

8AC114.60-2

1 General information

The AC114 plug-in module can be used in an ACOPOS slot. The module is equipped with a POWERLINK V2 interface. This fieldbus interface is used for communication and setting parameters on the ACOPOS servo drive for complex and time critical applications.

The plug-in module is a 2x hub. This makes it easy to establish a device-to-device connection (line topology).

2 Order data


Model number	Short description	Figure
	Plug-in modules	
8AC114.60-2	ACOPOS plug-in module, POWERLINK V2 interface	
	Optional accessories	
	POWERLINK/Ethernet cables	
X20CA0E61.00020	POWERLINK/Ethernet connection cable, RJ45 to RJ45, 0.2 m	
X20CA0E61.00050	POWERLINK/Ethernet connection cable, RJ45 to RJ45, 0.5 m	
X20CA0E61.00100	POWERLINK/Ethernet connection cable, RJ45 to RJ45, 1 m	
X20CA0E61.00200	POWERLINK/Ethernet connection cable, RJ45 to RJ45, 2 m	
X20CA0E61.00500	POWERLINK/Ethernet connection cable, RJ45 to RJ45, 5 m	
X20CA0E61.00600	POWERLINK/Ethernet-Verbindungskabel, RJ45 auf RJ45, 6 m	
X20CA0E61.01000	POWERLINK/Ethernet connection cable, RJ45 to RJ45, 10 m	
X20CA0E61.01800	POWERLINK/Ethernet-Verbindungskabel, RJ45 auf RJ45, 18 m	

Table 1: 8AC114.60-2 - Order data

3 Technical data

Model number	8AC114.60-2
General information	
Module type	ACOPOS plug-in module
B&R ID code	0xA5C1
Slot	Slot 1
Power consumption	Max. 3 W
Certifications	
CE	Yes
UL	cULus E225616 Power conversion equipment
KC	Yes
Interfaces	
POWERLINK	
Quantity	1
Module-side connection	2x RJ45 port
Status indicators	Status LED + 2x Link LED
Transfer rate	100 Mbit/s
2-port hub	Yes
Possible station operating modes	Synchronous to POWERLINK cycle
Electrical isolation	Yes
Cabling topology	Star or tree with level 2 hubs
Maximum number of hub levels	10
Cable length	Max. 100 m between two stations (segment length) ¹⁾
Network-capable	Yes
Watchdog functionality	
Hardware	Yes (via ACOPOS servo drive)
Software	Yes (via ACOPOS servo drive)

Table 2: 8AC114.60-2 - Technical data

Model number	8AC114.60-2
Ambient conditions	
Temperature	
Operation	
Nominal	5 to 40°C
Maximum	55°C
Storage	-25 to 55°C
Transport	-25 to 70°C
Relative humidity	
Operation	5 to 85%
Storage	5 to 95%
Transport	Max. 95% at 40°C

Table 2: 8AC114.60-2 - Technical data

1) With 10 ACOPOS servo drives and a cycle time of 400 µs, the maximum total cable length becomes 200 m.

4 Setting the POWERLINK node number

The POWERLINK node number can be set using two HEX switches:


Image	Code switch	POWERLINK node number
	①	16s position (high)
	②	1s position (low)
<p>A changed POWERLINK node number will take effect the next time the ACOPOS servo drive is switched on.</p> <p>Information:</p> <p>In principle, node numbers between \$01 and \$FD are permitted. However, node numbers between \$F0 and \$FD are intended for future system expansions. To ensure compatibility, these node numbers should be avoided.</p> <p>Node numbers \$00, \$FE and \$FF are reserved and may therefore not be set.</p>		

Table 3: Setting the POWERLINK node number

5 Status indicators


Figure	LED	Labeling	Color	Function	Description
	①	R/E	Green/Red	Ready/Error	See "LED-Status POWERLINK".
	②	RX	Green	Link / data activity	

Table 4: AC114 - Status LEDs

5.1 POWERLINK - LED status indicators

Labeling	Color	Function	Description	
R/E	Green/Red	Ready/Error	LED not lit	The module is not receiving power or initialization of the network interface has failed.
			Red (lit)	The POWERLINK station number of the module is 0.
			Red/green, blinking	The client is in an error state (drops out of cyclic operation).
			Green (blinking) (single)	The client detects a valid POWERLINK frame on the network.
			Green (blinking) (2x)	Cyclic operation on the network is taking place, but the client itself is not yet a participant.
			Green (blinking) (3x)	Cyclic operation of the client is in preparation.
			Green (lit)	The client is participating in cyclic operation.

Table 5: POWERLINK - LED status indicators

Labeling	Color	Function	Description	
			Green (flickering)	The client is not participating in cyclic operation and also does not detect any other stations on the network participating in cyclic operation.
RX	Green	Link / data activity	Green (not lit)	Hardware not connected
			Green (lit)	Hardware connected
			Green (flickering)	Activity on port

Table 5: POWERLINK - LED status indicators

6 Firmware

The firmware is part of the operating system for the ACOPOS servo drives. Firmware is updated by updating the ACOPOS operating system.

