ATR124

Controller with Dual Setpoint and NFC Configuration

- Supersedes ATR121
- Low-cost indicating PID controller
- Panel mount (32H x 74W mm)
- 2 setpoints
- Universal input for sensors including current, voltage, thermocouple, RTD etc
- Relay and SSR outputs
- Universal supply voltage 24 to 230 V AC/DC or 12 to 24 V AC/DC
- Settings configurable via NFC and phone app, push-button controls, software or memory card
- Configurable alarm modes
- Optional RS-485 Modbus RTU communications

Specifications	
Inputs	1 input, configurable for J, K , R, S or T thermocouples; Ni100; Ni120; Pt100; Pt500; Pt1000; PTC; NTC; 0-20 mA, 4-20 mA; 0 to 60 mV; 0 to 10 V DC; potentiometer 1 to 150 kΩ
Input Tolerance (at 25°C)	± 0.2% of full scale ± 1 digit for thermocouple, thermoresistance and V / mA
Loop Impedance	0-10 V: Ri > 110 KΩ 0-20 mA: Ri < 5 Ω 0-40 mV: Ri > 1 MΩ
Setpoints	2 setpoints: one for control; one for alarm
Outputs	1 or 2 relay outputs (depending on model) + 1 SSR output. One output can be assigned to each setpoint
Relay Outputs	Relays 5 A, 250 V AC resistive load
SSR Output	SSR 12 V, 25 mA, min load 1 mA; Open/Close logic (time-proportioned)
Digital Communications	(-T models only:) RS-485 Modbus RTU Slave, 1200 to 115200 baud, galvanically isolated
Alarm mode	Absolute / Threshold, Band, High / Low deviation. Optional manual reset
Control Action	ON/OFF with hysteresis; P, PI, PID, PD time proportional, with manual or automatic tuning; dual Heating/Cooling PID; open/close logic for motorised valve control
Configuration	Via push-button controls, or NFC (MyPixsys app), or memory card, or MyPixsysLab software. Parameters protected by password
Cold Junction Compensation	Automatic compensation from -25°C to 85°C Cold junction accuracy 0.1°C / °C
Display	3-digit white LED with configurable decimal point; LED status indicators
Accuracy	0.5% ± 1 digit for thermocouple / RTD; 0.2% ± 1 digit for mA / V
Sampling Time	As fast as 2.1 ms (up to 470 Hz); configurable software filters to slow response on input and display
Supply Voltage	24 to 230 V AC/DC ± 15% or 12 to 24 V AC/DC ± 10% (depending on model). All models isolated
Power consumption	5 W (-ABC models); 4.5 W (-AD models)
Operating Temperature	0°C to 45°C
Operating Humidity	35% to 95% RH
Sealing	Front panel: IP65 (with gasket); enclosure and terminal blocks: IP20
Dimensions	32H x 74W x 53D mm
Product Markings	CE, UL, RoHS Compliant

The ATR124 is a dual-setpoint PID controller with a bright white 3-digit LED display.

The universal input is configurable for a wide range of sensor types including thermocouple, current, voltage, resistance thermometer and potentiometer.

All settings are easily programmable via the built-in push-buttons and menu system. The ATR124 introduces NFC configuration via the MyPixsys app: Android devices can configure the controller directly via NFC, and iOS devices can do so via a Bluetooth module (available separately).

Two setpoints are available, one for control and one for the alarm function. They can be configured to activate relay outputs or an SSR output.

Relays are rated 5 A and alarm modes including threshold, band and deviation are available.

Software features include ON/OFF control, fully configurable PID with autotuning, and Heating-Cooling PID with a dead band.
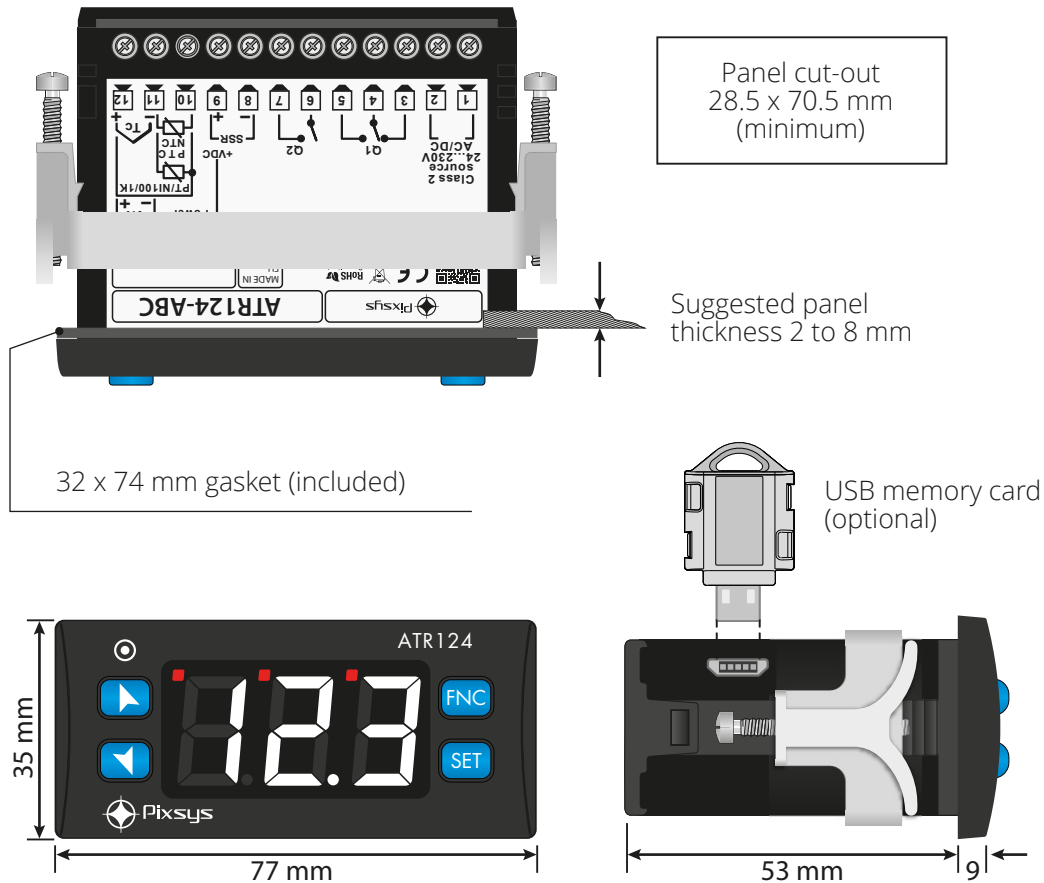
Models with RS-485 Modbus RTU Slave communications allow the unit to be connected to digital industrial networks, with many functions configurable via Modbus.

