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Просим Вас указывать в заявке:

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- возможность замены или аналоги;

## Каталог Beckhoff

Автоматизация

# BECKHOFF New Automation Technology

Main Catalog | 2016



IPC	Industrial PC   Embedded PC
I/O	EtherCAT   EtherCAT Terminal   EtherCAT Box   EtherCAT Plug-in Modules   Bus Terminal   Fieldbus Box   Infrastructure Components
Motion	Drive Technology
Automation	TwinCAT   TwinSAFE

IPC



**28** **Industrial PC, Control Panel**  
PC Control for all applications



**184** **Embedded PC**  
Modular DIN rail IPCs and Industrial Motherboards

I/O



**262** **Fieldbus Components**  
I/Os for all common fieldbus systems



**284** **EtherCAT**  
The real-time Ethernet fieldbus



**314** **EtherCAT Terminal**  
Ultra high-speed communication



**450** **EtherCAT Box**  
High performance for harsh environments



**526** **EtherCAT Plug-in Modules**  
Bus Terminals for circuit boards



**542** **Bus Terminal**  
The modular fieldbus system for automation



**696** **Fieldbus Box**  
The compact IP 67 modules



**766** **Infrastructure Components**  
PC Fieldbus Cards, Switches, Media Converters

Motion



**790** **Drive Technology**  
The drive system for highly dynamic positioning tasks

Automation



**892** **TwinCAT**  
PLC and Motion Control on the PC



**966** **TwinSAFE**  
Open and scalable safety technology

**988** **Support, Service, Training**  
Worldwide presence and comprehensive services

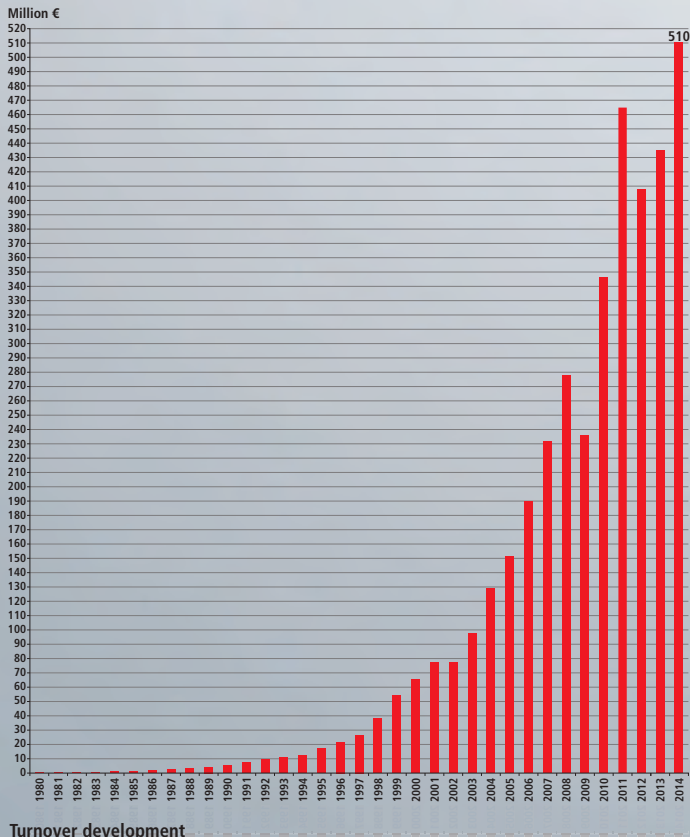
# New Automation Technology







Beckhoff implements open automation systems based on PC Control technology. The product range covers Industrial PCs, I/O and Fieldbus Components, Drive Technology and automation software. Products that can be used as separate components or integrated into a complete and seamless control system are available for all industries. The Beckhoff "New Automation Technology" philosophy represents universal and open control and automation solutions that are used worldwide in a wide variety of different applications, ranging from CNC-controlled machine tools to intelligent building automation.



## Worldwide presence on all continents

The central divisions of Beckhoff, such as development, production, administration, distribution, marketing, support and service are located at the Beckhoff Automation GmbH & Co. KG headquarters in Verl, Germany. Rapidly growing presence in the international market is taking place through subsidiaries and branch offices. Through worldwide co-operation with partners, Beckhoff is represented in more than 75 countries.

## Beckhoff Automation

- Headquarters Verl, Germany
- Sales 2014: **510 million €**
- Staff worldwide: **2,900**
- Sales Offices Germany: **14**
- Subsidiaries/Branch Offices worldwide: **34**
- Distributors worldwide: **in more than 75 countries**

(as of 11/2015)

# PC-based control technology





Since the foundation of the company in 1980, continuous development of innovative products and solutions using PC-based control technology has been the basis for the continued success of Beckhoff. Many automation technology standards that are taken for granted today were conceptualised by Beckhoff at an early stage and successfully introduced to the market.

The Beckhoff PC Control philosophy and the invention of the Lightbus system, the Bus Terminals and TwinCAT automation software represent milestones in automation technology and have become accepted as high-performance alternatives to traditional control technology. EtherCAT, the real-time Ethernet solution, makes forward-looking, high-performance technology available for a new generation of leading edge control concepts.

## Milestones

- |             |  |             |   |
|-------------|--|-------------|---|
| <b>1982</b> | P1000 – single-board motion controller   | <b>2005</b> | TwinSAFE – the compact safety solution  |
| <b>1986</b> | PC Control – first PC-based machine controller   | <b>2005</b> | AX5000 – EtherCAT Servo Drives  |
| <b>1988</b> | S1000 – software PLC/NC on PC (DOS)  | <b>2007</b> | Industrial Motherboards – made in Germany   |
| <b>1989</b> | Lightbus – high-speed fieldbus utilising optical fibre                                   | <b>2008</b> | XFC – eXtreme Fast Control Technology   |
| <b>1990</b> | All-in-one PC motherboard  | <b>2009</b> | HD Bus Terminals – 16-channel terminals in 12 mm  |
| <b>1995</b> | Bus Terminal – fieldbus technology in terminal block format                              | <b>2010</b> | TwinCAT 3 – eXtended Automation Technology  |
| <b>1996</b> | TwinCAT – real-time software package under Windows with PLC and Motion Control functions | <b>2011</b> | AM8000 – Synchronous Servomotors with One Cable Technology  |
| <b>1998</b> | Control Panel – remote IPC Control Panels  | <b>2012</b> | 2 <sup>nd</sup> generation of Control Panels – Panel PCs and Control Panels with multi-touch technology |
| <b>1999</b> | Fieldbus Box – the I/O system in IP 67   | <b>2012</b> | XTS – eXtended Transport System   |
| <b>2002</b> | CX1000 – modular Embedded PCs for DIN rail mounting                                      | <b>2014</b> | Many-core control – Industrial server maximises industrial computing power                              |
| <b>2003</b> | EtherCAT – real-time Ethernet fieldbus system  | <b>2014</b> | AX8000 – Multi-axis servo system  |
|             |  | <b>2014</b> | EtherCAT plug-in modules – Bus Terminals for circuit boards   |



# IPC, I/O, Motion and Automation





## The IPC Company

Beckhoff supplies the right Industrial PC for every application. High-quality components based on open standards and the rugged construction of the device housings mean that the Industrial PCs are ideally equipped for all control requirements. Embedded PCs make modular IPC technology available in miniature format for DIN rail mounting. In addition to their application in automation, Beckhoff Industrial PCs are also ideally suited to other kinds of tasks – wherever reliable and robust PC technology is required.

## The I/O Company

Beckhoff has the right technology for every signal and every fieldbus. Beckhoff supplies a complete range of Fieldbus Components for all common I/Os and fieldbus systems. With the Bus Terminals in protection class IP 20, and the Fieldbus Box modules in IP 67, a complete range is available for all important signal types and fieldbus systems. In addition to conventional bus systems, Beckhoff offers a complete EtherCAT I/O range for the high-speed Ethernet fieldbus based on EtherCAT Terminals and the EtherCAT Box.

## The Motion Company

In combination with the Motion Control solutions offered by the TwinCAT automation software, Beckhoff Drive Technology represents an advanced and complete drive system. PC-based control technology from Beckhoff is ideally suited for single and multiple axis positioning tasks with highly dynamic requirements. The AX5000 and AX8000 Servo Drive series with high-performance EtherCAT communication offer maximum performance and dynamics. Servomotors with One Cable Technology, which combines power and feedback system in a standard motor cable, reduce material and commissioning costs. The drive system XTS (eXtended Transport System) replaces classic mechanical systems by innovative mechatronics. It enables individual product transport applications with a continuous flow of material.

## The Automation Company

Beckhoff offers comprehensive system solutions in different performance classes for all areas of automation. Beckhoff control technology is scalable – from high-performance Industrial PCs to mini PLCs – and can be adapted precisely to the respective application. TwinCAT automation software integrates real-time control with PLC, NC and CNC functions in a single package. All Beckhoff controllers are programmed using TwinCAT in accordance with the globally-recognised IEC 61131-3 programming standard. With TwinCAT 3, C/C++ and MATLAB®/Simulink® are available as programming languages in addition to IEC 61131-3.

# The Beckhoff Main Catalog

The Beckhoff Main Catalog contains basic information for all product groups. Further information, such as more detailed technical data/drawings and other documentation, is available on the Beckhoff website. The information is complemented by multimedia files or Application Notes. Direct links are provided on the respective catalog pages:



Product web page



Additional information

In addition to detailed technical data, the product web pages contain PDF files, additional documentation, videos, Application Notes, technical drawings, etc.

KL2751, KL2761
Digital output

### Digital output | Universal dimmers up to 230 V AC

To dim light efficiently means electronically regulating the current flow through the lighting medium using the phase control principle. The ratio of the switch-on time to the switch-off time determines the output light quantity via the flow of current. Depending on the load connected (ohmic, capacitive, inductive) either the switch-on time (leading edge phase control | load type: L) or the switch-off time (trailing edge phase control | load type: C, R) must be regulated. The load type of an electronic ballast depends on the transformer used and must be taken into account.

The KL2751 and KL2761 universal dimmer terminals automatically recognise the connected load and select the corresponding control principle. The short-circuit resistance prevents damage to the fuse, so that no additional maintenance work is necessary when exchanging the lamp.

If high-energy, high-frequency interference pulses are likely to occur in the 230 V AC mains power supply, they can be eliminated by an upstream KL9380 feed and filter terminal.

Technical data	KL2751 (KL2751)	KL2761 (KL2761)
Connection technology	4-wire	
Load type	ohmic, inductive or capacitive (not mixed), lamp load, automatic load detection	
Max. output current	1.35 A	2.7 A
Number of outputs	1	

Nominal voltage	230 V AC	
Current consumption power contacts	only load	
Current consumpt. K-bus power contacts	typ. 65 mA	
Short circuit current	10...20 A	20...40 A
Mains voltage	230 V AC (50 Hz)	
Rated output	300 VA (W)	600 VA (W)
Rated current	max. 1.35 A	max. 2.7 A
Control type	phase control	
Resolution	1 %	
Leakage current	< 1 mA (OFF state)	
Special features	dimmers with fieldbus functionality	
Operating temperature	0...+55 °C	
Approvals	CE	
Weight	approx. 60 g	
Further information	www.beckhoff.com/kl2751   www.beckhoff.com/kl2761	
Special terminals	KL2751, KL2761	
Dist. ing features	without power contacts	600 W, 50 Hz (without power contacts)
Accessories	mains filter terminal for dimmers see KL9380	

Leading edge phase control

Trailing edge phase control

Further information [www.beckhoff.com/kl2751](http://www.beckhoff.com/kl2751)

We reserve the right to make technical changes. BECKHOFF New Automation Technology



C6915 | Control cabinet Industrial PC with Intel® Atom™

Series	Model	Processor	Memory	Storage	Power supply	Dimensions	Weight	Operating temperature	Approvals
C6915	C6915-0010	Intel Atom™ D525	1 GB	160 GB	15 W	120 x 120 x 120 mm	~ 1.5 kg	0...+55 °C	CE

# www.beckhoff.com

► <http://infosys.beckhoff.com>



## The online manual

The Beckhoff Information System contains information about the Beckhoff products and technical information, manuals, TwinCAT example codes, a knowledge base and much more.



## Print media online

The Beckhoff catalogs and flyers are available for download on the Internet. Printed copies are available on request. Please use our online order form to specify your requirements.

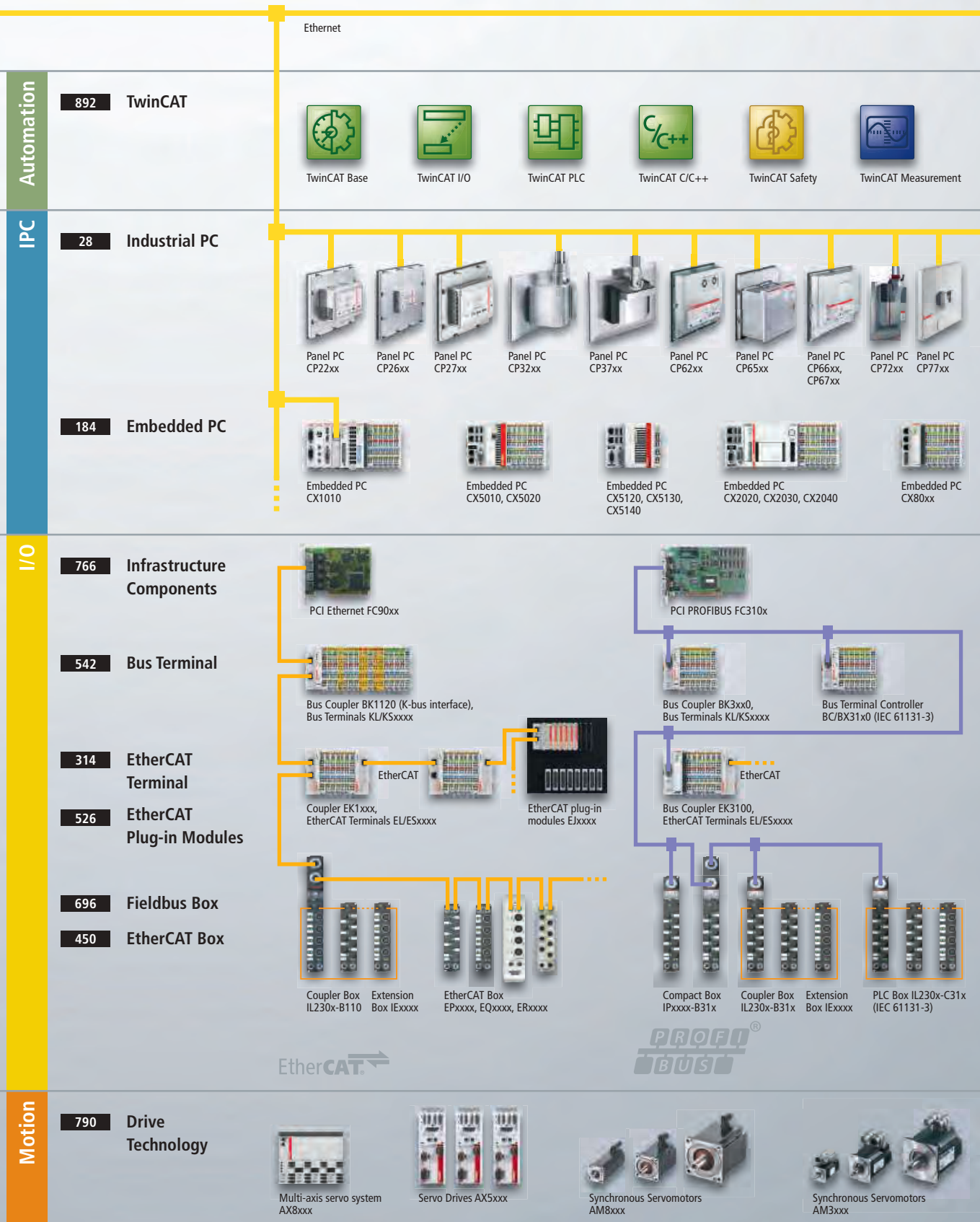
► [www.beckhoff.com/media](http://www.beckhoff.com/media)

TwinCAT automation software can be downloaded as a full version and or as a runtime version. The trial period for the runtime version is seven days.





# System overview



Detailed system and fieldbus information from page **272**





TwinCAT Control



TwinCAT Motion



TwinCAT PTP



TwinCAT NC I



TwinCAT CNC



TwinCAT Robotics



TwinCAT Connectivity



Panel PC C36xx



19-inch slide-in PC C5xx



Control cabinet PC C61xx



Control cabinet PC C62xx



Built-in Industrial PC C65xx



Control cabinet PC C66xx



Control cabinet PC C69xx



Built-in Control Panel CP29xx



Built-in Control Panel CP69xx



Control Panel CP39xx



Control Panel CP79xx



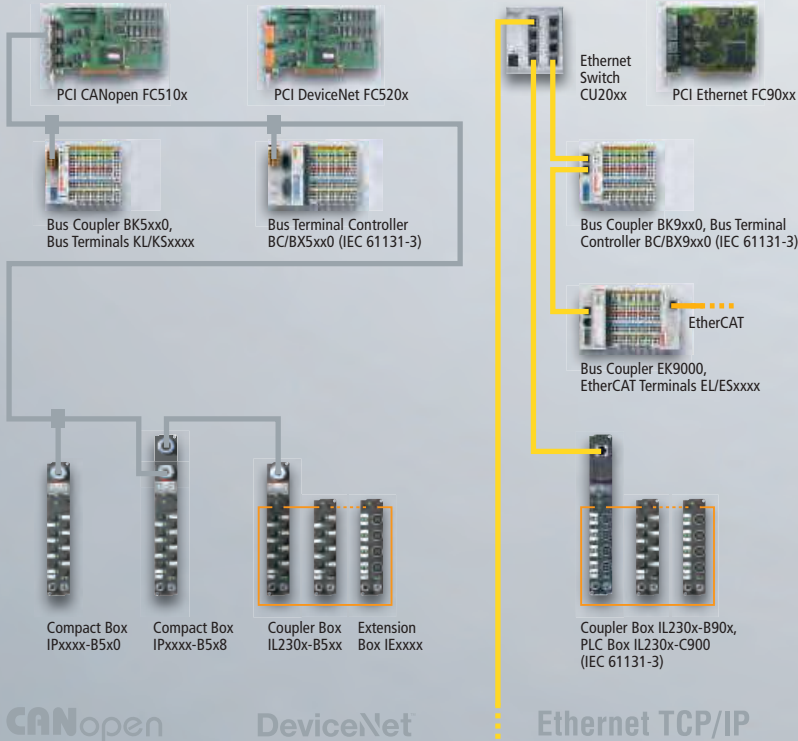
Embedded PC CX9000, CX9010



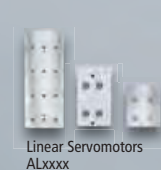
Embedded PC CX9020



Industrial Motherboards CBxxxx



Stainless steel servomotors AM88xx



Linear Servomotors ALxxxx



Compact Drive Technology



XTS | eXtended Transport System

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# Product Index

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## A

AG1000	871
AG2210	836
AG2250	865
AG2300	833
AG2800	842
AL2000	851
AL20xx	850
AL21xx	851
AL2200	854
AL2250	854
AL2400	852
AL24xx	852
AL25xx	852
AL2800	853
AL28xx	853
AL29xx	853
AM30uv-wxyz-000a	845
AM31uv-wxyz-000a	863
AM80uv-wxyz	825
AM81uv-wxyz	863
AM85uv-wxyz	831
AM88uv-wxyz	841
AMxxxx	816
AS10xx	868
AT2000-xx00	891
AT20xx-0xxx	886
AT9000-xxxx	890
AT9001-0550	887
AT9011-0050	887
AT9011-0070	887
AT9012-0050	887
AT9050-xxxx	890
AT9100-xxxx	890
AX2090-BW50-xxxx	807
AX2090-BW80-xxxx	813
AX2090-MD50	807
AX2090-ND50	807
AX2090-NF50	806
AX5000	798
AX5021	807
AX51xx	800
AX52xx	801
AX57xx	802
AX58xx	802
AX8000	808
AX81xx	811
AX8206	811
AX86xx	810
AX8810	812

## B

BC3100	582
BC3150	582
BC5150	583
BC5250	584
BC7300	585
BC8050	585
BC8150	586
BC9000	587
BC9020	587
BC9050	587
BC9100	588
BC9120	588
BC9191	589
BC9191-0100	589
BG15xx	449
BK1120	337, 566
BK1150	337, 566
BK1250	337, 566
BK2000	567
BK2010	567
BK2020	567
BK3010	568
BK3100	568
BK3110	568
BK3120	569
BK3150	569
BK3520	569
BK4000	570
BK4020	570
BK5110	570
BK5120	571
BK5150	571
BK5151	571
BK5200	572
BK5210	572
BK5220	573
BK5250	573
BK7000	574
BK7150	574
BK7300	575
BK7350	575
BK7500	576
BK7520	576
BK8000	576
BK8100	577
BK9000	577
BK9050	577
BK9053	578
BK9055	579
BK9100	577

BK9103	578
BK9105	579
BK9500	579
Built-in Control Panel	168
Built-in Panel PC	46
Bus Coupler E-bus	338
Bus Coupler K-bus	564
Bus Terminal Controller	580
Bus Terminals	542
BX3100	583
BX5100	583
BX5200	584
BX8000	586
BX9000	589
BZ1xxx	447
BZ30x0	447
BZ3200	448
BZ5100	448

## C

C3620	98
C3640	99
C5102	104
C5210	105
C6140	108
C6150	109
C6240	112
C6250	113
C6515	116
C6525	118
C6640	122
C6650	123
C6670	125
C6915	128
C6920	130
C6925	129
C6930	132
C9900-E21x	183
C9900-E249	145
C9900-E270	135
C9900-E271	136
C9900-E276	137
C9900-E277	139
C9900-E78x	180
C9900-Exxx	174
C9900-G00x, -G01x	160
C9900-G02x, -G03x	161
C9900-H35x	142
C9900-H37x	142

C9900-L100	413	CP772x	94	CX1030-N041	237
C9900-M3x0	182	CP773x	94	CX1030-N060	237
C9900-M400	182	CP77xx	94	CX1100-0001	239
C9900-M406	159	CP7901-140x	170	CX1100-0002	239
C9900-T90x	183	CP7902-140x	170	CX1100-0003	239
C9900-U330	144	CP7903-140x	170	CX1100-0004	239
C9900-U332	144	CP790x	170	CX1100-0012	239
CANopen Bus Coupler K-bus	570	CP791x	170	CX1100-0013	239
CANopen Fieldbus Box	712	CP792x	170	CX1100-0014	239
CANopen PC cards	774	CP793x	170	CX1100-09x0	243
CANopen PCIe cards	775	CP794x	170	CX1500-B200	242
CB1056	257	CP79xx	170	CX1500-B310	242
CB1061	258	CP7xxx	170	CX1500-B510	242
CB3056	259	CU1128	785	CX1500-B520	242
CB3060	260	CU1521	786	CX1500-M200	241
CB3063	261	CU1561	786	CX1500-M310	241
CC-Link Bus Coupler K-bus	574	CU2005	782	CX1500-M510	241
ControlNet Bus Coupler K-bus	574	CU2008	782	CX1500-M520	241
Control Panel	148	CU2016	782	CX1500-M750	241
CP22xx	48	CU2208	783	CX2020	246
CP26xx	52	CU2508	784	CX2030	246
CP27xx	56	CU2608	787	CX2040	246
CP29xx	154	CU8006	139	CX2100-0xxx	248
CP32xx	60	CU8800	135	CX2500-00xx	249
CP37xx	64	CU8801	136	CX2500-B310	253
CP39xx	156	CU8802	137	CX2500-B510	253
CP620x	70	CU8803	137	CX2500-M310	252
CP621x	70	CU8810	140	CX2500-M510	252
CP622x	70	CU8815	140	CX2550-0010	250
CP623x	70	CU8850	135	CX2550-0020	250
CP624x	70	CU8851	136	CX2550-0x79	251
CP62xx	70	CU8870	141	CX5010	224
CP650x	76	CU8871	141	CX5020	224
CP651x	76	CU8880	142	CX5120	228
CP652x	76	CX1010	218	CX5130	228
CP653x	76	CX1010-N010	220	CX5140	228
CP654x	76	CX1010-N020	220	CX8000	198
CP65xx	76	CX1010-N030	220	CX8010	202
CP66xx	80	CX1010-N031	220	CX8030	202
CP6606	83	CX1010-N040	220	CX8031	202
CP67xx	86	CX1010-N041	220	CX8050	203
CP690x	168	CX1010-N060	220	CX8051	203
CP691x	168	CX1020	232	CX8080	203
CP692x	168	CX1020-N010	236	CX8090	204
CP693x	168	CX1020-N020	236	CX8091	204
CP694x	168	CX1020-N030	236	CX8093	205
CP69xx	168	CX1020-N031	236	CX8095	205
CP6xxx	168	CX1020-N040	236	CX8097	205
CP720x	90	CX1020-N041	236	CX9000	208
CP721x	90	CX1020-N060	236	CX900x-0x0x	209
CP722x	90	CX1030	234	CX900x-1x0x	209
CP723x	90	CX1030-N010	237	CX9010	210
CP724x	90	CX1030-N020	237	CX901x-0x0x	211
CP72xx	90	CX1030-N030	237	CX901x-1x0x	211
CP770x	94	CX1030-N031	237	CX9020	214
CP771x	94	CX1030-N040	237	CX90x0-A001	212



CX90x0-N010	212
CX90x0-N030	212
CX90x0-N031	212
CX90x0-N070	212

## D

DeviceNet Bus Coupler K-bus	572
DeviceNet Fieldbus Box	713
DeviceNet PC cards	776
DIN rail PC	184
Drive Technology	790

## E

EJ1008	536
EJ1100	535
EJ1809	536
EJ1859	536
EJ1889	536
EJ2008	537
EJ2502	537
EJ2809	537
EJ2889	537
EJ3004	538
EJ3108	538
EJ3202	538
EJ3214	538
EJ4002	539
EJ4134	539
EJ7047	540
EJ7211-0010	540
EJ7342	540
EJ9001	541
EJ9576	541
EK1100	332
EK1101	332
EK1101-0080	332
EK1110	336
EK1122	336
EK1122-0080	336
EK1501	334
EK1501-0010	334

EK1521	335
EK1521-0010	335
EK1541	334
EK1561	335
EK1814	333
EK1818	333
EK1828	333
EK1828-0010	333
EK1914	978, 332
EK1960	977
EK3100	338
EK9000	338
EK9300	339
EK9500	339
EK9700	339
EL1002   ES1002	344
EL1004   ES1004	343
EL1004-0020	343
EL1008   ES1008	342
EL1012   ES1012	344
EL1014   ES1014	343
EL1018   ES1018	342
EL1024   ES1024	344
EL1034   ES1034	344
EL1084   ES1084	348
EL1088   ES1088	348
EL1094   ES1094	348
EL1098   ES1098	348
EL1104   ES1104	345
EL1114   ES1114	345
EL1124   ES1124	349
EL1134   ES1134	349
EL1144   ES1144	349
EL1202   ES1202	346
EL1252   ES1252	346
EL1258	347
EL1259	347
EL1262   ES1262	347
EL1382   ES1382	345
EL1502   ES1502	350
EL1512   ES1512	350
EL1702   ES1702	349
EL1712   ES1712	349
EL1722   ES1722	349
EL1804	345
EL1808	343
EL1809	343
EL1814	345
EL1819	343
EL1859	343
EL1862	345
EL1872	345
EL1889	348
EL1904	980, 351

EL1908	981, 351
EL2002   ES2002	352
EL2004   ES2004	352
EL2008   ES2008	353
EL2022   ES2022	354
EL2024   ES2024	354
EL2032   ES2032	355
EL2034   ES2034	355
EL2042   ES2042	355
EL2084   ES2084	358
EL2088   ES2088	358
EL2124   ES2124	359
EL2202   ES2202	356
EL2212   ES2212	356
EL2252   ES2252	357
EL2258	357
EL2262   ES2262	357
EL2502   ES2502	364
EL2521   ES2521	363
EL2521-0024   ES2521-0024	363
EL2521-0025	363
EL2521-0124	363
EL2522	363
EL2535   ES2535	365
EL2535-0002	365
EL2535-0050	365
EL2545   ES2545	365
EL2595	365
EL2602   ES2602	366
EL2612   ES2612	367
EL2622   ES2622	367
EL2624   ES2624	367
EL2652   ES2652	367
EL2712   ES2712	368
EL2722   ES2722	368
EL2732   ES2732	368
EL2784	360
EL2788	361
EL2794	361
EL2798	361
EL2808	353
EL2809	353
EL2819	354
EL2828	355
EL2872	353
EL2889	358
EL2901	982, 369
EL2902	982, 369
EL2904	983, 369
EL2964	983
EL3001   ES3001	370
EL3002   ES3002	371

EL3004   ES3004	371	EL3602   ES3602	373	EL6688	417
EL3008   ES3008	371	EL3612   ES3612	379	EL6692	418
EL3011   ES3011	377	EL3632	390	EL6695	418
EL3012   ES3012	377	EL3681   ES3681	396	EL6720	426
EL3014   ES3014	377	EL3692	391	EL6731	423
EL3021   ES3021	381	EL3702   ES3702	373	EL6731-0010	423
EL3022   ES3022	381	EL3742   ES3742	379	EL6740-0010	426
EL3024   ES3024	381	EL3773	395	EL6751	424
EL3041   ES3041	376	EL4001   ES4001	402	EL6751-0010	424
EL3042   ES3042	376	EL4002   ES4002	402	EL6752	425
EL3044   ES3044	376	EL4004   ES4004	402	EL6752-0010	425
EL3048   ES3048	376	EL4008   ES4008	402	EL6851	427
EL3051   ES3051	380	EL4011   ES4011	404	EL6851-0010	427
EL3052   ES3052	380	EL4012   ES4012	404	EL6900	979, 428
EL3054   ES3054	380	EL4014   ES4014	404	EL6910	979, 428
EL3058   ES3058	380	EL4018   ES4018	404	EL6930	979, 428
EL3061   ES3061	374	EL4021   ES4021	406	EL7031   ES7031	431
EL3062   ES3062	374	EL4022   ES4022	406	EL7037	431
EL3064   ES3064	374	EL4024   ES4024	406	EL7041   ES7041	431
EL3068   ES3068	374	EL4028   ES4028	406	EL7047	431
EL3101   ES3101	372	EL4031   ES4031	400	EL7201	433
EL3102   ES3102	372	EL4032   ES4032	400	EL7201-0010	433
EL3104   ES3104	372	EL4034   ES4034	401	EL7211	433
EL3111   ES3111	379	EL4038   ES4038	401	EL7211-0010	433
EL3112   ES3112	379	EL4102   ES4102	403	EL7332   ES7332	435
EL3114   ES3114	379	EL4104   ES4104	403	EL7342   ES7342	435
EL3121   ES3121	383	EL4112   ES4112	405	EL9011	438
EL3122   ES3122	383	EL4114   ES4114	405	EL9070	437
EL3124   ES3124	383	EL4122   ES4122	407	EL9080	437
EL3141   ES3141	378	EL4124   ES4124	407	EL9100   ES9100	436
EL3142   ES3142	378	EL4132   ES4132	401	EL9110   ES9110	436
EL3144   ES3144	378	EL4134   ES4134	401	EL9150   ES9150	436
EL3151   ES3151	382	EL4712   ES4712	405	EL9160   ES9160	436
EL3152   ES3152	382	EL4732   ES4732	401	EL9180   ES9180	438
EL3154   ES3154	382	EL5001   ES5001	408	EL9181	439
EL3161   ES3161	375	EL5002   ES5002	408	EL9182	439
EL3162   ES3162	375	EL5021   ES5021	411	EL9183	439
EL3164   ES3164	375	EL5032	409	EL9184	439
EL3201   ES3201	386	EL5101   ES5101	410	EL9185   ES9185	438
EL3202   ES3202	387	EL5151   ES5151	411	EL9186   ES9186	438
EL3204   ES3204	385	EL5151-0021	411	EL9187   ES9187	439
EL3204-0200	385	EL5152   ES5152	411	EL9188	439
EL3208	385	EL6001   ES6001	412	EL9189	439
EL3214	385	EL6002	412	EL9190   ES9190	437
EL3255	397	EL6021   ES6021	412	EL9195   ES9195	437
EL3311	388	EL6022	412	EL9200	437
EL3312	388	EL6070	413	EL9210	437
EL3314	389	EL6080	414	EL9250	437
EL3318	389	EL6090	415	EL9260	437
EL3351   ES3351	392	EL6201   ES6201	419	EL9290	437
EL3356   ES3356	393	EL6224	420	EL9400   ES9400	440
EL3356-0010	393	EL6601	416	EL9410   ES9410	440
EL3403   ES3403	394	EL6614	416	EL9505   ES9505	441
EL3413	395	EL6631	421		
EL3413-0001	395	EL6632	421		
EL3433	395	EL6652	422		

EL9508   ES9508	441	EP5151-0002	493	ER3204	487
EL9510   ES9510	441	EP6001	494	ER3314	488
EL9512   ES9512	441	EP6002	494	ER4174	491
EL9515   ES9515	441	EP6224	495	ER4374	491
EL9520   ES9520	440	EP7041-0002	496	ER5101	492
EL9540   ES9540	442	EP7041-1002	496	ER5151-0002	493
EL9550   ES9550	442	EP7041-2002	497	ER6001	494
EL9560   ES9560	441	EP7041-3002	497	ER6002	494
EL9576   ES9576	443	EP7041-3102	497	ER7041	496
EL9820	308	EP7342	498	ER7041-1002	496
ELxxxx	314	EP8309	499	ER7041-2002	497
EM2042	353	EP9128	788	ER7041-3002	497
EM3701	398	EP9214	501	ER7342	498
EM3702	398	EP9224	501	ER8309	499
EM7004	429	EP9300	502	ERI1008	748
Embedded PC	184	EP9521-0020	789	ERI1809	749
Encoder option cards	802	EP9522-0020	789	ERI2008	750
EP1008	466	EPI1008	748	ERI2338	752
EP1008-0022	467	EPI1809	749	ERI2339	753
EP1018	466	EPI2008	750	ERI2809	751
EP1098	467	EPI2338	752	ERI3174	754
EP1111	500	EPI2339	753	ERI4374	755
EP1122	500	EPI2809	751	ESxxxx	314
EP1258	471	EPI3174	754	ET1100	305
EP1518	468	EPI4374	755	ET1200	305
EP1809	470	EQ1008	506	ET1810	306
EP1816	469	EQ1809	506	ET1811	306
EP1816-3008	469	EQ2008	507	ET1812	306
EP1819	470	EQ2339	508	ET1815	307
EP1908	981	EQ2809	507	ET1816	307
EP2008-0022	477	EQ3174	510	ET2000	310
EP2028	474	EQ3204	511	ET9000	312
EP2028-0032	475	EQ3314	511	ET9200	312
EP2038	476	ER1008	466	ET9300	313
EP2308	480	ER1008-0022	467	ET9400	313
EP2316	481	ER1018	466	ET9402	311
EP2316-0003	482	ER1098	467	ET Bus Terminals	542
EP2318	480	ER1258	471	EtherCAT	284
EP2328	483	ER1518	468	EtherCAT Box	450
EP2338	482	ER1809	470	EtherCAT Bus Coupler K-bus	337
EP2339	484	ER1819	470	EtherCAT cable	514
EP2349	485	ER2008	473	EtherCAT Coupler E-bus	330
EP2624	479	ER2008-0022	477	EtherCAT Drives	798
EP2809	477	ER2028	474	EtherCAT Fieldbus Box	709
EP2816	478	ER2028-1032	475	EtherCAT Fieldbus Module	762
EP2817	479	ER2038	476	EtherCAT patch cable	446
EP3162	486	ER2308	480	EtherCAT Plug-in Modules	526
EP3174	487	ER2318	480	EtherCAT RJ45 cable	446
EP3184	487	ER2328	483	EtherCAT system overview	272
EP3356	489	ER2338	482	EtherCAT Terminals	314
EP3744	490	ER2339	484	Ethernet Bus Coupler	338
EP3744-1041	490	ER2349	485	E-bus	
EP4174	491	ER2624	479	Ethernet Bus Coupler	577
EP4374	491	ER2809	477	K-bus	
EP5101	492	ER3174	487	Ethernet Fieldbus Box	716
EP5101-1002	493	ER3184	487	Ethernet PC cards	778

Ethernet Switches	782
EtherNet/IP Bus Coupler E-bus	339
EtherNet/IP Bus Coupler K-bus	579

<b>F</b>	
FB1111-014x	309
FC1100	781
FC1121	781
FC2001	771
FC2002	771
FC3101	772
FC3102	772
FC3121	773
FC3122	773
FC3151	772
FC5101	774
FC5102	774
FC5121	775
FC5122	775
FC5151	774
FC5201	776
FC5202	776
FC5251	776
FC7501	777
FC7502	777
FC7551	777
FC9001-0010	778
FC9002	779
FC9004	779
FC9011	778
FC9022	779
FC9024	779
FC9051	780
FC9062	143
FC9151	780
Fieldbus Box	696
Fieldbus Module	762
Fieldbus system overviews	273
FM3312-B110	762
FM3312-B310	764
FM3332-B110	762
FM3332-B310	764

<b>G</b>	
Guide rails	890

<b>H</b>	
HD Bus Terminals	592
HD EtherCAT Terminals	342

<b>I</b>	
IE100x	728
IE101x	728
IE1502	729
IE200x	730
IE202x	731
IE204x	732
IE230x	735
IE231x	735
IE232x	736
IE233x	736
IE2403	735
IE240x	737
IE2512	733
IE2808	733
IE3102	738
IE3112	739
IE3202	739
IE3312	739
IE4112	740
IE4132	740
IE5009	742
IE5109	743
IE6002	744
IE6012	745
IE6022	745
IL230x-B110	709
IL230x-B200	709
IL230x-B310	710
IL230x-B318	710
IL230x-B400	711
IL230x-B510	712
IL230x-B518	712

IL230x-B520	713
IL230x-B528	713
IL230x-B730	714
IL230x-B800	715
IL230x-B810	715
IL230x-B900	716
IL230x-B901	716
IL230x-B903	717
IL230x-B905	717
IL230x-C310	711
IL230x-C318	711
IL230x-C810	715
IL230x-C900	716
Infrastructure	766
Interbus Bus Coupler K-bus	570
Interbus Fieldbus Box	711
IP100x-Bxxx	728
IP101x-Bxxx	728
IP1502-Bxxx	729
IP200x-Bxxx	730
IP202x-Bxxx	731
IP204x-Bxxx	732
IP2512-Bxxx	733
IP3102-Bxxx	738
IP3112-Bxxx	739
IP3202-Bxxx	739
IP3312-Bxxx	739
IP4112-Bxxx	740
IP4132-Bxxx	740
IP5009-Bxxx	742
IP5109-Bxxx	743
IP5209-Bxxx	743
IP5209-Bxxx-1000	743
IP6002-Bxxx	744
IP6012-Bxxx	745
IP6022-Bxxx	745
IPxxx-B200	709
IPxxx-B310	710
IPxxx-B318	710
IPxxx-B400	711
IPxxx-B510	712
IPxxx-B518	712
IPxxx-B520	713
IPxxx-B528	713
IPxxx-B730	714
IPxxx-B800	714
IPxxx-B810	715



<b>K</b>					
K7xxx   KT7xxx	182				
Keyboard	182				
KL1002   KS1002	595	KL2134   KS2134	608	KL3051   KS3051	637
KL1012   KS1012	595	KL2184   KS2184	612	KL3052   KS3052	637
KL1032   KS1032	598	KL2212   KS2212	609	KL3054   KS3054	636
KL1052   KS1052	597	KL2284   KS2284	627	KL3061   KS3061	632
KL1104   KS1104	594	KL2404   KS2404	607	KL3062   KS3062	632
KL1114   KS1114	594	KL2408   KS2408	606	KL3064   KS3064	632
KL1124   KS1124	598	KL2424   KS2424	607	KL3102   KS3102	631
KL1154   KS1154	597	KL2442	608	KL3112   KS3112	635
KL1164   KS1164	597	KL2488   KS2488	612	KL3122   KS3122	637
KL1184   KS1184	596	KL2502   KS2502	622	KL3132   KS3132	631
KL1194   KS1194	596	KL2512   KS2512	622	KL3142   KS3142	635
KL1212   KS1212	594	KL2521   KS2521	621	KL3152   KS3152	637
KL1232   KS1232	602	KL2521-0024   KS2521-0024	621	KL3162   KS3162	633
KL1302   KS1302	595	KL2531   KS2531	625	KL3172   KS3172	633
KL1304   KS1304	594	KL2532   KS2532	627	KL3182   KS3182	633
KL1312   KS1312	595	KL2535   KS2535	622	KL3201   KS3201	639
KL1314   KS1314	594	KL2541   KS2541	625	KL3202   KS3202	639
KL1352   KS1352	603	KL2545   KS2545	622	KL3204   KS3204	638
KL1362   KS1362	603	KL2552   KS2552	627	KL3204-0030	638
KL1382   KS1382	603	KL2602   KS2602	615	KL3208-0010	639
KL1402   KS1402	595	KL2612   KS2612	614	KL3214	638
KL1404   KS1404	593	KL2622   KS2622	615	KL3222   KS3222	639
KL1408   KS1408	592	KL2631   KS2631	615	KL3228   KS3228	639
KL1412   KS1412	595	KL2641	614	KL3311	640
KL1414   KS1414	593	KL2652   KS2652	615	KL3312	641
KL1418   KS1418	592	KL2692   KS2692	620	KL3314	641
KL1434   KS1434	593	KL2701   KS2701	618	KL3351   KS3351	642
KL1488   KS1488	596	KL2702   KS2702	619	KL3356   KS3356	642
KL1498   KS1498	596	KL2702-0002	619	KL3361   KS3361	643
KL1501   KS1501	604	KL2702-0020	619	KL3362   KS3362	643
KL1512   KS1512	604	KL2712   KS2712	618	KL3403   KS3403	644
KL1702   KS1702	599	KL2722   KS2722	618	KL3404   KS3404	631
KL1712   KS1712	599	KL2732   KS2732	618	KL3408   KS3408	631
KL1712-0060   KS1712-0060	599	KL2751   KS2751	623	KL3444   KS3444	634
KL1722   KS1722	599	KL2761   KS2761	623	KL3448   KS3448	635
KL1804	594	KL2784   KS2784	613	KL3454   KS3454	636
KL1808	593	KL2791   KS2791	628	KL3458   KS3458	637
KL1809	593	KL2794   KS2794	613	KL3464   KS3464	632
KL1814	594	KL2798	613	KL3468   KS3468	633
KL1819	593	KL2808	607	KL3681   KS3681	645
KL1859	593	KL2809	606	KL4001   KS4001	650
KL1862	595	KL2819	607	KL4002   KS4002	650
KL1872	595	KL2828	607	KL4004   KS4004	650
KL1889	596	KL2872	609	KL4011   KS4011	652
KL1904	985, 605	KL2889	612	KL4012   KS4012	652
		KL2904	985, 629	KL4021   KS4021	654
KL2012   KS2012	609			KL4022   KS4022	654
KL2022   KS2022	609	KL3001   KS3001	630	KL4031   KS4031	648
KL2032   KS2032	608	KL3002   KS3002	630	KL4032   KS4032	648
KL2114   KS2114	608	KL3011   KS3011	634	KL4034   KS4034	649
KL2124   KS2124	611	KL3012   KS3012	634	KL4112   KS4112	653
		KL3021   KS3021	636	KL4132   KS4132	649
		KL3022   KS3022	636	KL4404   KS4404	651
		KL3041   KS3041	635	KL4408   KS4408	651
		KL3042   KS3042	635	KL4414   KS4414	653
		KL3044   KS3044	634	KL4418   KS4418	653

KL4424   KS4424	655
KL4428   KS4428	655
KL4434   KS4434	649
KL4438   KS4438	649
KL4494   KS4494	649
KL5001   KS5001	656
KL5051   KS5051	656
KL5101   KS5101	658
KL5111   KS5111	659
KL5121   KS5121	657
KL5151   KS5151	659
KL5152   KS5152	659
KL6001   KS6001	660
KL6011   KS6011	661
KL6021   KS6021	661
KL6023	665
KL6031   KS6031	660
KL6041   KS6041	661
KL6051   KS6051	661
KL6201   KS6201	662
KL6211   KS6211	662
KL6224	666
KL6301	666
KL6401	667
KL6581	664
KL6583	664
KL6583-0100	664
KL6771   KS6771	667
KL6781	667
KL6811   KS6811	668
KL6831	668
KL6841	668
KL6904	984, 669
KL8001	672
KL8500	670
KL8519	670
KL8524	671
KL8528	671
KL8548	671
KL9010	678
KL9020	678
KL9050	678
KL9060	678
KL9070	673
KL9080	673
KL9100   KS9100	674
KL9110   KS9110	674
KL9150   KS9150	674
KL9160   KS9160	675
KL9180   KS9180	676
KL9181	677
KL9182	677
KL9183	677
KL9184	677
KL9185   KS9185	676
KL9186   KS9186	676
KL9187   KS9187	677
KL9188	677
KL9189	677
KL9190   KS9190	675
KL9195   KS9195	673
KL9200	675
KL9210	675
KL9250	675
KL9260	675
KL9290	675
KL9300   KS9300	679
KL9301   KS9301	679
KL9302   KS9302	679
KL9309	678
KL9380	623
KL9400   KS9400	680
KL9505   KS9505	680
KL9508   KS9508	681
KL9510   KS9510	681
KL9512   KS9512	681
KL9515   KS9515	681
KL9520   KS9520	682
KL9528   KS9528	682
KL9540   KS9540	683
KL9540-0010	683
KL9550   KS9550	683
KL9560   KS9560	681
KL9570   KS9570	684
KM1002	600
KM1004	600
KM1008	600
KM1012	600
KM1014	600
KM1018	600
KM1644	601
KM2002	610
KM2004	610
KM2008	610
KM2042	609
KM2604	616
KM2614	616
KM2642	617
KM2652	617
KM2774	619
KM3701	646
KM3702	647
KM3712	647
KM4602	651
KM6551	663
KS2000	693
KS2000-Z2-USB	692
KS2000-Z3-USB	761
<b>L</b>	
LC3100	569
LC5100	571
LC5200	573
Lightbus	276
Lightbus Bus Coupler K-bus	567
Lightbus Fieldbus Box	709
Lightbus PC cards	771
<b>M</b>	
M-Bus master terminal	667
Media converters	786
MES system	854
Mini PLC	580
Modbus Bus Coupler K-bus	575
Modbus Fieldbus Box	714
Motor cable	804
Motor module	886
Mover	887
MP-Bus master terminal	667
Multi-touch built-in Control Panel	154
Multi-touch built-in Panel PC	48
Multi-touch Control Panel	156
Multi-touch Panel PC	62
<b>O</b>	
OCT	818

## P

Panel PCs	46
PC Fieldbus Cards	771
PCIe Fieldbus Cards	773
Power cable, 7/8"	518
Power cable, M8	517
PROFIBUS Bus Coupler E-bus	338
PROFIBUS Bus Coupler K-bus	568
PROFIBUS Fieldbus Box	710
PROFIBUS Fieldbus Module	764
PROFIBUS PC cards	772
PROFIBUS PCIe cards	773
PROFINET Bus Coupler K-bus	578
PROFINET RT Bus Coupler E-bus	339

