

# BIT LINE

STRUMENTAZIONE PER IL MONITORAGGIO AMBIENTALE

## SENSORE DI CO2

- ✓ Facile e rapida installazione
- ✓ Misura CO2 fino a 5000 ppm
- ✓ Uscite in tensione o corrente
- ✓ 0-5 / 0-10 V / 4-20mA o Switch
- ✓ Con autocalibrazione
- ✓ Consumo bassissimo
- ✓ Misura ppm 0-2000 o 0-5000 ppm
- ✓ Display (opzionale)



## FUNZIONAMENTO

Measuring instruments in green houses or life stock barns are exposed to a very demanding environment: high humidity levels, pollutants like fertilizers, herbicides and high ammonia concentrations are just a few of the many hazards. The robust, functional housing of the sensor with integrated special filter has been designed for such applications. The air diffuses through the filter into the instrument enclosure. Then the air diffuses further through a second membrane filter integrated in the CO2 measuring cell. The CO2 measurement is based on the non-dispersive infrared (NDIR) technology. The patented auto-calibration procedure compensates for aging of the infrared source and guarantees high reliability, long term stability and eliminates the need of periodical recalibration in the field. Measuring ranges of 0...2000/5000ppm correspond to an analogue interface of 0 - 5/10V or 4 - 20mA. The very practical snap-in mounting flange and connector for the supply voltage and outputs allow quick and easy installation of the sensor without ever opening the housing. Switch version available.

## Caratteristiche tecniche

### Technical Data

#### Measuring values

CO <sub>2</sub>	
Measurement principle	Non-Dispersive Infrared Technology (NDIR)
Sensor	E+E Dual Source Infrared System
Working range	0...2000 / 5000ppm
Accuracy at 25°C (77°F) and 1013mbar	0...2000ppm: < ± (50ppm +2% of measuring value) 0...5000ppm: < ± (50ppm +3% of measuring value)
Response time t <sub>93</sub>	< 195s
Temperature dependence	typ. 2ppm CO <sub>2</sub> /°C
Long term stability	typ. 20ppm / year
Sample rate	approx. 15s

## CARATTERISTICHE TECNICHE

### Outputs

#### Analogue Output

0...2000 / 5000ppm	0 - 5V	-1mA < I <sub>L</sub> < 1mA
0...100% RH / 0...50°C (32...122°F)	0 - 10V	-1mA < I <sub>L</sub> < 1mA
	4 - 20mA	R <sub>L</sub> < 500 Ohm

#### Switching Output

Max. switching voltage	50V AC / 60V DC	
Max. switching load	0.7A at 50V AC	1A at 24V DC
Min. switching load	1mA at 5V DC	
Contact material	Ag+Au clad	

### General

Supply voltage	24V AC ±20%	15 - 35V DC
Current consumption	typ. 10mA + output current max. 0.5A for 0.3s	
Warm up time <sup>3)</sup>	< 5 min	
Housing material	Polycarbonat	
Protection class	US Version: UL94V-0 approved / EU Version: UL94HB approved IP30	

## COLLEGAMENTI E DIMENSIONI

Display	LC display: alternating CO <sub>2</sub> (ppm) / T (°C or °F) / RH (% RH)	
Electrical connection	screw terminals max. 1.5 mm <sup>2</sup> (AWG16)	
Electromagnetic compatibility	EN61326-1	FCC Part 15
	EN61326-2-3	ICES-003 ClassB
Working temperature range	0...90% RH (non condensing) / -20...60°C (-4...140°F)	
Storage temperature range	0...90% RH (non condensing) / -20...60°C (-4...140°F)	

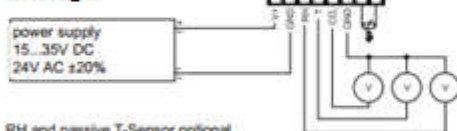
1) U<sub>s</sub>=24V DC and R<sub>s</sub>=250 Ω for version with current output 2) refer to the working range of the humidity sensor HC103!  
3) warm up time for performance according specification



### Connection Diagram

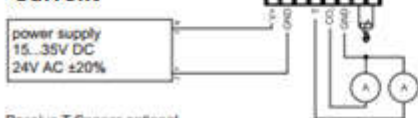
#### Analogue Output

##### Voltage



RH and passive T-Sensor optional.

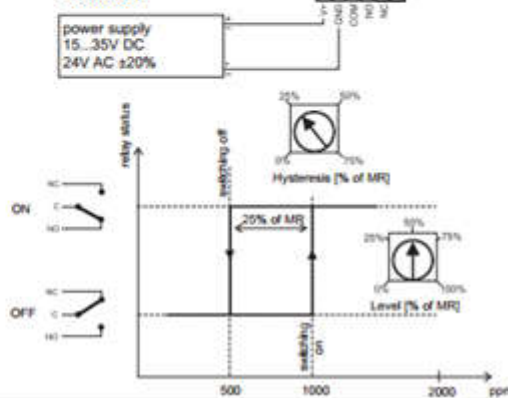
##### Current



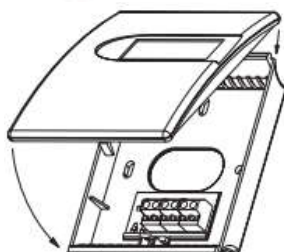
Passive T-Sensor optional.

#### Switching Output

##### Switch



### Housing Dimensions (mm)



Colour of housing: Cover: RAL 9003 (signal white)  
Back: RAL 7035 (light grey)

Europe: W x H x D = 85 x 100 x 26mm (3.3 x 3.9 x 1")  
USA: W x H x D = 85 x 136 x 26mm (3.3 x 5.4 x 1")

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