

# Model 840-842 Dissolved Oxygen Analyzers



- For use with the Model OOS 31 Amperometric DO Sensor in industrial wastewater applications
- Available in panel mount (840) or NEMA 4x/ IP65 rated field mount housing (842)
- Oxygen measurement displayed in mg/l or % saturation
- Logically arranged menu structure
- Large, two-line display simultaneously indicates measured value and temperature
- Intuitive calibration procedure
- Automatic barometric pressure compensation and salinity correction
- Continuous sensor diagnostics
- Choose up to 4 contacts for use as:
  - Limit contacts
  - P(ID) controller
  - Timed outputs for simple cleaning
  - Chemical cleaning processes
- Optional 2nd current output for temperature
- HART® communication

To Achieve High Resolution In Specific Measurement Ranges, The Current Output Can Be Defined To Accommodate Bilinear Or Quasi-logarithmic Curves, Etc

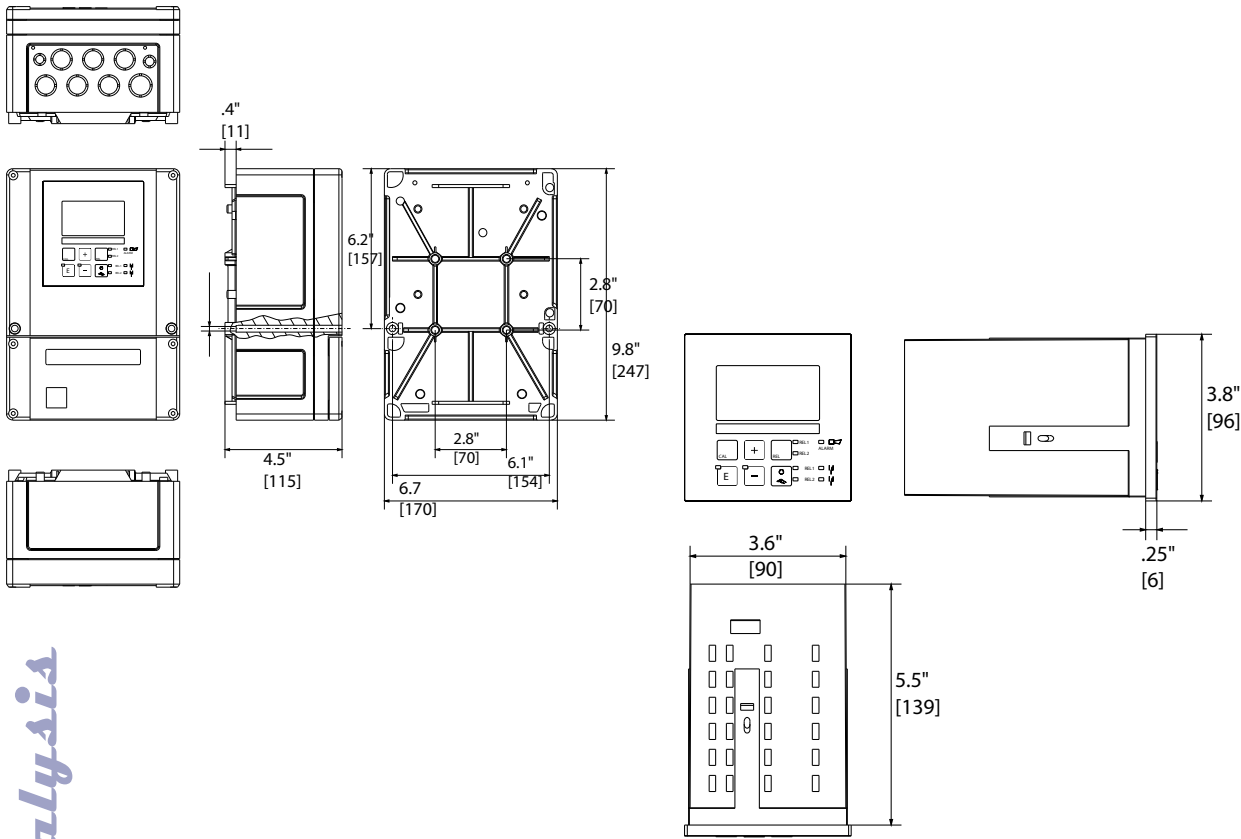
“Live Check” Feature Ensures System Is Continuously Active And Monitoring The Process

The Process Check System monitors set point limits to detect out of spec. conditions; e.g. for permanent aeration or permanent absence of aeration

Alarm Contacts and Error Current Output Can Be Independently Configured Based On Application

