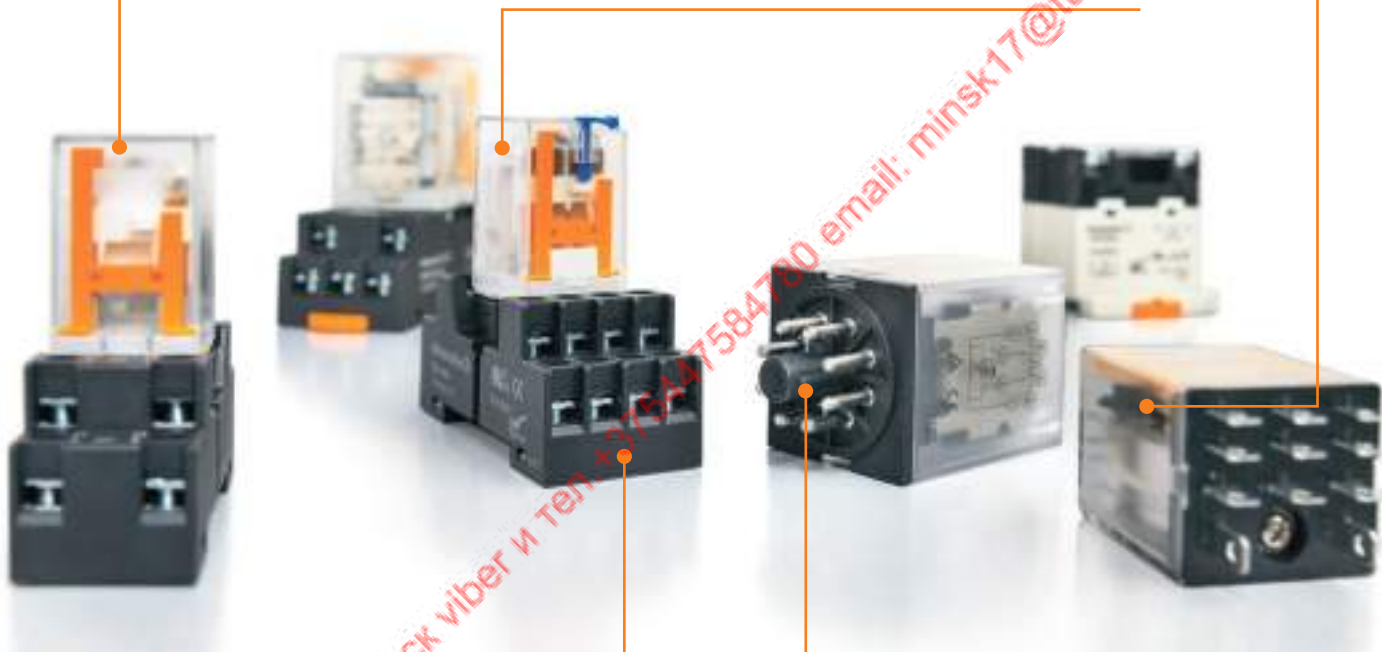


**With a long service life**

The smart contact series connection and a built-in blow magnet reduce the contact erosion at loads of up to 220 V DC/10 A.

**Contacts for every application**

Thanks to various contact materials (AgNi, AgSnO, AgCdO), the products of the D-SERIES are equipped for small, medium and high loads.



**With extensive accessories**

Flexible in use thanks to relay bases, markers and pluggable circuits (e.g. LED or free-wheel diode).



**For every control voltage**

The wide range of coil voltages from 5 V DC – 380 V AC enable them to be used on any control voltage imaginable.



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**D-SERIES – relay modules**

**DRI KIT**

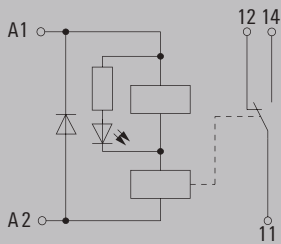
**1 CO contact, AC/DC coil**

- Assembled kit comprising relay, base and retaining clip, incl. Label
- 100% function-tested
- 100% monitoring of the dielectric strength input - output
- Optional: test button with coloured control voltage marking (AC coil: red / DC coil: blue) and mechanical switch position indicator
- Bright status LED (AC coil: red / DC coil: green)

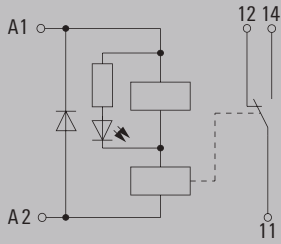


**Circuit diagram**

**DC coil LED+diode**



**AC coil LED:**

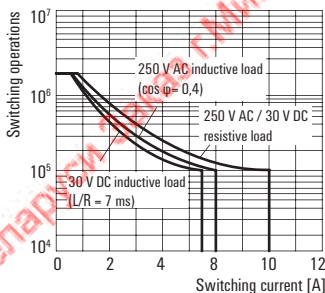


**Technical data**

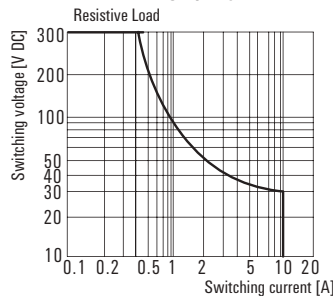
Output	
Rated switching voltage / Continuous current	250 V AC / 10 A
Max. switching voltage, AC	250 V
Min. switching power	10 mA @ 12 V, 100 mA @ 5 V
DC / AC Switching capacity (resistive), max.	240 W @ 24 V / 2500 VA
Contact material	AgNi
Mechanical service life	10 x 10 <sup>6</sup> switching cycles
Max. switching frequency at rated load	0.1 Hz
Rated data	
Ambient temperature (operational)	-40 °C...55 °C
Storage temperature	-40 °C...85 °C
Humidity	35...85 % rel. humidity, no condensation
Approvals	CE
Insulation coordinates	
Rated voltage	250 V
Impulse withstand voltage	4.8 kV (1.2/50 µs)
Dielectric strength input - output	4 kV <sub>eff</sub> / 1 min.
Dielectric strength of neighbouring contacts	
Dielectric strength to mounting rail	
Creepage and clearance distance input - output	≥ 3 mm
Overvoltage category	III
Pollution degree	2
Dimensions	
Clamping range (nominal / min. / max.)	mm <sup>2</sup> 1.5 / 0.25 / 4
Depth x width x height	see dimensioned drawing
Screw connection	
see dimensioned drawing	
Note	

**Applications**

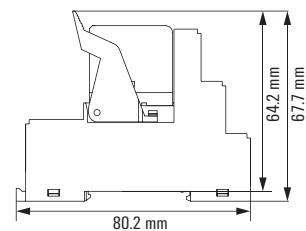
**Electrical endurance**



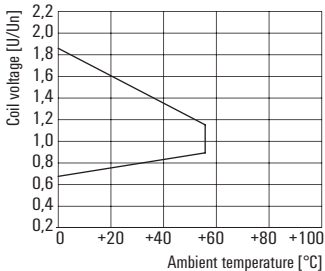
**DC load braking capacity**



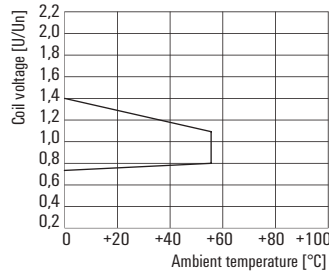
**Dimensioned drawing without test button**



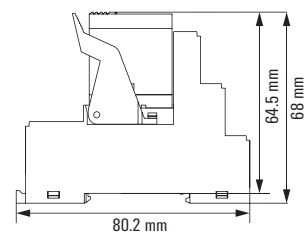
**Operating voltage range [DC]**



**Operating voltage range [AC]**



**Dimensioned drawing with test button**





**DRI KIT**  
**1 CO contact, AC/DC coil**

<b>Type code</b>	DRIKIT			
<b>Type</b>	DRIKIT			
<b>Coil voltage</b>	12VDC	24VAC		
	24VDC	115VAC		
	48VDC	230VAC		
	110VDC			
<b>Type of contact</b>	1CO	1 Change over / SPDT		
	2CO	2 Change over / DPDT		
<b>Status LED / protective circuit</b>	LD	DC coil: LED green + free wheeling diode		
		AC coil: LED red		
<b>Test button</b>	/PB	DC coil: Test button blue		
		AC coil: Test button red		
		Blank: No test button		

**Ordering data**

	12 V DC 1CO	24 V DC 1CO	48 V DC 1CO	110 V DC 1CO
<b>Input</b>				
Rated control voltage	12 V DC	24 V DC	48 V DC	110 V DC
Rated current AC / DC	/ 44,4 mA	/ 21,8 mA	/ 11,2 mA	/ 4,8 mA
Power rating	530 mW	530 mW	530 mW	530 mW
Pull-in/drop-out voltage, typ.	9 V / 1.8 V DC	18 V / 3.6 V DC	36 V / 7.2 V DC	82.5 V / 16.5 V DC
Status indicator	Green LED	Green LED	Green LED	Green LED
Protective circuit	Free-wheel diode	Free-wheel diode	Free-wheel diode	Free-wheel diode
<b>Output</b>				
Switch-on delay	≤ 15 ms	≤ 15 ms	≤ 15 ms	≤ 15 ms
Switch-off delay	≤ 10 ms	≤ 10 ms	≤ 10 ms	≤ 10 ms

Ordering data					
with test button	Type	DRIKIT 12VDC 1CO LD/PB	DRIKIT 24VDC 1CO LD/PB	DRIKIT 48VDC 1CO LD/PB	DRIKIT 110VDC 1CO LD/PB
	Order No.	<b>2476740000</b>	<b>2476750000</b>	<b>2476760000</b>	<b>2476770000</b>
without test button	Type	DRIKIT 12VDC 1CO LD	DRIKIT 24VDC 1CO LD	DRIKIT 48VDC 1CO LD	DRIKIT 110VDC 1CO LD
	Order No.	<b>2476340000</b>	<b>2476680000</b>	<b>2476690000</b>	<b>2476700000</b>
	Type				
	Order No.				
	Type				
	Order No.				

Note				

**Ordering data**

	24 V AC 1CO	115 V AC 1CO	230 V AC 1CO
<b>Input</b>			
Rated control voltage	24 V AC	115 V AC	230 V AC
Rated current AC / DC	50 mA /	9.3 mA /	4,9 mA /
Power rating	1.2 VA	1.1 VA	1.1 VA
Pull-in/drop-out voltage, typ.	19.2 V / 7.2 V AC	92 V / 34.5 V AC	184 V / 69 V AC
Status indicator	red LED	red LED	red LED
Protective circuit			
<b>Output</b>			
Switch-on delay	≤ 15 ms	≤ 15 ms	≤ 15 ms
Switch-off delay	≤ 10 ms	≤ 10 ms	≤ 10 ms

Ordering data				
with test button	Type	DRIKIT 24VAC 1CO LD/PB	DRIKIT 115VAC 1CO LD/PB	DRIKIT 230VAC 1CO LD/PB
	Order No.	<b>2476780000</b>	<b>2476790000</b>	<b>2476800000</b>
without test button	Type	DRIKIT 24VAC 1CO LD	DRIKIT 115VAC 1CO LD	DRIKIT 230VAC 1CO LD
	Order No.	<b>2476710000</b>	<b>2476720000</b>	<b>2476730000</b>
	Type			
	Order No.			
	Type			
	Order No.			

Note			

**D-SERIES – relay modules**

**DRI KIT**

**2 CO contact, AC/DC coil**

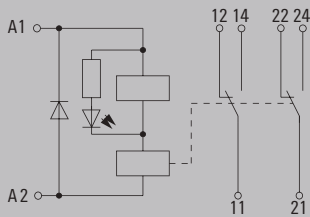
- Assembled kit comprising relay, base and retaining clip, incl. Label
- 100% function-tested
- 100% monitoring of the dielectric strength input - output
- Optional: test button with coloured control voltage marking (AC coil: red / DC coil: blue) and mechanical switch position indicator
- Bright status LED (AC coil: red / DC coil: green)



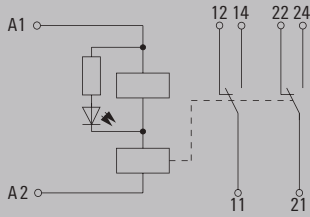
**B**

**Circuit diagram**

**DC coil LED+diode**



**AC coil LED:**

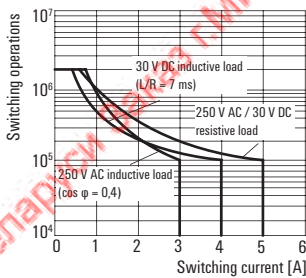


**Technical data**

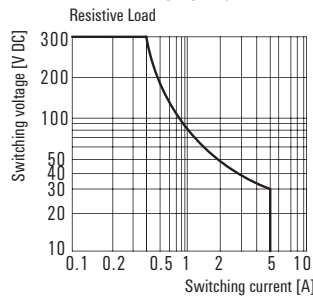
Output	
Rated switching voltage / Continuous current	250 V AC / 5 A
Max. switching voltage, AC	250 V
Min. switching power	10 mA @ 12 V, 100 mA @ 5 V
DC / AC Switching capacity (resistive), max.	150 W @ 24 V / 1250 VA
Contact material	AgNi
Mechanical service life	10 x 10 <sup>6</sup> switching cycles
Max. switching frequency at rated load	0.1 Hz
Rated data	
Ambient temperature (operational)	-40 °C...55 °C
Storage temperature	-40 °C...85 °C
Humidity	35...85 % rel. humidity, no condensation
Approvals	CE
Insulation coordinates	
Rated voltage	250 V
Impulse withstand voltage	4.8 kV (1.2/50 µs)
Dielectric strength input - output	4 kV <sub>eff</sub> / 1 min
Dielectric strength of neighbouring contacts	1.5 kV <sub>eff</sub> / 1 min.
Dielectric strength to mounting rail	
Creepage and clearance distance input - output	≥ 3 mm
Overvoltage category	III
Pollution degree	2
Dimensions	
Clamping range (nominal / min. / max.)	mm <sup>2</sup> 1.5 / 0.25 / 4
Depth x width x height	see dimensioned drawing
Screw connection	
see dimensioned drawing	
Note	

**Applications**

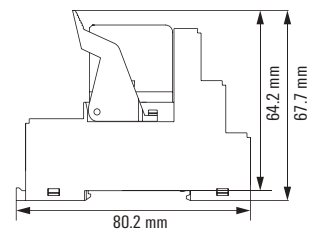
**Electrical endurance**



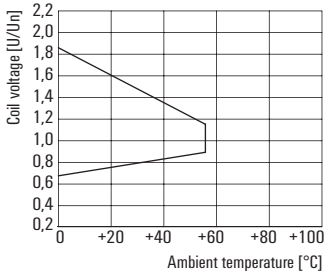
**DC load braking capacity**



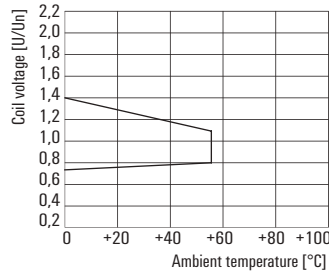
**Dimensioned drawing without test button**



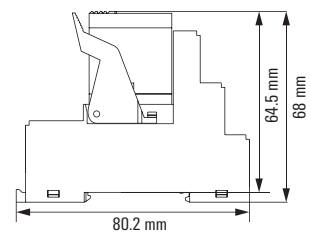
**Operating voltage range [DC]**



**Operating voltage range [AC]**



**Dimensioned drawing with test button**



**DRI KIT**  
**2 CO contact, AC/DC coil**

<b>Type code</b>	DRIKIT				
<b>Type</b>	DRIKIT				
<b>Coil voltage</b>	12VDC	24VAC			
	24VDC	115VAC			
	48VDC	230VAC			
	110VDC				
<b>Type of contact</b>	1CO	1 Change over / SPDT			
	2CO	2 Change over / DPDT			
<b>Status LED / protective circuit</b>	LD	DC coil: LED green + free wheeling diode			
		AC coil: LED red			
<b>Test button</b>	/PB	DC coil: Test button blue			
		AC coil: Test button red			
		Blank: No test button			

**Ordering data**

	12 V DC 2CO	24 V DC 2CO	48 V DC 2CO	110 V DC 2CO
<b>Input</b>				
Rated control voltage	12 V DC	24 V DC	48 V DC	110 V DC
Rated current AC / DC	/ 44,4 mA	/ 21,8 mA	/ 11,2 mA	/ 4,8 mA
Power rating	530 mW	530 mW	530 mW	530 mW
Pull-in/drop-out voltage, typ.	9 V / 1.8 V DC	18 V / 3.6 V DC	36 V / 7.2 V DC	82.5 V / 16.5 V DC
Status indicator	Green LED	Green LED	Green LED	Green LED
Protective circuit	Free-wheel diode	Free-wheel diode	Free-wheel diode	Free-wheel diode
<b>Output</b>				
Switch-on delay	≤ 15 ms	≤ 15 ms	≤ 15 ms	≤ 15 ms
Switch-off delay	≤ 10 ms	≤ 10 ms	≤ 10 ms	≤ 10 ms

Ordering data					
with test button	Type	DRIKIT 12VDC 2CO LD/PB	DRIKIT 24VDC 2CO LD/PB	DRIKIT 48VDC 2CO LD/PB	DRIKIT 110VDC 2CO LD/PB
	Order No.	<b>2476880000</b>	<b>2476890000</b>	<b>2476900000</b>	<b>2476910000</b>
without test button	Type	DRIKIT 12VDC 2CO LD	DRIKIT 24VDC 2CO LD	DRIKIT 48VDC 2CO LD	DRIKIT 110VDC 2CO LD
	Order No.	<b>2476810000</b>	<b>2476820000</b>	<b>2476830000</b>	<b>2476840000</b>
	Type				
	Order No.				
	Type				
	Order No.				

Note				

**Ordering data**

	24 V AC 2CO	115 V AC 2CO	230 V AC 2CO
<b>Input</b>			
Rated control voltage	24 V AC	115 V AC	230 V AC
Rated current AC / DC	50 mA /	9.3 mA /	4,9 mA /
Power rating	1.2 VA	1.1 VA	1.1 VA
Pull-in/drop-out voltage, typ.	19.2 V / 7.2 V AC	92 V / 34.5 V AC	184 V / 69 V AC
Status indicator	red LED	red LED	red LED
Protective circuit			
<b>Output</b>			
Switch-on delay	≤ 15 ms	≤ 15 ms	≤ 15 ms
Switch-off delay	≤ 10 ms	≤ 10 ms	≤ 10 ms

Ordering data				
with test button	Type	DRIKIT 24VAC 2CO LD/PB	DRIKIT 115VAC 2CO LD/PB	DRIKIT 230VAC 2CO LD/PB
	Order No.	<b>2476920000</b>	<b>2476930000</b>	<b>2476940000</b>
without test button	Type	DRIKIT 24VAC 2CO LD	DRIKIT 115VAC 2CO LD	DRIKIT 230VAC 2CO LD
	Order No.	<b>2476850000</b>	<b>2476860000</b>	<b>2476870000</b>
	Type			
	Order No.			
	Type			
	Order No.			

