1.1 IF779

1.1.1 General Information

The IF779 interface module is an aPCI module and can be installed in all corresponding interface module slots (e. g. in the CP360).

The IF779 is equipped with an RS485/RS422 interface, a CAN bus interface (with its own object buffer in send and receive direction) and a X2X Link Master interface.

The RS485/RS422 interface is used mostly for visualization and networking based on different protocols (e. g. NET2000).

1.1.2 Order Data

Model Number	Short Description	Image
	Interface Module	
3IF779.9	aPCI interface module, 1 X2X Link Master interface, electrically isolated, 1 CAN bus interface, max. 500 kBit/s, object buffer in send and receive direction, network capable, electrically isolated, 1 RS485/RS422 interface. Order 2 x TB704 terminal blocks separately.	
	Required Accessory	
0TB704.9	Accessory terminal block, 4-pin, screw clamp, 1.5 mm²	
	Optional Accessory	
0G1000.00-090	Bus connector, RS485, for PROFIBUS networks, remote I/O	
0AC916.9	Bus Termination, RS485, active, for PROFIBUS networks, remote I/O, standard mounting rail installation, supply voltage: 120 / 230 VAC	

Table 1: IF779 order data

1.1.3 Technical Data

Product ID	IF779
Short Description	
Communication Module	1 x RS485/RS422, 1 x CAN bus, 1 x X2X link master
interfaces	

Interface IF1
    Type
    Design
    Maximum Transfer Rate
	RS485/RS422
	9-pin DSUB socket
	115.2 kBit/sec

Interface IF2
    Type
    Design
    Maximum Transfer Rate
	CAN bus
	4-pin multipoint connector
	500 kBit/sec

Interface IF3
    Type
    Design
	X2X Link Master
	4-pin multipoint connector

General Information	
Status Display	2 LEDs for sending/receiving data for IF1 1 LED each for sending/receiving data for IF2 and IF3
Diagnostics Data Transfer	Yes, with status LEDs

Electrical Isolation
    PLC - IFx
    IFx - IFx
	Yes
	Yes

Power Input
    3.3 V
    5 V
    Total
	0.77 W
	1.74 W
	2.51 W

Certification	CE, GOST-R
Mechanical Characteristics	
Slot	Insert e.g. in CP360
Protection	IP20
Operating/Storage Temperature	0°C to +60°C / -25°C to +70 °C
Humidity	5 to 95% (non-condensing)
Note	Order 0TB704.9 terminal blocks (2x) separately

Table 2: IF779 technical data

1.1.4 Additional Technical Data

Product ID	IF779
Interface IF1, RS485/RS422	
Controller	UART Type 16C550 compatible
FIFO	16 bytes in send and receive direction
Maximum Distance	1200 m
Network Capable	Yes
Bus Termination Resistor	External T-connector (0G1000.00-090)
IF2 interface, CAN bus	
Controller	Controller SJA 1000
Maximum Distance	1000 m
Maximum Transfer Rate Bus Length ≤60 m Bus Length ≤200 m Bus Length ≤1,000 m	500 kBit/sec 250 kBit/sec 50 kBit/sec
Network Capable	Yes
Bus Termination Resistor	Externally wired (optional)
IF3 Interface, X2X Link Master	
Number of Stations	Max. 253
Distance between two stations	Max. 100 m
Network Topology	Line
Internal Bus Supply	No
Bus Termination Resistor	Internal

Table 3: IF779 additional technical data
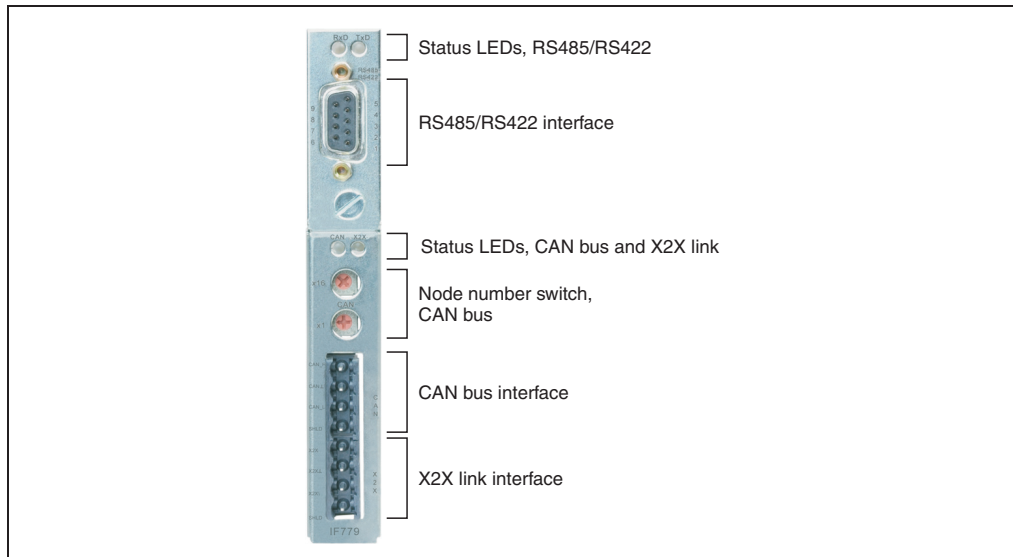
1.1.5 Operational and Connection Elements

