X20cCPx58x

1 General information

With regard to hardware and software, this module is identical to the uncoated module of the same name.

The only differences are the:

- Model number
- Module ID
- Environmental conditions
- Additional coating (see data sheet "Coated modules")

For a complete description of the hardware, see data sheet "X20CP158x and X20CP358x".

2 Order data

Model number	Short description
	X20 CPUs
X20cCP1584	X20 CPU, coated, ATOM 0.6 GHz, 256 MB DDR2 RAM, 1 MB SRAM, removable application memory: CompactFlash, 1 insert slot for X20 interface modules, 2 USB ports, 1 RS232 interface, 1 Ethernet interface 10/100/1000 Base-T, 1 POWERLINK interface, incl. supply module, 1 X20TB12 terminal block, slot cover and X20 locking plate (right) X20AC0SR1 included, order application memory separately.
X20cCP1586	X20 CPU, coated, ATOM 1.6 GHz, 512 MB DDR2 RAM, 1 MB SRAM, removable application memory: CompactFlash, 1 insert slot for X20 interface modules, 2 USB ports, 1 RS232 interface, 1 Ethernet interface 10/100/1000 Base-T, 1 POWERLINK interface, incl. supply module, 1 X20TB12 terminal block, slot cover and X20 locking plate (right) X20AC0SR1 included, order application memory separately.
X20cCP3584	X20 CPU, coated, ATOM 0.6 GHz, 256 MB DDR2 RAM, 1 MB SRAM, removable application memory: CompactFlash, 3 insert slots for X20 interface modules, 2 USB ports, 1 RS232 interface, 1 Ethernet interface 10/100/1000 Base-T, 1 POWERLINK interface, incl. supply module, 1 X20TB12 terminal block, slot covers and X20 locking plate (right) X20AC0SR1 included, order application memory separately.
X20cCP3586	X20 CPU, coated, ATOM 1.6 GHz, 512 MB DDR2 RAM, 1 MB SRAM, removable application memory: CompactFlash, 3 insert slots for X20 interface modules, 2 USB ports, 1 RS232 interface, 1 Ethernet interface 10/100/1000 Base-T, 1 POWERLINK interface, incl. supply module, 1 X20TB12 terminal block, slot covers and X20 locking plate (right) X20AC0SR1 included, order application memory separately.
	Required accessories
	CompactFlash-cards
0CFCRD.0128E.01	CompactFlash 128 MB WD extended temp.
0CFCRD.0512E.01	CompactFlash 512 MB WD extended temp.
0SDMIC.0512E.01	Micro SD Card 512MB extended Temp.
5CFCRD.016G-06	CompactFlash 16 GB B&R (SLC)
5CFCRD.0512-06	CompactFlash 512 MB B&R (SLC)
5CFCRD.1024-06	CompactFlash 1 GB B&R (SLC)
5CFCRD.2048-06	CompactFlash 2 GB B&R (SLC)
5CFCRD.4096-06	CompactFlash 4 GB B&R (SLC)
5CFCRD.8192-06	CompactFlash 8 GB B&R (SLC)
	Optional accessories
	Batteries
0AC201.91	Lithium batteries 4 pcs., 3 V / 950 mAh button cell We hereby state that the lithium cells contained in this shipment qualify as "partly regulated". Handle with care. If the package is damaged, inspect the cells, repack intact cells and protect the cells against short circuit. For emergency information, call RENATA SA at +41 61 319 28 27.
4A0006.00-000	Lithium battery, 3 V / 950 mAh, button cell

Table 1: X20cCP1584, X20cCP1586, X20cCP3584, X20cCP3586 - Order data

3 Technical data

Product ID	X20cCP1584	X20cCP1586	X20cCP3584	X20cCP3586
Short description				
Interfaces	1x RS232, 1x Ethernet, 1x POWERLINK, 2x USB, 1x X2X Link		1x RS232, 1x Ethernet, 1x POWERLINK (V1/V2), 2x USB, 1x X2X Link	
System module	CPU			
General information				
Cooling	Fanless			
B&R ID code	0xE21B	0xE21C	0xE21D	0xE21E
Status indicators	CPU function, overtemperature, Ethernet, POWERLINK, CompactFlash, battery			
Diagnostics				
Battery	Yes, using status LED and software			
CPU function	Yes, using status LED			
CompactFlash	Yes, using status LED			
Ethernet	Yes, using status LED			
POWERLINK	Yes, using status LED			
Overtemperature	Yes, using status LED			
CPU redundancy possible	No		Yes	
ACOPOS capability	Yes			
Visual Components support	Yes			
Power consumption without interface module and USB	8.6 W	9.7 W	8.6 W	9.7 W
Internal power consumption of the X2X Link and I/O supply [1]				
Bus	1.42 W			
Internal I/O	0.6 W			
Additional power dissipation caused by the actuators (resistive) [W]	-			
Electrical isolation				
IF1 - IF2	Yes			
IF1 - IF3	Yes			
IF1 - IF4	No			
IF1 - IF5	No			
IF1 - IF6	Yes			
IF2 - IF4	Yes			
IF2 - IF5	Yes			
IF3 - IF4	Yes			
IF3 - IF5	Yes			
IF4 - IF5	No			
IF4 - IF6	Yes			
IF5 - IF6	Yes			
PLC - IF1	No			
PLC - IF2	Yes			
PLC - IF3	Yes			
PLC - IF4	No			
PLC - IF5	No			
PLC - IF6	Yes			
Certification				
CE	Yes			
cULus	Yes			
ATEX Zone 2	Yes			
GL	Yes		-	
GOST-R	Yes			
CPU and X2X Link supply				
Input voltage	24 VDC -15% / +20%			
Input current	Max. 1.5 A		Max. 1.50 A	
Fuse	Integrated, cannot be replaced			
Reverse polarity protection	Yes			
X2X Link supply output				
Nominal output power	7.0 W [2]	7 W [2]	7.0 W [2]	
Parallel operation	Yes [3]			
Redundant operation	Yes			
Input I/O supply				
Input voltage	24 VDC -15% / +20%			
Fuse	Required line fuse: Max. 10 A, slow-blow			
Output I/O supply				
Rated output voltage	24 VDC			
Permitted contact load	10 A			
Supply - General information				
Status indicators	Overload, operating status, module status, RS232 data transfer			
Diagnostics				
RS232 data transfer	Yes, using status LED			
Module run/error	Yes, using status LED and software			
Overload	Yes, using status LED and software			