Note			

**D-SERIES – relay modules**

**DRI relay**

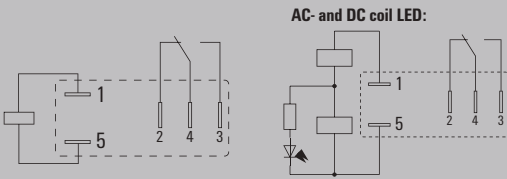
**1 CO contact, AC/DC coil**

- Robust industrial plug-in connections
- Optional: latching / spring return operable test button with coloured control voltage identification (AC coil: red / DC coil: blue) and mechanical switch position indication (for version with test button)
- Optional: Bright status LED (AC coil: red / DC coil: green)
- Optional: free-wheeling diode

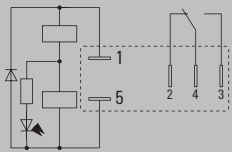


**Circuit diagram**

View on Pins from below



**DC coil LED+diode**

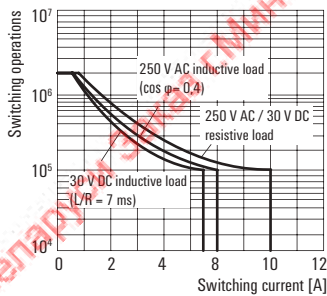


**Technical data**

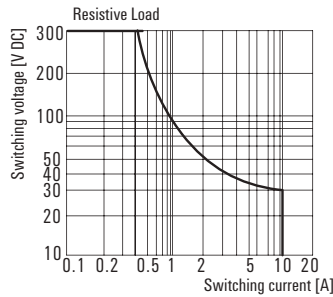
Output	
Rated switching voltage / Continuous current	250 V AC / 10 A
Max. switching voltage, AC	250 V
Min. switching power	10 mA @ 12 V, 100 mA @ 5 V
DC / AC Switching capacity (resistive), max.	240 W @ 24 V / 2500 VA
Contact material	AgNi
Mechanical service life	10 x 10 <sup>6</sup> switching cycles
Max. switching frequency at rated load	0.1 Hz
Rated data	
Ambient temperature (operational)	-40 °C...55 °C
Storage temperature	-40 °C...85 °C
Humidity	35...85 % rel. humidity, no condensation
Approvals	CE; cURus
Insulation coordinates	
Rated voltage	300 V
Impulse withstand voltage	5 kV (1.2/50 µs)
Dielectric strength input - output	5 kV <sub>eff</sub> / 1min
Dielectric strength of neighbouring contacts	
Dielectric strength to mounting rail	
Creepage and clearance distance input - output	≥ 4 mm
Overvoltage category	III
Pollution degree	2
Dimensions	
<b>Flat blade connections (4.7 mm x 0.5 mm)</b>	
Depth x width x height	see dimensioned drawing
Note	

**Applications**

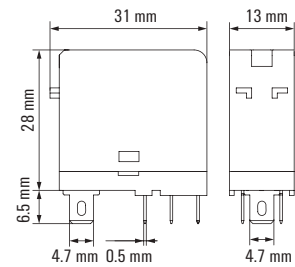
**Electrical endurance**



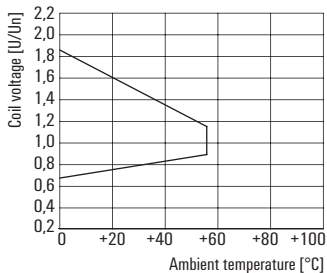
**DC load braking capacity**



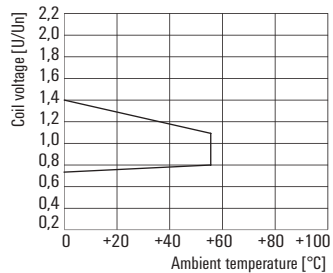
**Dimensioned drawing without test button**



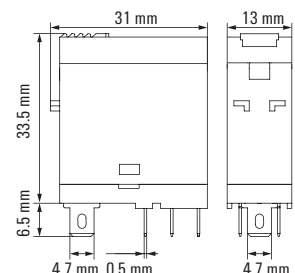
**Operating voltage range [DC]**



**Operating voltage range [AC]**



**Dimensioned drawing with test button**



**DRI relay**  
**1 CO contact, AC/DC coil**

Type code	DRI								
Type	DRI								
Type of construction	314	1 CO contact							
	424	2 CO contacts							
Coil voltage	012	12 V DC	524	24 V AC					
	024	24 V DC	615	115 V AC					
	048	48 V DC	730	230 V AC					
	110	110 V DC							
LED	L (Red for AC coil; green for DC coil)								
Test lever including mechanical status indicator	T (Red lever for AC coil; blue lever for DC coil)								
Free wheeling diode	D (DC coil only)								

**Ordering data**

		12 V DC 1CO	24 V DC 1CO	48 V DC 1CO	110 V DC 1CO
<b>Input</b>					
Rated control voltage		12 V DC	24 V DC	48 V DC	110 V DC
Rated current AC / DC		/ 44,4 mA	/ 21,8 mA	/ 11,2 mA	/ 4,8 mA
Power rating		530 mW	530 mW	530 mW	530 mW
Pull-in/drop-out voltage, typ.		9 V / 1.8 V DC	18 V / 3.6 V DC	36 V / 7.2 V DC	82.5 V / 16.5 V DC
<b>Output</b>					
Switch-on delay		≤ 15 ms	≤ 15 ms	≤ 15 ms	≤ 15 ms
Switch-off delay		≤ 10 ms	≤ 10 ms	≤ 10 ms	≤ 10 ms
<b>Ordering data</b>					
Standard	Type	DRI314012	DRI314024	DRI314048	DRI314110
	Order No.	<b>7760056296</b>	<b>7760056297</b>	<b>7760056298</b>	<b>7760056299</b>
with LED	Type	DRI314012L	DRI314024L	DRI314048L	DRI314110L
	Order No.	<b>7760056303</b>	<b>7760056304</b>	<b>7760056305</b>	<b>7760056306</b>
with LED + freewheel diode	Type	DRI314012LD	DRI314024LD	DRI314048LD	DRI314110LD
	Order No.	<b>7760056310</b>	<b>7760056311</b>	<b>7760056312</b>	<b>7760056313</b>
with test button + LED	Type	DRI314012LTD	DRI314024LTD	DRI314048LTD	DRI314110LTD
+ Free-wheel diode	Order No.	<b>7760056314</b>	<b>7760056315</b>	<b>7760056316</b>	<b>7760056317</b>

<b>Note</b>				
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**Ordering data**

		24 V AC 1CO	115 V AC 1CO	230 V AC 1 CO
<b>Input</b>				
Rated control voltage		24 V AC	115 V AC	230 V AC
Rated current AC / DC		50 mA /	9.3 mA /	4,9 mA /
Power rating		1.2 VA	1.1 VA	1.1 VA
Pull-in/drop-out voltage, typ.		19.2 V / 7.2 V AC	92 V / 34.5 V AC	184 V / 69 V AC
<b>Output</b>				
Switch-on delay		≤ 15 ms	≤ 15 ms	≤ 15 ms
Switch-off delay		≤ 10 ms	≤ 10 ms	≤ 10 ms
<b>Ordering data</b>				
Standard	Type	DRI314524	DRI314615	DRI314730
	Order No.	<b>7760056300</b>	<b>7760056301</b>	<b>7760056302</b>
with LED	Type	DRI314524L	DRI314615L	DRI314730L
	Order No.	<b>7760056307</b>	<b>7760056308</b>	<b>7760056309</b>
with test button + LED	Type	DRI314524LT	DRI314615LT	DRI314730LT
	Order No.	<b>7760056318</b>	<b>7760056319</b>	<b>7760056320</b>

<b>Note</b>			
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## D-SERIES – relay modules

## Accessories for DRI relays

- Base, logical construction, input and output isolated
- Terminal-rail unlocking using screwdriver
- Wide assortment of functional modules

## Technical data

Output	
Rated switching voltage	250 V AC
Max. switching voltage, AC	250 V
Continuous current	12 A
Rated data	
Ambient temperature (operational)	-40 °C...70 °C
Storage temperature	-40 °C...85 °C
Approvals	CE, cURus
Insulation coordination	
Protection degree	IP20
Creepage and clearance distance input - output	≥ 3 mm
Dielectric strength input - output	4 kV <sub>eff</sub> / 1 min.
Dielectric strength of neighbouring contacts	4.8 kV (1.2/50 μs)
Impulse withstand voltage	4.8 kV (1.2/50 μs)
Connection data	
Clamping range (nominal / min. / max.)	1.5 / 0.25 / 4 mm <sup>2</sup>
Tightening torque	0.5...0.8 Nm
Stripping length, rated connection	8 mm
Note	

## Ordering data

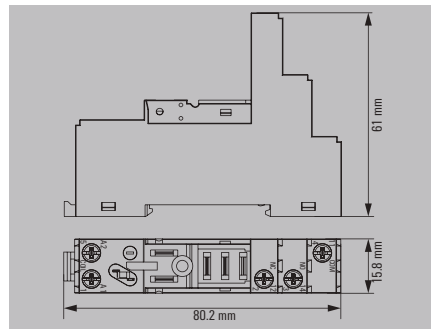
Type	Qty.	Order No.
SDI 1CO	10	7760056350

Note: Base on TS35 DIN rail

## Accessories

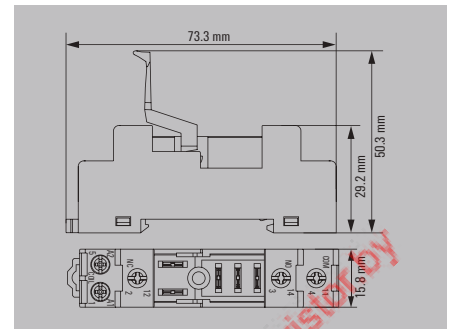
Type	Qty.	Order No.
<b>LED module / protection modules</b>		
Free-wheeling diode 6 - 230 V DC	10	7760056169
LED 6 - 24 V DC green and freewheeling diode	10	7760056015
LED 24 - 60 V DC green and free-wheeling diode	10	7760056016
LED 110 - 230 V DC green and free-wheeling diode	10	7760056017
LED 6 - 24 V UC green	20	7940018457
LED 24 - 60 V UC green	10	7760056018
LED 110 - 230 V UC green	20	7940018455
RC element 110 - 230 V AC; 4.7 kΩ / 10 nF	10	7760056014
RC element 110 - 230 V AC; 100 Ω / 220 nF and LED green	10	7760056045
<b>Retaining clip</b>		
Plastic retaining clip	10	7760056352
<b>Markers</b>		
white	200	2558340000
<b>Screwdriver</b>		
Screwdriver, insulated PH1	1	9008570000
Screwdriver, insulated PH1 SlimLine	1	1274710000
Screwdriver PH1	1	9008480000
<b>Cross-connection</b>		
Cross-connection, 8-pole	10	1132070000
<b>Insulated cable connector</b>		
Fork-type cable lug 0.5mm <sup>2</sup> - 1mm <sup>2</sup>		
Fork-type cable lug 1.5mm <sup>2</sup> - 2.5mm <sup>2</sup>		
Fork-type cable lug 0.5mm <sup>2</sup> - 1mm <sup>2</sup>		
Fork-type cable lug 1.5mm <sup>2</sup> - 2.5mm <sup>2</sup>		
Note		

## Socket with clamping yoke connection, 1 CO contact



Type	Qty.	Order No.
SDI 1CO	10	7760056350

## Socket with pressure clamping plate, 1 CO contact



Type	Qty.	Order No.
SDI 1CO F ECO	10	7760056348

Type	Qty.	Order No.
SDIK PH1	1	9008570000
SDIK PH1 SL	1	1274710000
SDK PH1	1	9008480000
<b>LED and protective modules are not compatible with this base.</b>		
KQIG-M3/-1	100	1492520000
KQIG-M3/-2,5	100	1492600000
KQIG-M3,5/-1	100	1492530000
KQIG-M3,5/-2,5	100	1492610000

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**D-SERIES – relay modules**

**DRI relay**

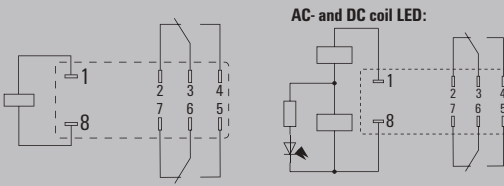
**2 CO contacts, AC/DC coil**

- Robust industrial plug-in connections
- Optional: latching / spring return operable test button with coloured control voltage identification (AC coil: red / DC coil: blue) and mechanical switch position indication (for version with test button)
- Optional: Bright status LED (AC coil: red / DC coil: green)
- Optional: free-wheeling diode

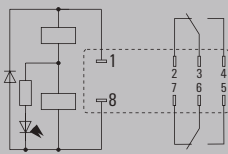


**Circuit diagram**

View on Pins from below



**DC coil LED+diode**

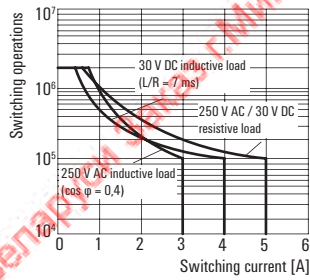


**Technical data**

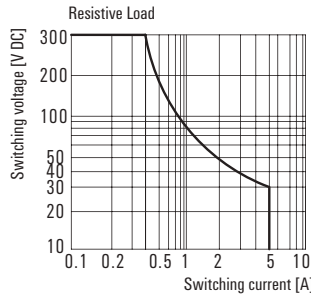
Output	
Rated switching voltage / Continuous current	250 V AC / 5 A
Max. switching voltage, AC	250 V
Min. switching power	10 mA @ 12 V, 100 mA @ 5 V
DC / AC Switching capacity (resistive), max.	150 W @ 24 V / 1250 VA
Contact material	AgNi
Mechanical service life	10 x 10 <sup>6</sup> switching cycles
Max. switching frequency at rated load	0.1 Hz
Rated data	
Ambient temperature (operational)	-40 °C...55 °C
Storage temperature	-40 °C...85 °C
Humidity	35...85 % rel. humidity, no condensation
Approvals	CE; cURus
Insulation coordinates	
Rated voltage	300 V
Impulse withstand voltage	5 kV (1.2/50 µs)
Dielectric strength input - output	5 kV <sub>eff</sub> / 1min
Dielectric strength of neighbouring contacts	1.5 kV <sub>eff</sub> / 1 min.
Dielectric strength to mounting rail	
Creepage and clearance distance input - output	≥ 4 mm
Overvoltage category	III
Pollution degree	2
Dimensions	
Flat blade connections (2.5 mm x 0.5 mm)	see dimensioned drawing
Depth x width x height	
Note	

**Applications**

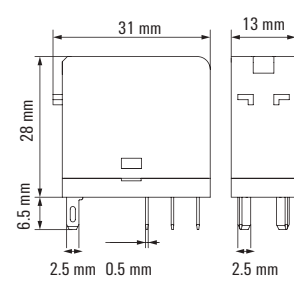
**Electrical endurance**



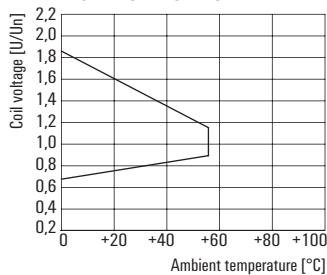
**DC load braking capacity**



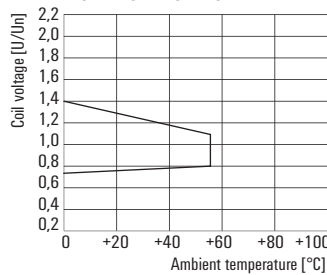
**Dimensioned drawing without test button**



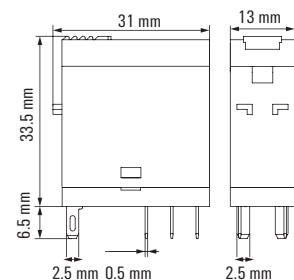
**Operating voltage range [DC]**



**Operating voltage range [AC]**



**Dimensioned drawing with test button**





**DRI relay**  
**2 CO contacts, AC/DC coil**

Type code	DRI								
Type	DRI								
Type of construction	314	1 CO contact							
	424	2 CO contacts							
Coil voltage	012	12 V DC	524	24 V AC					
	024	24 V DC	615	115 V AC					
	048	48 V DC	730	230 V AC					
	110	110 V DC							
LED	L (Red for AC coil; green for DC coil)								
Test lever including mechanical status indicator	T (Red lever for AC coil; blue lever for DC coil)								
Free wheeling diode	D (DC coil only)								

**Ordering data**

		12 V DC 2CO	24 V DC 2CO	48 V DC 2CO	110 V DC 2CO
<b>Input</b>					
Rated control voltage		12 V DC	24 V DC	48 V DC	110 V DC
Rated current AC / DC		/ 44,4 mA	/ 21,8 mA	/ 11,2 mA	/ 4,8 mA
Power rating		530 mW	530 mW	530 mW	530 mW
Pull-in/drop-out voltage, typ.		9 V / 1.8 V DC	18 V / 3.6 V DC	36 V / 7.2 V DC	82.5 V / 16.5 V DC
<b>Output</b>					
Switch-on delay		≤ 15 ms	≤ 15 ms	≤ 15 ms	≤ 15 ms
Switch-off delay		≤ 10 ms	≤ 10 ms	≤ 10 ms	≤ 10 ms
<b>Ordering data</b>					
Standard	Type	DRI424012	DRI424024	DRI424048	DRI424110
	Order No.	<b>7760056321</b>	<b>7760056322</b>	<b>7760056323</b>	<b>7760056324</b>
with LED	Type	DRI424012L	DRI424024L	DRI424048L	DRI424110L
	Order No.	<b>7760056328</b>	<b>7760056329</b>	<b>7760056330</b>	<b>7760056331</b>
with LED + freewheel diode	Type	DRI424012LD	DRI424024LD	DRI424048LD	DRI424110LD
	Order No.	<b>7760056335</b>	<b>7760056336</b>	<b>7760056337</b>	<b>7760056338</b>
with test button + LED	Type	DRI424012LTD	DRI424024LTD	DRI424048LTD	DRI424110LTD
+ Free-wheel diode	Order No.	<b>7760056339</b>	<b>7760056340</b>	<b>7760056341</b>	<b>7760056342</b>

<b>Note</b>				
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**Ordering data**

		24 V AC 2CO	115 V AC 2CO	230 V AC 2CO
<b>Input</b>				
Rated control voltage		24 V AC	115 V AC	230 V AC
Rated current AC / DC		50 mA /	9.3 mA /	4,9 mA /
Power rating		1.2 VA	1.1 VA	1.1 VA
Pull-in/drop-out voltage, typ.		19.2 V / 7.2 V AC	92 V / 34.5 V AC	184 V / 69 V AC
<b>Output</b>				
Switch-on delay		≤ 15 ms	≤ 15 ms	≤ 15 ms
Switch-off delay		≤ 10 ms	≤ 10 ms	≤ 10 ms
<b>Ordering data</b>				
Standard	Type	DRI424524	DRI424615	DRI424730
	Order No.	<b>7760056325</b>	<b>7760056326</b>	<b>7760056327</b>
with LED	Type	DRI424524L	DRI424615L	DRI424730L
	Order No.	<b>7760056332</b>	<b>7760056333</b>	<b>7760056334</b>
with test button + LED	Type	DRI424524LT	DRI424615LT	DRI424730LT
	Order No.	<b>7760056343</b>	<b>7760056344</b>	<b>7760056345</b>

<b>Note</b>			
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## D-SERIES – relay modules

## Accessories for DRI relays

- Base, logical construction, input and output isolated
- Terminal-rail unlocking using screwdriver
- Wide assortment of functional modules

## Technical data

## Output

Rated switching voltage  
Max. switching voltage, AC  
Continuous current

## Rated data

Ambient temperature (operational)  
Storage temperature  
Approvals

## Insulation coordination

Protection degree  
Creepage and clearance distance input - output  
Dielectric strength input - output  
Dielectric strength of neighbouring contacts  
Impulse withstand voltage

## Connection data

Clamping range (nominal / min. / max.)  
Tightening torque  
Stripping length, rated connection

## Note

## Ordering data

Type	Qty.	Order No.
SDI 2CO	10	7760056351

Note  
Base on TS35 DIN rail

## Accessories

## LED module / protection modules

Type	Qty.	Order No.
Free-wheeling diode 6 - 230 V DC	10	7760056169
LED 6 - 24 V DC green and freewheeling diode	10	7760056015
LED 24 - 60 V DC green and free-wheeling diode	10	7760056016
LED 110 - 230 V DC green and free-wheeling diode	10	7760056017
LED 6 - 24 V UC green	20	7940018457
LED 24 - 60 V UC green	10	7760056018
LED 110 - 230 V UC green	20	7940018455
RC element 110 - 230 V AC; 4.7 kΩ / 10 nF	10	7760056014
RC element 110 - 230 V AC; 100 Ω / 220 nF and LED green	10	7760056045

## Retaining clip

SDI CLIP	10	7760056352
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## Markers

ESG 6/15 SDI MC NE WS	200	2558340000
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## Screwdriver

SDIK PH1	1	9008570000
Screwdriver, insulated PH1 SlimLine	1	1274710000
Screwdriver PH1	1	9008480000

## Cross-connection

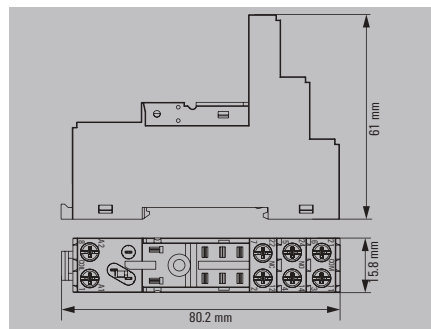
SRC-I QV S	10	1132070000
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## Insulated cable connector

KQIG-M3/-1	100	1492520000
Fork-type cable lug 0.5mm <sup>2</sup> - 1mm <sup>2</sup>		
Fork-type cable lug 1.5mm <sup>2</sup> - 2.5mm <sup>2</sup>		

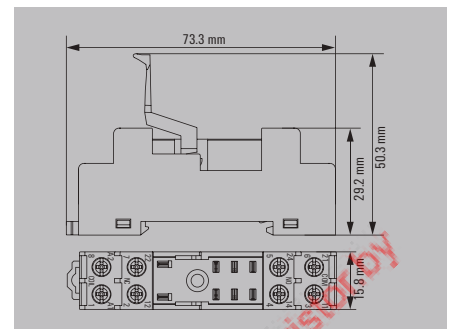
## Note

## Socket with clamping yoke connection, 2 CO contacts



250 V AC
250 V
8 A
-40 °C...70 °C
-40 °C...85 °C
CE; cURus
IP20
≥ 3 mm
4 kV <sub>eff</sub> / 1 min.
2.5 kV <sub>eff</sub> / 1 min.
4.8 kV (1.2/50 μs)
1.5 / 0.25 / 4 mm <sup>2</sup>
0.5...0.8 Nm
8 mm

## Socket with pressure clamping plate, 2 CO contacts



250 V AC
250 V
8 A
-40 °C...70 °C
-40 °C...85 °C
CE
IP20
≥ 3 mm
4 kV <sub>eff</sub> / 1 min.
2.5 kV <sub>eff</sub> / 1 min.
4.8 kV (1.2/50 μs)
1.5 / 0.5 / 2.5 mm <sup>2</sup>
0.5...0.8 Nm
8 mm

Type	Qty.	Order No.
SDI 2CO F ECO	10	7760056349

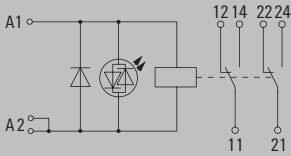
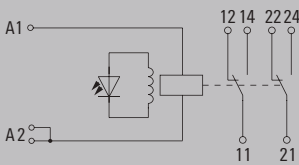
Type	Qty.	Order No.
SDIK PH1	1	9008570000
SDIK PH1 SL	1	1274710000
SDK PH1	1	9008480000
KQIG-M3/-1	100	1492520000
KQIG-M3/-2,5	100	1492600000

LED and protective modules are not compatible with this base.

