3.6 EX477 / EX777

3.6.1 Technical Data

EX477

EX777

Module ID	EX477	EX777
General Information		
Model Number	7EX477.50-2	7EX777.50-1
Short Description	2003 remote I/O bus controller, 24 VDC, 14 W supply, 1 electrically isolated RS485 interface for connection to remote I/O bus	2003 remote I/O bus controller, 100-240 VAC, 14 W supply, 1 electrically isolated RS485 interface for connection to remote I/O bus
C-UL-US Listed	Yes	
Module Type	B&R 2003 Controller	
Module width	B&R 2003 single width	
Module slot	1	
Peripheral		
Diagnosis LEDs	Yes	
I/O Bus Interface	9 pin D-type socket	
Number Switch	Used to set the remote address	
Standard Communication Interface		
Interface Type Connection Electrical Isolation Baudrates 100 kBit/s 181 kBit/s 500 kBit/s 1000 kBit/s 2000 kBit/s	RS485 9 pin D-type socket Yes Depends on the distance Max. 1200 m Max. 1000 m Max. 400 m Max. 200 m Max. 100 m	

Module ID	EX477	EX777
Remote I/O Bus Access Procedure Number of Slaves Topology Bus Connection Transfer Media Termination Resistor	Master/Slave Principle Max. 31 (without repeater) Physical bus Direct Shielded, twisted pair External	
Power Supply		
Input Voltage Minimum Nominal Maximum	18 VDC 24 VDC 30 VDC	85 VAC 100 - 240 VAC 264 VAC
Input Voltage Frequency	—	47 - 63 Hz
Power Consumption	Max. 20 W	
Output Power for I/O Modules and Screw-in Modules	14 W	

3.6.2 Status Display

LED	Meaning
STATUS (green)	
Blinking	Boot phase: - Initialization and connection to the Remote I/O network - Automatic baudrate recognition
Lit	Normal operation: The initialization and connection to the Remote I/O network is complete, data is being exchanged with the master
Not lit (if DC OK is lit)	The connection to the Remote I/O network is complete, but data is not being exchanged with the master
DC OK (orange)	
Lit	The internal power supply voltage is OK
Not lit	All outputs are reset and the entire bus node reinitialized

3.6.3 Power Supply

The remote I/O bus controller is available in two different versions depending exclusively on their supply voltage. The power connecter pin assignments are printed on the modules:

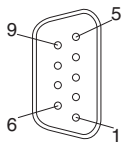
EX477	EX777
Both + pins are connected and both – pins are connected internally	Both **N** pins are connected and both **L** pins are connected internally

3.6.4 Remote Address

The address of the remote slave station is set using number switches. Addresses in the range from 1 to 98 are allowed. However, a maximum of 31 remote slaves can be connected to a remote master (without repeater).

3.6.5 Interface Pin Assignments

9 pin D-type socket



Pin	Assignment	
1	Shield	Shield connection (housing)
2	---	Reserved
3	DATA	Data
4	CNTRL	Transmit Enable (control line)
5	GND	Electrically isolated supply
6	+5 V / 50 mA	Electrically isolated supply (e.g. for bus termination)
7	---	Reserved
8	DATA\	Data\
9	CNTRL\	Transmit Enable\

B&R recommends using bus connector 0G1000.00-090 when connecting to a remote I/O network. It is available as T-connector and already has the correct termination resistor (can be switched on-/off).

3.6.6 Wiring

Wiring remote I/O networks is described in Chapter 2 "Project Planning and Installation", section "Remote I/O Bus".

3.6.7 Repeater or Fibre Optic Connection

The control signal CNTRL ("Transmit Enable") is output by the bus controller and serves to directionally control a repeater or a fibre optic connection. It is a 5 V differential signal:

CNTRL	CNTRL\	RS485
0	1	Receive (default)
1	0	Transmit