



The MODEX RTD in Ex i module enables an intrinsically safe connection of 4 Pt100, Pt1000, resistors or potentiometers. The inputs are galvanically isolated from each other, from the power supply and from the bus. The module is connected to the process control system via the PROFIBUS-DP. This is also displayed on the module itself using LEDs. Diagnostics data indicating the status of the outputs with respect to a disconnection or short-circuit can also be transmitted in addition to the user data. This is also displayed on the module itself using LEDs.

**Explosion protection**

Marking ATEX	II 2(1)G Ex db e [ia Ga] IIC/IIB Gb I M2 Ex db e [ia Ma] I Mb
Certification	PTB 97 ATEX 1066 U TÜV 01 ATEX 1668
Marking IECEx	Ex db e [ia Ga] IIC/IIB Gb Ex db e [ia Ma] I Mb
Certification	IECEX PTB 11.0082U IECEX TUN 11.0028X
Marking CSA	Class I, Zone 1, IIC A/Ex d e [ia] IIC Gb
Certification	CSA 2011-2484303U
Other approvals and certificates, see <a href="http://www.bartec.de">www.bartec.de</a>	
Installation	Type 17-6583-.7./.... II (1)G / II (1)D [Ex ia Ga] IIC/IIB [Ex ia Da] IIC/IIB For further data see test certificates.
Safety data	$U_0 = 7.2 \text{ V}$ $U_m = 253 \text{ V}$ $I_0 = 6 \text{ mA}$ $P_0 = 11 \text{ mW}$ $L_0 = 25 \text{ mH (IIC)}/50 \text{ mH (IIB)}$ $C_0 = 1.1 \text{ }\mu\text{F (IIC)}/5.7 \text{ }\mu\text{F (IIB)}$

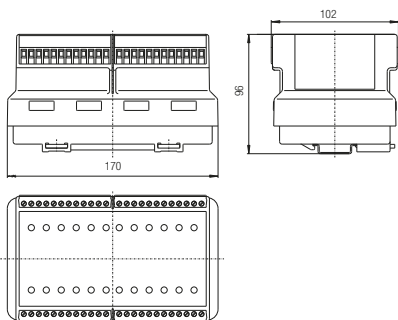
**Technical data**

Construction	Flameproof, clip-on enclosure for TH 35 rail	
Enclosure material	High-quality thermoplastic	
Protection class	Enclosure	IP 66 EN/IEC 60529
	Terminals	IP 20 EN/IEC 60529
	Terminals with cover	IP 30 EN/IEC 60529
Terminals	2,5 mm <sup>2</sup> , fine stranded	
Device designation	Front plate for labelling	
Displays	LEDs on front panel	
Storage temperature	-40 °C to +60 °C	
Ambient temperature	-25 °C to +60 °C at T4	
Weight	2.1 kg	

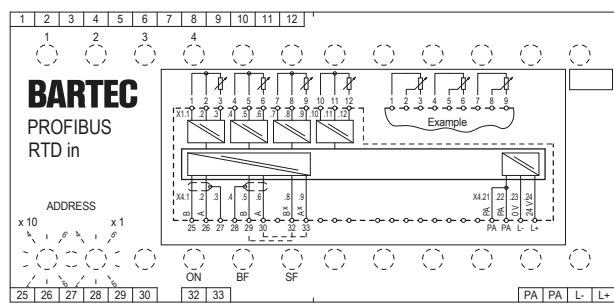
**Electrical data**

Supply voltage electronics (L +, L-)	DC 24 V (20 to 30 V)	
Power consumption (L +, L-)	4 W	
Reverse polarity protection (L +, L-, U+, U-)	Yes	
Power dissipation	max. 4 W (Module)	
Galvanic isolation	Power supply//bus//circuitry//inputs (also to each other)	
Bus interface	RS485 with screw terminals	
Displays	Status	ON, BF, SF,
	Outputs	8 x LEDs LED yellow, output ok LED red, open circuit/short circuit
<b>Inputs</b>		
Sensor power	200 $\mu\text{A}$	
Measuring range	Temperature (Pt100, Pt1000) -150 °C to +850 °C Potentiometer 500 $\Omega$ to 5 k $\Omega$ Resistor 0 $\Omega$ to 5 k $\Omega$	
Displays	Temperature	-1500 to 8500 (dec.)
	Potentiometer	0000 to 1000 (dec. 0 to 100 %)
	Resistor	0000 to 5000 (dec.)
Line resistance	$R \leq 50 \text{ }\Omega$ (3-wire)	
Precision	$\pm 0.2 \text{ %}$ (with shielded cable)	
Temperature drift	0.05 %/10 K	
Line monitoring	Group error message via bus	

**Dimensions/mounting positions**



**Wiring diagram/terminal assignment**



Operating modes	Conversion time	
4 x Pt100	380 ms <sup>(*)1</sup>	320 ms <sup>(*)2</sup>
4 x Pt1000	380 ms <sup>(*)1</sup>	320 ms <sup>(*)2</sup>
4 x Potentiometer	80 ms <sup>(*)3</sup>	
4 x Resistor	80 ms <sup>(*)3</sup>	
2 x Pt100 (Channel 1 and 2); 2 x Potentiometer (Channel 3 and 4)	380 ms <sup>(*)1</sup>	320 ms <sup>(*)2</sup>
2 x Pt100 (Channel 1 and 2); 2 x Resistor (Channel 3 and 4)	380 ms <sup>(*)1</sup>	320 ms <sup>(*)2</sup>
2 x Pt1000 (Channel 1 and 2); 2 x Potentiometer (Channel 3 and 4)	380 ms <sup>(*)1</sup>	320 ms <sup>(*)2</sup>
2 x Pt1000 (Channel 1 and 2); 2 x Resistor (Channel 3 and 4)	380 ms <sup>(*)1</sup>	320 ms <sup>(*)2</sup>

all values 0 (dec.)

all values 32767 (dec.)

<sup>(\*)1</sup> Filter set to 50 Hz

<sup>(\*)2</sup> Filter set to 60 Hz

<sup>(\*)3</sup> Filt fixed at 250 Hz

**Note**

Last bus module in system	Bridge A-A <sup>X</sup> (Terminals 30, 33) Bridge B-B <sup>X</sup> (Terminals 29, 32)
GSD file	BARX2307.gsd
Download	<a href="http://automation.bartec.de">http://automation.bartec.de</a>

**Ordering information**

PROFIBUS Interface 4 x RTD in Ex i **07-7331-2307/0000**

Technical data subject to change without notice.