For potentiometer and linear voltage/current inputs, such as position sensors, there is a "latch on" function for quick calibration and setting of the minimum, maximum and zero points.
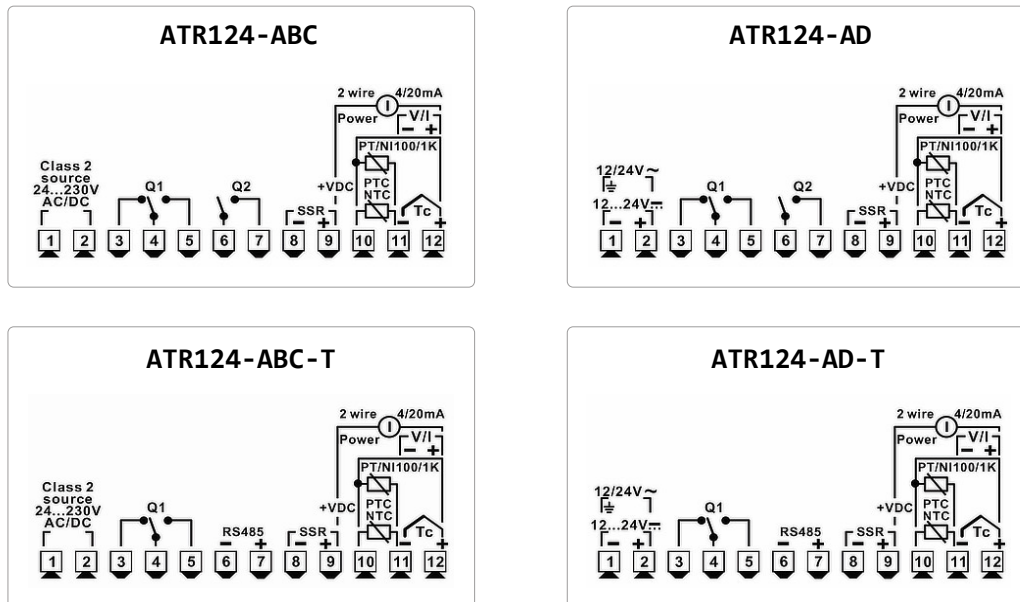
The unit is supplied with a gasket for an IP65 seal to the front of the panel. An optional USB memory card is available to quickly and easily copy all of the configuration parameters from one controller to another.

DIMENSIONS

Panel cut-out
28.5 x 70.5 mm
(minimum)

ATR124-ABC

Suggested panel thickness 2 to 8 mm

32 x 74 mm gasket (included)

USB memory card (optional)

ATR124

35 mm

77 mm

53 mm | 9

ELECTRICAL CONNECTIONS

ATR124-ABC

ATR124-AD

ATR124-ABC-T

ATR124-AD-T

MODELS

Model	Inputs	Outputs	Supply Voltage
ATR124-ABC	1 configurable analogue input	2 Relays 5 A + 1 digital output	24 .. 230 V AC/DC ±15% 50/60 Hz - 5 W
ATR124-ABC-T	1 configurable analogue input	1 Relay 5 A + 1 digital output + RS-485 Modbus RTU	24 .. 230 V AC/DC ± 15% 50/60 Hz - 5 W
ATR124-AD	1 configurable analogue input	2 Relays 5 A + 1 digital output	12 .. 24 V AC/DC ± 10% 50/60 Hz – 4.5 W
ATR124-AD-T	1 configurable analogue input	1 Relay 5 A + 1 digital output + RS-485 Modbus RTU	12 .. 24 V AC/DC ± 10% 50/60 Hz – 4.5 W
2100.30.013	USB memory card (optional)		

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