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**DRM KIT with screw connection****2 CO contacts**

- Assembled kit consisting of relay, socket and retaining clip, incl. label
- 100% function-tested
- Full monitoring of the dielectric strength at input and output
- Mechanical switch position indicator
- Bright status LED (AC coil: red, DC coil: green)
- Optional: test button with coloured control voltage marking (AC coil: red, DC coil: blue)

**DC-Version****AC-Version****Technical data**

Output	
Rated switching voltage / Continuous current	250 V AC / 10 A
Max. switching voltage, AC	250 V
Inrush current	20 A / 50 ms
Min. switching power	10 mA @ 12 V, 100 mA @ 5 V
DC / AC Switching capacity (resistive), max.	240 W @ 24 V / 2500 VA
Contact material	AgNi 0,15 µm Au
Mechanical service life	20 x 10 <sup>6</sup> switching cycles
Max. switching frequency at rated load	0.1 Hz
Rated data	
Ambient temperature (operational)	-40 °C...60 °C
Storage temperature	-40 °C...70 °C
Humidity	
Approvals	
Insulation coordinates	
Rated voltage	250 V
Impulse withstand voltage	4.8 kV (1.2/50 µs)
Dielectric strength input – output	1.8 kV <sub>eff</sub> / 1 min.
Dielectric strength of neighbouring contacts	1 kV <sub>eff</sub> / 1 min
Dielectric strength to mounting rail	
Creepage and clearance distance input – output	≥ 5.5 mm
Overtoltage category	III
Pollution degree	2
Dimensions	
Clamping range (nominal / min. / max.)	/ 0.5 / 2.5
Depth x width x height	mm 66.8 / 27.2 / 79.9
Note	

**Ordering data**

Input		24 V DC 2CO	220 V DC 2CO	24 V AC 2CO	230 V AC 2CO
Rated control voltage		24 V DC	220 V DC	24 V AC	230 V AC
Rated current AC / DC		/ 36.9 mA	/ 5.2 mA	62.4 mA (50 Hz), 52.2 mA (60 Hz) /	6.1 mA (50 Hz), 5.2 mA (60 Hz) /
Power rating		0.9 W	1.2 W	1.0...1.2VA (60HZ)	1.0...1.2VA (60HZ)
Pull-in/drop-out voltage, typ.		18 V / 2.4 V DC	154 V / 22 V DC	19.2 V / 7.2 V AC	184 V / 69 V AC
Status indicator		Green LED	Green LED	red LED	red LED
Protective circuit		Free-wheel diode	Free-wheel diode		
Output					
Switch-on delay		< 20 ms	< 20 ms	< 20 ms	< 20 ms
Switch-off delay		< 20 ms	< 20 ms	< 20 ms	< 20 ms
Ordering data					
with test button	Type	DRMKIT 24VDC 2CO LD/PB	DRMKIT 220VDC 2CO LD/PB	DRMKIT 24VAC 2CO LD/PB	DRMKIT 230VAC 2CO LD/PB
	Order No.	1542460000	1542470000	1542480000	1542490000
without test button	Type	DRMKIT 24VDC 2CO LD	DRMKIT 220VDC 2CO LD	DRMKIT 24VAC 2CO LD	DRMKIT 230VAC 2CO LD
	Order No.	1542360000	1542370000	1542380000	1542390000
Ordering data					
Spare relay		w. test button	w.o. test button	w. test button	w.o. test button
	Type	DRM270024LT	DRM270024L	DRM270524LT	DRM270524L
	Order No.	7760056069	7760056060	7760056073	7760056064
	Type	DRM270220LT	DRM270220L	DRM270730LT	DRM270730L
	Order No.	7760056072	7760056063	7760056076	7760056067
Note					

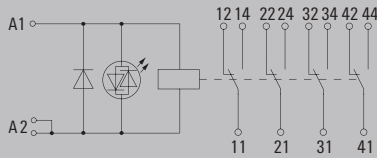
**DRM KIT with screw connection**

**4 CO contacts**

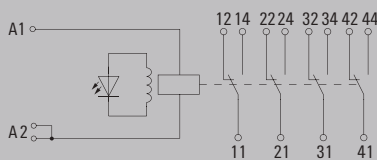
- Assembled kit consisting of relay, socket and retaining clip, incl. label
- 100% function-tested
- Full monitoring of the dielectric strength at input and output
- Mechanical switch position indicator
- Bright status LED (AC coil: red, DC coil: green)
- Optional: test button with coloured control voltage marking (AC coil: red, DC coil: blue)



**DC-Version**



**AC-Version**



**Technical data**

<b>Output</b>	
Rated switching voltage / Continuous current	250 V AC / 5 A
Max. switching voltage, AC	250 V
Inrush current	10 A / 50 ms
Min. switching power	10 mA @ 12 V, 100 mA @ 5 V
DC / AC Switching capacity (resistive), max.	120 W @ 24 V / 1250 VA
Contact material	AgNi 0,15 µm Au
Mechanical service life	20 x 10 <sup>6</sup> switching cycles
Max. switching frequency at rated load	0.1 Hz
<b>Rated data</b>	
Ambient temperature (operational)	-40 °C...60 °C
Storage temperature	-40 °C...70 °C
Humidity	
<b>Approvals</b>	
<b>Insulation coordinates</b>	
Rated voltage	250 V
Impulse withstand voltage	4.8 kV (1.2/50 µs)
Dielectric strength input - output	1.8 kV <sub>eff</sub> / 1 min.
Dielectric strength of neighbouring contacts	1 kV <sub>eff</sub> / 1 min
Dielectric strength to mounting rail	
Creepage and clearance distance input - output	≥ 5.5 mm
Oversoltage category	III
Pollution degree	2
<b>Dimensions</b>	
<b>Screw connection</b>	
Clamping range (nominal / min. / max.)	/ 0.5 / 2.5
Depth x width x height	mm 66.8 / 27.2 / 79.9
<b>Note</b>	

**Ordering data**

		24 V DC 4CO		220 V DC 4CO		24 V AC 4CO		230 V AC 4CO	
<b>Input</b>									
Rated control voltage		24 V DC		220 V DC		24 V AC		230 V AC	
Rated current AC / DC		/ 36.9 mA		/ 5.2 mA		62.4 mA (50 Hz), 52.2 mA (60 Hz) /		6.1 mA (50 Hz), 5.2 mA (60 Hz) /	
Power rating		0.9 W		1.2 W		1.0...1.2VA (60HZ)		1.0...1.2VA (60HZ)	
Pull-in/drop-out voltage, typ.		18 V / 2.4 V DC		154 V / 22 V DC		19.2 V / 7.2 V AC		184 V / 69 V AC	
Status indicator		Green LED		Green LED		red LED		red LED	
Protective circuit		Free-wheel diode		Free-wheel diode					
<b>Output</b>									
Switch-on delay		< 20 ms		< 20 ms		< 20 ms		< 20 ms	
Switch-off delay		< 20 ms		< 20 ms		< 20 ms		< 20 ms	
<b>Ordering data</b>									
with test button	Type	DRMKIT 24VDC 4CO LD/PB		DRMKIT 220VDC 4CO LD/PB		DRMKIT 24VAC 4CO LD/PB		DRMKIT 230VAC 4CO LD/PB	
	Order No.	1542510000		1542520000		1542530000		1542540000	
without test button	Type	DRMKIT 24VDC 4CO LD		DRMKIT 220VDC 4CO LD		DRMKIT 24VAC 4CO LD		DRMKIT 230VAC 4CO LD	
	Order No.	1542410000		1542420000		1542430000		1542450000	
<b>Ordering data</b>									
<b>Spare relay</b>		<b>w. test button</b>	<b>w.o. test button</b>	<b>w. test button</b>	<b>w.o. test button</b>	<b>w. test button</b>	<b>w.o. test button</b>	<b>w. test button</b>	<b>w.o. test button</b>
	Type	DRM570024LT	DRM570024L	DRM570220LT	DRM570220L	DRM570524LT	DRM570524L	DRM570730LT	DRM570730L
	Order No.	7760056097	7760056088	7760056100	7760056091	7760056101	7760056092	7760056104	7760056095
<b>Note</b>									

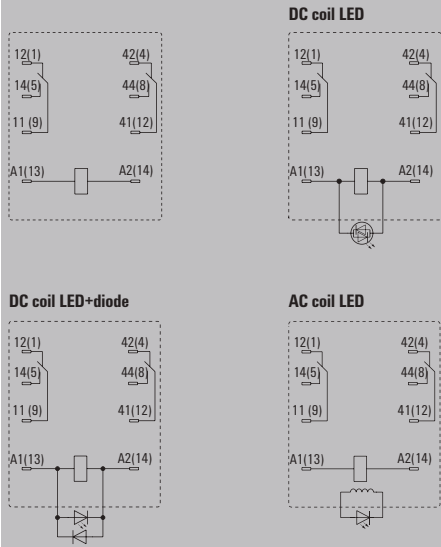
**D-SERIES – relay modules**

**DRM 270 relay**  
**2 CO, AC/DC coil**

- Compact design combined with high switching capacity
- Wide range of coil voltages
- Optional test button (AC red, DC blue)
- Optional status LED (AC red, DC green)
- Optional free-wheel diode



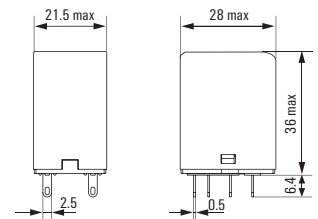
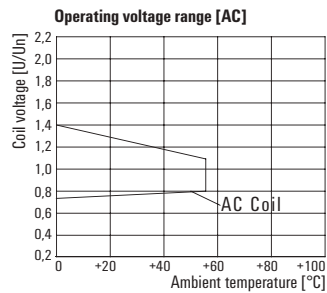
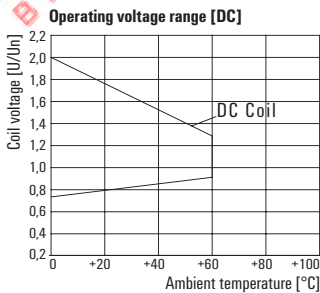
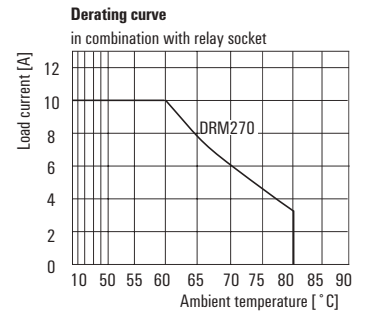
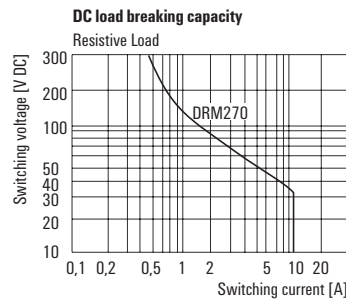
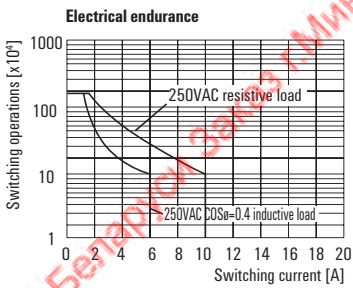
**Circuit diagram**



**Technical data**

Output	
Rated switching voltage / Continuous current	250 V AC / 10 A
Max. switching voltage, AC	250 V
Inrush current	20 A / 50 ms
Min. switching power	10 mA @ 12 V, 100 mA @ 5 V
DC / AC Switching capacity (resistive), max.	240 W @ 24 V / 2500 VA
Contact material	AgNi 0,15 µm Au
Mechanical service life	20 x 10 <sup>6</sup> switching cycles
Max. switching frequency at rated load	0.1 Hz
Rated data	
Ambient temperature (operational)	-40 °C...60 °C
Storage temperature	-40 °C...70 °C
Humidity	35...85 % rel. humidity, no condensation
Approvals	CE, cURus; EAC
Insulation coordinates	
Rated voltage	250 V
Impulse withstand voltage	6 kV (1.2/50 µs)
Dielectric strength input - output	1.8 kV <sub>eff</sub> / 1 min.
Dielectric strength of neighbouring contacts	1 kV <sub>eff</sub> / 1 min
Dielectric strength to mounting rail	
Creepage and clearance distance input - output	≥ 5.5 mm
Overvoltage category	III
Pollution degree	2
Dimensions	
Depth x width x height	mm 35.7 / 21 / 27.4
Plug-in connection	
Note	

**Applications**



**DRM 270 relay**  
**2 CO, AC/DC coil**

Type code		DRM					
Type	DRM						
Type of construction	270 2 change over contact						
Coil voltage	006	6 V DC / 012	12 V DC				
	024	24 V DC / 048	48 V DC				
	110	110 V DC / 220	220 V DC				
	524	24 V AC / 548	48 V AC				
	615	115 V AC / 730	230 V AC				
LED	L (Red for AC coil; green for DC coil)						
Test lever	T (Red for AC coil; green for DC coil)						
Free-wheel diode	D						

**Ordering data**

	12 V DC 2CO	24 V DC 2CO	48 V DC 2CO	110 V DC 2CO	220 V DC 2CO
<b>Input</b>					
Rated control voltage	12 V DC	24 V DC	48 V DC	110 V DC	220 V DC
Rated current AC / DC	/ 75 mA	/ 36.9 mA	/ 18.5 mA	/ 10 mA	/ 5.2 mA
Power rating	0.9 W	0.9 W	0.9 W	1.2 W	1.2 W
Pull-in/drop-out voltage, typ.	9 V / 1.2 V DC	18 V / 2.4 V DC	36 V / 4.8 V DC	82.5 V / 11 V DC	154 V / 22 V DC
Pull-in/drop-out current, typ.					
<b>Output</b>					
Switch-on delay	< 20 ms	< 20 ms	< 20 ms	< 20 ms	< 20 ms
Switch-off delay	< 20 ms	< 20 ms	< 20 ms	< 20 ms	< 20 ms

Ordering data					
Standard Type	DRM270012	DRM270024	DRM270048	DRM270110	DRM270220
Order No.	<b>7760056050</b>	<b>7760056051</b>	<b>7760056052</b>	<b>7760056053</b>	<b>7760056054</b>
with LED Type	DRM270012L	DRM270024L	DRM270048L	DRM270110L	DRM270220L
Order No.	<b>7760056059</b>	<b>7760056060</b>	<b>7760056061</b>	<b>7760056062</b>	<b>7760056063</b>
with test button + LED Type	DRM270012LT	DRM270024LT	DRM270048LT	DRM270110LT	DRM270220LT
Order No.	<b>7760056068</b>	<b>7760056069</b>	<b>7760056070</b>	<b>7760056071</b>	<b>7760056072</b>
with LED Type		DRM270024LD			
+ Free-wheel diode Order No.		<b>7760056077</b>			

Note					

**Ordering data**

	24 V AC 2CO	48 V AC 2CO	115 V AC 2CO	230 V AC 2CO
<b>Input</b>				
Rated control voltage	24 V AC	48 V AC	115 V AC	230 V AC
Rated current AC / DC	62.4 mA (50 Hz), 52.2 mA (60 Hz) /	33.3 mA (50 Hz), 27.8 mA (60 Hz) /	12.6 mA (50 Hz), 10.8 mA (60 Hz) /	6.1 mA (50 Hz), 5.2 mA (60 Hz) /
Power rating	1.0...1.2VA (60HZ)	1.0...1.2VA (60HZ)	1.0...1.2VA (60HZ)	1.0...1.2VA (60HZ)
Pull-in/drop-out voltage, typ.	19.2 V / 7.2 V AC	38.4 V / 14.4 V AC	92 V / 34.5 V AC	184 V / 69 V AC
Pull-in/drop-out current, typ.				
<b>Output</b>				
Switch-on delay	< 20 ms	< 20 ms	< 20 ms	< 20 ms
Switch-off delay	< 20 ms	< 20 ms	< 20 ms	< 20 ms

Ordering data				
Standard Type	DRM270524	DRM270548	DRM270615	DRM270730
Order No.	<b>7760056055</b>	<b>7760056056</b>	<b>7760056057</b>	<b>7760056058</b>
with LED Type	DRM270524L	DRM270548L	DRM270615L	DRM270730L
Order No.	<b>7760056064</b>	<b>7760056065</b>	<b>7760056066</b>	<b>7760056067</b>
with test button + LED Type	DRM270524LT	DRM270548LT	DRM270615LT	DRM270730LT
Order No.	<b>7760056073</b>	<b>7760056074</b>	<b>7760056075</b>	<b>7760056076</b>
Type				
Order No.				

