4. IF23

4.1 Order data

Model number	Short description	Figure
4PP045.IF23-1	2005 Interface Module, 1 RS485/RS422 interface (RS422: electrically isolated, RS485: electrically isolated and network capable), 1 CAN interface (electrically isolated and network capable). Order 0TB710.91 terminal blocks separately.	
Optional accessories		
0AC913.93	Bus adapter, CAN, 2 CAN interfaces, including 30 cm attachment cable (TB704)	
0G0001.00-090	Cable PC <-> PLC/PW, RS232, online cable	
0TB704.9	Accessory terminal block, 4-pin, screw clamp, 1.5 mm²	
0TB704.91	Accessory terminal block, 4-pin, cage clamp, 2.5 mm²	

Table 40: 4PP045.IF23-1 - Order data

4.2 Technical data

Product ID	4PP045.IF23-1
Short description	
Communication module	1x RS232/RS422/RS485, 1x CAN
Interfaces	

Interface IF1
    Type
    Design
    Maximum transfer rate
	RS232
	9-pin DSUB connector (shared with IF2)
	115.2 kBit/s

Interface IF2
    Type
    Design
    Maximum transfer rate
	RS485/RS422
	9-pin DSUB connector (shared with IF1)
	115.2 kBit/s

Interface IF3
    Type
    Design
    Maximum transfer rate
	CAN bus
	4-pin multipoint connector
	1 MBit/s

Table 41: 4PP045.IF23-1 - technical data

Product ID	4PP045.IF23-1
General information	

Status display
   RS232 and CAN bus
   RS485/RS422
	Data transfer per interface
	No display

Diagnostics Data transfer	Yes, with status LEDs

Electrical isolation
   PLC - IF1
   PLC - IF2/IF3
   IF1 - IF2/IF3
   IF2 - IF3
	No
	Yes
	Yes
	Yes

Certification	CE, C-UL-US, GOST-R
Operational conditions	
Operating temperature	0°C to +50°C
Relative humidity	10 to 90%, non-condensing
Protection type	IP20
Storage and transport conditions	
Temperature	-25°C to +70°C
Relative humidity	10 to 90%, non-condensing
Mechanical characteristics	
Slot	PP45 insert

Table 41: 4PP045.IF23-1 - technical data (cont.)

4.3 Additional technical data

Product ID	4PP045.IF23-1
IF1 interface, RS232	
Controller	UART type 16C550 compatible
FIFO	16 bytes in send and receive direction
Input filter / protective circuit	Yes
Maximum distance	15 m / 19200 bit/s
Handshake lines	RTS, CTS
Network-capable	No

Data formats
   Data bits
   Parity
   Stop bits
	5 to 8
	Yes / No / Even / Odd
	1 / 2

Table 42: 4PP045.IF23-1 - Additional technical data

Product ID	4PP045.IF23-1
Interface IF2, RS485/RS422	
Controller	UART type 16C550 compatible
FIFO	16 bytes in send and receive direction
Maximum distance	500 m
Network-capable	Yes
Terminating resistors	Integrated in the module
Interface IF3, CAN bus	
Controller	SJA 1000 controller
Maximum distance	1000 m
Maximum transfer rate Bus length ≤25 m Bus length ≤60 m Bus length ≤200 m Bus length ≤1000 m	1 MBit/s 500 kBit/s 250 kBit/s 50 kBit/s
Network-capable	Yes
Terminating resistors	Integrated in the module, switchable
General information	
B&R ID code	$250D

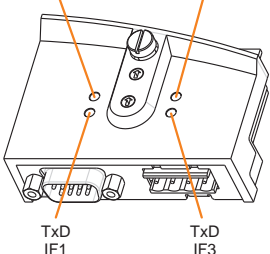Table 42: 4PP045.IF23-1 - Additional technical data (cont.)

