



The ANTARES 4TI Remote I/O Module is operated and supplied with power by means of the Rail Control Unit (RCU) ANTARES. This module allows the intrinsically safe connection of 4 Pt100, Pt1000, resistors or potentiometers. The hot-swap capability allows the electronic unit to be replaced without disconnecting from voltage even in an explosive atmosphere. The internal and galvanically isolated bus connection is established by simply plugging the modules to the RCU. A bus rail is not necessary. Open circuit/short circuit monitoring can be programmed for each channel. The bus status messages and individual messages per channel are displayed by the LEDs. This also enables diagnostics on the module. The Software ANTARES Designer allows parameters to be set for the sensor type. See the system description for installation instructions.

**Explosion protection**

Marking ATEX	Ex ib [Ia IIC/IIB Ga] IIC T4 Gb [Ex ia Da] IIIC
Prüfbescheinigung	PTB 11 ATEX 2016
Marking IECEx	Ex ib [Ia IIC/IIB Ga] IIC T4 Gb [Ex ia Da] IIIC
Certification	IECEx PTB 11.0058
Marking CSA	Class I, Zone 1
Certification	CSA 2567944
Other approvals and certificates, see <a href="http://www.bartec.de">www.bartec.de</a>	
Ambient temperature range	-20 °C to +60 °C

**Safety data per transmission Channel**

Module	$U_o/U_i$	$I_o/I_i$	$P_o$	$C_i$	$L_i$
4TI	6.5 V	25.9 mA	42.1 mW	16.6 nF	negligible
Ex ia IIC	$C_o$ max.	$L_o$ min.		$C_o$ min.	$L_o$ max.
4TI	24.9 µF	2 µH	or	593 nF	73 mH
Ex ia IIB	$C_o$ max.	$L_o$ min.		$C_o$ min.	$L_o$ max.
4TI	569 µF	2 µH	or	4.68 nF	100 mH

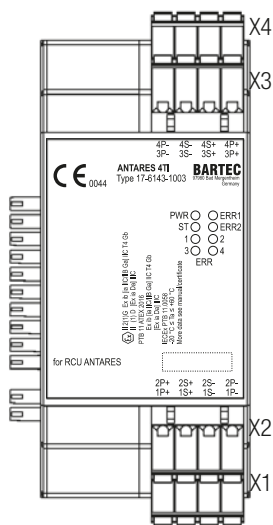
**Technical data**

Enclosure material	PA
Protection class (EN 60529)	Enclosure: IP 30 in the ANTARES system construction
Electrical connections	plug-in tension spring-loaded clamps, 4-pole, to 2.5 mm <sup>2</sup> optional coding and numbering
Mounting rail	TH 35-15 DIN EN 60715 (steel, galvanised)
Device and terminal designation	see accessories
Dimensions (W x H x D)	45 mm x 110 mm x 114.5 mm
Weight	approx. 380 g
Storage and transport temperature	-25 °C to +85 °C
Humidity	5 to 95 %, non-condensing
Degree of contamination (IEN 60664-1)	2
Vibration (EN 60068-2-6)	2 g/7 mm; 5 Hz to 200 Hz in all 3 axes
Shock (EN 60068-2-27)	15 g, 11 ms, ± 3 shocks per direction

**Elektrische Daten**

Number of Channels	4 inputs Ex i (short-circuit-proof)
Supply voltage	through internal bus
Galvanic isolation	between inputs and internal bus
Open circuit/short circuit	settable for each Channel with Software
Measurement range	Potentiometer 0 up to 10 kΩ Temperature -200 °C to +850 °C
Sensors	Pt100, Pt1000, Potentiometer with 2-, 3-, 4-conductor technology
Readings	Temperature (Pt100, Pt1000) in °C, K or °F Potentiometer in Ω, settable for each Channel with software
Displays	LEDs in enclosure front: Status PWR, ST, ERR1, ERR2 Inputs 1 x LED error per Channel
Tolerance for 4-conductor wiring	± 0.10 % of the measuring range at +25 °C
Tolerance of the resistor	± 0.15 % of the measuring range at +25 °C
Influence of the ambient temperature	± 0.01 %/K of the measuring range

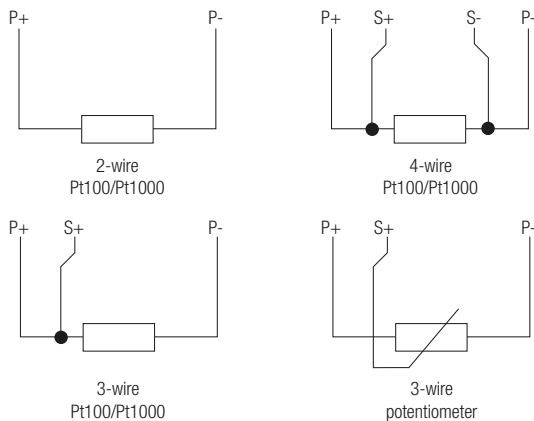
Wiring diagram/terminal assignment



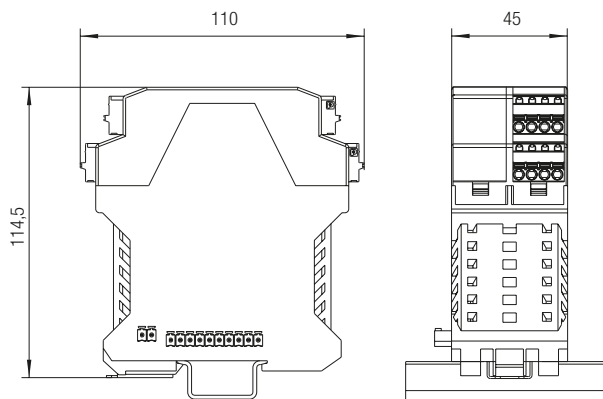
Terminal block	Terminal	Description	
X4	4P-	Supply -	Channel 4
	4S-	Signal -	Channel 4
	4S+	Signal +	Channel 4
	4P+	Supply +	Channel 4
X3	3P-	Supply -	Channel 3
	3S-	Signal -	Channel 3
	3S+	Signal +	Channel 3
X2	2P+	Supply +	Channel 2
	2P-	Signal -	Channel 2
	2P-	Signal +	Channel 2
X1	1P+	Supply +	Channel 1
	1S+	Signal +	Channel 1
	1S-	Signal -	Channel 1
	1P-	Supply -	Channel 1

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Connection examples



Dimensions



LED	Colour	Meaning
PWR	GN	Power OK, goes out in the event of undervoltage
ST	GN	Data exchange active
ERR1	RT	Communication error
ERR2	RT	Error in the module
ERR 1-4	RT	Channel error line break/short circuit

Ordering information

ANTARES Remote I/O Module 4TI **17-6143-1003/0000**

Technical data subject to change without notice.