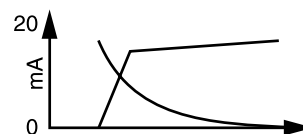


Model 870-872 Turbidity/ Suspended Solids Analyzer




- For use with the Model OUS31 or OUS41 turbidity/ suspended solids sensor
- Available in panel mount (870) or NEMA 4X/ IP65 rated field mount housing (872)
- Turbidity measurement displayed in FNU/NTU, PPM, g/l, or % suspended solids
- Logically arranged menu structure
- Large, two-line display simultaneously indicates measured value and temperature
- Intuitive calibration procedure
- Programmable automatic sensor wipe feature
- Continuous sensor diagnostics
- Choose up to 4 contacts for use as:
 - Limit contacts
 - P(ID) control
 - Timed outputs for simple cleaning
 - Chemical cleaning processes
- Optional 2nd current output for temperature
- HART® communication
- CSA certified

To achieve high resolution in specific measurement ranges, the current output can be defined to accommodate non-linear process response.

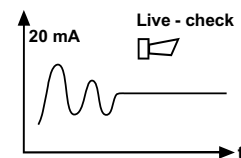


Dedicated alarm contact and error current output can be independently configured based upon application

 2,4 / 22 mA

E 057	yes	no
E 080	no	yes
---	yes	no

“Live Check” feature ensures system is continuously active and monitoring the process

