

AR604, AR614

TEMPERATURE CONTROLLER

PROGRAMMING



COPY



- 1 universal measuring input (supporting thermo-resistance, thermocouple sensors or digital probes of temperature AR182 and AR183)
- a programmable BIN input for changing the operating mode of the controller: start/stop regulation, set value interlock
- 1 control output, relay or SSR control output, ON-OFF with hysteresis, PID AUTOTUNING PID
- automatic selection of PID parameters function
- LED display with adjustable brightness control
- line resistance compensation for resistive sensors
- temperature compensation of cold ends of thermocouples
- programmable input type, digital filtration, regulation and access options and other configuration parameters
- access to configuration parameters protected by a user's password
- methods to parameters configuration:
 - from the foil keyboard and tuning knob (encoder) located on the front panel of the device
 - via PRG port (AR955/AR956 programmer) and the free ARSOFT-CFG program (Windows 7/8/10)
- software and programmer enabling the preview of the measured value and fast configuration of single or ready parameter sets previously stored in the computer for the purpose re-use, for example in other controllers of the same type (duplication of configuration)
- panel housings, IP40 from the front, IP20 from the connectors
- high accuracy, long-term stability and resistance to noise
- wide supply voltage range: 15 ÷ 250 Vac (alternating voltage 50/60 Hz), 20 ÷ 350 Vdc (direct voltage)

Contents of set:

- regulator with handles mounting in the window
- user manual

Available accessories:

- programmer AR955
- digital temperature probes AR182, Ar183

Ordering procedure

AR604, AR614 / □

Output 1	Code
relay	P
SSR	S

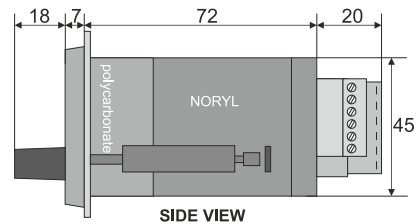
For example:

AR604 / P
AR604, 1 relay output

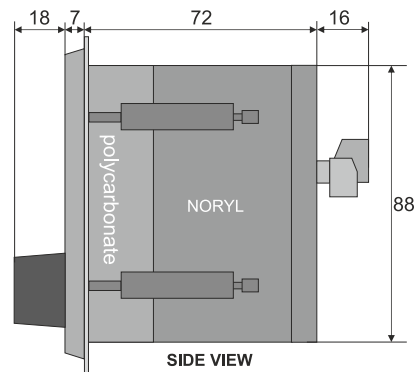
DIMENSIONS, INSTALLATION DATA

Enclosure dimension	48x48x79 mm (AR604), 96x96x79mm (AR614)
Panel window	46x46 mm (AR604), 92x89mm (AR614)
Fixing method	panel, grips on the side of the enclosure
Material	self-extinguishing polycarbonate NORYL 94V-0
Leads cross sections (separable connectors)	2,5mm ² (power i outputs 1), 1,5mm ² (remaining)

