CO2Meter.com
Indoor Air Quality Products

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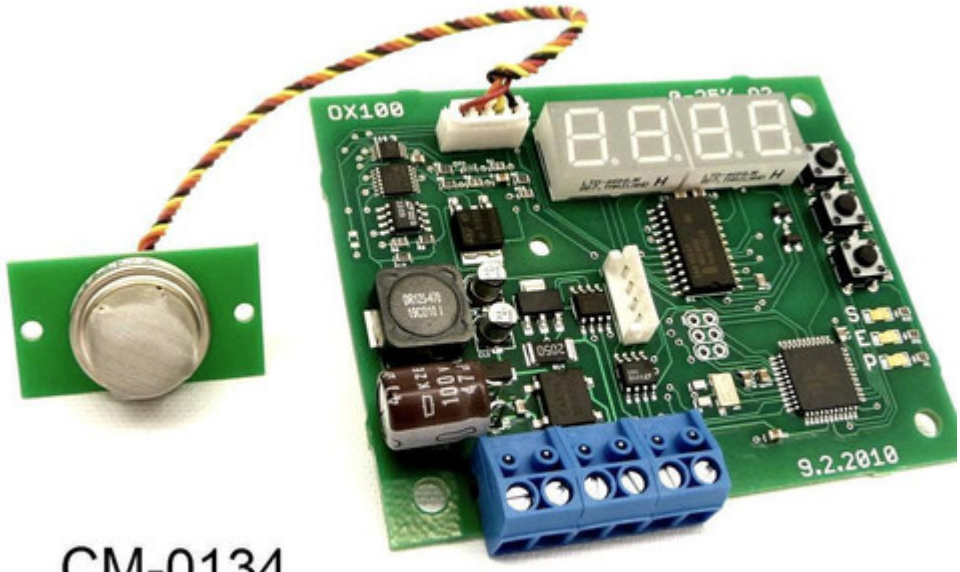
TR250Z Manual



CM-0134

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Description

Display – Main interface to view current sensor readings and menu state. Will blink “STRT” upon applying power while the sensor warms up and stabilizes
Buttons 1, 2, 3 – Allow for entering the menu, adjusting values, and performing a calibration.

S LED – Status LED. Blinks every time a complete measurement cycle is performed and the value is updated. Serves as a heartbeat for transmitter operation.

E LED – Error LED. Will light if any abnormal conditions are detected within the device, primarily the sensor falling out of its recommended operating specifications will trigger this lamp.

P LED – Power LED. Will light continuously when power is applied to unit.

The OX100 Device has three main navigation buttons. These buttons allow you to access all aspects of sensors operation and test or calibrate different functional modules.

Standard Operation

The O2 transmitter comes factory calibrated for easy installation. During its life cycle calibration may become periodically necessary. We recommend performing a span O2 calibration every month for guaranteed operation and ensured accuracy. No other calibration is necessary during the lifecycle of the sensor.

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Entering the Service Menu

To enter the service menu the buttons must be pressed in a factory-set order. This code can be customized before shipment but by default will be 1-2-3. The buttons must be pressed within a half second of each other, else the unit will return to standard operating mode. When in the service menu the unit will not update the current O2 readings. Once you enter the menu the display will read "2222".

Performing an Atmospheric Span Calibration

1. Allow sensor to stabilize for at least 1 hour
2. Ensure the sensor is exposed to fresh air
3. Enter the service menu
4. Press 2 to enter the Oxygen submenu
5. Press 2 again to perform the atmospheric calibration

Performing a 0% O2 Zero Point Calibration

1. Allow sensor to stabilize for at least 1 hour
2. Screw on the calibration adapter
3. Apply N2 calibration gas
4. Wait 5 minutes for stable readings
5. Enter the service menu
6. Press 2 to enter the Oxygen submenu
7. Press 1 to calibrate

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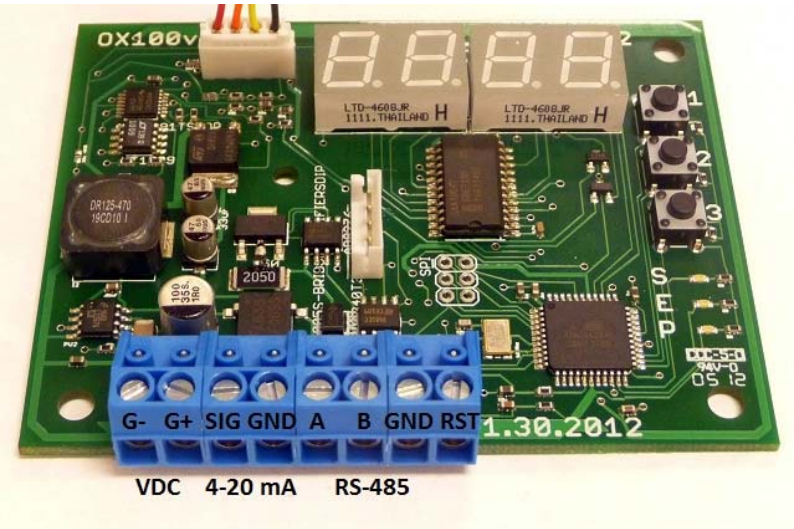
Terminals Connectors

1. VDC = G- G+
2. O2 4-20mA = SIG GND
3. RS-485 INTERFACE = A B GND
4. RESET = RST



Modbus / RS-485

The sensor support MODBUS protocols over RS-485, unidirectional transmission at 9600kbps.

