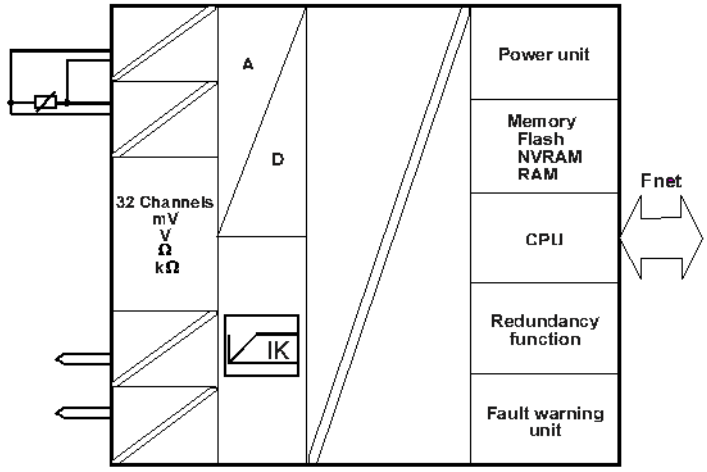
CTI 21 - Temperature input module

Features / Applications



- 32 analog / temperature inputs, channel-wise configurability in 2-conductor switch
- 16 temperature inputs in 3/4-conductor switch
- Central galvanic separation through opto-coupler
- Functional channel-wise galvanic separation of the inputs through relay multiplexer
- 16-Bit A/D transformer
- Module is capable of redundancy
- Monitoring the module
- Linearization
- Reference junction compensation
- Compensation of the line resistances
- Standardization of the measured values

Table: Sensor types for the module CTI 21

Sensor type:	**Specifications:**	**Measurement range:**	**Standard:**
Resistance thermometer	Pt 100 (2-, 3-, 4-conductor) Ni 100 (2-, 3-, 4-conductor)	-200 ... +850 °C -60 ... +250 °C	DIN IEC 751 (from December 1990) DIN 43760 (from August 1985)
Thermocouples	U L	-50 ... +600 °C -50 ... +900 °C	DIN 43710 (from December 1985)
	T J E K R S B N	-50 ... +400 °C -50 ... +1200 °C -50 ... +1000 °C -50 ... +1372 °C -50 ... +1769 °C -50 ... +1769 °C +50 ... +1820 °C -50 ... +1300 °C	DIN EN 60584-1 (from October 1996) IEC 584-1
Thermocouples, resistance sensor	Freely selectable freestyle characteristics	Arbitrary	Without DIN / IEC reference
Resistance measurement	NTC, PTC	0 ... 6000 Ohm	Linear without DIN / IEC reference
Voltage measurement	Measured value resolution can be set in stages	0 ... 6 V	Linear without DIN / IEC reference

Technical Data

Input voltage ranges that can be set:	B1 = -10 ... +20 mV B2 = -10 ... +80 mV B3 = -10 ... +460 mV B4 = 0 ... +1.0 V B5 = 0 ... +6.0 V
Input resistance:	R >= 10 MOhm
Response threshold for line break:	R = 7 kOhm ± 10 %
A/D transformation - type:	 16 Bit transformer (without preceding sign)
Constant current	Iko = 1.0 mA ± 1.7 % (corrected by software)
Zero deviation - zero: - temperature influence:	 <= ± 0.1 % (relative to measurement range end value) <= ± 0.05 % / 10 K (relative to measurement range end value)
Range deviation - range: - temperature influence:	 <= ± 0.1 % (relative to current end value) <= ± 0.1 % / 10 K (relative to current value)
Damping at power frequency (50 / 60 Hz) - common mode: - normal mode:	 D > 120 dB D > 60 dB
Switching current relay:	Imax < 150 mA
In-resistance relay:	Ron < 200 mOhm
Out-resistance relay:	Roff > 10 exp 10 Ohm
Life-time at one switch per second:	t >= 30 years
Galvanic separation:	Central / (functional channel-wise)
Voltage testing:	245 Veff (channels together; 'Contact breakdown voltage') 1500 Veff (to the system in accordance with EN 50020)
Ambient temperature:	0 ... 50 °C (temperature for ventilating the module in the module sub-rack)
Voltage supply: - supply voltage: - fuse protection:	 Uv1/Uv2 = 20 ... 33 V G-fusible element 5 * 20 3.15 A slow-acting T 3.15 H
Permitted overvoltages:	35 V (for 1 s) 45 V (for 10 ms)
Current use (reference current):	< 250 mA at Uv = 24 V
Power loss:	Max. 6 W

Ordering Information

Catalog No.								Description	
72140-4-	0	7	8	8	7	4	0	CTI 21 - Temperature input module	
Additional Order Information									
								Former System Packet (Indicate Version)	BA-No. 601
Necessary Accessories:									
72199-4-	0	7	4	5	2	1	3	CI 100 Connection Unit, grey, Standard Version, Basic	
	0	7	4	5	2	0	3	CI 101 Connection Unit, grey, Standard Version, Redundant 8 TE	
72199-4-	0	7	8	9	4	4	1	Cable Clamps	

Hartmann & Braun

ABB Automation Products

Industriestraße 28
65729 Eschborn
Tel. (06196) 800-0
Fax (06196) 800-11 19

Höseler Platz 2
42567 Heiligenhaus
Tel. (0 20 56) 12- 0
Fax (0 20 56) 12- 56 79

Kohlstraße 4
32425 Minden
Tel. (05 71) 830- 0
Fax (05 71) 830- 11 05

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