7 Wiring

7.1 Pinout




Figure	IF2	Pin	Name	Function	
		1	RXD	Receive signal	
		2	RXD\	Receive signal inverted	
		3	TXD	Transmit signal	
		4	Shield	Shield	
		5	Shield	Shield	
		6	TXD\	Transmit signal inverted	
		7	Shield	Shield	
		8	Shield	Shield	
		IF1	Pin	Name	Function
		1	RXD	Receive signal	
		2	RXD\	Receive signal inverted	
		3	TXD	Transmit signal	
		4	Shield	Shield	
		5	Shield	Shield	
		6	TXD\	Transmit signal inverted	
		7	Shield	Shield	
8		Shield	Shield		

Table 6: AC114 POWERLINK V2 interface - Pinout

Information:

In general, crossover Ethernet cables must be used for POWERLINK connections!

Cables should be plugged in and unplugged carefully. Otherwise, the shield connection could break between the RJ45 connector and the cable shield which could then cause connection disturbances!

7.2 Input/output diagram

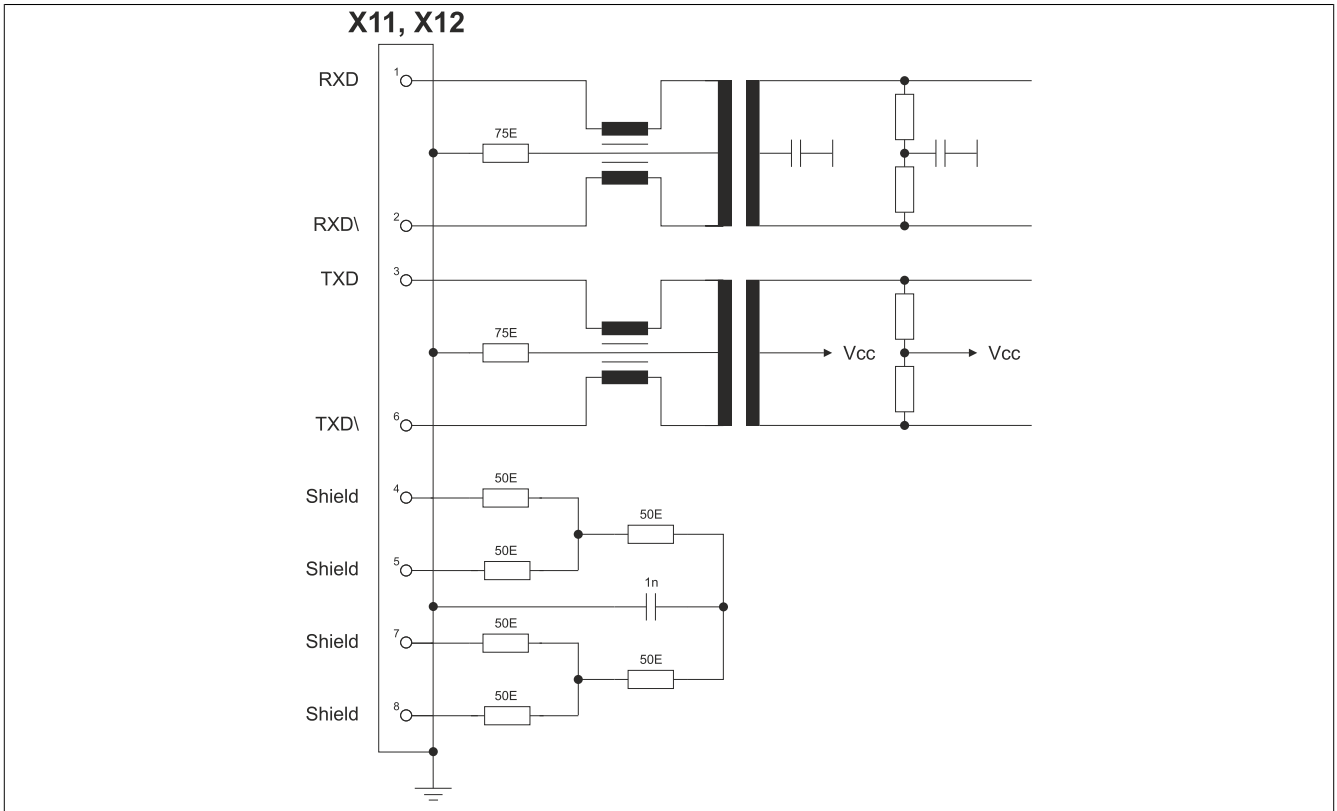


Figure 1: AC114 - Input/Output circuit diagram