

SPC-AI8 Modbus-Module with RS485-Bus connection

Expansion module SPC-AI8 with RS485 bus connection

for the MC1 / MC2 / MR07 module controller with eight analog inputs 0-10V or 4-20mA

Order number:	310.15613
Order code:	Erweiterungsmodul SPC-AI8 mit RS485-Busanbindung



Overview:

The Modbus module with 8 individually configurable resistance or voltage inputs was developed for decentralized switching tasks. It is suitable for the detection of resistances and voltages of e.g. B. passive and active temperature sensors, pressure sensors, valve positions etc. Via a Modbus master, the inputs can be configured universally using standard registers. The module is addressed, the bit rate and address set using a rotary switch and DIP switch on the front or by software. Suitable for decentralized mounting on TH35 mounting rails according to IEC 60715 in electrical distributors.

Interface connections:

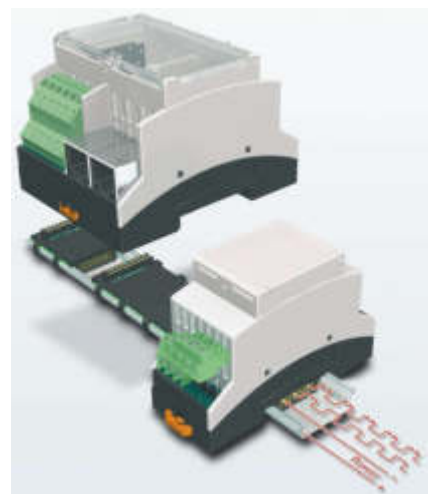
8 analog inputs (0(2)-10V / 0(4)-20mA)

Assembly:

DIN rail connector:

The installation housings are mounted on an NS-35 mounting rail. There is the option of inserting a 16-pin DIN rail connector into the DIN rail, which establishes automatic contacting from device to device. Data and energy can be transmitted in series or in parallel via the bus connector (4 x power, 2 x serial, 10 x parallel). Individual devices can be easily inserted or removed without disassembling the module network.

- Allows a quick and easy connection of the modules
- Data transmission and power supply
- Simple module installation, no breakup of the network when replacing modules, less wiring



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Configuration:

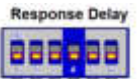


Code switch for the module address
0 = test mode (only for output modules)
1-F = address range 16-30

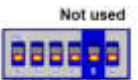


Code switch 1-3 for setting the baud rate
0-0-0 = automatic baud rate detection

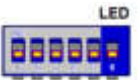
1	2	3	Baud rate
OFF	OFF	OFF	AUTO
ON	OFF	OFF	2400
OFF	ON	OFF	4800
ON	ON	OFF	9600
OFF	OFF	ON	19200
ON	OFF	ON	38400
OFF	ON	ON	57600
ON	ON	ON	115200



Code switch 4 = response delay
1 = delay of the module response by 60msec (mandatory when connecting via CM06)



Code switch 5 = no function



Code switch 6 = LED ON / OFF
Used to switch off the LED displays (Eco mode)

