

# X20(c)HB2885

## 1 General information

The X20BC8084 POWERLINK bus controller and the X20HB8884 module are equipped with an integrated link selector function. An additional 1 or 2 slots are available, depending on the bus base used. The active X20HB2885 hub expansion module can be operated in these slots.

The active hub expansion module is equipped with one integrated 2x hub and allows redundant wiring. This means that the connection between the two ports remains intact if there is a failure in the bus controller or Compact Link Selector. The status of the module and network are indicated by LEDs.

- Active hub expansion module
- 2x Fast Ethernet hub for redundant wiring
- Hot-swap-capable

## 2 Coated modules

Coated modules are X20 modules with a protective coating for the electronics component. This coating protects X20c modules from condensation and corrosive gases.

The modules' electronics are fully compatible with the corresponding X20 modules.

**For simplification purposes, only images and module IDs of uncoated modules are used in this data sheet.**

The coating has been certified according to the following standards:

- Condensation: BMW GS 95011-4, 2x 1 cycle
- Corrosive gas: EN 60068-2-60, method 4, exposure 21 days



## 3 Order data


Model number	Short description	Figure
	<b>System modules for X20 redundancy system</b>	
X20HB2885	X20 hub expansion module, integrated active 2-port hub, 2x RJ45	
X20cHB2885	X20 hub expansion module, coated, integrated active 2-port hub, 2x RJ45	
	<b>Required accessories</b>	
	<b>Expandable bus controllers</b>	
X20BC8084	X20 bus controller, 1 POWERLINK interface, 1x link selector for POWERLINK cable redundancy, supports expansion with enabled X20 hub modules, 2x RJ45, order bus base, power supply module and terminal block separately!	
X20cBC8084	X20 bus controller, coated, 1 POWERLINK interface, 1x link selector for POWERLINK cable redundancy, supports expansion with active X20 hub modules, 2x RJ45, order bus base, power supply module and terminal block separately!	
	<b>System modules for expandable bus controllers</b>	
X20BB82	X20 bus base, for X20 base module (BC, HB, etc.) and X20 power supply module, with 2 expansion slots for 2 X20 add-on modules (IF, HB, etc.), X20 locking plates (left and right) X20AC0SL1/X20AC0SR1 included	
X20cBB82	X20 bus base, coated, for X20 base module (BC, HB, etc.) and X20 power supply module, with two expansion slots for two X20 add-on modules (IF, HB, etc.), X20 locking plates (left and right) X20AC0SL1/X20AC0SR1 included	
	<b>X20 redundancy systems</b>	
X20HB8884	X20 compact link selector, 2x RJ45, order bus base, power supply module and terminal block separately.	
X20cHB8884	X20 compact link selector, coated, 2x RJ45, order bus base, power supply module and terminal block separately.	