Note				

## D-SERIES – relay modules

## Accessories for DRM relays

- Isolated input and output
- Terminal rail can be unlocked with a screwdriver
- Wide assortment of functional modules

## Technical data

<b>Output</b>
Rated switching voltage
Max. switching voltage, AC
Continuous current
<b>Rated data</b>
Ambient temperature (operational)
Storage temperature
Approvals
<b>Insulation coordination</b>
Protection degree
Creepage and clearance distance input - output
Dielectric strength input - output
Dielectric strength of neighbouring contacts
Impulse withstand voltage
<b>Connection data</b>
Clamping range (nominal / min. / max.)
Tightening torque
Stripping length, rated connection
<b>Note</b>

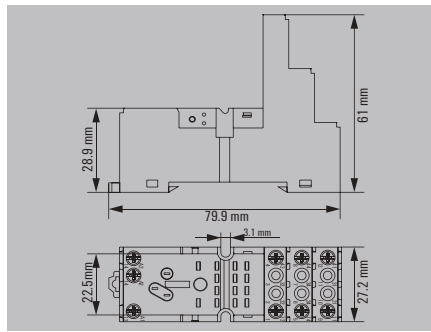
## Ordering data

	Socket, DIN rail mounted
<b>Note</b>	

## Accessories

<b>LED module / protection modules</b>			
LED 6 - 24 V UC green	RIM 3 6/24VUC	20	7940018457
LED 24 - 60 V UC green	RIM 3 24/60VUC	10	7760056018
LED 110 - 230 V UC green	RIM 3 110/230VUC	20	7940018455
LED 24 - 60 V DC green and free-wheeling diode	RIM 2 24/60VDC	10	7760056016
LED 110 - 230 V DC green and free-wheeling diode	RIM 2 110/230VDC	10	7760056017
LED 6 - 24 V DC green and freewheeling diode	RIM 2 6/24VDC	10	7760056015
RC element 110 - 230 V AC; 100 Ω / 220 nF and LED green	RIM 3 110/230VAC LED	10	7760056045
RC element 110 - 230 V AC; 4.7 kΩ / 10 nF	RIM 3 110/230VAC	10	7760056014
Free-wheeling diode 6 - 230 V DC	RIM 1 6/230VDC	10	7760056169
<b>Retaining clip</b>			
Metal retaining clip	DRM/DRL CLIP M	10	7760056108
<b>Markers</b>			
white	ESG 9/26 SCM ECO MC NE WS	80	1520980000
yellow	ESG 9/26 SCM ECO MC NE GE	80	1520990000
grey	ESG 9/26 SCM ECO MC NE GR	80	1521000000
<b>Cross-connection</b>			
8-pole	SCMH QV S	10	1132080000
<b>Screwdriver</b>			
Screwdriver, insulated PH1 SlimLine	SDIK PH1 SL	1	1274710000
Screwdriver, insulated PH1	SDIK PH1	1	9008570000
Screwdriver PH1	SDK PH1	1	9008480000
<b>Note</b>			

## Socket module with clamping yoke connection, 2 CO contacts

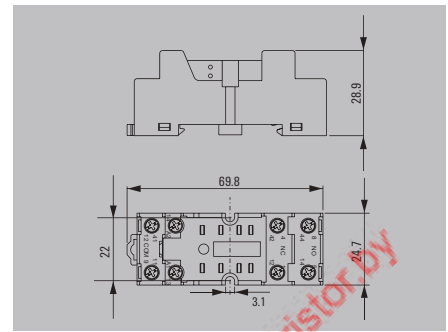


<b>Output</b>
Rated switching voltage
Max. switching voltage, AC
Continuous current
<b>Rated data</b>
Ambient temperature (operational)
Storage temperature
Approvals
<b>Insulation coordination</b>
Protection degree
Creepage and clearance distance input - output
Dielectric strength input - output
Dielectric strength of neighbouring contacts
Impulse withstand voltage
<b>Connection data</b>
Clamping range (nominal / min. / max.)
Tightening torque
Stripping length, rated connection
<b>Note</b>

	Type	Qty.	Order No.
	SCM 2CO ECO	10	7760056263
<b>Note</b>			

	Type	Qty.	Order No.
	RIM 3 6/24VUC	20	7940018457
	RIM 3 24/60VUC	10	7760056018
	RIM 3 110/230VUC	20	7940018455
	RIM 2 24/60VDC	10	7760056016
	RIM 2 110/230VDC	10	7760056017
	RIM 2 6/24VDC	10	7760056015
	RIM 3 110/230VAC LED	10	7760056045
	RIM 3 110/230VAC	10	7760056014
	RIM 1 6/230VDC	10	7760056169
	DRM/DRL CLIP M	10	7760056108
	ESG 9/26 SCM ECO MC NE WS	80	1520980000
	ESG 9/26 SCM ECO MC NE GE	80	1520990000
	ESG 9/26 SCM ECO MC NE GR	80	1521000000
	SCMH QV S	10	1132080000
	SDIK PH1 SL	1	1274710000
	SDIK PH1	1	9008570000
	SDK PH1	1	9008480000
<b>Note</b>			

## Socket module with leaf spring connection, 2 CO contacts



<b>Output</b>
Rated switching voltage
Max. switching voltage, AC
Continuous current
<b>Rated data</b>
Ambient temperature (operational)
Storage temperature
Approvals
<b>Insulation coordination</b>
Protection degree
Creepage and clearance distance input - output
Dielectric strength input - output
Dielectric strength of neighbouring contacts
Impulse withstand voltage
<b>Connection data</b>
Clamping range (nominal / min. / max.)
Tightening torque
Stripping length, rated connection
<b>Note</b>

	Type	Qty.	Order No.
	FS 2CO	10	7760056106
<b>Note</b>			

	Type	Qty.	Order No.
	DRM/DRL CLIP M	10	7760056108
	SDIK PH1 SL	1	1274710000
	SDIK PH1	1	9008570000
	SDK PH1	1	9008480000
<b>Note</b>			

LED and protective modules are not compatible with this base.

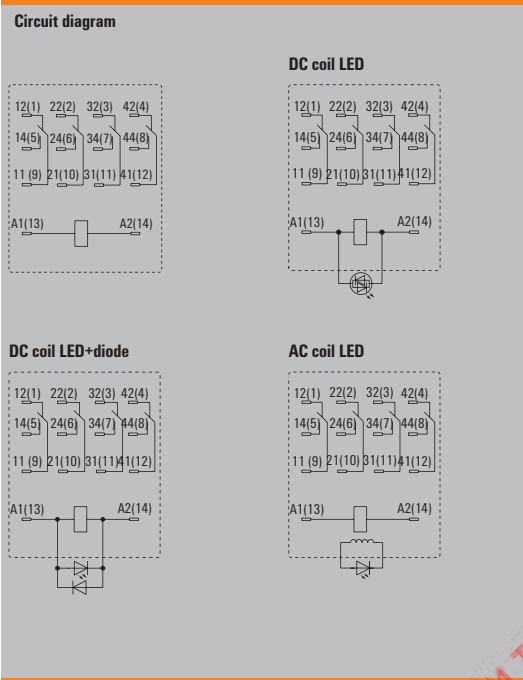


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**D-SERIES – relay modules**

**DRM 570 relay**  
**4 CO AC/DC coil**

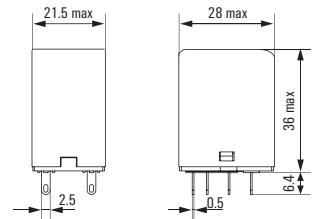
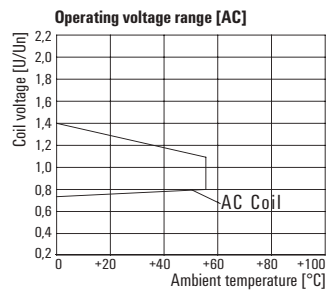
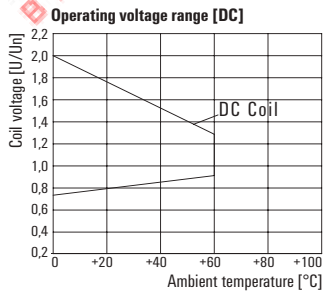
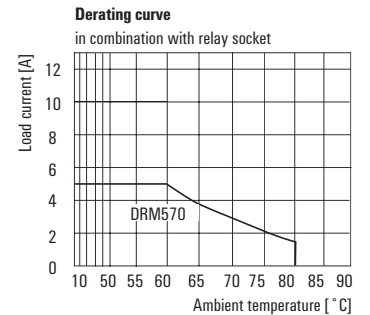
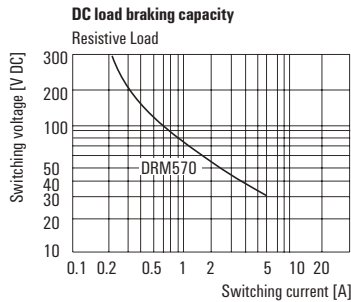
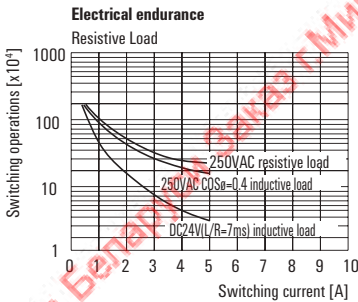
- Compact design combined with high switching capacity
- Wide range of coil voltages
- Optional test button (AC red, DC blue)
- Optional status LED (AC red, DC green)
- Optional free-wheel diode



**Technical data**

<b>Output</b>	
Rated switching voltage / Continuous current	250 V AC / 5 A
Max. switching voltage, AC	250 V
Inrush current	10 A / 50 ms
Min. switching power	10 mA @ 12 V, 100 mA @ 5 V
DC / AC Switching capacity (resistive), max.	120 W @ 24 V / 1250 VA
Contact material	AgNi 0,15 µm Au
Mechanical service life	20 x 10 <sup>6</sup> switching cycles
Max. switching frequency at rated load	0.1 Hz
<b>Rated data</b>	
Ambient temperature (operational)	-40 °C...60 °C
Storage temperature	-40 °C...70 °C
Humidity	35...85 % rel. humidity, no condensation
Approvals	CE, cURus; EAC
<b>Insulation coordinates</b>	
Rated voltage	250 V
Impulse withstand voltage	6 kV (1.2/50 µs)
Dielectric strength input - output	1.8 kV <sub>eff</sub> / 1 min.
Dielectric strength of neighbouring contacts	1 kV <sub>eff</sub> / 1 min
Dielectric strength to mounting rail	
Creepage and clearance distance input - output	≥ 5.5 mm
Overvoltage category	III
Pollution degree	2
<b>Dimensions</b>	
Depth x width x height	mm 35.7 / 21 / 27.4
<b>Plug-in connection</b>	
<b>Note</b>	

**Applications**



**DRM 570 relay**  
**4 CO AC/DC coil**

Type code		DRM				
Type	DRM					
Type of construction	570 4 change over contact					
Coil voltage	006	6 V DC / 012	12 V DC			
	024	24 V DC / 048	48 V DC			
	110	110 V DC / 220	220 V DC			
	524	24 V AC / 548	48 V AC			
	615	115 V AC / 730	230 V AC			
LED	L (Red for AC coil; green for DC coil)					
Test lever	T (Red for AC coil; green for DC coil)					
Free-wheel diode	D					

**Ordering data**

	12 V DC 4CO	24 V DC 4CO	48 V DC 4CO	110 V DC 4CO	220 V DC 4CO
<b>Input</b>					
Rated control voltage	12 V DC	24 V DC	48 V DC	110 V DC	220 V DC
Rated current AC / DC	/ 75 mA	/ 36.9 mA	/ 18.5 mA	/ 10 mA	/ 5.2 mA
Power rating	0.9 W	0.9 W	0.9 W	1.2 W	1.2 W
Pull-in/drop-out voltage, typ.	9 V / 1.2 V DC	18 V / 2.4 V DC	36 V / 4.8 V DC	82.5 V / 11 V DC	154 V / 22 V DC
Pull-in/drop-out current, typ.					
<b>Output</b>					
Switch-on delay	< 20 ms	< 20 ms	< 20 ms	< 20 ms	< 20 ms
Switch-off delay	< 20 ms	< 20 ms	< 20 ms	< 20 ms	< 20 ms

Ordering data						
Standard	Type	DRM570012	DRM570024	DRM570048	DRM570110	DRM570220
	Order No.	<b>7760056078</b>	<b>7760056079</b>	<b>7760056080</b>	<b>7760056081</b>	<b>7760056082</b>
with LED	Type	DRM570012L	DRM570024L	DRM570048L	DRM570110L	DRM570220L
	Order No.	<b>7760056087</b>	<b>7760056088</b>	<b>7760056089</b>	<b>7760056090</b>	<b>7760056091</b>
with test button + LED	Type	DRM570012LT	DRM570024LT	DRM570048LT	DRM570110LT	DRM570220LT
	Order No.	<b>7760056096</b>	<b>7760056097</b>	<b>7760056098</b>	<b>7760056099</b>	<b>7760056100</b>
with LED	Type		DRM570024LD			
+ Free-wheel diode	Order No.		<b>7760056105</b>			

Note					

**Ordering data**

	24 V AC 4CO	48 V AC 4CO	115 V AC 4CO	230 V AC 4CO
<b>Input</b>				
Rated control voltage	24 V AC	48 V AC	115 V AC	230 V AC
Rated current AC / DC	62.4 mA (50 Hz), 52.2 mA (60 Hz) /	33.3 mA (50 Hz), 27.8 mA (60 Hz) /	12.6 mA (50 Hz), 10.8 mA (60 Hz) /	6.1 mA (50 Hz), 5.2 mA (60 Hz) /
Power rating	1.0...1.2VA (60HZ)	1.0...1.2VA (60HZ)	1.0...1.2VA (60HZ)	1.0...1.2VA (60HZ)
Pull-in/drop-out voltage, typ.	19.2 V / 7.2 V AC	38.4 V / 14.4 V AC	92 V / 34.5 V AC	184 V / 69 V AC
Pull-in/drop-out current, typ.				
<b>Output</b>				
Switch-on delay	< 20 ms	< 20 ms	< 20 ms	< 20 ms
Switch-off delay	< 20 ms	< 20 ms	< 20 ms	< 20 ms

Ordering data					
Standard	Type	DRM570524	DRM570548	DRM570615	DRM570730
	Order No.	<b>7760056083</b>	<b>7760056084</b>	<b>7760056085</b>	<b>7760056086</b>
with LED	Type	DRM570524L	DRM570548L	DRM570615L	DRM570730L
	Order No.	<b>7760056092</b>	<b>7760056093</b>	<b>7760056094</b>	<b>7760056095</b>
with test button + LED	Type	DRM570524LT	DRM570548LT	DRM570615LT	DRM570730LT
	Order No.	<b>7760056101</b>	<b>7760056102</b>	<b>7760056103</b>	<b>7760056104</b>
	Type				
	Order No.				

Note				

## D-SERIES – relay modules

## Accessories for DRM relays

- Isolated input and output
- Terminal rail can be unlocked with a screwdriver
- Wide assortment of functional modules

## Technical data

<b>Output</b>
Rated switching voltage
Max. switching voltage, AC
Continuous current
<b>Rated data</b>
Ambient temperature (operational)
Storage temperature
Approvals
<b>Insulation coordination</b>
Protection degree
Creepage and clearance distance input - output
Dielectric strength input - output
Dielectric strength of neighbouring contacts
Impulse withstand voltage
<b>Connection data</b>
Clamping range (nominal / min. / max.)
Tightening torque
Stripping length, rated connection
<b>Note</b>

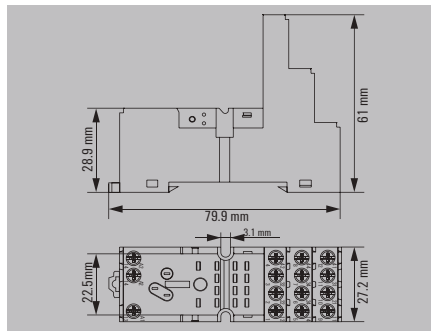
## Ordering data

	Socket, DIN rail mounted
<b>Note</b>	

## Accessories

<b>LED module / protection modules</b>			
LED 6 - 24 V UC green	RIM 3 6/24VUC	20	7940018457
LED 24 - 60 V UC green	RIM 3 24/60VUC	10	7760056018
LED 110 - 230 V UC green	RIM 3 110/230VUC	20	7940018455
LED 24 - 60 V DC green and free-wheeling diode	RIM 2 24/60VDC	10	7760056016
LED 110 - 230 V DC green and free-wheeling diode	RIM 2 110/230VDC	10	7760056017
LED 6 - 24 V DC green and freewheeling diode	RIM 2 6/24VDC	10	7760056015
RC element 110 - 230 V AC; 100 Ω / 220 nF and LED green	RIM 3 110/230VAC LED	10	7760056045
RC element 110 - 230 V AC; 4.7 kΩ / 10 nF	RIM 3 110/230VAC	10	7760056014
Free-wheeling diode 6 - 230 V DC	RIM 1 6/230VDC	10	7760056169
<b>Retaining clip</b>			
Metal retaining clip	DRM/DRL CLIP M	10	7760056108
<b>Markers</b>			
white	ESG 9/26 SCM ECO MC NE WS	80	1520980000
yellow	ESG 9/26 SCM ECO MC NE GE	80	1520990000
grey	ESG 9/26 SCM ECO MC NE GR	80	1521000000
<b>Cross-connection</b>			
8-pole	SCMH QV S	10	1132080000
<b>Screwdriver</b>			
Screwdriver, insulated PH1 SlimLine	SDIK PH1 SL	1	1274710000
Screwdriver, insulated PH1	SDIK PH1	1	9008570000
Screwdriver PH1	SDK PH1	1	9008480000
<b>Note</b>			

## Socket module with clamping yoke connection, 4 CO contacts

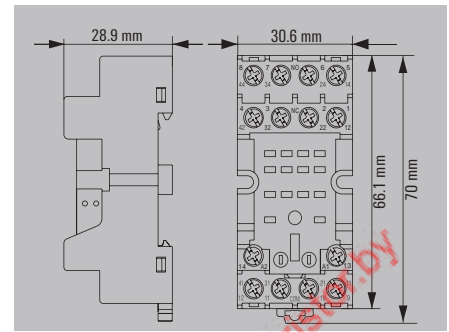


<b>Output</b>
Rated switching voltage
Max. switching voltage, AC
Continuous current
<b>Rated data</b>
Ambient temperature (operational)
Storage temperature
Approvals
<b>Insulation coordination</b>
Protection degree
Creepage and clearance distance input - output
Dielectric strength input - output
Dielectric strength of neighbouring contacts
Impulse withstand voltage
<b>Connection data</b>
Clamping range (nominal / min. / max.)
Tightening torque
Stripping length, rated connection
<b>Note</b>

<b>Type</b>	<b>Qty.</b>	<b>Order No.</b>
SCM 4CO ECO	10	7760056264
<b>Note</b>		

<b>Type</b>	<b>Qty.</b>	<b>Order No.</b>
RIM 3 6/24VUC	20	7940018457
RIM 3 24/60VUC	10	7760056018
RIM 3 110/230VUC	20	7940018455
RIM 2 24/60VDC	10	7760056016
RIM 2 110/230VDC	10	7760056017
RIM 2 6/24VDC	10	7760056015
RIM 3 110/230VAC LED	10	7760056045
RIM 3 110/230VAC	10	7760056014
RIM 1 6/230VDC	10	7760056169
DRM/DRL CLIP M	10	7760056108
ESG 9/26 SCM ECO MC NE WS	80	1520980000
ESG 9/26 SCM ECO MC NE GE	80	1520990000
ESG 9/26 SCM ECO MC NE GR	80	1521000000
SCMH QV S	10	1132080000
SDIK PH1 SL	1	1274710000
SDIK PH1	1	9008570000
SDK PH1	1	9008480000
<b>Note</b>		

## Socket module with leaf spring connection, 4 CO contacts



<b>Output</b>
Rated switching voltage
Max. switching voltage, AC
Continuous current
<b>Rated data</b>
Ambient temperature (operational)
Storage temperature
Approvals
<b>Insulation coordination</b>
Protection degree
Creepage and clearance distance input - output
Dielectric strength input - output
Dielectric strength of neighbouring contacts
Impulse withstand voltage
<b>Connection data</b>
Clamping range (nominal / min. / max.)
Tightening torque
Stripping length, rated connection
<b>Note</b>

<b>Type</b>	<b>Qty.</b>	<b>Order No.</b>
FS 4CO	10	7760056107
<b>Note</b>		

<b>Type</b>	<b>Qty.</b>	<b>Order No.</b>
RIM 3 6/24VUC	20	7940018457
RIM 3 24/60VUC	10	7760056018
RIM 3 110/230VUC	20	7940018455
RIM 2 24/60VDC	10	7760056016
RIM 2 110/230VDC	10	7760056017
RIM 2 6/24VDC	10	7760056015
RIM 3 110/230VAC	10	7760056014
RIM 1 6/230VDC	10	7760056169
DRM/DRL CLIP M	10	7760056108
SDIK PH1 SL	1	1274710000
SDIK PH1	1	9008570000
SDK PH1	1	9008480000
<b>Note</b>		

