

AR661

Temperature controller



Single-channel temperature controller



- 1 universal measuring input (supporting thermometer, thermocouple or digital probes of temperature AR182 and AR183)
- programmable BIN input for changing the controller's operating mode: control start/stop, keyboard lock
- 1 output, relay or SSR, ON-OFF with hysteresis, PID, PID AUTOTUNING
- advanced function of selecting PID parameters
- LED display with adjustable brightness
- line resistance compensation for resistive sensors
- temperature compensation of cold ends of thermocouples
- programmable input type, regulation and access options and other configuration parameters
- access to configuration parameters protected by a user's password
- methods of parameters configuration:
 - from the keypad on the controller front panel
 - via RS485 or AR955 programming device and ARSOFT-WZ1 freeware (Windows 2000/XP/Vista/7)
- software and programmer device which allows viewing the measured value and a quick configuration of single or ready-to-use parameter sets previously saved in the computer to be reused, for example in other controllers of the same type (configuration duplication)
- panel housing, IP65 from the front
- high accuracy, long-term stability and immunity to disturbance
- wide range of supply voltages: 15 ÷ 250 Vac (alternating voltage 50/60 Hz), 20 ÷ 350 Vdc (direct voltage)

Contents of set:

- regulator
- user manual
- warranty card

Available accessories:

- AR955 programmer
- digital temperature probes AR182, AR183

How to order:

AR661 /

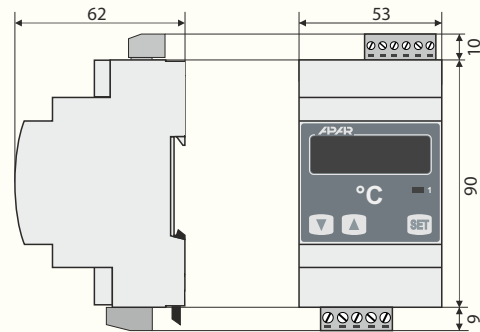
Output 1	Code
relay	P
SSR	S

For example:

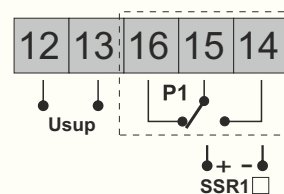
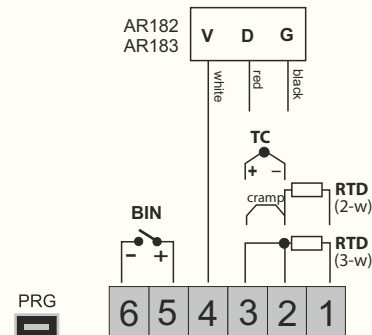
AR661 / P
AR661, 1 relay output

DIMENSIONS, INSTALATION DATA

Enclosure	Modulbox 3MH53
Enclosure dimensions	53x90x62 mm
Fixing methods	on a TS35 rail (DIN EN 50022-35)
Material	ABS / PC
Leads cross sections	2,5mm ² (power and output 1), 1,5mm ² (remaining)



TERMINAL STRIPS, ELECTRICAL CONNECTIONS



Technical Data	
Universal inputs (programmable)	measurement rangese
- Pt100 (RTD, 3- or 2-wire)	-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
- AR182 digital temperature probe	-50 ÷ 120 °C
- AR183 digital temperature probe	-50 ÷ 80 °C
Number of measurement inputs	1
Response time (10 ÷ 90%)	0,5 ÷ 2 s (programmable)
Resistance of leads (RTD)	R _c < 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 (temperature of cold ends)
Resolution of measured temperature	0,1 °C or 1 °C
Binary inputs (contact or voltage <24V), standard	bistable, active level: short-circuit or < 0,8 V
Communication interface	- PRG programming link (no separation) for AR955 programmer - bitrate 2,4 kb/s, - format 8N1 (8 data bit, 1 bit stop, no parity bit), - MODBUS-RTU protocol (SLAVE)
Two-state output (relay or SSR)	- relay (P1), standard 8A / 250Vac (for resistive loads), SPDT - SSR (SSR1), option transistor type NPN OC, 11V, internal resistance 440 Ω
7-segment LCD display with brightness control	red, 4 digits, height 10 mm
Signalling	- relays active LED's, red - messages and errors LED display
Power supply (Usup)	- universal, compliant with 24V and 230V 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	IP65 front, IP20 of the connections side
Weight	~135g
Electromagnetic compatibility (EMC)	- immunity: acc. to PN-EN 61000-6-2 - emission: acc. to PN-EN 61000-6-4
Safety requirements accordin 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 circuit - 50 V - insulation resistance >20 MΩ - altitude above the sea level <2000 m

Version 2.0.0 2017.11.23