

APLISENS® AR253

ATMOSPHERIC PRESSURE, HUMIDITY AND TEMPERATURE TRANSDUCER



- high-end digital sensor for atmospheric pressure (P) and humidity (RH) and air temperature (T) with protective filter (ABS material, 1mm gap width and 0.15mm stainless steel mesh)
- probe integrated into the housing, on the wire or on the stainless steel tube
- 2 current outputs 4÷20mA (2-wire with current loop power supply) or 2 voltage outputs 0÷10V (3-wire) or RS485 interface
- for analog outputs, possible connection with any measured value
- programmable ranges of processing measured values
- LCD display with keyboard (optional) for viewing measurements and configuration of parameters
- parameters configuration from the keyboard via RS485 or PR port (AR956 or AR955 programmer) and a free ARsoft-CFG computer program that allows to quickly set and copy all configuration parameters
- high stability of measurements
- Protection level IP65 ensured by the housing, increasing work reliability thanks to high resistance to the penetration of water and dust as well as surface condensation of water vapor inside the device, IP40 probe (the measuring probe is not resistant to flooding or condensation of water vapor inside it)
- calculation of dew/frost point [°C], absolute humidity [g/m³] (calculation for atmospheric pressure 1013 hPa) with the possibility of linking the calculated values to an analog output
- for the transducer with RS485 all measurements and calculated values available for reading in the register map MODBUS

Contents of the set:

- transducer
- user manual

Available accessories:

- an AR956 (or AR955) programmer
- RS485/USB converter

Ordering procedure

AR253 / □ / □ / □ / □

Display		Code
LCD*		LCD
without a display		-

Output		Code
output 4÷20 mA		I
output 0÷10 V		U
interface RS485		RS485

Probe installation method	Code
radial (standard)	-
back (to pipe, canal)	T

Measurement probe type	Code
integrated with the enclosure (standard)	-
external with a 1,5m wire*	2
external in an enclosure with a 1,5m wire*	3
on a stainless steel pipe, 140mm long*	L150
on a stainless steel pipe, 240mm long*	L250

Order example:

Note: for the standard design, only the output must be stated, e.g.:

AR253 / I

AR253 w/o display, outputs 4÷20mA, radially mounted probe and integrated with the enclosure

AR253 / LCD / U / L150 / T

AR253 with a display, analog outputs 0÷10V, probe on a stainless steel pipe, 140mm long, installed in the back of the enclosure (for channel installations)

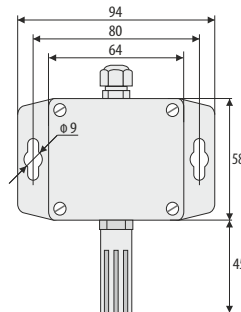
* options charged separately

TECHNICAL DATA

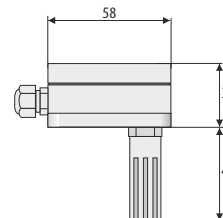
Sensor	digital, ABS cover (slot width 1mm) and a stainless steel wire mesh (slot width 0.15mm)
Measurement range	0÷100 %RH, -30÷80 °C, 300÷1100 hPa
Measurement accuracy	humidity typically ±2%RH in whole range, max ±2.5%RH in 0÷90%RH range (1) temperature typically ±0.3°C, max ±0.4°C in the whole measurement range (1)
	atmospheric pressure typically ±1hPa, max. ±2hPa in the whole measurement range
Hysteresis and stability	±0,8%RH, long-term stability <0.25%RH/year
Measurement period	1s
Response time (63%)	8s (for air flow > 3,6km/h)
Display (optional)	LCD, 4 digits 10 mm
Outputs	current (I _{1RH} , I _{2T}) 2 x 4÷20 mA (2P), load R ₀ <(U _{sup} -12) / 22mA voltage (U _{1RH} , U _{2T}) 2 x 0÷10 V (3P), load I ₀ <4.5 mA (R ₀ >2.5kΩ) digital (not separated) RS485, MODBUS-RTU (slave)
Power supply	for the 4÷20 mA 12÷36 Vdc (2-wire, 2P) supply from the current loop for the 0÷10 V 18÷30 Vdc, current consumption: ~8mA (with and without LCD) RS485 version 9÷28 Vac or 9÷36 Vdc, current consumption: ~6mA (with or w/o LCD)
Operating conditions	air and neutral gases, do not pour water on measurement probe standard -30÷80 °C, < 95 %RH (no condensation) with an LCD display -20÷70 °C, < 95 %RH (no condensation)

INSTALLATION DATA

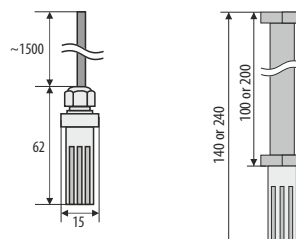
Dimensions	58x94x35 mm (for standard configuration)
Material	polycarbonate (probe cover: ABS)



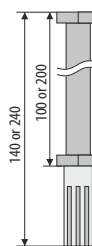
Probe integrated with the enclosure
AR253



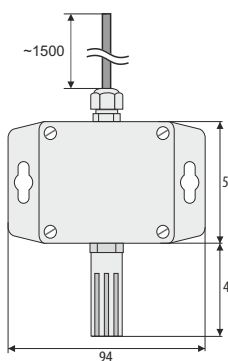
Probe integrated with the enclosure channel design
AR253/T



External probe with a wire
AR253/2



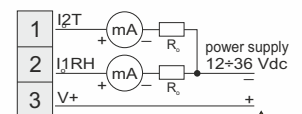
Probe on a stainless steel pipe
AR253/L150
AR253/L250



External probe in an enclosure with a wire
AR253/3

TERMINAL

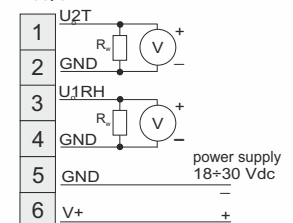
AR253/I



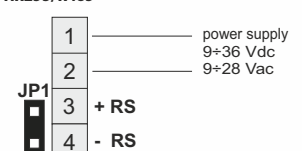
UWAGA:

The current loop I1RH must ALWAYS be closed even when it is not in use

AR253/U



AR253/R485



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