

# Temperature display V230 ATR121 B

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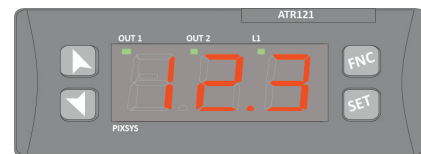
The temperature display ATR121 convinces by its compact design and the versatile application possibilities. With our temperature display you can reliably control and monitor your temperature readings. Alternatively, you can also use the controller as a temperature display. Our temperature displays are very flexible: You can not only connect all common resistance-based temperature probes (PT, Ni and NTC) or thermocouples to the input. You also have the option of integrating other measured variables such as humidity or pressure at the input of the temperature display via a standardized analog signal (0/4...20 mA / 0...10 V). Transmitters can be supplied with auxiliary power directly via the temperature display. Potentiometers can also be connected.

As with the possible input signals, our temperature display is also characterized by its diversity and flexibility with regard to the output signals. Two full-fledged relays (1 x NO/NC and 1 x NC), as well as a digital HL relay for the logic level output are available.

Our temperature display makes configuration easy for you - it features a PID controller and a practical self-optimization function. Thanks to extensive programming options directly via the display or with the help of the free software, alarm values can be set easily and accurately. You can conveniently store all configuration parameters on a memory card and thus also copy them to other controllers. You have the choice of several alarm functions and can ideally set switching thresholds thanks to the adjustable hysteresis.

General	
Multifunction input	PT, Ni, NTC and thermocouple
Control output	2x relay (1x no/nc, 1x no), logic level PNP or auxiliary power supply Control behavior adjustable (PID, PI, P, PD, on/off) Integrated self-tuning
Supply voltage	230 VAC ± 10% 50/60 Hz
Display	7-segment LED, 3-digit, red
Size (mm)	32 x 74 x 53

display	
Display	7-segment LED, 3-digit, red
Display size	0,56" (1,42 cm)
LEDs	3 green display LEDs (Out1 , Out2 , L1)
Display range	-99 to 999
Size (mm)	32 x 74 x 53



Inputs		
Input configuration	Selectable via terminal assignment and menu-driven programming	
Resolution	16 bit	
Sampling interval	66 ms (frequency 15 Hz)	
Adjustable measuring elements Pt100, Pt500, Pt1000, Ni100. PtC 1k Ohm, NTC 10 kOhm(B 3435K)	For a 3-wire Pt100, use cables with the same diameter. For a 2-wire Pt100, short-circuit terminals 10 and 12.	
Adjustable thermocouples 1)	Pay attention to the correct polarity. For extensions, use a compensating cable and clamps that match the device being used. For optimal operation, use sensors isolated from ground. Otherwise, use individually isolated transducers for each controller.	
Adjustable linear inputs	0/4 to 20 mA	Ri=<47Ω
	0 to 10 V	Ri>=110KΩ
	Potentiometer	

1) automatic cold junction compensation 0..50 °C, accuracy @25 °C ±0.5 %FS or ±1 scale unit

KS / 20.03.2023

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Unser Standard-Portfolio finden Sie in unserem  
Webshop unter: [www.testo-sensor.shop](http://www.testo-sensor.shop)

Outputs	
2 Relay outputs	1x 10 A / 8 A relay - 250 VAC resistive load 1x 5 A relay - 250 VAC resistive load
1 Digital output	PNP 8 VDC - 20 mA max.
1 Auxiliary output	8 VDC - 20 mA max. for power supply of the sensors

Power supply	
Supply voltage	230 VAC ± 10% 50/60 Hz
max. consumption	3 VA
Galvanic isolation	2500 V

Housing	
Dimensions housing (mm)	32 x 74 x 53
Material housing	Polycarbonate
Material front part	ABS UL94V0 self-extinguishing
Weight	100 g
Protection class	see environmental conditions
Mounting	Suitable for control cabinet installation - Seal and screw bracket included in scope of delivery

Environmental conditions	
Ambient temperature	0 °C to 45 °C
Ambient humidity	up to 95 rH% (non-condensing)
Protection class front part	IP54 (IP65 with gasket)
Protection class housing	IP30
Protection class terminal strips	IP20

Software functions	
Control setpoint	2 adjustable setpoints
Control algorithms	Two-point with hysteresis, P, PI, PID, PD with proportional time, dead band
Tuning	Manual or automatic
Operating modes	Display, single set point, double set point (adjustable by parameter)
Protection functions	Setpoint lock / Alarm lock - Password for parameter access
Alarm mode	Absolute / Threshold, Band, Deviation High / Low, Alarms with manual reset
Double PID heating / cooling	Combined heating / cooling operation with double PID
Valve logic open / close	Control of motorized valves

Delivery	
Temperature display, Operating instructions, Gasket, Screw bracket, individually packed in carton	

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Technical drawing	
<p><b>Top view</b></p> <p>Dima di foratura Frontal panel cutout 28,5 x 70,5</p> <p>Spessore suggerito Suggested thickness 2-8 mm</p>	<p><b>Circuit diagram</b></p> <p>1 P02139999 3999999999</p> <p>ATR121-B</p> <p>MADE IN ITALY</p> <p>Power consumption 4.4VA</p> <p>3 Digit 1 AI-2 RL-SSR-230V</p> <p>Power consumption 4.4VA</p> <p>P0213999999999</p> <p>MADE IN ITALY</p> <p>CE</p> <p>RoHS Compliant</p>
<p><b>Side view</b></p> <p>35</p> <p>7</p> <p>53</p>	<p>ATR121-B</p> <p>CONTROLLER DOUBLE SETPOINT 32x74</p> <p>3 Digit 1 AI-2 RL-SSR-230V</p> <p>Power consumption 4.4VA</p> <p>P0213999999999</p> <p>MADE IN ITALY</p> <p>CE</p> <p>RoHS Compliant</p>
<p><b>Front view</b></p> <p>42 mm inserimento Memory Card</p> <p>42 mm insert Memory Card</p> <p>ATR121</p> <p>OUT1 OUT2 L1</p> <p>12.3</p> <p>FNC</p> <p>SET</p> <p>PIXSYS</p> <p>35</p> <p>77</p>	<p>LBL91001.rpt del 02/08/2021</p>

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