APLISENS®

AR259

VOLATILE ORGANIC COMPOUNDS, HUMIDITY AND TEMPERATURE TRANSDUCER



PROGRAMMING



AR955, AR956

COPYING

- measurement of the concentration of volatile organic compounds (VOCs) harmful to heath, contained in the air in closed rooms to improve the comfort of people staying there
- configurable architecture enabling use in many fields and applications (for industrial, office and residential environments, inside buildings, e.g. HVAC installations, warehousing, production, transport, food industry, pharmacy, medicine, gardening, laboratories and others)
- probe integrated with the housing
- high-quality, digital VOC and realitive humidity and temperature sensors from the renowned Sensirion company
- outputs: current 0/4÷20 mA, voltage 0/2÷10 V or Rs485 interface
- programmable ranges of processing of measured values
- LCD display with keyboard (optional) enablin parameter configuration
- configuration of parameters from the keyboard, via the Rs485 or PRG port (AR955 or AR956 programmer) and the free ARsoft-CFG computer program enabling quick setting and copying of all configuration parameters
- temperature compensation for humidity and high long-term stability of measurements
- calculation of dew/frost point [°C], absolute humidity [g/m3] (calculations for atmospheric pressure 1013 hPa) with the possibility of linking the calculated values to the analog output
- IP65 protection rating provided by the housing, increasing operational reliability thanks to high resistance to water and dust ingress and surface condensation of water vapor inside the device, IP20 protection rating for probe

- **Contents of set**
  - transducer
  - user manual

Available accessories:
- AR955 (or AR956) programmer
- RS485/USB converter

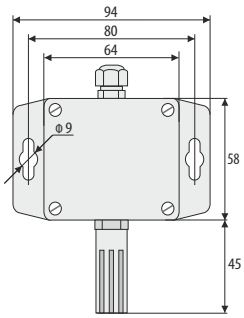
TECHNICAL DATA

Sensor		SGPC3 and SHT31, an ABS cover (slot width 1mm)
Measurement range		0÷9,999 ppm, 10÷95 %RH, 5÷50 °C
Dokładność pomiaru	VOC	typically ±15% of the measured value (maximum ±40%) **(1)**
	humidity(RH)	typically ±2 %RH (maximum ±3 %RH) **(1)**
	temperature(T)	typically ±0.3°C (maximum ±0.4°C) **(1)**
Additional errors	repeatability	±0,1 %RH, ±0,1 °C
	long-term stability **(2)**	< 0,25 %RH / year, < 0.03 °C / year VOC: <2,5 % / year (with VOC<30 ppm) **(2)**
	hysteresis (RH)	±0,8 %RH
Measuring period		1s for humidity and temperature measurements, 2s for VOC
Response time (63%)		8s (required air flow > 3,6km/h; 1m/s) **(3)**
Display (optional)		LCD, 4 digits 10 mm
Outputs	current (active)	2 x 0/4÷20 mA, load $R_L[\Omega] < (U_{sup} - 5)V / 22$ mA
	voltage	2 x 0/2÷10 V, load I_o<4,5 mA (R_w> 2,5 kΩ)
	digital (not separated)	RS485, MODBUS-RTU (slave)
Power supply	for the 0/4÷20 mA	12÷36 Vdc , current consumption: max. ~30 mA + (I01+I02)
	for the 0/2÷10 V	18÷30 Vdc, current consumption without outputs load: max.~25 mA
	version with RS485	9÷28 Vac or 9÷36 Vdc, current consumption: max. ~40 mA
Operating conditions		air and neutral gases, **do not pour water on the measurement probe**
	temperature and humidity	5÷50 °C, 10÷95 %RH (no condensation)

NOTES: **(1)** - Sensor manufacturer performs a factory calibration and guarantees typical measuring accuracy for 90% of its products, while >99% is within the maximum tolerance. For VOC given values are for measurements made after at least 24h of continuous operation of the sensor at temperature 25°C, 50%RH and constant VOC concentration (in praactice, reliable measurements are available much faster, counting from the start of the power supply or sensor reset).
(2) - For humidity and temperature measurements it is recommended to periodically check and/or calibrate the device in accordance with the requierements applicable at the place of use or every 1 year.
(3) - Due to the long adaptation time of the VOC sensor, with rapid changes in VOC concentration in the air, the indications reach the target value slowly, especially from high to low values.

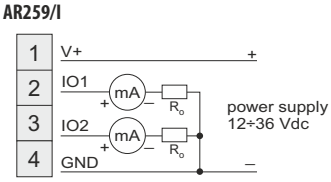
INSTALLATION DATA

Dimensions	58x94x35 mm (probe: 45 mm, Φ15 mm)
Material	polycarbonate (probe sheath: ABS)

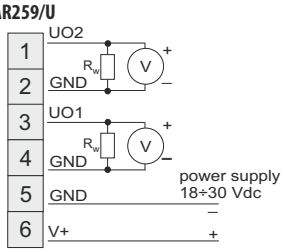


TERMINAL

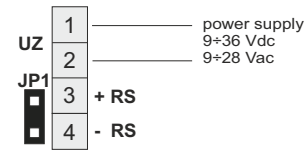
AR259/I



AR259/U



AR259/R485



Ordering procedure

AR259 / □ / □

Display	Code
LCD *	**LCD**
without display	-

Output	Code
output 0/4÷20 mA	**I**
output 0/2÷10 V	**U**
interface RS485	**RS485**

* option for extra fee

For examples

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

AR259 / I

Ar259 without display, current output 0/4÷20 mA

AR259 / LCD / U

Ar259 with display, voltage output 0/2÷10 V

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