## R

RFID reader	183
RS232 Bus Coupler K-bus	577
RS232 Fieldbus Box	715
RS485 Bus Coupler K-bus	576
RS485 Fieldbus Box	714

## S

Safety	966
Safety over EtherCAT	313
Sensor cable	518
SERCOS III Bus Coupler E-bus	339
SERCOS Bus Coupler K-bus	576
SERCOS PC cards	777
Servo Drives	796
Servo terminal	433
Slotbox	145
Small controllers	580
Switches	782

## T

TC1000   TC3 ADS	918
TC1100   TC3 I/O	918
TC1200   TC3 PLC	919
TC1210   TC3 PLC/C++	919
TC1220   TC3 PLC/C++/ MATLAB®/Simulink®	919
TC1250   TC3 PLC/NC PTP 10	920
TC1260   TC3 PLC/NC PTP 10/NC I	920
TC1270   TC3 PLC/NC PTP 10/NC I/CNC	921
TC1300   TC3 C++	921
TC1320   TC3 C++/ MATLAB®/Simulink®	921
TC9910-B110	449
TC9910-B111	449
TC9910-B112	449
TE1000   TC3 Engineering	916
TE1110   TC3 Simulation Manager	916
TE1111   TC3 EtherCAT Simulation	916
TE1120   TC3 XCAD Interface	916
TE1140   TC3 Management Server	916
TE1300   TC3 Scope View Professional	917
TE1400   TC3 Target for MATLAB®/Simulink®	917
TE1410   TC3 Interface for MATLAB®/Simulink®	917
TE1500   TC3 Valve Diagram Editor	917
TE1510   TC3 Cam Design Tool	917
TF1800   TC3 PLC HMI	922
TF1810   TC3 PLC HMI Web	922
TF1910   TC3 UML	922
TF3300   TC3 Scope Server	923
TF3600   TC3 Condition Monitoring Level 1	923
TF3601   TC3 Condition Monitoring Level 2	923
TF3900   TC3 Solar Position Algorithm	923
TF4100   TC3 Controller Toolbox	924
TF4110   TC3 Temperature Controller	924
TF5000   TC3 NC PTP 10 Axes	925
TF5010   TC3 NC PTP Axes Pack 25	925

TF5020   TC3 NC PTP Axes Pack unlimited	925
TF5050   TC3 NC Camming	926
TF5055   TC3 NC Flying Saw	926
TF5060   TC3 NC FIFO Axes	927
TF5065   TC3 Motion Control XFC	927
TF5100   TC3 NC I	927
TF5110   TC3 Kinematic Transformation L1	928
TF5111   TC3 Kinematic Transformation L2	928
TF5112   TC3 Kinematic Transformation L3	928
TF5113   TC3 Kinematic Transformation L4	928
TF5120   TC3 Robotics mxAutomation	929
TF5200   TC3 CNC	929
TF5210   TC3 CNC E	929
TF5220   TC3 CNC Axes Pack	930
TF5230   TC3 CNC Channel Pack	930
TF5240   TC3 CNC Transformation	930
TF5250   TC3 CNC HSC Pack	931
TF5260   TC3 CNC Spline Interpolation	931
TF5270   TC3 CNC Virtual NCK Basis	931
TF5271   TC3 CNC Virtual NCK Options	931
TF5850   TC3 XTS Extension	888
TF6000   TC3 ADS Communication	932
TF6100   TC3 OPC UA	932
TF6120   TC3 OPC DA	932
TF6220   TC3 EtherCAT Redundancy 250	932
TF6221   TC3 EtherCAT Redundancy 250+	933
TF6225   TC3 EtherCAT External Sync	933
TF6250   TC3 Modbus TCP	933
TF6255   TC3 Modbus RTU	933
TF6270   TC3 PROFINET RT Device	933
TF6271   TC3 PROFINET RT Controller	933
TF6280   TC3 EtherNet/IP Slave	934
TF6281   TC3 EtherNet/IP Master	934
TF6300   TC3 FTP Client	934
TF6310   TC3 TCP/IP	934

TF6311   TC3 TCP/UDP Realtime	935	TS5050   TwinCAT NC Camming	955	TS6420-0030   TwinCAT Database Server CE	950
TF6340   TC3 Serial Communication	935	TS5055   TwinCAT NC Flying Saw	954	TS6421   TwinCAT XML Data Server	948
TF6350   TC3 SMS/SMTP	935	TS5060   TwinCAT NC FIFO Axes	954	TS6421-0030   TwinCAT XML Data Server CE	949
TF6360   TC3 Virtual Serial COM	935	TS5065   TwinCAT PLC Motion Control XFC	953	TS6506-0030   TwinCAT PLC IEC 60870-5-104 Master CE	958
TF6420   TC3 Database Server	935	TS5066   TwinCAT PLC Remote Synchronisation	954	TS6507   TwinCAT PLC IEC 60870-5-101, -104 Slave	958
TF6421   TC3 XML Server	935	TS511x   TwinCAT Kinematic Transformation	956	TS6507-0030   TwinCAT PLC IEC 60870-5-104 Slave CE	958
TF6500   TC3 IEC 60870-5-10x	936	TS5800   TwinCAT Digital Cam Server	955	TS6509   TwinCAT PLC IEC 61400-25 Server	959
TF6510   TC3 IEC 61850/IEC 61400-25	936	TS5810   TwinCAT PLC Hydraulic Positioning	953	TS650x   TwinCAT PLC IEC 60870-5-101, -102, -103, -104 Master	958
TF6600   TC3 RFID Reader Communication	936	TS6100   TwinCAT OPC UA Server	960	TS6511   TwinCAT PLC IEC 61850 Server	959
TF6610   TC3 S5/S7 Communication	936	TS6100-0030   TwinCAT OPC UA Server CE	960	TS6600   TwinCAT PLC RFID Reader Communication	963
TF8000   TC3 BA Connectivity Library	937	TS6120   TwinCAT OPC Server	960	TS6610   TwinCAT PLC S5/S7 Communication	963
TF8040   TC3 Building Automation	937	TS622x   TwinCAT EtherCAT Redundancy	951	TS8000   TwinCAT PLC HVAC	964
TF8310   TC3 Wind Framework	937	TS6250   TwinCAT Modbus TCP Server	958	TS8010   TwinCAT PLC Building Automation Basic	964
TR1xxx	995	TS6250-0030   TwinCAT Modbus TCP Server CE	958	TS8020   TwinCAT BACnet/IP	964
TR2xxx	996	TS6255   TwinCAT PLC Modbus RTU	957	TS8035   TwinCAT FIAS Server	965
TR3xxx	998	TS6270   TwinCAT PROFINET RT Device	962	TS8036   TwinCAT Crestron Server	965
TR5xxx	996	TS6271   TwinCAT PROFINET RT Controller	962	TS8037   TwinCAT Bang & Olufsen Server	965
TR8100	1002	TS6280   TwinCAT EtherNet/IP Slave	962	TS8040   TwinCAT Building Automation	965
TR8110	1002	TS6300   TwinCAT FTP Client	963	TS8100   TwinCAT Building Automation Framework	965
TR8200	1002	TS6310   TwinCAT TCP/IP Server	961	TwinCAT 2	938
Training	994	TS6310-0030   TwinCAT TCP/IP Server CE	961	TwinCAT 3	898
TS1010   TwinCAT Eventlogger	948	TS6340   TwinCAT PLC Serial Communication	957	TwinSAFE	966
TS1110   TwinCAT Simulation Manager	949	TS6341   TwinCAT PLC Serial Communication 3964R/RK512	957	TwinSAFE drive options cards	802
TS1120   TwinCAT ECAD Import	948	TS6350   TwinCAT SMS/SMTP Server	961	TwinSAFE SC	324
TS1140   TwinCAT Management Server	951	TS6350-0030   TwinCAT SMS/SMTP Server CE	961	TX1000   TwinCAT CP	947
TS1150   TwinCAT Backup	949	TS6360   TwinCAT Virtual Serial COM Driver	963	TX1100   TwinCAT I/O	947
TS1500   TwinCAT Valve Diagram Editor	956	TS6370   TwinCAT DriveCOM OPC Server	959	TX1200   TwinCAT PLC	944
TS1510   TwinCAT Cam Design Tool	955	TS6371   TwinCAT DriveTop Server	959	TX1250   TwinCAT NC PTP	945
TS1600   TwinCAT Engineering Interface Server	948	TS6420   TwinCAT Database Server	949	TX1260   TwinCAT NC I	945
TS1800   TwinCAT PLC HMI	950			TX1270   TwinCAT CNC	946
TS1800-0030   TwinCAT PLC HMI CE	950				
TS1810   TwinCAT PLC HMI Web	950				
TS3300   TwinCAT Scope 2	951				
TS3900   TwinCAT Solar Position Algorithm	951				
TS4100   TwinCAT PLC Controller Toolbox	952				
TS4110   TwinCAT PLC Temperature Controller	952				

## U

USB Bus Coupler K-bus	579
-----------------------	-----

## X

XAT	898
XTS	872

## Z

Z1000	688
Z1003	688
Z1010	688
Z1020	688
Z10xx	688
Z11xx	688
ZB260x	691
ZB3100	688
ZB3101	688
ZB3200	689
ZB4100	688
ZB4101	688
ZB4200	689
ZB5100	690
ZB5200	690
ZB8500	448
ZB8510	448
ZB8511	448
ZB8520	448
ZB8530	448
ZB85xx	448
ZB8700	449
ZB8800	524
ZB8801	524
ZB903x	514
ZB904x	518
ZB905x	517
ZK1020-0101-1000	760
ZK1020-xxxx	760
ZK1031-xxxx	756
ZK1052-xxxx	758
ZK1090-3xxx-xxxx	514

ZK1090-6xxx-xxxx	515
ZK1090-9xxx-xxxx	446
ZK1090-xxxx	689
ZK1091-1001-00xx	447
ZK2000-xxxx-xxxx	519
ZK2020-3xxx-xxxx	517
ZK203x-xxxx-xxxx	518
ZK4500-802x-xxxx	804
ZK47x4-04xx-2xxx	864
ZK4800-802x-xxxx	813
ZK8500-8282-70x0	690
ZS1000-xxxx	757
ZS102x-0010	760
ZS1031-xxxx	757
ZS1052-xxxx	758
ZS2001-000x	447
ZS2010	447
ZS5x00-xxxx	524
ZS6100-0900	694
ZS6100-1800	695
ZS6200-0400	694
ZS6201-0410	694
ZS6201-0500	695





# Industrial PC

PC Control for all applications



46 Panel PCs



148 Control Panels



100 Control cabinet Industrial PCs

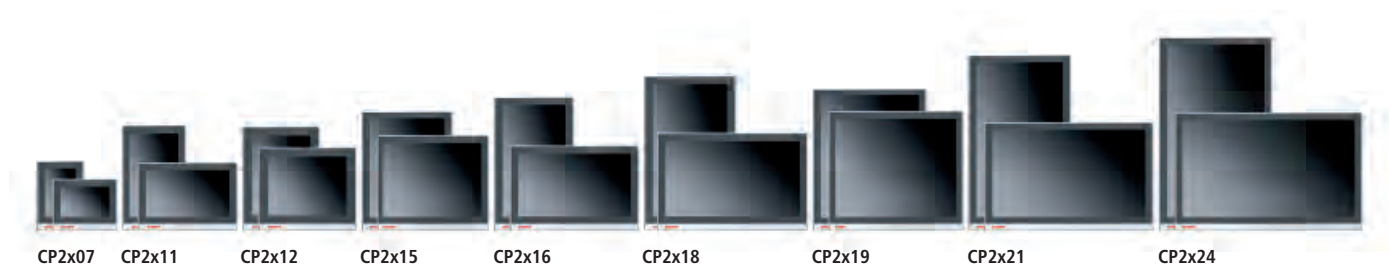
# Industrial PC

The right Industrial PC for every application

<b>32</b>	Product overview	<b>84</b>	<b>CP67xx   Built-in Panel PC</b>	<b>126</b>	<b>C69xx   Control cabinet IPC</b>
<b>39</b>	System description		– 3½-inch motherboard		– compact aluminium housing
<b>42</b>	TwinCAT 3 performance classes		– Intel® Celeron® ULV or Atom™		– 3½-inch motherboard
<b>46</b>	<b>Panel PCs</b>	<b>88</b>	<b>CP72xx   Panel PC IP 65</b>	<b>134</b>	<b>Industrial PC accessories</b>
	(Industrial PCs with display)		– 3½-inch motherboard		
			– Intel® Celeron® or Core™		
<b>48</b>	<b>Multi-touch Panel PCs</b>	<b>92</b>	<b>CP77xx   Panel PC IP 65</b>	<b>148</b>	<b>Control Panels</b>
			– CP motherboard		
			– Intel® Celeron® ULV	<b>150</b>	<b>Multi-touch Control Panels</b>
<b>48</b>	<b>CP22xx   Built-in Panel PC</b>	<b>96</b>	<b>C36xx   Built-in Panel PC</b>	<b>154</b>	<b>CP29xx   Built-in Control Panel with DVI/USB Extended or CP-Link 4 interface</b>
	– 3½-inch motherboard		– ATX motherboard		The PC operating terminal for installation in the control cabinet door
	– Intel® Celeron® or Core™		– Intel® Celeron® or Core™		
<b>52</b>	<b>CP26xx   Built-in Panel PC</b>	<b>100</b>	<b>Control cabinet Industrial PCs</b>	<b>156</b>	<b>CP39xx   Control Panel with DVI/USB Extended or CP-Link 4 interface</b>
	– 3½-inch motherboard				The PC operating terminal for mounting arm installation
	– ARM processor			<b>158</b>	<b>Accessories</b>
<b>56</b>	<b>CP27xx   Built-in Panel PC</b>	<b>102</b>	<b>C5xxx   19-inch slide-in IPC</b>	<b>162</b>	<b>Single-touch Control Panels</b>
	– 3½-inch motherboard		– for 19-inch rack installations		
	– Intel® Celeron® ULV or Atom™		– ATX or 3½-inch motherboard	<b>166</b>	<b>CP69xx   Built-in Control Panel with DVI/USB Extended interface</b>
<b>62</b>	<b>CP32xx   Panel PC IP 65</b>	<b>106</b>	<b>C61xx   Control cabinet IPC</b>		The PC operating terminal for installation in the control cabinet door
	– 3½-inch motherboard		– ATX motherboard	<b>166</b>	<b>CP79xx   Control Panel with DVI/USB Extended interface</b>
	– Intel® Celeron® or Core™		– Intel® Celeron® or Core™		The PC operating terminal for mounting arm installation
<b>66</b>	<b>CP37xx   Panel PC IP 65</b>	<b>110</b>	<b>C62xx   Control cabinet IPC</b>	<b>172</b>	<b>Accessories</b>
	– 3½-inch motherboard		– drawer housing		
	– Intel® Atom™		– ATX motherboard		
<b>70</b>	<b>Single-touch Panel PCs</b>		– Intel® Celeron® or Core™		
		<b>114</b>	<b>C65xx   Control cabinet IPC</b>		
<b>70</b>	<b>CP62xx   "Economy" built-in Panel PC</b>		– 3½-inch motherboard		
	– 3½-inch motherboard		– fanless		
	– Intel® Celeron® ULV or Core™		– Intel® Celeron® or Core™		
<b>74</b>	<b>CP65xx   Built-in Panel PC</b>	<b>120</b>	<b>C6640/C6650   Control cabinet IPC</b>		
	– ATX motherboard		– ATX motherboard		
	– Intel® Celeron® or Core™		– Intel® Celeron® or Core™		
<b>78</b>	<b>CP66xx   Built-in Panel PC</b>	<b>124</b>	<b>C6670   Industrial server</b>		
	– 3½-inch motherboard		– SSI EEB motherboard		
	– ARM processor		– Intel® Xeon®		



# Product overview multi-touch Panel PCs and multi-touch Control Panels



## Multi-touch Panel PCs and multi-touch Control Panels

	Display Resolution Format	7-inch 800 x 480 16:9.6	11.6-inch 1366 x 768 16:9	12-inch 800 x 600 4:3	15-inch 1024 x 768 4:3
<b>Multi-touch built-in Panel PCs</b> CP22xx-0000/-0010 – up to Core™ i3/i5/i7	multi-finger touch screen		CP2211 50	CP2212 50	CP2215 50
<b>Dual-touch built-in Panel PCs</b> CP26xx-0000 – ARM Cortex™-A8	dual-finger touch screen	CP2607 54	CP2611 54	CP2612 54	CP2615 54
<b>Multi-touch built-in Panel PCs</b> CP27xx-0000/-0010 – up to Atom™	multi-finger touch screen, only horizontal		CP2711 58	CP2712 58	CP2715 58
<b>Multi-touch Panel PCs</b> CP32xx-0000/-0010 – up to Core™ i3/i5/i7	multi-finger touch screen, only horizontal			CP3212 62	CP3215 62
<b>Multi-touch Panel PCs</b> CP37xx-0010 – up to Atom™	multi-finger touch screen, only horizontal			CP3712 66	CP3715 66
<b>Multi-touch built-in Control Panels</b> CP29xx-0000/-0010 – DVI/USB Extended interface or CP-Link 4	DVI/USB Extended interface	CP2907-0000 154	CP2911-0000 154	CP2912-0000 154	CP2915-0000 154
	CP-Link 4	CP2907-0010 154	CP2911-0010 154	CP2912-0010 154	CP2915-0010 154
<b>Multi-touch Control Panels</b> CP39xx-0000/-0010 – DVI/USB Extended interface or CP-Link 4	DVI/USB Extended interface	CP3907-0000 156	CP3911-0000 156	CP3912-0000 156	CP3915-0000 156
	CP-Link 4	CP3907-0010 156	CP3911-0010 156	CP3912-0010 156	CP3915-0010 156

For further information on CP-Link 4 see page 137, for further information on DVI/USB Extended see page 166



CP3x07 CP3x11 CP3x12 CP3x15 CP3x16 CP3x18 CP3x19 CP3x21 CP3x24

15.6-inch 1366 x 768 16:9		18.5-inch 1366 x 768 16:9		19-inch 1280 x 1024 5:4		21.5-inch 1920 x 1080 16:9		24-inch 1920 x 1080 16:9	
CP2216	50	CP2218	50	CP2219	50	CP2221	50	CP2224	50
CP2616	54	CP2618	54	CP2619	54	CP2621	54	CP2624	54
CP2716	58	CP2718	58	CP2719	58	CP2721	58	CP2724	58
CP3216	62	CP3218	62	CP3219	62	CP3221	62	CP3224	62
CP3716	66	CP3718	66	CP3719	66	CP3721	66	CP3724	66
CP2916-0000	154	CP2918-0000	154	CP2919-0000	154	CP2921-0000	154	CP2924-0000	154
CP2916-0010	154	CP2918-0010	154	CP2919-0010	154	CP2921-0010	154	CP2924-0010	154
CP3916-0000	156	CP3918-0000	156	CP3919-0000	156	CP3921-0000	156	CP3924-0000	156
CP3916-0010	156	CP3918-0010	156	CP3919-0010	156	CP3921-0010	156	CP3924-0010	156

# Product overview single-touch Panel PCs



## Built-in Panel PCs, front side IP 65

	Display Resolution Format	5.7-inch 640 x 480 4:3	6.5-inch 640 x 480 4:3	7-inch 800 x 480 5:3	12-inch 800 x 600 4:3	15-inch 1024 x 768 4:3	19-inch 1280 x 1024 5:4						
<b>Panel PCs CP62xx</b> – 3½-inch motherboard – up to Core™ i3/i5/i7	without keys				CP6201	70	CP6202	70	CP6203	70			
	function keys				CP6211	70	CP6212	70	CP6213	70			
	numerical				CP6221	70	CP6222	70	CP6223	70			
	alphanumeric				CP6231	70	CP6232	70	CP6233	70			
						CP6242	70						
<b>Panel PCs CP65xx</b> – ATX motherboard – up to Core™ i3/i5/i7 – 7 slots free	without keys				CP6501	76	CP6502	76	CP6503	76			
	function keys				CP6511	76	CP6512	76	CP6513	76			
	numerical				CP6521	76	CP6522	76	CP6523	76			
	alphanumeric				CP6531	76	CP6532	76	CP6533	76			
						CP6542	76						
<b>Panel PCs CP66xx</b> – 3½-inch motherboard – ARM Cortex™-A8	without keys	CP6607	80	CP6609	80	CP6606	83	CP6601	80	CP6602	80	CP6603	80
	function keys			CP6619	80			CP6611	80	CP6612	80	CP6613	80
	numerical			CP6629	80			CP6621	80	CP6622	80	CP6623	80
	alphanumeric							CP6631	80	CP6632	80	CP6633	80
<b>Panel PCs CP67xx</b> – 3½-inch motherboard – Celeron™ ULV or Atom™ processor	without keys	CP6707	86					CP6701	86	CP6702	86	CP6703	86
	function keys							CP6711	86	CP6712	86	CP6713	86
	numerical							CP6721	86	CP6722	86	CP6723	86
	alphanumeric							CP6731	86	CP6732	86	CP6733	86
									CP6742	86			



CP72xx



CP77xx



C3620



C3640

### Panel PCs, all sides IP 65

	Display	12-inch		15-inch		19-inch	
	Resolution	800 x 600		1024 x 768		1280 x 1024	
	Format	4:3		4:3		5:4	
<b>Panel PCs CP72xx</b> – 3½-inch motherboard – up to Core™ i3/i5/i7	without keys	CP7201	90	CP7202	90	CP7203	90
	function keys	CP7211	90	CP7212	90	CP7213	90
	numerical	CP7221	90	CP7222	90	CP7223	90
	alphanumeric	CP7231	90	CP7232	90	CP7233	90
				CP7242	90		
<b>Panel PCs CP77xx</b> – CP motherboard – Celeron® ULV	without keys	CP7701	94	CP7702	94	CP7703	94
	function keys	CP7711	94	CP7712	94	CP7713	94
	numerical	CP7721	94	CP7722	94	CP7723	94
	alphanumeric	CP7731	94	CP7732	94	CP7733	94

### Built-in Panel PCs, front side IP 65

	Display	12-inch		15-inch		19-inch	
	Resolution	800 x 600		1024 x 768		1280 x 1024	
	Format	4:3		4:3		5:4	
<b>Panel PCs C36xx</b> – ATX motherboard – up to Core™ i3/i5/i7 – 7 slots free	without keys	C3620	98	C3640	99		

# Product overview control cabinet Industrial PCs



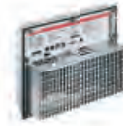
C6515  
basic configuration



C6515  
with PCIe module slots



C6525  
basic configuration



C6525  
with PCIe module slots



C6525  
with plug-in card slots

## Control cabinet Industrial PCs

	Motherboard	3½-inch motherboard		
	Processor	Intel® Atom™	Intel® Celeron® ULV	Intel® Celeron®, 1.6 GHz Intel® Core™ i3/i5/i7 2 <sup>nd</sup> /3 <sup>rd</sup> generation
<b>19-inch slide-in Industrial PC series C5xxx</b>	7 slots, 4 rack units 1 Mini PCI slot, 1 rack unit			C5210-0010 <b>105</b>
<b>Control cabinet PC series C61xx, connectors on top</b>	7 slots			
<b>Control cabinet PC series C62xx, connectors on front</b>	7 slots			
<b>Control cabinet PC series C65xx</b>	1 Mini PCI slot			C6515-0040 <b>116</b>
	1 Mini PCI slot, RAID			C6525-0040 <b>118</b>
<b>Control cabinet PC series C6640/C6650</b>	7 slots 7 slots, 2 removable frames			
<b>Control cabinet industrial server C6670</b>	6 slots, 2 removable frames			
<b>Control cabinet PC series C69xx, connectors on front</b>	fanless	C6915-0010 <b>128</b>		
	2 PCIe module slots	C6925-0030 <b>129</b>	C6925-0020 <b>129</b>	
	1 Mini PCI slot, optional plug-in card slots			C6920-0040 <b>130</b>
	1 Mini PCI slot, 2 PCIe module slots, optional plug-in card slots			C6930-0040 <b>132</b>



	Processor	Intel® IXP420, 266 MHz	Intel® IXP420, 533 MHz	Cortex™-A8, 1 GHz	Pentium® MMX, 500 MHz	Intel® Atom™, 1.1 GHz	Intel® Atom™, 1.6 GHz
<b>Embedded PCs</b>	CX8000 <b>200</b>	CX9000 <b>208</b>	CX9010 <b>210</b>	CX9020 <b>214</b>	CX1010 <b>218</b>	CX5010 <b>224</b>	CX5020 <b>224</b>





**Industrial server**

ATX motherboard		SSI EEB motherboard	
Intel® Celeron®, 2.2 GHz Intel® Core™ i3/i5/i7 4 <sup>th</sup> generation	Intel® Celeron®, 1.6 GHz Intel® Core™ i3/i5/i7 2 <sup>nd</sup> /3 <sup>rd</sup> generation	Intel® Pentium®, 2.3 GHz Intel® Core™ i3/i5/i7 4 <sup>th</sup> generation	Dual Intel® Xeon®
	C5102-0050 <b>104</b>	C5102-0060 <b>104</b>	
C5210-0020 <b>105</b>			
	C6140-0050 <b>108</b> C6150-0050 <b>109</b>	C6140-0060 <b>108</b> C6150-0060 <b>109</b>	
	C6240-0050 <b>112</b> C6250-0060 <b>113</b>	C6240-0060 <b>112</b> C6250-0070 <b>113</b>	
C6515-0050 <b>116</b>			
C6525-0050 <b>118</b>			
	C6640-0030 <b>122</b> C6650-0030 <b>123</b>	C6640-0040 <b>122</b> C6650-0040 <b>123</b>	
			C6670-0000 <b>125</b>
C6920-0050 <b>130</b>			
C6930-0050 <b>132</b>			

Intel® Celeron® M ULV, 1 GHz Intel® Pentium® M, 1.8 GHz	Intel® Atom™, 1.46 GHz, 1 core Intel® Atom™, 1.75 GHz, 2 cores Intel® Atom™, 1.91 GHz, 4 cores	Intel® Celeron®, 1.4 GHz, 1 core Intel® Core™ i7, 1.5 GHz, 2 cores Intel® Core™ i7, 2.1 GHz, 4 cores
CX1020 <b>232</b>	CX5120 <b>228</b>	CX2020 <b>246</b>
CX1030 <b>234</b>	CX5130 <b>228</b>	CX2030 <b>246</b>
	CX5140 <b>228</b>	CX2040 <b>246</b>

# Product overview

## single-touch Control Panels



### Single-touch built-in Control Panels, front side IP 65

	Display	5.7-inch	6.5-inch	12-inch	15-inch	19-inch
	Resolution	640 x 480	640 x 480	800 x 600	1024 x 768	1280 x 1024
	Format	4:3	4:3	4:3	4:3	5:4
DVI/USB Extended interface	without keys	CP6907	CP6909	CP6901	CP6902	CP6903
	function keys		CP6919	CP6911	CP6912	CP6913
	numerical		CP6929	CP6921	CP6922	CP6923
	alphanumerical			CP6931	CP6932	CP6933
					CP6942	

### Single-touch Control Panels, all sides IP 65

	Display	5.7-inch	6.5-inch	12-inch	15-inch	19-inch
	Resolution	640 x 480	640 x 480	800 x 600	1024 x 768	1280 x 1024
	Format	4:3	4:3	4:3	4:3	5:4
DVI/USB Extended interface	without keys		CP7909	CP7901	CP7902	CP7903
	function keys		CP7919	CP7911	CP7912	CP7913
	numerical		CP7929	CP7921	CP7922	CP7923
	alphanumerical			CP7931	CP7932	CP7933
				CP7942		

### Single-touch Control Panels in stainless steel housing, all sides IP 65

	Display	5.7-inch	6.5-inch	12-inch	15-inch	19-inch
	Resolution	640 x 480	640 x 480	800 x 600	1024 x 768	1280 x 1024
	Format	4:3	4:3	4:3	4:3	5:4
DVI/USB Extended interface	without keys			CP7901-14xx	CP7902-14xx	CP7903-14xx



## The right Industrial PC for every application

### Robust industrial design PCs with highest performance components

Beckhoff Industrial PCs satisfy industry's demands:

- the right Industrial PC for every controller
- highest performance PCs with Intel® Celeron® up to Intel® Core™ i7 processors
- PCs with low power consumption with Intel® Mobile processors
- open standards following the norm ATX
- components carefully tested to ensure appropriateness for industrial applications
- appealing industrial design housings
- easy access to PC components
- Individual housing construction allows optimum adaptation to controller requirements.
- integration of electromechanical buttons, switches, scanners, handwheels and other components in the Control Panel
- designed for machine-oriented use
- long-term availability of components

### Device overview Industrial PC

	ATX motherboard Intel® Core™	3½-inch motherboard Intel® Core™	3½-inch motherboard Intel® Atom™/ Celeron® ULV	3½-inch motherboard ARM Cortex™-A8	Control Panel
<b>Panel PC/ Control Panel</b>	CP65xx single-touch C36xx single-touch	CP22xx multi-touch CP32xx multi-touch CP62xx single-touch CP72xx single-touch	CP27xx multi-touch CP37xx multi-touch CP67xx single-touch CP77xx single-touch	CP26xx multi-touch CP66xx single-touch	CP29xx multi-touch CP39xx multi-touch CP69xx single-touch CP79xx single-touch
<b>19-inch slide-in Industrial PC</b>	C5102	C5210			
<b>Control cabinet/ Compact Industrial PC</b>	C6140/C6150 C6240/C6250 C6640/C6650	C6515/C6525 C6920/C6930	C6915 C6925		
<b>Industrial server</b>	C6670*				

\* with SSI EEB motherboard



## Requirements for PC-based control technology

### Balance between latest PC technology and long-term availability of control components

The personal computer has experienced an unprecedented success story and has become a firmly established part of everyday life, including industrial environments. Together with associated software, PCs in different shapes and forms are at the core of a wide range of diverse automation tasks such as control of machines, processes or logistics systems, networking of system components, data acquisition, or image processing. For classic control tasks, PC-based control technology offers excellent scalability and flexibility and is therefore increasingly used in place of hardware PLCs.

Beckhoff is one of the pioneers of PC-based automation: the first PC control system was delivered as early as 1986. Beckhoff Industrial PCs are characterised by a wealth of technology know-how accumulated over recent years. In combination with the TwinCAT automation software, they offer a high-performance control system for PLC, NC and CNC functionalities.

An important feature of the Beckhoff product philosophy is the use of advanced, high-performance components and proces-

sors for the development and design of Industrial PCs: they integrate the latest developments offered by the technology market and are used successfully worldwide. Fine scaling is provided for through processor incrementing from Intel® Atom™ up to Intel® Core™ i7. Due to the low processor power dissipation, Intel® Atom™ processors enable extremely small, fanless controllers and are to be found in the lower price range.

In addition to long-standing experience, another factor driving the development of our comprehensive IPC product portfolio is customer-orientation. More than ten Industrial PC series with a wide range of basic PC types form the basis of our product range. The optimally tailored control computer can be found for every application from the large choice of devices and options.

The PC housing varies in size between paperback format and ATX PC, depending on the device type. In addition to long-term availability of the built-in processors and motherboards, Beckhoff also offers full commissioning of all integrated components, including software and different drives. Customised solutions can also be realised for optimum adaptation to the respective task.

### Elegant Control Panels and Panel PCs

The IPC is complemented by an industrial display unit. The Beckhoff Control Panels and Panel PCs are the visual front end for machines or plants. Spatial separation of display/control unit and control computer offers maximum flexibility. Appealing design, robustness and suitability for industrial applications were important criteria in the development of the Control Panel series, which comes with display sizes between 5.7" and 24".

All displays can be fully tailored to customer requirements: options include visual adaptation to the corporate design or application of a customer logo a wide range of special mechanical keys, emergency stop switches, card scanners or RFID readers.

The Control Panel housing is made from high-quality solid aluminium and is suitable for protection class IP 65, as usually required in industrial environments. Thorough development and integration of electronic modules, displays, touch screens and front membranes ensure high availability and reliability during operation. All Beckhoff Control Panels can optionally be operated as:





- stand-alone device (Panel PC with Windows 7 or Embedded Standard and Ethernet panel with Windows CE)
- DVI/USB Extended Control Panel for direct or indirect operation at the PC (distance up to 50 m)
- CP-Link 3 (Panel PCs connected to the host PC via Ethernet), see page [146](#)

### Careful selection of components

A great deal of attention and care is put into the development and choice of the IPC components used, their compatibility, their long-term availability, mechanical loading capacity and industrial suitability. In developing electronic modules, Beckhoff fulfils the high requirements for Industrial PC components that are necessary in order to ensure permanent reliable operation.

Beckhoff is the developer and manufacturer of the motherboards in the Industrial PCs. The BIOS for the motherboards even has its own development department. In addition to that, 24 V DC power supplies with integrated UPS, Ethernet adapters and Ethernet switches, Fieldbus Cards, DVI display interfaces, DVI/USB extensions and USB hubs

are produced by Beckhoff's own development and manufacturing facilities. International standards and experience in the application of PC systems under difficult industrial conditions provide the basis for Beckhoff system integration. Only a few LC displays, plug-in cards or hard disks are suited to use in tough industrial environments. Experience and detailed testing are therefore required for checking whether the components meet the stringent requirements in terms of temperature resistance, resistance to vibration, and electromagnetic compatibility. Prior to delivery, all Industrial PCs are subjected to comprehensive quality control procedures in order to verify that they are fit for the purpose. Beckhoff Industrial PCs satisfy the Machine Guidelines and carry the CE mark: all PC components are checked for electromagnetic compatibility (EMC) and comply with the relevant standards.







## TwinCAT 3 | eXtended Automation Technology

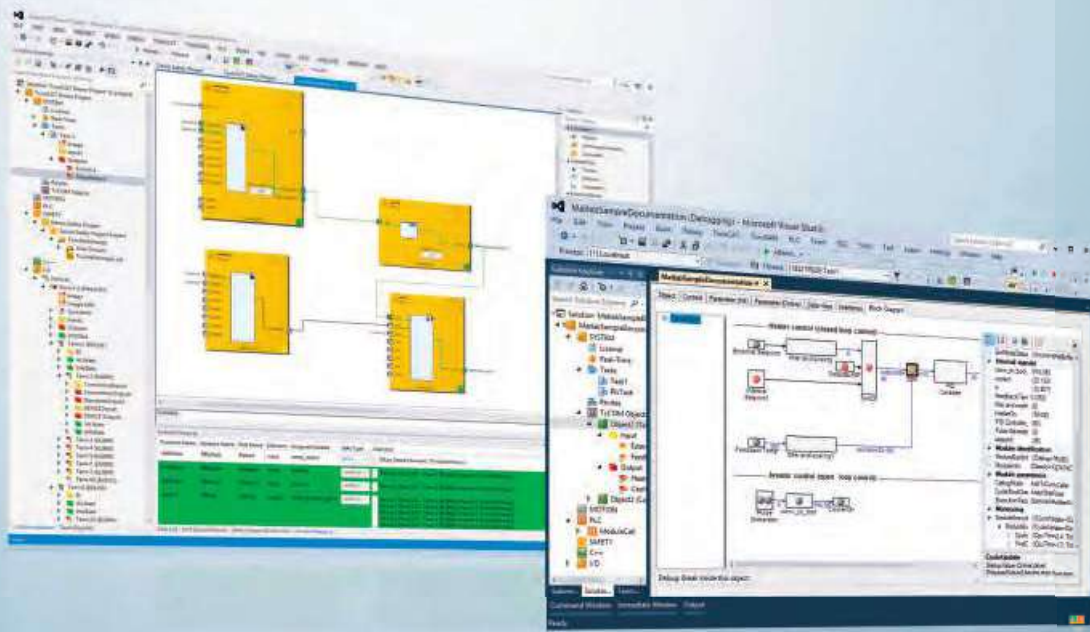
Beckhoff created a global standard for automation with the launch of PC-based control technology in 1986. On the software side, the TwinCAT (The Windows Control and Automation Technology) automation suite forms the core of the control system. The TwinCAT software system turns almost any PC-based

system into a real-time control with multiple PLC, NC, CNC and/or robotics runtime systems. TwinCAT 3 is the systematic further development of TwinCAT 2, with which the world of automation technology is being redefined.

### TwinCAT 3 highlights

- only one software for programming and configuration
- Visual Studio® integration
- more freedom in selecting programming languages
- support for the object-oriented extension of IEC 61131-3
- use of C/C++ as the programming language for real-time applications
- link to MATLAB®/Simulink®
- open interfaces for expandability and adaptation to the tools landscape
- flexible runtime environment
- active support of multi-core and 64-bit systems
- migration of TwinCAT 2 projects
- automatic code generation and project implementation with the TwinCAT Automation Interface

For further information on TwinCAT 3 see page **898**  
or ► [www.beckhoff.com/TwinCAT3](http://www.beckhoff.com/TwinCAT3)



# Overview of the TwinCAT 3 performance classes

**TwinCAT 3 – Platforms**

Example of a TwinCAT 3 performance class:  
 C6920 | Control cabinet Industrial PC with Intel® Core™ i3, 2 cores, processor  
 TwinCAT 3 performance class: (TC3: 60), corresponds to the TwinCAT 3 platform P60 Mid performance

Performance Class	Processor	Example Configuration
P20 Economy	ARM, 400 MHz	ARM Cortex™-A8, AMD LX800
P30 Economy plus	ARM Cortex™-A8, AMD LX800	
P40 Performance	Intel® Atom™	
P50 Performance plus	Intel® Celeron® ULV/1.6 GHz/ 2.2 GHz, Pentium® 2.3 GHz	
P60 Mid performance	Intel® Celeron® 1.9 GHz, Core™ i3	
P70 High performance	Intel® Core™2 Duo, Core™ i5	
P80 Very high performance	Intel® Core™ i7	
P81 Very high performance		
P82 Very high performance	Intel® Xeon®, 12 cores	
P83 Very high performance	Intel® Xeon®, 24 cores	
P84 Very high performance	Intel® Xeon®, 36 cores	
P90...P94	Third-party devices depending on the number of cores	

The controllers shown in the platform categorisation are only example configurations.

# The right Industrial PC for every application



## Panel PCs

A Beckhoff Panel PC consisting of a Control Panel and an Industrial PC is suitable for control cabinet installation (CP2xxx, CP6xxx) or mounting arm installation (CP3xxx, CP7xxx). High-performance components make machine-level operation, control and monitoring one of the strengths of the Beckhoff Panel PCs, whose elegant housings are designed for easy accessibility of all components and optimal space utilisation. Different display sizes between 5.7-inch and 24-inch and various add-on PCs with processors ranging from Intel® Atom™ to Core™ i7 can be combined to form tailored high-performance platforms for machine construction and plant engineering applications.

See page **46**

► [www.beckhoff.com/Panel-PC](http://www.beckhoff.com/Panel-PC)

## Control cabinet Industrial PCs

Beckhoff Industrial PCs for control cabinet installation can be scaled in size (paperback format up to ATX PC) and performance class (Intel® Atom™ to Core™ i7), depending on the application. The Industrial PC technology represents a balance between the latest PC technology and long-term component availability. In addition, the different product lines are characterised by adaptation to the special circumstances in industrial applications.

See page **100**

► [www.beckhoff.com/Control-cabinet-PC](http://www.beckhoff.com/Control-cabinet-PC)



## Control Panels

The Beckhoff Control Panels used as human-machine interfaces in conjunction with the high-performance Industrial PCs round off a system through their elegant design and the latest PC technology. The display sizes between 5.7-inch and 24-inch meet almost any industrial application requirements and are suitable for mounting arm installation (CP3xxx and CP7xxx) or wall installation (CP2xxx and CP6xxx). A wide range of different push-button extensions in conjunction with custom housing designs enable the Control Panel as the visual front end of a system or machine to be tailored to match the corporate identity.

See page **148**

► [www.beckhoff.com/ControlPanel](http://www.beckhoff.com/ControlPanel)

## Accessories

Beckhoff accessories complement the Industrial PCs while complying with industrial standards: CP-Link 3 desktop transfer software, DVI splitters, USB extensions and hubs, USB CFast slot, USB Compact Flash slot, USB Ethernet controllers, battery packs, USB sticks, PCIe modules, plug-in cards.

Industrial PC accessories see page **134**

Extensions for Control Panels and Panel PCs: push-button extensions (with electromechanical buttons, switches and indicator lamps), auxiliary keyboards, keyboard shelves, touch screen pens, RFID readers

Multi-touch Control Panel accessories see page **158**

Single-touch Control Panel accessories see page **172**



# Panel PCs



## CP65xx | ATX built-in Panel PC, high performance class

- display sizes: 12-, 15- or 19-inch
- Intel® Celeron® or Core™

See page **74**



## CP22xx | Multi-touch built-in Panel PC, high performance class

- display sizes: 11.6-, 12-, 15-, 15.6-, 18.5-, 19-, 21.5- or 24-inch
- Intel® Celeron® or Core™

See page **48**



## CP62xx | Built-in Panel PC, high performance class

- display sizes: 12-, 15- or 19-inch
- Intel® Celeron® or Core™

See page **68**



## C36xx | ATX built-in Panel PC, high performance class

- display sizes: 12- or 15-inch
- Intel® Celeron® or Core™

See page **96**



## CP32xx | Multi-touch Panel PC with mounting arm, high performance class

- display sizes: 12-, 15-, 15.6-, 18.5-, 19-, 21.5- or 24-inch
- Intel® Celeron® or Core™
- protection IP 65

See page **60**



## CP72xx | Panel PC with mounting arm, high performance class

- display sizes: 12-, 15- or 19-inch
- Intel® Celeron® or Core™
- protection IP 65

See page **88**





**CP27xx | Multi-touch built-in Panel PC, mid performance class**

- display sizes: 11.6-, 12-, 15-, 15.6-, 18.5-, 19-, 21.5- or 24-inch
- Intel® Celeron® ULV or Atom™

See page **56**



**CP67xx | Built-in Panel PC, mid performance class**

- display sizes: 5.7-, 12-, 15- or 19-inch
- Intel® Celeron® ULV or Atom™

See page **84**



**CP26xx | Built-in Panel PC, ARM performance class**

- display sizes: 7-, 11.6-, 12-, 15-, 15.6-, 18.5-, 19-, 21.5- or 24-inch
- ARM Cortex™-A8

See page **52**



**CP37xx | Multi-touch Panel PC with mounting arm, mid performance class**

- display sizes: 12-, 15-, 15.6-, 18.5-, 19-, 21.5- or 24-inch
- Intel® Atom™
- protection IP 65

See page **64**



**CP77xx | Panel PC with mounting arm, mid performance class**

- display sizes: 12-, 15- or 19-inch
- Intel® Celeron® ULV
- protection IP 65

See page **92**



**CP66xx | Built-in Panel PC, ARM performance class**

- display sizes: 5.7-, 6.5-, 12-, 15- or 19-inch
- ARM Cortex™-A8

See page **78**

► [www.beckhoff.com/Panel-PC](http://www.beckhoff.com/Panel-PC)

# CP22xx | Multi-touch built-in Panel PC

The CP22xx built-in Panel PC series is characterised by a modern operating concept with multi-touch display as well as an advanced, elegant device design. It is designed for installation in the front of a control cabinet. The CP22xx combine reliable Beckhoff Control Panel design with state-of-the-art Industrial PC technology. The right display size is available for every application – in

landscape or portrait orientation (horizontal/vertical). With their highly integrated 3½-inch motherboards, the CP22xx built-in Industrial PCs represent a high-performance platform for machine construction and plant engineering applications that can be used in conjunction with TwinCAT automation software under Windows 7 Professional, Windows 7 Ultimate or Windows Embedded Standard 7.

CP22xx Panel PCs are equipped with Intel® Celeron® or Intel® Core™ i3, i5 or i7 processors and have one or two hard disks, SSDs or CFast cards or combinations thereof. With the on-board RAID controller, two same hard disks, SSDs or CFast cards can be mirrored.

CP22xx are supplied with a 24 V power supply unit, optionally also with an integrated uninterruptible power supply (UPS).



## Display sizes



11.6-inch

12-inch

15-inch

15.6-inch

18.5-inch

19-inch

21.5-inch

24-inch

A battery pack can be connected externally and installed on a DIN rail close to the PC.

Data media, the fan and the lithium battery of the system clock are accessible from the rear under the fan cover.

Due to its two independent Ethernet interfaces the CP22xx is ideally suited as a compact central processing unit for an EtherCAT control system. A free Mini PCI

slot enables different fieldbus cards or a third, independent Ethernet interface to be used. NOVRAM for fail-safe data storage can also be plugged into the Mini PCI slot.

Two free slots for PCIe modules can be optionally integrated in the PC housing, offering the possibility to extend the PC, e.g. with additional Ethernet interfaces.

Lithium battery accessible from the top

3½-inch motherboard with Intel® Core™ processor

Hard disk, SSD or CFAST card accessible from the top

Optionally 2 PCIe module slots

DVI connection

Power supply 24 V DC, optionally with UPS

18.5-inch TFT display

On-board dual Ethernet adapter

Serial interface RS232

2 USB 2.0 ports

2 USB 3.0 ports

► [www.beckhoff.com/CP22xx](http://www.beckhoff.com/CP22xx)



Rear view of CP22xx-0000 for 12-inch, 15-inch and all portrait orientations

# CP22xx | Panel PC with Intel® Core™ i processor

## The high-performance multi-touch built-in Panel PC



Ordering information	Multi-finger touch screen
11.6-inch display 1366 x 768	CP2211-0010
12-inch display 800 x 600	CP2212-00xx
15-inch display 1024 x 768	CP2215-00xx
15.6-inch display 1366 x 768	CP2216-00xx
18.5-inch display 1366 x 768	CP2218-00xx
19-inch display 1280 x 1024	CP2219-00xx
21.5-inch display 1920 x 1080	CP2221-00xx
24-inch display 1920 x 1080	CP2224-00xx



Rear view of CP22xx-0000  
for all landscape orientations  
from 15.6-inch

CP22xx	CP22xx-0000, -0010
<b>Housing</b>	aluminium housing with glass front
	all connectors at the bottom of the rear side
	PC to be opened from the back side
	all components easily accessible
	1 slot for one 2½-inch hard disk or SSD and 1 slot for one CFast card, accessible from outside
	2 connector brackets to lead out interfaces of the motherboard at the connection section
	fan cartridge at the PC top side, accessible from outside
	pull-out clamping levers for fast installation without loose parts
	protection class front side IP 65, rear side IP 20
	operating temperature 0...55 °C

Features	CP22xx-0000	CP22xx-0010
<b>Display</b>	12-, 15-, 15.6-, 18.5-, 19-, 21.5- or 24-inch display	11.6-, 12-, 15-, 15.6-, 18.5-, 19-, 21.5- or 24-inch display
<b>Processor</b>	Celeron®, Core™ i3/i5/i7 2 <sup>nd</sup> /3 <sup>rd</sup> generation	Celeron®, Core™ i3/i5/i7 4 <sup>th</sup> generation
<b>Motherboard</b>	3½-inch	3½-inch
<b>Slots</b>	1 Mini PCI slot, optionally 2 PCIe modules	1 Mini PCI slot, optionally 2 PCIe modules
<b>Free slots</b>	1 Mini PCI slot, optionally 2 PCIe modules	1 Mini PCI slot, optionally 2 PCIe modules
<b>Max. card length</b>	Mini PCI	Mini PCI
<b>Memory</b>	2...16 GB DDR3 RAM	2...16 GB DDR3L RAM
<b>Graphic adapter</b>	integrated in the processor	integrated in the processor
<b>Ethernet</b>	2 on-board	2 on-board
<b>Hard disks/flash</b>	1 or 2 x 2½-inch HDD, SSD or CFast	1 or 2 x 2½-inch HDD, SSD or CFast
<b>RAID 1</b>	2 x 2½-inch HDD, SSD or CFast	2 x 2½-inch HDD, SSD or CFast
<b>Power supply</b>	24 V DC	24 V DC
<b>Recommendation</b>	available	recommended for new projects
<b>Further information</b>	for further options, technical drawings, documentations, etc. see <a href="http://www.beckhoff.com/CP22xx">www.beckhoff.com/CP22xx</a>	



# CP26xx | Dual-touch built-in Panel PC

The CP26xx built-in Panel PC series is characterised by a modern operating concept with dual-touch display as well as an advanced, elegant device design. It is designed for installation in the front of a control cabinet. The CP26xx combine reliable Beckhoff

Control Panel design with state-of-the-art Industrial PC technology. The right display size from 7 to 24 inches is available for every application – in landscape or portrait orientation (horizontal/vertical). With their highly integrated 3½-inch motherboards,

the CP26xx built-in Industrial PCs represent a high-performance platform for machine construction and plant engineering applications that can be used in conjunction with TwinCAT automation software under Windows Embedded Compact 7.



