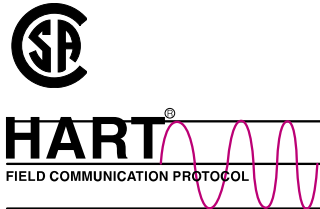
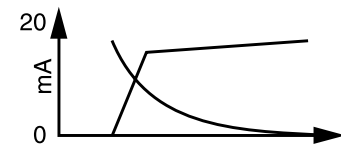


Model 820-822 Conductivity Analyzer




- Available in panel mount (820) or NEMA 4X/ IP65 rated field mount housing (822)
- Measures conductivity, resistivity, % concentration, total dissolved solids (TDS), and PPM
- Logically arranged menu structure
- Large, two-line display simultaneously indicates measured value and temperature
- Intuitive calibration procedure
- Ideal for pharmaceutical grade water preparation (WFI)
- Continuous sensor diagnostics
- Choose up to 4 output contacts for use as:
 - Limit contacts
 - P(ID) control
 - Timed outputs for simple cleaning
 - Chemical cleaning processes
- Optional 2nd current output for temperature
- Inductive measurement option available
- HART® communication
- CSA Certification

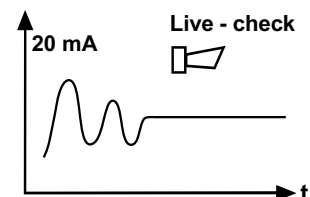
To achieve high resolution in specific measurement ranges, the current output can be defined to accommodate non-linear process response



