MANUFACTURER DOCUMENT PACKAGE

Manufacturer's Manual

Reference package for procurement and maintenance review

B&R

X20CP1586

1.6 GHZ X20 CONTROLLER

Used with the applicable B&R X20 configuration.

REFERENCE PACKAGE

OFFICIAL DOCUMENT

Selected official manufacturer pages follow this cover.

Source: B&R X20CP1586 product data

4 Order data - X20CP158x



Order number	Short description
	X20 PLC
X20CP1583	X20 CPU, Atom 333 MHz (compatible), 128 MB DDR2 RAM, 1 MB SRAM, removable application memory: CompactFlash, 1 insert slot for X20 interface modules, 2 USB interfaces, 1 RS232 interface, 1 Ethernet interface 10/100/1000BASE-T, 1 POWERLINK interface, including power supply module, 1x terminal block X20TB12, slot cover and X20 end cover plate X20AC0SR1 (right) included, order application memory separately!
X20CP1584	X20 CPU, Atom 0.6 GHz, 256 MB DDR2 RAM, 1 MB SRAM, removable application memory: CompactFlash, 1 insert slot for X20 interface modules, 2 USB interfaces, 1 RS232 interface, 1 Ethernet interface 10/100/1000BASE-T, 1 POWERLINK interface, including power supply module, 1x terminal block X20TB12, slot cover and X20 end cover plate X20AC0SR1 (right) included, order application memory separately!
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 interfaces, 1 RS232 interface, 1 Ethernet interface 10/100/1000BASE-T, 1 POWERLINK interface, including power supply module, 1x terminal block X20TB12, slot cover and X20 end cover plate X20AC0SR1 (right) included, order application memory separately!
X20CP1585	X20 CPU, Atom 1.0 GHz, 256 MB DDR2 RAM, 1 MB SRAM, removable application memory: CompactFlash, 1 insert slot for X20 interface modules, 2 USB interfaces, 1 RS232 interface, 1 Ethernet interface 10/100/1000BASE-T, 1 POWERLINK interface, including power supply module, 1x terminal block X20TB12, slot cover and X20 end cover plate X20AC0SR1 (right) included, order application memory separately!
X20CP1586	X20 CPU, Atom 1.6 GHz, 512 MB DDR2 RAM, 1 MB SRAM, removable application memory: CompactFlash, 1 insert slot for X20 interface modules, 2 USB interfaces, 1 RS232 interface, 1 Ethernet interface 10/100/1000BASE-T, 1 POWERLINK interface, including power supply module, 1x terminal block X20TB12, slot cover and X20 end cover plate X20AC0SR1 (right) 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 interfaces, 1 RS232 interface, 1 Ethernet interface 10/100/1000BASE-T, 1 POWERLINK interface, including power supply module, 1x terminal block X20TB12, slot cover and X20 end cover plate X20AC0SR1 (right) included, order application memory separately!
	Required accessories
	CompactFlash cards
0CFCRD.016GE.02	CompactFlash 16 GB extended temp.
0CFCRD.0512E.02	CompactFlash 512 MB extended temp.
0CFCRD.1024E.02	CompactFlash 1024 MB extended temp.
0CFCRD.2048E.02	CompactFlash 2048 MB extended temp.
0CFCRD.4096E.02	CompactFlash 4096 MB extended temp.
0CFCRD.8192E.02	CompactFlash 8 GB extended temp.
	Included in delivery
	Batteries
4A0006.00-000	Lithium battery, 3 V / 950 mAh, button cell
	Locking plate
X20AC0SR1	X20 locking plate, right
	Terminal blocks
X20TB12	X20 terminal block, 12-pin, 24 VDC keyed
	Optional accessories
	Batteries
0AC201.91	Lithium batteries 4 pcs., 3 V / 950 mAh button cell

Table 1: X20CP1583, X20CP1584, X20cCP1584, X20CP1585, X20CP1586, X20cCP1586 - Order data

Included in delivery

Order number	Short description
4A0006.00-000	Backup battery (see also "Battery" on page 18)
-	Interface module slot covers
X20AC0SR1	X20 end cover plate (right)
X20TB12	X20 terminal block, 12-pin, 24 V coding