## Display sizes



7-inch    11.6-inch    12-inch    15-inch    15.6-inch    18.5-inch    19-inch    21.5-inch    24-inch

CP26xx Panel PCs are equipped with an ARM Cortex™-A8 processor. They are equipped with a microSD card and have no rotating parts.

CP26xx are supplied with a 24 V power supply unit, optionally also with a capacitive uninterruptible power supply (second UPS).

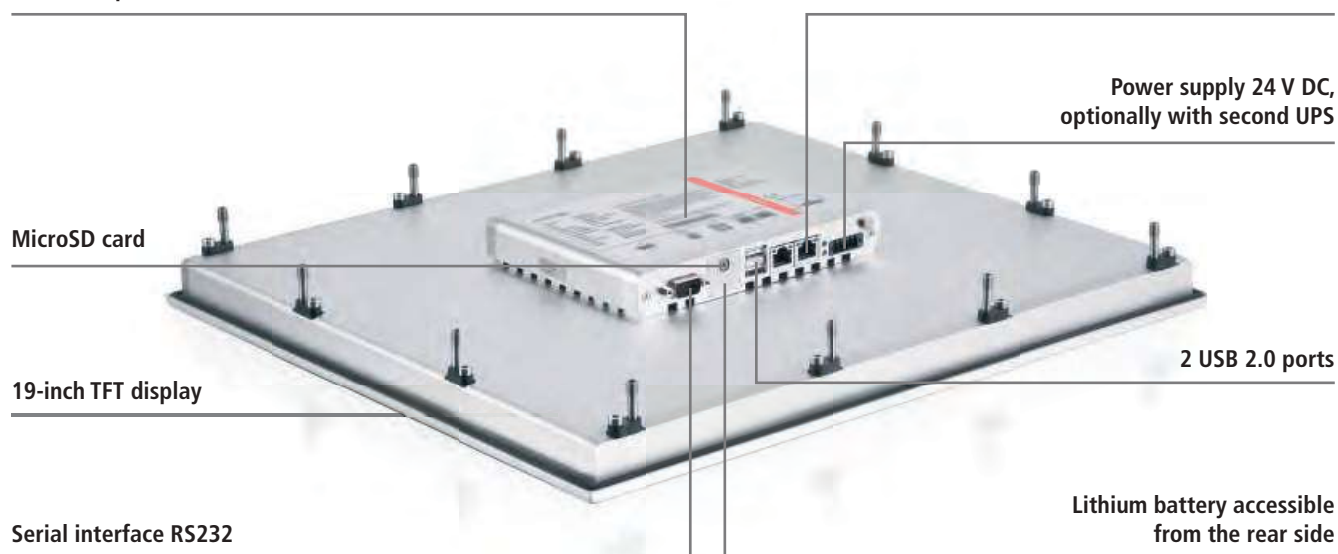
The microSD card and the lithium battery of the system clock are accessible from the rear in the connector bracket.

Due to its independent Ethernet and EtherCAT interfaces the CP26xx is ideally suited as a compact central processing unit

for an EtherCAT control system. NOVRAM for fail-safe data storage is integrated on the motherboard.

3½-inch motherboard  
with ARM processor

1 x Ethernet and  
1 x EtherCAT on-board



► [www.beckhoff.com/CP26xx](http://www.beckhoff.com/CP26xx)



## CP26xx | Panel PC with ARM Cortex™-A8

### The compact dual-touch built-in Panel PC



Ordering information		Dual-finger touch screen
7-inch display	800 x 480	CP2607
11.6-inch display	1366 x 768	CP2611
12-inch display	800 x 600	CP2612
15-inch display	1024 x 768	CP2615
15.6-inch display	1366 x 768	CP2616
18.5-inch display	1366 x 768	CP2618
19-inch display	1280 x 1024	CP2619
21.5-inch display	1920 x 1080	CP2621
24-inch display	1920 x 1080	CP2624



CP26xx	CP26xx-0000
<b>Housing</b>	aluminium housing with glass front
	all connectors at the bottom of the rear side
	PC to be opened from the back side, all components easily accessible
	1 slot for a microSD flash card, accessible from outside
	protection class front side IP 65, rear side IP 20
	operating temperature 0...55 °C

Features	CP26xx-0000
<b>Display</b>	7-, 11.6-, 12-, 15-, 15.6-, 18.5-, 19-, 21.5- or 24-inch display
<b>Processor</b>	ARM Cortex™-A8, 1 GHz
<b>Motherboard</b>	3½-inch
<b>Slots</b>	–
<b>Memory</b>	1 GB DDR3RAM
<b>Graphic adapter</b>	integrated in the processor
<b>Ethernet</b>	1 x Ethernet and 1 x EtherCAT on-board
<b>Hard disks/flash</b>	microSD flash card
<b>Power supply</b>	24 V DC
<b>Recommendation</b>	recommended for new projects
<b>Further information</b>	for further options, technical drawings, documentations, etc. see <a href="http://www.beckhoff.com/CP26xx">www.beckhoff.com/CP26xx</a>

# CP27xx | Fanless multi-touch built-in Panel PC

The CP27xx built-in Panel PC series is characterised by a modern operating concept with multi-touch display as well as an advanced, elegant device design. It is designed for installation in the front of a control cabinet. The CP27xx combine reliable Beckhoff Control Panel design with state-of-the-art Industrial PC technology. The right display

size is available for every application. With their highly integrated 3½-inch motherboards, the CP27xx built-in Industrial PCs represent a high-performance platform for machine construction and plant engineering applications that can be used in conjunction with TwinCAT automation software under Windows 7 Professional, Windows 7

Ultimate, Windows Embedded Standard 7 or Windows Embedded Compact 7.

CP27xx Panel PCs are equipped with Intel® Celeron® ULV 1.4 GHz or with Intel® Atom™ with up to four cores and have one or two CFast cards. With the on-board RAID controller, two same CFast cards can be mirrored in the CP27xx-0000.





## Display sizes



11.6-inch

12-inch

15-inch

15.6-inch

18.5-inch

19-inch

21.5-inch

24-inch

CP27xx are supplied with a 24 V power supply unit, optionally also with an integrated uninterruptible power supply (UPS). A battery pack can be connected externally and installed on a DIN rail close to the PC.

Data media and the lithium battery of the system clock are accessible from the rear.

Due to its two independent Ethernet interfaces the CP27xx is ideally suited as a compact central processing unit for an EtherCAT control system. A third independent Ethernet interface is available as an option.

An optional PCIe module slot offers the possibility to extend the PC, e.g. with additional Ethernet interfaces.

Lithium battery accessible from the top

CFast card accessible from the top

DVI connection

12-inch TFT display

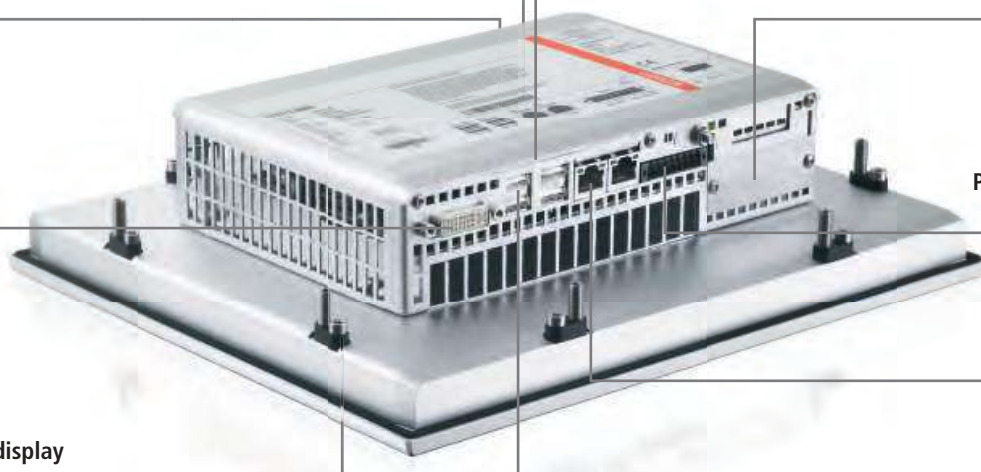
3½-inch motherboard with Intel® Celeron® ULV

Optionally 1 PCIe module slot or serial interface

Power supply 24 V DC, optionally with UPS

On-board dual Ethernet adapter

4 USB 2.0 ports



► [www.beckhoff.com/CP27xx](http://www.beckhoff.com/CP27xx)



## CP27xx | Fanless multi-touch built-in Panel PC



CP2711

CP2712

CP2715

CP2716

CP2718

CP2719

CP2721

CP2724

Ordering information	Multi-finger touch screen
11.6-inch display 1366 x 768	CP2711
12-inch display 800 x 600	CP2712
15-inch display 1024 x 768	CP2715
15.6-inch display 1366 x 768	CP2716
18.5-inch display 1366 x 768	CP2718
19-inch display 1280 x 1024	CP2719
21.5-inch display 1920 x 1080	CP2721
24-inch display 1920 x 1080	CP2724



CP27xx	CP27xx-0000, -0010
<b>Housing</b>	aluminium housing with glass front
	all connectors at the bottom of the rear side
	PC to be opened from the back side
	all components easily accessible
	2 slot for for CFast cards, accessible from outside
	1 connector bracket to lead out interfaces of the motherboard at the connection section
	pull-out clamping levers for fast installation without loose parts
	protection class front side IP 65, rear side IP 20
operating temperature 0...55 °C	

Features	CP27xx-0000	CP27xx-0010
<b>Display</b>	11.6-, 12-, 15-, 15.6-, 18.5-, 19-, 21.5- or 24-inch display	11.6-, 12-, 15-, 15.6-, 18.5-, 19-, 21.5- or 24-inch display
<b>Processor</b>	Intel® Celeron® ULV	Intel® Atom™
<b>Motherboard</b>	3½-inch	3½-inch
<b>Slots</b>	optionally 1 PCIe module	optionally 1 PCIe module
<b>Memory</b>	2...8 GB DDR3 RAM	2...8 GB DDR3L RAM
<b>Graphic adapter</b>	integrated in the processor	integrated in the processor
<b>Ethernet</b>	2 on-board	2 on-board
<b>Hard disks/flash</b>	1 or 2 x CFast	1 or 2 x CFast
<b>RAID 1</b>	2 x CFast	–
<b>Power supply</b>	24 V DC	24 V DC
<b>Recommendation</b>	recommended for new projects	recommended for new projects
<b>Further information</b>	for further options, technical drawings, documentations, etc. see <a href="http://www.beckhoff.com/CP27xx">www.beckhoff.com/CP27xx</a>	

# CP32xx | Multi-touch Panel PC

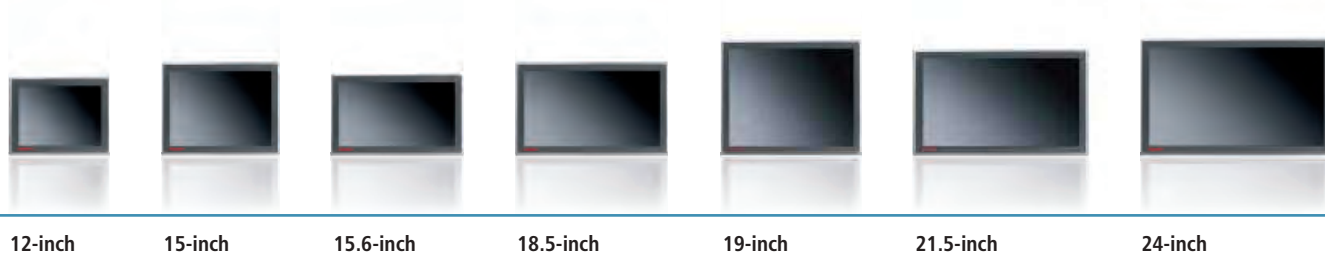
With the CP32xx series, a high-end Panel PC with multi-touch can be used directly in the field. The devices in a slender aluminium housing feature complete IP 65 protection and are designed for mounting arm installation. The Panel PCs offer maximum computing power with processors of the latest generation, such as Intel® Celeron® or Core™ i3, i5, or i7.

A choice of seven different multi-touch TFT displays in sizes between 12-inch and 24-inch and 4:3, widescreen, landscape or portrait formats are available. Cooling is achieved by means of cooling fins on the outer wall as well as fans inside the closed housing. The operating temperature range is 0 to 45 °C.

The Panel PC features an integrated rotatable and tiltable mounting arm adapter for a 48 mm diameter mounting arm tube. There is a choice of attaching the mounting arm from above or below. The connecting cables are laid through the mounting arm. The Industrial PC connections (up to six) with IP 65 connectors are positioned in the large wiring space and are easily accessible. The wiring area



## Display sizes



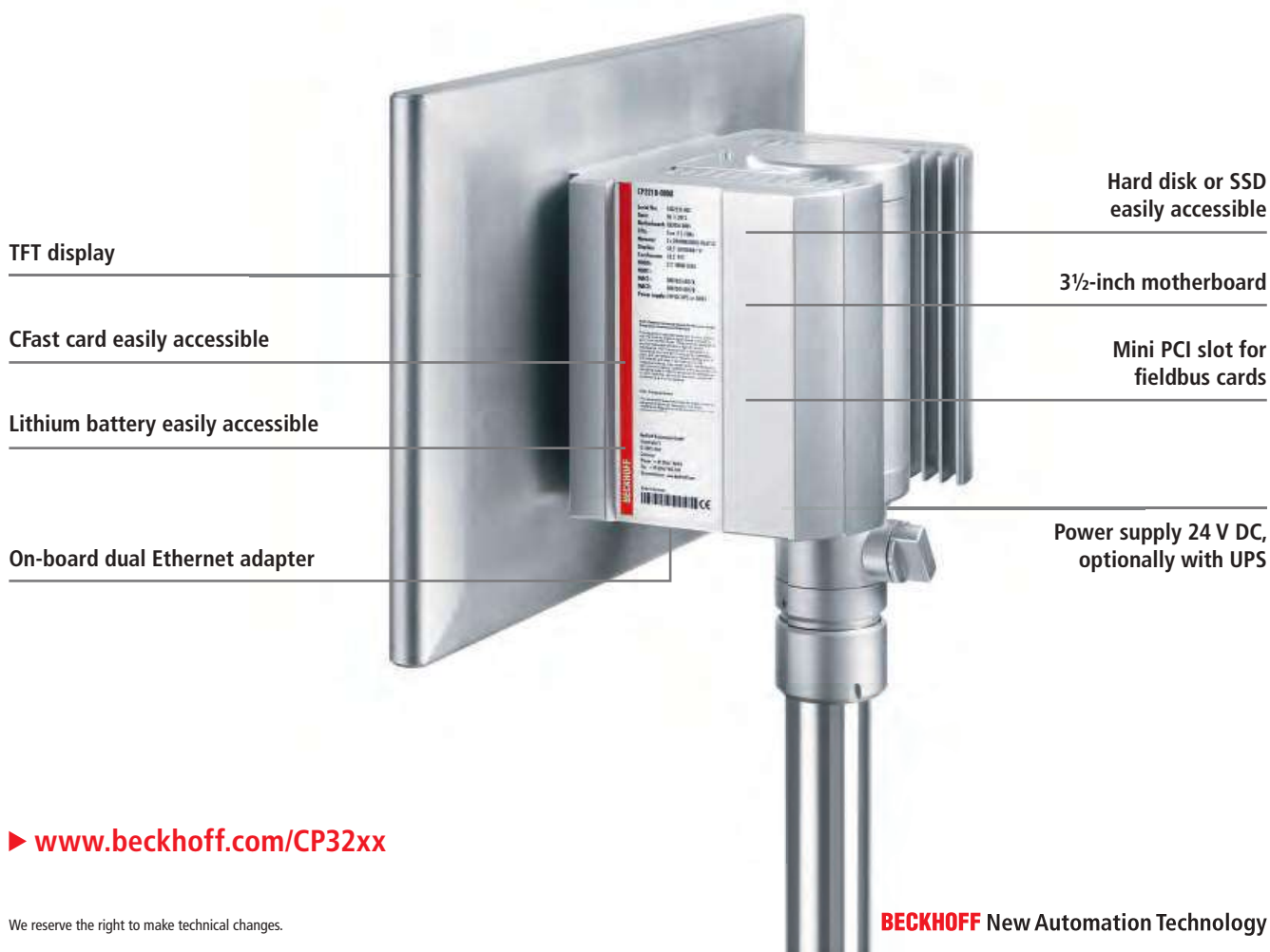
can be opened easily without dismantling the device from the mounting arm, offering fast access to the IP 65 connectors for power supply, Ethernet and optional fieldbus, USB or RS232. Prefabricated cables in various lengths are available for all connections. The C32xx series Panel PCs are supplied with a 24 V power supply unit, optionally with integrated uninterruptible power supply (UPS).

A battery pack can be connected externally and installed on a DIN rail in the control cabinet.

The CP32xx Panel PCs are equipped with one or two hard disks, SSDs or CFast cards or combinations thereof. With the on-board RAID controller, two same hard disks, SSDs or CFast cards can be mirrored. The data media and the lithium battery of the system

clock are accessible from the rear under the cover.

There is a Mini PCI slot in the CP32xx. The Beckhoff Mini PCI Ethernet or fieldbus cards can be factory-fitted. NOVRAM up to 512 kB is also available in the form of an optional Mini PCI plug-in card for fail-safe data storage.



► [www.beckhoff.com/CP32xx](http://www.beckhoff.com/CP32xx)





red dot award 2014  
winner industrial design



# CP32xx | Multi-touch Panel PC

## The high-performance multi-touch Panel PC



CP3212

CP3215

CP3216

CP3218

CP3219

CP3221

CP3224

Ordering information		Multi-finger touch screen
12-inch display	800 x 600	CP3212
15-inch display	1024 x 768	CP3215
15.6-inch display	1366 x 768	CP3216
18.5-inch display	1366 x 768	CP3218
19-inch display	1280 x 1024	CP3219
21.5-inch display	1920 x 1080	CP3221
24-inch display	1920 x 1080	CP3224



CP32xx	CP32xx-0000, -0010
<b>Housing</b>	Industrial PC with Control Panel for mounting arm installation rotatable and tiltable mounting arm adapter for Rittal and Roolec mounting arm systems with 48 mm tube from top wiring area for up to 6 IP 65 connectors 1 slot for a 2½-inch hard disk or SSD and 1 slot for CFast lithium battery of the system clock changeable from outside passive cooling through heat sink structure, internal fans for equal heat distribution to all the walls of the housing 20 cm free space required around the PC for air circulation protection class IP 65 operating temperature 0...45 °C

Features	CP32xx-0000	CP32xx-0010
<b>Display</b>	12-, 15-, 15.6-, 18.5-, 19-, 21.5- or 24-inch display	12-, 15-, 15.6-, 18.5-, 19-, 21.5- or 24-inch display
<b>Processor</b>	up to Core™ i3/i5/i7 2 <sup>nd</sup> /3 <sup>rd</sup> generation	up to Core™ i3/i5/i7 4 <sup>th</sup> generation
<b>Motherboard</b>	3½-inch	3½-inch
<b>Slots</b>	1 Mini PCI slot	1 Mini PCI slot
<b>Free slots</b>	1 Mini PCI slot	1 Mini PCI slot
<b>Max. card length</b>	Mini PCI	Mini PCI
<b>Memory</b>	2...16 GB DDR3 RAM	2...16 GB DDR3L RAM
<b>Graphic adapter</b>	integrated in the processor	integrated in the processor
<b>Ethernet</b>	2 on-board, one of these is led out in the wiring area	2 on-board, one of these is led out in the wiring area
<b>Hard disks/flash</b>	1 or 2 x 2½-inch HDD or SSD, 1 x 2½-inch HDD or SSD and 1 x CFast or 2 x CFast	1 or 2 x 2½-inch HDD or SSD, 1 x 2½-inch HDD or SSD and 1 x CFast or 2 x CFast
<b>RAID 1</b>	2 x 2½-inch HDD, SSD or CFast	2 x 2½-inch HDD, SSD or CFast
<b>Power supply</b>	24 V DC	24 V DC
<b>Recommendation</b>	available	recommended for new projects
<b>Further information</b>	for further options, technical drawings, documentations, etc. see <a href="http://www.beckhoff.com/CP32xx">www.beckhoff.com/CP32xx</a>	

# CP37xx | Multi-touch Panel PC

With the CP37xx series, a Panel PC with multi-touch can be used directly in the field. The devices in a slender aluminium housing feature complete IP 65 protection and are designed for mounting arm installation. The Panel PCs offer high computing power with Intel® Atom™ processors with up to four cores.

A choice of seven different multi-touch TFT displays in sizes between 12-inch and 24-inch in 4:3, 5:4 or widescreen formats are available. Cooling is achieved by means of cooling fins on the outer wall as well as fans inside the closed housing. The operating temperature range is 0 to 45 °C.

The Panel PC features an integrated rotatable and tiltable mounting arm adapter for a 48 mm diameter mounting arm tube. There is a choice of attaching the mounting arm from above or below. The connecting cables are laid through the mounting arm. The Industrial PC connections (up to four)



## Display sizes



12-inch

15-inch

15.6-inch

18.5-inch

19-inch

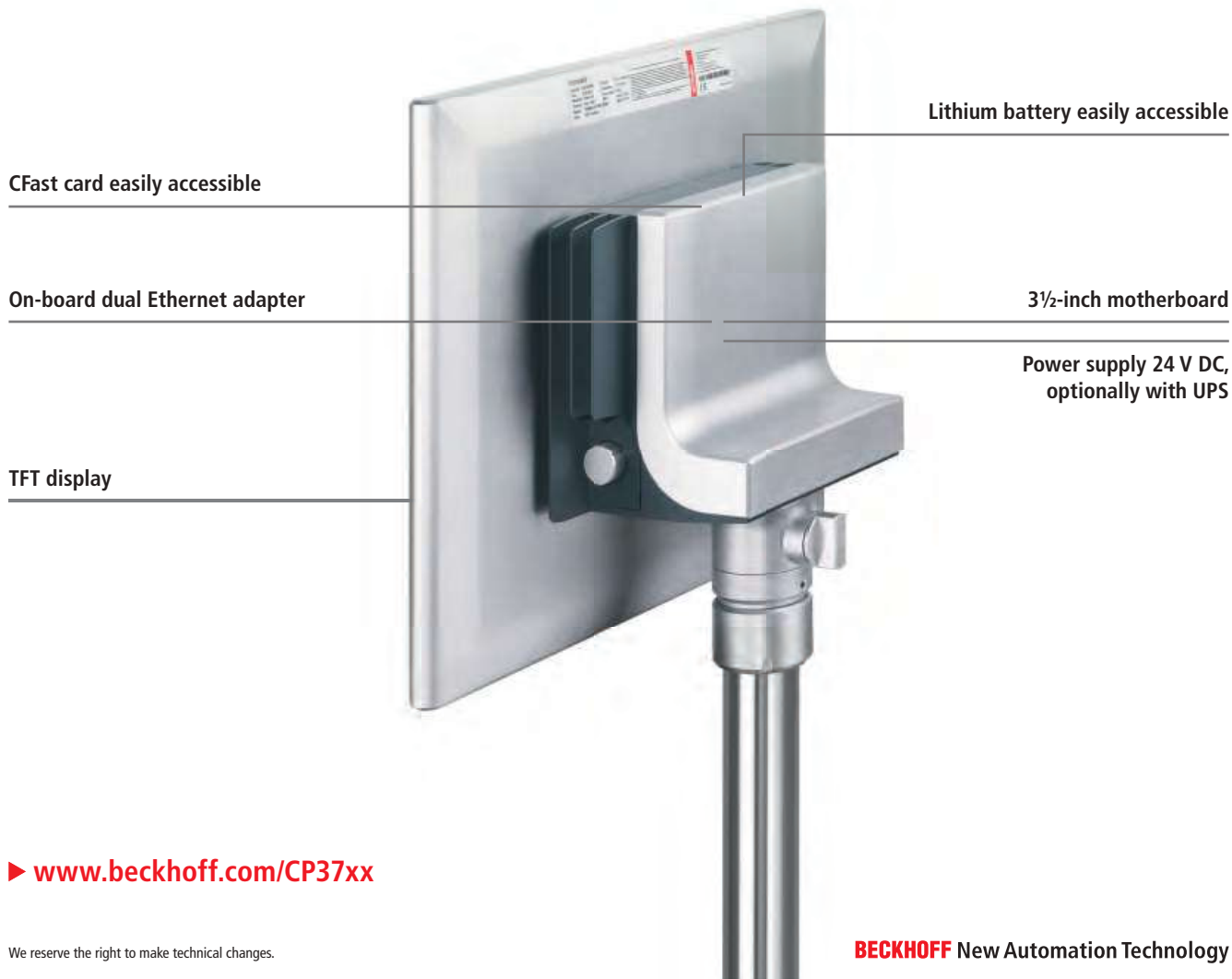
21.5-inch

24-inch

with IP 65 connectors are positioned in the large wiring space and are easily accessible. The wiring area can be opened easily without dismantling the device from the mounting arm, offering fast access to the IP 65 connectors for power supply, Ethernet and optional USB or RS232. Prefabricated cables in various

lengths are available for all connections. The C37xx series Panel PCs are supplied with a 24 V power supply unit, optionally with integrated uninterruptible power supply (UPS). A battery pack can be connected externally and installed on a DIN rail in the control cabinet.

The CP37xx Panel PCs are equipped with one or two CFast cards. The data media and the lithium battery of the system clock are accessible from the rear under the cover.



► [www.beckhoff.com/CP37xx](http://www.beckhoff.com/CP37xx)



# CP37xx | Multi-touch Panel PC

Intel® Atom™ with up to four cores



CP3712

CP3715

CP3716

CP3718

CP3719

CP3721

CP3724

Ordering information		Multi-finger touch screen
12-inch display	800 x 600	CP3712
15-inch display	1024 x 768	CP3715
15.6-inch display	1366 x 768	CP3716
18.5-inch display	1366 x 768	CP3718
19-inch display	1280 x 1024	CP3719
21.5-inch display	1920 x 1080	CP3721
24-inch display	1920 x 1080	CP3724





CP37xx	CP37xx-0010
<b>Housing</b>	Industrial PC with Control Panel for mounting arm installation
	rotatable and tiltable mounting arm adapter for Rittal and Rolec mounting arm systems with 48 mm tube from top wiring area for up to 4 IP 65 connectors
	2 slots for CFast cards
	CFast cards and lithium battery of the system clock, changeable from outside
	passive cooling through heat sink; internal fan for equal heat distribution to all the walls of the housing
	20 cm free space required around the PC for air circulation
	protection class IP 65
	operating temperature 0...45 °C

Features	CP37xx-0010
<b>Display</b>	12-, 15-, 15.6-, 18.5-, 19-, 21.5- or 24-inch display
<b>Processor</b>	Intel® Atom™
<b>Motherboard</b>	3½-inch
<b>Slots</b>	optionally 1 PCIe module
<b>Memory</b>	2...8 GB DDR3L RAM
<b>Graphic adapter</b>	integrated in the processor
<b>Ethernet</b>	2 on-board, one of these is led out in the wiring area
<b>Hard disks/flash</b>	1 or 2 x CFast
<b>Power supply</b>	24 V DC
<b>Recommendation</b>	recommended for new projects
<b>Further information</b>	for further options, technical drawings, documentations, etc. see <a href="http://www.beckhoff.com/CP37xx">www.beckhoff.com/CP37xx</a>

# CP62xx | “Economy” built-in Panel PC

The CP62xx built-in Panel PC-series is designed for installation in the front of a control cabinet. The CP62xx series combines the Beckhoff Control Panel design with state-of-the-art Industrial PC technology. The right display size and keyboard are available for every application. With their highly integrated 3½-inch motherboards, the CP62xx built-in Industrial PCs represent a high-performance

platform for machine construction and plant engineering applications that can be used in conjunction with TwinCAT automation software under Windows 7 Professional, Windows 7 Ultimate or Windows Embedded Standard 7.

The CP62xx Panel PCs are available with a choice of Intel® processors. The CP62xx Panel PCs can be equipped with a CFast card

and a 2½-inch hard disk or SSD. Units containing the more powerful Intel® Core™ i3/i5/i7 processors feature a fan cartridge with speed-controlled fans supported by dual ball bearings. In front of the fan cartridge a 2 cm space is required for ventilation. In each configuration the Panel PCs of this series are approved for ambient temperatures between 0 and 55 °C.



## Front laminates



Without keys



Function keys



Numeric keyboard



Alphanumeric keyboard



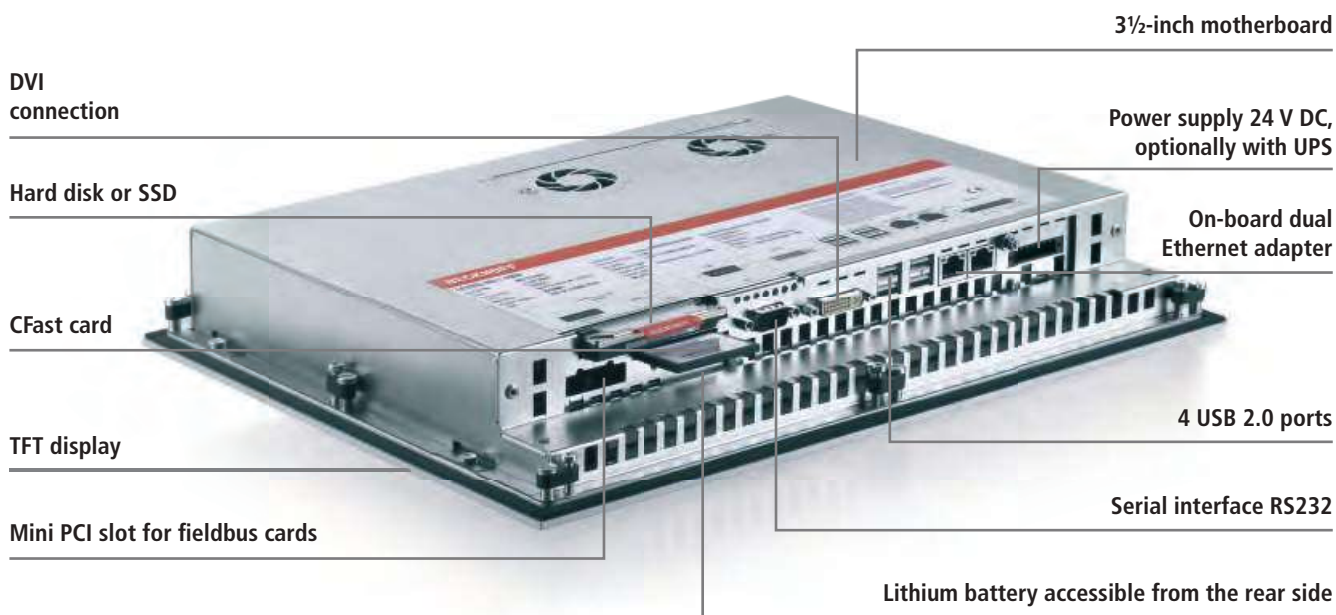
With PLC keys on the sides

The CP62xx are supplied with a 24 V power supply unit, optionally also with an integrated uninterruptible power supply (UPS). A battery pack can be connected externally and installed on a DIN rail close to the PC.

Due to its two independent Ethernet interfaces the CP62xx is ideally suited as a compact central processing unit for an

EtherCAT control system. A free Mini PCI slot enables different fieldbus cards or a third, independent Ethernet interface to be used. NOVRAM for fail-safe data storage can also be plugged into the Mini PCI slot.

The CP62xx can optionally be extended with PCIe module or plug-in card slots.



Optionally 2 PCI or PCIe plug-in card slots  
optionally 2 PCIe module slots

► [www.beckhoff.com/CP62xx](http://www.beckhoff.com/CP62xx)



## CP62xx | “Economy” built-in Panel PC

### The slimline built-in Industrial PC with 3½-inch motherboard

Ordering information	without touch screen	with single-touch screen	with touch pad
<b>Display only</b>			
12-inch display 800 x 600	CP6201-0000-00xx	CP6201-0001-00xx	
15-inch display 1024 x 768	CP6202-0000-00xx	CP6202-0001-00xx	
19-inch display 1280 x 1024	CP6203-0000-00xx	CP6203-0001-00xx	
<b>Display only, USB A socket in the front</b>			
12-inch display 800 x 600	CP6201-0020-00xx	CP6201-0021-00xx	
15-inch display 1024 x 768	CP6202-0020-00xx	CP6202-0021-00xx	
19-inch display 1280 x 1024	CP6203-0020-00xx	CP6203-0021-00xx	
<b>With function keys</b>			
12-inch display 800 x 600	CP6211-0000-00xx	CP6211-0001-00xx	
15-inch display 1024 x 768	CP6212-0000-00xx	CP6212-0001-00xx	
19-inch display 1280 x 1024	CP6213-0000-00xx	CP6213-0001-00xx	
<b>Numeric keyboard</b>			
12-inch display 800 x 600	CP6221-0000-00xx	CP6221-0001-00xx	CP6221-0002-00xx
15-inch display 1024 x 768	CP6222-0000-00xx	CP6222-0001-00xx	CP6222-0002-00xx
19-inch display 1280 x 1024	CP6223-0000-00xx	CP6223-0001-00xx	CP6223-0002-00xx
<b>Alphanumeric keyboard</b>			
12-inch display 800 x 600	CP6231-0000-00xx	CP6231-0001-00xx	CP6231-0002-00xx
15-inch display 1024 x 768	CP6232-0000-00xx	CP6232-0001-00xx	CP6232-0002-00xx
19-inch display 1280 x 1024	CP6233-0000-00xx	CP6233-0001-00xx	CP6233-0002-00xx
<b>Alphanumeric keyboard with PLC keys on the sides</b>			
15-inch display 1024 x 768	CP6242-0000-00xx	CP6242-0001-00xx	



Without keys



Function keys



Numeric keyboard



Alphanumeric keyboard

Alphanumeric keyboard  
with PLC keys on the sides

CP62xx	CP62xx-xxxx-0050, -0060
<b>Housing</b>	aluminium front with steel sheet rear cover drives easily accessible all connectors at the bottom of the rear side 1 slot for 2½-inch hard disk and 1 slot for a CFast card accessible from the rear side fan cartridge at the rear side, accessible from outside lithium battery of the system clock accessible from the rear side pull-out clamping levers for fast installation without loose parts protection class front side IP 65, rear side IP 20 operating temperature 0...55 °C

Features	CP62xx-xxxx-0050	CP62xx-xxxx-0060
<b>Display</b>	12-, 15- or 19-inch TFT display	12-, 15- or 19-inch TFT display
<b>Processor</b>	up to Core™ i3/i5/i7 2 <sup>nd</sup> /3 <sup>rd</sup> generation	up to Core™ i3/i5/i7 4 <sup>th</sup> generation
<b>Motherboard</b>	3½-inch	3½-inch
<b>Slots</b>	1 Mini PCI, optionally 2 PCIe modules or 2 plug-in card slots	1 Mini PCI, optionally 2 PCIe modules or 2 PCI/PCIe plug-in card slots
<b>Free slots</b>	1 Mini PCI and optionally 2 PCIe modules or 2 PCI/PCIe plug-in card slots	1 Mini PCI and optionally 2 PCIe modules or 2 PCI/PCIe plug-in card slots
<b>Max. card length</b>	Mini PCI, optionally 2 PCIe modules or 2 x 190 mm plug-in cards	Mini PCI, optionally 2 PCIe modules or 2 x 190 mm plug-in cards
<b>Memory</b>	2...16 GB DDR3 RAM	2...16 GB DDR3L RAM
<b>Graphic adapter</b>	integrated in the processor	integrated in the processor
<b>Ethernet</b>	2 on-board	2 on-board
<b>Hard disks/flash</b>	2½-inch HDD or SSD and/or 1 x CFast or 2 x CFast	2½-inch HDD or SSD and/or 1 x CFast or 2 x CFast
<b>RAID 1</b>	2 x CFast	2 x CFast
<b>Power supply</b>	24 V DC	24 V DC
<b>Recommendation</b>	available	recommended for new projects
<b>Further information</b>	for further options, technical drawings, documentations, etc. see <a href="http://www.beckhoff.com/CP62xx">www.beckhoff.com/CP62xx</a>	





CP62xx with PCIe module slots C9900-B500



## Extension for PCIe modules

The Panel PCs CP62xx can be expanded by two additional PCIe module slots. The rear cover is constructed 30 mm deeper for PCIe modules (see above). The module slots can accept Beckhoff PCIe modules, for example,

the FC9062 dual gigabit Ethernet module, or they can serve to lead out motherboard interfaces, such as COM ports, USB or sound.



PCIe module FC9062, dual gigabit Ethernet

Ordering information	Options for CP62xx-xxxx-0050, -0060
C9900-B500	2 PCIe module slots integrated inside CP62xx, to plug-in Beckhoff PCIe modules or to lead out interfaces of the motherboard ex factory. The depth of the back cover is increased by 30 mm (1.2").

Ordering information	Options for CP62xx with 2 module slots C9900-B500
FC9062	gigabit Ethernet PCIe module for PCs with Beckhoff PCIe module slots, 2-channel, PCI Express x1 bus
C9900-E232	sound line input and sound line output of the motherboard led out at the connection section of a CP62xx
C9900-E233	1 serial port RS232 of the motherboard led out at the connection section of a CP62xx
C9900-E234	2 USB ports of the motherboard led out at the connection section of a CP62xx



CP62xx with plug-in card slots  
C9900-B504, -B508 or -B512

## Extension for PCI and PCIe plug-in cards

The Panel PCs CP62xx can be expanded by two slots for standard PC plug-in cards. They can accept conventional PC plug-in cards up to 190 mm in length. The 66 mm deeper hood at the rear (see above) covers a back-

plane that provides a choice of two PCI slots, two PCI Express slots or one PCI and one PCI Express slot. Card holders ensure the secure fixation of large cards.

Ordering information	Options for CP62xx-xxxx-0050, -0060
C9900-B504	2 PCIe plug-in card slots on the passive backplane integrated inside CP62xx, to plug-in PCIe x1 cards up to 190 mm length. The depth of the back cover is increased by 66 mm (2.6").
C9900-B508	2 PCI plug-in card slots on the passive backplane integrated inside CP62xx, to plug-in PCI cards up to 190 mm length. The depth of the back cover is increased by 66 mm (2.6").
C9900-B512	1 PCI and 1 PCIe plug-in card slot on a passive backplane integrated inside CP62xx, to plug-in one PCI and one PCIe x1 card up to 190 mm (6.3") length. The depth of the back cover is increased by 66 mm (2.6").

# CP65xx | Built-in Panel PC

The Panel PC series CP65xx is designed for installation in the front of a control cabinet. A built-in Control Panel with DVI and USB interface is the front of the Panel PC. The correct display size and keyboard are thus available for every application.

The CP65xx built-in Industrial PCs represent a powerful platform for machine construction and plant engineering applications, for example with the TwinCAT automation software under Windows 7 Professional, Windows 7 Ultimate or Windows Embedded Standard 7.

The 7-slot ATX Panel PCs CP65xx can be equipped with 12-, 15- or 19-inch TFT display, as a monitor without keys or with different types of keyboards. A touch screen or touch pad is optionally available. A large number of push-button extensions are also available.



## Front laminates



Without keys

Function keys

Numeric keyboard

Alphanumeric keyboard

With PLC keys on the sides

The CP65xx are equipped with Intel® Celeron® or Core™ i3/i5/i7 processors on an ATX motherboard and have three PCI and four PCI Express slots. A CD/DVD-ROM or multi DVD drive can be installed. A 100 to 240 AC full range power supply or a 24 V DC power

supply is used in the PC. The Control Panel is connected to the PC via DVI and USB. The PC deals with the power supply for the Control Panel. The cables are installed in the PC housing.

TFT display

4 USB 2.0 ports

7 slots free

ATX motherboard

Fan with speed monitoring and double ball bearing, easily exchangeable

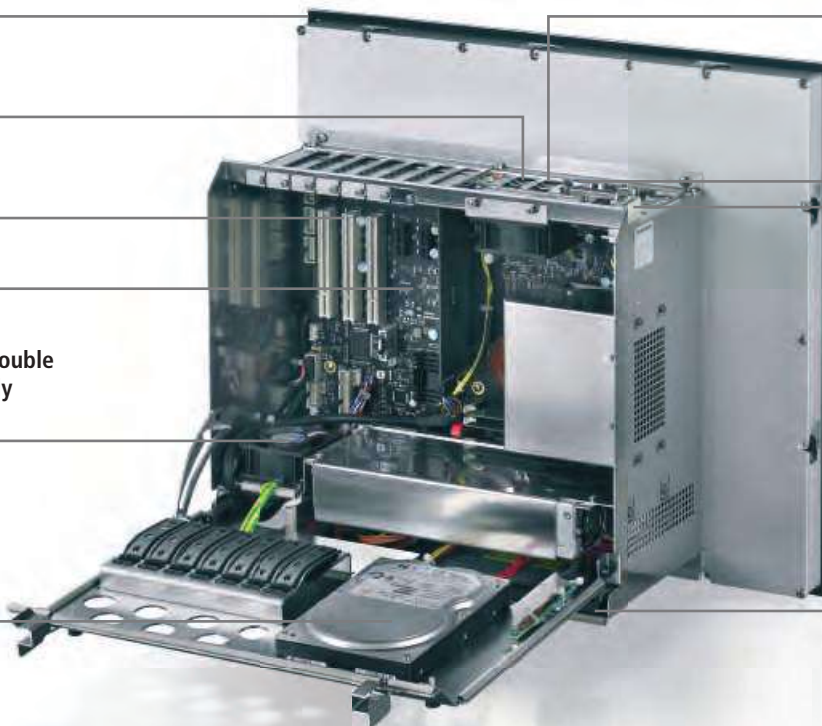
Hard disk or SSD

On-board dual Ethernet adapter

Serial interface RS232

Power supply 100–240 V full range or 24 V DC, optionally with 24 V DC UPS

DVD drive slot



► [www.beckhoff.com/CP65xx](http://www.beckhoff.com/CP65xx)



## CP65xx | Built-in Panel PC

The universal built-in Industrial PC with ATX motherboard

Ordering information	without touch screen	with single-touch screen	with touch pad
<b>Display only</b>			
12-inch display 800 x 600	CP6501-0000-00xx	CP6501-0001-00xx	
15-inch display 1024 x 768	CP6502-0000-00xx	CP6502-0001-00xx	
19-inch display 1280 x 1024	CP6503-0000-00xx	CP6503-0001-00xx	
<b>Display only, USB A socket in the front</b>			
12-inch display 800 x 600	CP6501-0020-00xx	CP6501-0021-00xx	
15-inch display 1024 x 768	CP6502-0020-00xx	CP6502-0021-00xx	
19-inch display 1280 x 1024	CP6503-0020-00xx	CP6503-0021-00xx	
<b>With function keys</b>			
12-inch display 800 x 600	CP6511-0000-00xx	CP6511-0001-00xx	
15-inch display 1024 x 768	CP6512-0000-00xx	CP6512-0001-00xx	
19-inch display 1280 x 1024	CP6513-0000-00xx	CP6513-0001-00xx	
<b>Numeric keyboard</b>			
12-inch display 800 x 600	CP6521-0000-00xx	CP6521-0001-00xx	CP6521-0002-00xx
15-inch display 1024 x 768	CP6522-0000-00xx	CP6522-0001-00xx	CP6522-0002-00xx
19-inch display 1280 x 1024	CP6523-0000-00xx	CP6523-0001-00xx	CP6523-0002-00xx
<b>Alphanumeric keyboard</b>			
12-inch display 800 x 600	CP6531-0000-00xx	CP6531-0001-00xx	CP6531-0002-00xx
15-inch display 1024 x 768	CP6532-0000-00xx	CP6532-0001-00xx	CP6532-0002-00xx
19-inch display 1280 x 1024	CP6533-0000-00xx	CP6533-0001-00xx	CP6533-0002-00xx
<b>Alphanumeric keyboard with PLC keys on the sides</b>			
15-inch display 1024 x 768	CP6542-0000-00xx	CP6542-0001-00xx	





Without keys



Function keys



Numeric keyboard



Alphanumeric keyboard

Alphanumeric keyboard  
with PLC keys on the sides

CP65xx	CP65xx-xxxx-0070, -0080
<b>Housing</b>	7-slot ATX housing all slots for plug-in cards with a length of up to 190 mm drives and plug-in cards easily accessible all connectors on the top detailed PC configuration information on the housing card holders, actuated without tools status LEDs and protected reset key pull-out clamping levers for fast installation without loose parts protection class front side IP 65, rear side IP 20 operating temperature 0...55 °C

Features	CP65xx-xxxx-0070	CP65xx-xxxx-0080
<b>Display</b>	12-, 15- or 19-inch TFT display	12-, 15- or 19-inch TFT display
<b>Processor</b>	up to Core™ i3/i5/i7 2 <sup>nd</sup> /3 <sup>rd</sup> generation	up to Core™ i3/i5/i7 4 <sup>th</sup> generation
<b>Motherboard</b>	ATX	ATX
<b>Slots</b>	7	7
<b>Free slots</b>	3 PCI, 2 PCIe x1, 1 PCIe x4 and 1 PCIe x16	3 PCI, 2 PCIe x1, 1 PCIe x4 and 1 PCIe x16
<b>Max. card length</b>	7 x 190 mm	7 x 190 mm
<b>Memory</b>	2...16 GB DDR3 RAM	2...32 GB DDR3L RAM
<b>Graphic adapter</b>	integrated in the processor	integrated in the processor
<b>Ethernet</b>	2 on-board	2 on-board
<b>Hard disks/flash</b>	1 x 3½-inch HDD or 2½-inch SSD	1 x 3½-inch HDD or 2½-inch SSD
<b>Possible disk drives</b>	CD/DVD-ROM or multi-DVD	CD/DVD-ROM or multi-DVD
<b>Power supply</b>	100...240 V AC or 24 V DC	100...240 V AC or 24 V DC
<b>Recommendation</b>	available	recommended for new projects
<b>Further information</b>	for further options, technical drawings, documentations, etc. see <a href="http://www.beckhoff.com/CP65xx">www.beckhoff.com/CP65xx</a>	

# CP66xx | Built-in Panel PC

The built-in Panel PCs of the CP66xx series have a wide range of uses including remote desktop display or CP-Link 3 client. They are available in five display sizes: 5.7, 6.5, 12, 15 or 19 inches.

