



# Dissolved Oxygen Analyzers

MODEL OOM223/253



## DESCRIPTION

The model 223 Dissolved Oxygen Transmitter measures dissolved oxygen over the range of 0 to 20mg/l or 0 to 200% saturation. The basic transmitter is available with either a 115VAC, 220VAC or 24V AC/DC power supply, linear isolated current output and one alarm. Features include the addition of a second output for temperature and up to four alarms which may be configured for on-off control functions, alarm limits, timer for cleaning or PID control functions. The DS version adds the diagnostic function Live Check as well as a non-linear programmable current output. Live Check signals an alarm when the sensor signal does not change over a defined period. Also included is automatic pressure compensation.

## FEATURES

- Measures Oxygen in mg/l or % Saturation
- Available in Panel Mount or NEMA 4X/IP65 Rated Field Mount Housing
- Air Calibrate or Calibration In-Situ
- Automatic Barometric Pressure Compensation
- Live Check Continuously Monitors Sensor Performance
- Salinity Correction
- Up to Four Alarm Contacts Including Temperature
- Dedicated Fault Alarm
- NAMUR Fault Current Alarm
- PID Controller
- 2nd Current Output for Temperature

## APPLICATIONS

- Wastewater & Sewage Treatment Plants
- Monitor Surface Water Health in Ponds, Lakes and Rivers
- Fish Farms
- Effluent Monitoring



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## DESCRIPTION

Base Transmitter (DX Version)	Plus Package ( DS )
Measurement, display and calibration of the process Variable(PV) and temperature. Isolated current output ( Code 0) Temperature output ( Code 1 ) One alarm (Code 05) * On - Off Dedicated fault alarm ( Standard ) NAMUR fault current( Standard ) * 2.4 or 22.0 mA	Live Check sensor signal monitoring and alarm.  Programmable non-linear current output.  Automatic Pressure Compensation
Code 10	Additional Features
Two Alarm Contacts for PV and Temperature * On - Off * Timer for cleaning * P(ID) Controller	Automatic Cleaning initiated by an internal alarm or limit violation
Code 16	Additional Features
Four Alarm Contacts for PV and Temperature * On - Off * Timer for cleaning * P(ID) Controller	Cleaning initiated externally or automatically by an internal alarm or limit violation

## SPECIFICATIONS

Dissolved Oxygen Measurement	
Measuring Range	0 to 20 mg/l or 0 to 200% Saturation
Resolution	0.01 mg/l or 0.1% Saturation
Repeatability	0.02% of Measuring Range
Deviation, Output / Input	0.75% of Measuring Range
Ambient Temperature Compensation	0 to 50°C (32 to 122°F)
Pressure Compensation (Optional)	0 to 1200 kPa
Altitude Adjustment	0 to 4,000m ( 13,124 ft.)
Salinity Adjustment	0 to 4.0%
Maximum Cable Length	50 meters
Sensor to Transmitter	( 164 feet )



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## SPECIFICATIONS

<b>O2 Signal Input</b>	
Signal Current	0 to 3000 nA
Slope	75 to 140% of nominal slope
Nominal Slope	
Sensor in Air, 20°C (68°F), 1013 mbar	290nA
<b>Temperature Measurement</b>	
Temperature Sensor	NTC 30K@25°C (77°F)
Measuring Range	-10°C to 60°C (-14 to 140°F)
Resolution	0.1°C
Repeatability	0.2% of Measuring Range
<b>Digital Inputs 1 and 2</b>	
Voltage	10 to 50V
Power Consumption	Max 10mA
<b>Current Output</b>	
Range	Selectable 0 to 20mA or 4 to 20mA
NAMUR Fault Current	2.4 or 22.0 mA
Maximum Load	500 Ohms
Output Scale Expansion	10% to 100%
Output Isolation	Max. 350V rms/ 500VDC
Over Voltage Protection	EN 610005-4-5 : 1995
<b>Alarms</b>	
Programmable	Dissolved Oxygen, Temperature
Alarm Delay	0 to 2000 sec
Contacts	Dry, SPDT, NO/NC
Resistive Load, Current Rating	2.0 Amps
Inductive Load, Current Rating	2.0 Amps
Voltage Rating	250VAC, 30 VDC
Resistive Load, Power Rating	1250 VA AC, 150 Watts DC
Inductive Load, Power Rating	500 VA AC, 90 Watts DC



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## SPECIFICATIONS

### Controllers

<b>Pulse Length</b>	<b>Solenoid Valves</b>
<b>Pulse Frequency</b>	<b>Solenoid Operated Metering Pumps</b>
<b>Control Functions</b>	<b>P ,PI,PD , PID</b>
<b>Proportional Band (P)</b>	<b>0.01 to 10.00</b>
<b>Integral (I)</b>	<b>0.0 to 999.0 min</b>
<b>Derivation (D)</b>	<b>0.0 to 999.0 min</b>
<b>Period Pulse Length Controller</b>	<b>0.5 to 999.9 sec</b>
<b>Frequency for Pulse Frequency Controller</b>	<b>60 to 180 min<sup>-1</sup></b>

