

AR258 Suspended dust (smog), pressure humidity and temperature transducer



- high-quality digital sensor for suspended dust (PM), pressure (p) and relative humidity (RH) and temperature (T)
- application in many fields and applications (for industrial, office and residential environments, inside buildings, e.g. HVAC installations, storage, production, food sector, pharmacy, medicine, gardening, laboratories and others)
- laser dust sensor with MCERTS certification, in accordance with DIN EN 15267 (European air quality norm)
- very accurate measurement of solid particles up to 2.5 µm in diameter (most dangerous to human health)
- probe integrated with the enclosure
- current output 0/4 ÷ 20 mA, voltage 0/2 ÷ 10 V or RS485 interface
- programmable processing ranges for measured values
- an LCD display with a keypad (option) that enables configuration of parameters
- configuration of parameters with the keypad, through the RS485 or PRG port (programmer AR956 or AR955) and free ARsoft-CFG software that enables quick setting and copying of all configuration parameters
- high stability of measurements
- protection rating IP65 provided by the enclosure which improves reliability of operation thanks to high resistance to penetration of water and dust and surface condensation of steam inside of the device, an IP20 probe
- when used outdoors, additional probe protection against direct contact with water is required
- atmospheric pressure 1013hPa with the possibility of combining the calculated calculating the dew / frost point [°C], absolute humidity [g/m³] (calculations for values with the analogue output)

Contents of set:

- a transducer
- a user instruction
- a warranty card

Available accessories:

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

How to order

AR258 / /

Display	Code	Output	Code
LCD *	LCD	output 0/4÷20 mA	I
without a display	-	output 0/2÷10 V	U
		interface RS485	RS485

* option for an extra fee

For examples:

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

AR258 / I

AR258 without display, output 0/4÷20 mA

AR258 / LCD / U

AR258 with a display, output 0/2÷10 V

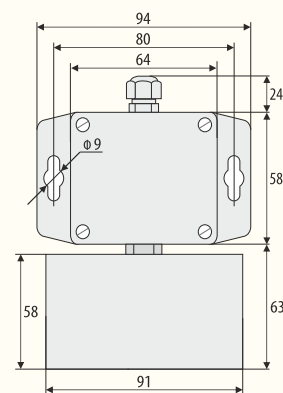
TECHNICAL DATA (the detailed data can be found in the user's instruction)

Sensor	digital (Sensirion, Bosch), an ABS cover (slot width 3mm)
Measurement range	1÷1000 µg/m ³ , 0÷100 %RH, -10÷60 °C, 300÷1100 hPa
Measurement accuracy	suspended dust typically ±10 µg/M ³ in range 0÷100 µg/M ³ typically ±10 % in range 100 ÷1000 µg/m ³ (1)
	humidity typically ±2 %RH in range 0÷100 %RH, max. ±2,5 %RH(0÷90 %RH) (1)
	temperature typically ±0,3 °C, max. ±0,4 °C in the entire measurement range (1)
	atmospheric pressure typically ±1 hPa, max. ±2 hPa in the entire measurement range
Additional errors	repeatability ±0,1 %RH, ±0,1 °C
	long-term stability < 0,25 %RH / year, < 0.03 °C / rok, ±1 hPa / year
Measuring period	1s
Response time (63%)	10s for measure humidity nad temperature, 1s for other measurements (for air flow > 3,6 km/h, 1m/s)
Display (optional)	LCD, 4 digits 10 mm
Outputs	current (active) 2 x 0/4÷20 mA, load R _L [Ω] < (U _{sup} - 5)V / 22 mA
	voltage 2 x 0/2÷10 V, load I _L < 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. ~50 mA + (I01+I02)
	for the 0/2÷10 V 18÷30 Vdc, current consumption without load outputs: max. ~40 mA
	version with RS485 9÷28 Vac or 9÷36 Vdc, current consumption: max. ~65 mA
Operating conditions	air and neutral gases, do not pour water on the measurement probe
	temperature and humidity -10÷60 °C, <100 %RH (no condensation)

NOTE: (1) - The sensor manufacturer performs a factory calibration and guarantees typical measuring accuracy for 90% of its products.
(2) - PM4.0 and PM10 measurement is an estimated measurement, more information in the instruction manual.

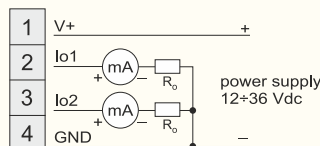
INSTALLATION DATA

Dimensions	58x94x35 mm (probe: 58x91x25 mm)
Material	polycarbonate (probe sheath: ABS)

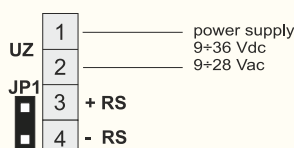


TERMINAL

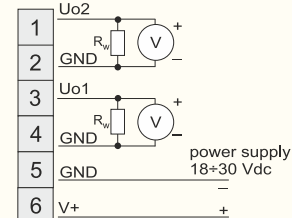
AR258/I



AR258/R485



AR258/U



Version 1.1.0 2020-01-15

CERTYFIKAT KALIBRACJI CYFROWYCH CZUJNIKÓW WILGOTNOŚCI I TEMPERATURY
FIRMY SENSIRION

Calibration Certification – Digital Humidity- and Temperature Sensors



Calibration Certification

Name and address of the manufacturer: Sensirion AG
Laubisruetistrasse 50
CH-8712 Switzerland

Description: Digital Humidity- and Temperature Sensors

- SHT1x
- SHT2x
- SHT3x
- SHT7x
- SHTC1
- SHTW1
- STS21
- STSC1

The above mentioned products are calibrated to meet the specifications according to the corresponding Sensirion data sheet. Each device is individually tested after its calibration.

Sensirion uses transfer standards for the calibration. These transfer standards are themselves subject to a scheduled calibration procedure. The calibration of the reference itself used for the calibration of the transfer standards is performed by an ISO/IEC 17025 accredited laboratory.

The accreditation body is full member of the International Laboratory Accreditation Cooperation (www.ilac.org). Calibration certificates issued by facilities accredited by a signatory to the ILAC Mutual Recognition Arrangement (MRA) are accepted by all signatories to the ILAC MRA.

This provides traceability of measurement to recognized national standards and to units of measurement realized at the "National Physical Laboratory" (NPL) or other recognized national standards laboratories like "Physikalisch-Technische Bundesanstalt" (PTB) or "National Institute of Standards and Technology" (NIST).

Staeafa, November 2015

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