Input	Measured parameters	Dissolved O <sub>2</sub> , temperature
O <sub>2</sub> Signal Input	Signal current	0 ... 3000 nA
	Slope adaptation	75 ... 140% of nominal slope
	Nominal slope (sensor in air, 20 °C, 1013 mbar)	290 nA
	Maximum length of cable to sensor	100m (OOS 31)
Digital Inputs 1 And 2	Voltage	10 ... 50 V
	Current consumption	max. 10 mA
Temperature Measurement	Temperature sensor	NTC, 30 kΩ at 25 °C
	Measuring range	-10 ... +60 °C, 14 ... 122 °F
	Temperature offset range	±20 °C
O <sub>2</sub> Measurement With Model Oos 31 Sensor	Display and measuring range	0 ... 60 mg/l or 0 ... 600% SAT or 0... 1200hPa
	Temperature compensation range	0 ... 50 °C
	Pressure compensation range (optional)	500 ... 1100 hPa
	Altitude adjustment range	0 ... 4000 m
	Salinity adjustment range	0 ... 4.0%
O <sub>2</sub> Signal Output	Current range	0 / 4 ... 20 mA, galvanically separated; error current 2.4 / 22 mA
	Load	max. 500Ω
	Output range	Δ 2 ... Δ 20 mg/l or Δ20 ... Δ200% SAT
	Isolation voltage	max. 350 V <sub>ms</sub> / 500 V DC
	Overvoltage (lightning) protection	according to EN 61000—4-5: 1995
	Temperature Signal Output (Optional)	Current range
Load		max. 500Ω
Output range		adjustable, Δ 10 ... Δ100% of upper range value
Isolation voltage		max. 350 V <sub>ms</sub> / 500 V DC
Overvoltage (lightning) protection		according to EN 61000—4-5: 1995
Auxiliary Voltage Output	Output voltage	15 V± 0.6V
	Output current	max. 30 mA
Contact Outputs (Potential-free Changeover Contacts)	Switching current with resistive load (cos φ = 1)	max. 2 A
	Switching current with inductive load (cos φ = 0.4)	max. 2A
	Switching voltage	max. 250 V AC, 30 V DC
	Switching power with resistive load (cos φ =1)	max. 1250 VA AC, 150 W DC
	Switching power with inductive load (cos φ =0.4)	max. 500 VA AC, 90 W DC

<b>Limit Contactor</b>	Limit adjustment range	0 ... 20 mg/l or 0 ... 200% SAT
	Pickup / dropout delay	0 ... 7200 s
<b>Controller</b>	Function (adjustable)	Pulse length / pulse frequency controller
	Controller response	PID
	Proportional band	Kp: 0.10 ... 10.00
	Period for pulse length controller	0.5 ... 999.9 s
	Frequency for pulse frequency controller	60 ... 180 min <sup>-1</sup>
<b>Alarm</b>	Function (switchable)	Latching / momentary contact; normally closed/open
	Alarm threshold adjustment range	O <sub>2</sub> / temperature: complete measuring range
	Alarm delay	2 ... 2000 s
	Monitoring time for lower limit violation	0 ... 2000 min
	Monitoring time for upper limit violation	0 ... 2000 min
<b>Temperature Measurement</b>	Resolution	0.1 °C
	Deviation of indication	max. 1.0% of measurement range
	Measurement deviation, temperature signal output	max. 1.25% of current output range
<b>Ambient Conditions</b>	Ambient temperature (nominal operating conditions)	-10 ... +55 °C, 14 ... 131°F
	Ambient temperature (limit operating conditions)	-20 ... +60 °C, -4 ... 140°F
	Storage and transport temperature	-25 ... +65 °C, -13 ... 149°F
	Relative humidity (nominal operating conditions)	10 ... 95%, non-condensing
	Protection class of panel-mounted unit	IP 54 (front), IP 30 (housing)
	Protection class of field housing	IP 65, NEMA 4X
	Electromagnetic compatibility	interference emission and immunity To EN 61326-2:1998
<b>Physical Data/ Design</b>	Dimensions of panel-mounted unit (H × W × D)	96 × 96 × 145 mm ( 3.8 x 3.8 x 5.7 )
	Mounting depth	approx. 165 mm ( 6.5" )
	Dimensions of field housing (H × W × D)	247 × 170 × 115 mm
	Weight of panel-mounted unit	max. 0.7 kg ( 1.54 lbs. )
	Weight with field housing	max. 2.3 kg
	Display	LCD, two lines, five and nine digits, with status
	indicators	
<b>Materials</b>	Housing of panel-mounted unit	polycarbonate
	Front membrane	Polyester, UV-resistant
	Field housing	ABS, Polycarbonate
<b>Power Requirements</b>	Supply voltage	100 / 115 / 230 V AC + 10 / - 15%, 48 ... 62 Hz 24 V AC/DC +20 / - 15%
	Power consumption	Max. 7.5 VA
	Fuse protection	Fine-wire fuse, medium time-lag. 250 V / 1 A



Dimensions Diagram

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		<b>Analyzer Type</b>		
	0-	1/4 DIN Panel Mount (Model 840)		
	2-	NEMA 4X/IP65 Field Mount (Model 842)		
		<b>Program Level</b>		
	DS	Dissolved Oxygen Measurement with Extended Features		
		<b>Power Supply</b>		
	2	230Vac		
	3	115Vac		
	7	24Vac/dc		
		<b>Measurement Output</b>		
	0	Dissolved Oxygen		
	1	Dissolved Oxygen with Temperature		
	5	Dissolved Oxygen with HART		
	6	Dissolved Oxygen with HART and Temperature		
		<b>Relay Output</b>		
	10	2 Relays (Limit/PID/Timer)		
	15	4 Relays (Limit/PID/ Cleaning)		
	16	4 Relays (Limit/PID/Timer)		

Order Code

Part No.	Accessories
50086842	Post Mounting Kit for Field Analyzer
OYY-101A	Weather Protection Cover

Accessories

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