Oxygen (O_2) Digital RS-485 Gas Transmitter

ITS-M5130-NET

DESCRIPTION

Digital RS-485 communicating gas transmitter, for the detection of oxygen (O_2) in the ambient air for direct daisy-chain/multi-drop link to the IM digital controller.

APPLICATION

To sense oxygen (O_2), depletion or escalation, in a wide variety of commercial and industrial applications such as unoccupied mechanical or chiller rooms, laboratories, food production areas, and ventilation systems, etc. and transmit to the IM digital controller.

FEATURES

- *RS-485 serial communication*
- *Continuous monitoring*
- *Electrochemical gas sensor, gas specific*
- *Liquid Crystal Display (LCD)*
- *Push button programming*
- *Easy maintenance*

SPECIFICATIONS

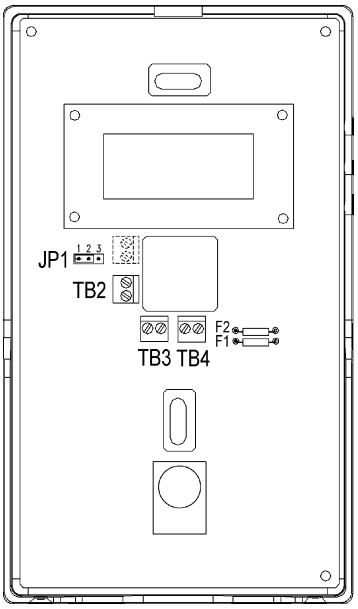
Electric	
Power supply	24 VAC (12-28 VAC), floating, 50/60 Hz, 24 VDC (15-40 VDC)
Protection	Two (2) 2.0 A, socketed pico fuses
Power consumption	< 2 VA (100 mA) 250 mA turn-on surge
Sensor Performance	
Gas detected	Oxygen (O_2)
Sensor element	Electrochemical, diffusion
Range	0-25% v/v O_2, factory set Span field adjustable via calibration
Accuracy	± 2.5% of reading
Repeatability	± 1% of reading
Output drift	Max. 5% of full scale/year
Response time	< 60 seconds to 90% of step change
Sensor life expectancy	2 years, normal operating environment
Sensor coverage	2,500 sq.ft., max. 5,000 sq.ft. (232 m², max. 465 m²), "under ideal conditions"
Installation Location	
Mounting height	5 to 6 ft. (1.5 to 1.8 m) above floor
Type of Control	
General	Continuous proportional sensor signal
Output signal for serial communication	Digital, RS-485, proprietary protocol
Digital Display	LCD, two lines x 8 characters, 1-digit resolution, displays O_2 % v/v value
Programming	Range selectable, network address number assignment, etc. via three-push-buttons and LCD
Environmental	
Permissible ambient	
- working temperature	-4°F to 104°F (-20°C to 40°C)
- storage temperature	32°F to 68°F (0°C to 20°C)
- humidity, continuous	15 to 95% RH, non-condensing
- humidity, intermitted	0 to 99% RH, non-condensing
- working pressure	Atmospheric ± 10%
Physical	
Enclosure	
- material	Polycarbonate, ABS blend, fire-retardant, UL-V0
- color	Cool gray, 2U pantone
- cover	Snap-on, secured by (2) screws
- protection	NEMA 1, general purpose
- installation	Wall (surface) mounted, or single gang electrical box
Dimensions (H x W x D)	6.0 x 3.5 x 1.09 in. (152 x 89 x 28 mm)
Cable entry	1 hole on back side of base plate for single gang electrical box mounting
Wire connection	Terminal blocks, screw type for lead wire
Wire size	Min. 26 AWG (0.4 mm²), Max. 16 AWG (1.3 mm²)
Weight	0.5 lbs. (0.3 kg)
Warranty	12 months material and workmanship

ORDERING INFORMATION

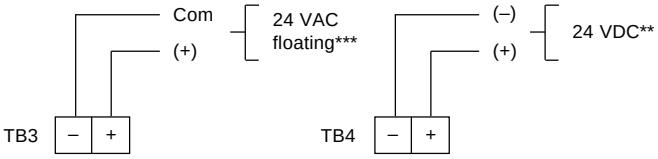
ITS-M5130-NET	O_2 Transmitter, 0-25% v/v, RS-485, LCD, wall-mount

FIELD WIRING CONFIGURATION

ITS-M5130-NET



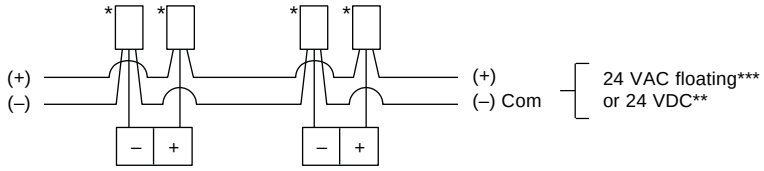
TB3 and **TB4** Power Supply 24 VAC or 24 VDC



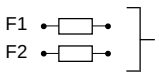
*** *Do not connect 24 VAC to earth ground*

** *Do not use VDC power supply from the IM controller, use separate VDC power*

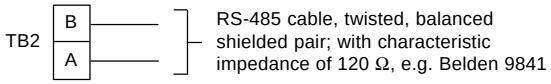
Suggested daisy-chain powering w/ wire nuts*



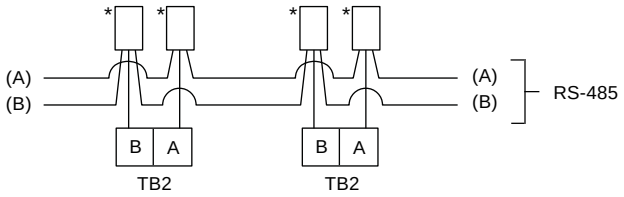
F1 and **F2** Fuses



TB2 RS-485 Digital Communication Link



Suggested daisy-chain (multi-drop) communication between transmitters and controller w/ wire nuts*



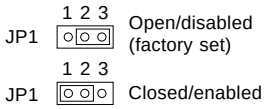
* *Max allowable distance between wire nut and RS-485 terminal connections is 9 inches (22.9 cm)*

"Maximum of (32) transmitters can be linked to an IM controller"

Note:

- *Do not connect power to **A** and **B**, this will damage all transmitters and controller linked on the same daisy-chain trunk.*
- *Daisy-chain between transmitters and controller **A** to **A**, **B** to **B**. Do not cross **A** to **B**, this creates malfunction of communication.*
- *Maximum daisy-chain trunk length is 3,200 ft. (1,000 m).*
- *Do not use high voltage lines in the same RS-485 communication cable conduit.*

JP1 Jumper Selector, RS-485 End-of-Line Terminator



Only the last transmitter, away from the IM controller, of the communication trunk should enable the End-of-Line Terminator