AR517
Universal digital meter

APAR

Single channel universal digital meter with programmable the color of the display

5 COLOR DISPLAY

- measurement of temperature and other physical quantities (humidity, pressure, level, speed, etc.) converted into a standard electrical signal (0/4÷20mA, 0÷10V, 0÷60mV, 0÷2.5 kΩ)
- 1 universal measurement input (thermoresistance, thermocouple, and analog) with memory of the minimumand maximum measured value and a remote data display function (over the MODBUS-RTU protocol)
- programmable digital input (except for AR500) for changing the operation mode of the meter:manual/automatic mode for the analog output, keypad block, stopping the display indications (HOLD function)
- analog output (except for AR500) 0/4÷20 mA or 0/2÷10 V (retransmission,alarm/control, manual)
- manual mode for the analog output (open control loop) enabling setting the output signal value in the range of 0-100%
- digital LED readout with programmable color and illumination brightnes
- signaling of alarm status with variable display color
- integrated 24 V DC power supply supplying the field transmitter
- RS485 serial interface (galvanically isolated, MODBUS-RTU protocol)
- compensation of line resistance for resistance sensors
- temperature compensation of thermocouple cold ends
- programmable type of input, range of indications (for analog inputs), alarm, display, communication, and access options, and other configuration parameter
- access to configuration parameters protected with a user password
- parameter configuration methods:
  - via membrane keyboard (IP65) located on the front panel of the device
  - via RS485 or PRG AR955/GP programmer and freeware: ARsoft-LOG (Windows 7/8/10)
- software and programmer allow you to view the measured value and quickly configure single or few sets of parameters previously saved in the computer for re-use, e.g. in other controllers of the same type (duplicate configuration)
- ingress protection rating: IP65 from the front
- high accuracy, long-term stability and immunity to interference
- optional to choose (in the ordering method): power supply 24Vac/dc, output SSR, analog output 0/2÷10V, digital input BIN and interface RS485

Contents of set:
- regulator with handles mounting in the window
- user manual
- warranty card

Available accessories:
- programmer AR955/GP (with optional adapter)
- RS485 to USB converter

DIMENSIONS, INSTALATTION DATA

Enclosure dimensions	96x48x79 mm
Panel window	92x46mm
Fixing methods	panel, grips on the side of the enclosure
Material	elf-extinguishing polycarbonate NORYL 94V-0

VIEW FROM THE FASTENING HOLDER SIDE
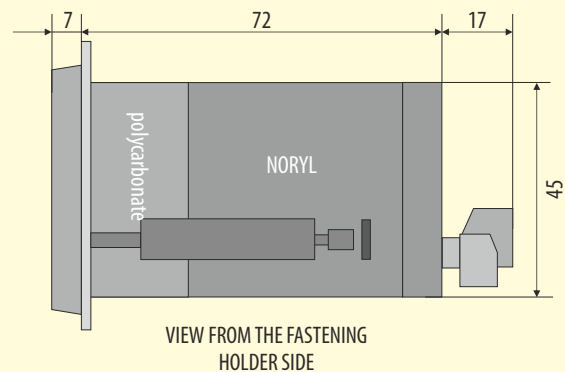
TERMINAL STRIPS, ELECTRICAL CONNECTIONS

PROGRAMMING

AR955

COPY
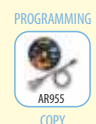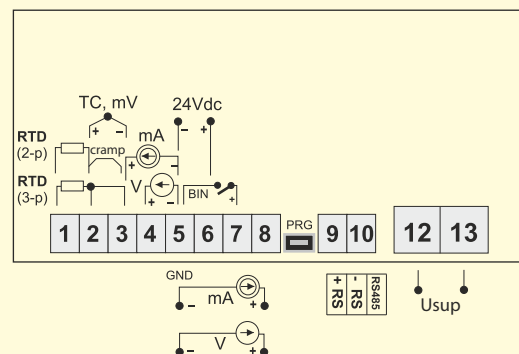
How to order

AR517 / ☐ / ☐ / ☐

Supply	Code	Analog output	Code	Interface RS*	Code
230 Vac	**S1**	0/4÷20mA**	**WA**	interface RS485	**RS485**
24 Vac/dc	**S2**	0/2÷10 V	**WU**		

