AR257 CO2, humidity and temperature transducer







- high-quality digital sensor for carbon dioxide (CO2), relative humidity (RH) and temperature (T) in close rooms to improve the comfort and well-being of people staying there
- application in many fields and applications (for industrial, office and residential environments, inside buildings, e.g. HVAC installations, storage, production, transport, food sector, pharmacy, medicine, gardening, laboratories and others a probe integrated with the enclosure, external or on a stainless steel pipe
- probe integrated with the housing or external
- current output $0/4 \div 20$ mA, voltage $0/2 \div 10$ 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
- 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 AR257 / □ / □ / □ Display Code Measurement probe type LCD * integrated with the enclosure (standard) LCD without a display external with a 1.5m wire Output Code output 0/4÷20 mA output 0/2÷10 V U interface RS485 RS485 * ontion for an extra fee

For examples:

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

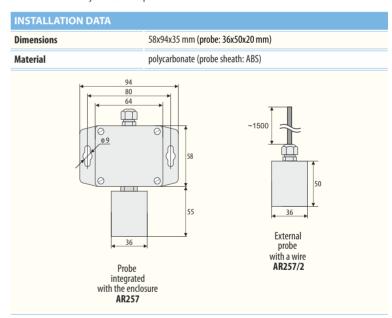
Ar257 without display, output 0/4÷20 mA, probe integrated with the enclosure

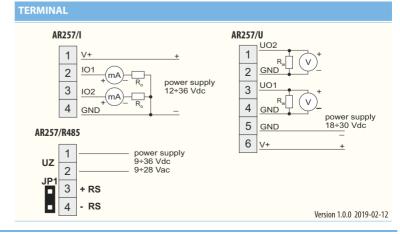
AR257 / LCD / U / 2

Ar257 with a display, output 0/2÷10 V, external probe with a 1,5m wire

TECHNICAL DATA (the detailed data can be found in the user's instruction)		
Sensor		SCD30 made by Sensirion, an ABS cover (slot width 3mm)
Measurement range		0÷10000 ppm, 0÷95 %RH, 0÷50 °C
Measurement	CO2	typically \pm (30ppm + 3%) in the entire measurement range (1)
acurancy	humidity	typically ±3 %RH in the entire measurement range (1)
	temperature	typically $\pm (0.4^{\circ}\text{C} + 0.023 \times (T [^{\circ}\text{C}] - 25^{\circ}\text{C}))$ (1)
Additional erro	rs repeatability	±10 ppm, ±0,1 %RH, ±0,1 °C
long-term stability		< 0,25 %RH / year, < 0.03 °C / year
temperature stability		\pm 2.5 ppm / °C in temperature 0 $\div 50$ °C
Measurement period		2÷60s
Response time (63%)		10s for measure humidity nad temperature, 20s for measure CO2 (for air flow $>$ 3,6 km/h, 1m/s)
Display (optional)		LCD, 4 digits 10 mm
Outputs	current (active)	$2 \times 0/4 \div 20$ mA, load R ₀ [Ω] $<$ (U _{sup} - 5)V / 22 mA
voltage		2 x 0/2÷10 V, load l ₆ <4,5 mA (R $_{\!\!\!\sim}$ 2,5 k $\Omega)$
digital (not separated)		RS485, MODBUS-RTU (slave)
Power supply	for the 0/4÷20 mA	$12 \div 36\text{Vdc}$, current consumption: max. $\sim \!45\text{mA} + (\text{IO1} + \text{IO2})$
for the 0/2÷10 V version with RS485		18÷30 Vdc, current consumption wtihout load outputs: max.~35 mA
		9÷28 Vac lub 9÷36 Vdc, current consumption: max. ~60 mA
Operating conditions		air and neutral gases, do not pour water on the measurement probe
temperature and humidity		0÷50 °C, <95 %RH ((no condensation)

NOTE: (1) - The sensor manufacturer performs a factory calibration and guarantees typical measuring accuracy for 90% of its products.





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