### Physical Specifications

<b>Dimension of Panel-Mount Unit (H x W x D)</b>	<b>96 x 96 x 145 mm ( 3.8 x 3.8 x 5.7 inch )</b>
<b>Dimension of Field Housing (HxWxD)</b>	<b>247 x 170 x 115 mm</b>
<b>Weight of Panel Mount Unit</b>	<b>Max. 0.7kg ( 1.54 lbs)</b>
<b>Weight with Field Housing</b>	<b>Max. 2.3kg (5.0 lbs)</b>
<b>Display</b>	<b>LC display, 2-lines, 5 and 9 digits</b>
<b>Materials of Housing</b>	<b>Panel Mount Unit - Polycarbonate</b>
<b>Front Membrane</b>	<b>Polyester, UV-resistant</b>
<b>Field Housing</b>	<b>ABS</b>

### Ambient Conditions

<b>Ambient Temperature</b>	<b>-10 to 55 °C (14 to 131°F)</b>
<b>Storage and Transport</b>	<b>-25 to 65 °C ( -13 to 149 °F)</b>
<b>Relative Humidity</b>	<b>10 to 95%, non-condensing</b>
<b>Protection Class of Panel-Mount Unit</b>	<b>IP54(front), IP30 (housing)Max. 2.3kg (5.0 lbs)</b>
<b>Protection Class of Field Housing</b>	<b>IP65, NEMA 4X</b>
<b>EMI / RFI</b>	<b>EN 61326-1 : 1997</b>

### Power Requirements

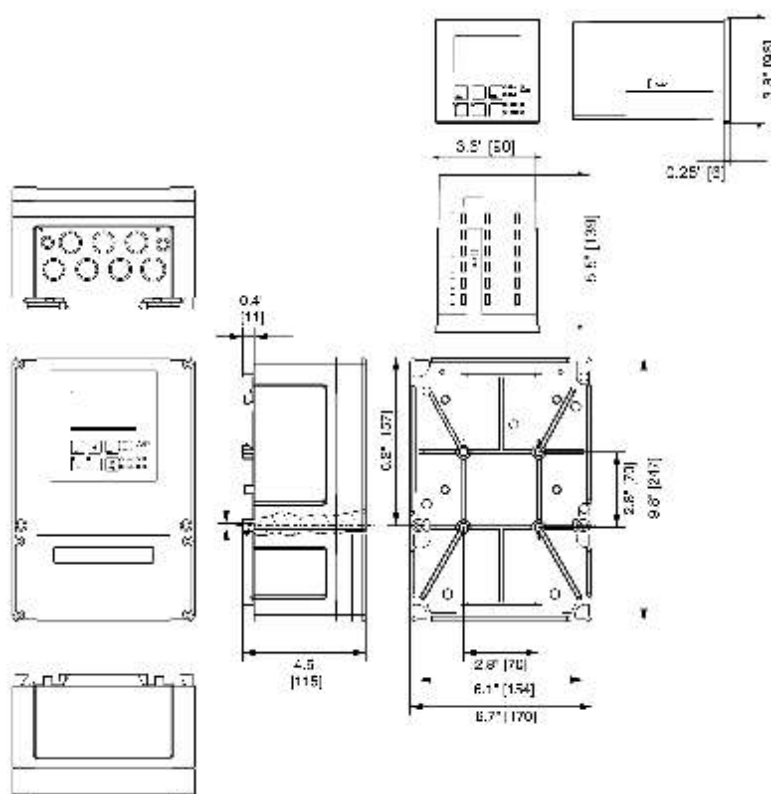
<b>Supply voltage</b>	<b>100/115/230V AC +10%, 48...62 Hz, 24V AC/DC +20 / -15%</b>
<b>Power consumption</b>	<b>Max. 7.5 VA</b>
<b>Fuse protection</b>	<b>250V / 3.15A</b>



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## OUTLINE & MOUNTING DIMENSIONS



## ORDERING INFORMATION

Model	Description
OOM-223-DX	Dissolved Oxygen Transmitter
OOM-223-DS	Dissolved Oxygen Transmitter with Plus Package
OOM-253-	NEMA4X, Field Housing
Code	Description
0	230V AC 50/60 Hz Power
1	115 VAC 50/60 Hz Power
8	24VAC or VDC Power
Code	Description
0	Dissolved Oxygen Current Output
1	Dissolved Oxygen and Temperature Output
Code	Description
05	One Alarm
10	Two Alarms
16	Four Alarms
M-223-PR-1-1-10	Order Number Example