CP66xx Panel PCs are equipped with an ARM Cortex™-A8 processor. They are equipped with a microSD card and have no rotating parts.

CP66xx are supplied with a 24 V power supply unit, optionally also with a capacitive uninterruptible power supply (second UPS).



**Front laminates**



Without keys

Function keys

Numeric keyboard

Alphanumeric keyboard

The microSD card and the lithium battery of the system clock are accessible from the rear in the connector bracket.

These devices are ideally suited as small controllers for machine construction and

plant engineering applications in conjunction with TwinCAT automation software under Windows Embedded Compact 7.

Due to its independent Ethernet and EtherCAT interfaces the CP66xx is ideally

suited as a compact central processing unit for an EtherCAT control system. NOVRAM for fail-safe data storage is integrated on the motherboard.

3½-inch motherboard with ARM processor

Optionally with second UPS

TFT display

Lithium battery accessible from the rear side

1 x Ethernet and 1 x EtherCAT on-board

Power supply 24 V DC

2 USB 2.0 ports

Serial interface RS232



► [www.beckhoff.com/CP66xx](http://www.beckhoff.com/CP66xx)



## CP66xx | Panel PC with ARM Cortex™-A8

### The “Economy” built-in Panel PC

Ordering information	without touch screen	with single-touch screen	with touch pad
<b>Display only</b>			
5.7-inch display 640 x 480	CP6607-0000-0020	CP6607-0001-0020	
6.5-inch display 640 x 480	CP6609-0000-0020	CP6609-0001-0020	
12-inch display 800 x 600	CP6601-0000-0020	CP6601-0001-0020	
15-inch display 1024 x 768	CP6602-0000-0020	CP6602-0001-0020	
19-inch display 1280 x 1024	CP6603-0000-0020	CP6603-0001-0020	
<b>Display only, USB A socket in the front</b>			
12-inch display 800 x 600	CP6601-0020-0020	CP6601-0021-0020	
15-inch display 1024 x 768	CP6602-0020-0020	CP6602-0021-0020	
19-inch display 1280 x 1024	CP6603-0020-0020	CP6603-0021-0020	
<b>With function keys</b>			
6.5-inch display 640 x 480	CP6619-0000-0020	CP6619-0001-0020	
12-inch display 800 x 600	CP6611-0000-0020	CP6611-0001-0020	
15-inch display 1024 x 768	CP6612-0000-0020	CP6612-0001-0020	
19-inch display 1280 x 1024	CP6613-0000-0020	CP6613-0001-0020	
<b>Numeric keyboard</b>			
6.5-inch display 640 x 480	CP6629-0000-0020	CP6629-0001-0020	
12-inch display 800 x 600	CP6621-0000-0020	CP6621-0001-0020	CP6621-0002-0020
15-inch display 1024 x 768	CP6622-0000-0020	CP6622-0001-0020	CP6622-0002-0020
19-inch display 1280 x 1024	CP6623-0000-0020	CP6623-0001-0020	CP6623-0002-0020
<b>Alphanumeric keyboard</b>			
12-inch display 800 x 600	CP6631-0000-0020	CP6631-0001-0020	CP6631-0002-0020
15-inch display 1024 x 768	CP6632-0000-0020	CP6632-0001-0020	CP6632-0002-0020
19-inch display 1280 x 1024	CP6633-0000-0020	CP6633-0001-0020	CP6633-0002-0020



Without keys



Function keys



Numeric keyboard



Alphanumeric keyboard

CP66xx	CP66xx-xxxx-0020
Housing	aluminium front with steel sheet rear cover
	all connectors at the bottom of the rear side
	1 slot for microSD flash card, accessible from the rear side
	lithium battery of the system clock, accessible from the rear side
	pull-out clamping levers for fast installation without loose parts
	protection class front side IP 65, rear side IP 20
	operating temperature 0...55 °C

Features	CP66xx-xxxx-0020
Display	5.7-, 6.5-, 12-, 15- or 19-inch TFT display
Processor	ARM Cortex™-A8, 1 GHz
Motherboard	3½-inch
Slots	–
Free slots	–
Max. card length	–
Memory	1 GB DDR3RAM
Graphic adapter	integrated in the processor
Ethernet	1 x Ethernet and 1 x EtherCAT on-board
Hard disks/flash	microSD flash card
Power supply	24 V DC
Recommendation	recommended for new projects
Further information	for further options, technical drawings, documentations, etc. see <a href="http://www.beckhoff.com/CP66xx">www.beckhoff.com/CP66xx</a>



# CP6606 | 7-inch "Economy" built-in Panel PC

With its highly integrated 3½-inch motherboard, the CP6606 built-in Panel PC is ideally suited for use in machine construction and plant engineering, for example with the TwinCAT automation software under Windows Embedded Compact 7 or as a CP-Link 3 client or Ethernet Control Panel.

The CP6606 is conceived for installation in the front of a control cabinet and has a 7-inch touch screen display. Equipped with a fanless ARM Cortex™-A8 processor and a MicroSD card the CP6606 contains no rotary components.

The CP6606 is supplied with a 24 V power supply unit. The microSD card and the lithium battery of the system clock are accessible from the rear in the connector bracket.



► [www.beckhoff.com/CP6606](http://www.beckhoff.com/CP6606)



## CP6606 | Panel PC with ARM Cortex™-A8

Ordering information	with single-touch screen
7-inch display 800 x 480	CP6606-0001-0020

CP6606	CP6606-0001-0020
Housing	aluminium front with steel sheet rear cover all connectors at the bottom of the rear side 1 slot for microSD flash card, accessible from the rear side lithium battery of the system clock, accessible from the rear side pull-out clamping levers for fast installation without loose parts protection class front side IP 54, rear side IP 20 operating temperature 0...55 °C

Features	CP6606-0001-0020
Display	7-inch TFT display
Processor	ARM Cortex™-A8, 1 GHz
Motherboard	3½-inch
Slots	–
Free slots	–
Max. card length	–
Memory	1 GB DDR3RAM
Graphic adapter	integrated in the processor
Ethernet	1 x Ethernet and 1 x EtherCAT on-board
Hard disks/flash	microSD flash card
Power supply	24 V DC
Recommendation	recommended for new projects
Further information	for further options, technical drawings, documentations, etc. see <a href="http://www.beckhoff.com/CP6606">www.beckhoff.com/CP6606</a>

# CP67xx | "Economy" built-in Panel PC

The CP67xx built-in Panel PC series is designed for installation in the front of a control cabinet or control housing. The CP67xx series combines the Beckhoff Control Panel design with state-of-the-art Industrial PC technology. The right display size and keyboard are available for every application.

With their highly integrated 3½-inch motherboard the CP67xx built-in Industrial PCs represent a high-performance platform for machine construction and plant engineering applications running the TwinCAT automation software under Windows 7 Professional, Windows 7 Ultimate, Windows Embedded

Standard 7 or Windows Embedded Compact 7. The PC can be equipped with a 5.7-, 12-, 15- or 19-inch LC display, or as a monitor without keys or with different types of keyboard. Optionally, a touch screen or touch pad is available. In addition, a large number of push-button extensions are available.



## Front laminates



Without keys

Function keys

Numeric keyboard

Alphanumeric keyboard

With PLC keys on the sides

A CP67xx Panel PC is equipped with an Intel® Celeron® ULV 1.4 GHz or with Intel® Atom™ with up to four cores and a CFast card. It contains no rotating parts. In each configuration the fanless Panel PCs of this series are approved for ambient temperatures between 0 and 55 °C.

The CP67xx Panel PCs are supplied with a CFast card and a 2½-inch hard disk or SSD. The CP67xx have a 24 V power supply unit. The data media and the lithium battery for the system clock are accessible from the rear.

Due to its two independent Ethernet interfaces, the CP67xx is ideally suited as

a compact central processing unit for an EtherCAT control system.

The CP67xx can be optionally extended with PCIe module or plug-in card slots (see from page [72](#)).

DVI connection

Hard disk or SSD

CFast card

TFT display

3½-inch motherboard

Power supply 24 V DC, optionally with UPS

On-board dual Ethernet adapter

4 USB 2.0 ports

Lithium battery accessible from the rear side

Optionally 2 PCI or PCIe plug-in card slots, optionally 2 PCIe module slots

► [www.beckhoff.com/CP67xx](http://www.beckhoff.com/CP67xx)



## CP67xx | “Economy” built-in Panel PC

### The slimline built-in Industrial PC with 3½-inch motherboard

Ordering information	without touch screen	with single-touch screen	with touch pad
<b>Display only</b>			
5.7-inch display 640 x 480	CP6707-0000-0050	CP6707-0001-0050	
12-inch display 800 x 600	CP6701-0000-00xx	CP6701-0001-00xx	
15-inch display 1024 x 768	CP6702-0000-00xx	CP6702-0001-00xx	
19-inch display 1280 x 1024	CP6703-0000-00xx	CP6703-0001-00xx	
<b>Display only, USB A socket in the front</b>			
12-inch display 800 x 600	CP6701-0020-00xx	CP6701-0021-00xx	
15-inch display 1024 x 768	CP6702-0020-00xx	CP6702-0021-00xx	
19-inch display 1280 x 1024	CP6703-0020-00xx	CP6703-0021-00xx	
<b>With function keys</b>			
12-inch display 800 x 600	CP6711-0000-00xx	CP6711-0001-00xx	
15-inch display 1024 x 768	CP6712-0000-00xx	CP6712-0001-00xx	
19-inch display 1280 x 1024	CP6713-0000-00xx	CP6713-0001-00xx	
<b>Numeric keyboard</b>			
12-inch display 800 x 600	CP6721-0000-00xx	CP6721-0001-00xx	CP6721-0002-00xx
15-inch display 1024 x 768	CP6722-0000-00xx	CP6722-0001-00xx	CP6722-0002-00xx
19-inch display 1280 x 1024	CP6723-0000-00xx	CP6723-0001-00xx	CP6723-0002-00xx
<b>Alphanumeric keyboard</b>			
12-inch display 800 x 600	CP6731-0000-00xx	CP6731-0001-00xx	CP6731-0002-00xx
15-inch display 1024 x 768	CP6732-0000-00xx	CP6732-0001-00xx	CP6732-0002-00xx
19-inch display 1280 x 1024	CP6733-0000-00xx	CP6733-0001-00xx	CP6733-0002-00xx
<b>Alphanumeric keyboard with PLC keys on the sides</b>			
15-inch display 1024 x 768	CP6742-0000-00xx	CP6742-0001-00xx	





Without keys



Function keys



Numeric keyboard



Alphanumeric keyboard

Alphanumeric keyboard  
with PLC keys on the sides

CP67xx	CP67xx-xxxx-0040, -0050
<b>Housing</b>	aluminium front with steel sheet rear cover
	drives easily accessible
	all connectors at the bottom of the rear side
	1 slot for one CFast card accessible from the rear side
	lithium battery of the system clock accessible from the rear side
	pull-out clamping levers for fast installation without loose parts
	protection class front side IP 65, rear side IP 20
	operating temperature 0...55 °C

Features	CP67xx-xxxx-0040	CP67xx-xxxx-0050
<b>Display</b>	12-, 15- or 19-inch TFT display	5.7-, 12-, 15- or 19-inch TFT display
<b>Processor</b>	Intel® Celeron® ULV	Intel® Atom™
<b>Motherboard</b>	3½-inch	3½-inch
<b>Slots</b>	optionally 2 PCIe modules or 2 PCI/PCIe plug-in card slots	optionally 2 PCIe modules or 2 PCI/PCIe plug-in card slots
<b>Free slots</b>	optionally 2 PCIe modules or 2 PCI/PCIe plug-in card slots	optionally 2 PCIe modules or 2 PCI/PCIe plug-in card slots
<b>Max. card length</b>	optionally 2 PCIe modules or 2 x 190 mm plug-in cards	optionally 2 PCIe modules or 2 x 190 mm plug-in cards
<b>Memory</b>	2...8 GB DDR3 RAM	2...8 GB DDR3L RAM
<b>Graphic adapter</b>	integrated in the processor	integrated in the processor
<b>Ethernet</b>	2 on-board	2 on-board
<b>Hard disks/flash</b>	1 or 2 x 2½-inch HDD, SSD or CFast	1 or 2 x 2½-inch HDD, SSD or CFast
<b>RAID 1</b>	2 x 2½-inch HDD, SSD or CFast	–
<b>Power supply</b>	24 V DC	24 V DC
<b>Recommendation</b>	recommended for new projects	recommended for new projects
<b>Further information</b>	for further options, technical drawings, documentations, etc. see <a href="http://www.beckhoff.com/CP67xx">www.beckhoff.com/CP67xx</a>	

# CP72xx | "Economy" Panel PC with mounting arm

The CP72xx "Economy" Panel PC series is designed for mounting arm installation. Control Panels form the front of the IP 65 Panel PC. The right display size and keyboard are thus available for every application. The CP72xx Industrial PCs represent a powerful platform for use in machine and plant construction, for example using the TwinCAT automation software under Windows 7 Professional, Windows 7 Ultimate or Windows Embedded Standard 7.

The PC can be equipped with a 12-, 15- or 19-inch LC display as a monitor without keys or with different types of keyboards. Optionally, a touch screen or touch pad is available. In addition, a large number of push-button extensions are available.

Cooling is achieved via cooling ribs between the Control Panel and the add-on PC. A fan inside the closed housing ensures that the heat is distributed evenly. The PC can be operated at up to 45 °C ambient temperature.

The housing is designed for installation on a mounting arm. There is a choice of attaching the mounting arm from above or below. The Panel PC features an integrated rotatable mounting arm adapter for a 48 mm diameter mounting arm tube. Optionally, a rotatable and tiltable mounting arm adapter can be integrated in the Panel PC. The connecting cables are laid through the mounting arm.

The compact aluminium housing of the CP72xx Panel PCs is equipped with a 3½-inch



## Front laminates



Without keys

Function keys

Numeric keyboard

Alphanumeric keyboard

With PLC keys on the sides

Beckhoff Motherboard for Intel® Core™ i3/ i5/i7 processors of the latest generation.

The Industrial PC connections (up to six) with IP 65 connectors are positioned in the large wiring space and are easily accessible. The wiring area can be opened easily without dismantling the device from the mounting arm, offering fast access to the IP 65 connectors for power supply, Ethernet and optional fieldbus, USB or RS232. Prefabricated cables in various lengths are available for all connections.

Due to its two independent Ethernet interfaces the CP72xx is ideally suited as a compact central processing unit for an EtherCAT control system.

The C72xx series Panel PCs are supplied with a 24 V power supply unit, optionally with integrated uninterruptible power supply (UPS). A battery pack can be connected externally and installed on a DIN rail in the control cabinet.

One or two CFast cards or up to two hard disks or SSDs, as well as the lithium battery

for the system clock, are accessible from the rear side underneath a cover. Two hard disks, two SSDs or two CFast cards can be mirrored using the on-board SATA RAID 1 controller.

There is a Mini PCI slot in the CP72xx. The Beckhoff Mini PCI Ethernet or fieldbus cards can be factory-fitted. NOVRAM up to 512 kB is also available in the form of an optional Mini PCI plug-in card for fail-safe data storage.

TFT display

CFast card easily accessible

Lithium battery easily accessible

On-board Ethernet adapter

Hard disk or SSD easily accessible

3½-inch motherboard

Mini PCI slot for fieldbus cards

Power supply 24 V DC, optionally with UPS



► [www.beckhoff.com/CP72xx](http://www.beckhoff.com/CP72xx)



## CP72xx | “Economy” Panel PC

The Industrial PC with mounting arm and 3½-inch motherboard

Ordering information	without touch screen	with single-touch screen	with touch pad
<b>Display only</b>			
12-inch display 800 x 600	CP7201-0000-00xx	CP7201-0001-00xx	
15-inch display 1024 x 768	CP7202-0000-00xx	CP7202-0001-00xx	
19-inch display 1280 x 1024	CP7203-0000-00xx	CP7203-0001-00xx	
<b>Display only, USB A socket in the front</b>			
12-inch display 800 x 600	CP7201-0020-00xx	CP7201-0021-00xx	
15-inch display 1024 x 768	CP7202-0020-00xx	CP7202-0021-00xx	
19-inch display 1280 x 1024	CP7203-0020-00xx	CP7203-0021-00xx	
<b>With function keys</b>			
12-inch display 800 x 600	CP7211-0000-00xx	CP7211-0001-00xx	
15-inch display 1024 x 768	CP7212-0000-00xx	CP7212-0001-00xx	
19-inch display 1280 x 1024	CP7213-0000-00xx	CP7213-0001-00xx	
<b>Numeric keyboard</b>			
12-inch display 800 x 600	CP7221-0000-00xx	CP7221-0001-00xx	CP7221-0002-00xx
15-inch display 1024 x 768	CP7222-0000-00xx	CP7222-0001-00xx	CP7222-0002-00xx
19-inch display 1280 x 1024	CP7223-0000-00xx	CP7223-0001-00xx	CP7223-0002-00xx
<b>Alphanumeric keyboard</b>			
12-inch display 800 x 600	CP7231-0000-00xx	CP7231-0001-00xx	CP7231-0002-00xx
15-inch display 1024 x 768	CP7232-0000-00xx	CP7232-0001-00xx	CP7232-0002-00xx
19-inch display 1280 x 1024	CP7233-0000-00xx	CP7233-0001-00xx	CP7233-0002-00xx
<b>Alphanumeric keyboard with PLC keys on the sides</b>			
15-inch display 1024 x 768	CP7242-0000-00xx	CP7242-0001-00xx	



Without keys



Function keys



Numeric keyboard



Alphanumeric keyboard

Alphanumeric keyboard  
with PLC keys on the sides

CP72xx	CP72xx-xxxx-0040, -0050
<b>Housing</b>	Industrial PC with Control Panel for mounting arm installation rotatable mounting arm adapter for Rittal and Roolec mounting arm systems with 48 mm tube from top wiring area for up to 6 IP 65 connectors 1 slot for one 2½-inch hard disk or SSD and 1 slot for one CFast card lithium battery of the system clock, changeable from outside passive cooling through heat sink structure between Control Panel and add-on PC, internal fan for equal heat distribution to all the walls of the housing 20 cm free space required around the PC for air circulation protection class IP 65 operating temperature 0...45 °C

Features	CP72xx-xxxx-0040	CP72xx-xxxx-0050
<b>Display</b>	12-, 15- or 19-inch TFT display	12-, 15- or 19-inch TFT display
<b>Processor</b>	up to Core™ i3/i5/i7 2 <sup>nd</sup> /3 <sup>rd</sup> generation	up to Core™ i3/i5/i7 4 <sup>th</sup> generation
<b>Motherboard</b>	3½-inch	3½-inch
<b>Slots</b>	1 Mini PCI slot	1 Mini PCI slot
<b>Free slots</b>	1 Mini PCI slot	1 Mini PCI slot
<b>Max. card length</b>	Mini PCI	Mini PCI
<b>Memory</b>	2...16 GB DDR3 RAM	2...16 GB DDR3L RAM
<b>Graphic adapter</b>	integrated in the processor	integrated in the processor
<b>Ethernet</b>	2 on-board, one of these is led out in the wiring area	2 on-board, one of these is led out in the wiring area
<b>Hard disks/flash</b>	1 or 2 x 2½-inch HDD or SSD, 1 x 2½-inch HDD or SSD and 1 x CFast or 2 x CFast	1 or 2 x 2½-inch HDD or SSD, 1 x 2½-inch HDD or SSD and 1 x CFast or 2 x CFast
<b>RAID 1</b>	2 x 2½-inch HDD or 2 x CFast	2 x 2½-inch HDD or 2 x CFast
<b>Power supply</b>	24 V DC	24 V DC
<b>Recommendation</b>	available	recommended for new projects
<b>Further information</b>	for further options, technical drawings, documentations, etc. see <a href="http://www.beckhoff.com/CP72xx">www.beckhoff.com/CP72xx</a>	

# CP77xx | "Economy" Panel PC

The CP77xx Panel PC series is designed for mounting arm installation. Control Panels form the front of the IP 65 Panel PC. The right display size and keyboard are thus available for every application. The CP77xx Industrial PCs represent a powerful platform for use in machine and plant construction, for example using the TwinCAT automation software.

The PC can be equipped with a 12-, 15- or 19-inch LC display, as a monitor without keys or with different types of keyboard. Optionally, a touch screen or touch pad is available. In addition, a large number of push-button extensions are available.

Cooling is achieved directly via the rear panel of the Control Panel. No fan is required.

The PC can be operated at up to 45 °C ambient temperature.

The housing is optionally designed for direct wall mounting or for mounting arm installation. The mounting arm can be attached from above or below. If a mounting arm is used, the connection cables are fed through the mounting arm adapter attached





## Front laminates



Without keys

Function keys

Numeric keyboard

Alphanumeric keyboard

centrally at the rear. Prefabricated cables in various lengths are available for the Ethernet connections.

The compact aluminium housing of the Panel PCs CP77xx is equipped with a Beckhoff motherboard for Intel® Celeron® ULV.

Due to its two independent gigabit Ethernet interfaces, the CP77xx are ideally

suited as a compact central processing unit for an EtherCAT control system.

The CP77xx series Panel PCs are supplied with a 24 V power supply unit. The CFast card and the lithium battery for the system clock are located under a cover and accessible from the rear.

TFT display

Serial interface RS232

Power supply 24 V DC

CFast card easily accessible from the rear side

On-board dual Ethernet adapter

Lithium battery accessible from the rear side

CP motherboard

► [www.beckhoff.com/CP77xx](http://www.beckhoff.com/CP77xx)



## CP77xx | “Economy” Panel PC

### The compact Industrial PC with mounting arm

Ordering information	without touch screen	with single-touch screen	with touch pad
<b>Display only</b>			
12-inch display 800 x 600	CP7701-0000-0040	CP7701-0001-0040	
15-inch display 1024 x 768	CP7702-0000-0040	CP7702-0001-0040	
19-inch display 1280 x 1024	CP7703-0000-0040	CP7703-0001-0040	
<b>Display only, USB A socket in the front</b>			
12-inch display 800 x 600	CP7701-0020-0040	CP7701-0021-0040	
15-inch display 1024 x 768	CP7702-0020-0040	CP7702-0021-0040	
19-inch display 1280 x 1024	CP7703-0020-0040	CP7703-0021-0040	
<b>With function keys</b>			
12-inch display 800 x 600	CP7711-0000-0040	CP7711-0001-0040	
15-inch display 1024 x 768	CP7712-0000-0040	CP7712-0001-0040	
19-inch display 1280 x 1024	CP7713-0000-0040	CP7713-0001-0040	
<b>Numeric keyboard</b>			
12-inch display 800 x 600	CP7721-0000-0040	CP7721-0001-0040	CP7721-0002-0040
15-inch display 1024 x 768	CP7722-0000-0040	CP7722-0001-0040	CP7722-0002-0040
19-inch display 1280 x 1024	CP7723-0000-0040	CP7723-0001-0040	CP7723-0002-0040
<b>Alphanumeric keyboard</b>			
12-inch display 800 x 600	CP7731-0000-0040	CP7731-0001-0040	CP7731-0002-0040
15-inch display 1024 x 768	CP7732-0000-0040	CP7732-0001-0040	CP7732-0002-0040
19-inch display 1280 x 1024	CP7733-0000-0040	CP7733-0001-0040	CP7733-0002-0040



Without keys



Function keys



Numeric keyboard



Alphanumeric keyboard

CP77xx	CP77xx-xxxx-0040
Housing	TFT display in three sizes
	aluminium housing, protection class IP 65
	front laminate in four variants
	special keys identified by slide-in labels
	for mounting 4 M6 x 18 mm threaded holes in the backplane
	operating temperature 0...45 °C

Features	CP77xx-xxxx-0040
Display	12-, 15- or 19-inch TFT display
Processor	Intel® Celeron® ULV 1.4 GHz
Motherboard	CP format
Memory	2 GB DDR3 RAM
Graphic adapter	integrated in the processor
Ethernet	2 on-board
Hard disks/flash	CFast card
Power supply	24 V DC
Recommendation	available
Further information	for further options, technical drawings, documentations, etc. see <a href="http://www.beckhoff.com/CP77xx">www.beckhoff.com/CP77xx</a>

# C36xx | Panel PC series

The Panel PC series C36xx, fitted with Intel® Celeron® or Core™ i3/i5/i7 processors of the latest generation on an ATX motherboard, offers controllers of the highest performance class with 12- or 15-inch TFT display, as a display/computer unit optionally with touch screen. The housing is opened from the rear.

All components can be reached quickly and easily.

A CD/DVD-ROM for commissioning and software updates or a multi DVD drive for data backup are optionally accessible from the rear side. The drives can be removed without tools once the housing has been

opened. Card holders for the plug-in cards generate insensitivity to shocks and vibrations. The card holders can be fixed and removed without tools.

The type plate on the rear provides detailed information regarding the PC's configuration. Data on the function and type is





C3620



C3640

listed for the fitted plug-in cards. Data about drives indicates not just the manufacturer and type, but also provides information about type of connection and jumpers.

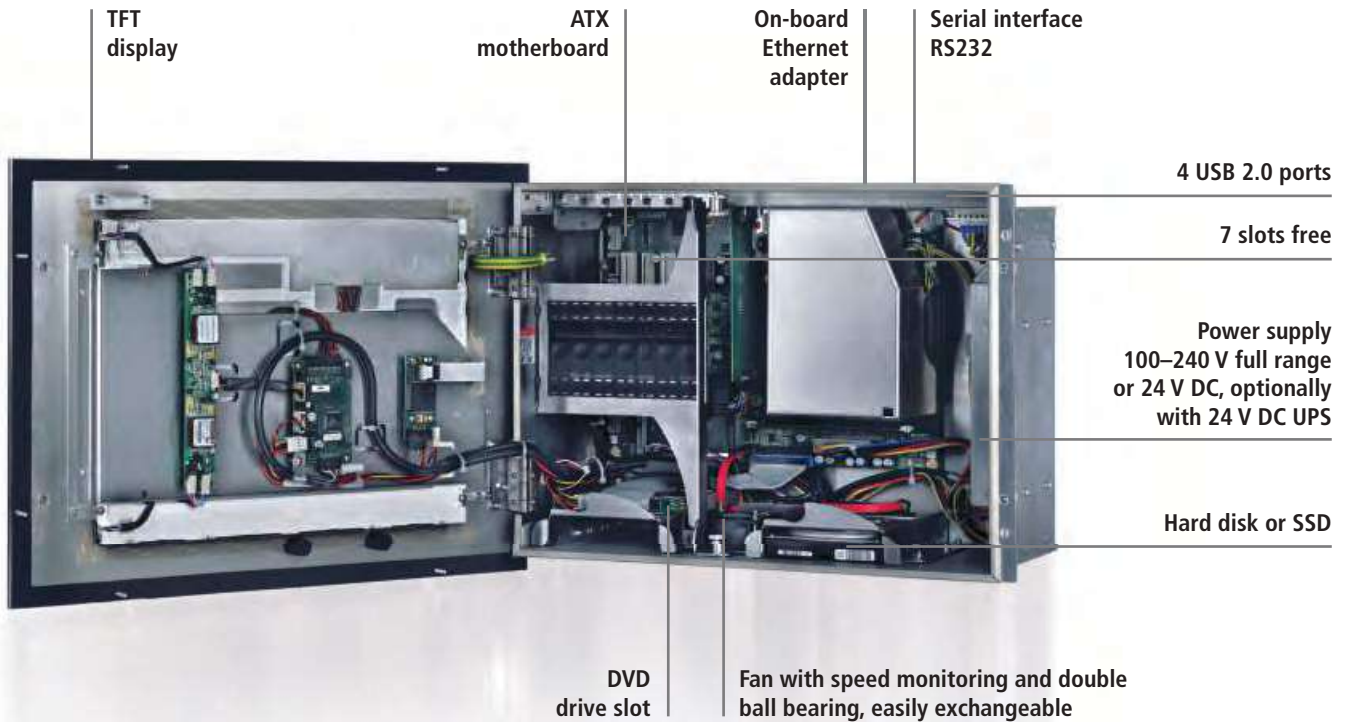
The construction of the housing of the C36xx series accords with the ATX standard, thus ensuring long-term compatibility with

any PC components that will appear in the next few years.

**Customer-specific design**

For the Industrial PC series represented here, customer-specific designs are available that will be created according to individual

requirements, for example with an individual logo on the front or a completely different design of the front laminate.



► [www.beckhoff.com/C36xx](http://www.beckhoff.com/C36xx)



## C3620 | Panel PC

C3620	C3620-0050, -0060
<b>Housing</b>	built-in housing, 388 x 324 mm 7-slot processor core for ATX motherboard PC to be opened from the back side all components easily accessible 7 slots for up to 220 mm long plug-in cards card holders, actuated without tools protection class front side IP 65, rear side IP 20 operating temperature 0...55 °C weight of the basic configuration 11.5 kg (25.4 lbs) dimensions (W x H x D) 388 x 324 x 201 mm (15.3" x 12.8" x 7.9"), depth behind front 193 mm (7.6")

Features	C3620-0050	C3620-0060
<b>Display</b>	12-inch TFT display, resolution 800 x 600	12-inch TFT display, resolution 800 x 600
<b>Touch screen</b>	single-touch as an option	single-touch as an option
<b>Processor</b>	up to Core™ i3/i5/i7 2 <sup>nd</sup> /3 <sup>rd</sup> generation	up to Core™ i3/i5/i7 4 <sup>th</sup> generation
<b>Motherboard</b>	ATX	ATX
<b>Slots</b>	7	7
<b>Free slots</b>	3 PCI, 2 PCIe x1, 1 PCIe x4 and 1 PCIe x16	3 PCI, 2 PCIe x1, 1 PCIe x4 and 1 PCIe x16
<b>Max. card length</b>	7 x 220 mm	7 x 220 mm
<b>Memory</b>	2...16 GB DDR3 RAM	2...32 GB DDR3L RAM
<b>Graphic adapter</b>	integrated in the processor	integrated in the processor
<b>Ethernet</b>	2 on-board	2 on-board
<b>Hard disks/flash</b>	1 x 3½-inch HDD or 2½-inch SSD	1 x 3½-inch HDD or 2½-inch SSD
<b>RAID 1</b>	–	–
<b>Possible disk drives</b>	slimline CD/DVD-ROM or multi-DVD	slimline CD/DVD-ROM or multi-DVD
<b>Power supply</b>	100...240 V AC or 24 V DC	100...240 V AC or 24 V DC
<b>Recommendation</b>	available	recommended for new projects
<b>Further information</b>	for further options, technical drawings, documentations, etc. see <a href="http://www.beckhoff.com/C3620">www.beckhoff.com/C3620</a>	





## C3640 | Panel PC

C3640	C3640-0050, -0060
Housing	built-in housing, 470 x 348 mm 7-slot processor core for ATX motherboard PC to be opened from the back side all components easily accessible 7 slots for up to 235 mm long plug-in cards card holders, actuated without tools protection class front side IP 65, rear side IP 20 operating temperature 0...55 °C weight of the basic configuration 14.1 kg (31.1 lbs) dimensions (W x H x D) 470 x 348 x 199 mm (18.5" x 13.7" x 7.8"), depth behind front 191 mm (7.5")

Features	C3640-0050	C3640-0060
Display	15-inch TFT display, resolution 1024 x 768	15-inch TFT display, resolution 1024 x 768
Touch screen	single-touch as an option	single-touch as an option
Processor	up to Core™ i3/i5/i7 2 <sup>nd</sup> /3 <sup>rd</sup> generation	up to Core™ i3/i5/i7 4 <sup>th</sup> generation
Motherboard	ATX	ATX
Slots	7	7
Free slots	3 PCI, 2 PCIe x1, 1 PCIe x4 and 1 PCIe x16	3 PCI, 2 PCIe x1, 1 PCIe x4 and 1 PCIe x16
Max. card length	7 x 235 mm	7 x 235 mm
Memory	2...16 GB DDR3 RAM	2...32 GB DDR3L RAM
Graphic adapter	integrated in the processor	integrated in the processor
Ethernet	2 on-board	2 on-board
Hard disks/flash	1–2 x 3½-inch HDD or 2½-inch SSD	1–2 x 3½-inch HDD or 2½-inch SSD
RAID 1	2 x 3½-inch HDD	2 x 3½-inch HDD
Possible disk drives	slimline CD/DVD-ROM or multi-DVD	slimline CD/DVD-ROM or multi-DVD
Power supply	100...240 V AC or 24 V DC	100...240 V AC or 24 V DC
Recommendation	available	recommended for new projects
Further information	for further options, technical drawings, documentations, etc. see <a href="http://www.beckhoff.com/C3640">www.beckhoff.com/C3640</a>	

# Control cabinet Industrial PCs



C6670 | **Control cabinet industrial server**  
– Intel® Xeon®

See page **124**



C61xx | **ATX control cabinet Industrial PC, high performance class**  
– Intel® Celeron® or Core™

See page **106**



C5102 | **ATX-19-inch slide-in Industrial PC, high performance class**  
– Intel® Celeron® or Core™

See page **102**



C62xx | **ATX control cabinet Industrial PC, high performance class**  
– Intel® Celeron® or Core™

See page **110**



**C6640/C6650 | ATX control cabinet  
Industrial PC, high performance class**

- Intel® Celeron® or Core™

See page **120**



**C65xx | Built-in Industrial PC,  
high performance class**

- Intel® Celeron® or Core™
- protection class: outside IP 67,  
inside IP 20

See page **114**



**C6920/C6930 | Compact Industrial PC,  
high performance class**

- Intel® Celeron® or Core™

See page **130**



**C5210 | 19-inch slide-in Industrial PC,  
high performance class**

- Intel® Celeron® or Core™

See page **105**



**C6915/C6925 | Compact Industrial PC,  
mid performance class**

- Intel® Celeron® ULV or Atom™

See page **128**

► [www.beckhoff.com/Control-cabinet-PC](http://www.beckhoff.com/Control-cabinet-PC)

# C5xxx | Industrial PC series for 19-inch rack installation

The 19-inch rack mount C5102 Industrial PC, equipped with Intel® Celeron® or Core™ i3/i5/i7 of the latest generation on an ATX motherboard, offers maximum performance class controls. The 19-inch slide-in housing measures only four rack units, yet has plenty of internal space for expansions of any form. A CD/DVD-ROM or multi DVD drive can be fitted behind the lockable front door.

The type plate provides detailed information regarding the PC's configuration. Carefully designed ventilation creates a slight excess pressure inside the housing, effectively preventing the entry of dust. A stable card holder generates insensitivity to shocks and vibrations. A C5102 Industrial PC and a Control Panel as its operating unit create an ideal combination.

The C5210 19-inch slide-in Industrial PC measures only one height unit. This IPC has an Intel® Celeron® or Core™ i3/i5/i7 processor of the latest generation on a 3½-inch motherboard with on-board RAID controller and two 3½-inch hard drive removable frames.

The combination of industrially-capable performance and functionality with an

On-board  
Ethernet adapter

7 free slots

ATX motherboard

Fan with double ball bearing,  
easily exchangeable

Power supply 100–240 V  
full range or 24 V DC,  
optionally with 24 V DC UPS

Serial interface RS232

4 USB 2.0 ports

DVD drive slot

Optional removable  
frame for hard disks

Hard disk or SSD





C5102



C5210

extremely flat design makes the C5210 particularly well-suited for space-saving applications. The low installation height is made possible with the Beckhoff 3½-inch motherboards. The motherboard is equipped with a multitude of on-board interfaces, such as

two Gigabit Ethernet ports, a DVI and a COM port as well as four USB ports. Further COM or USB ports as well as a sound interface and a second DVI connection can be led out as an option. The C5210 can be extended with two PCIe modules and a Mini PCI card. A DVD-

ROM or multi DVD drive can be optionally installed behind the front flap. The following operating systems are offered for the 19-inch Industrial PC: Windows 7 Professional, Windows 7 Ultimate or Windows Embedded Standard 7.

19-inch housing,  
1 rack unit

Optional: pull-out  
rails on the side

3½-inch hard disk  
in removable frame

2 USB ports

Reset button



DVD drive slot

ATX power switch

Second remov-  
able frame for a  
RAID 1 system

Lockable front flap

Status LEDs

4 USB 2.0 ports

Serial interface RS232

DVI-I interface



Power supply  
100–240 V AC or 24 V DC

PCIe module slots

Optional: Mini PCI fieldbus interface

2 Ethernet ports

► [www.beckhoff.com/C5xxx](http://www.beckhoff.com/C5xxx)





## C5102 | 19-inch slide-in Industrial PC

C5102	C5102-0050, -0060
Housing	7-slot slide-in housing ATX for 19-inch racks, 4 rack units all slots for full-length plug-in cards lockable front flap card holders protection class IP 60 when operating operating temperature 0...55 °C weight of the basic configuration 17.0 kg (37.5 lbs) dimensions (W x H x D) 483 x 177 x 500 mm (19" x 7" x 19.5")

Features	C5102-0050	C5102-0060
Processor	up to Core™ i3/i5/i7 2 <sup>nd</sup> /3 <sup>rd</sup> generation	up to Core™ i3/i5/i7 4 <sup>th</sup> generation
Motherboard	ATX	ATX
Slots	7	7
Free slots	3 PCI, 2 PCIe x1, 1 PCIe x4 and 1 PCIe x16	3 PCI, 2 PCIe x1, 1 PCIe x4 and 1 PCIe x16
Max. card length	7 x fullsize	7 x fullsize
Memory	2...16 GB DDR3 RAM	2...32 GB DDR3L RAM
Graphic adapter	integrated in the processor	integrated in the processor
Ethernet	2 on-board	2 on-board
Hard disks/flash	1–3 x 3½-inch HDD or 2½-inch SSD	1–3 x 3½-inch HDD or 2½-inch SSD
RAID 1	2 x 3½-inch HDD	2 x 3½-inch HDD
Possible disk drives	CD/DVD-ROM or multi-DVD	CD/DVD-ROM or multi-DVD
Power supply	100...240 V AC or 24 V DC	100...240 V AC or 24 V DC
Recommendation	available	recommended for new projects
Further information	for further options, technical drawings, documentations, etc. see <a href="http://www.beckhoff.com/C5102">www.beckhoff.com/C5102</a>	





## C5210 | 19-inch slide-in Industrial PC

C5210	C5210-0010, -0020
<b>Housing</b>	slide-in housing for 19-inch racks, 1 rack unit all drives accessible from the front 2 removable frames for hard disks 1 DVD drive slot, 2 USB sockets, reset key and ATX key behind a lockable front flap status LEDs all connectors at the rear side 2 PCIe module slots to plug-in Beckhoff PCIe modules or to lead out interfaces of the motherboard ex factory protection class IP 20 operating temperature 0...55 °C dimensions (W x H x D) 482.7 x 44 x 493.8 mm (19" x 1.7" x 19.44") depth behind the front 471.3 mm (18.56")

Features	C5210-0010	C5210-0020
<b>Processor</b>	up to Core™ i3/i5/i7 2 <sup>nd</sup> /3 <sup>rd</sup> generation	up to Core™ i3/i5/i7 4 <sup>th</sup> generation
<b>Motherboard</b>	3½-inch	3½-inch
<b>Slots</b>	1 Mini PCI and 2 PCIe modules	1 Mini PCI and 2 PCIe modules
<b>Free slots</b>	1 Mini PCI and 2 PCIe modules	1 Mini PCI and 2 PCIe modules
<b>Max. card length</b>	Mini PCI/PCIe module	Mini PCI/PCIe module
<b>Memory</b>	2...16 GB DDR3 RAM	2...16 GB DDR3L RAM
<b>Graphic adapter</b>	integrated in the processor	integrated in the processor
<b>Ethernet</b>	2 on-board	2 on-board
<b>Hard disks/flash</b>	1–2 x 3½-inch HDD	1–2 x 3½-inch HDD
<b>RAID 1</b>	2 x 3½-inch HDD	2 x 3½-inch HDD
<b>Possible disk drives</b>	CD/DVD-ROM or multi-DVD	CD/DVD-ROM or multi-DVD
<b>Power supply</b>	100...240 V AC or 24 V DC	100...240 V AC or 24 V DC
<b>Recommendation</b>	available	recommended for new projects
<b>Further information</b>	for further options, technical drawings, documentations, etc. see <a href="http://www.beckhoff.com/C5210">www.beckhoff.com/C5210</a>	

# C61xx | Industrial PC series for control cabinet installation

The C61xx control cabinet PC is equipped with maximum performance class components with Intel® Celeron® or Core™ i3/i5/i7 of the latest generation on an ATX motherboard. The PCs in the C61xx series are constructed according to a uniform plan, optimised for the exploitation of available space and easy accessibility of all components.

The construction of the housing for the C61xx series ensures long-term compatibility with any new PC components that appear over the next few years. If, in a few years, the Industrial PC needs to be upgraded, you swap the motherboard, the processor, the memory or the hard disk, but the housing remains unchanged and is compatible with the technology of the future.

All the PC's connections face upwards, so that the connecting cable can be taken directly to the wiring channel. The side walls are completely passive and allow the Industrial PC to be fitted immediately next to other control cabinet devices.

The housing permits fast access to the fitted components. After removing the front cover, plug-in cards and drives are freely





C6140



C6150

accessible. Hard disks are held by spring-loaded ball catches and can be removed in a single action. Three screws must be undone, after which the PC's inner chassis, to which all the components are attached, can be removed from the outer housing. The inner chassis can be placed on a table in any orientation for maintenance purposes. When removed, the inner chassis

still has the full function of a PC and can be operated with a standard monitor and a standard keyboard.

The C61xx series PCs are supplied with a 100 to 240 V AC full range or 24 V DC power supply unit. An industrial latching socket strip is used for the power supply. A CD/DVD-ROM or multi DVD drive can be fitted. Card holders for the plug-in cards generate insensitivity to

shocks and vibrations. The card holders can be fixed and removed without tools.

A type plate is located on the front cover behind an inspection window, giving detailed information about the configuration of the PC. The construction of the housing has been designed to allow individual adaptation, and many features can be adjusted for your application.

4 USB 2.0 ports

Serial interface RS232

On-board Ethernet adapter

Power supply 100–240 V  
full range or 24 V DC,  
optionally with 24 V DC UPS

All connections  
on the top

7 free slots

ATX motherboard

Fan with speed  
monitoring and double  
ball bearing, easily  
exchangeable

Passive side wall: fitting possible  
immediately next to other devices

Hard disk or SSD

DVD drive slot



► [www.beckhoff.com/C61xx](http://www.beckhoff.com/C61xx)



## C6140 | Control cabinet Industrial PC

C6140	C6140-0050, -0060
<b>Housing</b>	7-slot ATX Industrial PC for control cabinet installation 3 PCI slots for plug-in cards with a length of up to 270 mm and 3 PCI Express x1 slots for plug-in cards with a length of up to 240 mm drives and plug-in cards easily accessible all connectors on the top detailed PC configuration information on the front status LEDs and protected reset key card holders, actuated without tools protection class IP 20 operating temperature 0...55 °C weight of the basic configuration 14 kg (30.9 lbs) dimensions (W x H x D) 383 x 362 x 265 mm (14.9" x 14.1" x 10.5")

Features	C6140-0050	C6140-0060
<b>Processor</b>	up to Core™ i3/i5/i7 2 <sup>nd</sup> /3 <sup>rd</sup> generation	up to Core™ i3/i5/i7 4 <sup>th</sup> generation
<b>Motherboard</b>	ATX	ATX
<b>Slots</b>	7	7
<b>Free slots</b>	3 PCI, 2 PCIe x1, 1 PCIe x4 and 1 PCIe x16	3 PCI, 2 PCIe x1, 1 PCIe x4 and 1 PCIe x16
<b>Max. card length</b>	3 x 270 mm and 4 x 240 mm	3 x 270 mm and 4 x 240 mm
<b>Memory</b>	2...16 GB DDR3 RAM	2...32 GB DDR3L RAM
<b>Graphic adapter</b>	integrated in the processor	integrated in the processor
<b>Ethernet</b>	2 on-board	2 on-board
<b>Hard disks/flash</b>	1–3 x 3½-inch HDD or 2½-inch SSD	1–3 x 3½-inch HDD or 2½-inch SSD
<b>RAID 1</b>	2 x 3½-inch HDD	2 x 3½-inch HDD
<b>Possible disk drives</b>	CD/DVD-ROM or multi-DVD	CD/DVD-ROM or multi-DVD
<b>Power supply</b>	100...240 V AC or 24 V DC	100...240 V AC or 24 V DC
<b>Recommendation</b>	available	recommended for new projects
<b>Further information</b>	for further options, technical drawings, documentations, etc. see <a href="http://www.beckhoff.com/C6140">www.beckhoff.com/C6140</a>	



## C6150 | Control cabinet Industrial PC

C6150	C6150-0050, -0060
<b>Housing</b>	7-slot ATX Industrial PC for control cabinet installation all slots for full-length plug-in cards drives and plug-in cards easily accessible all connectors on the top detailed PC configuration information on the front status LEDs and protected reset key card holders, actuated without tools protection class IP 20 operating temperature 0...55 °C weight of the basic configuration 15 kg (33.1 lbs) dimensions (W x H x D) 383 x 423 x 265 mm (14.9" x 16.7" x 10.5")

Features	C6150-0050	C6150-0060
<b>Processor</b>	up to Core™ i3/i5/i7 2 <sup>nd</sup> /3 <sup>rd</sup> generation	up to Core™ i3/i5/i7 4 <sup>th</sup> generation
<b>Motherboard</b>	ATX	ATX
<b>Slots</b>	7	7
<b>Free slots</b>	3 PCI, 2 PCIe x1, 1 PCIe x4 and 1 PCIe x16	3 PCI, 2 PCIe x1, 1 PCIe x4 and 1 PCIe x16
<b>Max. card length</b>	7 x fullsize	7 x fullsize
<b>Memory</b>	2...16 GB DDR3 RAM	2...32 GB DDR3L RAM
<b>Graphic adapter</b>	integrated in the processor	integrated in the processor
<b>Ethernet</b>	2 on-board	2 on-board
<b>Hard disks/flash</b>	1–3 x 3½-inch HDD or 2½-inch SSD	1–3 x 3½-inch HDD or 2½-inch SSD
<b>RAID 1</b>	2 x 3½-inch HDD	2 x 3½-inch HDD
<b>Possible disk drives</b>	CD/DVD-ROM or multi-DVD	CD/DVD-ROM or multi-DVD
<b>Power supply</b>	100...240 V AC or 24 V DC	100...240 V AC or 24 V DC
<b>Recommendation</b>	available	recommended for new projects
<b>Further information</b>	for further options, technical drawings, documentations, etc. see <a href="http://www.beckhoff.com/C6150">www.beckhoff.com/C6150</a>	

# C62xx | Industrial PC series for control cabinet installation

The control cabinet PC series C62xx is equipped with maximum performance class components: with Intel® Celeron® or Core™ i3/i5/i7 of the latest generation on an ATX motherboard. The PCs in the C62xx series are constructed according to a uniform plan, optimised for the exploitation of available space and easy accessibility of all components.

The construction of the housing for the C62xx series ensures long-term compatibility with any new PC components that appear over the next few years. If, in a few years, the Industrial PC needs to be upgraded, you swap the motherboard, the processor, the memory or the hard disk, but the housing remains unchanged, and is compatible with the technology of the future.

All the PC's connections face to the front. The inner chassis can be drawn out forward on telescopic rails, thus offering free access to all the fitted components.