The following Modbus registers are available:

Input Registers

1. O2 Value, x10
2. Raw ADC Value

Holding Registers

1. O2 Span Value (4 byte floating number, part 1)
2. O2 Span Value (4 byte floating number, part 2)
3. O2 Pot Value
4. 4-20mA output Zero Value
5. 4-20mA output Span Value (4 byte floating number, part 1)
6. 4-20mA output Span Value (4 byte floating number, part 2)
7. Control Register
8. Status Register

The following commands are available:

0x03 – Read Holding Register
0x04 – Read Input Register
0x06 – Write Holding Register

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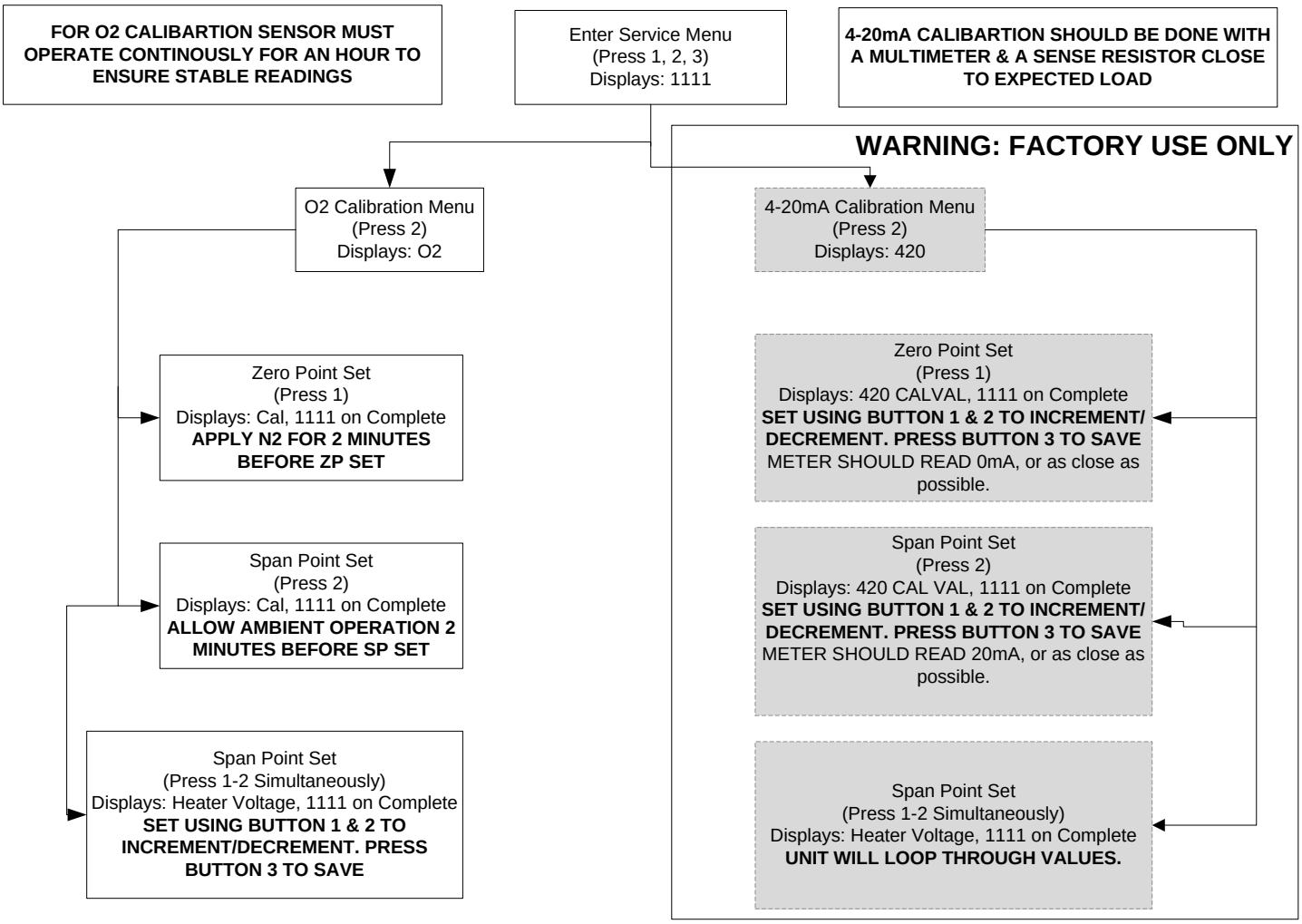
Service Menu



Pressing 3 at any time will go back a menu. Ensure that after you have completed any service operations you press 3 to return back to measurement mode. Leaving the unit with 1111 on the display will not result in updated output.