Table 2: X20 CPUs - Content of delivery

5 X20CP158x - Technical data

Order number	X20CP1583	X20CP1584	X20cCP1584	X20CP1585	X20CP1586	X20cCP1586
Short description						
Interfaces	1x RS232, 1x Ethernet, 1x POWERLINK (V1/V2), 2x USB, 1x X2X Link					
System module	CPU					
General information						
B&R ID code	0xD45B	0xC370	0xE21B	0xC3AE	0xC3B0	0xE21C
Cooling	Fanless					
Status indicators	CPU function, Ethernet, POWERLINK, CompactFlash, battery					
Diagnostics						
Battery	Yes, using LED status indicator and software					
CPU function	Yes, using LED status indicator					
CompactFlash	Yes, using LED status indicator					
Ethernet	Yes, using LED status indicator					
POWERLINK	Yes, using LED status indicator					
Temperature	Yes, using software register					
Support						
Controller redundancy	No					
Storage health data support [1]	Yes					
ACOPOS support	Yes					
Visual Components support	Yes					
Power consumption without interface module and USB	8.2 W	8.6 W		8.8 W	9.7 W	
Power consumption for X2X Link power supply [2]	1.42 W					
Power consumption [2]						
Internal I/O	0.6 W					
Additional power dissipation caused by actuators (resistive) [W]	-					
Certifications						
CE	Yes					
ATEX	Zone 2, II 3G Ex nA nC IIA T5 Gc IP20, Ta (see X20 user's manual) FTZÚ 09 ATEX 0083X					
UL	cULus E115267 Industrial control equipment					
HazLoc	cCSAus 244665 Process control equipment for hazardous locations Class I, Division 2, Groups ABCD, T5					
DNV	Temperature: **B** (0 - 55°C) Humidity: **B** (up to 100%) Vibration: **B** (4 g) EMC: **B** (bridge and open deck)					
LR	ENV1					
KR	Yes					
ABS	Yes					
EAC	Yes					
KC	-	Yes	-	Yes		-
CPU and X2X Link power supply						
Input voltage	24 VDC -15% / +20%					
Input current	Max. 1.5 A					
Fuse	Integrated, cannot be replaced					
Reverse polarity protection	Yes					
X2X Link power supply output						
Nominal output power	7 W [3]					
Parallel connection	Yes [4]					
Redundant operation	Yes					
Input I/O power supply						
Input voltage	24 VDC -15% / +20%					
Fuse	Required line fuse: Max. 10 A, slow-blow					
Output I/O power supply						
Nominal output voltage	24 VDC					
Permissible contact load	10 A					
Power supply - General information						
Status indicators	Overload, operating status, module status, RS232 data transfer					
Diagnostics						
RS232 data transfer	Yes, using LED status indicator					
Module run/error	Yes, using LED status indicator and software					
Overload	Yes, using LED status indicator and software					
Electrical isolation						
I/O supply - I/O power supply	No					
CPU/X2X Link supply - CPU/X2X Link power supply	Yes					

Table 3: X20CP1583, X20CP1584, X20cCP1584, X20CP1585, X20CP1586, X20cCP1586 - Technical data

Order number	X20CP1583	X20CP1584	X20cCP1584	X20CP1585	X20CP1586	X20cCP1586
Controller						
CompactFlash slot	1					
Real-time clock	Nonvolatile, resolution 1 s, -10 to 10 ppm accuracy at 25°C					
FPU	Yes					
Processor						
Type	Atom E620T			Atom E640T	Atom E680T	
Clock frequency	333 MHz	0.6 GHz		1 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					
Remanent variables	Max. 64 kB [5]	Max. 256 kB [5]			Max. 1 MB [5]	
Shortest task class cycle time	800 µs	400 µs		200 µs	100 µs	
Typical instruction cycle time	0.01 µs	0.0075 µs		0.0044 µs	0.0027 µs	
Data buffering						
Battery monitoring	Yes					
Lithium battery	Min. 2 years at 23°C ambient temperature					
Standard memory						
RAM	128 MB DDR2 SDRAM	256 MB DDR2 SDRAM			512 MB DDR2 SDRAM	
User RAM	1 MB SRAM [6]					
Interfaces						
Interface IF1						
Signal	RS232					
Variant	Connection via 12-pin terminal block X20TB12			Connection made using 12-pin terminal block X20TB12		Connection via 12-pin terminal block X20TB12
Max. distance	900 m					
Transfer rate	Max. 115.2 kbit/s					
Interface IF2						
Signal	Ethernet					
Variant	1x RJ45 shielded					
Line length	Max. 100 m between 2 stations (segment length)					
Transfer rate	10/100/1000 Mbit/s					
Transfer						
Physical layer	10BASE-T/100BASE-TX/1000BASE-T					
Half-duplex	Yes					
Full-duplex	Yes					
Autonegotiation	Yes					
Auto-MDI/MDIX	Yes					
Interface IF3						
Fieldbus	POWERLINK (V1/V2) managing or controlled node					
Type	Type 4 [7]					
Variant	1x RJ45 shielded					
Line length	Max. 100 m between 2 stations (segment length)					
Transfer rate	100 Mbit/s					
Transfer						
Physical layer	100BASE-TX					
Half-duplex	Yes					
Full-duplex	POWERLINK mode: No / Ethernet mode: Yes					
Autonegotiation	Yes					
Auto-MDI/MDIX	Yes					
Interface IF4						
Type	USB 1.1/2.0					
Variant	Type A					
Max. output current	0.5 A					
Interface IF5						
Type	USB 1.1/2.0					
Variant	Type A					
Max. output current	0.5 A					
Interface IF6						
Fieldbus	X2X Link master					
Electrical properties						
Electrical isolation	Ethernet (IF2), POWERLINK (IF3) and X2X (IF6) isolated from each other, from other interfaces and from PLC					
Operating conditions						
Mounting orientation						
Horizontal	Yes					
Vertical	Yes					
Installation elevation above sea level						
0 to 2000 m	No limitation					
>2000 m	Reduction of ambient temperature by 0.5°C per 100 m					

Table 3: X20CP1583, X20CP1584, X20cCP1584, X20CP1585, X20CP1586, X20cCP1586 - Technical data