The C62xx series PCs are offered with a 100 to 240 V AC full range or 24 V DC power supply unit. An industrial latching socket strip is used for the power supply.







C6240



C6250

Card holders for the plug-in cards generate insensitivity to shocks and vibrations. The card holders can be fixed and removed without tools. Data describing the function and type for the fitted plug-in cards is listed on the front.



#### DVD drive slot

Power supply 100–240 V full range or 24 V DC, optionally with 24 V DC UPS

Passive side wall: fitting possible immediately next to other devices

7 free slots

Fan with speed monitoring and double ball bearing, easily exchangeable

Serial interface RS232

Fan with speed monitoring and double ball bearing, easily exchangeable

Hard disk or SSD

ATX industrial motherboard

Inner chassis can be pulled forward

All connections on the front

On-board Ethernet adapter

4 USB 2.0 ports

► [www.beckhoff.com/C62xx](http://www.beckhoff.com/C62xx)



## C6240 | Control cabinet Industrial PC

C6240	C6240-0050, -0060
<b>Housing</b>	7-slot ATX Industrial PC for control cabinet installation mounting sheet for horizontal PC installation all slots for plug-in cards with a length of up to 190 mm drives and plug-in cards easily accessible all connectors on the front detailed PC configuration information on the front status LEDs and protected reset key card holders, actuated without tools protection class IP 20 operating temperature 0...55 °C weight of the basic configuration 12.3 kg (27.2 lbs) dimensions (W x H x D) 430 x 170 x 274 mm (16.9" x 6.7" x 10.8")

Features	C6240-0050	C6240-0060
<b>Processor</b>	up to Core™ i3/i5/i7 2 <sup>nd</sup> /3 <sup>rd</sup> generation	up to Core™ i3/i5/i7 4 <sup>th</sup> generation
<b>Motherboard</b>	ATX	ATX
<b>Slots</b>	7	7
<b>Free slots</b>	3 PCI, 2 PCIe x1, 1 PCIe x4 and 1 PCIe x16	3 PCI, 2 PCIe x1, 1 PCIe x4 and 1 PCIe x16
<b>Max. card length</b>	7 x 190 mm	7 x 190 mm
<b>Memory</b>	2...16 GB DDR3 RAM	2...32 GB DDR3L RAM
<b>Graphic adapter</b>	integrated in the processor	integrated in the processor
<b>Ethernet</b>	2 on-board	2 on-board
<b>Hard disks/flash</b>	1 x 3½-inch HDD or 2 x 2½-inch HDD or SSD	1 x 3½-inch HDD or 2 x 2½-inch HDD or SSD
<b>RAID 1</b>	2 x 2½-inch HDD	2 x 2½-inch HDD
<b>Possible disk drives</b>	CD/DVD-ROM or multi-DVD	CD/DVD-ROM or multi-DVD
<b>Power supply</b>	100...240 V AC or 24 V DC	100...240 V AC or 24 V DC
<b>Recommendation</b>	available	recommended for new projects
<b>Further information</b>	for further options, technical drawings, documentations, etc. see <a href="http://www.beckhoff.com/C6240">www.beckhoff.com/C6240</a>	



## C6250 | Control cabinet Industrial PC

C6250	C6250-0060, -0070
<b>Housing</b>	7-slot ATX Industrial PC for control cabinet installation mounting sheet for horizontal installation 2 PCI slots and 2 PCI Express slots for up to 220 mm long plug-in cards and 1 PCI slot and 2 PCI Express slots for up to 190 mm long plug-in cards drives and plug-in cards easily accessible all connectors on the front detailed PC configuration information on the front status LEDs and protected reset key card holders, actuated without tools protection class IP 20 operating temperature 0...55 °C weight of the basic configuration 19.8 kg (43.7 lbs) dimensions (W x H x D) 680 x 184 x 270 mm (26.8" x 7.2" x 10.7")

Features	C6250-0060	C6250-0070
<b>Processor</b>	up to Core™ i3/i5/i7 2 <sup>nd</sup> /3 <sup>rd</sup> generation	up to Core™ i3/i5/i7 4 <sup>th</sup> generation
<b>Motherboard</b>	ATX	ATX
<b>Slots</b>	7	7
<b>Free slots</b>	3 PCI, 2 PCIe x1, 1 PCIe x4 and 1 PCIe x16	3 PCI, 2 PCIe x1, 1 PCIe x4 and 1 PCIe x16
<b>Max. card length</b>	7 x 190 mm	7 x 190 mm
<b>Memory</b>	2...16 GB DDR3 RAM	2...32 GB DDR3L RAM
<b>Graphic adapter</b>	integrated in the processor	integrated in the processor
<b>Ethernet</b>	2 on-board	2 on-board
<b>Hard disks/flash</b>	1–3 x 3½-inch HDD or 2½-inch SSD	1–3 x 3½-inch HDD or 2½-inch SSD
<b>RAID 1</b>	2 x 3½-inch HDD	2 x 3½-inch HDD
<b>Possible disk drives</b>	CD/DVD-ROM or multi-DVD	CD/DVD-ROM or multi-DVD
<b>Power supply</b>	100...240 V AC or 24 V DC	100...240 V AC or 24 V DC
<b>Recommendation</b>	available	recommended for new projects
<b>Further information</b>	for further options, technical drawings, documentations, etc. see <a href="http://www.beckhoff.com/C6250">www.beckhoff.com/C6250</a>	

# C65xx | Industrial PC series for control cabinet installation

The C65xx Industrial PC series is designed to be installed in control cabinet walls or in the rear panel of a control housing or console housing. The heat sink of the IPC is thereby fed to the outside through a suitable cut-out in the panel or wall of the control cabinet. Power dissipation from the processor and chipset takes place directly to ambient. Integrated seals provide for an IP 65 closure.

This enables high thermal stability and at the same time fanless operation. Industrial PCs of type C65xx can thus be constructed completely without rotating parts. Installation in a control housing in combination with a Beckhoff Control Panel results in a fanless Panel PC that can be operated at ambient temperatures up to 45 °C.

The compact housing is equipped with a 3½-inch motherboard for Intel® Celeron® or Core™ i3/i5/i7 of the latest generation. All of the PC's connectors are located on the top side of the housing. The C65xx series PCs are supplied with an integrated power supply unit with 24 V DC input voltage, optionally with integrated uninterruptible power supply (UPS). A battery pack can be connected







**C6515**  
basic configuration



**C6515**  
with PCIe module slots



**C6525**  
basic configuration



**C6525**  
with PCIe module slots



**C6525**  
with plug-in card slots

externally and installed on a DIN rail close to the PC. The PC has a free Mini PCI slot that can be used for NOVRAM modules for fail-safe storage of process data. The C6525 also enables the use of Mini PCI fieldbus cards or a further Ethernet card.

Industrial PCs from this series and Beckhoff Control Panels as control units make an ideal combination for high-per-

formance control platforms in machine construction and plant engineering applications, particularly in conjunction with TwinCAT automation software under Windows 7 Professional, Windows 7 Ultimate or Windows Embedded Standard 7. Due to their two independent Ethernet interfaces the C6515 and C6525 Industrial PCs are ideally suited as compact central

processing units for an EtherCAT control system.

The on-board SATA RAID 1 controller can mirror two hard disks, two SSDs or two CFast cards. If one of the RAID disks fails, the system continues to run. The faulty data medium can be replaced and mirrored during operation.

#### DVI connection

24 V DC power supply, optionally with UPS

On-board dual Ethernet adapter

4 USB 2.0 ports

Mini PCI slot for fieldbus cards

3½-inch motherboard

Lithium battery easily accessible

Serial interface RS232

For C6525 hard disks or SSDs

CFast card

For C6525 optionally 2 PCI or PCIe plug-in card slots

or 2 PCIe module slots



► [www.beckhoff.com/C65xx](http://www.beckhoff.com/C65xx)



## C6515 | Fanless built-in Industrial PC

C6515	C6515-0040, -0050
<b>Housing</b>	built-in Industrial PC with external cooling to be mounted in the back panel of a control housing or in the wall of a control cabinet
	2 slots for CFast
	CFast and lithium battery of the system clock easily exchangeable
	passive cooling through heat sink structure outside
	20 cm free space required around the heat sink of the PC for air circulation
	protection class outside IP 65, inside IP 20
	operating temperature outside 0...45 °C, inside 0...55 °C
	dimensions (W x H x D) 240 x 230 x 81 mm (9.5" x 9.1" x 3.2")

Features	C6515-0040	C6515-0050
<b>Processor</b>	up to Core™ i3/i5/i7 2 <sup>nd</sup> /3 <sup>rd</sup> generation	up to Core™ i3/i5/i7 4 <sup>th</sup> generation
<b>Motherboard</b>	3½-inch	3½-inch
<b>Slots</b>	1 Mini PCI, optionally 2 PCIe modules	1 Mini PCI, optionally 2 PCIe modules
<b>Free slots</b>	1 Mini PCI for NOVRAM and optionally 2 PCIe modules	1 Mini PCI for NOVRAM and optionally 2 PCIe modules
<b>Max. card length</b>	Mini PCI, optionally 2 PCIe modules	Mini PCI, optionally 2 PCIe modules
<b>Memory</b>	2...16 GB DDR3 RAM	2...16 GB DDR3L RAM
<b>Graphic adapter</b>	integrated in the processor	integrated in the processor
<b>Ethernet</b>	2 on-board	2 on-board
<b>Hard disks/flash</b>	1 or 2 x CFast	1 or 2 x CFast
<b>RAID 1</b>	2 x CFast	2 x CFast
<b>Power supply</b>	24 V DC	24 V DC
<b>Recommendation</b>	available	recommended for new projects
<b>Further information</b>	for further options, technical drawings, documentations, etc. see <a href="http://www.beckhoff.com/C6515">www.beckhoff.com/C6515</a>	





C6515 with PCIe module slots



## Extension for PCIe modules

The built-in PCs C6515 can be expanded by two additional PCIe module slots. The inner enclosure cover is constructed 26 mm deeper for PCIe modules (see above). The module slots can accept Beckhoff PCIe modules, for example, the FC9062 dual gigabit Ethernet module, or they can serve to lead out motherboard interfaces, such as COM ports, USB or sound. The module slots also enable the use of fieldbus cards in the Mini PCI slot.

Module slots that are not occupied by a PCIe module can be used to lead out the fieldbus connection of a Mini PCI card from the PC. An Ethernet or fieldbus interface for PROFIBUS, CANopen, DeviceNet or SERCOS can be inserted into the Mini PCI slot on the C6515, even though the basic configuration of this PC only allows NOVRAM Mini PCI cards.



PCIe module FC9062, dual gigabit Ethernet

Ordering information	Options for C6515
C9900-B502	2 PCIe module slots integrated inside C6515, to plug-in Beckhoff PCIe modules or to lead out interfaces of the motherboard ex factory. The depth of the inner enclosure cover is increased by 26 mm (1").

Ordering information	Options for C6515 with 2 module slots C9900-B502
FC9062	gigabit Ethernet PCIe module for PCs with Beckhoff PCIe module slots, 2-channel, PCI Express x1 bus
C9900-E159	serial port COM2, RS232, electrically isolated, overload protection, D-sub 9-pin connector
C9900-E188	serial port COM2, RS485, electrically isolated, overload protection, D-sub 9-pin connector
C9900-E189	serial port COM2, RS422, electrically isolated, overload protection, D-sub 9-pin connector
C9900-E232	sound line input and sound line output of the motherboard led out at the connection section of a C6515
C9900-E233	1 serial port RS232 of the motherboard led out at the connection section of a C6515
C9900-E234	2 USB ports of the motherboard led out at the connection section of a C6515
C9900-E237	additional DVI-D plug led out on a module bracket



## C6525 | Fanless built-in Industrial PC

C6525	C6525-0040, -0050
<b>Housing</b>	<p>built-in Industrial PC with external cooling to be mounted in the back panel of a control housing or in the wall of a control cabinet</p> <p>1 slot for a 2½-inch hard disk or SSD and 1 slot for CFast</p> <p>hard disk, SSD, CFast and lithium battery of the system clock easily exchangeable</p> <p>passive cooling through heat sink structure outside</p> <p>20 cm free space required around the heat sink of the PC for air circulation</p> <p>protection class outside IP 65, inside IP 20</p> <p>operating temperature outside 0...45 °C, inside 0...55 °C</p> <p>dimensions (W x H x D) 330 x 275 x 82 mm (13" x 10.8" x 3.2")</p>

Features	C6525-0040	C6525-0050
<b>Processor</b>	up to Core™ i3/i5/i7 2 <sup>nd</sup> /3 <sup>rd</sup> generation	up to Core™ i3/i5/i7 4 <sup>th</sup> generation
<b>Motherboard</b>	3½-inch	3½-inch
<b>Slots</b>	1 Mini PCI, optionally 2 PCIe modules or 2 plug-in card slots	1 Mini PCI, optionally 2 PCIe modules or 2 plug-in card slots
<b>Free slots</b>	1 Mini PCI and optionally 2 PCIe modules or 2 PCI/PCIe plug-in card slots	1 Mini PCI and optionally 2 PCIe modules or 2 PCI/PCIe plug-in card slots
<b>Max. card length</b>	Mini PCI, optionally 2 PCIe modules or 2 x 190 mm plug-in cards	Mini PCI, optionally 2 PCIe modules or 2 x 190 mm plug-in cards
<b>Memory</b>	2...16 GB DDR3 RAM	2...16 GB DDR3L RAM
<b>Graphic adapter</b>	integrated in the processor	integrated in the processor
<b>Ethernet</b>	2 on-board	2 on-board
<b>Hard disks/flash</b>	2½-inch HDD or SSD and/or CFast or 2 x CFast or 2 x 2½-inch HDD or SSD	2½-inch HDD or SSD and/or CFast or 2 x CFast or 2 x 2½-inch HDD or SSD
<b>RAID 1</b>	2 x 2½-inch HDD or 2 x CFast	2 x 2½-inch HDD or 2 x CFast
<b>Power supply</b>	24 V DC	24 V DC
<b>Recommendation</b>	available	recommended for new projects
<b>Further information</b>	for further options, technical drawings, documentations, etc. see <a href="http://www.beckhoff.com/C6525">www.beckhoff.com/C6525</a>	



C6525 with PCIe module slots



C6525 with plug-in card slots

## Extension for PCIe modules

The built-in PCs C6525 can be expanded by two additional PCIe module slots. The inner enclosure cover is constructed 27 mm deeper for PCIe modules (see above). The module slots can accept Beckhoff PCIe modules, for example, the FC9062 dual gigabit Ethernet module, or they can serve to lead out motherboard interfaces, such as COM ports, USB or sound.

Ordering information	Options for C6525
C9900-B503	2 PCIe module slots integrated inside C6525, to plug-in Beckhoff PCIe modules or to lead out interfaces of the motherboard ex factory. The depth of the inner enclosure cover is increased by 27 mm (1.1").

Ordering information	Options for C6525 with 2 module slots C9900-B503
FC9062	gigabit Ethernet PCIe module for PCs with Beckhoff PCIe module slots, 2-channel, PCI Express x1 bus
C9900-E232	sound line input and sound line output of the motherboard led out at the connection section of a C6525
C9900-E233	1 serial port RS232 of the motherboard led out at the connection section of a C6525
C9900-E234	2 USB ports of the motherboard led out at the connection section of a C6525
C9900-E237	additional DVI-D plug led out on a module bracket

## Extension for PCI and PCIe plug-in cards

The built-in PCs C6525 can be expanded by two slots for standard PC plug-in cards. They can accept conventional PC plug-in cards up to 190 mm in length. The 58 mm deeper hood at the rear (see above) covers a backplane that provides a choice of two PCI slots, two PCI Express slots or one PCI and one PCI Express slot. Card holders ensure the secure fixation of large cards.

Ordering information	Options for C6525
C9900-B505	2 PCIe plug-in card slots on the passive backplane integrated inside C6525, to plug-in PCIe x1 cards up to 190 mm (6.3") length. The depth of the inner enclosure cover is increased by 58 mm (2.3").
C9900-B509	2 PCI plug-in card slots on the passive backplane integrated inside C6525, to plug-in PCI cards up to 190 mm (6.3") length, the depth of the inner enclosure cover is increased by 58 mm (2.3").
C9900-B513	1 PCI and 1 PCIe plug-in card slot on a passive backplane integrated inside C6525, to plug-in one PCI and one PCIe x1 card up to 190 mm (6.3") length. The depth of the back cover is increased by 58 mm (2.3").

# C6640/C6650 | Industrial PC series for control cabinet installation

The C6640/C6650 control cabinet PC series includes two devices, both of which are equipped with top-performance components with Intel® Celeron® or Core™ i3/i5/i7 of the latest generation on an ATX motherboard. Three free PCI and four PCI Express slots are available for plug-in cards with a length of up to 210 mm. Graphics and Ethernet

adapters are already available on-board, without taking up a slot.

All PC connections face upwards, so that the connecting cable can be taken directly to the wiring channel. The side walls are completely passive, and allow the Industrial PC to be fitted immediately next to other control cabinet devices.

The C6640/C6650 series is designed for optimum space utilisation and easy accessibility of all components. The C6640 is the most compact PC with ATX motherboard but nevertheless offers convenient access to drives, memory and plug-in cards.

The C6650 features hard drive removable frames which, together with the on-board







C6640



C6650

RAID controller, form a RAID 1 system with two mirrored hard disks. This ensures high data security. Hard disks which failed can easily be exchanged during operation.

The housing design of the C6640/C6650 series ensures long-term compatibility with new PC components. The motherboard, processor, memory or hard disk are upgradable,

while the same housing can be used for years to come.

The device can be equipped with a CD/DVD ROM or multi DVD drive. A choice of a CFast socket or a 2½-inch SSD slot is offered for flash disks. Card holders for the plug-in cards generate insensitivity to impacts and vibrations. The C6640/C6650

series PCs are supplied with 100 to 240 V AC full range or 24 V DC power supply unit.

A type plate is located on the top of the front cover, giving detailed information about the PC configuration.

The housing design offers plenty of scope for adjustment to the respective application.

On-board Ethernet adapter

4 USB 2.0 ports

All connections on the top

ATX motherboard

7 free slots

Fan with speed monitoring and double ball bearing, easily exchangeable

Serial interface RS232

Power supply 100–240 V full range or 24 V DC, optionally with 24 V DC UPS

Passive side wall: fitting possible immediately next to other devices

Optional SSD or CFast card

DVD drive slot

Hard disks in removable frames



► [www.beckhoff.com/C66xx](http://www.beckhoff.com/C66xx)



## C6640 | Control cabinet Industrial PC

C6640	C6640-0030, -0040
<b>Housing</b>	7-slot ATX Industrial PC for control cabinet installation all slots for up to 210 mm long plug-in cards drives and plug-in cards easily accessible 2 brackets to led out serial interfaces all connectors on the top detailed PC configuration information on the front card holders, actuated without tools protection class IP 20 operating temperature 0...55 °C weight of the basic configuration 11 kg (24.3 lbs) dimensions (W x H x D) 371 x 336 x 198 mm (14.6" x 13.2" x 7.8")

Features	C6640-0030	C6640-0040
<b>Processor</b>	up to Core™ i3/i5/i7 2 <sup>nd</sup> /3 <sup>rd</sup> generation	up to Core™ i3/i5/i7 4 <sup>th</sup> generation
<b>Motherboard</b>	ATX	ATX
<b>Slots</b>	7	7
<b>Free slots</b>	3 PCI, 2 PCIe x1, 1 PCIe x4 and 1 PCIe x16	3 PCI, 2 PCIe x1, 1 PCIe x4 and 1 PCIe x16
<b>Max. card length</b>	7 x 210 mm	7 x 210 mm
<b>Memory</b>	2...16 GB DDR3 RAM	2...32 GB DDR3L RAM
<b>Graphic adapter</b>	integrated in the processor	integrated in the processor
<b>Ethernet</b>	2 on-board	2 on-board
<b>Hard disks/flash</b>	1 x 3½-inch and 1 x 2½-inch HDD or SSD or CFast	1 x 3½-inch and 1 x 2½-inch HDD or SSD or CFast
<b>RAID 1</b>	–	–
<b>Possible disk drives</b>	CD/DVD-ROM or multi-DVD	CD/DVD-ROM or multi-DVD
<b>Power supply</b>	100...240 V AC or 24 V DC	100...240 V AC or 24 V DC
<b>Recommendation</b>	available	recommended for new projects
<b>Further information</b>	for further options, technical drawings, documentations, etc. see <a href="http://www.beckhoff.com/C6640">www.beckhoff.com/C6640</a>	





## C6650 | Control cabinet Industrial PC

C6650	C6650-0030, -0040
<b>Housing</b>	7-slot ATX Industrial PC for control cabinet installation all slots for up to 210 mm long plug-in cards 2 removable frames for hard disks drives and plug-in cards easily accessible 3 brackets to led out serial interfaces all connectors on the top detailed PC configuration information on the front card holders, actuated without tools protection class IP 20 operating temperature 0...55 °C weight of the basic configuration 12 kg (26.5 lbs) dimensions (W x H x D) 410 x 360 x 201 mm (16.1" x 14.2" x 7.9")

Features	C6650-0030	C6650-0040
<b>Processor</b>	up to Core™ i3/i5/i7 2 <sup>nd</sup> /3 <sup>rd</sup> generation	up to Core™ i3/i5/i7 4 <sup>th</sup> generation
<b>Motherboard</b>	ATX	ATX
<b>Slots</b>	7	7
<b>Free slots</b>	3 PCI, 2 PCIe x1, 1 PCIe x4 and 1 PCIe x16	3 PCI, 2 PCIe x1, 1 PCIe x4 and 1 PCIe x16
<b>Max. card length</b>	7 x 210 mm	7 x 210 mm
<b>Memory</b>	2...16 GB DDR3 RAM	2...32 GB DDR3L RAM
<b>Graphic adapter</b>	integrated in the processor	integrated in the processor
<b>Ethernet</b>	2 on-board	2 on-board
<b>Hard disks/flash</b>	1-2 x 3½-inch and 1 x 2½-inch HDD or SSD or CFast	1-2 x 3½-inch and 1 x 2½-inch HDD or SSD or CFast
<b>RAID 1</b>	2 x 3½-inch HDD	2 x 3½-inch HDD
<b>Possible disk drives</b>	CD/DVD-ROM or multi-DVD	CD/DVD-ROM or multi-DVD
<b>Power supply</b>	100...240 V AC or 24 V DC	100...240 V AC or 24 V DC
<b>Recommendation</b>	available	recommended for new projects
<b>Further information</b>	for further options, technical drawings, documentations, etc. see <a href="http://www.beckhoff.com/C6650">www.beckhoff.com/C6650</a>	

# C6670 | Industrial server for control cabinet installation

The C6670 industrial server is designed for installation in control cabinets. The C6670 and a Beckhoff Control Panel with DVI and USB connection make an ideal combination, representing a powerful platform for machine construction and plant engineering applications with the TwinCAT automation software.

In combination with TwinCAT 3, two Intel® Xeon® processors, each with 6, 12 or 18 cores on one motherboard with two Gigabit Ethernet controllers and a powerful graphics card produce a machine or plant controller that offers computing power for completely new ideas. Apart from the

extremely high performance, up to 2048 GB DDR4 RAM, one PCIe Gen2 x4, one PCIe Gen3 x8 and three PCIe Gen3 x16 plug-in card slots are also available for several camera interface cards for video evaluation.

All connections of the industrial server face upwards, so that the connecting cables can be taken directly to the wiring channel. The side walls are completely passive, and allow the industrial server to be fitted immediately next to other control cabinet devices.

The C6670 features two hard drive removable frames which, together with the on-board RAID controller, form a RAID 1

system with two mirrored hard disks or SSDs. This ensures high data security. Hard disks or SSDs which failed can easily be exchanged during operation.

The device can be equipped with a CD/DVD ROM or multi DVD drive. Card holders for the plug-in cards generate insensitivity to impacts and vibrations. The C6670 offers convenient access to drives, memory and plug-in cards. The industrial server is supplied with a 100 to 240 V AC full range power supply unit.

A type plate is located on the top of the front cover, giving detailed information about the server configuration.

All connections on the top

5 free slots: 1 PCIe x4, 1 PCIe x8,  
3 PCIe x16

Graphic card with  
2 DVI connectors

SSI EEB motherboard

Passive side wall: fitting possible  
immediately next to other devices

Power supply 100–240 V AC  
full range

On-board dual Ethernet adapter

2 Intel® Xeon® processors

Optional DVD drive

Removable frames with  
hard disks or SSDs



► [www.beckhoff.com/C6670](http://www.beckhoff.com/C6670)



## C6670 | Control cabinet industrial server

C6670	C6670-0000
<b>Housing</b>	6-slot SSI EEB industrial server for control cabinet installation
	all slots for full-size plug-in cards
	2 removable frames for hard disks
	drives and plug-in cards easily accessible
	all connectors on the top
	detailed PC configuration information on the front
	protection class IP 20
operating temperature 0...45 °C	
dimensions (W x H x D) 410 x 480 x 201 mm (16.1" x 18.9" x 7.9")	

Features	C6670-0000
<b>Processor</b>	2 x Intel® Xeon® with 6, 12 or 18 cores per processor
<b>Motherboard</b>	SSI EEB
<b>Slots</b>	6
<b>Free slots</b>	1 PCIe x4 Gen2.x, 1 PCIe x8 Gen3 and 3 PCIe x16 Gen3
<b>Max. card length</b>	6 x fullsize
<b>Memory</b>	64...2048 GB DDR4 RAM EEC
<b>Graphic adapter</b>	graphic card, 1 DVI-I and 1 DVI-D connector, occupies a PCIe x16 slot
<b>Ethernet</b>	2 on-board
<b>Hard disks/flash</b>	1-2 x 3½-inch HDD or 1-2 x 2½-inch HDD or SSD
<b>RAID 1</b>	2 x 3½-inch HDD or 2 x 2½-inch HDD or SSD
<b>Possible disk drives</b>	CD/DVD-ROM or multi-DVD
<b>Power supply</b>	100...240 V AC
<b>Recommendation</b>	recommended for new projects
<b>Further information</b>	for further options, technical drawings, documentations, etc. see <a href="http://www.beckhoff.com/C6670">www.beckhoff.com/C6670</a>

# C69xx | Industrial PC series for control cabinet installation

The C69xx Industrial PC series is designed for installation in control cabinets. The compact aluminium housing of the C69xx Industrial PCs is equipped with a 3½-inch motherboard. All PC connections are on one side of the housing. The PC can optionally be equipped with mounting plates on two sides and fastened with screws in the control cabinet. Installation is possible at the rear panel or on the right-hand side panel (see figure).

The C69xx series PCs are supplied with a 24 V DC power supply unit, optionally with integrated uninterruptible power supply (UPS). A battery pack can be connected externally and installed on a DIN rail close to the PC. Cooling fins behind the right-hand side panel enable fanless operation of the PC at temperatures up to 55 °C. The four types of Industrial PCs in the C69xx series differ in their processors and data storage devices.

Cooling of the C6915 with Intel® Atom™ with up to four cores and the C6925 with Intel® Celeron® ULV or Intel® Atom™ with up to four cores requires no fan. The basic configuration of the C6915 and C6925 features a flash disk, thus creating PCs without moving parts. A hard disk or a second flash card can be integrated in all of the PCs from this series as an option.

The C6920 with Intel® Celeron® or Core™ i3/i5/i7 of the latest generation has





C6915

C6925

C6920

C6920

basic configuration with plug-in card slots

C6930

C6930

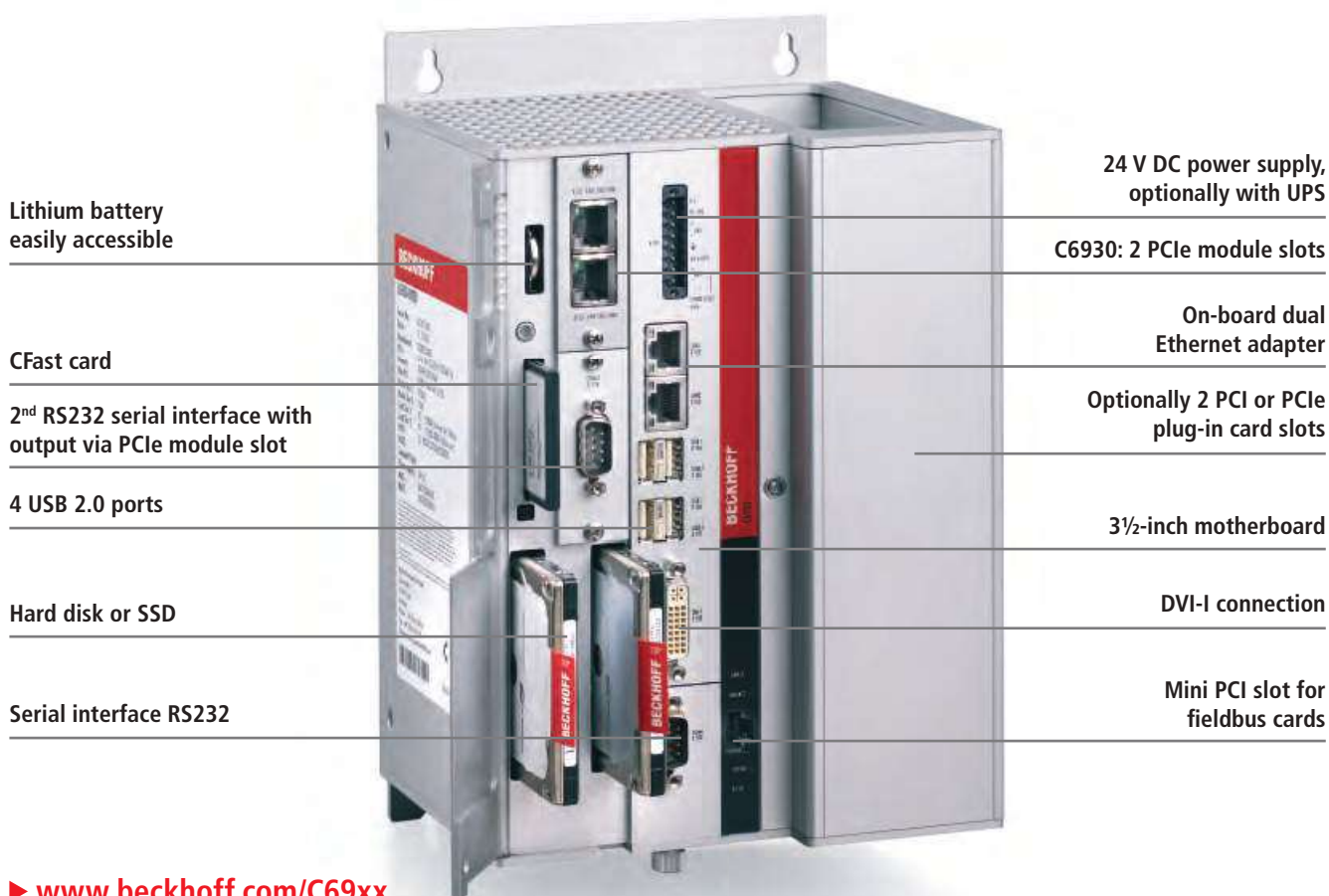
basic configuration with plug-in card slots

an easily exchangeable fan cartridge on the underside of the housing. The C6930 Industrial PC is also offered with Intel® Celeron® or Core™ i3/i5/i7 of the latest generation. It has a SATA RAID controller for mirroring two hard disks, SSDs or CFast cards. In the basic configuration, one of the two hard disk slots is equipped with a 2½ inch drive. A second hard disk is offered as an option. In addition, a CFast slot is accessible behind the front cover.

The C6920, C6925 and C6930 feature a free Mini PCI slot. The Beckhoff Mini PCI fieldbus cards for PROFIBUS (FC3151), CANopen (FC5151), DeviceNet (FC5251), SERCOS (FC7551), or a further Ethernet card (FC9151) can be used.

Industrial PCs of this series and a Beckhoff Control Panel with DVI and USB connection make an ideal combination and offer a high-performance control

platform for machine construction and plant engineering applications, particularly in conjunction with the TwinCAT automation software under Windows 7 Professional, Windows 7 Ultimate, Windows Embedded Standard 7 or Windows Embedded Compact 7. Due to its two independent Ethernet interfaces, the C69xx is ideally suited as a compact central processing unit for an EtherCAT control system.



► [www.beckhoff.com/C69xx](http://www.beckhoff.com/C69xx)





## C6915 | Control cabinet Industrial PC with Intel® Atom™

C6915	C6915-0010
Housing	fanless industrial PC for space-saving control cabinet installation
	mounting sheet at the rear wall
	all connectors on the front
	status LEDs
	lithium battery accessible behind the front flap
	1 slot for one Compact Flash card behind the front flap
	passive cooling without fan
	5 cm (2") free space on top and bottom of the PC necessary for air circulation
	protection class IP 20
	operating temperature 0...55 °C
weight of the basic configuration 1.25 kg (2.8 lbs)	
compact dimensions (W x H x D) 48 x 164 x 119 mm (1.9" x 6.5" x 4.7") without mounting plate	

Features	C6915-0010
Processor	Intel® Atom™
Motherboard	3½-inch
Slots	–
Free slots	–
Max. card length	–
Memory	2...8 GB DDR3 RAM
Graphic adapter	integrated in the processor
Ethernet	2 on-board
Hard disks/flash	2½-inch HDD or SSD or 1 x CFast or 2 x CFast
Power supply	24 V DC
Recommendation	recommended for new projects
Further information	for further options, technical drawings, documentations, etc. see <a href="http://www.beckhoff.com/C6915">www.beckhoff.com/C6915</a>



## C6925 | Fanless control cabinet Industrial PC

C6925	C6925-0020, -0030
<b>Housing</b>	fanless Industrial PC for space-saving control cabinet installation mounting sheet at the rear wall all connectors on the front status LEDs lithium battery accessible behind the front flap 1 slot for one CFast flash card behind the front flap 2 PCIe module slots to plug-in Beckhoff PCIe modules or to lead out interfaces of the motherboard ex factory passive cooling without fan with a heat sink 5 cm (2") free space on top and bottom of the PC necessary for air circulation protection class IP 20 operating temperature 0...55 °C weight of the basic configuration 1.75 kg (3.9 lbs) compact dimensions (W x H x D) 65 x 208 x 119 mm (2.6" x 8.2" x 4.7") without mounting plate

Features	C6925-0020	C6925-0030
<b>Processor</b>	Intel® Celeron® ULV	Intel® Atom™
<b>Motherboard</b>	3½-inch	3½-inch
<b>Slots</b>	2 PCIe modules	2 PCIe modules
<b>Free slots</b>	2 PCIe	2 PCIe
<b>Max. card length</b>	PCIe module	PCIe module
<b>Memory</b>	2...8 GB DDR3 RAM	2...8 GB DDR3 RAM
<b>Graphic adapter</b>	integrated in the processor	integrated in the processor
<b>Ethernet</b>	2 on-board	2 on-board
<b>Hard disks/flash</b>	2½-inch HDD or SSD and/or 1 x CFast or 2 x CFast	2½-inch HDD or SSD and/or 1 x CFast or 2 x CFast
<b>RAID 1</b>	2 x CFast	–
<b>Power supply</b>	24 V DC	24 V DC
<b>Recommendation</b>	recommended for new projects	recommended for new projects
<b>Further information</b>	for further options, technical drawings, documentations, etc. see <a href="http://www.beckhoff.com/C6925">www.beckhoff.com/C6925</a>	



## C6920 | Control cabinet Industrial PC

C6920	C6920-0040, -0050
<b>Housing</b>	Industrial PC for space-saving control cabinet installation mounting sheet at the rear wall all connectors on the front status LEDs lithium battery accessible behind the front flap 1 slot for one 2½-inch hard disk or SSD behind the front flap 1 slot for one CFast card behind the front flap fan cartridge with speed control and double ball bearing fans, accessible from the front 5 cm (2") free space above and under the PC required for air circulation protection class IP 20 operating temperature 0...55 °C weight of the basic configuration 1.9 kg (4.2 lbs) compact dimensions (W x H x D) 65 x 231 x 119 mm (2.6" x 9.1" x 4.7") without mounting plate

Features	C6920-0040	C6920-0050
<b>Processor</b>	up to Core™ i3/i5/i7 2 <sup>nd</sup> /3 <sup>rd</sup> generation	up to Core™ i3/i5/i7 4 <sup>th</sup> generation
<b>Motherboard</b>	3½-inch	3½-inch
<b>Slots</b>	1 Mini PCI, optionally 2 plug-in card slots	1 Mini PCI, optionally 2 plug-in card slots
<b>Free slots</b>	1 Mini PCI and optionally 2 PCI/PCIe plug-in card slots	1 Mini PCI and optionally 2 PCI/PCIe plug-in card slots
<b>Max. card length</b>	Mini PCI, optionally 2 x 190 mm plug-in cards	Mini PCI, optionally 2 x 190 mm plug-in cards
<b>Memory</b>	2...16 GB DDR3 RAM	2...16 GB DDR3L RAM
<b>Graphic adapter</b>	integrated in the processor	integrated in the processor
<b>Ethernet</b>	2 on-board	2 on-board
<b>Hard disks/flash</b>	2½-inch HDD or SSD and/or 1 x CFast or 2 x CFast	2½-inch HDD or SSD and/or 1 x CFast or 2 x CFast
<b>RAID 1</b>	2 x CFast	2 x CFast
<b>Power supply</b>	24 V DC	24 V DC
<b>Recommendation</b>	available	recommended for new projects
<b>Further information</b>	for further options, technical drawings, documentations, etc. see <a href="http://www.beckhoff.com/C6920">www.beckhoff.com/C6920</a>	



C6920 with plug-in card slots



## Extension for PCI and PCIe plug-in cards

The control cabinet PCs C6920 can be expanded by two slots for standard PC plug-in cards. They can accept conventional PC plug-in cards up to 190 mm in length. The 70 mm wider PC (see above) housing includes a backplane that provides a choice of two PCI slots, two PCI Express slots or one PCI and one PCI Express slot. The plug-in card

connectors are located on the top side of the PC. The plug-in card slots are arranged on the right side of the PC. An aluminium cover on the front of the slot expansion enables easy installation of the plug-in cards without having to open the housing of the computer core. The slots are powered internally by the PC power supply.

Ordering information	Options for C6920-0040, -0050
C9900-B506	2 PCIe plug-in card slots on the passive backplane integrated inside C6920, to plug-in PCIe x1 cards up to 190 mm (6.3") length. The connectors of the plug-in cards are located at the top side of the PC on the right. The width of the PC housing is increased by 70 mm (2.76"), the depth is increased by 18 mm (0.7").
C9900-B510	2 PCI plug-in card slots on the passive backplane integrated inside C6920, to plug-in PCI cards up to 190 mm (6.3") length. The connectors of the plug-in cards are located at the top side of the PC on the right. The width of the PC housing is increased by 70 mm (2.76"), the depth is increased by 18 mm (0.7").
C9900-B514	1 PCI and 1 PCIe plug-in card slot on a passive backplane integrated inside C6920, to plug-in one PCI and one PCIe x1 card up to 190 mm (6.3") length. The connectors of the plug-in cards are located at the top side of the PC on the right. The width of the PC enclosure is increased by 70 mm (2.76"), the depth is increased by 18 mm (0.7").



## C6930 | Control cabinet Industrial PC

C6930	C6930-0040, -0050
<b>Housing</b>	Industrial PC for space-saving control cabinet installation mounting sheet at the rear wall all connectors on the front status LEDs lithium battery accessible behind the front flap 2 slots for 2½-inch hard disks or SSDs behind the front flap 1 slot for one CFast flash card behind the front flap 2 PCIe module slots to plug-in Beckhoff PCIe modules or to lead out interfaces of the motherboard ex factory fan cartridge with speed control and double ball bearing fans, accessible from the front 5 cm (2") free space above and under the PC required for air circulation protection class IP 20 operating temperature 0...55 °C weight of the basic configuration 2.1 kg (4.6 lbs) compact dimensions (W x H x D) 89 x 231 x 119 mm (3.5" x 9.1" x 4.7") without mounting plate

Features	C6930-0040	C6930-0050
<b>Processor</b>	up to Core™ i3/i5/i7 2 <sup>nd</sup> /3 <sup>rd</sup> generation	up to Core™ i3/i5/i7 4 <sup>th</sup> generation
<b>Motherboard</b>	3½-inch	3½-inch
<b>Slots</b>	1 Mini PCI and 2 PCIe modules, optionally 2 plug-in card slots	1 Mini PCI and 2 PCIe modules, optionally 2 plug-in card slots
<b>Free slots</b>	1 Mini PCI and 2 PCIe modules, optionally 2 PCI/PCIe plug-in card slots	1 Mini PCI and 2 PCIe modules, optionally 2 PCI/PCIe plug-in card slots
<b>Max. card length</b>	Mini PCI and 2 PCIe modules, optionally 2 x 190 mm plug-in cards	Mini PCI and 2 PCIe modules, optionally 2 x 190 mm plug-in cards
<b>Memory</b>	2...16 GB DDR3 RAM	2...16 GB DDR3L RAM
<b>Graphic adapter</b>	integrated in the processor	integrated in the processor
<b>Ethernet</b>	2 on-board	2 on-board
<b>Hard disks/flash</b>	1 or 2 x 2½-inch HDD or SSD and/or 1 x CFast or 2 x CFast	1 or 2 x 2½-inch HDD or SSD and/or 1 x CFast or 2 x CFast
<b>RAID 1</b>	2 x 2½-inch HDD or 2 x CFast	2 x 2½-inch HDD or 2 x CFast
<b>Power supply</b>	24 V DC	24 V DC
<b>Recommendation</b>	available	recommended for new projects
<b>Further information</b>	for further options, technical drawings, documentations, etc. see <a href="http://www.beckhoff.com/C6930">www.beckhoff.com/C6930</a>	





C6930 with plug-in card slots

## Extension for PCI and PCIe plug-in cards

The control cabinet PCs C6930 can be expanded by two slots for standard PC plug-in cards. They can accept conventional PC plug-in cards up to 190 mm in length. The 70 mm wider PC housing (see above) includes a backplane that provides a choice

of two PCI slots, two PCI Express slots or one PCI and one PCI Express slot. The plug-in card connectors are located on the top side of the PC. The plug-in card slots are arranged on the right side of the PC. An aluminium cover on the front of the slot expansion enables

easy installation of the plug-in cards without having to open the housing of the computer core. The slots are powered internally by the PC power supply.

Ordering information	Options for C6930-0040 and -0050
FC9062	gigabit Ethernet PCIe module for PCs with Beckhoff PCIe module slots, 2-channel, PCI Express x1 bus
C9900-B507	2 PCIe plug-in card slots on the passive backplane integrated inside C6930, to plug-in PCIe x1 cards up to 190 mm (6.3") length. The connectors of the plug-in cards are located at the top side of the PC on the right. The width of the PC housing is increased by 70 mm (2.76"), the depth is increased by 18 mm (0.7").
C9900-B511	2 PCI plug-in card slots on the passive backplane integrated inside C6930, to plug-in PCI cards up to 190 mm (6.3") length. The connectors of the plug-in cards are located at the top side of the PC on the right. The width of the PC housing is increased by 70 mm (2.76"), the depth is increased by 18 mm (0.7").
C9900-B515	1 PCI and 1 PCIe plug-in card slot on a passive backplane integrated inside C6930, to plug-in one PCI and one PCIe x1 card up to 190 mm (6.3") length. The connectors of the plug-in cards are located at the top side of the PC on the right. The width of the PC housing is increased by 70 mm (2.76"), the depth is increased by 18 mm (0.7").

# Industrial PC accessories

CU8006 | 4-port  
USB 3.0 hub

CU8800 | USB Extender 1.1 Tx,  
CU8801 | USB Extender 2.0 Tx

CU8870 | USB Compact Flash slot,  
CU8871 | USB CFast slot



CU8850 | USB Extender 1.1 Rx,  
CU8851 | USB Extender 2.0 Rx

CU8880 | Ethernet controller  
with USB input



## CU8800, CU8850, C9900-E270 | USB Extended, the USB 1.1 extension

The USB specification allows a distance of 5 m between the PC and the USB devices. A further 5 m of cable can be added by using a USB hub. In the construction of machines and plants, larger distances must be bridged without having to insert a USB hub every 5 m. The CU8800 USB Extender sends the USB signal via a CAT 5 cable that can be up to 50 m long to the CU8850 USB Extended

receiver or the CP69xx or CP79xx Control Panels, which convert the signal back to USB. The USB Extender boxes are designed for DIN rail mounting. The CU8800 transmitter is supplied with power by the PC via USB. The CU8850 receiver has an integrated 24 V DC power supply unit. Data rates of up to 12 Mbit/s can be transmitted.

Technical data	CU8800   USB Extender Tx	CU8850   USB Extender Rx
	USB Extended transmitter box	USB Extended receiver box
	1 USB input with USB B socket to be connected to the PC in maximum 1 m distance	1 USB Extended input with RJ45 socket for up to 50 m CAT 5 cable
	1 USB Extended output with RJ45 socket for up to 50 m CAT 5 cable	1 USB output with USB A socket to be connected to an USB device in maximum 5 m distance
	–	quick error analysing with diagnostic LEDs
	plastic housing for DIN rail installation	plastic housing for DIN rail installation
	USB transfer rate up to 12 Mbit/s for USB 1.1, downwards compatible to USB 1.0	
	protection class IP 20	protection class IP 20
	operating temperature 0...55 °C	operating temperature 0...55 °C
	dimensions (W x H x D) 34 x 98 x 77 mm (1.3" x 3.9" x 3")	dimensions (W x H x D) 34 x 98 x 77 mm (1.3" x 3.9" x 3")
	power supply via USB	24 V DC power supply

Technical data	C9900-E270   USB Extender Tx PCIe module
	USB Extended transmitter module
	1 USB Extended output with RJ45 socket for up to 50 m CAT 5 cable for connecting a Control Panel with DVI/USB Extended interface CP69xx or CP79xx
	for ex factory mounting in PCs with Beckhoff PCIe module slot
	USB transfer rate up to 12 Mbit/s according to USB 1.1



## CU8801, CU8851, C9900-E271 | USB Extended 2.0, the USB 2.0 extension

The CP29xx-0000 multi-touch built-in panels and the CP39xx-0000 multi-touch panels for mounting arm installation can be operated up to 50 m away from the PC. The CU8801 USB Extended 2.0 transmitter box is connected to the PC via USB, or the C9900-E271 PCIe module for USB Extended 2.0 is installed in the PC. A CAT 5 cable for USB Extended 2.0

and a DVI cable transfer the data to the Control Panel. The 24 V supply voltage is directly connected at the Control Panel.

The CU8851 USB Extended receiver box is used for applications without Control Panel together with CU8801 or the C9900-E271 PCIe module for USB Extended 2.0, in order to extend USB 2.0 to 50 m.