Status LEDs, RS485/RS422

RS485/RS422 interface

Status LEDs, CAN bus and X2X link

Node number switch,
CAN bus

CAN bus interface

X2X link interface

Figure 1: IF779 operational and connection elements

1.1.6 Status Display, RS485/RS422 Interface

Image	LED	Color	Description
RS485/RS422	RXD	Orange	The module receives data via the RS485/RS422 interface.
	TxD	Orange	The module sends data via the RS485/RS422 interface.

Table 4: IF779 status display RS485/RS422 interface

1.1.7 Status Display CAN Bus and X2X Link Interface

Image	LED	Color	Description
CAN bus and X2X link	CAN	Orange	The module sends/receives data via the CAN bus interface.
	X2X	Orange	The module sends/receives data via the X2X Link interface.

Table 5: IF779 status display CAN bus and X2X link interface

1.1.8 RS485/RS422 Interface (IF1)

Interface	Description	Pin Assignments		
Application Interface RS485/RS422 9-pin DSUB socket	The RS485/RS422 interface is electrically isolated. LEDs show on the interface whether data is being received (RxD) or sent (TxD). The shield is connected to the DSUB socket's housing. Maximum Transfer Rate: 115.2 kBit/s Max. cable length: 1200 m	**Pin**	**RS485**	**RS422**
		1	Reserved	Reserved
		2	Reserved	TxD [1]
		3	DATA	RXD
		4	Reserved	Reserved
		5	GND	GND
		6	+5 V / 50 mA	+5 V / 50 mA
		7	Reserved	TxD\ [1]
		8	DATA\	RxD\
		9	Reserved	Reserved

Table 6: IF779 RS485/RS422 interface (IF1)

1) RS422 send data is TRISTATE capable.

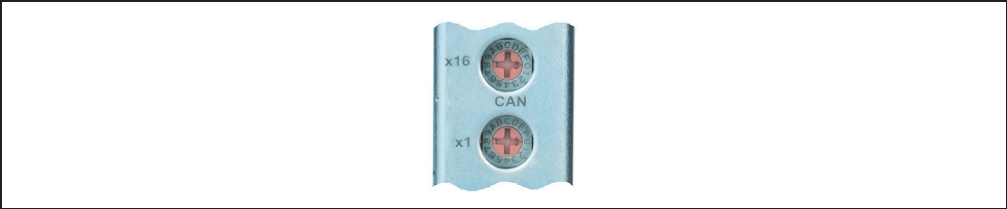## 1.1.9 CAN Bus Node Number

Figure 2: IF779 CAN bus node number switch

The node number for the CAN bus interface (IF2) is set with the two hex switches.

1.1.10 CAN Bus Interface (IF2)

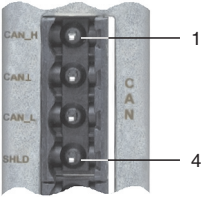A 120 Ω bus terminating resistor is included with delivery. The resistor can be inserted between pin 1 and pin 3.

Interface	Description	Pin Assignments		
Application Interface CAN bus 4-pin multipoint connector	The electrically isolated CAN bus interface is a 4-pin multipoint connector. Maximum Transfer Rate: 500 kBit/s bus length: ≤60 m 250 kBit/s bus length: ≤200 m 50 kBit/s bus length: ≤1000 m	**Terminal**	**CAN bus**	
		1	CAN_H	CAN High
		2	CAN⊥	CAN Ground
		3	CAN_L	CAN Low
		4	SHLD	Shield

Table 7: IF779 CAN bus Interface (IF1)

1.1.11 X2X Link Interface (IF3)

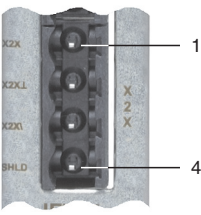| Interface	Description	Pin Assignments		
Application Interface X2X Link 4-pin multipoint connector	The X2X Link is a 4-pin multipoint connector and is electrically isolated .	**Terminal**	**X2X Link**	
		1	X2X	
		2	X2X⊥	
		3	X2X\	
		4	SHLD	Shield

Table 8: IF779 X2X Link interface (IF1)

1.1.12 Firmware

SG3

The IF779 module is not supported.

SG4

The firmware is a component of the PLC operating system of B&R Automation Runtime™. It is loaded to the IF779 module during every restart.