PCD7.L301 Analogue module with 4 inputs each, Pt1000 and 0 … 10 VDC

Description
The RIO module was developed as a SBC S-Bus data node for local switching tasks. Via a DDC of the type PCDx / PCS1, inputs can be read and manual/auto function monitored. Two address switches (x1 / x10) on the front panel allow module addressing and identification. Addresses can be set between 00 and 99. Up to 100 RIO modules and a maximum of 3 PCD stations can be connected to one bus branch simultaneously.

Technical data

Bus system	SBC S-Bus
Transmission rate	1200 … 38400
Transmission mode	Parity
Bus length max.	1200 m (without repeater)
Nominal voltage UN	24 VDC (18 VDC … 32 VDC)
Current consumption	<30 mA
Power consumption	1 W
Relative duty cycle	100 %
Reaction time	20 ms (from receive data to send data reaction)
Recovery time	< 3 s
Operating temperature range	0 °C … +55 °C
Storage temperature range	-25 °C … +70 °C
Protective wiring	Reverse battery protection of service voltage
Input state indicator	Yellow LED
Function indicator	Green LED for bus activity
Status indicator	Red LED for bus error message
Special features	Inputs electrically isolated
Test voltage input / bus	2500 VAC / 50 Hz / 1 min.

Signal inputs

Sensor types	4 × Pt1000, 2 wire measurement
Temperature range	-50 °C … +150 °C /according to HEVAC (accuracy +/-0.1 °C)
Voltage range	4 × 0 … 10 VDC (accuracy 10 mV)
Data range	0 … 1000 (2 comma stages)

Housing

Protection class	IP65
Plug-in terminal	1.5 mm² / spring terminals
Mounting position	any
Weight	350 g
Housing dimensions	W×H×D: 159×41,5×120 mm
Joining	without space

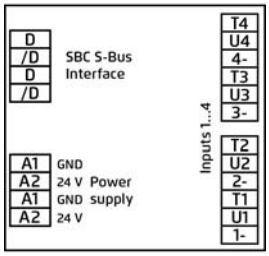
Mounting and commissioning to be conform with current regulations:

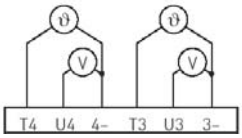
1. Power-off the installation
2. Place module onto the place of destination
3. Cable with max. single wire 1,5 mm² insert into the unit. With consideration of the protection class.
4. Connect the wires into the spring terminals

Connect supply voltage and field bus to the dedicated spring terminals.

Caution!!
Do not exchange the bus and supply spring terminals.

PCD7.K301 SAFE





Spring terminals, 1.5 mm², single -wire

Data transmission
All Saia S-Bus instructions (level 1) are recognized. Instructions that have no function in the device are answered with <NAK>. The module has integral, automatic baud rate recognition.

Display Register" Register 1 to 4 and 11 to 14 can be called together

Adresse	Information	Adresse	Information
1	Temperature 1 (devided with 10 => Temp.)	11	Voltage 1 (devided with 100 => Voltage value)
2	Temperature 2 (devided with 10 => Temp.)	12	Voltage 2 (devided with 100 => Voltage value)
3	Temperature 3 (devided with 10 => Temp.)	13	Voltage 3 (devided with 100 => Voltage value)
4	Temperature 4 (devided with 10 => Temp.)	14	Voltage 4 (devided with 100 => Voltage value)

„Display Register"

Address	Information
5	Baud rate (plain text => kBit/s)
6	Module address
7	Status register
8	Not used
9	Not used
10	Status register

The following registers can be called together
(Display Register "x" to "y") 1 to 4 / 5 to 7 / 11 to 14

"Write Register"

Address	Value	Baud rate setting (Baud kbit/s)
5	4	1 200
	5	2 400
	6	4 800
	7	9 600
	8	19 200
	9	38 400

Status register:

Bit 0:	1= Device recognized last transmission
	0= Device did not recognize last transmission
Bit 1:	1= Last transmission was a broadcast
	0= Last transmission was not a broadcast
Bit 2:	1= Last transmission came from master
	0= Last transmission came from a slave
Bit 3:	1= CRC of last message was correct
	0= CRC of last message was incorrect
Bit 5:	1= Device has executed an internal reset
	0= Device function is OK
Bit 8:	1= Internal bus to EEPROM is OK
	0= Internal bus not working perfectly
Bit 9:	1= EEPROM data memory is OK
	0= EEPROM data memory is faulty
Bit 10:	1= Baud rate uploaded from EEPROM
	0= Baud rate is at default value (9600 Bd.)

All other bits are reserved for factory tests.

"Write Output"
The write output instruction at address 255 is recognized as broadcast message.
Automatic baud function: "Write or Display output 255" (1 = autobaud active / 0 = autobaud inactive)

N.B:
After a power failure, the last baud rate set will be reinstalled.

For further information on the use of modules linked to S-Bus, including all restrictions, see documentation 26/339 EN