Technical data	CU8801   USB Extender 2.0 Tx	CU8851   USB Extender 2.0 Rx
	USB Extended 2.0 transmitter box	USB Extended 2.0 receiver box
	1 USB input with USB B socket to be connected to the PC in maximum 1 m distance	1 USB Extended 2.0 input with RJ45 socket for up to 50 m CAT 5 cable
	1 USB Extended 2.0 output with RJ45 socket for up to 50 m CAT 5 cable	1 USB output with USB A socket to be connected to an USB device in maximum 5 m distance
	–	quick error analysing with diagnostic LEDs
	plastic housing for DIN rail installation	plastic housing for DIN rail installation
	USB transfer rate up to 480 Mbit/s for USB 2.0	USB transfer rate up to 480 Mbit/s for USB 2.0
	protection class IP 20	protection class IP 20
	operating temperature 0...55 °C	operating temperature 0...55 °C
	dimensions (W x H x D) 34 x 98 x 77 mm (1.3" x 3.9" x 3")	dimensions (W x H x D) 34 x 98 x 77 mm (1.3" x 3.9" x 3")
	power supply via USB	24 V DC power supply

Technical data	C9900-E271   USB Extender 2.0 Tx PCIe module
	USB Extended 2.0 transmitter module
	1 USB Extended 2.0 output with RJ45 socket for up to 50 m CAT 5 cable for connecting a Control Panel with DVI/USB Extended 2.0 interface CP29xx-0000 or CP39xx-0000
	for ex factory mounting in PCs with Beckhoff PCIe module slot
	USB transfer rate up to 480 Mbit/s according to USB 2.0



## CU8802, CU8803, C9900-E276 | CP-Link 4 transmitter modules

With CP-Link 4 operating panels can be located up to 100 m away from the Industrial PC. The single-cable solution can be used to transfer video signals, USB 2.0 and the power supply in a Cat.6<sub>A</sub> cable, thus reducing cable and installation costs. A further benefit is the use of purely passive displays. The CP-Link 4 technology is supported by the new Beckhoff multi-touch panel series CP29xx-0010 (built-in version) and CP39xx-0010 (mounting arm version).

### CP-Link 4 – The Two Cable Display Link

The CP29xx-0010 multi-touch built-in panels and the CP39xx-0010 multi-touch panels for mounting arm installation can be operated up to 100 m away from the PC. CP-Link 4 – The Two Cable Display Link – transfers DVI and USB together via a Cat.6<sub>A</sub> cable. The CU8802 CP-Link 4 transmitter box is connected to the PC via DVI and USB, or else the C9900-E276 PCIe module for CP-Link 4 is installed in the PC.

### CP-Link 4 – The One Cable Display Link

The power supply for the Control Panel can also be provided via CP-Link 4 – The One Cable Display Link. The CU8803 CP-Link 4 transmitter box is used instead of the CU8802 or the PCIe module. The Control Panel remains unchanged. The CU8803 transmitter box provides power to the Control Panel via the Cat.6<sub>A</sub> cable, which also transfers DVI and USB. The power supply socket of the panel is not used.



Technical data	CU8802   Transmitter box for CP-Link 4 – The Two Cable Display Link	CU8803   Transmitter box for CP-Link 4 – The One Cable Display Link
	CP-Link 4 Extender Tx for connecting a Control Panel with CP-Link 4 interface CP29xx-0010 or CP39xx-0010	CP-Link 4 Extender Tx for connecting a Control Panel with CP-Link 4 interface CP29xx-0010 or CP39xx-0010
	1 USB input with USB B socket to be connected to the PC in maximum 1 m distance	1 USB input with USB B socket to be connected to the PC in maximum 1 m distance
	1 DVI input with DVI-D socket to be connected to the PC in maximum 1 m distance	1 DVI input with DVI-D socket to be connected to the PC in maximum 1 m distance
	1 CP-Link 4 output with RJ45 socket for up to 100 m Cat.6A cable for connecting a Control Panel with CP-Link 4 interface CP29xx-0010 or CP39xx-0010	1 CP-Link 4 output with RJ45 socket for up to 100 m Cat.6A cable for connecting a Control Panel with CP-Link 4 interface CP29xx-0010 or CP39xx-0010
	power supply for the Control Panel with connection of 24 V at the Control Panel	power supply of the Control Panel with CU8803 via the Cat.6A cable
	metal housing for DIN rail installation	metal housing for DIN rail installation
	CP-Link 4 transfers USB 2.0 with 100 Mbit/s and DVI.	CP-Link 4 transfers USB 2.0 with 100 Mbit/s and DVI.
	24 V input for power supply of the CU8802 transmitter box	24 V input for power supply of the CU8803 transmitter box and the Control Panel
	protection class IP 20	protection class IP 20
	operating temperature 0...55 °C	operating temperature 0...55 °C
	dimensions (W x H x D) 45 x 100 x 80 mm (1.8" x 3.9" x 3.1")	dimensions (W x H x D) 84 x 100 x 80 mm (3" x 3.9" x 3.1")
	1 m USB connecting cable	1 m USB connecting cable
	1 m DVI connecting cable	1 m DVI connecting cable

Technical data	C9900-E276   PCIe module for CP-Link 4 – The Two Cable Display Link
	CP-Link 4 Extender Tx PCIe module
	CP-Link 4 transmitter module for ex factory installation in PCs with Beckhoff PCIe module slots
	1 CP-Link 4 output with RJ45 socket for up to 100 m Cat.6A cable for connecting a Control Panel with CP-Link 4 interface CP29xx-0010 or CP39xx-0010
	CP-Link 4 transfers USB 2.0 with 100 Mbit/s and DVI.
	power supply for the Control Panel with connection of 24 V at the Control Panel

► [www.beckhoff.com/CP-Link4](http://www.beckhoff.com/CP-Link4)

## CU8006 | 4-port USB 3.0 hub

The CU8006 DIN rail-mount USB hub has four ports and supports the USB 3.0 data transfer rate of up to 5 Gbit/s, but is also compatible with slower USB standards. USB 3.0 devices can be connected at a distance of up to 3 m. Connection to USB 2.0 devices is possible with 5-m cables. An 1-m USB cable is provided for connecting the USB hub with the PC. 3-m USB 3.0 cables are permitted between PC and CU8006.



Technical data	CU8006   4-port USB 3.0 hub
	1 USB 3.0 input with USB B socket
	4 USB 3.0 outputs with USB A socket
	delivers up to 1 A supply current at each USB port
	USB transfer rate up to 5 Gbit/s, compatible to all USB standards
	plastic housing for DIN rail installation
	protection class IP 20
	operating temperature 0...55 °C
	dimensions (W x H x D) 34 x 98 x 77 mm (1.3" x 3.9" x 3")
	24 V DC power supply
	1 m USB connecting cable

## C9900-E277 | USB 3.0 PCIe module

The C9900-E277 PCIe module for USB 3.0 has two ports and supports the USB 3.0 data transfer rate of up to 5 Gbit/s, but is also compatible with slower USB standards. PCIe modules can be used in 3½-inch motherboard Beckhoff PCs with a PCIe module slot. The C9900-E277 USB module can also be plugged in later. USB 3.0 devices can be connected at a distance of up to 3 m. Connection to USB 2.0 devices is possible with 5-m cables.



Technical data	C9900-E277   USB 3.0 PCIe module
	2-port USB 3.0 interfaces
	delivers up to 1 A supply current at each USB port
	USB transfer rate up to 5 Gbit/s for USB 3.0
	compatible to all USB standards

## CU8810 | DVI splitter with USB extender for CP69xx and CP79xx

A common application in machine and plant construction is the simultaneous display of a PC screen on several monitors. Up to four CP69xx or CP79xx DVI/USB Control Panels can be connected to a PC via the CU8810 DVI splitter. Thanks to DVI/USB extension technology, the Control Panels can each be connected at distances of 50 m from the DVI splitter. PCs with two DVI outputs, which are configured as extended desktops, generate two different screen contents. Both DVI outputs can be fed into the DVI splitter. Using DIP switches, the four DVI outputs can each be assigned to one of the two DVI inputs, so that the Control Panels show either the left or the right half of the desktop, as selected.



Technical data	CU8810   DVI splitter for CP69xx and CP79xx
	metal housing for DIN rail installation
	compact industrial design
	2 DVI-D inputs
	4 DVI-D outputs
	assignment of the 4 DVI outputs to the 2 inputs freely configurable via DIP switches
	DVI inputs and outputs with full DVI data range up to 1.65 Gbit/s
	unused DVI input and outputs can be switched off to save energy
	1 USB input with USB B socket
	4-port USB hub with 4 USB Extended outputs as RJ45 connectors
	USB transfer rate up to 12 Mbit/s for USB 1.1, downwards compatible to USB 1.0
	protection class IP 20
	operating temperature 0...55 °C
	dimensions (W x H x D) 146.5 x 100 x 38 mm (5.8" x 4" x 1.5")
	24 V DC power supply

## CU8815 | DVI splitter

A common application in machine and plant construction is the simultaneous display of a PC screen on several monitors. Up to four CP29xx, CP39xx, CP68xx, CP69xx, CP79xx or CP79xx DVI/USB Control Panels can be connected to a PC via the CU8815 DVI splitter. PCs with two DVI outputs, which are configured as extended desktops, generate two different screen contents. Both DVI outputs can be fed into the DVI splitter. Using DIP switches, the four DVI outputs can each be assigned to one of the two DVI inputs, so that the Control Panels show either the left or the right half of the desktop, as selected.



Technical data	CU8815   DVI splitter without USB extender
	metal housing for DIN rail installation
	compact industrial design
	2 DVI-D inputs
	4 DVI-D outputs
	assignment of the 4 DVI outputs to the 2 inputs freely configurable via DIP switches
	DVI inputs and outputs with full DVI data range up to 1.65 Gbit/s
	unused DVI input and outputs can be switched off to save energy
	protection class IP 20
	operating temperature 0...55 °C
	dimensions (W x H x D) 146.5 x 100 x 38 mm (5.8" x 4" x 1.5")
	24 V DC power supply

## CU8870 | USB Compact Flash slot

The CU8870 offers a Compact Flash socket with USB connector. The Compact Flash cards are hot-plug capable in the CU8870 and can hence be plugged and unplugged like removable data storage devices for exchanging data with other PCs during operation. Together with the CU8800 and the CU8850, this CF socket can be mounted on a DIN rail at a distance of up to 50 m from the PC.



Technical data	CU8870   USB Compact Flash slot
	Compact Flash slot for CF cards type I and II
	front LED indicators for PWR (power), LOCK (read only) and CF access
	1 USB 2.0 input with USB B socket
	USB transfer rate up to 480 Mbit/s, compatible to all USB standards
	plastic housing for DIN rail installation
	protection class IP 20
	operating temperature 0...55 °C
	dimensions (W x H x D) 34 x 98 x 77 mm (1.3" x 3.9" x 3")
	power supply via USB

## CU8871 | USB CFast slot

The CU8871 offers a CFast socket with USB connector in a compact housing for DIN rail mounting. CFast cards are used in the industrial environment as data memory for process and control data. The CFast cards are hot-plug capable in the CU8871 and can hence be plugged and unplugged like removable data storage devices for exchanging data with other PCs during operation. The USB 3.0 connection offers the highest data transfer rate possible with a CFast card, but the CFast adapter can also be connected to PCs with a USB 2.0 interface. Power is also supplied via USB. Status LEDs indicate whether the CU8871 is connected, signal data accesses and provide information as to whether a CFast card is inserted.



Technical data	CU8871   USB CFast slot
	CFast slot
	front LED indicators for PWR (power), LOCK (only read permission) and CFast (access)
	1 USB 3.0 input with USB B socket
	compatible to all USB standards
	plastic housing for DIN rail installation
	protection class IP 20
	operating temperature 0...55 °C
	dimensions (W x H x D) 34 x 98 x 77 mm (1.3" x 3.9" x 3")
	power supply via USB
	1 m USB connecting cable

## CU8880 | Ethernet controller with USB input

With the CU8880 USB-to-LAN adapter, Industrial PCs can be extended with an additional industrially-suited and independent Ethernet interface. The CU8880 is used for necessary IT communication. It is not suitable for EtherCAT or real-time Ethernet communication. However, the on-board Ethernet interfaces of the respective Industrial PCs are available for this. Drivers for the USB-to-LAN adapter are available for Windows XP, Windows 7 as well as Windows Embedded Standard.



Technical data	CU8880   Ethernet controller with USB input
	Ethernet controller box
	1 USB 2.0 input with USB B socket
	1 Ethernet interface with 1 x 10/100BASE-T connector RJ45
	not suitable for real-time Ethernet or EtherCAT
	plastic housing for DIN rail installation
	protection class IP 20
	operating temperature 0...55 °C
	dimensions (W x H x D) 34 x 98 x 77 mm (1.3" x 3.9" x 3")
	power supply via USB

## C9900-H3xx | USB sticks

USB sticks are used for data exchange between PCs or for data backup. For data backup operating system and application programs of a PC are saved as an image on a USB stick once the PC has been configured. In the event of a data loss on the PC the data can be restored from the USB stick.

As a data backup device the USB stick must be able to store the data reliably and for many years. In contrast to USB sticks with MLC or TLC flash memory, the high-quality SLC flash memory in the Beckhoff USB stick ensures long-term data integrity.



Ordering information	USB sticks
C9900-H356	4 GB USB stick, USB 3.0
C9900-H359	8 GB USB stick, USB 3.0
C9900-H376	16 GB USB stick, USB 3.0

Ordering information	USB sticks with Beckhoff Service Tool (BST)
C9900-H357	4 GB USB stick, USB 3.0, with Beckhoff Service Tool (BST) for backup and update of Windows CE or Windows Embedded Standard for x86 compatible PCs BST requires USB 2.0 or higher.
C9900-H360	8 GB USB stick, USB 3.0, with Beckhoff Service Tool (BST) for backup and update of Windows CE or Windows Embedded Standard for x86 compatible PCs BST requires USB 2.0 or higher.

Ordering information	USB sticks with Beckhoff Service Tool (BST) and Acronis® Backup & Recovery
C9900-H371	4 GB USB stick, USB 3.0, with Beckhoff Service Tool (BST) for backup and update of Windows CE or Windows Embedded Standard for x86 compatible PCs, incl. Acronis Backup & Recovery, BST requires USB 2.0 or higher
C9900-H372	8 GB USB stick, USB 3.0, with Beckhoff Service Tool (BST) for backup and update of Windows x86 compatible PCs, incl. Acronis Backup & Recovery, BST requires USB 2.0 or higher
C9900-H377	16 GB USB stick, USB 3.0, with Beckhoff Service Tool (BST) for backup and update of Windows for x86 compatible PCs, incl. Acronis Backup & Recovery, BST requires USB 2.0 or higher





## FC9062 | PCIe module

### The compact PC expansion card with industrial form factor

Beckhoff PCIe modules are highly integrated PCI Express plug-in cards and follow the trend towards ever smaller PCs. The function of PC plug-in cards is integrated in a compact format that is suitable for harsh industrial environments.

Compared with PCI or PCIe plug-in cards, which require a special card holder in the Industrial PC, the Beckhoff PCIe module is an industrially compatible plug-in card that is firmly screwed to the inside of the PC via the plug connector bracket. The PCIe modules can be retrofitted on site without special PC knowledge. The PC housing does not have to be opened.

The 3½-inch motherboard offers four PCI Express lanes to be distributed to the PCIe module slots or standard plug-in card slots. The result are PCs with module slots and/or slots for plug-in cards. A PCIe module is connected to the motherboard via one PCI Express lane with a data transfer rate of 5 Gigabit. A module can therefore provide two Gigabit Ethernet interfaces, for example. The FC9062 module complements the Panel PCs CP22xx and CP62xx as well as the control cabinet PCs C5210, C6515, C6525 and C6930 with two Gigabit Ethernet ports. If two modules are used, these PCs have a total of six Ethernet interfaces, while the Mini PCI slot continues to be available for a seventh Ethernet port or a fieldbus inter-

face for PROFIBUS, CANopen, DeviceNet or SERCOS. If only one of the two module slots is equipped with a PCIe module, the second slot is available for feeding motherboard interfaces such as COM ports, USB or sound out of the PC. The connection for a Mini PCI card can also be fed out through the module slots, even if the basic configuration of the PC, e.g. the C6515, does not allow for Mini PCI fieldbus cards.

#### Ordering information

FC9062

#### PCI Express module

gigabit Ethernet PC module for PCs with Beckhoff PCIe module slots, 2-channel, PCI Express x1 bus



## C9900-U33x | Battery pack

All Industrial PCs can be equipped with a 24 V power supply unit and an integrated UPS. The UPS supplies the PC with power if the mains power fails. This allows data to be saved on the hard disk or Flash, after which the PC can be shut down properly. A battery pack, which serves as the energy storage device, is mounted on a DIN rail outside the PC.

Rated at 3.4 Ah, the maintenance-free C9900-U330 24 V battery pack offers a very high nominal capacity in a compact package. With its rated capacity of 1.3 Ah, the very compact 24 V C9900-U332 battery pack is designed for PCs with Intel® Atom™ processor.

Technical data	C9900-U330	C9900-U332
	battery pack for PCs with 24 V power supply with intergrated UPS	
	metal housing for mounting on norm rail TS35x15 2.3	metal housing for mounting on norm rail TS35x15 2.3
	24 V nominal voltage	24 V nominal voltage
	3.4 Ah nominal capacity (20 h discharge)	1.3 Ah nominal capacity (20 h discharge)
	two 12 V batteries in series connection	two 12 V batteries in series connection
	VRLA AGM Technology = valve regulated lead acid batteries with glass fiber mat inside the separator (VRLA = valve regulated lead acid, AGM = absorbed glass mat technology)	
	maintenance-free	maintenance-free
	9 A fuse by PTC element	9 A fuse by PTC element
	operating temperature 0...50 °C	operating temperature 0...50 °C
	weight 3.3 kg (7.3 lbs)	weight 2.1 kg (4.63 lbs)
	dimensions (W x H x D)	dimensions (W x H x D)
	157 x 70 x 175 mm (6.2" x 2.8" x 6.9")	68.7 x 106.6 x 143.8 mm (4.2" x 2.8" x 5.66")



## C9900-E2xx | Slotbox for extending Industrial PCs with two plug-in card slots

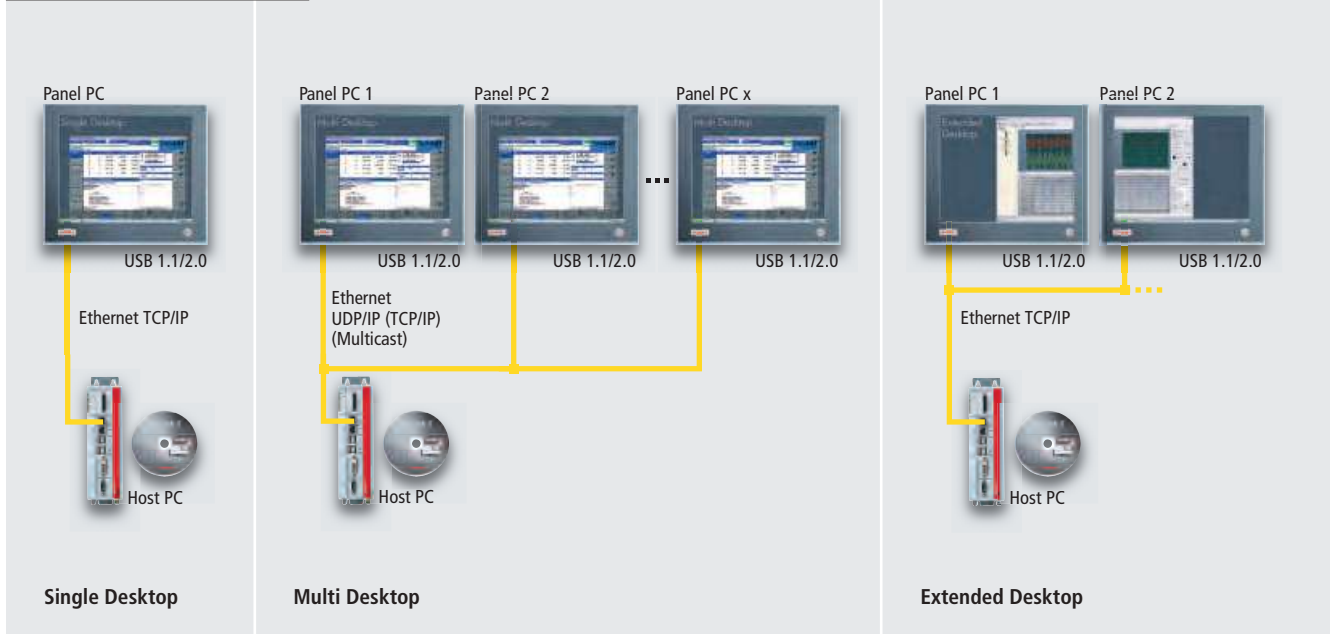
The slotbox makes PCI Express and PCI slots available outside the IPC as well. The PCI Express bus is fed via a plug connector and cable to a slotbox located up to 7 m (23-ft) away. Users can use the installation space in the control cabinet flexibly and locate further plug-in cards locally.

Both PCI and PCI Express card slots are available by using different versions of the slotbox. The slotbox is made of sturdy aluminium and ideal for use in industrial environments.



PCIe module C9900-E239 for installation in the PC

C9900-E2xx	C9900-E249	C9900-E250	C9900-E251
<b>Technical data</b>	fanless aluminium housing for control cabinet installation		
	2 slots for up to 190 mm long plug-in cards		
	all connectors on the top	all connectors on the top	all connectors on the top
	PCIe x1 input for connection with an Industrial PC with PCIe module C9900-E236 or -E239		
	7 m max. distance between Industrial PC and slotbox		
	1 PCI and 1 PCIe x1 slot	2 PCIe x1 slots	2 PCI slots
	IP 20	IP 20	IP 20
	operating temperature 0...55 °C	operating temperature 0...55 °C	operating temperature 0...55 °C
	weight without plug-in cards 1.7 kg	weight without plug-in cards 1.7 kg	weight without plug-in cards 1.7 kg
	dimensions (W x H x D) 94 x 222 x 132 mm (3.7" x 8.7" x 5.2") without mounting plate		
	24 V DC power supply	24 V DC power supply	24 V DC power supply
<b>C9900-E23x</b>	<b>PCIe modules</b>		
C9900-E236	PCIe modules with external PCIe x1 connector for CP22xx, CP62xx, C5210 or C65xx with PCIe module slot		
C9900-E239	PCIe modules with external PCIe x1 connector for C6930		
<b>C9900-K50x</b>	<b>Connection cables for the slotbox</b>		
C9900-K501	connecting cable PCIe x1 external, 1 m		
C9900-K502	connecting cable PCIe x1 external, 3 m		
C9900-K503	connecting cable PCIe x1 external, 5 m		
C9900-K504	connecting cable PCIe x1 external, 7 m		



## CP-Link 3 | Ethernet- and IP protocol-based desktop transfer software

CP-Link 3 transfers the desktop of a PC via Ethernet to several Panel PCs and the operator mouse and keyboard entries to the host PC. The screen contents are captured by a virtual graphic adapter in the host PC and sent using Ethernet to one or more Panel PCs with Windows operating systems (CE, XP, Windows 7 or Windows Embedded Standard). Networking can be done using cost-effective standard Ethernet cables (CAT 5) which are suitable for drag chains.

Since the data and image transfer are based on TCP/IP, the operating and display functions can be extended using the Internet. Panel PCs can be integrated using the Internet via VPN (Virtual Private Network). A VPN service must be available for the Internet security functions.

Keyboard entries, touch screen and special key functions are transferred from the client to the host PC via Virtual USB. USB devices connected to a Panel PC appear in the host PC like locally plugged-in devices and can be used in the normal way.

Virtual USB emulates a USB root hub in the host PC. If a USB device is plugged into a Panel PC, then the virtual hub logs the

device on to the operating system of the host PC and transparently transmits the ensuing communication. For the operating system, the USB device behaves as though it was directly connected to the PC. Virtual USB transfers the standards USB 1.1 and USB 2.0. As communication takes place using 100 Mbit/s Ethernet, the USB 2.0 transmission performance (480 Mbit/s) is restricted.

Additional input/output devices on the Panel PCs, such as rotary switches, buttons, etc., are read in by the host PC using an additional communication channel. Printers and webcams, which are connected to a Panel PC by means of USB, can be used from the host PC.

The scope of delivery for CP-Link 3 includes host and client software. The host PC may have Windows XP, Windows 7 or Windows Embedded Standard installed. Panel PCs with Windows CE, Windows XP, Windows 7 or Windows Embedded Standard are used as clients. As the application software (PLC/NC, HMI, etc.), once started, runs on the host PC, any necessary software licenses are only payable once for the host PC. The client Panel PCs only receive image

data. Apart from the operating system and CP-Link 3, no other software license is required for the clients. Even for PCs with more than one graphics card only one license per application software is necessary. For host PCs of other vendors an upgrade license is required.

The CP-Link 3 software is available in three versions:

- Single Desktop
- Multi Desktop
- Extended Desktop

License upgrades are available for third-party host PCs.

► [www.beckhoff.com/CP-Link3](http://www.beckhoff.com/CP-Link3)

## Single Desktop

A Panel PC is connected with a host PC via Ethernet and shows the image of the host PC. Communication takes place using TCP/IP.

Keyboard entries, touch screen and special key functions are transferred from the client to the host PC via Virtual USB. USB devices connected to a Panel PC appear in the host PC just like locally connected devices.

Ordering information	CP-Link 3 Single Desktop
	Ethernet and IP protocol-based desktop transfer software CP-Link 3
	transfers the desktop of a PC via Ethernet to one Panel PC
	transmission of mouse and keyboard inputs of the client user to the host PC
	connection by Ethernet or Internet, TCP/IP
	1 virtual graphic adapter
	Virtual USB
	USB devices connected at the client are found by the host PC like a local USB device.
	1 client controllable
	The client shows the screen of the host PC.
	host software for PCs with Windows XP, Windows 7 or Windows Embedded Standard
	client software for Beckhoff Panel PCs with Windows CE, Windows XP, Windows 7 or Windows Embedded Standard

## Multi Desktop

Several Panel PCs are connected with a PC via Ethernet and display the image of the host PC. All connected client Panel PCs show the same image.

Communication takes place using TCP/IP (up to 10 Panel PCs) or via UDP Multicast (up to 255 Panel PCs). The benefit of Multicast lies in the fact that messages can be transferred to several Panel PCs simultaneously without the transmitter bandwidth multiplying by the number of receivers.

Ordering information	CP-Link 3 Multi Desktop
	Ethernet and IP protocol-based desktop transfer software CP-Link 3
	transfers the desktop of a PC via Ethernet to Panel PCs
	transmission of mouse and keyboard inputs of client users to the host PC
	connection by Ethernet or Internet, TCP/IP or UDP/IP (Multicast)
	1 virtual graphic adapter
	Virtual USB
	USB devices connected at a client are found by the host PC like a local USB device.
	Up to 255 clients are controllable in UDP/IP mode, up to 10 clients in TCP/IP mode.
	All clients show the same picture, the screen of the host PC.
	The input devices can be locked at any client by TwinCAT-PLC or via application programming interface (API)
	host software for PCs with Windows XP, Windows 7 or Windows Embedded Standard
	client software for Beckhoff Panel PCs with Windows CE, Windows XP, Windows 7 or Windows Embedded Standard

## Extended Desktop

One or several virtual graphic adapters are used to extend the host PC desktop. The program windows of the application software can be moved to additional monitors covered by the extended desktop. Applications may be started on a specific monitor. The desktop can be extended to up to 9 monitors. CP-Link 3 can transfer the data via Ethernet to several client Panel PCs.

The mouse and keyboard entries of individual clients can be locked via TwinCAT PLC or a software interface (API), in order to prevent interference between several users.

Ordering information	CP-Link 3 Extended Desktop
	Ethernet and IP protocol-based desktop transfer software CP-Link 3
	transfers up to 9 screens of the extended desktop of a PC via Ethernet to Panel PCs
	transmission of mouse and keyboard inputs of client users to the host PC
	connection via Ethernet or Internet, TCP/IP or UDP/IP (Multicast)
	Up to 9 virtual graphic adapters extend the desktop of the host PC.
	Virtual USB
	USB devices connected at a client are found by the host PC like a local USB device.
	Up to 255 clients are controllable in UDP/IP mode, up to 10 clients in TCP/IP mode.
	Each client shows 1 of maximally 9 screens of the extended desktop of the host PC.
	The input devices can be locked at any client by TwinCAT PLC or via application programming interface (API).
	Applications are allocable to one of the additional screens of the extended desktop.
	host software for PCs with Windows XP, Windows 7 or Windows Embedded Standard
	client software for Beckhoff Panel PCs with Windows CE, Windows XP, Windows 7 or Windows Embedded Standard



# Control Panels



## Multi-touch Control Panels

- built-in (CP29xx) or mounting arm devices (CP39xx)
- multi-finger touch screen
- 7-, 11.6-, 12-, 15-, 15.6-, 18.5-, 19-, 21.5- and 24-inch displays
- vertical or horizontal orientation (portrait/landscape)
- DVI/USB Extended interface
- CP-Link4 – The One Cable Display Link

See page **150**

## Single-touch Control Panels

- built-in (CP69xx) or mounting arm devices (CP79xx)
- without touch screen, with single-finger touch screen or touch pad
- 5.7-, 6.5-, 12-, 15- and 19-inch displays
- DVI/USB Extended interface

See page **162**



► [www.beckhoff.com/multitouch](http://www.beckhoff.com/multitouch)

## Multi-touch Control Panels | Display sizes

### Built-in Control Panels, front side IP 65



### Control Panels, IP 65 on all sides



## Single-touch Control Panels | Display sizes

### Built-in Control Panels, front side IP 65



### Control Panels, IP 65 on all sides



► [www.beckhoff.com/ControlPanel](http://www.beckhoff.com/ControlPanel)

# Multi-touch Control Panels CP29xx and CP39xx

With Windows 7 the multi-finger touch screen is becoming popular at PCs. Industrial applications are using the projected capacitive multi-touch technology. An anti-reflective glass plate forms the display front. The operation with hand gloves is possible. Five fingers are detected separately even if the distance between the fingers is only 1 cm.

The multi-touch Control Panels are conceived both for control cabinet installation and for the mounting arm installation. The CP29xx built-in Panel series is implemented with IP 65 protection at the front and IP 20 at the rear. The CP39xx Control Panels for mounting arm installation feature all-round IP 65 protection. The panels CP29xx-0000 and

CP39xx-0000 with DVI/USB Extended interface can be operated up to 50 m away from the Industrial PC. With CP-Link 4 – The One Cable Display Link – and CP29xx-0010 and CP39xx-0010 Control Panels the distance between Industrial PC and operating panel can be increased to 100 m.



Beckhoff offers the following display sizes:

Wide screen (16:9)

- 7-inch, resolution 800 x 480
- 11.6-inch, resolution 1366 x 768
- 15.6-inch, resolution 1366 x 768
- 18.5-inch, resolution 1366 x 768
- 21.5-inch, full HD resolution  
1920 x 1080

- 24-inch, full HD resolution  
1920 x 1080

Further display sizes

- 12-inch, resolution 800 x 600 (4:3)
- 15-inch, resolution 1024 x 768 (4:3)
- 19-inch, resolution 1280 x 1024 (5:4)

With the option C9900-M575 all of the displays are also available in portrait format.

Customer-specific adaptations for a push-button extension individualise the multi-touch Control Panel series.

Modern, elegant device design

Multi-touch for 5-finger touch

Vertical or horizontal variants

Use of aluminium for extremely robust design



Continuous glass surface – highest resistance to environmental influences

Display formats 4:3, 5:4 or wide-screen 16:9

LED backlight

Narrow housing edges

High protection class IP 65

Push-button extension with emergency stop, also in customer-specific design

► [www.beckhoff.com/multitouch](http://www.beckhoff.com/multitouch)

# CP-Link 4 | The One Cable Display Link

With CP-Link 4 operating panels can be located up to 100 m away from the Industrial PC. The single-cable solution can be used to transfer video signals, USB 2.0 and the power supply in a Cat.6<sub>A</sub> cable, thus reducing cable and installation costs. A further benefit is the use of purely passive displays. The CP-Link 4 technology is supported by the new Beckhoff multi-touch panel series CP29xx-0010 (built-in version) and CP39xx-0010 (mounting arm version).

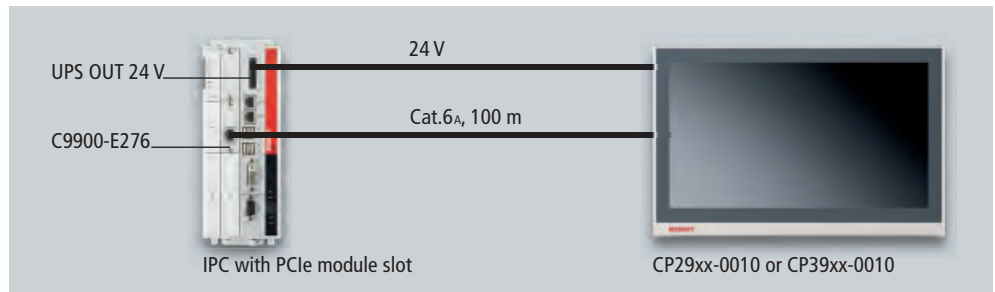
## CP-Link 4 – The Two Cable Display Link

The CP29xx-0010 multi-touch built-in panels and the CP39xx-0010 multi-touch panels for mounting arm installation can be operated up to 100 m away from the PC. CP-Link 4 – The Two Cable Display Link – transfers DVI and USB together via a Cat.6<sub>A</sub> cable. The CU8802 CP-Link 4 transmitter box is connected to the PC via DVI and USB, or else the C9900-E276 PCIe module for CP-Link 4 is installed in the PC.

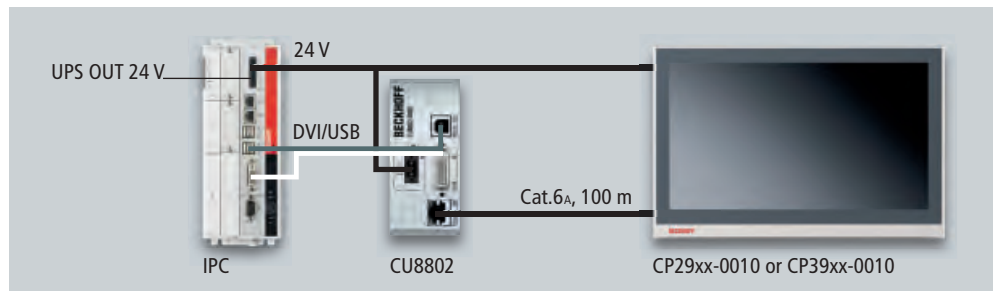
## CP-Link 4 – The One Cable Display Link

The power supply for the Control Panel can also be provided via CP-Link 4 – The One Cable Display Link. The CU8803 CP-Link 4 transmitter box is used instead of the CU8802 or the PCIe module. The Control Panel remains unchanged. The CU8803 transmitter box provides power to the Control Panel via the Cat.6<sub>A</sub> cable, which also transfers DVI and USB. The power supply socket of the panel is not used.

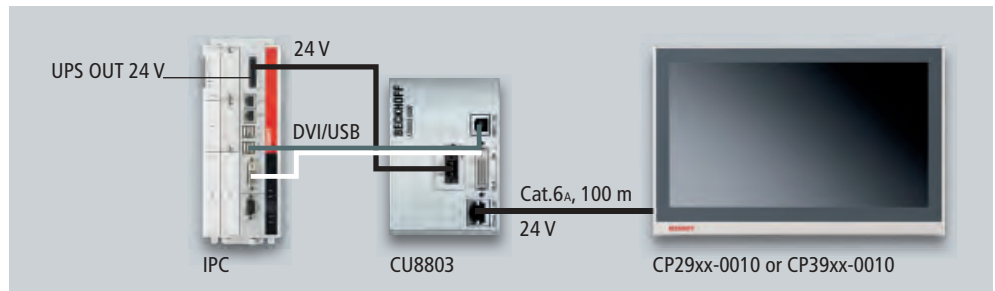
CP-Link 4 – The Two Cable Display Link: via C9900-E276 PCIe module integrated in the PC



CP-Link 4 – The Two Cable Display Link: via CU8802 transmitter box



CP-Link 4 – The One Cable Display Link: DVI, USB and 24 V via CU8803 transmitter box



► [www.beckhoff.com/CP-Link4](http://www.beckhoff.com/CP-Link4)



# Customised Beckhoff multi-touch Control Panels



Multi-touch Control Panel in portrait orientation with customised push-button extension



Multi-touch Control Panel with RFID reader



Multi-touch Control Panel with RGB illuminated ring keys



Multi-touch Control Panel with emergency stop, electromechanical keys and graycode switch



Multi-touch Control Panel with emergency stop, start/stop keys and membrane keys with slide-in labels



21.5-inch multi-touch Control Panel for machine tools



18.5-inch multi-touch Control Panel with emergency stop and 3 buttons, connection alternatively via USB or directly wired



15-inch multi-touch Control Panel with RFID reader, emergency stop and 3 RGB illuminated ring keys



## CP29xx | Multi-touch built-in Control Panel



Ordering information		Multi-finger touch screen with DVI/USB Extended	Multi-finger touch screen with CP-Link 4
7-inch display	800 x 480	CP2907-0000	CP2907-0010
11.6-inch display	1366 x 768	CP2911-0000	CP2911-0010
12-inch display	800 x 600	CP2912-0000	CP2912-0010
15-inch display	1024 x 768	CP2915-0000	CP2915-0010
15.6-inch display	1366 x 768	CP2916-0000	CP2916-0010
18.5-inch display	1366 x 768	CP2918-0000	CP2918-0010
19-inch display	1280 x 1024	CP2919-0000	CP2919-0010
21.5-inch display	1920 x 1080	CP2921-0000	CP2921-0010
24-inch display	1920 x 1080	CP2924-0000	CP2924-0010



CP29xx	CP29xx-0000	CP29xx-0010
<b>Features</b>	<p>TFT display in nine sizes</p> <ul style="list-style-type: none"> <li>– 7-inch display 800 x 480</li> <li>– 11.6-inch display 1366 x 768</li> <li>– 12-inch display 800 x 600</li> <li>– 15-inch display 1024 x 768</li> <li>– 15.6-inch display 1366 x 768</li> <li>– 18.5-inch display 1366 x 768</li> <li>– 19-inch display 1280 x 1024</li> <li>– 21.5-inch display 1920 x 1080</li> <li>– 24-inch display 1920 x 1080</li> </ul> <p>aluminium housing with glass front, front side IP 65, rear side IP 20</p> <p>multi-finger touch screen</p> <ul style="list-style-type: none"> <li>– multi-finger touch screen driver for Windows 7</li> <li>– single-finger touch screen driver for Windows XP and Windows CE 6</li> </ul> <p>integrated DVI/USB extension technology</p> <ul style="list-style-type: none"> <li>– DVI-E and USB-E 2.0 enable remote panel operation at a distance of up to 50 m from the PC.</li> <li>– USB-E 2.0 transmits USB 2.0 with 480 Mbit/s.</li> <li>– DVI-E input is compatible to the standard DVI output of a PC.</li> </ul> <p>USB 3.0 input for the direct connection to a standard USB output of a PC with distances of up to 3 m</p> <p>2-port USB 3.0 socket inside the Control Panel backplane, for USB-E 2.0 limited to USB 2.0</p> <p>all connectors at the lower rear side</p> <p>24 V power supply</p> <p>operating temperature 0...55 °C</p> <p>pull-out clamping levers for fast installation without loose parts</p>	<p>TFT display in nine sizes</p> <ul style="list-style-type: none"> <li>– 7-inch display 800 x 480</li> <li>– 11.6-inch display 1366 x 768</li> <li>– 12-inch display 800 x 600</li> <li>– 15-inch display 1024 x 768</li> <li>– 15.6-inch display 1366 x 768</li> <li>– 18.5-inch display 1366 x 768</li> <li>– 19-inch display 1280 x 1024</li> <li>– 21.5-inch display 1920 x 1080</li> <li>– 24-inch display 1920 x 1080</li> </ul> <p>aluminium housing with glass front, front side IP 65, rear side IP 20</p> <p>multi-finger touch screen</p> <ul style="list-style-type: none"> <li>– multi-finger touch screen driver for Windows 7</li> <li>– single-finger touch screen driver for Windows XP and Windows CE 6</li> </ul> <p>integrated CP-Link 4 connection technology</p> <ul style="list-style-type: none"> <li>– CP-Link 4 enables remote panel operation at a distance of up to 100 m from the PC via a Cat.6a cable with integrated or separate 24 V DC power supply depending on the transmitter module.</li> <li>– CP-Link 4 transmits USB 2.0 with 100 Mbit/s and DVI.</li> </ul> <p>connection via an RJ45 connector for CP-Link 4 in the backplane</p> <p>additional pin contact strip, for optional 24 V power supply</p> <p>2-port USB 2.0 socket inside the Control Panel backplane</p> <p>all connectors at the lower rear side</p> <p>operating temperature 0...50 °C</p> <p>pull-out clamping levers for fast installation without loose parts</p>
<b>Further information</b>	for further options, technical drawings, documentations, etc. see <a href="http://www.beckhoff.com/CP29xx">www.beckhoff.com/CP29xx</a>	



## CP39xx | Multi-touch Control Panel



Ordering information		Multi-finger touch screen with DVI/USB Extended	Multi-finger touch screen with CP-Link 4
7-inch display	800 x 480	CP3907-0000	CP3907-0010
11.6-inch display	1366 x 768	CP3911-0000	CP3911-0010
12-inch display	800 x 600	CP3912-0000	CP3912-0010
15-inch display	1024 x 768	CP3915-0000	CP3915-0010
15.6-inch display	1366 x 768	CP3916-0000	CP3916-0010
18.5-inch display	1366 x 768	CP3918-0000	CP3918-0010
19-inch display	1280 x 1024	CP3919-0000	CP3919-0010
21.5-inch display	1920 x 1080	CP3921-0000	CP3921-0010
24-inch display	1920 x 1080	CP3924-0000	CP3924-0010



reddot design award  
winner 2013



Mounting arm adapter C9900-  
M751 with USB socket C9900-E274



Connection block of the basic config-  
uration with optional USB socket

CP39xx	CP39xx-0000	CP39xx-0010
<b>Features</b>	<p>TFT display in nine sizes</p> <ul style="list-style-type: none"> <li>– 7-inch display 800 x 480</li> <li>– 11.6-inch display 1366 x 768</li> <li>– 12-inch display 800 x 600</li> <li>– 15-inch display 1024 x 768</li> <li>– 15.6-inch display 1366 x 768</li> <li>– 18.5-inch display 1366 x 768</li> <li>– 19-inch display 1280 x 1024</li> <li>– 21.5-inch display 1920 x 1080</li> <li>– 24-inch display 1920 x 1080</li> </ul> <p>aluminium housing with glass front, protection class IP 65</p> <p>multi-finger touch screen</p> <ul style="list-style-type: none"> <li>– multi-finger touch screen driver for Windows 7</li> <li>– single-finger touch screen driver for Windows XP and Windows CE 6</li> </ul> <p>integrated DVI/USB extension technology</p> <ul style="list-style-type: none"> <li>– DVI-E and USB-E 2.0 enable remote panel operation at a distance of up to 50 m from the PC.</li> <li>– USB-E 2.0 transmits USB 2.0 with 480 Mbit/s.</li> <li>– DVI-E input is compatible to the standard DVI output of a PC.</li> </ul> <p>connection via 3 round connectors (IP 65) for DVI, USB-E 2.0 and 24 V power supply unit in the backplane</p> <p>24 V power supply</p> <p>operating temperature 0...55 °C</p>	<p>TFT display in nine sizes</p> <ul style="list-style-type: none"> <li>– 7-inch display 800 x 480</li> <li>– 11.6-inch display 1366 x 768</li> <li>– 12-inch display 800 x 600</li> <li>– 15-inch display 1024 x 768</li> <li>– 15.6-inch display 1366 x 768</li> <li>– 18.5-inch display 1366 x 768</li> <li>– 19-inch display 1280 x 1024</li> <li>– 21.5-inch display 1920 x 1080</li> <li>– 24-inch display 1920 x 1080</li> </ul> <p>aluminium housing with glass front, protection class IP 65</p> <p>multi-finger touch screen</p> <ul style="list-style-type: none"> <li>– multi-finger touch screen driver for Windows 7</li> <li>– single-finger touch screen driver for Windows XP and Windows CE 6</li> </ul> <p>integrated CP-Link 4 connection technology</p> <ul style="list-style-type: none"> <li>– CP-Link 4 enables remote panel operation at a distance of up to 100 m from the PC via a Cat.6a cable with integrated or separate 24 V DC power supply depending on the transmitter module.</li> <li>– CP-Link 4 transmits USB 2.0 with 100 Mbit/s and DVI.</li> </ul> <p>connection via M12 round connector (IP 65) for CP-Link 4 in the backplane</p> <p>additional M12 round connector for optional 24 V power supply</p> <p>operating temperature 0...50 °C</p>
<b>Further information</b>	for further options, technical drawings, documentations, etc. see <a href="http://www.beckhoff.com/CP39xx">www.beckhoff.com/CP39xx</a>	



# Accessories for CP2xxx and CP3xxx multi-touch Control Panels and Panel PCs





## C9900-M406 | Keyboard shelf

### Keyboard shelf for CP3xxx multi-touch Control Panels and Panel PCs

The keyboard shelf at a Beckhoff Panel PC or Control Panel permits a standard PC keyboard to be placed in front of the Control Panel, allowing convenient operation during commissioning or software updates. During normal production, the machine operator can rest tools and other items here while using the multi-finger touch screen.

A USB socket is integrated at the back of the keyboard shelf for connecting the keyboard. Any keyboard USB cable excess can be wrapped around a bracket at the underside of the keyboard shelf.

The shelf is made of coated aluminium, and its design matches that of the Control Panel. The keyboard shelf has a width of 468 mm.



Ordering information	Keyboard shelf for CP3xxx
C9900-M406	Toolboard for keyboard or tools, mounted under a Control Panel or Panel PC CP3xxx, with integrated USB socket IP 65 at the back side, can only be ordered in combination with the Control Panel or Panel PC.