* option for an extra fee
**standard option

For example:
AR517 / S1 / WA / RS485
AR17, supply 230 Vac, output 0/4÷20mA, interface RS485

TECHNICAL DATA

Universal inputs (programmable)		measurement ranges		
– Pt100 (RTD, 3- or 2-wire)		-200 ÷ 850	℃	
– Ni100 (RTD, 3- or 2-wire)		-50 ÷ 170	℃	
– Pt500 (RTD, 3- or 2-wire)		-200 ÷ 620	℃	
– Pt1000 (RTD, 3- or 2-wire)		-200 ÷ 520	℃	
– thermocouple J (TC, Fe-CuNi)		-40 ÷ 800	℃	
– thermocouple K (TC, NiCr-NiAl)		-40 ÷ 1200	℃	
– thermocouple S (TC, PtRh 10-Pt)		-40 ÷ 1600	℃	
– thermocouple B (TC, PtRh30PtRh6)		300 ÷ 1800	℃	
– thermocouple R (TC, PtRh13-Pt)		-40 ÷ 1600	℃	
– thermocouple T (TC, Cu-CuNi)		-25 ÷ 350	℃	
– thermocouple E (TC, NiCr-CuNi)		-25 ÷ 820	℃	
– thermocouple N (TC, NiCrSi-NiSi)		-35 ÷ 1300	℃	
– current (R_{we} = 50 Ω)		0/4 ÷ 20	mA	
– voltage (R_{we} = 110 kΩ)		0 ÷ 10	V	
– voltage (R_{we} > 2 MΩ)		0 ÷ 60	mV	
– resistance (3- or 2-wire)		0 ÷ 2500	Ω	
– remote data display (through the RS485 port or PRG, MODBUS-RTU)		-1999 ÷ 9999		
Number of measurement inputs		1		
Response time for measurements (10 ÷ 90%)		0,25 ÷ 3 s (programmable)		
Resistance of leads (RTD, Ω)		R_d < 25 Ω (for each line)		
Resistance current (RTD, Ω)		400 µA (Pt100, Ni100), 200 µA (remaining)		
Processing errors (at 25℃ ambient temperature):				
– basic	– for RTD, mA, V,mV, Ω	0,1 % of measuring range ±1 digit		
	– for thermocouple	0,2 % of measuring range ±1 digit		
– additional for thermocouples		<2 ℃ (cold ends temperature)		
– additional caused by ambient temperature changes		< 0,003 % of input range /℃		
Resolution of measured temperature		0,1 ℃ or 1 ℃, programmable		
Binary inputs (contact or voltage <24V)		bistable, active level: short-circuit or < 0,8 V		
Communication interface (RS485 i PRG, do not use at the same time)	– RS485 (galvanically separated), option	– bitrate 2,4 ÷ 115,2 kb/s, – format 8N1 (8 data bit, 1 bit stop, no parity bit), – MODBUS-RTU protocol (SLAVE)		
	– PRG programming link (no separation), standard			
Analogue outputs (1 current or voltage)	– current 0/4÷20 mA (standard)	maximum resolution 1,4 µA (14 bit)		
		output load Ro < 350 Ω		
	– voltage 0/2÷10 V (option)	maximum resolution 0,7 mV (14 bit)		
		output load Io < 3,7 mA (Ro > 2,7 kΩ)		
	– output basic error	< 0,1 % of output range		
7-segment LED display – 4 digits with programmable color and brightness		4 digits, height 20 mm, 5 colors (red, dark- and bright-orange, yellow, green)		
Signaling of alarms, messages, and errors		LED display, variable display color		
Power supply (Usup)	– 230Vac (standard)	85 ÷ 260 Vac/ 3VA		
	– 24Vac/dc (option)	20 ÷ 50 Vac/ 3VA, 20 ÷ 72 Vdc/ 3W		
Power supply to filed transmitters		24Vdc / 30mA		
Rated operating conditions		0 ÷ 50℃, <90 %RH (non-condesing)		
Working environment		air and neutral gases		
Protection rating		IP65 front, IP20 of the connections side		
Weight		~165g		
Electromagnetic compatibility (EMC)		– immunity: acc. to PN-EN 61000-6-2		
		– emission: acc. to PN-EN 61000-6-4		