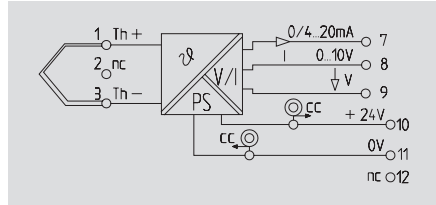
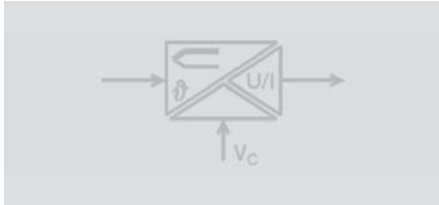


Thermo element, signal isolator/converter

Thermo disconnecter converter Type: PRO Thermo K, J, T, E, N, R, S, B

- 3-way isolation
- Calibration not necessary
- Cold-junction compensation
- Output signal selectable
- Power sup. can be cross-conn. by jumper



Technical data

Input	
Sensor	thermo-elements (IEC 584) type: K,J,T,E,N,R,S,B
Temperature input range	-200...+1820 °C
Output	
Output voltage/Output current	0...10 V/0(4)...20 mA
Load resistance/voltage/current	>= 1 kΩ / <= 600 Ω
Offset current/Offset voltage	max. 100 μA/max. 0.05 V
Step response time	max. 1.4 s; with filter: max. 7.5 ms
Line resistance in measuring circuit	50 Ω
Wire break detection	LED flashes (output value > 20mA, > 10V)
Fine adjustment	>= +/- 5 % (switchable)
Status indicator	active: LED on/cond. broken: LED flashing/Error: LED off
General data	
Supply voltage	24 Vdc +/- 25 %
Power consumption	800...850...950 mW at Iout= 20 mA
Current-carrying cap. of cross-connect.	<= 2 A
Operation temperature	0 °C...+55 °C
Storage temperature	-20 °C...+85 °C
Default settings	type K; 0...1000°C; 4...20mA; filter: off; man. adjustment: off
Approvals	GL / CE / cURus
Insulation coordinates	
Standards	EN 50178, EN 60584, IEC 584
EMC standards	EN 50081, EN50082, EN55011
Rated voltage	300 V
Impulse withstand voltage	4 kV
Isolation voltage Input, output/	2 kVeff / 5s/
Overvoltage category	III
Pollution severity	2
Clearance & creepage path	>= 3 mm

Dimensions	
Clamping range (rating- / min. / max.)	mm²
Length x width x height	mm
Information	
	TU=23°C, single module

Ordering data

Type of connection	
Screw connection	
Tension clamp c.	
Information	

Accessories

Information	
	Voltage supply 24V and 0V with ZQV 2.5N/2 cross-connection

Selection of thermocoupler	
Typ	SW1
	1 2 3
K	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
J	<input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
T	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
E	<input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>
N	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>
R	<input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>
S	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
B	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Selection of minimum temperature	
∅ _{min}	SW1
	4 5 6 7
0°C	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
-10°C	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>
-20°C	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
-30°C	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
-40°C	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
-50°C	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
-100°C	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
-150°C	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
-200°C	<input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
+50°C	<input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
+100°C	<input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
+150°C	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>
+200°C	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>
+250°C	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>
500°C	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>
Special range	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Selection of temperature span	
Span	SW2
	1 2 3 4 5
100°C	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
150°C	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>
200°C	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
250°C	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
300°C	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
350°C	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
400°C	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
450°C	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
500°C	<input checked="" type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>
550°C	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>
600°C	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>
650°C	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>
700°C	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>
750°C	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>
800°C	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>
850°C	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>
900°C	<input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>
950°C	<input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
1000°C	<input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>
1050°C	<input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
1100°C	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
1150°C	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>
1200°C	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>
1250°C	<input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
1300°C	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
1350°C	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>
1400°C	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>
1450°C	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>
1500°C	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>
1600°C	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>
1700°C	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> ■ = on
1800°C	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> □ = off
Selection of output	
Output	SW2
	6 7
0...10V	<input checked="" type="checkbox"/> <input type="checkbox"/>
0...20mA	<input type="checkbox"/> <input type="checkbox"/>
4...20mA	<input type="checkbox"/> <input checked="" type="checkbox"/>
Switching on the manual fine adjustment	
man. adjust.	SW1
	8
off	<input type="checkbox"/>
on	<input checked="" type="checkbox"/>
Switching on the filter function	
Filter	SW2
	8
off	<input type="checkbox"/>
on	<input checked="" type="checkbox"/>
Temperature coefficient	
K -200°C...-150°C	± (5K + 0,1% of set range)
-150°C...1200°C	± (3K + 0,1% of set range)
1200°C...1372°C	± (4K + 0,1% of set range)
J -200°C...-150°C	± (4K + 0,1% of set range)
-150°C...1200°C	± (3K + 0,1% of set range)
T -200°C...-150°C	± (5K + 0,1% of set range)
-150°C...400°C	± (3K + 0,1% of set range)
E -200°C...-150°C	± (4K + 0,1% of set range)
-150°C...1000°C	± (3K + 0,1% of set range)
N -200°C...-150°C	± (6K + 0,1% of set range)
-150°C...1300°C	± (3K + 0,1% of set range)
R -50°C...200°C	± (10K + 0,1% of set range)
200°C...1760°C	± (6K + 0,1% of set range)
S -50°C...200°C	± (10K + 0,1% of set range)
200°C...1760°C	± (6K + 0,1% of set range)
B 50°C...250°C	± (25K + 0,1% of set range)
250°C...500°C	± (10K + 0,1% of set range)
500°C...1820°C	± (6K + 0,1% of set range)

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