в Беларусі Заказ г.Мінск viber и тел. +375447584780 email: [minsk17@tut.by](mailto:minsk17@tut.by) [www.tiristor.by](http://www.tiristor.by)

**D-SERIES – relay modules**

**DRL power relay**

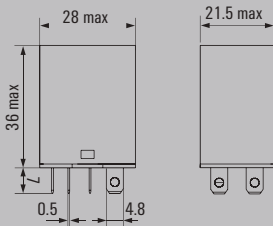
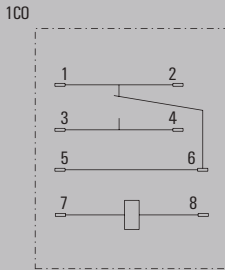
**1 CO AC/DC coil**

- High wear resistance in case of AC loads
- High dielectric strength: 2,000 V



**B**

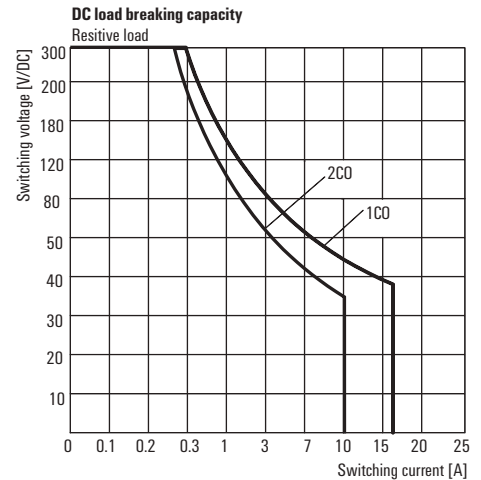
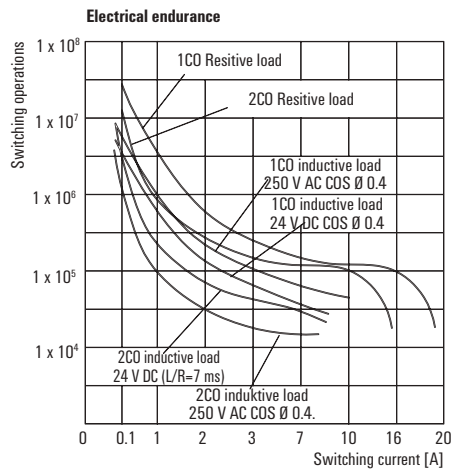
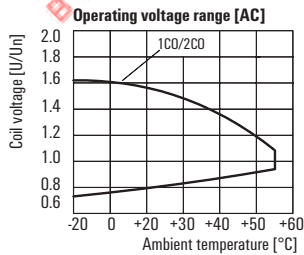
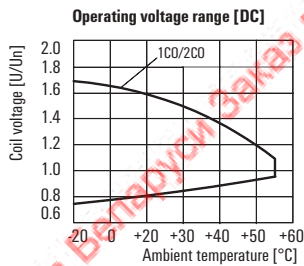
**Circuit diagram**



**Technical data**

Output	
Rated switching voltage / Continuous current	250 V AC / 16 A
Max. switching voltage, AC	250 V
Inrush current	80 A / 50 ms
Min. switching power	100 mA @ 12 V
DC / AC Switching capacity (resistive), max.	384 W @ 24 V / 4000 VA
Contact material	AgCdO
Mechanical service life	10 x 10 <sup>6</sup> switching cycles
Max. switching frequency at rated load	0.1 Hz
Rated data	
Ambient temperature (operational)	-25 °C...55 °C
Storage temperature	-25 °C...55 °C
Humidity	35 % to 85 % relative humidity level
Approvals	CE, cURus; EAC
Insulation coordinates	
Rated voltage	250 V
Impulse withstand voltage	5 kV (1.2/50 µs)
Dielectric strength input - output	2 kV <sub>eff</sub> / 1 min
Dielectric strength of neighbouring contacts	
Dielectric strength to mounting rail	
Creepage and clearance distance input - output	≥ 4 mm
Overvoltage category	III
Pollution degree	3
Dimensions	
	<b>Flat blade connections (4.8 mm x 0.5 mm)</b>
Depth x width x height	mm 36 / 21.5 / 28
Note	

**Applications**



**DRL power relay  
1 CO AC/DC coil**

Type code	DRL			
Type	DRL			
Type of construction	170 1 change over contact			
	270 2 change over contacts			
Coil voltage	012 12 V DC / 024 24 V DC			
	048 48 V DC / 110 110 V DC			
	220 220 V DC / 524 24 V AC			
	615 115 V AC / 730 230 V AC			
LED indicator	L			

**Ordering data**

	12 V DC	24 V DC	48 V DC	110 V DC	220 V DC
<b>Input</b>					
Rated control voltage	12 V DC	24 V DC	48 V DC	110 V DC	220 V DC
Rated current AC / DC	/ 75 mA	/ 36.9 mA	/ 18.5 mA	/ 10 mA	/ 5.2 mA
Power rating	0.9 W	0.9 W	0.9 W	0.9 W	0.9 W
Pull-in/drop-out voltage, typ.	9 V / 1.2 V DC	18 V / 2.4 V DC	36 V / 4.8 V DC	82.5 V / 11 V DC	154 V / 22 V DC
Pull-in/drop-out current, typ.					
Status indicator	Green LED	Green LED	Green LED	Green LED	Green LED
<b>Output</b>					
Switch-on delay	< 20 ms	< 20 ms	< 20 ms	< 20 ms	< 20 ms
Switch-off delay	< 20 ms	< 20 ms	< 20 ms	< 20 ms	< 20 ms

Ordering data						
1 CO contact	Type	DRL170012L	DRL170024L	DRL170048L	DRL170110L	DRL170220L
	Order No.	1133450000	1133460000	1133470000	1133480000	1133490000
	Type					
	Order No.					
<b>Note</b>						

**Ordering data**

	24 V AC	115 V AC	230 V AC
<b>Input</b>			
Rated control voltage	24 V AC	115 V AC	230 V AC
Rated current AC / DC	54 mA /	12,9 mA /	6.8 mA /
Power rating	1.2 VA	1.2 VA	1.2 VA
Pull-in/drop-out voltage, typ.	19.2 V / 7.2 V AC	92 V / 34.5 V AC	184 V / 69 V AC
Pull-in/drop-out current, typ.			
Status indicator	red LED	red LED	red LED
<b>Output</b>			
Switch-on delay	< 20 ms	< 20 ms	< 20 ms
Switch-off delay	< 20 ms	< 20 ms	< 20 ms

Ordering data				
1 CO contact	Type	DRL170524L	DRL170615L	DRL170730L
	Order No.	1133840000	1133850000	1133860000
	Type			
	Order No.			
<b>Note</b>				

**D-SERIES – relay modules**

**DRL power relay**

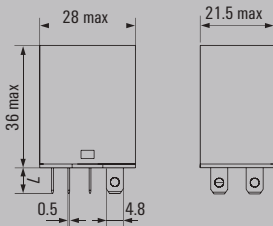
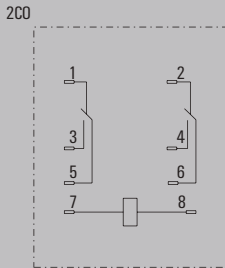
**2 CO AC/DC coil**

- High wear resistance in case of AC loads
- High dielectric strength: 2,000 V



**B**

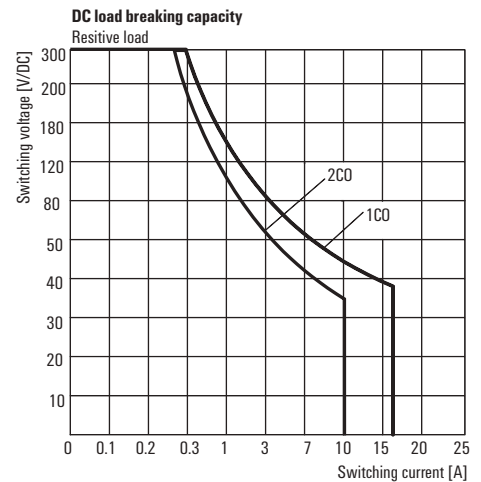
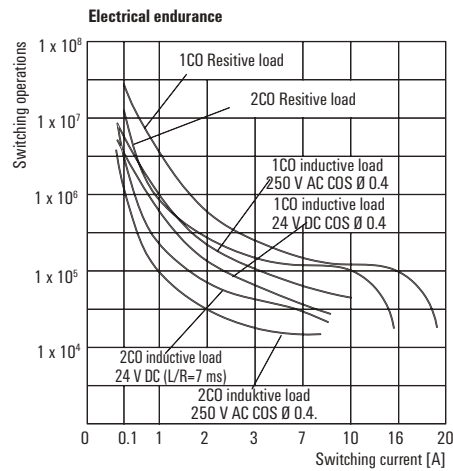
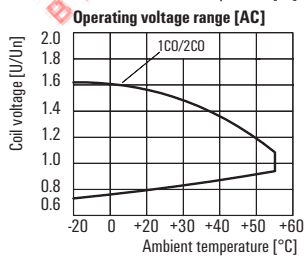
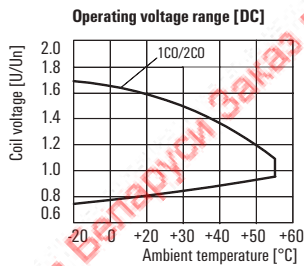
**Circuit diagram**



**Technical data**

Output	
Rated switching voltage / Continuous current	250 V AC / 10 A
Max. switching voltage, AC	250 V
Inrush current	50 A / 50 ms
Min. switching power	100 mA @ 12 V
DC / AC Switching capacity (resistive), max.	240 W @ 24 V / 2500 VA
Contact material	AgCdO
Mechanical service life	10 x 10 <sup>6</sup> switching cycles
Max. switching frequency at rated load	0.1 Hz
Rated data	
Ambient temperature (operational)	-25 °C...55 °C
Storage temperature	-25 °C...55 °C
Humidity	35 % to 85 % relative humidity level
Approvals	CE, cURus; EAC
Insulation coordinates	
Rated voltage	250 V
Impulse withstand voltage	5 kV (1.2/50 µs)
Dielectric strength input - output	2 kV <sub>eff</sub> / 1 min
Dielectric strength of neighbouring contacts	1.2 kV <sub>eff</sub> / 1 min.
Dielectric strength to mounting rail	
Creepage and clearance distance input - output	≥ 4 mm
Overvoltage category	III
Pollution degree	3
Dimensions	
Flat blade connections (4.8 mm x 0.5 mm)	
Depth x width x height	mm 36 / 21.5 / 28
Note	

**Applications**





**DRL power relay  
2 CO AC/DC coil**

Type code	DRL			
Type	DRL			
Type of construction	170 1 change over contact			
	270 2 change over contacts			
Coil voltage	012 12 V DC / 024 24 V DC			
	048 48 V DC / 110 110 V DC			
	220 220 V DC / 524 24 V AC			
	615 115 V AC / 730 230 V AC			
LED indicator	L			

**Ordering data**

	12 V DC	24 V DC	48 V DC	110 V DC	220 V DC
<b>Input</b>					
Rated control voltage	12 V DC	24 V DC	48 V DC	110 V DC	220 V DC
Rated current AC / DC	/ 75 mA	/ 36.9 mA	/ 18.5 mA	/ 10 mA	/ 5.2 mA
Power rating	0.9 W	0.9 W	0.9 W	0.9 W	0.9 W
Pull-in/drop-out voltage, typ.	9 V / 1.2 V DC	18 V / 2.4 V DC	36 V / 4.8 V DC	82.5 V / 11 V DC	154 V / 22 V DC
Pull-in/drop-out current, typ.					
Status indicator	Green LED	Green LED	Green LED	Green LED	Green LED
<b>Output</b>					
Switch-on delay	< 20 ms	< 20 ms	< 20 ms	< 20 ms	< 20 ms
Switch-off delay	< 20 ms	< 20 ms	< 20 ms	< 20 ms	< 20 ms

Ordering data					
2 change over contacts Type	DRL270012L	DRL270024L	DRL270048L	DRL270110L	DRL270220L
Order No.	1133510000	1133520000	1133530000	1133540000	1133550000
Type Order No.					
<b>Note</b>					

**Ordering data**

	24 V AC	115 V AC	230 V AC
<b>Input</b>			
Rated control voltage	24 V AC	115 V AC	230 V AC
Rated current AC / DC	54 mA /	12,9 mA /	6.8 mA /
Power rating	1.2 VA	1.2 VA	1.2 VA
Pull-in/drop-out voltage, typ.	19.2 V / 7.2 V AC	92 V / 34.5 V AC	184 V / 69 V AC
Pull-in/drop-out current, typ.			
Status indicator	red LED	red LED	red LED
<b>Output</b>			
Switch-on delay	< 20 ms	< 20 ms	< 20 ms
Switch-off delay	< 20 ms	< 20 ms	< 20 ms

Ordering data			
2 change over contacts Type	DRL270524L	DRL270615L	DRL270730L
Order No.	1133870000	1133880000	1133890000
Type Order No.			
<b>Note</b>			

**D-SERIES – relay modules**

**DRL power relay**

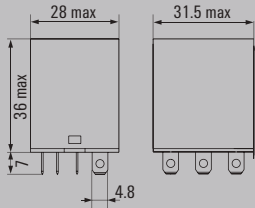
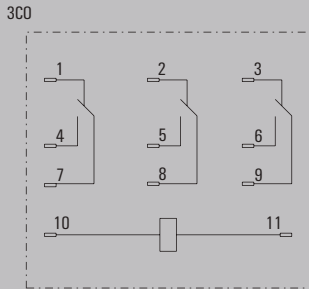
**3 CO AC/DC coil**

- High wear resistance in case of AC loads
- High dielectric strength: 2,000 V



**B**

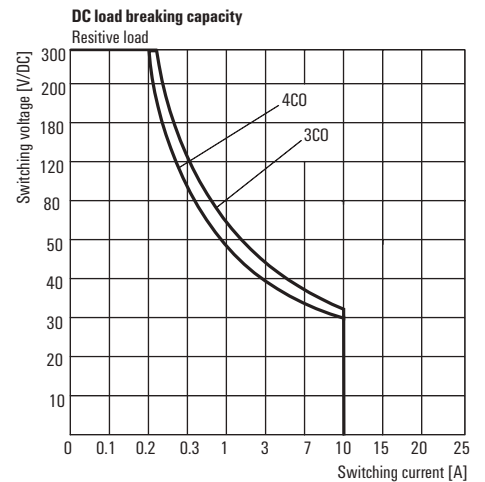
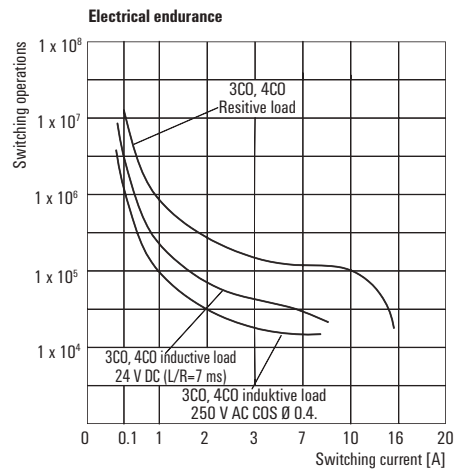
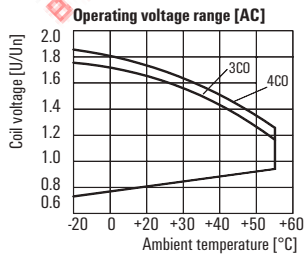
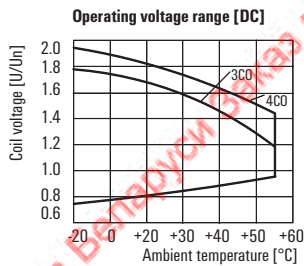
**Circuit diagram**



**Technical data**

Output	
Rated switching voltage / Continuous current	250 V AC / 10 A
Max. switching voltage, AC	250 V
Inrush current	50 A / 50 ms
Min. switching power	100 mA @ 12 V
DC / AC Switching capacity (resistive), max.	240 W @ 24 V / 2500 VA
Contact material	AgCdO
Mechanical service life	10 x 10 <sup>6</sup> switching cycles
Max. switching frequency at rated load	0.1 Hz
Rated data	
Ambient temperature (operational)	-25 °C...55 °C
Storage temperature	-25 °C...55 °C
Humidity	35 % to 85 % relative humidity level
Approvals	CE, cURus; EAC
Insulation coordinates	
Rated voltage	250 V
Impulse withstand voltage	5 kV (1.2/50 µs)
Dielectric strength input - output	2 kV <sub>eff</sub> / 1 min
Dielectric strength of neighbouring contacts	1.2 kV <sub>eff</sub> / 1 min.
Dielectric strength to mounting rail	
Creepage and clearance distance input - output	≥ 4 mm
Overtoltage category	III
Pollution degree	3
Dimensions	
<b>Flat blade connections (4.8 mm x 0.5 mm)</b>	
Depth x width x height	mm 36 / 31.5 / 28
Note	

**Applications**



**DRL power relay  
3 CO AC/DC coil**

Type code	DRL			
Type	DRL			
Type of construction	370 3 change over contact			
	570 4 change over contacts			
Coil voltage	012 12 V DC / 024 24 V DC			
	048 48 V DC / 110 110 V DC			
	220 220 V DC / 524 24 V AC			
	615 115 V AC / 730 230 V AC			
LED indicator	L			

**Ordering data**

	12 V DC	24 V DC	48 V DC	110 V DC	220 V DC
<b>Input</b>					
Rated control voltage	12 V DC	24 V DC	48 V DC	110 V DC	220 V DC
Rated current AC / DC	/ 120 mA	/ 60 mA	/ 30 mA	/ 13.1 mA	/ 6.7 mA
Power rating	1.4 W	1.4 W	1.4 W	1.4 W	1.4 W
Pull-in/drop-out voltage, typ.	9 V / 1.2 V DC	18 V / 2.4 V DC	36 V / 4.8 V DC	82.5 V / 11 V DC	154 V / 22 V DC
Pull-in/drop-out current, typ.					
Status indicator	Green LED	Green LED	Green LED	Green LED	Green LED
<b>Output</b>					
Switch-on delay	< 20 ms	< 20 ms	< 20 ms	< 20 ms	< 20 ms
Switch-off delay	< 20 ms	< 20 ms	< 20 ms	< 20 ms	< 20 ms

Ordering data					
3 change over contacts Type	DRL370012L	DRL370024L	DRL370048L	DRL370110L	DRL370220L
Order No.	1133570000	1133580000	1133590000	1133600000	1133610000
Type Order No.					
<b>Note</b>					

**Ordering data**

	24 V AC	115 V AC	230 V AC
<b>Input</b>			
Rated control voltage	24 V AC	115 V AC	230 V AC
Rated current AC / DC	80 mA /	16 mA /	10 mA /
Power rating	2 VA	2 VA	2 VA
Pull-in/drop-out voltage, typ.	19.2 V / 7.2 V AC	92 V / 34.5 V AC	184 V / 69 V AC
Pull-in/drop-out current, typ.			
Status indicator	red LED	red LED	red LED
<b>Output</b>			
Switch-on delay	< 20 ms	< 20 ms	< 20 ms
Switch-off delay	< 20 ms	< 20 ms	< 20 ms

Ordering data			
3 change over contacts Type	DRL370524L	DRL370615L	DRL370730L
Order No.	1133910000	1133920000	1133930000
Type Order No.			
<b>Note</b>			

**D-SERIES – relay modules**

**DRL power relay**

**4 CO AC/DC coil**

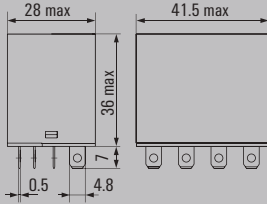
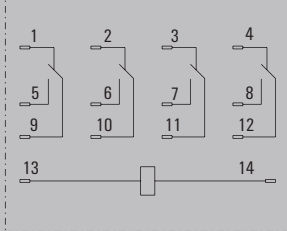
- High wear resistance in case of AC loads
- High dielectric strength: 2,000 V