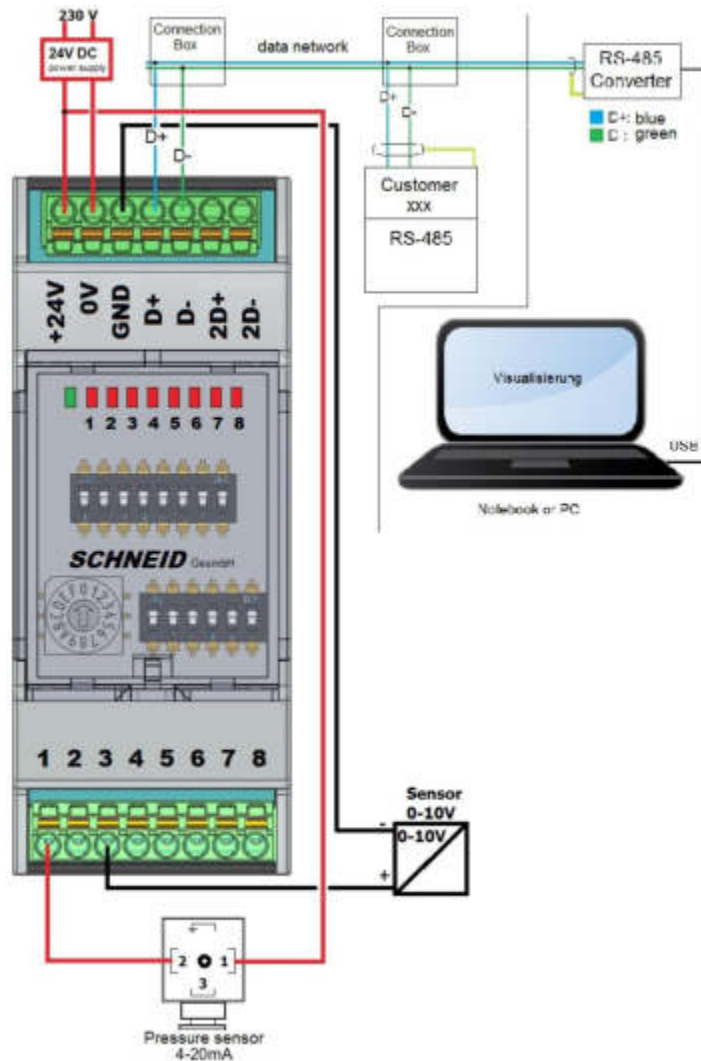
Modbusregister

Register	Bez.DI8	Bez.AI8	Bez.DO8	Bez.AO8	Read/Write	Bytes
0	Eingang 1 Temperatur (0.1°C)	Analog IN 1 (0-10000)	Relais 1 (0/1)	Aout 1 (0-10000)	R	2
1	Eingang 2 Temperatur	Analog IN 2 (0-10000)	Relais 2 (0/1)	Aout 2 (0-10000)	R	2
2	Eingang 3 Temperatur	Analog IN 3 (0-10000)	Relais 3 (0/1)	Aout 3 (0-10000)	R	2
3	Eingang 4 Temperatur	Analog IN 4 (0-10000)	Relais 4 (0/1)	Aout 4 (0-10000)	R	2
4	Eingang 5 Temperatur	Analog IN 5 (0-10000)	Relais 5 (0/1)	Aout 5 (0-10000)	R	2
5	Eingang 6 Temperatur	Analog IN 6 (0-10000)	Relais 6 (0/1)	Aout 6 (0-10000)	R	2
6	Eingang 7 Temperatur	Analog IN 7 (0-10000)	Relais 7 (0/1)	Aout 7 (0-10000)	R	2
7	Eingang 8 Temperatur	Analog IN 8 (0-10000)	Relais 8 (0/1)	Aout 8 (0-10000)	R	2
8	Modultype 1.DI8 2.AI8 3.DO8 4.AO8	Modultype	Modultype	Modultype	R	2
9	SW Release	SW Release	SW Release	SW Release	R	2
10	Offset Eingang1 in (0.1°)	Anfangswert 1 (-)	DOUT1 EIN in ms (max.32000ms)	Manual AOUT1 (0-10000)	R/W	2
11	Offset Eingang2 in (0.1°)	Anfangswert 2 (-)	DOUT2 EIN in ms (max.32000ms)	Manual AOUT2 (0-10000)	R/W	2
12	Offset Eingang3 in (0.1°)	Anfangswert 3 (-)	DOUT3 EIN in ms (max.32000ms)	Manual AOUT3 (0-10000)	R/W	2
13	Offset Eingang4 in (0.1°)	Anfangswert 4 (-)	DOUT4 EIN in ms (max.32000ms)	Manual AOUT4 (0-10000)	R/W	2
14	Offset Eingang5 in (0.1°)	Anfangswert 5 (-)	DOUT5 EIN in ms (max.32000ms)	Manual AOUT5 (0-10000)	R/W	2
15	Offset Eingang6 in (0.1°)	Anfangswert 6 (-)	DOUT6 EIN in ms (max.32000ms)	Manual AOUT6 (0-10000)	R/W	2
16	Offset Eingang7 in (0.1°)	Anfangswert 7 (-)	DOUT7 EIN in ms (max.32000ms)	Manual AOUT7 (0-10000)	R/W	2
17	Offset Eingang8 in (0.1°)	Anfangswert 8 (-)	DOUT8 EIN in ms (max.32000ms)	Manual AOUT8 (0-10000)	R/W	2

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Terminal plan:

- Terminal 1: AIN 1
- Terminal 2: AIN 2
- Terminal 3: AIN 3
- Terminal 4: AIN 4
- Terminal 5: AIN 5
- Terminal 6: AIN 6
- Terminal 7: AIN 7
- Terminal 8: AIN 8



SPC-AI8 Modbus-Module with RS485-Bus connection

Scope of delivery:

Expansion module SPC-AI8 with RS485 bus connection

Technical specifications:

Intrastat Number:	8537.10.91.90
Country of origin	EU/AT
Height, width, depth (in mm)	90 x 36 x 60
Weight (in kg)	0,0812
Protocol	Modbus RTU
Address range	16 to 30
Transfer rate	2400 to 115200 Bit/s, Factory setting 19200 Bit/s 8N1
Bus interface	RS485 two-wire bus with equipotential bonding in bus / line topology;
Operating voltage	24 V AC/DC \pm 10 % (SELV)
Power consumption	65 mA (AC) / 25 mA (DC)
Duty cycle, relative	100 %
Analog inputs	8, configurable
Resistance range	40 Ohm to 4 MOhm
Voltage input	0 to 10 V DC
Resolution	15 Bit
Assembly	on TH35 mounting rail according to IEC 60715
Alignable	without distance After connecting 15 Modbus modules or a maximum current consumption of 2 A (AC or DC) per connection on the power supply unit, the supply voltage must be restarted externally.
Casing	Polyamid 6.6 V0
Terminals	Polyamid 6.6 V0
Cover	Polycarbonat
Degree of protection (IEC 60529) housing	IP40
Degree of protection (IEC 60529) Terminals	IP20
Protective circuit	Reverse polarity protection of the operating voltage Reverse polarity protection of supply and bus
Operating temperature range	-5 °C to +55 °C
Storage temperature range	-20 °C to +70 °C
Display operation and bus activity	green LED
Display error message	red LED