Table 1: X20HB2885, X20cHB2885 - Order data

## 4 Technical data

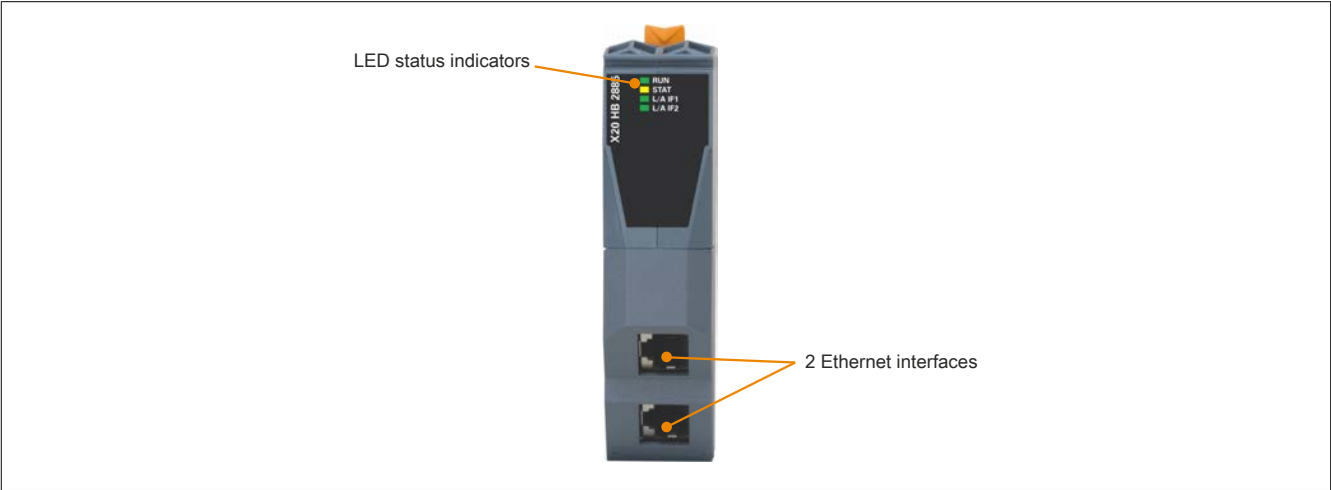
Model number	X20HB2885		X20cHB2885
Short description			
Hub	2 Fast Ethernet hubs for redundant wiring		
General information			
Status indicators	Module status, bus function		
Diagnostics			
Module status	Yes, using status LED		
Bus function	Yes, using status LED		
Power consumption	1.17 W		
Additional 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) FTZÜ 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		
EAC	Yes		
KC	Yes	-	
Interfaces			
Type	Active hub expansion module		
Variant	2x shielded RJ45		
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	No		
Autonegotiation	Yes		
Auto-MDI/MDIX	Yes		
Hub propagation delay	0.96 to 1 µs		
Electrical properties			
Electrical isolation	Power supply isolated from Ethernet (IF1 and IF2)		
Operating conditions			
Mounting orientation			
Horizontal	Yes		
Vertical	Yes		
Installation elevation above sea level			
0 to 2000 m	No limitations		
>2000 m	Reduction of ambient temperature by 0.5°C per 100 m		
Degree of protection per EN 60529	IP20		
Ambient conditions			
Temperature			
Operation			
Horizontal mounting orientation	-25 to 60°C		
Vertical mounting orientation	-25 to 50°C		
Derating	-		
Storage	-40 to 85°C		
Transport	-40 to 85°C		
Relative humidity			
Operation	5 to 95%, non-condensing	Up to 100%, condensing	
Storage	5 to 95%, non-condensing		
Transport	5 to 95%, non-condensing		
Mechanical properties			
Slot	Hub expansion for X20BC8084 and X20HB8884	Hub expansion for X20cBC8084 and X20cHB8884	

Table 2: X20HB2885, X20cHB2885 - Technical data

5 LED status indicators

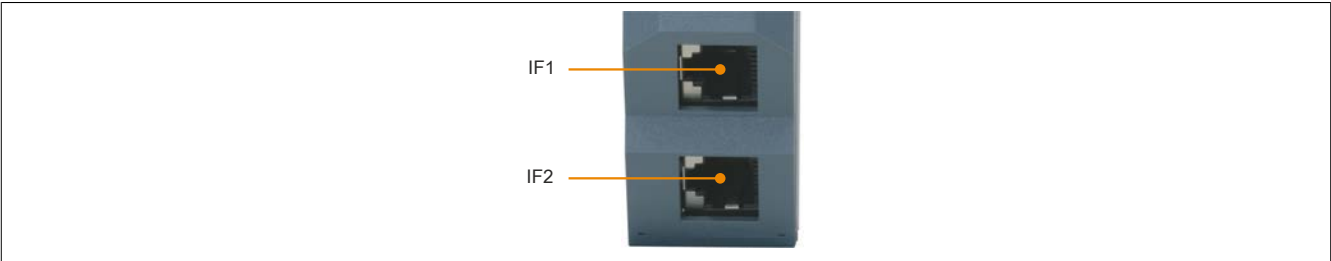
Figure	LED	Color	Status	Description
	RUN	Red	On	Module inactive. Module is in the reset state.
		Green	On	Module active
	STAT	Orange	Off	Normal operation
			Blinking	No X20BC8084 or X20HB8884 found.
			On	Normal operation. However, the X20BC8084 or X20HB8884 was inserted after the system had booted.
	L/A IFx	Green	On	A link to the remote station has been established.
			Blinking	A link to the remote station has been established. Indicates Ethernet activity is taking place on the bus.

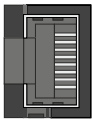
6 Operating and connection elements



7 Ethernet interface

For information about wiring X20 modules with an Ethernet interface, see section "Mechanical and electrical configuration - Wiring guidelines for X20 modules with Ethernet cables" of the X20 user's manual.



Interface	Pinout		
	Pin	Ethernet	
 1 RJ45 shielded	1	RXD	Receive data
	2	RXD\	Receive data\
	3	TXD	Transmit data
	4	Termination	
	5	Termination	
	6	TXD\	Transmit data\
	7	Termination	
	8	Termination	