**B**

**Circuit diagram**

4CO

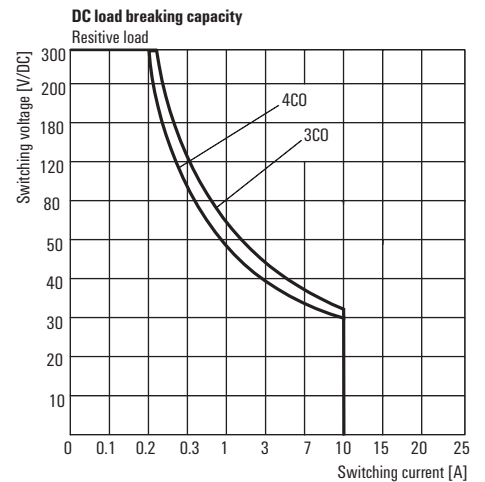
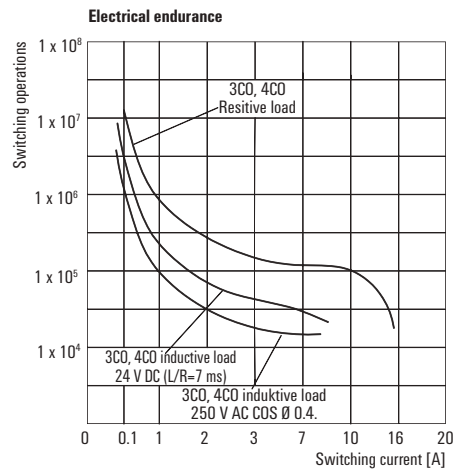
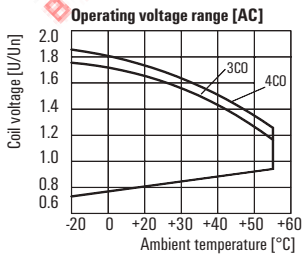
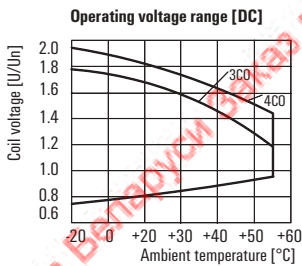


**Technical data**

Output	
Rated switching voltage / Continuous current	250 V AC / 10 A
Max. switching voltage, AC	250 V
Inrush current	50 A / 50 ms
Min. switching power	100 mA @ 12 V
DC / AC Switching capacity (resistive), max.	240 W @ 24 V / 2500 VA
Contact material	AgCdO
Mechanical service life	10 x 10 <sup>6</sup> switching cycles
Max. switching frequency at rated load	0.1 Hz
Rated data	
Ambient temperature (operational)	-25 °C...55 °C
Storage temperature	-25 °C...55 °C
Humidity	35 % to 85 % relative humidity level
Approvals	CE, cURus; EAC
Insulation coordinates	
Rated voltage	250 V
Impulse withstand voltage	5 kV (1.2/50 µs)
Dielectric strength input - output	2 kV <sub>eff</sub> / 1 min
Dielectric strength of neighbouring contacts	1.2 kV <sub>eff</sub> / 1 min.
Dielectric strength to mounting rail	
Creepage and clearance distance input - output	≥ 4 mm
Overvoltage category	III
Pollution degree	3
Dimensions	
	<b>Flat blade connections (4.8 mm x 0.5 mm)</b>
Depth x width x height	mm 36 / 41.5 / 28

**Note**

**Applications**



**DRL power relay  
4 CO AC/DC coil**

Type code	DRL			
Type	DRL			
Type of construction	370 3 change over contact 570 4 change over contacts			
Coil voltage	012 12 V DC / 024 24 V DC 048 48 V DC / 110 110 V DC 220 220 V DC / 524 24 V AC 615 115 V AC / 730 230 V AC			
LED indicator	L			

**Ordering data**

	12 V DC	24 V DC	48 V DC	110 V DC	220 V DC
<b>Input</b>					
Rated control voltage	12 V DC	24 V DC	48 V DC	110 V DC	220 V DC
Rated current AC / DC	/ 125 mA	/ 66.7 mA	/ 31.2 mA	/ 16.2 mA	/ 7.6 mA
Power rating	1.5 W	1.5 W	1.5 W	1.5 W	1.5 W
Pull-in/drop-out voltage, typ.	9 V / 1.2 V DC	18 V / 2.4 V DC	36 V / 4.8 V DC	82.5 V / 11 V DC	154 V / 22 V DC
Pull-in/drop-out current, typ.					
Status indicator	Green LED	Green LED	Green LED	Green LED	Green LED
<b>Output</b>					
Switch-on delay	< 20 ms	< 20 ms	< 20 ms	< 20 ms	< 20 ms
Switch-off delay	< 20 ms	< 20 ms	< 20 ms	< 20 ms	< 20 ms

Ordering data					
4 change over contacts Type	DRL570012L	DRL570024L	DRL570048L	DRL570110L	DRL570220L
Order No.	1133620000	1133630000	1133640000	1133650000	1133660000
Type Order No.					
<b>Note</b>					

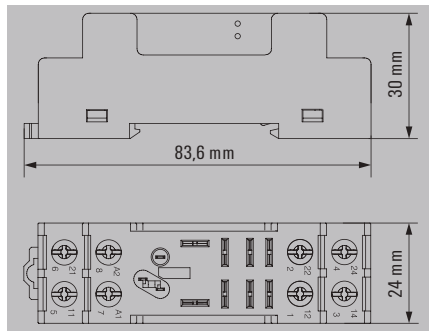
**Ordering data**

	24 V AC	115 V AC	230 V AC
<b>Input</b>			
Rated control voltage	24 V AC	115 V AC	230 V AC
Rated current AC / DC	/ 93.5 mA	/ 25.5 mA	/ 13.1 mA
Power rating	2.5 VA	2.5 VA	2.5 VA
Pull-in/drop-out voltage, typ.	19.2 V / 7.2 V AC	92 V / 34.5 V AC	184 V / 69 V AC
Pull-in/drop-out current, typ.			
Status indicator	red LED	red LED	red LED
<b>Output</b>			
Switch-on delay	< 20 ms	< 20 ms	< 20 ms
Switch-off delay	< 20 ms	< 20 ms	< 20 ms

Ordering data			
4 change over contacts Type	DRL570524L	DRL570615L	DRL570730L
Order No.	1133940000	1133950000	1133960000
Type Order No.			
<b>Note</b>			

## D-SERIES – relay modules

## Accessories for DRL relays

Socket module with  
leaf spring connection, 2 CO contacts

## Technical data

<b>Output</b>	
Rated switching voltage	250 V AC
Max. switching voltage, AC	250 V
Continuous current	10 A
<b>Rated data</b>	
Ambient temperature (operational)	-40 °C...65 °C
Storage temperature	-40 °C...85 °C
Approvals	CE, cURus
<b>Insulation coordination</b>	
Protection degree	IP10
Creepage and clearance distance input - output	≥ 6 mm
Dielectric strength input - output	2 kV <sub>eff</sub> / 1 min
Dielectric strength of neighbouring contacts	2 kV <sub>eff</sub> / 1 min
Impulse withstand voltage	4 kV (1.2/50 µs)
<b>Connection data</b>	
Clamping range (nominal / min. / max.)	/ 0.5 / 2.5 mm <sup>2</sup>
Tightening torque	0.8...1 Nm
Stripping length, rated connection	8 mm
<b>Note</b>	

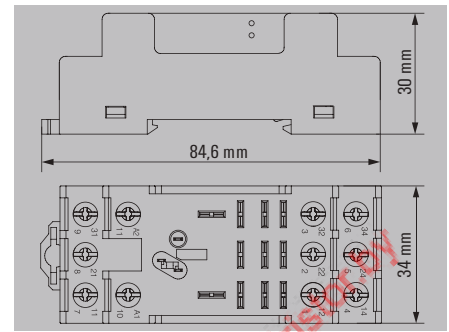
## Ordering data

	Socket, DIN rail mounted
<b>Note</b>	

## Accessories

<b>Retaining clip</b>	Metal retaining clip		
<b>LED module / protection modules</b>			
LED 110 - 230 V UC green	RIM 3 110/230VUC	20	7940018455
LED 24 - 60 V UC green	RIM 3 24/60VUC	10	7760056018
LED 6 - 24 V UC green	RIM 3 6/24VUC	20	7940018457
LED 110 - 230 V DC green and free-wheeling diode	RIM 2 110/230VDC	10	7760056017
LED 24 - 60 V DC green and free-wheeling diode	RIM 2 24/60VDC	10	7760056016
LED 6 - 24 V DC green and free-wheeling diode	RIM 2 6/24VDC	10	7760056015
Free-wheeling diode 6 - 230 V DC	RIM 1 6/230VDC	10	7760056169
RC element 110 - 230 V AC; 4.7 kΩ / 10 nF	RIM 3 110/230VAC	10	7760056014
RC element 110 - 230 V AC; 100 Ω / 220 nF and LED green	RIM 3 110/230VAC LED	10	7760056045
RC element 6 - 230 V AC			
<b>Screwdriver</b>			
Screwdriver, insulated PH2 SlimLine	SDIK PH2 SL	1	1274720000
Screwdriver, insulated PH2	SDIK PH2	1	9008580000
Screwdriver PH2	SDK PH2	1	9008490000

**Note**

Socket module with  
leaf spring connection, 3 CO contacts

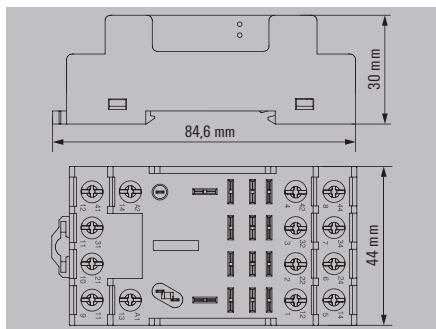
<b>Output</b>	
Rated switching voltage	250 V AC
Max. switching voltage, AC	250 V
Continuous current	10 A
<b>Rated data</b>	
Ambient temperature (operational)	-40 °C...65 °C
Storage temperature	-40 °C...85 °C
Approvals	CE, cURus
<b>Insulation coordination</b>	
Protection degree	IP10
Creepage and clearance distance input - output	≥ 6 mm
Dielectric strength input - output	2 kV <sub>eff</sub> / 1 min
Dielectric strength of neighbouring contacts	2 kV <sub>eff</sub> / 1 min
Impulse withstand voltage	4 kV (1.2/50 µs)
<b>Connection data</b>	
Clamping range (nominal / min. / max.)	/ 0.5 / 2.5 mm <sup>2</sup>
Tightening torque	0.8...1 Nm
Stripping length, rated connection	8 mm
<b>Note</b>	

	Socket, DIN rail mounted
<b>Note</b>	

<b>Retaining clip</b>	Metal retaining clip		
<b>LED module / protection modules</b>			
LED 110 - 230 V UC green	RIM 3 110/230VUC	20	7940018455
LED 24 - 60 V UC green	RIM 3 24/60VUC	10	7760056018
LED 6 - 24 V UC green	RIM 3 6/24VUC	20	7940018457
LED 110 - 230 V DC green and free-wheeling diode	RIM 2 110/230VDC	10	7760056017
LED 24 - 60 V DC green and free-wheeling diode	RIM 2 24/60VDC	10	7760056016
LED 6 - 24 V DC green and free-wheeling diode	RIM 2 6/24VDC	10	7760056015
Free-wheeling diode 6 - 230 V DC	RIM 1 6/230VDC	10	7760056169
RC element 110 - 230 V AC; 4.7 kΩ / 10 nF	RIM 3 110/230VAC	10	7760056014
RC element 110 - 230 V AC; 100 Ω / 220 nF and LED green	RIM 3 110/230VAC LED	10	7760056045
RC element 6 - 230 V AC			
<b>Screwdriver</b>			
Screwdriver, insulated PH2 SlimLine	SDIK PH2 SL	1	1274720000
Screwdriver, insulated PH2	SDIK PH2	1	9008580000
Screwdriver PH2	SDK PH2	1	9008490000

**Note**

**Socket module with leaf spring connection, 4 CO contacts**



250 V AC
250 V
10 A
-40 °C...65 °C
-40 °C...85 °C
CE, cURus
IP10
≥ 6 mm
2 kV <sub>eff</sub> / 1 min
2 kV <sub>eff</sub> / 1 min
4 kV (1.2/50 µs)
/ 0.5 / 2.5 mm <sup>2</sup>
0.8...1 Nm
8 mm

Type	Qty.	Order No.
SLD F 4CO	10	7760056227

Type	Qty.	Order No.
SLD CLIP 4CO M	10	7760056235
RIM 5 6/230VDC	10	1174650000
RIM 5 6/230VAC	10	1174670000
SDIK PH2 SL	1	1274720000
SDIK PH2	1	9008580000
SDK PH2	1	9008490000

Беларуси Заказ г.Мінск тэлефон: +375447584780 email: minsk17@tut.by www.tiristor.by

**D-SERIES – relay modules**

**DRW power relay**

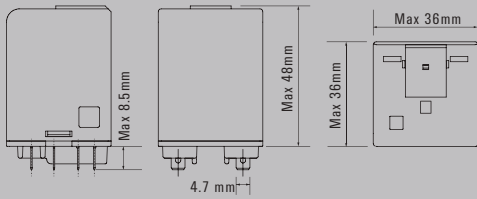
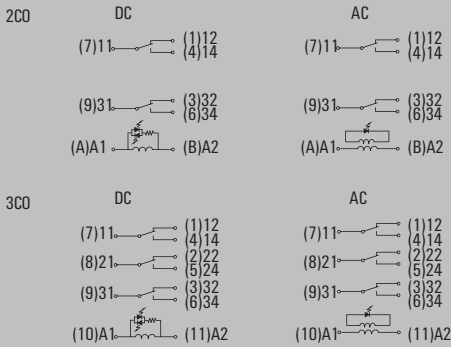
**2 CO AC/DC coil**

**3 CO AC/DC coil**

- Suitable for switching high load voltages
- With LED and test lever



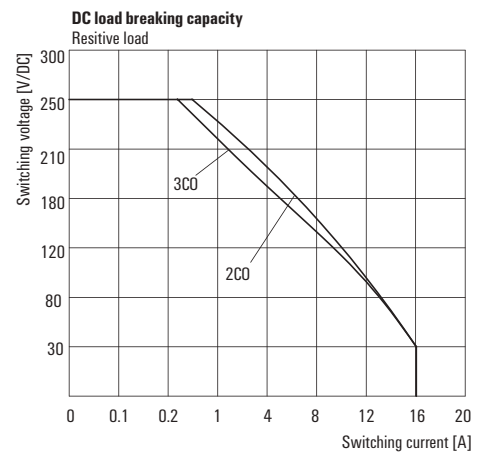
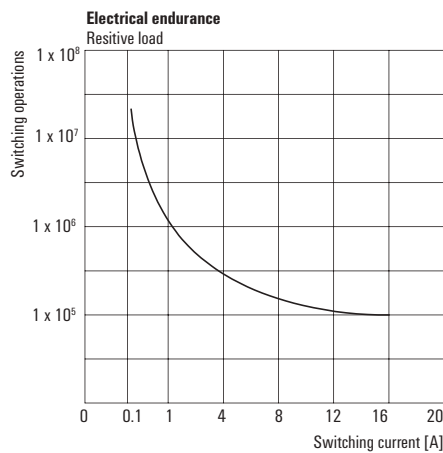
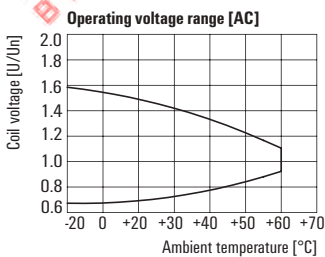
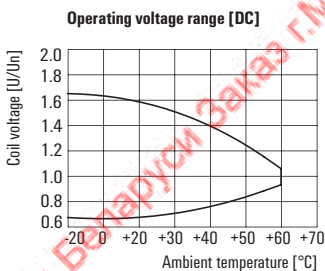
**Circuit diagram**



**Technical data**

Output	
Rated switching voltage / Continuous current	400 VAC / 16 A
Max. switching voltage, AC	400 V
Inrush current	80 A / 50 ms
Min. switching power	100 mA @ 12 V
DC / AC Switching capacity (resistive), max.	384 W @ 24 V / 6400 VA
Contact material	AgCdO
Mechanical service life	10 x 10 <sup>6</sup> switching cycles
Max. switching frequency at rated load	1 Hz
Rated data	
Ambient temperature (operational)	-40 °C...60 °C
Storage temperature	-40 °C...60 °C
Humidity	35 % to 85 % relative humidity level
Approvals	CE, cURus
Insulation coordinates	
Rated voltage	400 V
Impulse withstand voltage	6 kV (1.2/50 μs)
Dielectric strength input - output	2.5 kV <sub>eff</sub> / 1 min.
Dielectric strength of neighbouring contacts	1.5 kV <sub>eff</sub> / 1 min.
Dielectric strength to mounting rail	
Creepage and clearance distance input - output	≥ 5.5 mm
Overvoltage category	III
Pollution degree	3
Dimensions	
<b>Flat blade connections (4.8 mm x 0.5 mm)</b>	
Depth x width x height	mm 48 / 36 / 36
Note	

**Applications**





**DRW power relay**  
**2 CO AC/DC coil**  
**3 CO AC/DC coil**

Type code	DRW			
Type	DRW			
Type of construction	270 2CO 174 1NC			
Coil voltage	012 12 V DC / 024 24 V DC 048 48 V DC / 110 110 V DC 220 220 V DC / 524 24 V AC 548 48 V AC / 615 115 V AC 730 230 V AC / 900 400 V AC			
With LED and test lever	LT			

**Ordering data**

	12 V DC	24 V DC	48 V DC	110 V DC	220 V DC
<b>Input</b>					
Rated control voltage	12 V DC	24 V DC	48 V DC	110 V DC	220 V DC
Rated current AC / DC	/ 120 mA	/ 60 mA	/ 30 mA	/ 13 mA	/ 6.7 mA
Power rating	1.5 W	1.5 W	1.5 W	1.5 W	1.5 W
Pull-in/drop-out voltage, typ.	9 V / 1.2 V DC	18 V / 2.4 V DC	36 V / 4.8 V DC	82.5 V / 11 V DC	165 V / 22 V DC
Pull-in/drop-out current, typ.					
Status indicator	Green LED	Green LED	Green LED	Green LED	Green LED
<b>Output</b>					
Switch-on delay	< 20 ms	< 20 ms	< 20 ms	< 20 ms	< 20 ms
Switch-off delay	< 20 ms	< 20 ms	< 20 ms	< 20 ms	< 20 ms
<b>Ordering data</b>					
2 CO contacts Type	DRW270012LT	DRW270024LT	DRW270048LT	DRW270110LT	DRW270220LT
Order No.	1219730000	1219740000	1219750000	1219760000	1219770000
3 CO contacts Type	DRW370012LT	DRW370024LT	DRW370048LT	DRW370110LT	DRW370220LT
Order No.	1219780000	1219790000	1219810000	1219820000	1219830000
<b>Ordering data</b>					
<b>Test-button lock</b>					
Type	Test Lever Block DRH/DRW	Test Lever Block DRH/DRW	Test Lever Block DRH/DRW	Test Lever Block DRH/DRW	Test Lever Block DRH/DRW
Order No.	7760056249	7760056249	7760056249	7760056249	7760056249
<b>Note</b>					

**Ordering data**

	24 V AC	48 V AC	115 V AC	230 V AC	400 V AC
<b>Input</b>					
Rated control voltage	24 V AC	48 V AC	115 V AC	230 V AC	400 V AC
Rated current AC / DC	101.7 mA /	50.5 mA /	21 mA /	10,6 mA /	6.1 mA /
Power rating	2.5 VA	2.5 VA	2.5 VA	2.5 VA	2.5 VA
Pull-in/drop-out voltage, typ.	19.2 V / 7.2 V AC	38.4 V / 14.4 V AC	92 V / 34.5 V AC	184 V / 69 V AC	320 V / 120 V AC
Pull-in/drop-out current, typ.					
Status indicator	red LED	red LED	red LED	red LED	red LED
<b>Output</b>					
Switch-on delay	< 20 ms	< 20 ms	< 20 ms	< 20 ms	< 20 ms
Switch-off delay	< 20 ms	< 20 ms	< 20 ms	< 20 ms	< 20 ms
<b>Ordering data</b>					
2 CO contacts Type	DRW270524LT	DRW270548LT	DRW270615LT	DRW270730LT	DRW270900LT
Order No.	1219350000	1219360000	1219370000	1219380000	1219390000
3 CO contacts Type	DRW370524LT	DRW370548LT	DRW370615LT	DRW370730LT	DRW370900LT
Order No.	1219410000	1219420000	1219430000	1219440000	1219450000
<b>Ordering data</b>					
<b>Test-button lock</b>					
Type	Test Lever Block DRH/DRW	Test Lever Block DRH/DRW	Test Lever Block DRH/DRW	Test Lever Block DRH/DRW	Test Lever Block DRH/DRW
Order No.	7760056249	7760056249	7760056249	7760056249	7760056249
<b>Note</b>					

