AR603, AR613

TEMPERATURE CONTROLLER WITH TIMER

PROGRAMMING

AR955
COPY

- controller with time functions activated automatically or manually
- 1 universal measuring input (supporting thermo-resistance, thermocouple sensors or digital probes of temperature AR182 and AR183)
- binary input START / STOP to control the time function
- 2 control outputs, relay or SSR control:
  - output 1: ON-OFF with hysteresis, PID, AUTOTUNING PID
  - output 2: ON-OFF with hysteresis
- automatic selection of PID parameters function
- programmable work characteristics (process controller, ramping)
- two-line LED display with adjustable brightness
- 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

- 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

How to order:

AR603, AR613 / ☐ / ☐

Output 1	Output 2	Code
relay	relay	P
SSR	SSR	S

For example:
AR613 / P / P
Ar613, 1 relay output, 2 relay output

DIMENSIONS, INSTALLATION DATA

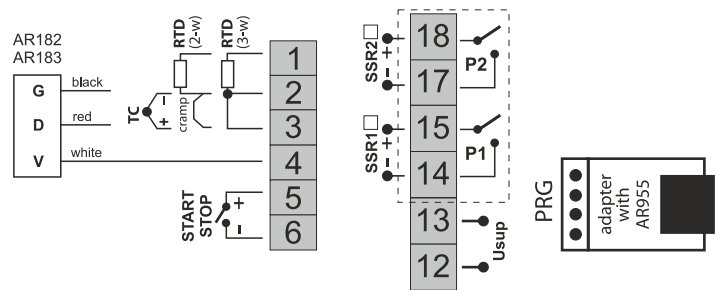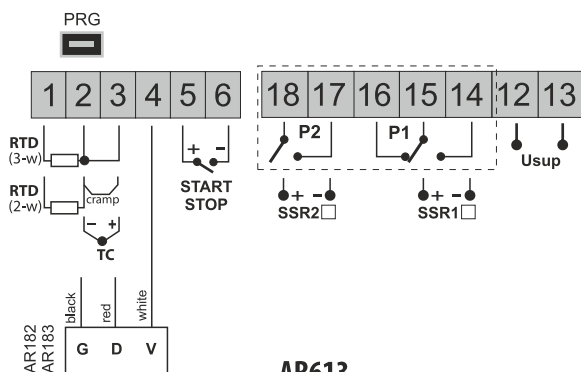|	
Enclosure dimensions	48x48x79 mm (AR603), 96x96x79mm (AR613)
Panel window	46x46 mm (AR603), 92x89mm (AR613)
Fixing methods	panel, grips on the side of the enclosure
Material	self-extinguishing polycarbonate NORYL 94V-0
Leads cross sections (separable connectors)	2,5mm^2 (power i outputs 1), 1,5mm^2 (remaining)

AR603

polycarbonate / NORYL

18 · 7 · 72 · 20 · 45

SIDE VIEW

AR613

polycarbonate / NORYL

18 · 7 · 72 · 16 · 88

SIDE VIEW
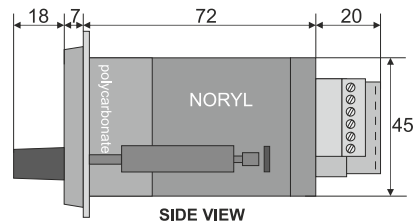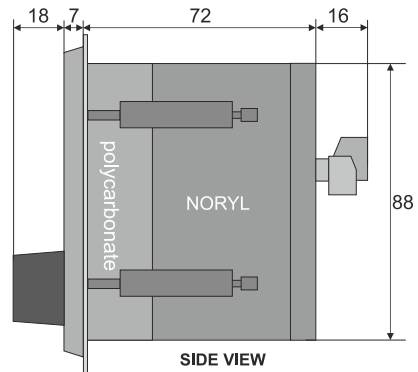
TERMINAL STRIPS, ELECTRICAL CONNECTIONS

AR603

AR613

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_d< 30 Ω (for each line)			
Resistance current (RTD)		~250 µA (Pt100)			
Processing errors (at 25°C ambient temperature):					
- basic	- for Pt100	0,2 % of measuring range ±1 digit			
	- for thermocouples	0,3 % of measuring range ±1 digit			
- additional for thermocouples		<2 °C (thermocouple cold junction temperature compensation			
Resolution of measured temperature		0,1 °C or 1 °C			
Accuracy of time measurement		<2 %			
Binary inputs (contact or voltage <24V)		bistable, active level: short-circuit or < 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	8A / 250Vac (for resistive loads), SPDT			
	- relay (P1), standard	AR603: 5A / 250Vac, AR613: 8A / 250Vac (for resistive loads)			
	- SSR (SSR1, SSR2), option	transistor type NPN OC 10,5 ÷ 11V, with current limitation to ~25mA			
7-segment LED display with brightness control		- top, red 20mm (AR613), 7mm (AR603)			
		- bottom, green 14mm (AR613), 7mm (AR603)			
Signalling	- relays active	LED's, red			
	- edited set value	LED's, red (under the display window)			
	- messages and errors	LED dispaly			
Power supply (Usup)	- universal, compliant with 24 V and 230 V standards	15 ÷ 250 Vac, <3VA (alternating voltage, 50/60Hz)			
		20 ÷ 350 Vdc, <3W (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		~135g (AR603), ~245g (AR613)			
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 MΩ			
		- altitude above the sea level <2000 m			

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