

# MF010-0-LC

## Oxygen Sensor Accurate oxygen measurement



### DESCRIPTION

The MF010-0-LC is a highly accurate oxygen sensor. Its ability to operate without any reference gas makes it ideal for many applications including combustion and environmental control.

The sensor probe employs two  $ZrO_2$  discs with a small hermetically sealed chamber in between. One of the discs functions as a reversible oxygen pump, which is used to successively fill and empty the chamber. The second disc measures the ratio of the partial pressure difference and generates a corresponding sense voltage. A heat element

### FEATURES

- Combines an  $O_2$  concentration cell with an electrochemical pump
- No moving parts
- Low power consumption
- No need for temperature stabilisation
- Long life
- Functional testing and calibration in ambient air
- Suitable for use in gases up to 300 °C

### TYPICAL APPLICATIONS

- Heating boiler control
- Industrial process control
- Combustion systems
- Compost systems
- Environmental control

produces the 700 °C required for the  $ZrO_2$  to operate as an  $O_2$  pump. The time taken for the pump to achieve specific minimum and maximum pressures within the chamber is a measure of the partial oxygen pressure of the environment.

The sensor probe is attached to a housing that contains all the electronics necessary to control the oxygen pump and process the output signals. The housing is made from polycarbonate that naturally provides a high level of impact resistance and sealing. A seven pin connector allows for easy connection and sealing.

### BENEFITS

- No reference gas pressure required, creating the ability to measure ambient oxygen content
- Rugged construction, long life
- Lower running costs
- Can be operated by simple, low cost electronics
- Lower running costs
- Allows fail-safe operation
- Sensors can be mounted directly into the flue

#### **WARNING**

##### **MISUSE OF DOCUMENTATION**

- The information presented in this product sheet is for reference only. Do not use this document as a product installation guide.
- Complete installation, operation, and maintenance information is provided in the instructions supplied with each product.

**Failure to comply with these instructions could result in death or serious injury.**

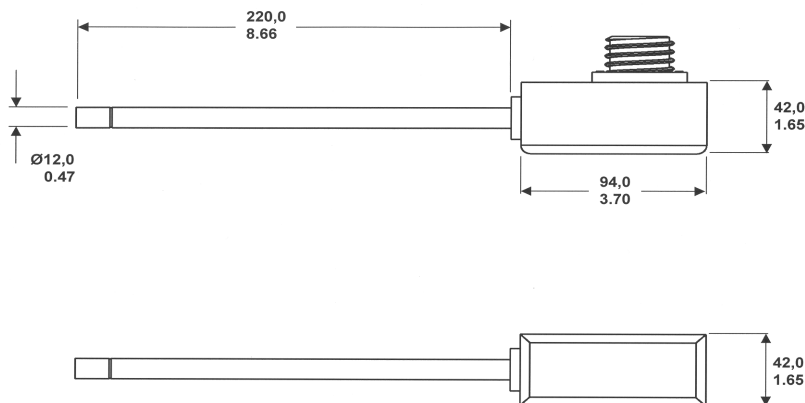
#### **WARNING**

##### **PERSONAL INJURY**

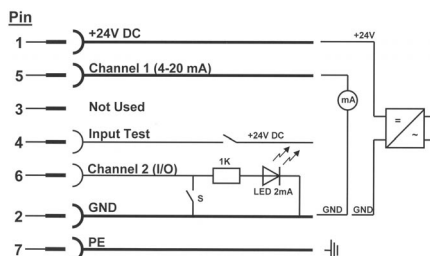
DO NOT USE these products as safety or emergency stop devices or in any other application where failure of the product could result in personal injury.

**Failure to comply with these instructions could result in death or serious injury.**

## MOUNTING DIMENSIONS IN MM/INCHES (FOR REFERENCE ONLY)



## WIRING DIAGRAM



## TECHNICAL DATA

Electrical Characteristics	
Supply Voltage, V	24 Vdc $\pm$ 5 %
Supply Current, A	500 mA
Output Signal	0 Vdc to 10 Vdc or 4 mA to 20 mA
Operational specifications	
Oxygen range	0.1 % to 25 % (0 % to 100 %) by volume Oxygen (Oxygen Partial Pressure)
Ambient temperature	-10 °C to 50 °C
Resolution	12 bit
Sensitivity	1.05 ms/mbar
Accuracy	$\pm$ 2 %
Reproducibility	$\pm$ 1 %
Warm up time	10 min (approx.)
Permissible gas temperature	-100/+250 °C
Gas flow rate	0-10 m/s
Mechanical characteristics	
Repetitive permissible acceleration	5 g
Incidental permissible acceleration	30 g
Protection level, housing	IP65

## Automation and Control Solutions

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While we provide application assistance personally, through our literature and the Honeywell web site, it is up to the customer to determine the suitability of the product in the application.

Specifications may change without notice. The information we supply is believed to be accurate and reliable as of this printing. However, we assume no responsibility for its use.

## SALES AND SERVICE

Honeywell serves its customers through a worldwide network of sales offices, representatives and distributors. For application assistance, current specifications, pricing or name of the nearest Authorized Distributor, contact your local sales office or:

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