**D-SERIES – relay modules**

**DRH DC relay**

**1 NO AC/DC coil**

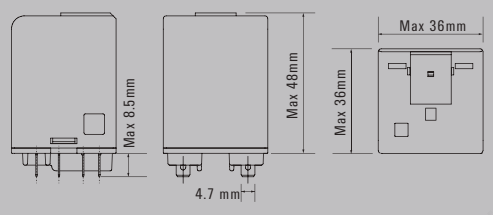
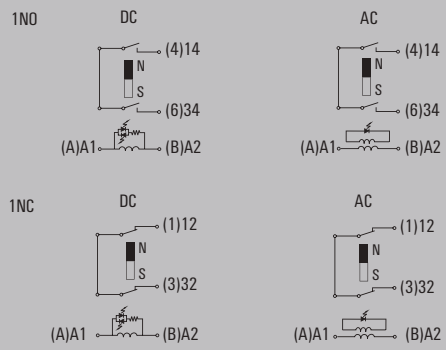
**1 NC AC/DC coil**

- Suitable for switching high DC loads
- With blowout magnet
- With LED and test button
- For switching high DC loads up to 10 A at 220 V DC



**B**

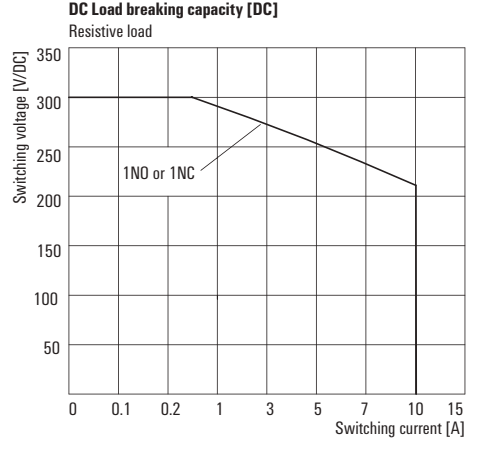
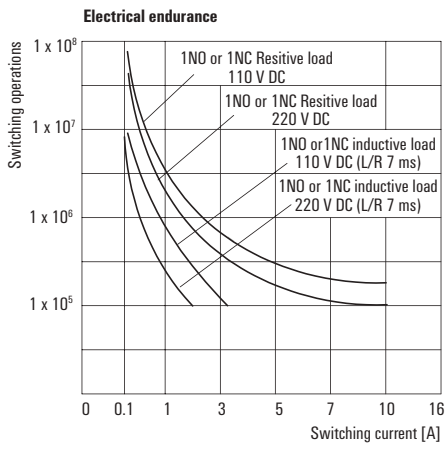
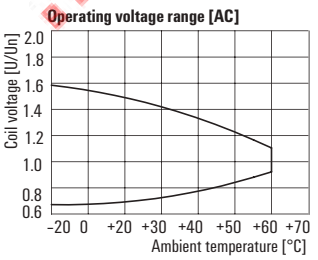
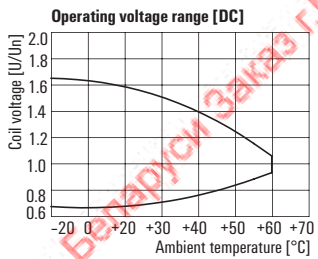
**Circuit diagram**



**Technical data**

Output	
Rated switching voltage / Continuous current	500 V AC / 16 A
Max. switching voltage, AC	500 V
Inrush current	80 A / 50 ms
Min. switching power	100 mA @ 12 V
DC / AC Switching capacity (resistive), max.	2200 W @ 220 V / 8000 VA
Contact material	AgSnO2
Mechanical service life	10 x 10 <sup>6</sup> switching cycles
Max. switching frequency at rated load	1 Hz
Rated data	
Ambient temperature (operational)	-40 °C...60 °C
Storage temperature	-40 °C...60 °C
Humidity	35 % to 85 % relative humidity level
Approvals	CE, cURus; EAC
Insulation coordinates	
Rated voltage	500 V
Impulse withstand voltage	6 kV (1.2/50 µs)
Dielectric strength input - output	4 kV <sub>eff</sub> / 1 min
Dielectric strength of neighbouring contacts	
Dielectric strength to mounting rail	
Creepage and clearance distance input - output	≥ 5.5 mm
Overvoltage category	III
Pollution degree	3
Dimensions	
Flat blade connections (4.8 mm x 0.5 mm)	
Depth x width x height	mm 48 / 36 / 36
Note	

**Applications**



**DRH DC relay**  
**1 NO AC/DC coil**  
**1 NC AC/DC coil**

Type code	DRH				
Type	DRH				
Type of construction	DRH				
	173	1NO			
	174	1NC			
Coil voltage	012	12 V DC / 024	24 V DC		
	048	48 V DC / 110	110 V DC		
	220	220 V DC / 524	24 V AC		
	548	48 V AC / 615	115 V AC		
	730	230 V AC			
With LED and test lever	LT				

**Ordering data**

	12 V DC	24 V DC	48 V DC	110 V DC	220 V DC
<b>Input</b>					
Rated control voltage	12 V DC	24 V DC	48 V DC	110 V DC	220 V DC
Rated current AC / DC	/ 120 mA	/ 60 mA	/ 30 mA	/ 13 mA	/ 6.7 mA
Power rating	1.5 W	1.5 W	1.5 W	1.5 W	1.5 W
Pull-in/drop-out voltage, typ.	9 V / 1.2 V DC	18 V / 2.4 V DC	36 V / 4.8 V DC	82.5 V / 11 V DC	154 V / 22 V DC
Pull-in/drop-out current, typ.					
Status indicator	Green LED	Green LED	Green LED	Green LED	red LED
<b>Output</b>					
Switch-on delay	< 20 ms	< 20 ms	< 20 ms	< 20 ms	< 20 ms
Switch-off delay	< 20 ms	< 20 ms	< 20 ms	< 20 ms	< 20 ms
<b>Ordering data</b>					
1 NO contact	Type DRH173012LT	Type DRH173024LT	Type DRH173048LT	Type DRH173110LT	Type DRH173220LT
	Order No. <b>1219840000</b>	Order No. <b>1219850000</b>	Order No. <b>1219860000</b>	Order No. <b>1219870000</b>	Order No. <b>1219880000</b>
1 NC contact	Type DRH174012LT	Type DRH174024LT	Type DRH174048LT	Type DRH174110LT	Type DRH174220LT
	Order No. <b>1219940000</b>	Order No. <b>1219950000</b>	Order No. <b>1219960000</b>	Order No. <b>1219970000</b>	Order No. <b>1219980000</b>
<b>Ordering data</b>					
<b>Test-button lock</b>					
Type	Test Lever Block DRH/DRW	Test Lever Block DRH/DRW	Test Lever Block DRH/DRW	Test Lever Block DRH/DRW	Test Lever Block DRH/DRW
Order No.	<b>7760056249</b>	<b>7760056249</b>	<b>7760056249</b>	<b>7760056249</b>	<b>7760056249</b>
<b>Note</b>					

**Ordering data**

	24 V AC	48 V AC	115 V AC	230 V AC
<b>Input</b>				
Rated control voltage	24 V AC	48 V AC	115 V AC	230 V AC
Rated current AC / DC	101.7 mA /	50.5 mA /	21 mA /	10,6 mA /
Power rating	2.5 VA	2.5 VA	2.5 VA	2.5 VA
Pull-in/drop-out voltage, typ.	19.2 V / 7.2 V AC	38.4 V / 14.4 V AC	92 V / 34.5 V AC	184 V / 69 V AC
Pull-in/drop-out current, typ.				
Status indicator	red LED	red LED	red LED	red LED
<b>Output</b>				
Switch-on delay	< 20 ms	< 20 ms	< 20 ms	< 20 ms
Switch-off delay	< 20 ms	< 20 ms	< 20 ms	< 20 ms
<b>Ordering data</b>				
1 NO contact	Type DRH173524LT	Type DRH173548LT	Type DRH173615LT	Type DRH173730LT
	Order No. <b>1219890000</b>	Order No. <b>1219910000</b>	Order No. <b>1219920000</b>	Order No. <b>1219930000</b>
1 NC contact	Type DRH174524LT	Type DRH174548LT	Type DRH174615LT	Type DRH174730LT
	Order No. <b>1219990000</b>	Order No. <b>1220010000</b>	Order No. <b>1220020000</b>	Order No. <b>1220030000</b>
<b>Ordering data</b>				
<b>Test-button lock</b>				
Type	Test Lever Block DRH/DRW	Test Lever Block DRH/DRW	Test Lever Block DRH/DRW	Test Lever Block DRH/DRW
Order No.	<b>7760056249</b>	<b>7760056249</b>	<b>7760056249</b>	<b>7760056249</b>
<b>Note</b>				

**D-SERIES – relay modules**

**DRH DC relay**

**1 NO / 1 NC AC/DC coil**

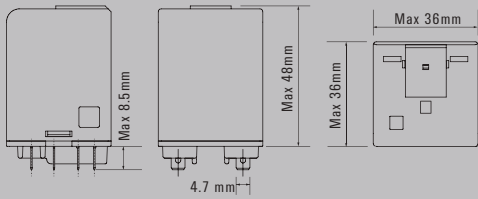
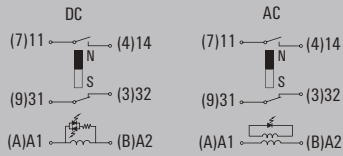
- Suitable for switching high DC loads
- With blowout magnet
- With LED and test button
- For switching high DC loads up to 3 A at 220 V DC



**B**

**Circuit diagram**

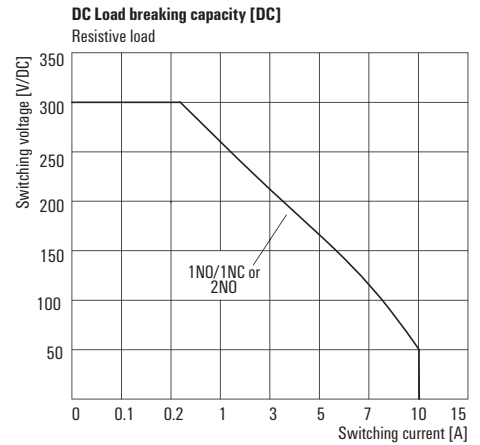
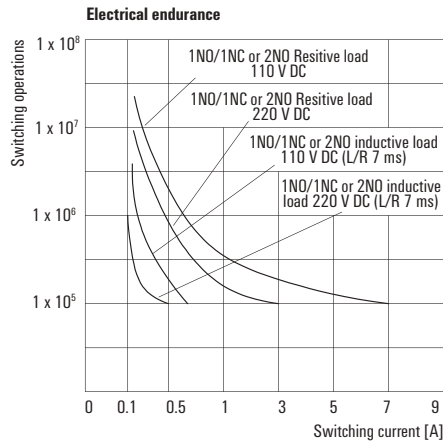
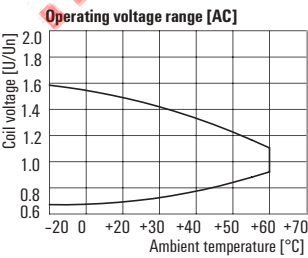
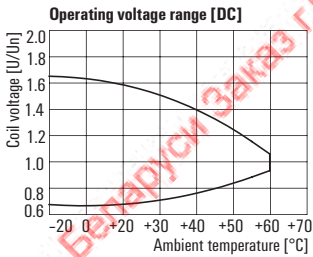
1NO/1NC



**Technical data**

Output	
Rated switching voltage / Continuous current	250 V AC / 16 A
Max. switching voltage, AC	250 V
Inrush current	80 A / 50 ms
Min. switching power	100 mA @ 12 V
DC / AC Switching capacity (resistive), max.	660 W @ 220 V / 4000 VA
Contact material	AgSnO2
Mechanical service life	10 x 10 <sup>6</sup> switching cycles
Max. switching frequency at rated load	1 Hz
Rated data	
Ambient temperature (operational)	-40 °C...60 °C
Storage temperature	-40 °C...60 °C
Humidity	35 % to 85 % relative humidity level
Approvals	CE, cURus; EAC
Insulation coordinates	
Rated voltage	500 V
Impulse withstand voltage	6 kV (1.2/50 μs)
Dielectric strength input - output	4 kV <sub>eff</sub> / 1 min
Dielectric strength of neighbouring contacts	4 kV <sub>eff</sub> / 1 min
Dielectric strength to mounting rail	
Creepage and clearance distance input - output	≥ 5.5 mm
Overvoltage category	III
Pollution degree	3
Dimensions	
<b>Flat blade connections (4.8 mm x 0.5 mm)</b>	
Depth x width x height	mm 48 / 36 / 36
Note	

**Applications**



**DRH DC relay**  
**1 NO / 1 NC AC/DC coil**

<b>Type code</b>	DRH			
Type	DRH			
Type of construction	275 1NO/1NC			
	276 2NO			
<b>Coil voltage</b>	012 12 V DC / 024 24 V DC			
	048 48 V DC / 110 110 V DC			
	220 220 V DC / 524 24 V AC			
	548 48 V AC / 615 115 V AC			
	730 230 V AC			
With LED and test lever	LT			

**Ordering data**

	12 V DC	24 V DC	48 V DC	110 V DC	220 V DC
<b>Input</b>					
Rated control voltage	12 V DC	24 V DC	48 V DC	110 V DC	220 V DC
Rated current AC / DC	/ 120 mA	/ 60 mA	/ 30 mA	/ 13 mA	/ 6.7 mA
Power rating	1.5 W	1.5 W	1.5 W	1.5 W	1.5 W
Pull-in/drop-out voltage, typ.	9 V / 1.2 V DC	18 V / 2.4 V DC	36 V / 4.8 V DC	82.5 V / 11 V DC	154 V / 22 V DC
Pull-in/drop-out current, typ.					
Status indicator	Green LED	Green LED	Green LED	Green LED	Green LED
<b>Output</b>					
Switch-on delay	< 20 ms	< 20 ms	< 20 ms	< 20 ms	< 20 ms
Switch-off delay	< 20 ms	< 20 ms	< 20 ms	< 20 ms	< 20 ms
<b>Ordering data</b>					
1 NO / 1 NC contact	DRH275012LT	DRH275024LT	DRH275048LT	DRH275110LT	DRH275220LT
Order No.	1220040000	1220050000	1220060000	1220070000	1220080000
Type					
Order No.					
<b>Ordering data</b>					
<b>Test-button lock</b>					
Type	Test Lever Block DRH/DRW	Test Lever Block DRH/DRW	Test Lever Block DRH/DRW	Test Lever Block DRH/DRW	Test Lever Block DRH/DRW
Order No.	7760056249	7760056249	7760056249	7760056249	7760056249
<b>Note</b>					

**Ordering data**

	24 V AC	48 V AC	115 V AC	230 V AC
<b>Input</b>				
Rated control voltage	24 V AC	48 V AC	115 V AC	230 V AC
Rated current AC / DC	101.7 mA /	50.5 mA /	21 mA /	10,6 mA /
Power rating	2.5 VA	2.5 VA	2.5 VA	2.5 VA
Pull-in/drop-out voltage, typ.	19.2 V / 7.2 V AC	38.4 V / 14.4 V AC	92 V / 34.5 V AC	184 V / 69 V AC
Pull-in/drop-out current, typ.				
Status indicator	red LED	red LED	red LED	red LED
<b>Output</b>				
Switch-on delay	< 20 ms	< 20 ms	< 20 ms	< 20 ms
Switch-off delay	< 20 ms	< 20 ms	< 20 ms	< 20 ms
<b>Ordering data</b>				
1 NO / 1 NC contact	DRH275524LT	DRH275548LT	DRH275615LT	DRH275730LT
Order No.	1220090000	1220110000	1220120000	1220130000
Type				
Order No.				
<b>Ordering data</b>				
<b>Test-button lock</b>				
Type	Test Lever Block DRH/DRW	Test Lever Block DRH/DRW	Test Lever Block DRH/DRW	Test Lever Block DRH/DRW
Order No.	7760056249	7760056249	7760056249	7760056249
<b>Note</b>				

**D-SERIES – relay modules**

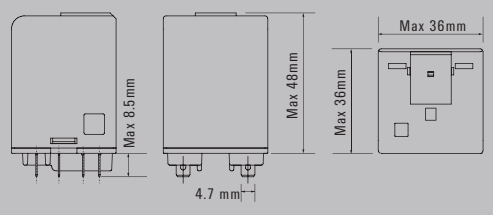
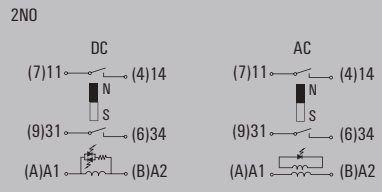
**DRH DC relay  
2 NO AC/DC coil**

- Suitable for switching high DC loads
- With blowout magnet
- With LED and test button
- For switching high DC loads up to 3 A at 220 V DC



**B**

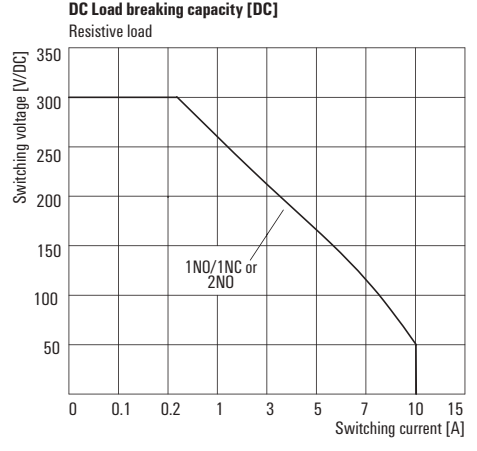
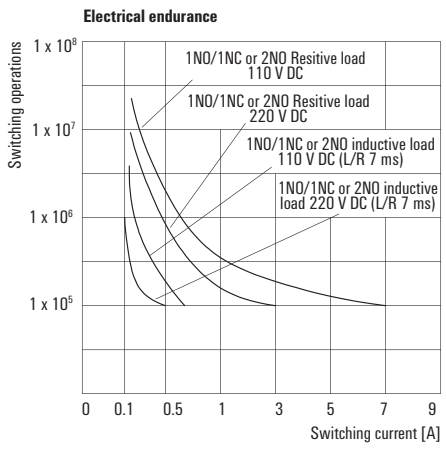
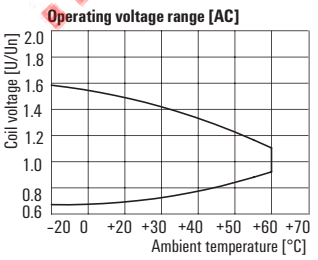
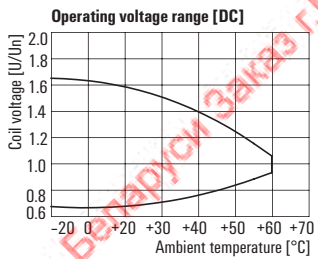
**Circuit diagram**



**Technical data**

Output	
Rated switching voltage / Continuous current	250 V AC / 16 A
Max. switching voltage, AC	250 V
Inrush current	80 A / 50 ms
Min. switching power	100 mA @ 12 V
DC / AC Switching capacity (resistive), max.	660 W @ 220 V / 4000 VA
Contact material	AgSnO2
Mechanical service life	10 x 10 <sup>6</sup> switching cycles
Max. switching frequency at rated load	1 Hz
Rated data	
Ambient temperature (operational)	-40 °C...60 °C
Storage temperature	-40 °C...60 °C
Humidity	35 % to 85 % relative humidity level
Approvals	CE, cURus; EAC
Insulation coordinates	
Rated voltage	500 V
Impulse withstand voltage	6 kV (1.2/50 µs)
Dielectric strength input - output	4 kV <sub>eff</sub> / 1 min
Dielectric strength of neighbouring contacts	4 kV <sub>eff</sub> / 1 min
Dielectric strength to mounting rail	
Creepage and clearance distance input - output	≥ 5.5 mm
Overvoltage category	III
Pollution degree	3
Dimensions	
	<b>Flat blade connections (4.8 mm x 0.5 mm)</b>
Depth x width x height	mm 48 / 36 / 36
Note	

