

Model 840F-842F Dissolved Oxygen Analyzers



- For use with Model OOS 21 Polarographic DO Sensor in biotechnical applications
- Available in panel mount (840F) or NEMA 4x/ IP65 rated field mount housing (842F)
- 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

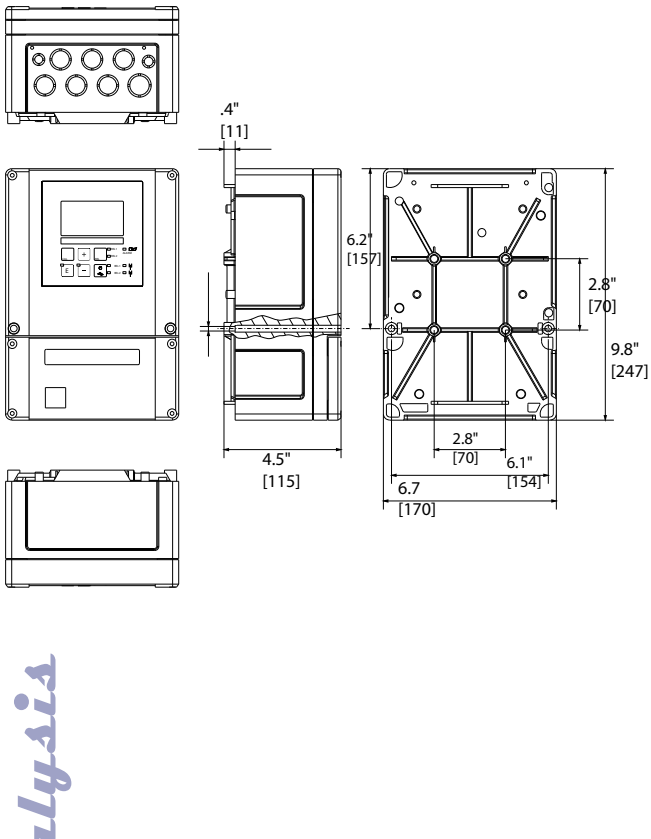
“Live Check” Feature Ensures System Is Continuously Active And Monitoring The Process

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 ₂ , temperature
O₂ Signal Input	Signal current	0 ... 650 nA
	Nominal slope (sensor in air, 20 °C, 1013 hPa)	50 nA
	Maximum length of cable to sensor	50 m
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 ... 140 °F
O₂ measurement With Oos 21 Sensor	Display and measuring range	0.1 ... 20 mg/l or 0 ... 200% SAT
	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%
O₂ Signal Output	Current range	0 / 4 ... 20 mA, galvanically separated; error current 2.4 / 22 mA
	Load	max. 500Ω
	Output range	Δ 0.2 ... Δ 20 mg/l or Δ20 ... Δ200% SAT
	Isolation voltage	max. 350 V _{ms} / 500 V DC
	Overvoltage (lightning) protection	according to EN 61000—4-5: 1995
Temperature Signal Output (Optional)	Current range	0 / 4 ... 20 mA, galvanically separated
	Load	max. 500Ω
	Output range	Δ 7 ... Δ70 °C
	Isolation voltage	max. 350 V _{ms} / 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
Limit Contactor	Limit adjustment range	0 ... 20 mg/l, 0 ... 200 %SAT or -10°C ... + 60 °C
	Pickup / dropout delay	0 ... 7200 s
Controller	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
	Integral and derivative action time	0.0 ... 999.9 min
	Frequency for pulse frequency controller	60 ... 180 min ⁻¹

Alarm	Function (switchable)	latching / momentary contact; normally closed/open
	Alarm threshold adjustment range	O ₂ / 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
Temperature Measurement	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
Ambient Conditions	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	IP65, NEMA 4X
	Electromagnetic compatibility	Interference emission and immunity To EN 61326-2:1998
Physical Data/ Design	Dimensions of panel-mounted unit (H × W × D)	96 × 96 × 145 mm
	Mounting depth	approx. 165 mm
	Dimensions of field housing (H × W × D)	247 × 170 × 115 mm
	Weight of panel-mounted unit	max. 0.7 kg
	Weight with field housing	max. 2.3 kg
	Display	LCD, two lines, five and nine digits, with status indicators
O₂ measurement With Oos 21 Sensor	Resolution	0.01 mg/l or 0.1% SAT
	Deviation of indication	±0.03 mg/l, ±0.3 % SAT
	Reproducibility	±0.05 mg/l, ±0.5 % SAT
	Measurement deviation, O ₂ signal output	max. 0.75% of measuring range
Materials	Housing of panel-mounted unit	polycarbonate
	Front membrane	Polyester, UV-resistant
	Field housing	ABS, Polycarbonate
Power Requirements	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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Analyzer Type					
0F- 1/4 DIN Panel Mount (Model 840F)					
2F- NEMA 4X/IP65 Field Mount (Model 842F)					
Program Level					
HS Polarographic Dissolved Oxygen Measurement with Extended Features					
Power Supply					
2 230Vac					
3 115Vac					
7 24Vac/dc					
Measurement Output					
0 Dissolved Oxygen					
1 Dissolved Oxygen with Temperature					
5 Dissolved Oxygen with HART					
6 Dissolved Oxygen with HART and Temperature					
Relay Output					
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