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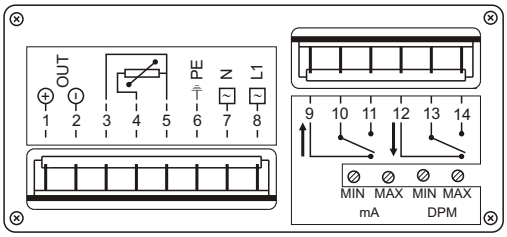
MOSTEC

Temperature measuring device Type M7829

Technical description



Rear view

The M7829 is a control panel mounted digital instrument for 3-wire Pt-100 platinum resistance probes (100 =0°C) with an accuracy of 0.1°C.
A liquid crystal display indicates the measured temperature, and also an appropriate current signal is available, wired to the terminal strip either as a 0/4...20mA or as specified by customer .

The indicators range is -100...199,9°C. However, the internal electronics measures over a range from -100...500°C, so the output signal can have a other range than the display.

Example: Indicator range -100...199,9°C, current output signal 4...20mA for -30...170°C. This signal can be used for an indicator, recorder, computer, PLC or controller etc.

Also, this instrument is ideally suited for low-cost applications where high precision is required. The sensor can be replaced without recalibration of the instrument because platinum probes have very close tolerances.

Typical application areas are:

- Air-conditioning
- Purification plants
- Hydrology
- Agriculture
- Biological (Fermentation plants etc.)
- Chemical industry in non-hazard areas
- Machine and galvanic industries

An optional printed circuit board with two alarm contacts may be installed. The two floating change-over contacts can be adjusted over the full range of -100...199,9°C.
Both relay contacts are made for heavy line loads to be directly wired to a 115/230V circuit.

The alarm values are adjustable from the front panel by means of toggle switches and two 20-turn potentiometers. Pressing a button shows the corresponding value of the alarm setting. It can now be set to the requested value by the screw potentiometer. Arrow up is the upper alarm, arrow down the lower.

If one of the two alarms are exceeded by the actual value of the temperature, the corresponding LED-lamp on the panel is on.. Both alarm values can be overlapped or simultaneously activated.

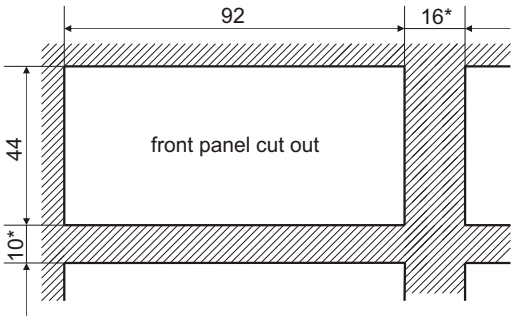
Applications: temperature monitoring, alarm actuator, simple 2-point temperature controller

Technical Data:

Sensor:	Platinum-/nickel, with 100,200,500 or 1000Ω at 0°C (DIN 43 760) in 2- or 3-wire connection
Display:	- 3½ digit liquid crystal, character high 12,7mm - 4½ digit liquid crystal, character high 10,2mm - 3½ digit LED red, character high 13,8mm
Output signal:	0/4...20mA, for any range within -100 to +500°C -40 to +180°C for nickel, others on request.
Accuracy at 23°C ambient:	±0.1°C
reproducibility:	better than0.1°C
temperature coefficient:	zero drift: typ. 30ppM/°C, gain drift: typ. 25ppM/°C
Long-term stability (3 month):	0.1°C
Working temperature:	-5 to +45°C
Max. humidity:	95%, non-condensing
Max. length of sensor cable:	300 meters, 3-wire shielded
Max. length of output signal cable:	2000 meters, 2-wire
Max. current signal loading:	<500Ω (=10V/20 mA)
Output current signal impedance:	>2MΩ
Power supply:	115/230VAC 50-60Hz at 5,5VA, optional: 24VAC, 24VDC
CE-conformity:	fulfilled
Zero-/gain calibration:	Separate for signal and display
Calibration:	In accordance with DIN, ±0,1°C
Alarm contacts:	Each -100 to +200°C, adjustable over the full range
Hysteresis:	±0,75°C, others on request
Contact rating:	Change over 6A/230VAC with resistive load
Contact debouncing:	R/C-filter 33nF/100Ω on the normally open contact, on request
Adjustment of the limit contacts:	20 turn potentiometers with screwdriver slot
Show the limit values:	with two front accessible toggle switches ↑ or ↓
Display the alarm contacts status:	by red LED-lamps
Terminals:	8 screw terminals for M7829-T, 6+8screw terminals for M7829-R
Terminal description:	1 = current output (+) 8 = Power supply L1 2 = current output (-) 9 = upper LC, norm. closed. 3 = sensor sense (-) 10 = upper LC, change over 4 = sensor (+) 11 = upper LC, norm. oben 5 = sensor (-) 12 = lower LC, norm closed. 6 = power supply PE 13 = lower LC, change over 7 = power supply N 14 = lower LC, norm. open.
(LC = alarm contact)	
Mounting/weight:	2 clamps, 395g
Warranty:	2 years
Options:	- other power supply - other sensors, resp. special probes to your specification - Channel selector for 6 sensors - Sensor cable 3P+shield - Laboratory devices
How to order:	M7829-R (with alarm contacts), 0...250°C Pt-100 = 4...20 mA, 230VAC M7829-T (without alarm contacts), 0...199.9°C Pt-100

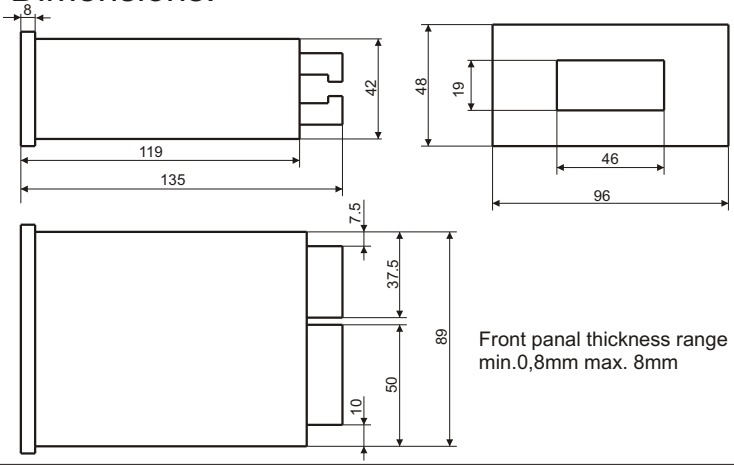
Option: The mode of the relay contacts can be changed. From energized to deenergized when exceeding the alarm value. The lower alarm is changed by the jumper J1A/B, the higher with jumper J2A/B. JXA = energizing the relay, JXB = deenergizing when the alarm value is exceeded.

Cut out dimensions:



*min. distance from one instrument to the next

Dimensions:



Front panal thickness range
min.0,8mm max. 8mm

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