



The ANTARES 8TC Remote I/O Module (8 thermocouples) is suitable for the intrinsically safe connection of a variety of thermocouple types. All of the I/O module's transmission channels are conductively connected to each other. The ANTARES 8TC Remote I/O Module is operated by and supplied with power by the ANTARES Rail Control Unit (RCU). A bus rail is not necessary. Hot-swap capability allows the electronic unit to be replaced without disconnecting from voltage even in a potentially explosive atmosphere. Parameters can be set for every channel. Open circuit/short circuit monitoring can be programmed for each channel. See the system description for installation instructions.

Explosion protection

Marking ATEX	II 2(1)G Ex ib [ja IIC/IIB Ga] IIC T4 Gb II (1)D [Ex ia Da] IIIC
Certification	PTB 14 ATEX 2009
Marking IECEx	Ex ib [ja IIC/IIB Ga] IIC T4 Gb [Ex ia Da] IIIC
Certification	IECEx PTB 14.0033
Marking CSA	Class I, Zone 1
Certification	CSA 2567944
Other approvals and certificates, see www.bartec.de	
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
8TC	1.4 V	10.5 mA	3.7 mW	negligible	negligible
Ex ia IIC	$C_o \text{ max.}$	$L_o \text{ min.}$		$C_o \text{ min.}$	$L_o \text{ max.}$
8TC	8.8 µF	2 µH	oder	0.74 µF	100 mH
Ex ia IIB	$C_o \text{ max.}$	$L_o \text{ min.}$		$C_o \text{ min.}$	$L_o \text{ max.}$
8TC	115 µF	2 µH	oder	3.9 µF	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, up to 2.5 mm ² ; 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	ca. 390 g
Storage and transport temperature	-25 °C to +85 °C
Humidity	5 to 95 %, non-condensing
Degree of contamination (EN 60664-1)	2

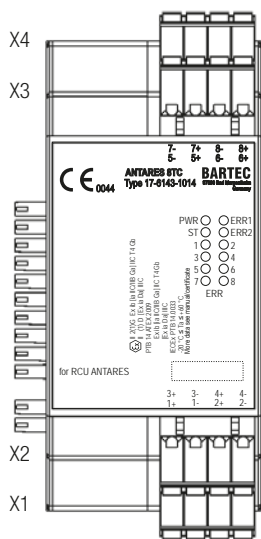
Vibration (EN 60068-2-6)	2 g/7 mm; 5 Hz to 200 Hz in all 3 axes
Shock (EN 60068-2-27)	15 g, 11 ms, ± 3 shocks per direction

Electrical data

Number of Channels	8 inputs Ex i (short-circuit proof)
Supply voltage	through internal bus
Galvanic isolation	between inputs and internal bus
Potential isolation of Channels	Functionally up to 100 V _{ss}
Open circuit/short circuit	settable for each Channel with Software
Measuring range	-80 mV to +80 mV
Sensors	Thermocouple types: A; B; C; E; J; K; N; R; S; T; XK; mV
Display	Temperature in °C, K or °F
Measuring time cycle temperature operation	approx. 75 ms per canal
Influence of the ambient temperature	± 0.05 %/10 K of the measuring range full-scale value

Element Type	Standard	Measuring range (ITS-90)	Medium resolution	Average measurement deviation based on the measuring range
A	IEC 60584-1	0 to +2500 °C	0.25 K	0.1 %
B	IEC 60584-1	+400 to +1800 °C	0.25 K	0.1 %
C	IEC 60584-1	0 to +2300 °C	0.25 K	0.1 %
E	IEC 60584-1	-200 to +1000 °C	0.1 K	0.013 %
J	IEC 60584-1	-200 to +1200 °C	0.1 K	0.014 %
K	IEC 60584-1	-200 to +1370 °C	0.1 K	0.02 %
N	IEC 60584-1	-200 to +1300 °C	0.1 K	0.02 %
R	IEC 60584-1	-50 to +1767 °C	0.2 K	0.05 %
S	IEC 60584-1	-50 to +1767 °C	0.2 K	0.053 %
T	IEC 60584-1	-200 to +400 °C	0.1 K	0.042 %
XK	GOST 8.585	-50 to +800 °C	0.1 K	0.02 %
mV		0 to +100 mV	3.6 µV	0.01 %

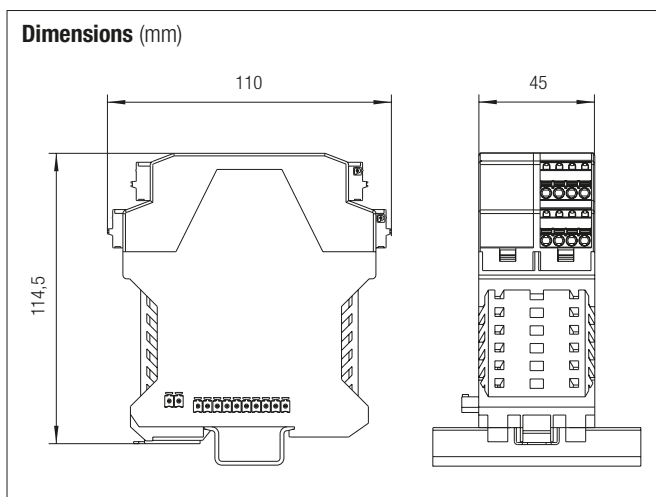
Wiring diagram/terminal assignment



Terminal block	Terminal	Description	
X4	7-	Minus terminal	Channel 7
	7+	Plus terminal	Channel 7
	8-	Minus terminal	Channel 8
	8+	Plus terminal	Channel 8
X3	5-	Minus terminal	Channel 5
	5+	Plus terminal	Channel 5
	6-	Minus terminal	Channel 6
	6+	Plus terminal	Channel 6
X2	3+	Plus terminal	Channel 3
	3-	Minus terminal	Channel 3
	4+	Plus terminal	Channel 4
	4-	Minus terminal	Channel 4
X1	1+	Plus terminal	Channel 1
	1-	Minus terminal	Channel 1
	2+	Plus terminal	Channel 2
	2-	Minus terminal	Channel 2

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Dimensions (mm)



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 1-8	RT	Channel error line break/short circuit

Ordering information

ANTARES Remote I/O Modul 8TC

17-6143-1014/0000

Technical data subject to change without notice.