

# I/O adapter 520ADD03

## Data sheet



### Application

The I/O adapter 520ADD03 is used to connect more than 16 RTU520 I/O modules to an I/O bus with RS485 or fiber optic connection in RTU520 or RTU540.

The adapter is also used to extend the WRB I/O bus for decentralized I/O applications up to 2 km distance and if distances of more than 30 cm between the I/O adapters are required.

In addition the I/O adapter 520ADD03 is used to connect RTU520 I/O modules to an RTU560.

The I/O adapter is always used together with the power supply unit 520PSD01.

The module is available in two versions (rubrics):

- R0001: RS485
- R0002: glass fiber optical, 840 nm

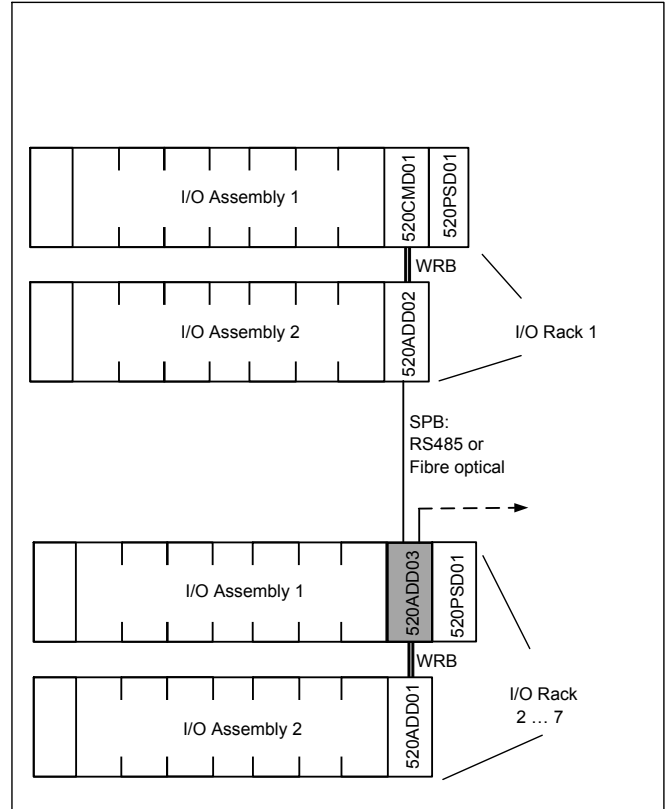


Figure 1: Connection diagram 520ADD03

### Characteristics

The I/O adapter is the first adapter in a DIN rail-mountable I/O assembly which starts with a new virtual rack number.

The adapter converts the SPB I/O bus (serial peripheral bus) with electrical RS485 or fiber optical connection to the WRB I/O bus.

The glass fiber optical variant of the module is compatible to the module 23OK24 and 560FOC40.

The module has two green LEDs for signaling the activity on the I/O bus.

The virtual rack address is selectable via DIP switches. In addition the adapter generates automatically the I/O module addresses within the I/O assembly.

## Technical data

In addition to the RTU500 series general technical data, the following applies:

Current consumption from connector to 520PSD01	
5 V DC	90 mA
15 V DC	
18 V DC	
24 V DC	

Signaling by LEDs	
Tx	Transmission to the I/O bus
Rx	Receiving from the I/O bus

Mechanical layout	
Dimensions	35 mm x 98 mm x 117 mm (Width x Height x Depth)
Housing type	Plastic housing (V-0), IP20, RAL 7035 light gray
Mounting	DIN rail mounting EN 50022 TS35: 35 mm x 15 mm or 35 mm x 7.5 mm
Weight	0.12 kg

Connection Type	
Connector to 520PSD01 (X3)	2 x 10 pin, male
Connector to the I/O modules (X1)	2 x 10 pin, female
WRB I/O bus (X2)	2 x 10 pin, male for standard ribbon cable
SPB I/O bus RS485 (R0001)	2 x 3 pole 5.08 mm pluggable screw terminals (included in delivery) for shielded cable, max. 200 m
SPB I/O bus glass fibre optic (R0002)	4 x connector of type ST (2x Tx and 2x Rx) Multimode 840 nm, 62.5/125, max. 2000 m

Insulation tests	
AC test voltage IEC 61000-4-16 IEC 60870-2-1 (class VW3)	2.5 kV, 50 Hz Test duration: 1 min
Impulse voltage withstand test IEC 60255-5 IEC 60870-2-1 (class VW 3)	5 kV (1.2 / 50 µs)
Insulation resistance IEC 60255-5	> 100 MΩ at 500 V DC

Immunity test	
Electrostatic discharge IEC 61000-4-2	8 kV air / 6 kV contact (level 3) Performance criteria A
Radiated Radio-Frequency Electromagnetic Field IEC 61000-4-3	10 V/m (level 3) Performance criteria A
Electrical Fast Transient / Burst IEC 61000-4-4	4 kV (level X) Performance criteria A
Surge IEC 61000-4-5	2 kV (level 3) Performance criteria A
Conducted Disturbances, induced by Radio-Frequency Fields IEC 61000-4-6	10 V (level 3) Performance criteria A
Damped oscillatory wave IEC 61000-4-18	2.5 / 1 kV (level 3) Performance criteria A

Environmental conditions	
Nominal operating temperature range:	-25°C... 70°C
Start up:	-40 °C
Max. operating temperature, max. 96h:	+85 °C
EN 60068-2-1, -2-2, -2-14	
Relative humidity EN 60068-2-30	5 ... 95 % (non condensing)

Ordering information	
520ADD03 R0001 RS485	1KGT034400R0001
520ADD03 R0002 glass fiber optical	1KGT034400R0002



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