CP2912 with C9900-G002 and CP2924 with C9900-G007

## C9900-G00x, -G01x | Push-button extension for built-in multi-touch panels

C9900-G00x, -G01x	Push-button extension for built-in multi-touch panels
Features	push-button extension for CP2xxx
	push-button extension below
	push-button keys with signal lamp, type RAFI RAFIX 22FS+, round, 30 mm
	1 emergency stop key, type RAFI RAFIX 22FS+
	labels for push-button caps for individual marking of each push-button
	All push-buttons are transmitted via USB with one normally-open contact.
	Additionally, all push-buttons are directly wireable with a second normally-open contact via a terminal row.
Further information	All signal lamps are transmitted via USB only.
	Selector switches and keylock switches as well as other elements from the series RAFIX 22FS+ are integrateable.
	<a href="http://www.beckhoff.com/C9900-G00x">www.beckhoff.com/C9900-G00x</a>

Ordering information	Push-button extension for built-in multi-touch panels
C9900-G001	push-button extension for CP2x11 11.6" landscape: 4 push-button keys and 1 emergency stop key
C9900-G002	push-button extension for CP2x12 12" landscape: 4 push-button keys and 1 emergency stop key
C9900-G003	push-button extension for CP2x15 15" landscape: 7 push-button keys and 1 emergency stop key
C9900-G004	push-button extension for CP2x16 15.6" landscape: 8 push-button keys and 1 emergency stop key
C9900-G005	push-button extension for CP2x18 18.5" landscape: 10 push-button keys and 1 emergency stop key
C9900-G006	push-button extension for CP2x19 19" landscape: 9 push-button keys and 1 emergency stop key
C9900-G008	push-button extension for CP2x21 21.5" landscape: 12 push-button keys and 1 emergency stop key
C9900-G007	push-button extension for CP2x24 24" landscape: 13 push-button keys and 1 emergency stop key
C9900-G012	push-button extension for CP2x12 12" portrait: 3 push-button keys and 1 emergency stop key
C9900-G013	push-button extension for CP2x15 15" portrait: 4 push-button keys and 1 emergency stop key
C9900-G014	push-button extension for CP2x16 15.6" portrait: 4 push-button keys and 1 emergency stop key
C9900-G015	push-button extension for CP2x16 15.6" portrait: 3 push-button keys and 1 emergency stop key
C9900-G016	push-button extension for CP2x19 19" portrait: 7 push-button keys and 1 emergency stop key
C9900-G018	push-button extension for CP2x21 21.5" portrait: 6 push-button keys and 1 emergency stop key
C9900-G017	push-button extension for CP2x24 24" portrait: 6 push-button keys and 1 emergency stop key



CP3919 with C9900-G026 and CP3921 with C9900-G028

## C9900-G02x, -G03x | Push-button extension for multi-touch panels with mounting arm

C9900-G02x, -G03x	Push-button extension for multi-touch panels with mounting arm
Features	push-button extension for CP3xxx
	push-button extension below
	push-button keys with signal lamp, type RAFI RAFIX 22FS+, round, 30 mm
	1 emergency stop key, type RAFI RAFIX 22FS+
	labels for push-button caps for individual marking of each push-button
	All push-buttons are transmitted via USB with one normally-open contact.
	Additionally, all push-buttons are directly wireable with a second normally-open contact via a terminal row.
	All signal lamps are transmitted via USB only.
Further information	aluminium cable channel to the mounting arm adapter on the backside
	Selector switches and keylock switches as well as other elements from the series RAFIX 22FS+ are integrateable.
	<a href="http://www.beckhoff.com/C9900-G02x">www.beckhoff.com/C9900-G02x</a>

Ordering information	Push-button extension for multi-touch panels with mounting arm
C9900-G021	push-button extension for CP3x11 11.6" landscape: 4 push-button keys and 1 emergency stop key
C9900-G022	push-button extension for CP3x12 12" landscape: 4 push-button keys and 1 emergency stop key
C9900-G023	push-button extension for CP3x15 15" landscape: 7 push-button keys and 1 emergency stop key
C9900-G024	push-button extension for CP3x16 15.6" landscape: 8 push-button keys and 1 emergency stop key
C9900-G025	push-button extension for CP3x18 18.5" landscape: 10 push-button keys and 1 emergency stop key
C9900-G026	push-button extension for CP3x19 19" landscape: 9 push-button keys and 1 emergency stop key
C9900-G028	push-button extension for CP3x21 21.5" landscape: 12 push-button keys and 1 emergency stop key
C9900-G027	push-button extension for CP3x24 24" landscape: 13 push-button keys and 1 emergency stop key
C9900-G032	push-button extension for CP3x12 12" portrait: 3 push-button keys and 1 emergency stop key
C9900-G033	push-button extension for CP3x15 15" portrait: 4 push-button keys and 1 emergency stop key
C9900-G034	push-button extension for CP3x16 15.6" portrait: 4 push-button keys and 1 emergency stop key
C9900-G035	push-button extension for CP3x18 18.5" portrait: 4 push-button keys and 1 emergency stop key
C9900-G036	push-button extension for CP3x19 19" portrait: 7 push-button keys and 1 emergency stop key
C9900-G038	push-button extension for CP3x21 21.5" portrait: 6 push-button keys and 1 emergency stop key
C9900-G037	push-button extension for CP3x24 24" portrait: 6 push-button keys and 1 emergency stop key

# Single-touch Control Panels CP6xxx and CP7xxx

## What frame does an image need?

The carefully planned use of design elements gives the Control Panel its reserved and elegant appearance.

The open design possibilities of a membrane keyboard are fully exploited here. The robust keyboard ensures that the IP 65 protection class is retained as if new, even after long use in a tough industrial environment.

Light emitting diodes are integrated into the keys, while slide-in labels mean that exchangeable key identification can match the needs of the plant.

## The emergency stop at the Control Panel

Push-button extensions in the design of the Control Panel make it thicker, but permit the application-specific arrangement of electromechanical keys and other compo-

nents such as all kinds of switches, barcode scanners, graycode switches and handwheels. External housings can be attached to either side of the Control Panel. The signal leads may be laid separately or can be operated via USB.

## Assembly

The back plate of the Control Panel series CP7xxx offers a free surface for a variety of assembly methods, for example a mounting arm system.





Mounting arm



Additional keyboard in IP 65



Touch pad



USB socket in IP 65

### Control Panel for installation in the control cabinet door

The built-in Control Panels CP6xxx are designed for control cabinet installation. Only 4 mm of the front are visible in front of the control cabinet wall. Installation via pull-out clamping levers makes the process very simple without loose parts.

The built-in Control Panels CP69xx are available with 5.7-, 6.5-, 12-, 15-inch or 19-inch TFT display, with touch screen or touch pad, as a monitor without keyboard or with different membrane keyboard

models up to full alphanumeric keyboards with 10 PLC special keys and 10 LEDs. The same range of push-button extensions with electromechanical keys as for the CP7xxx series is available.

The Control Panels are connected to the PC with a DVI/USB Extended interface for distances up to 50 m.

### The Control Panel toolkit

A housing that can be dimensioned precisely in line with the needs of the particular application according to the customer's wishes can

be combined with an individually designed membrane keyboard. This puts customisation on a wide footing at Beckhoff. Hardly one Control Panel is like another.

The Bus Terminal interface integrated into the Control Panel permits the connection of standard Beckhoff Bus Terminals to realise handwheels, graycode switches, buttons, switches, indicator lamps or other components without any additional wiring. Such elements can be integrated into the Control Panel and connected to the PC via USB.

Aluminium housing  
in IP 65

Single-touch screen  
or glass plate

Interchangeable logo



Push-button  
extension with  
emergency stop

► [www.beckhoff.com/ControlPanel](http://www.beckhoff.com/ControlPanel)



# Customised Beckhoff CP6xxx/CP7xxx Control Panels

- cost-effective implementation of company logos in form of a slide-in label for standard Control Panels
- complete revision of the colour scheme of the front membrane based on the corporate design of the company
- customised keyboard extensions according to customer specifications
- realisation of customer-specific bracket adapter plates for integrating different bracket systems
- realisation of complex operating terminals with fieldbus connections (PROFIBUS, Lightbus, CANopen, Ethernet, ...)
- modification of the mechanical/electrical connection of the devices according to the local situation
- development and realisation of the design jointly with the customer



Stainless steel Panel PC



Customer-specific front laminate



Individual housing construction



Individual housing adaptation



Modified membrane keypad colour scheme and keypad matrix



Individual housing construction for flush-mounted installation



Individual housing design, colour scheme and key shape/layout according to customer requirements



Individual housing construction



Multifunctional terminal



Push-button extension with hand wheel



Panel PC for injection molding applications



Control solution for blow molding machines



Extension with additional display, incremental encoders and switch elements



Integration of a barcode scanner and signal transducer



Extension with joystick, graycode switch and incremental encoder



Keyboard with larger number and higher density of membrane keys



Front membrane design with modified colour scheme and different size membrane keys

# CP69xx, CP79xx | "Economy" Control Panels with DVI/USB Extended interface

The digital visual interface (DVI), defined as successor to analog VGA connections, digitally transfers the PC image to the display. The universal serial bus (USB) enables connection of input devices and drives to the PC. DVI/USB Extended enables CP69xx and CP79xx "Economy" Control Panels to be operated at a distance of up to 50 metres from the PC. Apart from a graphics card

or a motherboard with DVI output and the USB port available with every motherboard, no additional card is required in the PC.

CP79xx Control Panels are designed for mounting arm installation. They offer all-round IP 65 protection. To this end they are equipped via industrial IP 65 round connectors for DVI or USB Extended and the 24 V power supply.

The CP69xx built-in Control Panels are connected via standard USB and DVI connectors and feature an industrial pin contact strip for the 24 V power supply. A 2-port USB socket in the rear panel enables connection of keyboard, mouse, USB stick or CD/DVD drive. The integrated USB 1.1 hub enables a transfer rate of 12 Mbit/s.



DVI interface



USB interface

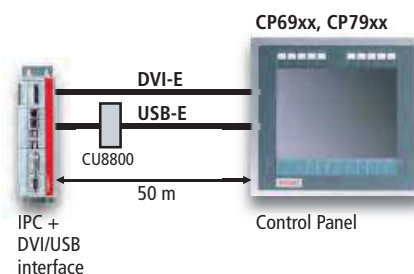




CP69xx | "Economy"  
built-in Control Panel



CP79xx | "Economy"  
Control Panel



DVI/USB Extended

### DVI/USB Extended

The DVI/USB Extended technology integrated in each CP69xx and CP79xx "Economy" DVI/USB panel enables remote panel operation at a distance of up to 50 m from the PC via standard cables. The graphics signal is transferred directly via DVI cable over a maximum distance of 50 m, while the USB signal is transferred to a Cat.5 cable at the PC in order to extend the 5 m limit of the USB specification to a distance of up to 50 m.

A 50 m DVI cable has 10 times the length allowed by the DVI specification. Such a cable length leads to strong distortion of the graphics signal on arrival at the Control Panel. The CP69xx "Economy" Control Panel features a signal processor that restores the DVI signal. Since it is a digital

signal, it can be fully restored. The display shows a perfect image without interference. The PC requires a conventional DVI output. An on-board graphics controller such as Intel® Extreme Graphic or a graphics card can be used.

For USB the specification requires installation of a hub every 5 m. In order to realise a distance of 50 m without hubs, with USB Extended the USB signal is converted so that it can be transferred via 50 m Cat.5 cables with RJ45 connectors commonly used for Ethernet wiring. In the Control Panel the signal is converted back to USB. Through the 12 Mbit/s transfer rate a USB 1.1 interface is available in the Control Panel. In addition to touch screen, membrane keyboard and push-button extension, a hub in the Control

Panel enables connection of two external USB devices such as keyboard, mouse, USB stick or CD/DVD drive. However, no further USB hub can be connected to the Control Panel. The PC must have a USB 1.1 or USB 2.0 interface. The CU8800 USB-to-USB Extended converter box requires no auxiliary power supply. It has a USB input and an RJ45 USB Extended output. The box together with all required cables is offered as a set for distances of 10, 20, 30, 40 or 50 m between the PC and the Control Panel. For distances up to 5 m the PC and the Control Panels CP69xx can be connected directly via a USB cable. The Control Panels CP79xx are connected via the adapter CU8800, even at short distance.

USB Extended input for distances  
up to 50 m to the PC

DVI Extended  
input for distances  
up to 50 m to  
the PC

5.7-, 6.5-, 12-, 15-  
or 19-inch TFT display

2 USB ports for the connection of  
keyboard, mouse or storage media

Power supply  
24 V DC

USB input for distances  
up to 5 m to the PC



► [www.beckhoff.com/CP69xx](http://www.beckhoff.com/CP69xx)  
► [www.beckhoff.com/CP79xx](http://www.beckhoff.com/CP79xx)





## CP69xx | “Economy” built-in Control Panel with DVI/USB Extended interface

Ordering information	without touch screen	with single-touch screen	with touch pad
<b>Display only</b>			
5.7-inch display 640 x 480	CP6907-0000-0000	CP6907-0001-0000	
6.5-inch display 640 x 480	CP6909-0000-0000	CP6909-0001-0000	
12-inch display 800 x 600	CP6901-0000-0000	CP6901-0001-0000	
15-inch display 1024 x 768	CP6902-0000-0000	CP6902-0001-0000	
19-inch display 1280 x 1024	CP6903-0000-0000	CP6903-0001-0000	
<b>Display only, USB A socket in the front</b>			
12-inch display 800 x 600	CP6901-0020-0000	CP6901-0021-0000	
15-inch display 1024 x 768	CP6902-0020-0000	CP6902-0021-0000	
19-inch display 1280 x 1024	CP6903-0020-0000	CP6903-0021-0000	
<b>With function keys</b>			
6.5-inch display 640 x 480	CP6919-0000-0000	CP6919-0001-0000	
12-inch display 800 x 600	CP6911-0000-0000	CP6911-0001-0000	
15-inch display 1024 x 768	CP6912-0000-0000	CP6912-0001-0000	
19-inch display 1280 x 1024	CP6913-0000-0000	CP6913-0001-0000	
<b>Numeric keyboard</b>			
6.5-inch display 640 x 480	CP6929-0000-0000	CP6929-0001-0000	
12-inch display 800 x 600	CP6921-0000-0000	CP6921-0001-0000	CP6921-0002-0000
15-inch display 1024 x 768	CP6922-0000-0000	CP6922-0001-0000	CP6922-0002-0000
19-inch display 1280 x 1024	CP6923-0000-0000	CP6923-0001-0000	CP6923-0002-0000
<b>Alphanumeric keyboard</b>			
12-inch display 800 x 600	CP6931-0000-0000	CP6931-0001-0000	CP6931-0002-0000
15-inch display 1024 x 768	CP6932-0000-0000	CP6932-0001-0000	CP6932-0002-0000
19-inch display 1280 x 1024	CP6933-0000-0000	CP6933-0001-0000	CP6933-0002-0000
<b>Alphanumeric keyboard with PLC keys on the sides</b>			
15-inch display 1024 x 768	CP6942-0000-0000	CP6942-0001-0000	



Without keys



Function keys



Numeric keyboard



Alphanumeric keyboard

Alphanumeric keyboard  
with PLC keys on the sides

CP69xx	"Economy" built-in Control Panel
<b>Features</b>	<p>TFT display in five sizes</p> <ul style="list-style-type: none"> <li>– 5.7-inch display 640 x 480</li> <li>– 6.5-inch display 640 x 480</li> <li>– 12-inch display 800 x 600</li> <li>– 15-inch display 1024 x 768</li> <li>– 19-inch display 1280 x 1024</li> </ul> <p>aluminium front with sheet-steel rear cover, front side IP 65, rear side IP 20</p> <p>front laminate in five variants</p> <ul style="list-style-type: none"> <li>– only display</li> <li>– function keys and 10 PLC special keys with LED</li> <li>– numeric keyboard and 10 PLC special keys with LED</li> <li>– alphanumeric PC keyboard in US layout and 10 PLC special keys with LED</li> <li>– alphanumeric PC keyboard in US layout and 16 PLC special keys with LED on the sides</li> </ul> <p>integrated DVI/USB extension technology</p> <ul style="list-style-type: none"> <li>– DVI-E and USB-E enable remote panel operation at a distance of up to 50 m from the PC.</li> <li>– DVI-E input is compatible to the standard DVI output of a PC.</li> </ul> <p>USB input for the direct connection to a standard USB output of a PC with distances of up to 5 m</p> <p>all connectors at the lower rear side</p> <p>24 V power supply</p> <p>operating temperature 0...55 °C</p> <p>pull-out clamping levers for fast installation without loose parts</p>
<b>Options</b>	<p>touch screen pen with wall holder</p> <p>push-button extension with electromechanical switches and keys</p> <p>connecting kits for up to 50 m distance to the PC</p> <p>wall mounting frame for building installation</p>
<b>Stainless steel options</b>	stainless steel front (1.4301) with bevelled edges at top and bottom and touch screen for CP690x
<b>Further information</b>	for further options, technical drawings, documentations, etc. see <a href="http://www.beckhoff.com/CP69xx">www.beckhoff.com/CP69xx</a>





## CP79xx | "Economy" Control Panel with DVI/USB Extended interface

Ordering information	without touch screen	with single-touch screen	with touch pad
<b>Display only</b>			
6.5-inch display 640 x 480	CP7909-0000-0000	CP7909-0001-0000	
12-inch display 800 x 600	CP7901-0000-0000	CP7901-0001-0000	
15-inch display 1024 x 768	CP7902-0000-0000	CP7902-0001-0000	
19-inch display 1280 x 1024	CP7903-0000-0000	CP7903-0001-0000	
<b>Display only, USB A socket in the front</b>			
12-inch display 800 x 600	CP7901-0020-0000	CP7901-0021-0000	
15-inch display 1024 x 768	CP7902-0020-0000	CP7902-0021-0000	
19-inch display 1280 x 1024	CP7903-0020-0000	CP7903-0021-0000	
<b>With function keys</b>			
6.5-inch display 640 x 480	CP7919-0000-0000	CP7919-0001-0000	
12-inch display 800 x 600	CP7911-0000-0000	CP7911-0001-0000	
15-inch display 1024 x 768	CP7912-0000-0000	CP7912-0001-0000	
19-inch display 1280 x 1024	CP7913-0000-0000	CP7913-0001-0000	
<b>Numeric keyboard</b>			
6.5-inch display 640 x 480	CP7929-0000-0000	CP7929-0001-0000	
12-inch display 800 x 600	CP7921-0000-0000	CP7921-0001-0000	CP7921-0002-0000
15-inch display 1024 x 768	CP7922-0000-0000	CP7922-0001-0000	CP7922-0002-0000
19-inch display 1280 x 1024	CP7923-0000-0000	CP7923-0001-0000	CP7923-0002-0000
<b>Alphanumeric keyboard</b>			
12-inch display 800 x 600	CP7931-0000-0000	CP7931-0001-0000	CP7931-0002-0000
15-inch display 1024 x 768	CP7932-0000-0000	CP7932-0001-0000	CP7932-0002-0000
19-inch display 1280 x 1024	CP7933-0000-0000	CP7933-0001-0000	CP7933-0002-0000
<b>Alphanumeric keyboard with PLC keys on the sides</b>			
15-inch display 1024 x 768	CP7942-0000-0000	CP7942-0001-0000	
<b>Stainless steel housing</b>		<b>with single-touch screen</b>	<b>with single-touch screen, push-buttons and USB socket</b>
12-inch display 800 x 600		CP7901-1400-0000	CP7901-1401-0000
15-inch display 1024 x 768		CP7902-1400-0000	CP7902-1401-0000
19-inch display 1280 x 1024		CP7903-1400-0000	CP7903-1401-0000



Stainless steel finish



Without keys



Function keys



Numeric keyboard



Alphanumeric keyboard

Alphanumeric keyboard  
with PLC keys on the sides

CP79xx	"Economy" Control Panel
<b>Features</b>	<p>TFT display in four sizes</p> <ul style="list-style-type: none"> <li>– 6.5-inch display 640 x 480</li> <li>– 12-inch display 800 x 600</li> <li>– 15-inch display 1024 x 768</li> <li>– 19-inch display 1280 x 1024</li> </ul> <p>aluminium housing, protection class IP 65</p> <p>front laminate in five variants</p> <ul style="list-style-type: none"> <li>– only display</li> <li>– function keys and 10 PLC special keys with LED</li> <li>– numeric keyboard and 10 PLC special keys with LED</li> <li>– alphanumeric PC keyboard in US layout and 10 PLC special keys with LED</li> <li>– alphanumeric PC keyboard in US layout and 16 PLC special keys with LED on the sides</li> </ul> <p>special keys identified by slide-in labels</p> <p>integrated DVI/USB extension technology</p> <ul style="list-style-type: none"> <li>– DVI-E and USB-E enable remote panel operation at a distance of up to 50 m from the PC.</li> <li>– DVI-E input is compatible to the standard DVI output of a PC.</li> </ul> <p>connection via 3 round connectors (IP 65) for DVI, USB-E and 24 V power supply unit in the backplane</p> <p>operating temperature 0...55 °C</p> <p>for mounting 4 M6 x 18 mm threaded holes in the backplane</p>
<b>Options</b>	<p>2-port IP 65 USB interface in the backplane</p> <p>touch screen pen with holder for aluminium Control Panels</p> <p>additional keyboard IP 65 or toolboard for keyboard and tools</p> <p>push-button extension with electromechanical switches and keys</p> <p>connection set up to 50 m length</p> <p>adapter plate for mounting arm installation</p>
<b>Stainless steel options</b>	stainless steel housing with flush-mounted touch screen for CP7901, CP7902 and CP7903
<b>Further information</b>	for further options, technical drawings, documentations, etc. see <a href="http://www.beckhoff.com/CP79xx">www.beckhoff.com/CP79xx</a>

# Accessories for CP6xxx and CP7xxx single-touch Control Panels and Panel PCs





Keyboard shelf



Touch screen pen



Additional keyboard



RFID reader

## Electromechanical buttons on the Control Panel or Panel PC

Control Panels and Panel PCs with push-button extension enable the application-specific arrangement of electromechanical buttons, switches, signal lamps, additional membrane keys and a hand wheel directly on the operating unit. It enables precise adaptation of the Control Panel to the machine control requirements. In many cases, a machine operator control panel is no longer required, since all functions are integrated in the Control Panel. The Control Panel housing is increased in size on one side. Depending on the required functions and the electromechanical components, the flat rear panel is enlarged or extended with a trough-shaped rear panel for the button area.

For the CP77xx and CP79xx units the Rolec Tara Plus mounting arm system, article numbers 149.025.012, 149.025.013, 149.025.014, 149.035.012, 149.035.013 or 149.035.015, can be mounted centrally at the rear of the Control Panel. The mounting arm can optionally be connected from

above or below. The Rittal mounting arm system is available as an additional option. The CP6508.020 or CP6501.170 Rittal adapters can be mounted at the back of the Control Panel. The cables are routed through the mounting arm, through a cable gland in the mounting arm adapter and from there concealed through a channel at the rear of the Control Panel to the push-button extension. A circular plug-in connector instead of a screwed cable gland is available on request. The housings of the CP7xxx range have protection class IP 65 on all sides. The wiring space can be opened without removing the Control Panel from the mounting arm.

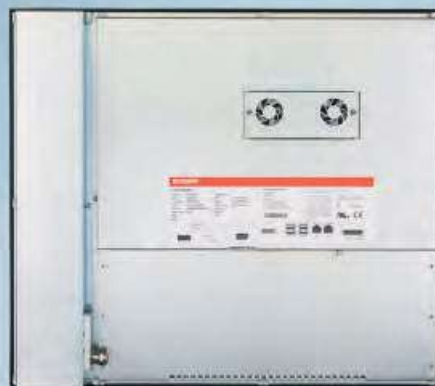
The buttons, switches and indicator lamps are connected to the control system via USB. A second contact on the buttons and switches can at the same time be wired directly via a terminal row. Besides the push-button extensions shown on the following pages, numerous other variants are conceivable, which can be individually designed in accordance with requirements.



Open wiring space



CP6233-0001-0010 with C9900-E595



## Push-button extensions for CP6xxx

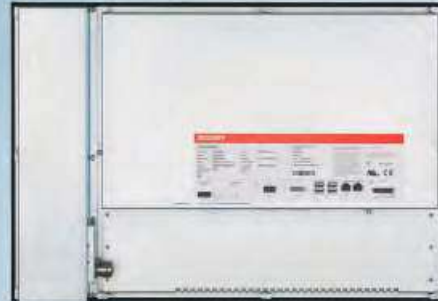
C9900-Exxx	Push-button extension for "Economy" built-in Panel PCs, built-in Panel PCs, "Economy" built-in Control Panels
Features	push-button extension on the right side push-button keys with signal lamp, type Siemens Signum square, 30 x 30 mm 1 emergency stop key Siemens Signum Labels for push-button caps allow individual marking. All push-buttons are transmitted via USB with one normally-open contact. Additionally, all push-buttons are directly wireable with a second normally-open contact via a terminal row. All signal lamps are transmitted via USB only. Selector switches and keylock switches as well as other elements from the Signum series are integrateable on request.
Options	A circular plug-in connector is available on request (instead of a screwed cable gland).
Dimensions	<a href="http://www.beckhoff.com/C9900-Exxx">www.beckhoff.com/C9900-Exxx</a>

Ordering information	Push-button extension for "Economy" built-in Panel PC CP62xx
C9900-E505	push-button extension for CP6221 with 12" display and numeric keyboard, 12 push-button keys with signal lamp
C9900-E515	push-button extension for CP6231 with 12" display and alphanumeric keyboard, 16 push-button keys with signal lamp
C9900-E545	push-button extension for CP6202 with 15" display and without keyboard, 16 push-button keys with signal lamp
C9900-E555	push-button extension for CP6212 with 15" display and function keys, 16 push-button keys with signal lamp
C9900-E565	push-button extension for CP6222 with 15" display and numeric keyboard, 14 push-button keys with signal lamp
C9900-E575	push-button extension for CP6232 with 15" display and alphanumeric keyboard, 18 push-button keys with signal lamp
C9900-E525	push-button extension for CP6203 with 19" display and without keyboard, 20 push-button keys with signal lamp
C9900-E535	push-button extension for CP6213 with 19" display and function keys, 20 push-button keys with signal lamp
C9900-E594	push-button extension for CP6223 with 19" display and numeric keyboard, 20 push-button keys with signal lamp
C9900-E595	push-button extension for CP6233 with 19" display and alphanumeric keyboard, 20 push-button keys with signal lamp





CP6232-0002-0035 with C9900-E575



Ordering information	Push-button extension for built-in Panel PC CP65xx
C9900-E705	push-button extension for CP6521 with 12" display and numeric keyboard, 12 push-button keys with signal lamp
C9900-E715	push-button extension for CP6531 with 12" display and alphanumeric keyboard, 16 push-button keys with signal lamp
C9900-E745	push-button extension for CP6502 with 15" display and without keyboard, 16 push-button keys with signal lamp
C9900-E755	push-button extension for CP6512 with 15" display and function keys, 16 push-button keys with signal lamp
C9900-E765	push-button extension for CP6522 with 15" display and numeric keyboard, 14 push-button keys with signal lamp
C9900-E775	push-button extension for CP6532 with 15" display and alphanumeric keyboard, 18 push-button keys with signal lamp
C9900-E725	push-button extension for CP6503 with 19" display and without keyboard, 20 push-button keys with signal lamp
C9900-E735	push-button extension for CP6513 with 19" display and function keys, 20 push-button keys with signal lamp
C9900-E796	push-button extension for CP6523 with 19" display and numeric keyboard, 20 push-button keys with signal lamp
C9900-E797	push-button extension for CP6533 with 19" display and alphanumeric keyboard, 20 push-button keys with signal lamp

Ordering information	Push-button extension for "Economy" built-in Panel PC CP66xx
C9900-E406	push-button extension for CP6621 with 12" display and numeric keyboard, 12 push-button keys with signal lamp
C9900-E416	push-button extension for CP6631 with 12" display and alphanumeric keyboard, 16 push-button keys with signal lamp
C9900-E446	push-button extension for CP6602 with 15" display and without keyboard, 16 push-button keys with signal lamp
C9900-E456	push-button extension for CP6612 with 15" display and function keys, 16 push-button keys with signal lamp
C9900-E466	push-button extension for CP6622 with 15" display and numeric keyboard, 14 push-button keys with signal lamp
C9900-E476	push-button extension for CP6632 with 15" display and alphanumeric keyboard, 18 push-button keys with signal lamp
C9900-E426	push-button extension for CP6603 with 19" display and without keyboard, 20 push-button keys with signal lamp
C9900-E436	push-button extension for CP6613 with 19" display and function keys, 20 push-button keys with signal lamp
C9900-E496	push-button extension for CP6623 with 19" display and numeric keyboard, 20 push-button keys with signal lamp
C9900-E497	push-button extension for CP6633 with 19" display and alphanumeric keyboard, 20 push-button keys with signal lamp



CP6922-0001-0000 with C9900-E965

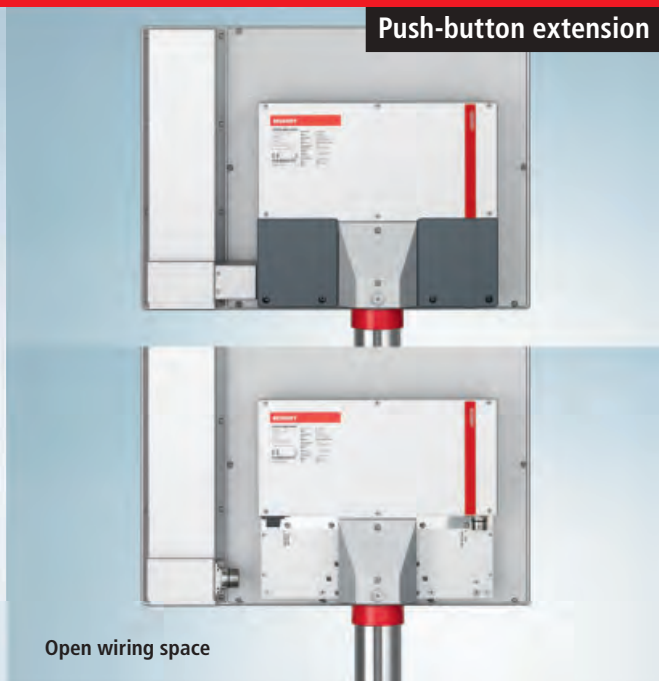


Ordering information	Push-button extension for "Economy" built-in Panel PC CP67xx-00xx-0040
C9900-E505	push-button extension for CP6721-00xx-0040 with 12" display and numeric keyboard, 12 push-button keys with signal lamp
C9900-E515	push-button extension for CP6731-00xx-0040 with 12" display and alphanumeric keyboard, 16 push-button keys with signal lamp
C9900-E545	push-button extension for CP6702-00xx-0040 with 15" display and without keyboard, 16 push-button keys with signal lamp
C9900-E555	push-button extension for CP6712-00xx-0040 with 15" display and function keys, 16 push-button keys with signal lamp
C9900-E565	push-button extension for CP6722-00xx-0040 with 15" display and numeric keyboard, 14 push-button keys with signal lamp
C9900-E575	push-button extension for CP6732-00xx-0040 with 15" display and alphanumeric keyboard, 18 push-button keys with signal lamp
C9900-E525	push-button extension for CP6703-00xx-0040 with 19" display and without keyboard, 20 push-button keys with signal lamp
C9900-E535	push-button extension for CP6713-00xx-0040 with 19" display and function keys, 20 push-button keys with signal lamp
C9900-E594	push-button extension for CP6723-00xx-0040 with 19" display and numeric keyboard, 20 push-button keys with signal lamp
C9900-E595	push-button extension for CP6733-00xx-0040 with 19" display and alphanumeric keyboard, 20 push-button keys with signal lamp

Ordering information	Push-button extension for "Economy" built-in Control Panel CP69xx
C9900-E905	push-button extension for CP6921 with 12" display and numeric keyboard, 12 push-button keys with signal lamp
C9900-E915	push-button extension for CP6931 with 12" display and alphanumeric keyboard, 16 push-button keys with signal lamp
C9900-E945	push-button extension for CP6902 with 15" display and without keyboard, 16 push-button keys with signal lamp
C9900-E955	push-button extension for CP6912 with 15" display and function keys, 16 push-button keys with signal lamp
C9900-E965	push-button extension for CP6922 with 15" display and numeric keyboard, 14 push-button keys with signal lamp
C9900-E975	push-button extension for CP6932 with 15" display and alphanumeric keyboard, 18 push-button keys with signal lamp
C9900-E925	push-button extension for CP6903 with 19" display and without keyboard, 20 push-button keys with signal lamp
C9900-E935	push-button extension for CP6913 with 19" display and function keys, 20 push-button keys with signal lamp
C9900-E996	push-button extension for CP6923 with 19" display and numeric keyboard, 20 push-button keys with signal lamp
C9900-E997	push-button extension for CP6933 with 19" display and alphanumeric keyboard, 20 push-button keys with signal lamp



CP7202-0001-0010  
with C9900-E547 and  
C9900-M161



Push-button extension

Open wiring space

## Push-button extensions for CP72xx

C9900-E5xx	Push-button extension for "Economy" Panel PC
<b>Features</b>	push-button extension on the right side
	push-button keys with signal lamp, type Siemens Signum square, 30 x 30 mm
	1 emergency stop key Siemens Signum
	Labels for push-button caps allow individual marking.
	All push-buttons are transmitted via USB with one normally-open contact.
	Additionally, all push-buttons are directly wireable with a second normally-open contact via a terminal row.
	All signal lamps are transmitted via USB only.
	circular plug-in connector between push-button extension and connection section
<b>Dimensions</b>	Selector switches for keylock switches as well as other elements from the Signum series are integrateable on request.
	<a href="http://www.beckhoff.com/C9900-Exxx">www.beckhoff.com/C9900-Exxx</a>

Ordering information	Push-button extension for "Economy" Panel PC CP72xx
C9900-E507	push-button extension for CP7221 with 12" display and numeric keyboard, 12 push-button keys with signal lamp
C9900-E517	push-button extension for CP7231 with 12" display and alphanumeric keyboard, 16 push-button keys with signal lamp
C9900-E547	push-button extension for CP7202 with 15" display and without keyboard, 16 push-button keys with signal lamp
C9900-E557	push-button extension for CP7212 with 15" display and function keys, 16 push-button keys with signal lamp
C9900-E567	push-button extension for CP7222 with 15" display and numeric keyboard, 14 push-button keys with signal lamp
C9900-E577	push-button extension for CP7232 with 15" display and alphanumeric keyboard, 18 push-button keys with signal lamp
C9900-E527	push-button extension for CP7203 with 19" display and without keyboard, 20 push-button keys with signal lamp
C9900-E537	push-button extension for CP7213 with 19" display and function keys, 20 push-button keys with signal lamp
C9900-E597	push-button extension for CP7223 with 19" display and numeric keyboard, 20 push-button keys with signal lamp
C9900-E599	push-button extension for CP7233 with 19" display and alphanumeric keyboard, 20 push-button keys with signal lamp



CP7932-0001-0000 with C9900-E771



## Push-button extensions for CP7xxx without mounting arm connection

C9900-E7xx, -E8xx	Push-button extension for Panel PC and Control Panel
<b>Features</b>	push-button extension on the right side push-button keys with signal lamp, type Siemens Signum square, 30 x 30 mm 1 emergency stop key Siemens Signum Labels for push-button caps allow individual marking. All push-buttons are transmitted via USB with one normally-open contact. Additionally, all push-buttons are directly wireable with a second normally-open contact via a terminal row. All signal lamps are transmitted via USB only. without mounting arm connection without cable bushing Selector switches and keylock switches as well as other elements from the Signum series are integrateable on request.
<b>Options</b>	screwed cable gland for feeding a signal line into a push-button extension, mounting arm adapter plates
<b>Dimensions</b>	<a href="http://www.beckhoff.com/C9900-Exxx">www.beckhoff.com/C9900-Exxx</a>
Ordering information	Push-button extension for Panel PC CP77xx
C9900-E801	push-button extension for CP7721 with 12" display and numeric keyboard, 12 push-button keys with signal lamp
C9900-E811	push-button extension for CP7731 with 12" display and alphanumeric keyboard, 16 push-button keys with signal lamp
C9900-E841	push-button extension for CP7702 with 15" display and without keyboard, 16 push-button keys with signal lamp
C9900-E851	push-button extension for CP7712 with 15" display and function keys, 16 push-button keys with signal lamp
C9900-E861	push-button extension for CP7722 with 15" display and numeric keyboard, 14 push-button keys with signal lamp
C9900-E871	push-button extension for CP7732 with 15" display and alphanumeric keyboard, 18 push-button keys with signal lamp
C9900-E823	push-button extension for CP7703 with 19" display and without keyboard, 20 push-button keys with signal lamp
C9900-E831	push-button extension for CP7713 with 19" display and function keys, 20 push-button keys with signal lamp
C9900-E892	push-button extension for CP7723 with 19" display and numeric keyboard, 20 push-button keys with signal lamp
C9900-E893	push-button extension for CP7733 with 19" display and alphanumeric keyboard, 20 push-button keys with signal lamp
Ordering information	Push-button extension for Control Panel CP79xx
C9900-E701	push-button extension for CP7921 with 12" display and numeric keyboard, 12 push-button keys with signal lamp
C9900-E711	push-button extension for CP7931 with 12" display and alphanumeric keyboard, 16 push-button keys with signal lamp
C9900-E741	push-button extension for CP7902 with 15" display and without keyboard, 16 push-button keys with signal lamp
C9900-E751	push-button extension for CP7912 with 15" display and function keys, 16 push-button keys with signal lamp
C9900-E761	push-button extension for CP7922 with 15" display and numeric keyboard, 14 push-button keys with signal lamp
C9900-E771	push-button extension for CP7932 with 15" display and alphanumeric keyboard, 18 push-button keys with signal lamp
C9900-E723	push-button extension for CP7903 with 19" display and without keyboard, 20 push-button keys with signal lamp
C9900-E731	push-button extension for CP7913 with 19" display and function keys, 20 push-button keys with signal lamp
C9900-E792	push-button extension for CP7923 with 19" display and numeric keyboard, 20 push-button keys with signal lamp
C9900-E793	push-button extension for CP7933 with 19" display and alphanumeric keyboard, 20 push-button keys with signal lamp



CP7721-0001-0030 with C9900-E808



Open wiring space

## Push-button extensions for CP7xxx with mounting arm adapter plate

C9900-E7xx, -E8xx	Push-button extension for Panel PC and Control Panel
<b>Features</b>	push-button extension on the right side push-button keys with signal lamp, type Siemens Signum square, 30 x 30 mm 1 emergency stop key Siemens Signum Labels for push-button caps allow individual marking. All push-buttons are transmitted via USB with one normally-open contact. Additionally, all push-buttons are directly wireable with a second normally-open contact via a terminal row. All signal lamps are transmitted via USB only. mounting arm adapter plate at Control Panel backplane for top or bottom installation of mounting arm system Rolec Selector switches for keylock switches as well as other elements from the Signum series are integrateable on request. Circular plug-in connector instead of screwed cable gland is integrateable on request.
<b>Options</b>	mounting arm adapter plate for mounting arm systems Rittal instead of Rolec
<b>Dimensions</b>	<a href="http://www.beckhoff.com/C9900-Exxx">www.beckhoff.com/C9900-Exxx</a>
Ordering information	Push-button extension for Panel PC CP77xx
C9900-E808	push-button extension for CP7721 with 12" display and numeric keyboard, 12 push-button keys with signal lamp
C9900-E818	push-button extension for CP7731 with 12" display and alphanumeric keyboard, 16 push-button keys with signal lamp
C9900-E848	push-button extension for CP7702 with 15" display and without keyboard, 16 push-button keys with signal lamp
C9900-E858	push-button extension for CP7712 with 15" display and function keys, 16 push-button keys with signal lamp
C9900-E868	push-button extension for CP7722 with 15" display and numeric keyboard, 14 push-button keys with signal lamp
C9900-E878	push-button extension for CP7732 with 15" display and alphanumeric keyboard, 18 push-button keys with signal lamp
C9900-E828	push-button extension for CP7703 with 19" display and without keyboard, 20 push-button keys with signal lamp
C9900-E838	push-button extension for CP7713 with 19" display and function keys, 20 push-button keys with signal lamp
C9900-E898	push-button extension for CP7723 with 19" display and numeric keyboard, 20 push-button keys with signal lamp
C9900-E899	push-button extension for CP7733 with 19" display and alphanumeric keyboard, 20 push-button keys with signal lamp
Ordering information	Push-button extension for Control Panel CP79xx
C9900-E708	push-button extension for CP7921 with 12" display and numeric keyboard, 12 push-button keys with signal lamp
C9900-E718	push-button extension for CP7931 with 12" display and alphanumeric keyboard, 16 push-button keys with signal lamp
C9900-E748	push-button extension for CP7902 with 15" display and without keyboard, 16 push-button keys with signal lamp
C9900-E758	push-button extension for CP7912 with 15" display and function keys, 16 push-button keys with signal lamp
C9900-E768	push-button extension for CP7922 with 15" display and numeric keyboard, 14 push-button keys with signal lamp
C9900-E778	push-button extension for CP7932 with 15" display and alphanumeric keyboard, 18 push-button keys with signal lamp
C9900-E728	push-button extension for CP7903 with 19" display and without keyboard, 20 push-button keys with signal lamp
C9900-E738	push-button extension for CP7913 with 19" display and function keys, 20 push-button keys with signal lamp
C9900-E798	push-button extension for CP7923 with 19" display and numeric keyboard, 20 push-button keys with signal lamp
C9900-E799	push-button extension for CP7933 with 19" display and alphanumeric keyboard, 20 push-button keys with signal lamp





CP6942-0001-0000 with C9900-E781

## PLC push-button extensions for tool machines

<b>C9900-E78x</b>	<b>PLC push-button extension for tool machines at "Economy" built-in Panel PC, built-in Panel PC, built-in Control Panel, Panel PC and Control Panel</b>
<b>Features</b>	<p>push-button extension below</p> <p>16 push-button keys with signal lamp, type Siemens Signum square, 30 x 30 mm</p> <p>1 emergency stop key Siemens Signum</p> <p>inscription of the keys via slide-in labels</p> <p>All push-buttons are transmitted via USB with one normally-open contact.</p> <p>Additionally, all push-buttons are directly wireable with a second normally-open contact via a terminal row.</p> <p>All signal lamps are transmitted via USB only.</p> <p>1 graycode switch with 23 positions, controlled via USB</p> <p>2-port USB A interface in the front with screw cap IP 65</p>
<b>Additional features CP7942</b>	mounting arm adapter plate at the Control Panel backplane for mounting arm installation from top or bottom for mounting arm system Rolec
<b>Options</b>	Circular plug-in connector instead of screwed cable gland is integrateable on request.
<b>Additional options CP7942</b>	<p>mounting arm adapter plate for mounting arm system Rittal instead of Rolec</p> <p>mounting arm adapter plate for mounting arm system Rose instead of Rolec, with 2-port USB interface on the side with screw cap IP 65</p>
<b>Dimensions</b>	<a href="http://www.beckhoff.com/C9900-Exxx">www.beckhoff.com/C9900-Exxx</a>

<b>Ordering information</b>	<b>PLC push-button extension for CP6242, CP6542, CP6742-00xx-0040, CP6942, CP7242 and CP7942</b>
C9900-E781	push-button extension for CP6242 with 15" display and alphanumeric keyboard
C9900-E780	push-button extension for CP6542 with 15" display and alphanumeric keyboard
C9900-E781	push-button extension for CP6742-00xx-0040 with 15" display and alphanumeric keyboard
C9900-E781	push-button extension for CP6942 with 15" display and alphanumeric keyboard
C9900-E784	push-button extension for CP7242 with 15" display and alphanumeric keyboard
C9900-E783	push-button extension for CP7942 with 15" display and alphanumeric keyboard



CP7942-0001-0000 with C9900-E789 and C9900-E181

## CNC push-button extensions for tool machines

<b>C9900-E7xx</b>	<b>CNC push-button extension for tool machines at "Economy" built-in Panel PC, built-in Panel PC, built-in Control Panel, Panel PC and Control Panel</b>
<b>Features</b>	push-button extension below 2 push-button keys with signal lamp, type Siemens Signum round, directly wireable 1 emergency stop key Siemens Signum 1 key switch, type Siemens Signum round, directly wireable 45 membrane keys with an LED in each key, controlled via USB inscription of the keys via slide-in labels 1 graycode switch with 17 positions, controlled via USB 1 graycode switch with 23 positions, controlled via USB circular plug-in connector
<b>Additional features CP7942</b>	mounting arm adapter plate at the Control Panel backplane for mounting arm installation from top or bottom for mounting arm system Rolec
<b>Options CP7242</b>	connection IP 65 for control unit Euchner at the bottom of the CNC push-button extension
<b>Options CP7942</b>	connection IP 65 for control unit Euchner at the bottom of the CNC push-button extension mounting arm adapter plate for mounting arm system Rittal instead of Rolec mounting arm adapter plate for mounting arm system Rose instead of Rolec, with 2-port USB interface on the side with screw cap IP 65
<b>Dimensions</b>	<a href="http://www.beckhoff.com/C9900-Exxx">www.beckhoff.com/C9900-Exxx</a>

<b>Ordering information</b>	<b>CNC push-button extension for CP6242, CP6542, CP6742-00xx-0040, CP6942, CP7242 and CP7942</b>
C9900-E787	push-button extension for CP6242 with 15" display and alphanumeric keyboard
C9900-E786	push-button extension for CP6542 with 15" display and alphanumeric keyboard
C9900-E787	push-button extension for CP6742-00xx-0040 with 15" display and alphanumeric keyboard
C9900-E787	push-button extension for CP6942 with 15" display and alphanumeric keyboard
C9900-E791	push-button extension for CP7242 with 15" display and alphanumeric keyboard
C9900-E789	push-button extension for CP7942 with 15" display and alphanumeric keyboard

## K7xxx, KT7xxx | Additional keyboard for CP7xxx Control Panels and Panel PCs

### The indestructible PC keyboard

The K7xxx and KT7xxx PC keyboards add a keyboard to the Control Panel which allows the comfortable entry of large amounts of data with a keyboard designed for industrial use. The Control Panel keyboards K7xxx and KT7xxx are even more robust than a membrane keyboard and yet feel almost like a standard keyboard. They offer the optimum in operating comfort in tough industrial environments.

An aluminium keyboard housing in Control Panel design combines the keyboard and the Control Panel to form a homogeneous unit. The width of the housing is adapted to the Control Panel for which the keyboard is intended.

A touch pad can be integrated into the keyboard housing. Here, large, easily accessible keys meeting protection class IP 67 serve as mouse keys. The keyboards K7xxx and KT7xxx are mounted in a holder on the Control Panel which is available in a version located at a fixed angle of 100° and a version which can be adjusted between 90° and 180°. The Control Panel is modified to have additional open sections in the side contour which allow the cabling to be stored in an invisible way.



Ordering information	
K7100-0000	additional keyboard to be mounted to a Control Panel CP79xx or to a Panel PC CP72xx and CP77xx
KT7100-0000	additional keyboard with touch pad to be mounted to a Control Panel CP79xx or to a Panel PC CP72xx and CP77xx
C9900-M300	mounting adapter with fixed 100° angle for mounting a keyboard K7xxx or KT7xxx to a Control Panel
C9900-M310	mounting adapter with adjustable 90° to 180° angle for mounting a keyboard K7xxx or KT7xxx to a Control Panel

## C9900-M400 | Keyboard shelf for CP7xxx Control Panels and Panel PCs

The keyboard shelf at a Beckhoff Control Panel permits a standard PC keyboard to be placed in front of the Control Panel, allowing convenient operation during commissioning or software updates. During normal production, the machine operator can rest tools and other items here while using the Control Panel.

The shelf is constructed from anodised aluminium. Its design matches that of the Control Panel. A ribbed rubber mat is glued to the surface of the shelf. The keyboard shelf is made as wide as the Control Panel. In the case of small Control Panels, the shelf is wider than the Control Panel housing, so that a keyboard can be rested on it. The Control Panel is given additional holes on the lower side, so the shelf should be ordered at the same time as the Control Panel.



Ordering information	
C9900-M400	toolboard for keyboard or tools, mounted under a Control Panel CP7xxx or Panel PCs CP7xxx
C9900-M401	drill holes at the bottom of a Control Panel or Panel PC CP7xxx for assembly of a keyboard shelf (supply without shelf)

## C9900-T90x | Touch screen pen for CP6xxx, CP7xxx and C3xxx Control Panels and Panel PCs

The Beckhoff touch screen pen enables touch screen technology to be used in harsh areas of application and offers higher operating precision than fingers or other pointing media. Shavings and dirt are no longer an obstacle: even wearing gloves the operator can make precise entries, since the robust, spherical tip of the pen enables easy and smooth operation while at the same time improving visibility of the display. Direct operation (without pen) is still possible, although the plastic tip of the pen protects the surface of the touch screen. The user of the Beckhoff touch screen pen receives an extremely precise input medium with an ergonomically formed, non-slip aluminium shaft, in a design which conforms to that of the Control Panel, and with the right balance of weight, form and friction. The pen is also suitable for built-in Panel PCs with touch screen.