**Applications**



**DRH DC relay**  
**2 NO AC/DC coil**

Type code	DRH			
Type	DRH			
Type of construction	275 1NO/1NC			
	276 2NO			
Coil voltage	012 12 V DC / 024 24 V DC			
	048 48 V DC / 110 110 V DC			
	220 220 V DC / 524 24 V AC			
	548 48 V AC / 615 115 V AC			
	730 230 V AC			
With LED and test lever	LT			

**Ordering data**

	12 V DC	24 V DC	48 V DC	110 V DC	220 V DC
<b>Input</b>					
Rated control voltage	12 V DC	24 V DC	48 V DC	110 V DC	220 V DC
Rated current AC / DC	/ 120 mA	/ 60 mA	/ 30 mA	/ 13 mA	/ 6.7 mA
Power rating	1.5 W	1.5 W	1.5 W	1.5 W	1.5 W
Pull-in/drop-out voltage, typ.	9 V / 1.2 V DC	18 V / 2.4 V DC	36 V / 4.8 V DC	82.5 V / 11 V DC	154 V / 22 V DC
Pull-in/drop-out current, typ.					
Status indicator	Green LED	Green LED	Green LED	Green LED	Green LED
<b>Output</b>					
Switch-on delay	< 20 ms	< 20 ms	< 20 ms	< 20 ms	< 20 ms
Switch-off delay	< 20 ms	< 20 ms	< 20 ms	< 20 ms	< 20 ms
<b>Ordering data</b>					
2 NO contact	Type DRH276012LT	Type DRH276024LT	Type DRH276048LT	Type DRH276110LT	Type DRH276220LT
Order No.	1220140000	1220150000	1220170000	1220180000	1220190000
Type					
Order No.					
<b>Ordering data</b>					
Test-button lock					
Type	Test Lever Block DRH/DRW	Test Lever Block DRH/DRW	Test Lever Block DRH/DRW	Test Lever Block DRH/DRW	Test Lever Block DRH/DRW
Order No.	7760056249	7760056249	7760056249	7760056249	7760056249
Note					

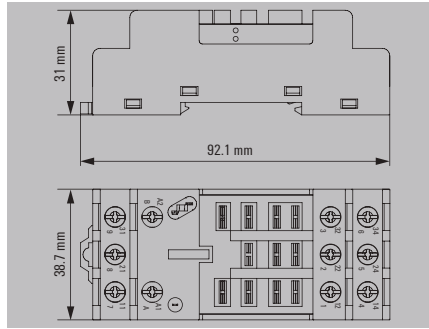
**Ordering data**

	24 V AC	48 V AC	115 V AC	230 V AC
<b>Input</b>				
Rated control voltage	24 V AC	48 V AC	115 V AC	230 V AC
Rated current AC / DC	101.7 mA /	50.5 mA /	21 mA /	10,6 mA /
Power rating	2.5 VA	2.5 VA	2.5 VA	2.5 VA
Pull-in/drop-out voltage, typ.	19.2 V / 7.2 V AC	38.4 V / 14.4 V AC	92 V / 34.5 V AC	184 V / 69 V AC
Pull-in/drop-out current, typ.				
Status indicator	red LED	red LED	red LED	red LED
<b>Output</b>				
Switch-on delay	< 20 ms	< 20 ms	< 20 ms	< 20 ms
Switch-off delay	< 20 ms	< 20 ms	< 20 ms	< 20 ms
<b>Ordering data</b>				
2 NO contact	Type DRH276524LT	Type DRH276548LT	Type DRH276615LT	Type DRH276730LT
Order No.	1220200000	1220210000	1220220000	1220230000
Type				
Order No.				
<b>Ordering data</b>				
Test-button lock				
Type	Test Lever Block DRH/DRW	Test Lever Block DRH/DRW	Test Lever Block DRH/DRW	Test Lever Block DRH/DRW
Order No.	7760056249	7760056249	7760056249	7760056249
Note				

**D-SERIES – relay modules**

**Accessories for DRH and DRW relays**

**Socket module with leaf spring connection, 3 CO contacts**



**Technical data**

<b>Output</b>	
Rated switching voltage	400 V AC
Max. switching voltage, AC	400 V
Continuous current	16 A
<b>Rated data</b>	
Ambient temperature (operational)	-40 °C...60 °C
Storage temperature	-40 °C...60 °C
Approvals	CE, cURus
<b>Insulation coordination</b>	
Protection degree	IP10
Creepage and clearance distance input - output	≥ 3 mm
Dielectric strength input - output	4 kV <sub>eff</sub> / 1 min
Dielectric strength of neighbouring contacts	4 kV <sub>eff</sub> / 1 min
Impulse withstand voltage	7.3 kV (1.2/50 µs)
<b>Connection data</b>	
Clamping range (nominal / min. / max.)	/ 0.5 / 4 mm <sup>2</sup>
Tightening torque	0.5...1.2 Nm
Stripping length, rated connection	8 mm
<b>Note</b>	

**Ordering data**

	Socket, DIN rail mounted		
<b>Note</b>			

**Accessories**

LED module / protection modules		Type	Qty.	Order No.
	RC element 6 - 230 V AC	RIM 5 6/230VAC	10	1174670000
	Free-wheeling diode 6 - 230 V DC	RIM 5 6/230VDC	10	1174650000
Retaining clip				
	Metal retaining clip	DRW/DRH CLIP M	10	1220260000
Screwdriver				
	Screwdriver, insulated PH2 SlimLine	SDIK PH2 SL	1	1274720000
	Screwdriver, insulated PH2	SDIK PH2	1	9008580000
	Screwdriver PH2	SDK PH2	1	9008490000

<b>Note</b>	
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в Беларусі Заказ г.Мінск viber и тел. +375447584780 email: [minsk17@tut.by](mailto:minsk17@tut.by) [www.tiristor.by](http://www.tiristor.by)

**D-SERIES – relay modules**

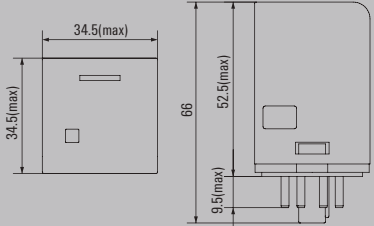
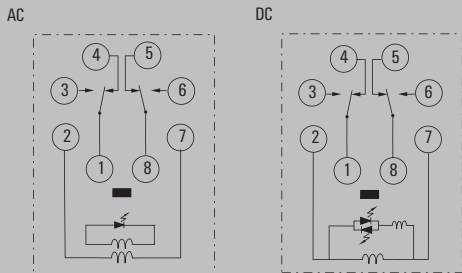
**DRR power relay**

**2 CO AC/DC coil**

- 2,500 VA switching capacity
- 8-pole relay



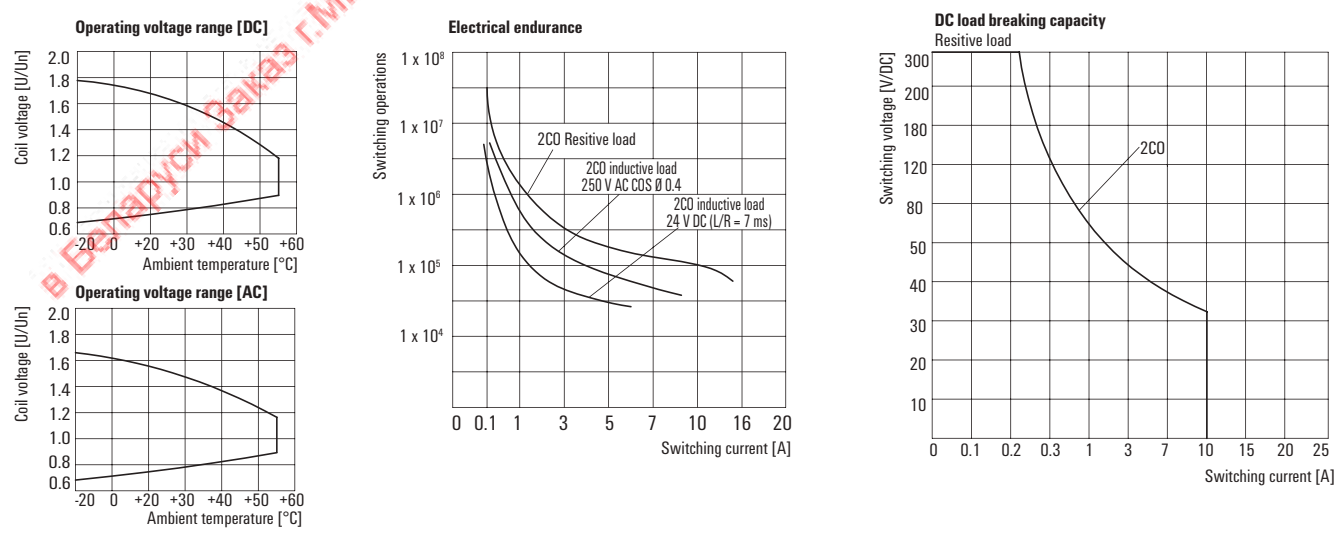
**Circuit diagram**



**Technical data**

Output	
Rated switching voltage / Continuous current	250 V AC / 10 A
Max. switching voltage, AC	250 V
Inrush current	50 A / 50 ms
Min. switching power	100 mA @ 12 V
DC / AC Switching capacity (resistive), max.	240 W @ 24 V / 2500 VA
Contact material	AgNi
Mechanical service life	10 x 10 <sup>6</sup> switching cycles
Max. switching frequency at rated load	0.1 Hz
Rated data	
Ambient temperature (operational)	-25 °C...55 °C
Storage temperature	-25 °C...55 °C
Humidity	5...85 % rel. humidity, no condensation
Approvals	CE, cURus; EAC
Insulation coordinates	
Rated voltage	250 V
Impulse withstand voltage	4 kV (1.2/50 µs)
Dielectric strength input - output	2.5 kV <sub>eff</sub> / 1 min.
Dielectric strength of neighbouring contacts	1.2 kV <sub>eff</sub> / 1 min.
Dielectric strength to mounting rail	
Creepage and clearance distance input - output	≥ 3 mm
Overvoltage category	III
Pollution degree	3
Dimensions	
Depth x width x height	mm 66 / 34.5 / 34.5
Plug-in connection	
Depth x width x height	mm 66 / 34.5 / 34.5
Note	

**Applications**



**DRR power relay  
2 CO AC/DC coil**

Type code	DRR			
Type	DRR			
Type of construction	270	2 change over contacts		
Coil voltage	012	12 V DC / 024	24 V DC	
	048	48 V DC / 110	110 V DC	
	220	220 V DC / 524	24 V AC	
	615	115 V AC / 730	230 V AC	
LED indicator	L			

**Ordering data**

	12 V DC 2CO	24 V DC 2CO	48 V DC 2CO	110 V DC 2CO	220 V DC 2CO
<b>Input</b>					
Rated control voltage	12 V DC	24 V DC	48 V DC	110 V DC	220 V DC
Rated current AC / DC	/ 125 mA	/ 55.8 mA	/ 29.2 mA	/ 15 mA	/ 7.6 mA
Power rating	1.5 W	1.5 W	1.5 W	1.5 W	1.5 W
Pull-in/drop-out voltage, typ.	9 V / 1.8 V DC	18 V / 3.6 V DC	36 V / 7.2 V DC	82.5 V / 16.5 V DC	165 V / 33 V DC
Pull-in/drop-out current, typ.					
Status indicator	Green LED	Green LED	Green LED	Green LED	Green LED
<b>Output</b>					
Switch-on delay	< 30 ms	< 30 ms	< 30 ms	< 30 ms	< 30 ms
Switch-off delay	< 20 ms	< 20 ms	< 20 ms	< 20 ms	< 20 ms

Ordering data					
Type	DRR270012L	DRR270024L	DRR270048L	DRR270110L	DRR270220L
Order No.	1133360000	1133370000	1133380000	1133390000	1133400000
Type					
Order No.					
<b>Note</b>					

**Ordering data**

	24 V AC 2CO	115 V AC 2CO	230 V AC 2CO
<b>Input</b>			
Rated control voltage	24 V AC	115 V AC	230 V AC
Rated current AC / DC	130 mA (50 Hz), 116 mA (60 Hz) /	29.8 mA (50 Hz), 25.4 mA (60 Hz) /	14.9 mA (50 Hz), 12.7 mA (60 Hz) /
Power rating	2.7 VA	2.7 VA	2.7 VA
Pull-in/drop-out voltage, typ.	19.2 V / 7.2 V AC	92 V / 34.5 V AC	184 V / 69 V AC
Pull-in/drop-out current, typ.			
Status indicator	red LED	red LED	red LED
<b>Output</b>			
Switch-on delay	< 30 ms	< 30 ms	< 30 ms
Switch-off delay	< 20 ms	< 20 ms	< 20 ms

Ordering data			
Type	DRR270524L	DRR270615L	DRR270730L
Order No.	1133760000	1133780000	1133800000
Type			
Order No.			
<b>Note</b>			

**D-SERIES – relay modules**

**DRR power relay**

**3 CO AC/DC coil**

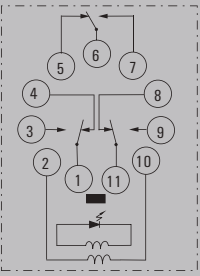
- 2,500 VA switching capacity
- 11-pole relay



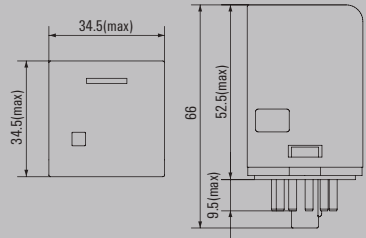
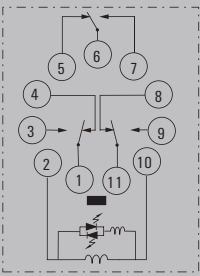
**Circuit diagram**

**DRR310**

AC



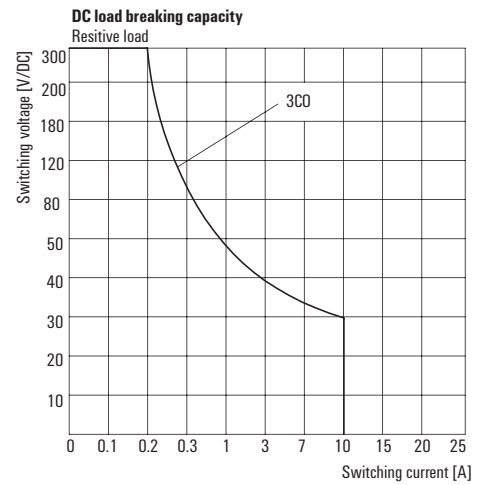
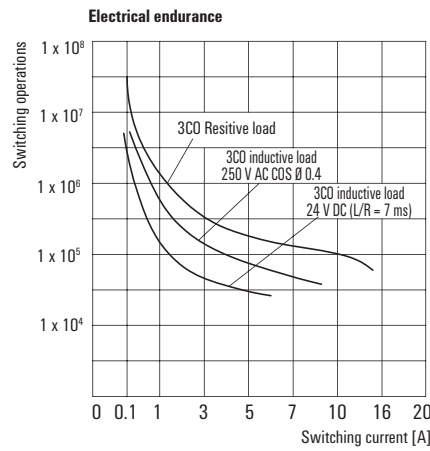
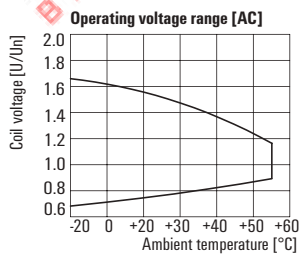
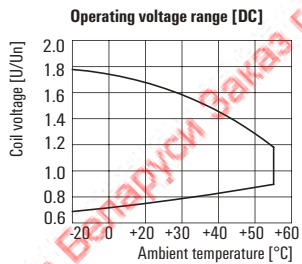
DC



**Technical data**

Output	
Rated switching voltage / Continuous current	250 V AC / 10 A
Max. switching voltage, AC	250 V
Inrush current	50 A / 50 ms
Min. switching power	100 mA @ 12 V
DC / AC Switching capacity (resistive), max.	240 W @ 24 V / 2500 VA
Contact material	AgNi
Mechanical service life	10 x 10 <sup>6</sup> switching cycles
Max. switching frequency at rated load	0.1 Hz
Rated data	
Ambient temperature (operational)	-25 °C...55 °C
Storage temperature	-25 °C...55 °C
Humidity	5...85 % rel. humidity, no condensation
Approvals	CE, cURus; EAC
Insulation coordinates	
Rated voltage	250 V
Impulse withstand voltage	4 kV (1.2/50 µs)
Dielectric strength input - output	2.5 kV <sub>eff</sub> / 1 min.
Dielectric strength of neighbouring contacts	1.2 kV <sub>eff</sub> / 1 min.
Dielectric strength to mounting rail	
Creepage and clearance distance input - output	≥ 3 mm
Overvoltage category	III
Pollution degree	3
Dimensions	
Depth x width x height	mm 66 / 34.5 / 34.5
Plug-in connection	
Depth x width x height	mm 66 / 34.5 / 34.5
Note	

**Applications**



**DRR power relay**  
**3 CO AC/DC coil**

Type code	DRR			
Type	DRR			
Type of construction	370 3 change over contacts			
Coil voltage	012 12 V DC / 024 24 V DC			
	048 48 V DC / 110 110 V DC			
	220 220 V DC / 524 24 V AC			
	615 115 V AC / 730 230 V AC			
LED indicator	L			

**Ordering data**

	12 V DC 3CO	24 V DC 3CO	48 V DC 3CO	110 V DC 3CO	220 V DC 3CO
<b>Input</b>					
Rated control voltage	12 V DC	24 V DC	48 V DC	110 V DC	220 V DC
Rated current AC / DC	/ 125 mA	/ 55.8 mA	/ 29.2 mA	/ 15 mA	/ 7.6 mA
Power rating	1.5 W	1.5 W	1.5 W	1.5 W	1.5 W
Pull-in/drop-out voltage, typ.	9 V / 1.8 V DC	18 V / 3.6 V DC	36 V / 7.2 V DC	82.5 V / 16.5 V DC	165 V / 33 V DC
Pull-in/drop-out current, typ.					
Status indicator	Green LED	Green LED	Green LED	Green LED	Green LED
<b>Output</b>					
Switch-on delay	< 30 ms	< 30 ms	< 30 ms	< 30 ms	< 30 ms
Switch-off delay	< 20 ms	< 20 ms	< 20 ms	< 20 ms	< 20 ms

Ordering data					
Type	DRR370012L	DRR370024L	DRR370048L	DRR370110L	DRR370220L
Order No.	<b>1133410000</b>	<b>1133420000</b>	<b>1133430000</b>	<b>1133440000</b>	<b>1133560000</b>
Type					
Order No.					
<b>Note</b>					

**Ordering data**

	24 V AC 3CO	115 V AC 3CO	230 V AC 3CO
<b>Input</b>			
Rated control voltage	24 V AC	115 V AC	230 V AC
Rated current AC / DC	130 mA (50 Hz), 116 mA (60 Hz) /	29.8 mA (50 Hz), 25.4 mA (60 Hz) /	14.9 mA (50 Hz), 12.7 mA (60 Hz) /
Power rating	2.7 VA	2.7 VA	2.7 VA
Pull-in/drop-out voltage, typ.	19.2 V / 7.2 V AC	92 V / 34.5 V AC	184 V / 69 V AC
Pull-in/drop-out current, typ.			
Status indicator	red LED	red LED	red LED
<b>Output</b>			
Switch-on delay	< 30 ms	< 30 ms	< 30 ms
Switch-off delay	< 20 ms	< 20 ms	< 20 ms

Ordering data			
Type	DRR370524L	DRR370615L	DRR370730L
Order No.	<b>1133810000</b>	<b>1133820000</b>	<b>1133830000</b>
Type			
Order No.			
<b>Note</b>			