4.4 Status LEDs

Figure	LED	Color	Status	Description
	RxD	Orange	On	The module is receiving data via the interface
	TxD	Orange	On	The module is sending data via the interface
	IF1 ...RS232 interface IF3 ...CAN bus interface			

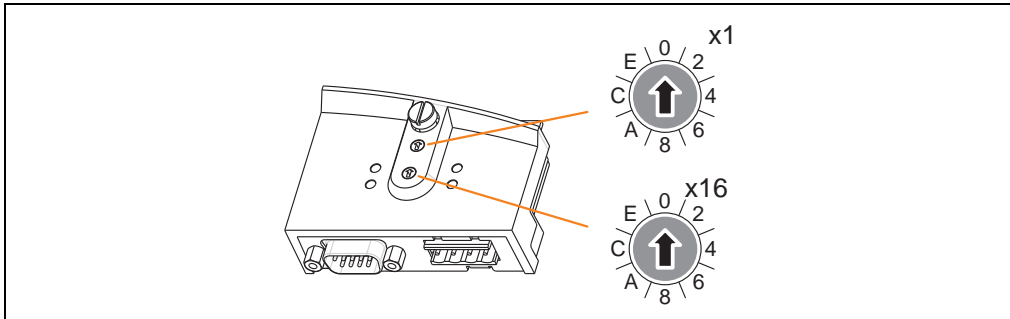Table 43: 4PP045.IF23-1 - Status LEDs

4.5 CAN bus node number

Figure 16: 4PP045.IF23-1 - CAN bus node number switch

Both of these hex switches are used to configure the node number for the CAN bus interface.
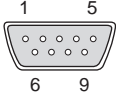
4.6 RS232 (IF1) or RS485/RS422 (IF2) interface

Interface	Pin assignments			
	Pin	RS232	RS485/RS422	
RS232 or RS485/RS422 interface 1 5 6 9 9-pin DSUB connector	1		TxD	Transmit signal
	2	RxD		Receive signal
	3	TxD		Transmit signal
	4		RxD	Receive signal
	5	GND		Ground
	6		RxD\	Receive signal inverted
	7	RTS		Request To Send
	8	CTS		Clear To Send
	9		TxD\	Transmit signal inverted

Table 44: 4PP045.IF23-1 - RS232 (IF1) or RS485/RS422 (IF2) interface

Information:

Interfaces IF1 and IF2 can be used simultaneously when wired appropriately.
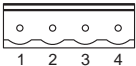
4.7 CAN bus interface (IF3)

Interface	Pin assignments		
	Pin	**CAN bus**	
CAN bus interface 1 2 3 4 4-pin multipoint connector	1	CAN_H	CAN high
	2	CAN⊥	CAN ground
	3	CAN_L	CAN low
	4	SHLD	Shield

Table 45: 4PP045.IF23-1 - CAN bus interface (IF3)

4.8 Terminating resistors

There are two switches on the back of the interface module which can be used to switch on a terminating resistor for IF2 (RS485/RS422) and for IF3 (CAN bus).
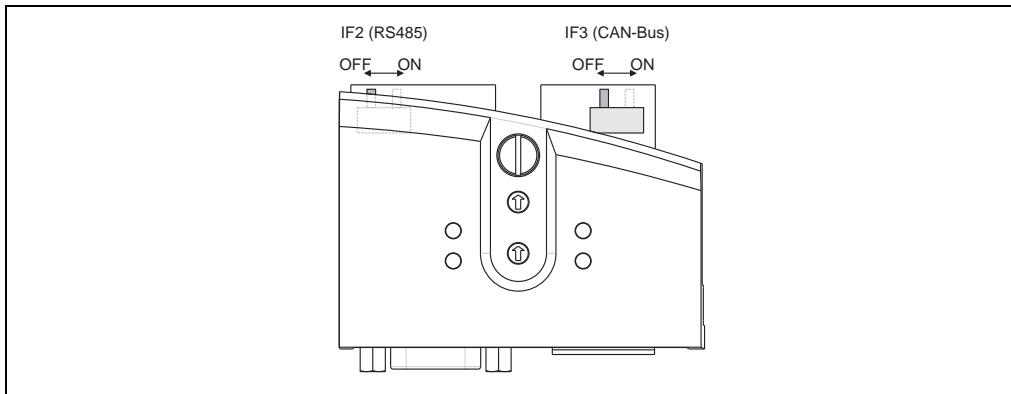

Figure 17: 4PP045.IF23-1 - Terminating resistors for IF2 and IF3

Interface	Switch position	Description
IF2 (RS485/RS422)	ON	Terminating resistor activated (150 Ω)
	OFF	Terminating resistor deactivated
IF3 (CAN bus)	ON	Terminating resistor activated (120 Ω)
	OFF	Terminating resistor deactivated

Table 46: 4PP045.IF23-1 - Terminating resistors for IF2 and IF3