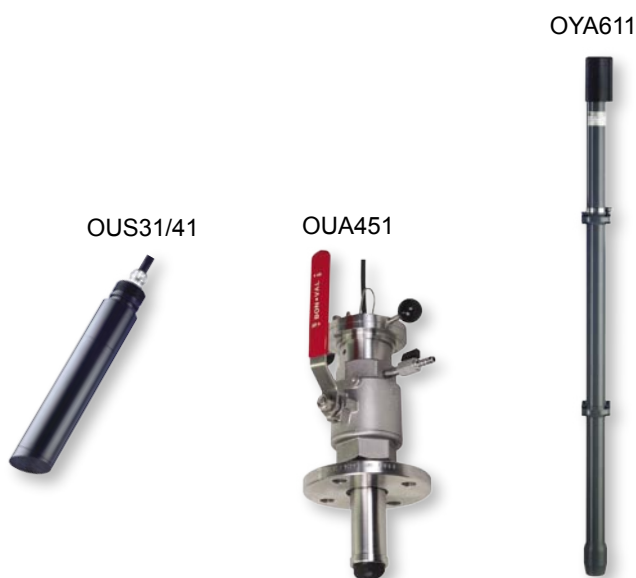


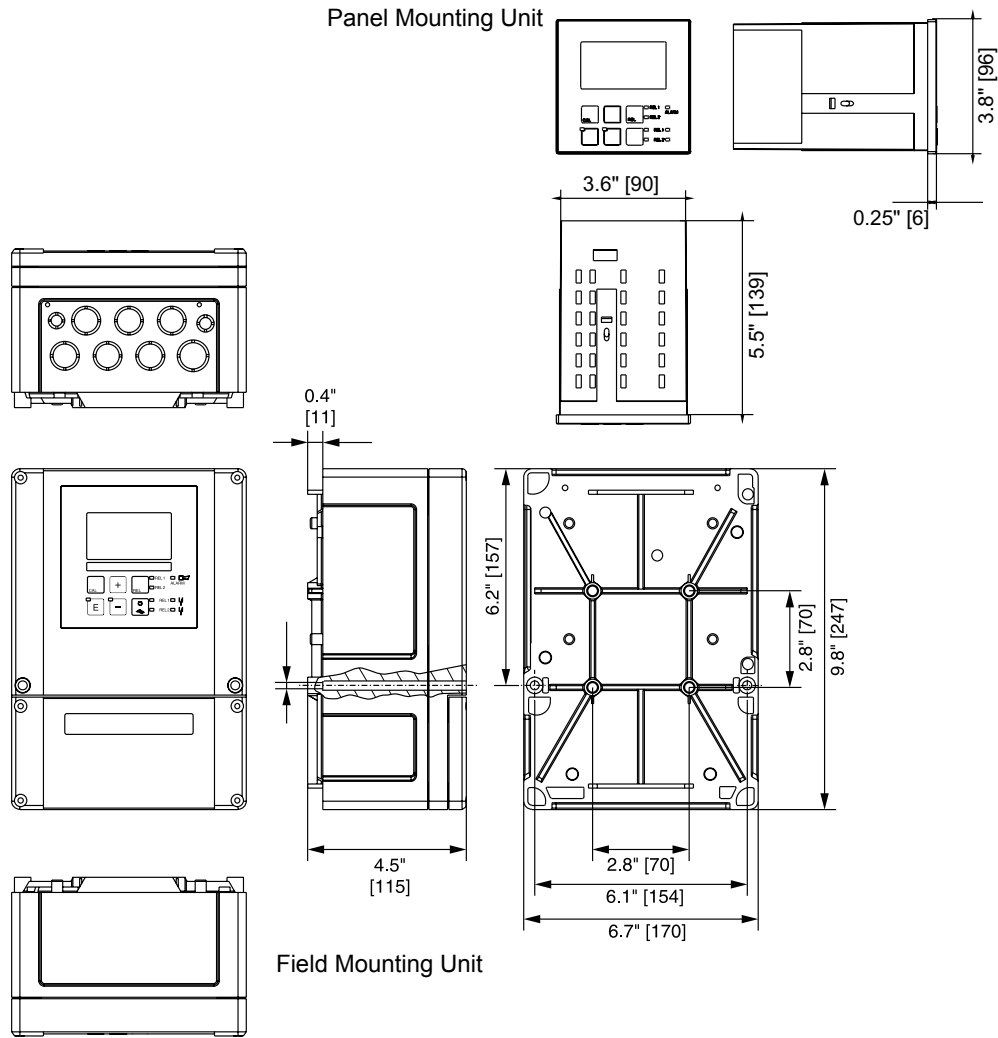
Specifications

Input	Measured parameters	Turbidity / suspended solids, temperature
Digital Inputs 1	Voltage	10 ... 50 V
And 2	Current consumption	max. 10 mA
Temperature Measurement	Temperature sensor	NTC, 30 kΩ at 25 °C
	Measuring range	-5 to 70 °C (23 to 158 °F)
	Temperature offset range	±5 °C
Suspended Solids Measurement	Display and measuring range	0.00 ... 9999 FNU/NTU, 0.00 ... 9999 ppm, 0.0 ... 300.0 g/l, 0.0 ... 200.0 %
With OUS41	Resolution with OUS41	0.01 FNU/NTU, 0.01 ppm, 0.1 g/l, 0.1 %
	Deviation of indication	±2 % of meas. value (min. 0.02 FNU/NTU)
	Repeatability	±1 % of meas. value (min. 0.01 FNU/NTU)
	Turbidity offset range	±99.99 FNU/NTU, ±99.99 ppm, ± 99.9 g/l, ±99.9 %
Measurement With OUS31	Display and measuring range	0.00 ... 9999 FNU, 0.00 ... 3000 ppm, 0.0 ... 3.0 g/l, 0.0 ... 200.0 %
	Resolution with OUS31	0.001 FNU, 0.01 ppm, 0.1 g/l, 0.1 %
	Deviation of indication	±2 % of meas. value (min. 0.02 FNU/NTU)
	Repeatability	±1 % of meas. value (min. 0.01 FNU/NTU)
	Turbidity offset range	±99.99 FNU/NTU, ±99.99 ppm, ± 99.9 g/l, ±99.9 %
Signal Input For Turbidity / Suspended Solids / Temperature	Sensor interface	digital
	Max. length of cable to sensor	200 m / 656 ft
Signal Output For Turbidity / Suspended Solids	Current range	0 / 4 ... 20 mA, galvanically isolated; error current 2.4 / 22 mA
	Load	max. 500Ω
	Output range	adjustable, min. Δ 0.1 FNU, Δ 1 ppm, Δ1 g/l, Δ0.1%
	Measurement deviation, turbidity signal output	1% of current output range (min. 0.02 FNU)
	Isolation voltage	max. 350 V _{ms} / 500 V DC
	Overvoltage (lightning) protection	To EN 61000—4-5: 1995
Temperature Signal Output (Optional)	Current range	0 / 4 ... 20 mA, galvanically isolated
	Load	max. 500Ω
	Output range	Adjustable, Δ 10 ... Δ100 % of upper range value
	Isolation voltage	max. 350 V _{ms} / 500 V DC
	Overvoltage (lightning) protection	To EN 61000—4-5: 1995
Auxiliary Voltage Output	Output voltage	15 V± 0.6 V
	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. 2 A
	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 or 0 ... 200 % SAT
	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
	Frequency for pulse frequency controller	60 ... 180 min ⁻¹

**Specifications
(cont.)**

Alarm	Function (switchable)	latching / momentary contact
	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 (0.18 °F)
	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 to 55 °C (14 to 131 °F)
	Ambient temperature (limit operating conditions)	-20 to 60 °C (-4 to 140 °F)
	Storage and transport temperature	-25 to 65 °C (-13 to 149 °F)
	Relative humidity (nominal operating conditions)	10 ... 95 %, non-condensing
	Protection class of panel mounted unit	IP54 (front), IP 30 (housing)
Physical Data/ Design	Protection class of field mounted unit	IP65, NEMA 4X
	Electromagnetic compatibility	Interference emission and immunity to EN 61326-2: 1998
	Dimensions of panel mounted unit (H × W × D)	96 × 96 × 145 mm (3.8 × 3.8 × 5.7 inch)
	Mounting depth	approx. 165 mm (6.5 inch)
	Dimensions of field mounted unit (H × W × D)	247 × 170 × 115 mm (9.7 × 6.7 × 4.5 inch)
	Weight of panel mounted unit	max. 0.7 kg (1.5 lbs)
	Weight of field mounted unit	max. 2.3 kg (5.1 lbs)
	Display	LCD, two lines, five and nine digits, with status indicators





Dimensions

87	TS	(select from below for complete order code)	
Analyzer Type			
0-	1/4 DIN panel mount (Model 870)		
2-	NEMA 4X/IP65 field mount (Model 872)		
Power Supply			
2	230 Vac		
3	115 Vac		
7	24 Vac/dc		
Measurement Output			
0	Turbidity		
1	Turbidity and temperature		
5	Turbidity with HART		
6	Turbidity with temperature and HART		
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 for field analyzer