Ordering information	
C9900-T900	touch screen pen with holder for Control Panel and Panel PCs CP7xxx
C9900-T902	touch screen pen with wall holder for built-in Control Panel and Panel PCs CP6xxx and C3xxx

## C9900-E21x | RFID reader in the CP7xxx Control Panel front

The CP720x and CP770x Panel PCs and the CP790x Control Panels with 15- or 19-inch display without membrane keyboard are available with RFID reader in the front panel. The card reader enables user identification at the device. The RFID module reads Legic transponders at a distance of up to 30 mm. The data are transferred to the PC via USB. The RFID reader is integrated in the Control Panel or the Panel PC behind the front laminate. The print on the front laminate indicates the position of the RFID reader below the display on the right-hand side. IP 65 protection class is maintained and enables operation in harsh industrial environments. The RFID option has no influence on the dimensions of the Control Panel.



C9900-E21x	RFID reader
	Legic transponder type
	transponder frequency 13.56 MHz
	integrated in the Control Panel behind the front laminate
	up to 30 mm reading distance
	internally connected via USB interface
	protection class IP 65

Ordering information	
C9900-E213	RFID reader for Legic transponder inside the front of a Panel PC CP7202 or CP7702 or of a Control Panel CP7902, integrated behind the front laminate, protection class IP 65, connected internally by USB
C9900-E214	RFID reader for Legic transponder inside the front of a Panel PC CP7203 or CP7703 or of a Control Panel CP7903, integrated behind the front laminate, protection class IP 65, connected internally by USB







# Embedded PC

Modular DIN rail IPCs and Industrial Motherboards



# Embedded PC

## Embedded Automation

<p><b>190</b> <b>Embedded PCs</b></p> <p><b>192</b> Product overview</p> <p><b>196</b> System description</p> <p><b>198</b> <b>Embedded PC series CX80xx (ARM)</b></p> <p><b>202</b> EtherCAT CX8010</p> <p><b>202</b> PROFIBUS CX803x</p> <p><b>203</b> CANopen CX805x</p> <p><b>203</b> RS232/RS485 CX8080</p> <p><b>204</b> Ethernet CX8090</p> <p><b>204</b> BACnet/IP and OPC UA CX8091</p> <p><b>205</b> PROFINET CX8093</p> <p><b>205</b> EtherNet/IP CX8095</p> <p><b>205</b> SERCOS III CX8097</p> <p><b>206</b> <b>Embedded PC series CX90x0 (ARM)</b></p> <p><b>208</b> Basic CPU module CX9000</p> <p><b>210</b> Basic CPU module CX9010</p> <p><b>212</b> System interfaces CX9000-A001/N0xx, CX9010-A001/N0xx</p> <p><b>214</b> Basic CPU module CX9020</p> <p><b>216</b> <b>Embedded PC series CX1010 (x86)</b></p> <p><b>218</b> Basic CPU module CX1010</p> <p><b>220</b> System interfaces CX1010-N0xx</p>	<p><b>222</b> <b>Embedded PC series CX5010, CX5020 (x86)</b></p> <p><b>226</b> <b>Embedded PC series CX5100 (x86)</b></p> <p><b>230</b> <b>Embedded PC series CX1020, CX1030 (x86)</b></p> <p><b>232</b> Basic CPU module CX1020</p> <p><b>234</b> Basic CPU module CX1030</p> <p><b>236</b> System interfaces CX1020-N0xx</p> <p><b>237</b> System interfaces CX1030-N0xx</p> <p><b>238</b> <b>Power supply units and I/O interfaces</b></p> <p><b>239</b> Power supply units CX1100-000x for CX1010/CX1020</p> <p><b>240</b> Power supply units CX1100-001x for CX1030</p> <p><b>241</b> <b>Fieldbus masters</b></p> <p><b>241</b> Lightbus CX1500-M200</p> <p><b>241</b> PROFIBUS CX1500-M310</p> <p><b>241</b> CANopen CX1500-M510</p> <p><b>241</b> DeviceNet CX1500-M520</p> <p><b>241</b> SERCOS interface CX1500-M750</p>	<p><b>242</b> <b>Fieldbus slaves</b></p> <p><b>242</b> Lightbus CX1500-B200</p> <p><b>242</b> PROFIBUS CX1500-B310</p> <p><b>242</b> CANopen CX1500-B510</p> <p><b>242</b> DeviceNet CX1500-B520</p> <p><b>243</b> <b>UPS</b></p> <p><b>243</b> UPS modules CX1100-09x0</p> <p><b>244</b> <b>Embedded PC series CX20x0 (x86)</b></p> <p><b>246</b> Basic CPU modules CX20x0</p> <p><b>248</b> Power supply units and UPS modules CX2100-0xxx</p> <p><b>249</b> System interfaces CX25x0-00xx</p> <p><b>254</b> <b>Industrial Motherboards</b></p> <p><b>254</b> System description</p> <p><b>256</b> Product overview</p> <p><b>257</b> ATX Industrial Motherboards CB10xx</p> <p><b>259</b> 3½-inch Industrial Motherboards CB30xx</p>
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# Embedded PCs and motherboards for industrial control tasks



## Embedded PCs

The compact DIN rail PCs from the CX series unite with the various I/O modules to form a space-saving industrial controller in the control cabinet. Every user can find a suitable Embedded device in the Beckhoff range of Embedded products: tailored to budget, performance class and the complexity of the control task.

Apart from the CPU, the individual devices from the CX series differ in the available system interfaces and power supply versions

and can be plugged together as a modular control system according to the respective task. This way, different applications can be realised on the same hardware, for example a PLC and Motion Control system with DVI/USB interface, Windows Embedded CE or Windows Embedded Standard or a multimedia system (building automation) with audio interface.

See page **190**

► [www.beckhoff.com/Embedded-PC](http://www.beckhoff.com/Embedded-PC)





## Industrial Motherboards

Thanks to proprietary BIOS and motherboard development, new technologies in the PC market can be implemented quickly for the customer in all performance classes of Industrial and Embedded PCs. Motherboards in typical form factors (ATX and 3½-inch board) are developed and manufactured in-house, so that it is also possible to react to customer-specific requirements.

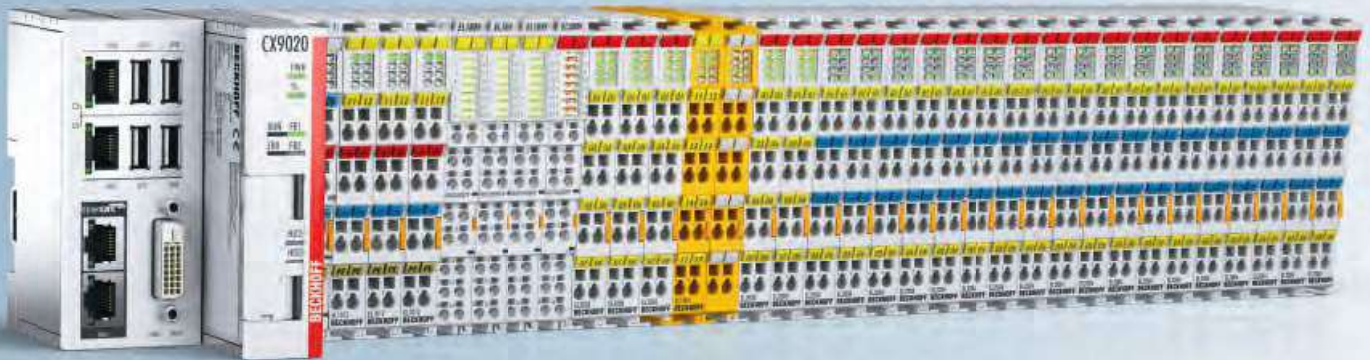
High-quality electronic components, selected according to guaranteed availability, not only make the “Made in Germany” motherboards robust and reliable, they also ensure their availability for at least five years. As far as the technical innovations permit, the design of the motherboards is compatible across generations and facilitates the upgrading of individual devices.

See page 254

► [www.beckhoff.com/Motherboards](http://www.beckhoff.com/Motherboards)



# Embedded PCs



## CX9020 | Ethernet controller

- ARM Cortex™-A8 with 1 GHz
- 1 GB DDR3 RAM internal
- 256 MB microSD (expandable)
- Windows Embedded Compact 7

See page **213**



## CX5000 | Embedded PC series with Intel® Atom™ processor

- fanless and very compact
- 1.1 or 1.6 GHz
- 512 MB internal RAM
- Compact Flash card
- Windows Embedded CE 6, Windows Embedded Standard 2009

See page **222**



**CX8000 | Embedded PC with fieldbus interface**

- ARM9 CPU with 400 MHz
- 64 MB internal RAM
- microSD card
- programmable fieldbus slave
- Windows Embedded CE 6

See page **198**

**CX9000 | Ethernet controller**

- Intel® IXP420 CPU with 266/533 MHz with XScale® technology
- 128 MB internal RAM
- 16/32 MB internal flash
- Windows CE 5

See page **206**

**CX1010 | Basic CX**

- Pentium® MMX-compatible CPU, 500 MHz
- 256 MB internal DDR RAM
- Compact Flash card
- Windows Embedded CE 6, Windows Embedded Standard 2009

See page **216**

**CX1020, CX1030 | High-performance CX**

- Intel® Celeron® M ULV CPU with 1 GHz/Intel® Pentium® M CPU with 1.8 GHz
- 256 MB internal DDR RAM (expandable)
- Compact Flash card
- Windows Embedded CE 6, Windows Embedded Standard 2009

See page **230**



**CX5100 | Embedded PC series with Intel® Atom™ processor**

- fanless and very compact
- CPU: Intel® Atom™ 1.46, 1 core/ Intel® Atom™ 1.75, 2 cores/ Intel® Atom™ 1.91, 4 cores
- 2 GB DDR3 RAM/4 GB DDR3 RAM internally
- slot for CFast and MicroSD card
- Windows Embedded Standard 7 P

See page **226**

**CX2020, CX2030, CX2040 | Multi-core CX**

- CPU: Intel® Celeron® 1.4 GHz, 1 core/ Intel® Core™ i7 1.5 GHz, 2 cores/ Intel® Core™ i7 2.1 GHz, 4 cores
- 2 GB DDR3 RAM/4 GB DDR3 RAM
- 8 GB CFast flash card (expandable)
- Windows Embedded Standard 7 P or Windows Embedded Compact 7

See page **244**



► [www.beckhoff.com/Embedded-PC](http://www.beckhoff.com/Embedded-PC)

# Product overview Embedded PC



Embedded PC			
Basic CPU	CX80xx	CX9000, CX9010	CX9020
		200	208
			214
<b>Processor</b>	32 bit, 400 MHz, ARM9	Intel® IXP420 with XScale® technology, 266/533 MHz clock frequency, ARM9	ARM Cortex™-A8, 1 GHz
<b>Flash memory</b>	512 MB microSD	32 MB Flash (internal, not expandable)	256 MB microSD (optionally expandable), 2 x microSD card slot
<b>Internal main memory</b>	64 MB RAM (internal, not expandable)	128 MB RAM (internal, not expandable)	1 GB DDR3 RAM
<b>Interfaces</b>	1 x Ethernet 10/100 Mbit/s, 1 x USB device (behind the front flap)	2 x RJ45 (Ethernet, internal switch), 10/100 Mbit/s	2 x RJ45 (Ethernet, internal switch), 10/100 Mbit/s, DVI-D, 4 x USB 2.0, 1 x optional interface
<b>I/O interface</b>	direct connection for K-bus or E-bus, automatic recognition	direct connection for K-bus or E-bus	direct connection for K-bus or E-bus, automatic recognition
<b>System interfaces</b>	optionally integrated or via EtherCAT Terminals	modularly expandable	optionally integrated
<b>DVI/USB</b>	–	CX90x0-N010	in the basic CPU
		212	214
<b>RS232</b>	CX8080	CX9000-N030	CX9020-N030
	203	212	214
		CX9010-N030	
		212	
<b>RS422/RS485</b>	CX8080	CX9000-N031	CX9020-N031
	203	212	214
		CX9010-N031	
		212	
<b>Audio</b>	–	–	CX9020-N020
			214
<b>Ethernet</b>	in the basic CPU	–	in the basic CPU
	200		214
<b>4-port USB hub</b>	–	CX90x0-N070	in the basic CPU
		212	214
<b>Memory medium</b>	–	CX90x0-A001	2 <sup>nd</sup> microSD slot in the basic CPU
		212	214
<b>Fieldbus interfaces</b>	optionally integrated or via EtherCAT Terminals	via EtherCAT Terminals	optionally integrated or via EtherCAT Terminals
<b>EtherCAT</b>	CX8010 slave	–	CX9020-B110 slave
	202		214
<b>Lightbus</b>	EL6720 master	EL6720 master	EL6720 master
	426	426	426
<b>PROFIBUS</b>	CX8030 master	EL6731 master	CX9020-M310 master
	202	423	214
	CX8031 slave	EL6731-0010 slave	CX9020-B310 slave
	202	423	214
<b>CANopen</b>	CX8050 master	EL6751 master	CX9020-M510 master
	203	424	214
	CX8051 slave	EL6751-0010 slave	CX9020-B510 slave
	203	424	214
<b>DeviceNet</b>	EL6752 master	EL6752 master	EL6752 master
	425	425	425
	EL6752-0010 slave	EL6752-0010 slave	EL6752-0010 slave
	425	425	425
<b>PROFINET RT</b>	CX8093 device	–	CX9020-M930 controller
	205		214
			CX9020-B930 device
			214
<b>EtherNet/IP</b>	CX8095 slave	–	CX9020-B950 slave
	205		214
<b>SERCOS interface</b>	CX8097 Sercos III slave	–	–
	205		
<b>UPS</b>	1-second UPS	–	1-second UPS (optional)





CX1010



CX50xx



CX51xx

CX1010	218	CX5010, CX5020	224	CX5120, CX5130, CX5140	228
Intel® Pentium® MMX-compatible, 500 MHz clock frequency		Intel® Atom™, 1.1/1.6 GHz clock frequency		CX5120: Intel® Atom™ E3815, 1.46 GHz, 1 core CX5130: Intel® Atom™ E3827, 1.75 GHz, 2 cores CX5140: Intel® Atom™ E3845, 1.91 GHz, 4 cores	
128 MB Compact Flash card (optionally expandable)		128 MB Compact Flash card (optionally expandable)		slot for CFast and MicroSD card, cards not included	
256 MB DDR RAM (internal, not expandable)		CX5010: 512 MB RAM (internal, not expandable) CX5020: 512 MB RAM (optional expandable to 1 GB)		CX5120: 2 GB DDR3 RAM (not expandable) CX5130/40: 4 GB DDR3 RAM (not expandable)	
1 x RJ45 (Ethernet), 10/100 Mbit/s		2 x RJ45, 10/100/1,000 Mbit/s, DVI, 4 x USB 2.0, 1 x optional interface		2 x RJ45, 10/100/1000 Mbit/s, DVI-I, 4 x USB 2.0, 1 x optional interface	
via power supply module (K-bus, K-bus/IP-Link, E-bus)		direct connection for K-bus or E-bus, automatic recognition		direct connection for K-bus or E-bus, automatic recognition	
<b>modularly expandable</b>		<b>optionally integrated</b>		<b>optionally integrated</b>	
CX1010-N010	220	in the basic CPU	224	in the basic CPU	228
CX1010-N030 (COM 1/2)	220	CX50x0-N030	224	CX51x0-N030	228
CX1010-N040 (COM 3/4)	220				
CX1010-N031 (COM 1/2)	220	CX50x0-N031	224	CX51x0-N031	228
CX1010-N041 (COM 3/4)	220				
CX1010-N020	220	CX50x0-N020	224	CX51x0-N020	228
CX1010-N060	220	in the basic CPU	224	in the basic CPU	228
–		in the basic CPU	224	in the basic CPU	228
–		in the basic CPU	224	in the basic CPU	228
<b>modularly expandable</b>		<b>optionally integrated or via EtherCAT Terminals</b>		<b>optionally integrated or via EtherCAT Terminals</b>	
–		CX50x0-B110 slave	224	CX51x0-B110 slave	228
CX1500-M200 master	241	EL6720 master	426	EL6720 master	426
CX1500-B200 slave	242				
CX1500-M310 master	241	CX50x0-M310 master	224	CX51x0-M310 master	228
CX1500-B310 slave	242	CX50x0-B310 slave	224	CX51x0-B310 slave	228
CX1500-M510 master	241	CX50x0-M510 master	224	CX51x0-M510 master	228
CX1500-B510 slave	242	CX50x0-B510 slave	224	CX51x0-B510 slave	228
CX1500-M520 master	241	EL6752 master	425	EL6752 master	425
CX1500-B520 slave	242	EL6752-0010 slave	425	EL6752-0010 slave	425
–		CX50x0-M930 controller	224	CX51x0-M930 controller	228
–		CX50x0-B930 device	224	CX51x0-B930 device	228
–		CX50x0-B950 slave	224	CX51x0-B950 slave	228
CX1500-M750 Sercos II master	241	–		–	
<b>CX1100-0910, -0900</b>	<b>243</b>	<b>1-second UPS</b>		<b>1-second UPS</b>	



CX1020



CX1030

Embedded PC			
Basic CPU	CX1020	CX1030	
<b>Processor</b>	Intel® Celeron® M ULV, 1 GHz clock frequency	Intel® Pentium® M, 1.8 GHz clock frequency	
<b>Flash memory</b>	128 MB Compact Flash card (optionally expandable)	128 MB Compact Flash card (optionally expandable)	
<b>Internal main memory</b>	256 MB DDR RAM (expandable to 512 MB, 1 GB)	256 MB DDR RAM (expandable to 512 MB, 1 GB)	
<b>Interfaces</b>	2 x RJ45 (Ethernet, internal switch)	2 x RJ45 (Ethernet, internal switch), 10/100 Mbit/s	
<b>I/O interface</b>	via power supply module (K-bus, K-bus/IP-Link, E-bus)	via power supply module (K-bus, K-bus/IP-Link, E-bus)	
<b>System interfaces</b>	<b>modularly expandable</b>	<b>modularly expandable</b>	
<b>DVI/USB</b>	CX1020-N010	CX1030-N010	
<b>RS232</b>	CX1020-N030 (COM 1/2)	CX1030-N030 (COM 1/2)	
	CX1020-N040 (COM 3/4)	CX1030-N040 (COM 3/4)	
<b>RS422/RS485</b>	CX1020-N031 (COM 1/2)	CX1030-N031 (COM 1/2)	
	CX1020-N041 (COM 3/4)	CX1030-N041 (COM 3/4)	
<b>Audio</b>	CX1020-N020	CX1030-N020	
<b>Ethernet</b>	CX1020-N060	CX1030-N060	
<b>4-port USB hub</b>	–	–	
<b>Memory medium</b>	–	–	
<b>USB extension</b>	–	–	
<b>Fieldbus interfaces</b>	<b>modularly expandable</b>	<b>modularly expandable</b>	
<b>EtherCAT</b>	–	–	
<b>Lightbus</b>	CX1500-M200 master	CX1500-M200 master	
	CX1500-B200 slave	CX1500-B200 slave	
<b>PROFIBUS</b>	CX1500-M310 master	CX1500-M310 master	
	CX1500-B310 slave	CX1500-B310 slave	
<b>CANopen</b>	CX1500-M510 master	CX1500-M510 master	
	CX1500-B510 slave	CX1500-B510 slave	
<b>DeviceNet</b>	CX1500-M520 master	CX1500-M520 master	
	CX1500-B520 slave	CX1500-B520 slave	
<b>PROFINET RT</b>	–	–	
<b>EtherNet/IP</b>	–	–	
<b>SERCOS interface</b>	CX1500-M750 Sercos II master	CX1500-M750 Sercos II master	
<b>UPS</b>	CX1100-0920	CX1100-0930	





CX2020



CX2030



CX2040

CX2020	CX2030	CX2040
Intel® Celeron® 1.4 GHz, 1 core	Intel® Core™ i7 1.5 GHz, 2 cores	Intel® Core™ i7 2.1 GHz, 4 cores
8 GB CFast flash card (optionally extendable)	8 GB CFast flash card (optionally extendable)	8 GB CFast flash card (optionally extendable)
2 GB DDR3 RAM	2 GB DDR3 RAM	4 GB DDR3 RAM
2 x RJ45 (10/100/1,000 Mbit/s), DVI-I, 4 x USB 2.0, 1 x optional interface	2 x RJ45 (10/100/1,000 Mbit/s), DVI-I, 4 x USB 2.0, 1 x optional interface	2 x RJ45 (10/100/1,000 Mbit/s), DVI-I, 4 x USB 2.0, 1 x optional interface
via power supply module (K-bus or E-bus, automatic recognition)	via power supply module (K-bus or E-bus, automatic recognition)	via power supply module (K-bus or E-bus, automatic recognition)
<b>modularly expandable</b>	<b>modularly expandable</b>	<b>modularly expandable</b>
in the basic CPU, 2 <sup>nd</sup> DVI port as option CX2020-N010	in the basic CPU, 2 <sup>nd</sup> DVI port as option CX2030-N010	in the basic CPU, 2 <sup>nd</sup> DVI port as option CX2040-N010
CX2020-N030 or CX2500-0030	CX2030-N030 or CX2500-0030	CX2040-N030 or CX2500-0030
CX2020-N031 or CX2500-0031	CX2030-N031 or CX2500-0031	CX2040-N031 or CX2500-0031
CX2500-0020	CX2500-0020	CX2500-0020
in the basic CPU or CX2500-0060	in the basic CPU or CX2500-0060	in the basic CPU or CX2500-0060
in the basic CPU or CX2500-0070	in the basic CPU or CX2500-0070	in the basic CPU or CX2500-0070
in the basic CPU or CX2550-0010/ CX2550-0020	in the basic CPU or CX2550-0010/ CX2550-0020	in the basic CPU or CX2550-0010/ CX2550-0020
CX2550-0179 (USB 1.1) or CX2550-0279 (USB 2.0)	CX2550-0179 (USB 1.1) or CX2550-0279 (USB 2.0)	CX2550-0179 (USB 1.1) or CX2550-0279 (USB 2.0)
<b>optionally integrated or via EtherCAT Terminals</b>	<b>optionally integrated or via EtherCAT Terminals</b>	<b>optionally integrated or via EtherCAT Terminals</b>
CX2020-B110 slave	CX2030-B110 slave	CX2040-B110 slave
EL6720 master	EL6720 master	EL6720 master
CX2020-M310 or CX2500-M310 master	CX2030-M310 or CX2500-M310 master	CX2040-M310 or CX2500-M310 master
CX2020-B310 or CX2500-B310 slave	CX2030-B310 or CX2500-B310 slave	CX2040-B310 or CX2500-B310 slave
CX2020-M510 or CX2500-M510 master	CX2030-M510 or CX2500-M510 master	CX2040-M510 or CX2500-M510 master
CX2020-B510 or CX2500-B510 slave	CX2030-B510 or CX2500-B510 slave	CX2040-B510 or CX2500-B510 slave
EL6752 master	EL6752 master	EL6752 master
EL6752-0010 slave	EL6752-0010 slave	EL6752-0010 slave
CX2020-M930 controller	CX2030-M930 controller	CX2040-M510 controller
CX2020-B930 device	CX2030-B930 device	CX2040-B510 device
CX2020-B950 slave	CX2030-B950 slave	CX2040-B950 slave
–	–	–
CX2100-0904, CX2100-0914	CX2100-0904, CX2100-0914	CX2100-0904, CX2100-0914

# Beckhoff Embedded PC

## Modular DIN rail Industrial PCs

With the Embedded PCs of the CX series, Beckhoff has combined PC technology and modular I/O level on a DIN rail unit in the control cabinet. The CX device series combines the worlds of Industrial PC and hardware PLC and is suitable for all performance control tasks. The modular system of the CX series can be configured to match the task in hand: by adding or omitting units and interfaces, only those components that the system actually requires are installed on the DIN rail in the control cabinet or terminal box. Installation space and costs are reduced.

The CX family covers the whole range of Beckhoff control technology in terms of both price and performance. This product range is designed for tasks requiring the characteristics and computing capacity of Industrial PCs, but whose budget does not stretch to full-blown Industrial PCs.

## Scalable performance classes

The CX family includes several basic CPU modules with different processors for optimum adaptation to the respective control task. The following list gives an overview, sorted by CPU type and, within the group, in descending order of computing performance:

### Devices with x86 CPU:

- CX2040:** multi-core CX with Intel® Core™ i7 CPU, 2.1 GHz, 4 cores
- CX2030:** multi-core CX with Intel® Core™ i7 CPU, 1.5 GHz, 2 cores
- CX2020:** high-performance CX with Intel® Celeron® CPU, 1.4 GHz
- CX1030:** high-performance CX with Intel® Pentium® M CPU, 1.8 GHz
- CX1020:** high-performance CX with Intel® Celeron® M ULV CPU, 1 GHz
- CX5140:** multi-core CX with Intel® Atom™ CPU, 1.91 GHz, 4 cores
- CX5130:** multi-core CX with Intel® Atom™ CPU, 1.75 GHz, 2 cores
- CX5120:** compact CX with Intel® Atom™ CPU, 1.46 GHz
- CX5020:** compact CX with Intel® Atom™ CPU, 1.6 GHz
- CX5010:** compact CX with Intel® Atom™ CPU, 1.1 GHz
- CX1010:** basic CX with Pentium® MMX-compatible CPU, 500 MHz

### Devices with ARM CPU:

- CX9020:** Ethernet controller with ARM Cortex™-A8 CPU, 1 GHz
- CX9010:** Ethernet controller with Intel® IXP420 XScale® technology, 533 MHz
- CX9000:** Ethernet controller with Intel® IXP420 XScale® technology, 266 MHz
- CX8000:** basic CX with ARM9 CPU, 400 MHz, and integrated fieldbus interface

Apart from various CPUs, the individual CX types also have different system interfaces and power supply units. Via the associated I/O interfaces the Embedded PCs support Beckhoff Bus Terminals and also EtherCAT Terminals as I/O system.

A suitable CX controller is selected on the basis of the expected complexity and scope of the automation program. Decisive here is not just the clock frequency of the CPU, but a combination of many criteria. The main criteria apart from the clock frequency are the CPU architecture, the cache sizes, the type and size of the RAM, graphic controller etc. Changing from one CX CPU to another with a higher performance is, however, still possible even at a very late stage in the course of the project and can usually take place without any program modification.

## The components

The individual system components of the CX series come as modules in standard widths of 19 mm or 22 mm, that can be connected in series. The basic unit for the CX2000 and CX10x0 series consists of a CPU module and a separate power supply module. The CX8000, CX9000, CX9010, CX9020, CX5000 and CX5100 devices integrate CPU and power supply in a single unit. Depending on the CX type, the controllers can be expanded through further system interfaces. The range of optional modules is complemented by fieldbus connections for PROFIBUS, CANopen, DeviceNet, SERCOS interface and Lightbus, both as master or slave versions.

In contrast to the other CX device families, the CX8000, CX9020, CX5100 and CX5000 series have a fixed, non-expandable number of system interfaces. The devices from the CX8000 series are mainly used as programmable fieldbus slaves, while both the CX9020 and CX5000/CX5100 offer an

optional fieldbus master or slave interface in the multi-option interface.

The multi-option interface, a common feature of all second-generation CX devices (CX9020, CX5010, CX5020, CX5120, CX5130, CX5140, CX2020, CX2030 and CX2040), is an interface that can be configured ex factory with various signal types. These devices are also characterised by a further important feature: the automatic K-bus/E-bus detection enables the use of both types of I/O terminals without additional expenditure.

EtherCAT integration offers a wide range of expansion capability. Further master/slave fieldbus connections or communication interfaces and all other signal types accessible via EtherCAT can be directly connected as EtherCAT Terminals.

## The software

In combination with the TwinCAT 2 or TwinCAT 3 automation software, the CX Embedded PC becomes a powerful IEC 61131-3 PLC. Additionally, Motion Control tasks can also be executed. Depending on the required cycle time, it may be used to control several servo axes. With the CX1010, CX5000, CX5100, CX1020, CX1030 and CX2000 even special functions such as "flying saw", "electronic gearbox" or "cam plate" can be realised. The CX thus becomes a controller that covers PLC, Motion Control and visualisation tasks with a single hardware. Under Windows Embedded CE, thanks to the real-time capability of the operating system, user tasks written in high-level languages can be processed in real-time in parallel with TwinCAT.

## Wide range of applications

Due to the design and the features of an industrial PC control, the Embedded PCs can be used in a wide range of applications. Existing applications include mechanical engineering (automatic sawing machines, automatic assembly machines, paper cutting machines, screwdriver control, packing machines, sheet metal processing, handling equipment), process technology (water treatment, power generation, consumption logging), building services (room control, access control) and many more.

**Embedded PC  
CX8000**



**Embedded PC  
CX9000, CX9010**



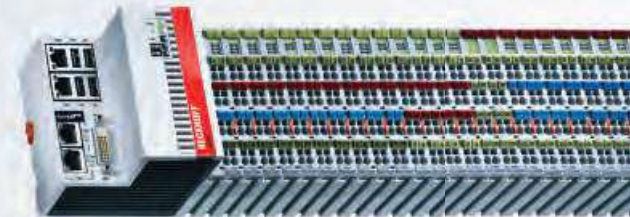
**Embedded PC  
CX9020**



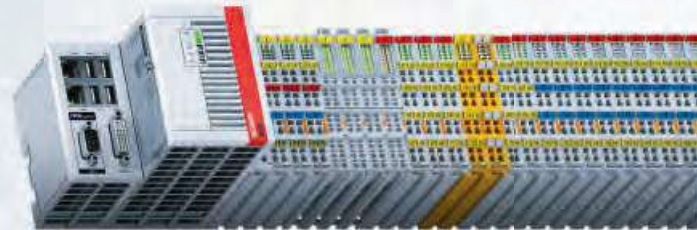
**Embedded PC  
CX1010**



**Embedded PC  
CX5010, CX5020**



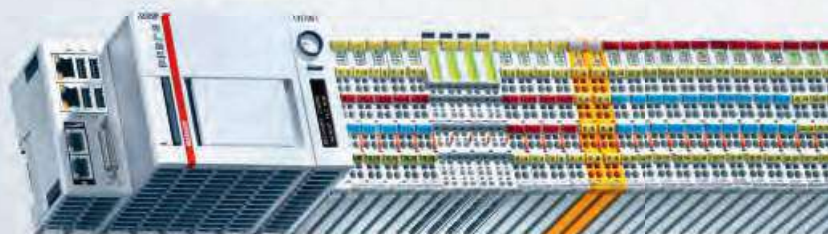
**Embedded PC  
CX5100**



**Embedded PC  
CX1020, CX1030**

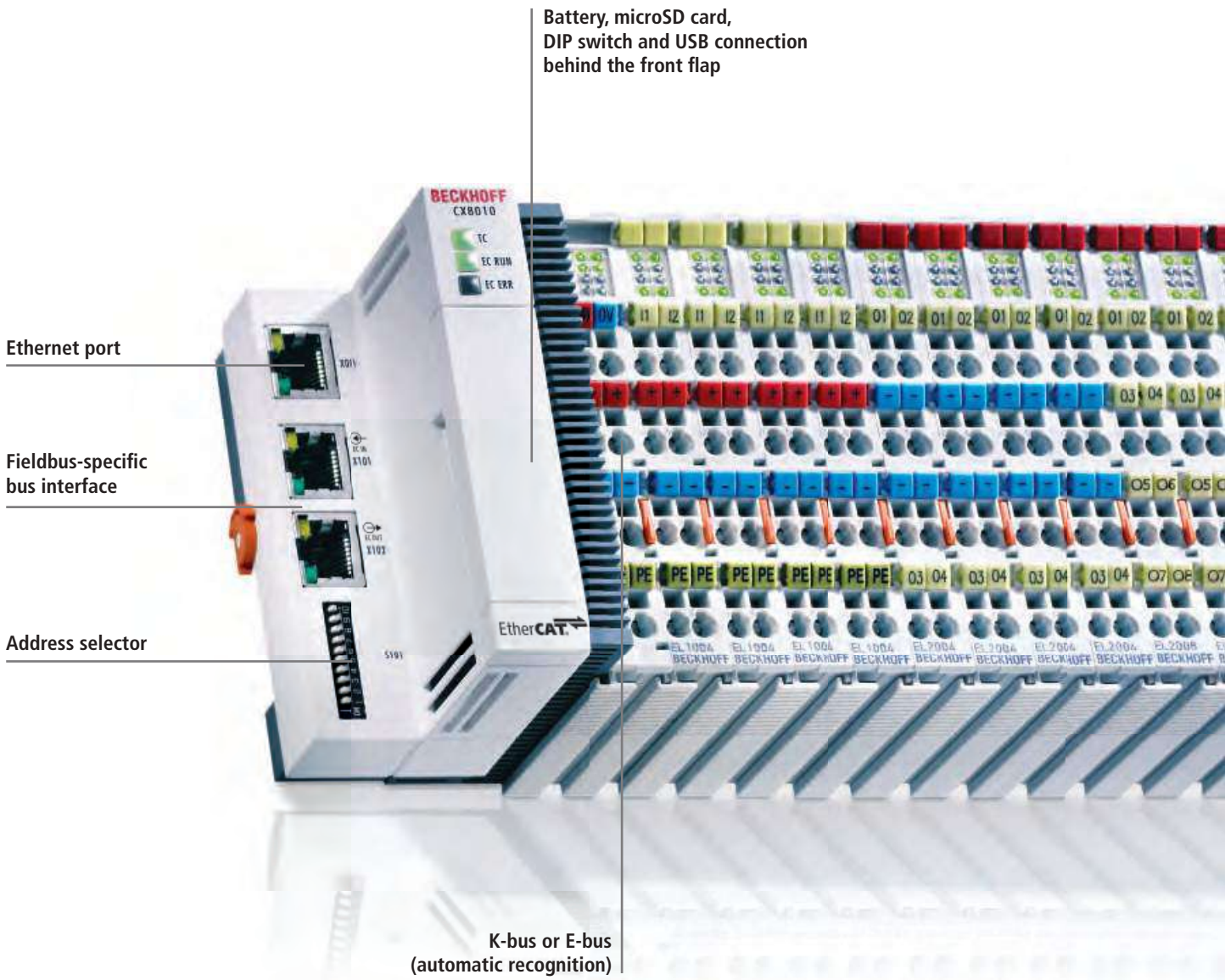


**Embedded PC  
CX2020, CX2030, CX2040**





# CX8000 | Embedded PCs with fieldbus interface



For further information on the individual fieldbuses see page 262

EtherCAT®

PROFI®  
BUS

CANopen

EtherNet/IP™

PROFI®  
NET

RS232  
↔  
RS485

sercos  
the automation bus

Ethernet

BACnet/IP  
OPC UA

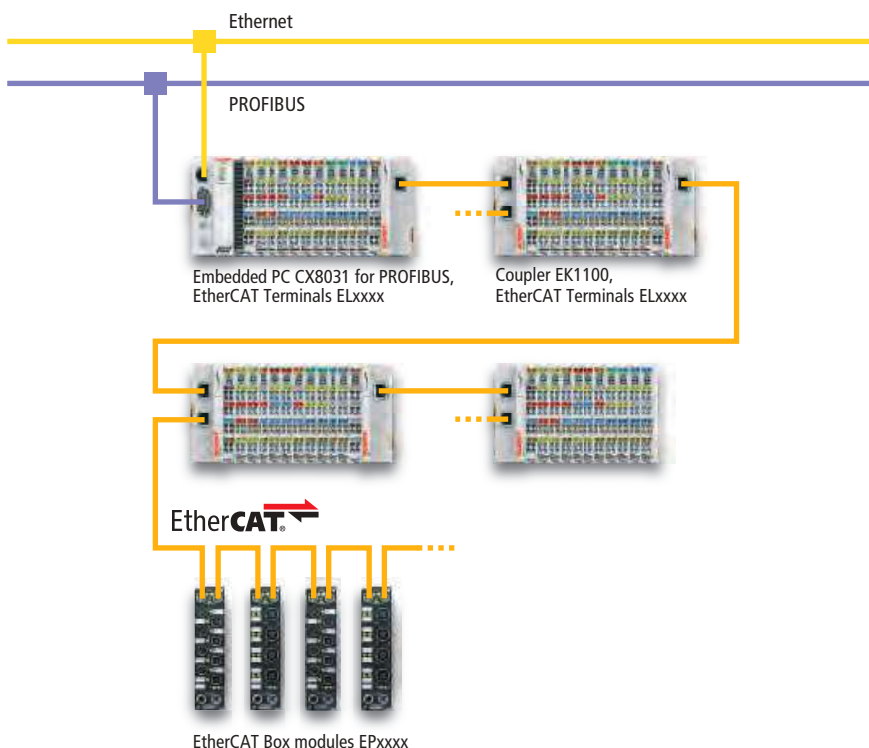
CX8000 is a device family of programmable controllers with 32-bit ARM CPU, which can be used for processing of PLC programs or as intelligent slave devices for higher-level fieldbus systems. Unlike with the non-programmable Bus Couplers of the EK series (EtherCAT Coupler), which only act as gateway between the associated fieldbus system and the connected EtherCAT terminals, the CX8000 is programmable and able to run its own control program. The CX8000 devices can therefore be used as local controllers. Bus Terminals (K-bus) or EtherCAT Terminals (E-bus) can alternatively be connected; the CX8000 automatically recognises the type of I/O system connected during the start-up phase. The use of EtherCAT gives rise to further options, such as the realisation of different topologies, the integration of further bus systems such as CANopen, PROFIBUS and PROFINET and – with the EtherCAT Box modules – connection to the IP 67 world.

Like all CX products, the CX8000 devices are programmed and commissioned via the Ethernet interface, which can also be used for connection of the control system with a regular network. Some of the Embedded PCs have further Ethernet interfaces with switch functions, so that a linear “daisy chain” topology can be constructed inexpensively without additional hardware. The other connections on the lower plug level are fieldbus-specific. Thanks to their low power consumption, the devices are fanless. Microsoft Windows Embedded CE 6 is used as the operating

system. As for all other Beckhoff devices, TwinCAT 2 software is used for system configuration and the programming of the PLC functionality. The CX8000 target device features a pre-installed TwinCAT 2 PLC runtime environment. All software required for operating the device, including the operating system, the TwinCAT files and user files and data, is stored on the microSD flash card. This simplifies exchange in the case of service. Commercial card readers can be used to access the card data. The size of the microSD flash card (e.g. 256 MB) can be chosen depending on the application

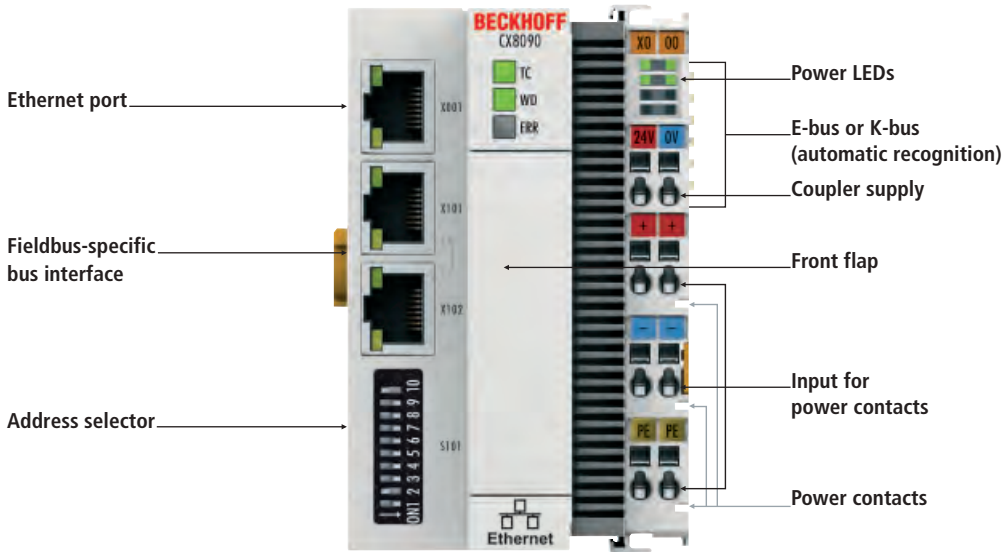
and the quantity of data to be stored. The CX8000 device family features an integrated, capacitive 1-second UPS, which in the event of a failure of the supply voltage provides sufficient energy for saving persistent data. Important data are thus retained without battery backup in the event of a loss of power.

With a high-performance but nevertheless energy-saving 32-bit ARM processor, EtherCAT as I/O bus and TwinCAT 2 PLC with extensive PLC libraries, the Embedded Controllers from the CX8000 series represent very compact, high-performance and versatile controllers with slave fieldbus connection.



► [www.beckhoff.com/CX8000](http://www.beckhoff.com/CX8000)





## CX80xx | Basic CPU module

The devices from this series represent a further development of the well-known and proven 16-bit controllers from the Bus Terminal Controller series – through to the more powerful 32-bit ARM processors.

The CX8000 device series was developed for two different usage scenarios:

- as a local, independent PLC that can be integrated into data networks thanks to its existing Ethernet interface;
- as a local PLC that features a slave interface to a fieldbus system in addition to the Ethernet connection. Taking the CX8010 as an example, there are two EtherCAT slave connections (IN and OUT) on the left-hand side; on the right-hand side it acts again as an independent EtherCAT master or K-bus master for the locally connected terminals.

As with the BC Bus Terminal Controller series, it is also ensured in the case of the CX8000 that the control and the local program continue to be executed in the case of interruption or loss of the higher-level fieldbus system.

The compact, fanless housing makes highly space-saving structures possible for the control of machines or for use in building automation.

Under the cover at the upper housing level there is an exchangeable coin cell for date and time, a set of DIP switches for setting function modes, a slot for microSD flash memory cards and a USB B connection.

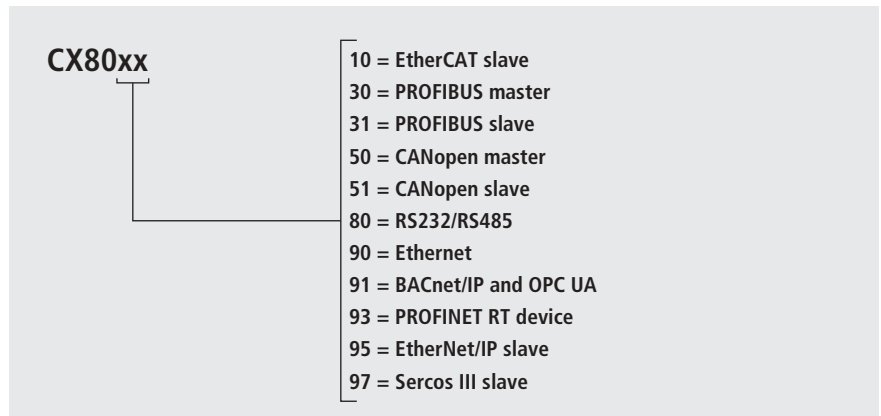
Thanks to their low power consumption, the devices are fanless.

The very compact, small design facilitates installation in confined control cabinets, but it can nevertheless serve a large number of I/O points over EtherCAT or K-bus.

Although there is no monitor connection, the Windows Embedded CE 6 operating system and its "virtual" display can be accessed via the network. This is not absolutely necessary for the programming of the automation function: any PC or laptop equipped with TwinCAT 2 can be used for PLC programming

or online faultfinding via a network connection with the CX8000. All system software is located on the industrially-compatible microSD card. Hardware and software can thus be exchanged simply and quickly in the case of service. In addition, the microSD card can be used in any commercial card reader. The installation and execution of proprietary Windows Embedded CE 6 applications (e.g. parts tracking, data acquisition, Web operating interfaces) is also possible. Access to the microSD card is also possible via the USB connection: if the CX8000 is connected to another PC, then the microSD card becomes visible on this PC as a mass storage device.

The order numbers and the equipment of the CX8000 devices are derived as follows:



Technical data	CX80xx
Processor	32 bit, 400 MHz
Flash memory	512 MB microSD (optionally 1 GB, 2 GB or 4 GB)
Internal main memory	64 MB RAM (internal, not expandable)
Programming	TwinCAT 2 PLC
Programming languages	IEC 61131-3
Web visualisation	yes
Online change	yes
Up/down load code	yes/yes
Interfaces	1 x USB device (behind the front flap), 1 x RJ45 Ethernet 10/100 Mbit/s (ADS or TCP/IP), 2 x RJ45 (switched) 10/100 Mbit/s (PROFINET)
I/O connection	E-bus (EtherCAT Terminals) or K-bus (Bus Terminals), automatic recognition
Clock	internal battery-backed clock for time and date (battery behind the front flap, exchangeable)
UPS	1-second UPS (for 1 MB of persistent data)
Operating system	Microsoft Windows Embedded CE 6
Web-based management	yes
Current supply E-bus/K-bus	2 A
Max. power loss	3 W
Dimensions (W x H x D)	64 mm x 100 mm x 73 mm
Operating/storage temperature	0...+55 °C/-25...+85 °C
Relative humidity	95 %, no condensation
Vibration/shock resistance	conforms to EN 60068-2-6/EN 60068-2-27
EMC immunity/emission	conforms to EN 61000-6-2/EN 61000-6-4
Protection class	IP 20
Further information	<a href="http://www.beckhoff.com/CX8000">www.beckhoff.com/CX8000</a>




# CX80xx | Embedded PCs with fieldbus interface



Embedded PC  
for EtherCAT

Embedded PC  
for PROFIBUS

Embedded PC  
for PROFIBUS

Technical data	CX8010	CX8030	CX8031
Protocol	EtherCAT (slave)	PROFIBUS-DP (master)	PROFIBUS-DP (slave)
Max. number of bytes fieldbus	512 byte input and 512 byte output	only limited by memory	240 byte input and 240 byte output + 3 virtual slaves
Data transfer rates	100 Mbaud	up to 12 Mbaud (automatic detection)	up to 12 Mbaud (automatic detection)
Bus interface	EtherCAT IN and OUT (2 x RJ45)	1 x D-sub 9-pin socket with shielding	1 x D-sub 9-pin socket with shielding
	 <p>The DIP switch enables the fixed addressing of a hot plug group. Automatic addressing in the EtherCAT network is also possible.</p>	 <p>The CX8030 is a PROFIBUS master device. Optionally it can be operated as a PROFIBUS slave device.</p>	 <p>The PROFIBUS address is set via two rotary selection switches. The CX8031 offers automatic baud rate detection. The CX8031 offers three virtual slaves, so that the amount of data can be tripled.</p>
I/O connection	E-bus (EtherCAT Terminals) or K-bus (Bus Terminals), automatic recognition	E-bus (EtherCAT Terminals) or K-bus (Bus Terminals), automatic recognition	E-bus (EtherCAT Terminals) or K-bus (Bus Terminals), automatic recognition
Type/number of peripheral signals	K-bus 2 kByte IN/OUT, E-bus only limited by memory	K-bus 2 kByte IN/OUT, E-bus only limited by memory	K-bus 2 kByte IN/OUT, E-bus only limited by memory
Approvals	CE, UL	CE, UL	CE, UL
Further information	<a href="http://www.beckhoff.com/CX8010">www.beckhoff.com/CX8010</a>	<a href="http://www.beckhoff.com/CX8030">www.beckhoff.com/CX8030</a>	<a href="http://www.beckhoff.com/CX8031">www.beckhoff.com/CX8031</a>

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