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



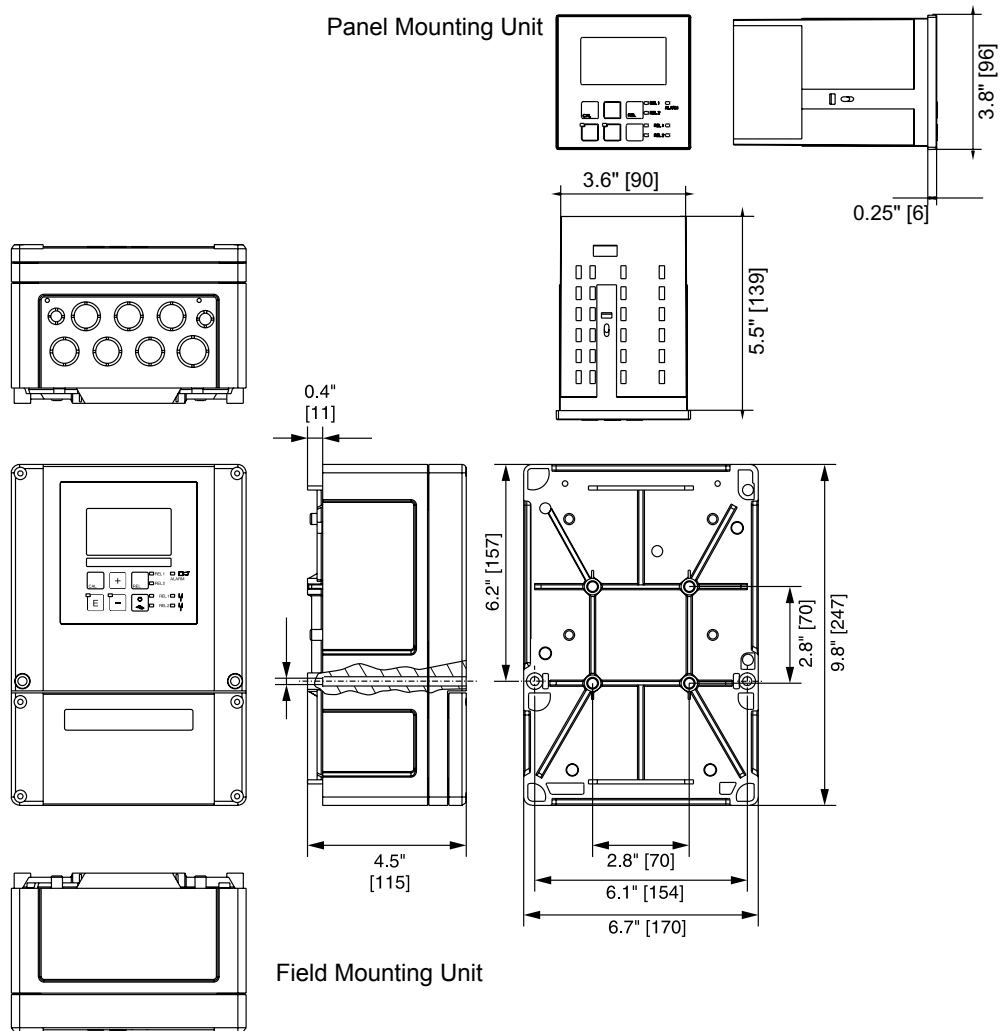
Specifications

Input	Measured parameters	Conductivity, resistance, concentration, temperature
	Minimum Ranges For 0 / 4 ... 20 mA Signal	Conductivity measurement meas. value between 0 and 19.99 $\mu\text{S/cm}$: 2 $\mu\text{S/cm}$ meas. value between 20 and 199.0 $\mu\text{S/cm}$: 20 $\mu\text{S/cm}$ meas. value between 0.2 and 2.00 mS/cm : 0.2 mS/cm meas. value between 2 and 19.99 mS/cm : 2 mS/cm meas. value between 20 and 2000 mS/cm : 20 mS/cm
Contacting Conductivity/ Resistance Measurement	Resistance measurement	meas. value between 0 and 199.9 $\text{k}\Omega\text{cm}$: 20 $\text{k}\Omega\text{cm}$ meas. value between 0.2 and 2.00 $\text{M}\Omega\text{cm}$: 0.2 $\text{M}\Omega\text{cm}$ meas. value between 2 and 19.99 $\text{M}\Omega\text{cm}$: 2 $\text{M}\Omega\text{cm}$ meas. value between 20 and 200 $\text{M}\Omega\text{cm}$: 20 $\text{M}\Omega\text{cm}$
	Measuring range	Conductivity: 0 ... 2000 mS/cm (uncompensated) Resistance: 0 ... 200 $\text{M}\Omega\text{cm}$ Concentration: 0 ... 9999 (% , ppm, mg/l, TDS)
	Usable cell constant	$k = 0.0025 \dots 99.99 \text{ cm}^{-1}$
	Max. length of cable to sensor	Conductivity: 100m Resistance: 20m
	Frequency	Conductivity: 299.75 ... 1077.6 Hz Resistance: 32.5 ... 425 Hz
Inductive Conductivity Measurement	Measuring range	0 ... 2000 mS/cm (uncompensated)
	Usable cell constant	$k = 0.0025 \dots 99.99 \text{ cm}^{-1}$
	Max. length of cable to sensor	55 m
	Frequency	2 kHz
Temperature Measurement	Temperature sensor	Pt100, Pt1000, NTC Thermistor
	Measuring range	-35 to 250°C (-31 to 482°F)
	Temperature offset range	$\pm 5.0 \text{ }^\circ\text{C}$
Temperature Compensation	Compensation types	Linear, NaCl, table, none; conductive sensor only: ultrapure water
	Range	-35 to 250°C (-31 to 482°F)
	Reference temperature	25 °C (77 °F)
Digital Inputs 1 And 2	Voltage	10...50V
	Current consumption	Max. 10 mA
Conductivity/ Resistance Signal Output	Current range	0 / 4 ... 20 mA, galvanically isolated; error current 2.4 / 22 mA
	Load	500 Ω max.
	Output range	User defined
	Isolation voltage	max. 350 Vrms / 500 Vdc
	Overvoltage (lightning) protection	To EN 61000-4-5:1995
Temperature Signal Output (Optional)	Current range	0 / 4 ... 20 mA, galvanically isolated
	Load	500 Ω max.
	Output range	User defined - $\Delta 10 \dots \Delta 100\%$ of upper range value
	Isolation voltage	max. 350 Vrms / 500 Vdc
	Overvoltage (lightning) protection	To EN 61000-4-5:1995
Auxillary Voltage Output	Output voltage	15 V \pm 0.6 V
	Output current	max. 10 mA
Contact Outputs (Potential-free Changeover Contacts)	Switching current with resistive load ($\cos \varphi = 1$)	max. 2 A
	Switching current with inductive load ($\cos \varphi = 0.4$)	max. 2 A
	Switching voltage	max. 250 Vac, 30 Vdc
	Switching power with resistive load ($\cos \varphi = 1$)	max. 1250 VA, 150 W
	Switching power with inductive load ($\cos \varphi = 0.4$)	max. 500 VA, 90 W
Limit Contractor	Pickup / dropout delay	0 ... 2000 s

Specifications (cont.)

Controller	Function (adjustable)	Pulse length / pulse frequency controller
	Controller response	P, PI, PD, PID
	Control gain Kp	0.01 ... 20.00
	Integral action time Tn	0.0 ... 999.9 min
	Derivative action time Tv	0.0 ... 999.9 min
	Period for pulse length controller	0.5 ... 999.9 s
	Frequency for pulse frequency controller	60 ... 180 min ⁻¹
Alarm	Function (switchable)	Latching / momentary contact
	Alarm threshold adjustment range	Conductivity / resistance / concentration / temperature / USP: complete measuring range
	Alarm delay	0 ... 2000 s
Conductivity Measurement	Deviation of indication	max. 0.5% of measured value ± 4 digits
	Repeatability	max. 0.2% of measured value ± 2 digits
	Measurement deviation, conductivity signal output	0.75% of current output range
Resistance Measurement	Deviation of indication	max. 0.5% of measured value ± 4 digits
	Repeatability	max. 0.2% of measured value ± 2 digits
	Measurement deviation, resistance signal output	0.75% of current output range
Temperature Measurement	Resolution	0.1 °C (0.1 °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	IP 54 (front), IP 30 (housing)
	Protection class of field mounted unit	IP 65, 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 (3.8 × 3.8 × 5.7 in)
	Mounting depth	approx. 165 mm (6.5 in)
	Dimensions of field mounted unit (H × W × D)	247 × 170 × 115 mm (9.7 × 6.7 × 4.5 in)
	Weight of panel mounted unit	0.7 kg (1.5 lbs) max.
	Weight of field mounted unit	2.3 kg (5.1 lbs) max.
	Display	LCD, two lines, five and nine digits, with status indicators
Materials	Panel mounted unit case	Polycarbonate
	Front membrane	Polyester, UV-resistant
	Field mounted unit case	ABS and polycarbonate
Power Consumption	Supply voltage	100/115/230 Vac +10 / -15%, 48 ... 62 Hz 24 V ac/dc +20 / -15%
	Power consumption	7.5 VA max.
	Fuse protection	250 V / 3.15 A





Dimensions

82	(select from below for complete order code)
Analyzer Type	
0-	1/4 DIN Panel Mount (Model 820)
2-	NEMA 4X/IP65 Field Mount (Model 822)
Analyzer Programming	
CS	Conductivity/Resistance Measurement (2-Electrode Cell)
IS	Conductivity Measurement (Inductive Cell)
Power Supply	
2	230Vac
3	115Vac
7	24Vac/dc
Measurement Output	
0	Conductivity/Resistance
1	Conductivity/Resistance and Temperature
5	Conductivity/Resistance with HART
6	Conductivity/Resistance 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 for Field Analyzer

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