Table 2: X20cCP1584, X20cCP1586, X20cCP3584, X20cCP3586 - Technical data

Product ID	X20cCP1584	X20cCP1586	X20cCP3584	X20cCP3586
Electrical isolation				
I/O feed - I/O supply	No			
CPU/X2X Link feed - CPU/X2X Link supply	Yes			
Controller				
CompactFlash slot	1			
Real-time clock	Nonvolatile memory, resolution 1 second			
FPU	Yes			
Processor				
Type	ATOM™ E620T	Atom™ E680T	ATOM™ E620T	Atom™ E680T
Clock frequency	0.6GHz	1.6GHz	0.6 GHz	1.6 GHz
L1 cache				
Data code	24 kB			
Program code	32 kB			
L2 cache	512 kB			
Integrated I/O processor	Processes I/O data points in the background			
Modular interface slots	1		3	
Remanent variables	Max. 256 kB [4]	Max. 1 MB [4]	Max. 256 kB [4]	Max. 1 MB [4]
Shortest task class cycle time	400 µs	100 µs	400 µs	100 µs
Typical instruction cycle time	0.0075 µs	0.0027 µs	0.0075 µs	0.0027 µs
Data buffering				
Battery monitoring	Yes			
Lithium battery	Min. 2 years at 23°C ambient temperature			
Standard memory				
RAM	256 MB DDR2 SDRAM	512 MB DDR2 SDRAM	256 MB DDR2 SDRAM	512 MB DDR2 SDRAM
User RAM	1 MB SRAM [5]			
Interfaces				
IF1 interface				
Signal	RS232			
Design	Connection made using 12-pin X20TB12 terminal block			
Max. distance	900 m			
Transfer rate	Max. 115.2 kbit/s			
IF2 interface				
Signal	Ethernet			
Design	1 shielded RJ45 port		1x shielded RJ45 port	
Cable length	Max. 100 m between two stations (segment length)	Max. 100 m between 2 stations (segment length)	Max. 100 m between two stations (segment length)	
Transfer rate	10/100/1000 Mbit/s			
Transmission				
Physical interfaces	10 BASE-T/100 BASE-TX/1000 BASE-T			
Half-duplex	Yes			
Full-duplex	Yes			
Autonegotiation	Yes			
Auto-MDI / MDIX	Yes			
IF3 interface				
Fieldbus	POWERLINK (V1/V2) managing or controlled node			
Type	Type 4 [6]		Type 4 [7]	
Design	1 shielded RJ45 port		1x shielded RJ45 port	
Cable length	Max. 100 m between two stations (segment length)	Max. 100 m between 2 stations (segment length)	Max. 100 m between two stations (segment length)	
Transfer rate	100 Mbit/s			
Transmission				
Physical interfaces	100 BASE-TX			
Half-duplex	Yes			
Full-duplex	No			
Autonegotiation	Yes			
Auto-MDI / MDIX	Yes			
IF4 interface				
Type	USB 1.1/2.0			
Design	Type A			
IF5 interface				
Type	USB 1.1/2.0			
Design	Type A			
IF6 interface				
Fieldbus	X2X Link master			
Operating conditions				
Mounting orientation				
Horizontal	Yes			
Vertical	Yes			
Installation at elevations above sea level				
0 to 2000 m	No limitations			
>2000 m	Reduction of ambient temperature by 0.5°C per 100 m			
EN 60529 protection	IP20			

Table 2: X20cCP1584, X20cCP1586, X20cCP3584, X20cCP3586 - Technical data

Product ID	X20cCP1584	X20cCP1586	X20cCP3584	X20cCP3586
Environmental conditions				
Temperature				
Operation				
Horizontal installation	-25 to 60°C			
Vertical installation	-25 to 50°C			
Derating	See section "Derating"			
Storage	-40 to 85°C			
Transport	-40 to 85°C			
Relative humidity				
Operation	Up to 100%, condensing			
Storage	5 to 95%, non-condensing			
Transport	5 to 95%, non-condensing			
Mechanical characteristics				
Note	Order application memory (CompactFlash) separately Backup battery included in delivery X20 locking plate (right) included in delivery X20 terminal block (12-pin) included in delivery Interface module slot covers included in delivery			
Dimensions				
Width	150 mm		200 mm	
Height	99 mm			
Depth	85 mm			

Table 2: X20cCP1584, X20cCP1586, X20cCP3584, X20cCP3586 - Technical data

1) The specified values are maximum values. The exact calculation is included as a data sheet in the module documentation and can be downloaded from the B&R website.
2) When operated at temperatures above 55°C, a derating of the rated output current to 5 W for the X2X Link supply must be taken into consideration.
3) In parallel operation, only 75% of the rated power can be assumed. It is important to make sure that all power supplies operating in parallel are switched on and off at the same time.
4) Can be configured in Automation Studio.
5) 1 MB SRAM minus the configured remanent variables.
6) See the POWERLINK help system under "General information, Hardware - IF/LS".
7) See the POWERLINK online help documentation under "General information, Hardware - IF/LS".