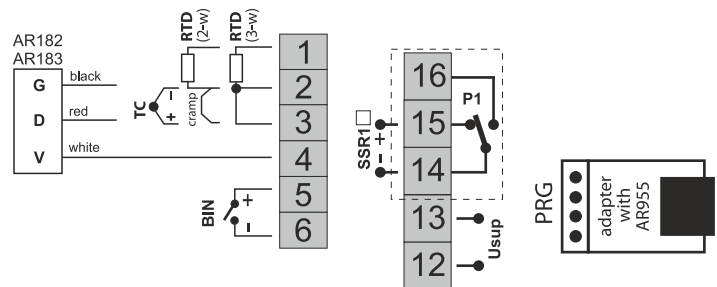
AR604



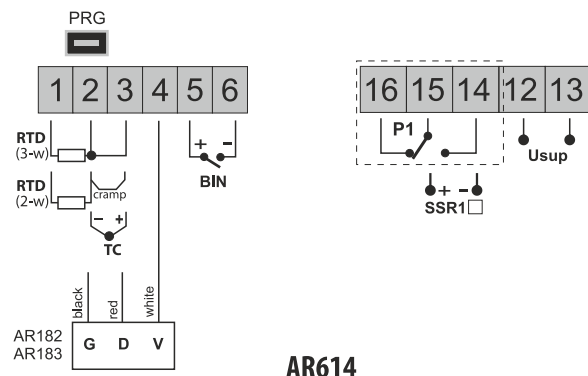
AR614



TERMINAL STRIPS, ELECTRICAL CONNECTIONS



AR604



AR614

TECHNICAL DATA

Universal inputs (programmable)		measurement ranges
- Pt100 (RTD, 3- or 2-wires)		-100 ÷ 850 °C
- thermocouple J (TC, Fe-CuNi)		0 ÷ 880 °C
- thermocouple K (TC, NiCr-NiAl)		0 ÷ 1200 °C
- thermocouple S (TC, PtRh 10-Pt)		0 ÷ 1750 °C
- thermocouple B (TC, PtRh30PtRh6)		300 ÷ 1800 °C
- thermocouple R (TC, PtRh13-Pt)		0 ÷ 1600 °C
- thermocouple T (TC, Cu-CuNi)		0 ÷ 380 °C
- thermocouple E (TC, NiCr-CuNi)		0 ÷ 700 °C
- thermocouple N (TC, NiCrSi-NiSi)		0 ÷ 1300 °C
- digital temperature probe AR182		-50 ÷ 120 °C
- digital temperature probe AR183		-50 ÷ 80 °C
Number of measurement inputs		1
Response time for measurements (10 ÷ 90%)		0,5 ÷ 2 s (programmable)
Resistance of leads (RTD)		$R_L < 30 \Omega$ (for each line)
Resistance current (RTD)		~250 μ A (Pt100)
Processing errors (at 25°C ambient temperature):		
- basic	- for Pt100	0,2 % of measuring range \pm 1 digit
	- for thermocouples	0,3 % of measuring range \pm 1 digit
- additional for thermocouples		<2 °C (thermocouple cold junction temperature compensation)
Resolution of measured temperature		0,1 °C or 1 °C
Binary inputs (contact or voltage <24V), standard		bistabilne, poziom aktywny: zwarcie lub < 0,8 V
Communication interface	- PRG programming link (no separation) for programmator AR955	- bitrate 2,4 kb/s, - format 8N1 (8 data bit, 1 bit stop, no parity bit), - MODBUS-RTU protocol (SLAVE)
Outputs (relay or SSR)	- relay (P1), standard - SSR (SSR1), option	8A / 250Vac (for resistive loads), SPDT transistor type NPN OC 10,5 ÷ 11V, with current limitation to ~25mA
7-segment LED display with brightness control		-top, red 20mm (AR614), 7mm (AR604) -bottom, green 14mm (AR614), 7mm (AR604)
Signalling	- relays active - messages and errors	LED's, red LED display
Power supply (Usup)	- universal, compliant with 24 V and 230 V, standards	15 ÷ 250 Vac, <2VA (alternating voltage, 50/60Hz) 20 ÷ 350 Vdc, <2W (direct voltage)
Rated operating conditions		0 ÷ 50°C, <90 %RH (non-condensing)
Working environment		air and neutral gases
Protection rating		IP40 front, IP20 of the connections side
Weight		~245g (AR614), ~135g (AR604)
Electromagnetic compatibility (EMC)		- immunity: acc. to PN-EN 61000-6-2 - emission: acc. to PN-EN 61000-6-4
Safety requirements according to PN-EN 61010-1		- installation category - II - pollution degree - 2 - value of voltage to earth for the power supply circuit, output - 300 V - value of voltage to earth for input circuits - 50 V - insulation resistance >20 M Ω - altitude above the sea level <2000 m