080-EVC4

CO_2, Humidity, Temperature and Light Sensor

The 080-EVC4 combines CO2, relative humidity (RH) and temperature (T) measurement as well as a light detection photocell in an innovative solution. It is ideal for the automation of agriculture where multi-point sensing is required, and can be deployed quickly in demanding climate and process control environments.

Long Term Stability

The 080-EVC4 incorporates a dual wavelength NDIR CO2 sensor, which compensates for ageing effects, is highly insensitive to pollution and offers outstanding long term stability. The RH sensing element is protected against dust, dirt and corrosion.

High Measurement Accuracy

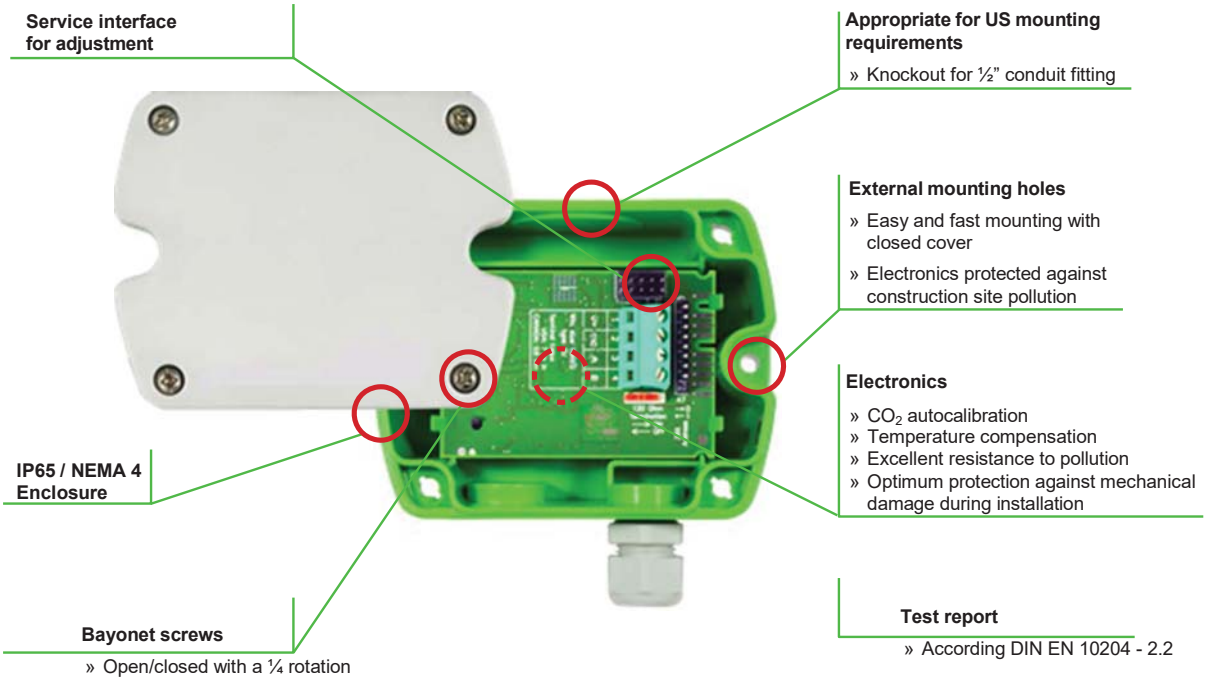
A multiple point CO2 and T factory adjustment procedure leads to excellent CO2 measurement accuracy over the entire T working range.

Analogue, Digital and Passive T Outputs

The CO2, RH and T measured data is available as either a 0-10V or 4-20mA analog output or Modbus RS-485.

The photocell sensor is available as a wetted 24VDC contact.

Features



AccuSense+

Technical Data

Measurements

-CO_2	
Measurement principle	dual wavelength non-dispersive infrared technology (NDIR)
Measuring range	0...2000 ppm
Accuracy at 25 °C (77 °F) and 1013 mbar (14.7 psi)	0...2000 ppm: < ± (50 ppm +2% of measured value)
Response time t_{63}	< 100 seconds at 3 m/s (590 ft/min) air speed in the duct
Temperature dependency, typ.	± (1 + CO_2 concentration [ppm] / 1000) ppm/°C, for -20...45 °C (-4...113 °F)
Calibration interval [1]	> 5 years
Measuring interval	approx. 15 seconds
Temperature	
Working range	-20...60 °C (-4...140 °F)
Accuracy at 20 °C (68 °F)	±0.3 °C (±0.54 °F)
Response time t_{63}	< 50 seconds
Relative Humidity	
Working range	0...95 % RH
Accuracy at 20 °C (68 °F)	± 3 % RH (20...80 % RH)
Response time t_{63}	< 10 seconds

Outputs

CO_2: 0...2000 ppm	0-10 V	4-20 mA RS-485	-1 mA < I_L < 1 mA
T : 0...50 C	0-10 V	4-20 mA RS-485	R_L < 500 Ohm
RH : 0...100 %	0-10 V	4-20 mA RS-485	
Light : Off / On	24 VDC		

General

Power supply class III	24 VDC ± 20 % 15-35 V DC
Current consumption, typ.	typ. 15 mA + output current
Current peak, max.	350 mA for 0.3 seconds (analogue output) 150 mA for 0.3 seconds (RS485 interface)
Minimum air speed in the duct	1 m/s (196 ft/min)
Enclosure material	polycarbonate, UL94V-0 approved
Protection class	enclosure: IP65 / NEMA 4 probe: IP20
Cable gland	M16 x 1.5
Electrical connection	screw terminals max. 2.5 mm² (AWG 14)
Electromagnetic compatibility	EN61326-1 EN61326-2-3 Industrial Environment FCC Part 15 ICES-003 Class B
Working and storage conditions	-20...60 °C (-4...140 °F) 0...95 % RH (non-condensing)

1) under normal operating conditions