

8200 Current Output Transmitter

Signal transmission for accurate level measurement in storage tanks

Varec[®]



FuelsManager[®]
Compatibility

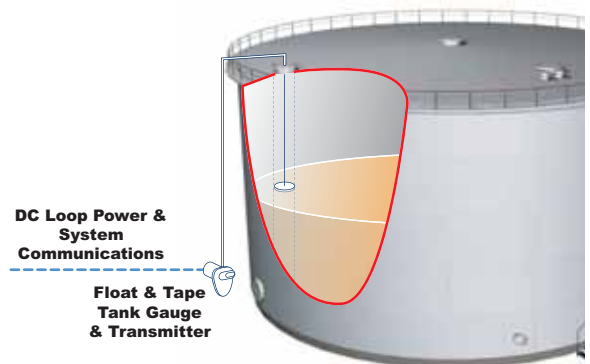


Features

- Mounts directly to the 2500 ATG
- Mounting adapters available for other standard float gauges
- Two wire, industry standard 4-20 mA output
- 115 or 230 Vac on-board power supply available
- 0.25% accuracy over full range
- FM & CSA approved for use in hazardous areas
- NEMA Type 4 enclosure rating

Applications

The 8200 Current Output Transmitter (COT) is a precision analog instrument designed to mount directly to the 2500 Automatic Tank Gauge (ATG). With the use of an elbow drive adapter, the 8200 COT can also be adapted to the 6700 Liquid Level Indicator (LLI). Changes in liquid level are output to a 4-20 mA or 10-50 mA signal.



Function and System Design

The 8200 Current Output Transmitter (COT) is designed to connect to most standard float gauges. The mechanical drive coupling rotates in response to changes in liquid level. In turn, the 8200 COT's

potentiometer records this as a current change and then transmits these changes as a level measurement to a local display or the control room system.

Installation Guidelines

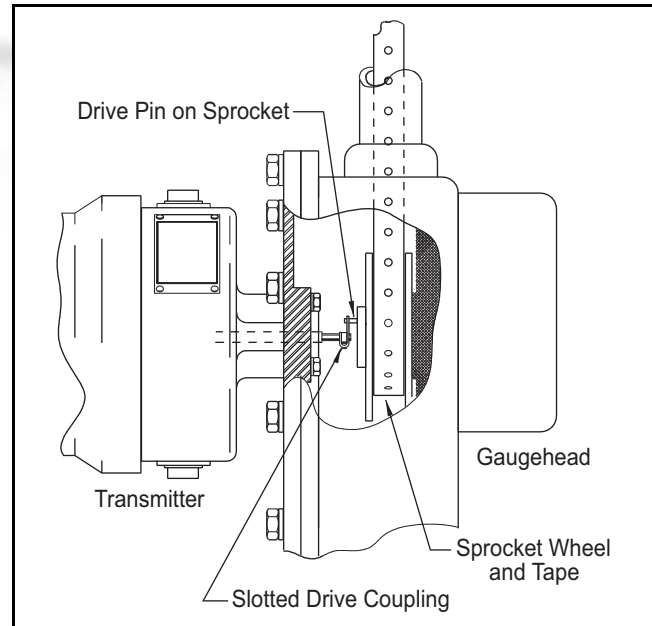
The following information should be used as a guide only; please refer to the operation and maintenance manual for complete installation instructions. You are able to leave the tank in-service and the mechanical float gauge in place while you install and configure the 8200 COT.

Before the 8200 COT is connected to a mechanical float gauge at the tank side, check the following:

1. The mechanical float gauge is operating correctly.
2. There is sufficient space around the mechanical gauge to install the transmitter and accessories (such as conduit and cabling).
3. You have the correct transmitter/mechanical gauge adaptor if required.
4. You have the correct field connections at the gauge-head ready to connect to the 8200 COT (i.e. power, communications and temperature sensor wiring).

To mount the transmitter onto the gauge, the back cover of the mechanical float gauge must first be removed. Mount the 8200 COT in place of the access cap, making certain that the "TOP" of the 8200 COT housing lines up with the top of the back cover. Make certain that the slot in the 8200 COT drive coupling

engages with the pin on the tape sheave of the mechanical float gauge.



8200 COT connected to a 2500 Automatic Tank Gauge

Inputs & Outputs

Wiring and Configuration

The 8200 COT is configured after it has been installed onto the tank gauge and wired for operation. The rotary switches on the main PCB are used to configure the transmitter's baud rate, unit address, etc.

While the operator is calibrating the device, the LEDs, situated above the rotary switches provide an indication that the transmitter matches the manual level reading and has been calibrated correctly.

Input Power

The 30 volts DC required for operation may be supplied by the user or through a 115 or 230 Vac on-board power supply.

Analog Output

Nine (9) different factory calibrated level ranges (fractional or Metric reference dials) are available with a range adjustment of 50 to 100% of the specified range.

The current loop variations are carried across a 2-wire local bus to a central receiver or local display. As standard configuration, there is an increase in current output with a rising level (innage), but the transmitter may be configured for a "reverse" (outage) reading output.

Limit Switches

Two (2) or four (4) SPDT limit switches can be supplied as an option. They have the following ratings:

- 20 A @ 125, 250, 460 VAC
- 10 A @ 125 VAC Tungsten filament Lamp Load
- 1 HP @ 115 VAC, 2 HP @ 250 VDC
- 1/2 A @ 125 VDC, 0.25 A @ 250 VDC

The optional switches can be selected for normally open or normally closed operation. They are mechanically operated directly from the main drive gearing and can be independently configured to switch at any desired tank level.

Accessories

Spare Parts and Maintenance Kits

The 8200 COT is designed and manufactured to provide accurate and reliable operation without an intensive maintenance schedule.

Varec can provide spare parts, maintenance kits, preventive maintenance advice, training and warranties. Please consult your Operation, Installation and Maintenance Manual or a Varec representative for more details.

Transmitter Adapter Kits

The following kits include the necessary parts, including an adaptor bracket to allow the 8200 COT to mount to other manufacturers' tank gauges.

Part #	Description
13-05956-102	Adapter kit for mounting to L&J 92514, 92020 and 92030 gauges
13-05956-202	Adapter kit for mounting to L&J 92006 and Whessoe Varec 2006, 2026 and 2036 gauges

Technical Specifications

The following specifications apply to the 8200 COT over the normal (ambient) operating temperature range.

System Design

Encoder	Incremental Brush Encoder
Gearing system	Stainless steel, direct drive

Functional

Available ranges	Meters: 0-3.75 m, 0-7.5 m, 0-15 m, 0-24 m Feet: 0-5.0 ft, 0-12.5 ft, 0-25 ft, 0-50 ft, 0-100 ft
Output	4-20 mA or 10-50 mA, jumper selectable
Range adjustment	50-100% range
Span adjustment	45-105%
Allowable loop resistance (loop plus line)	8200 COT with 48 Vdc by user: 1500 Ohms (max) 8200 COT with integral DC supply: 500 Ohms (max)
Signal wires	4-20 mA, two (2) conductors

Physical

Net weight	16 lb (7.3 kg)
Shipping weight	25 (11.3 kg)
Enclosure	Explosion proof cast aluminum, Epoxy painted water tight enclosure Rated IP65 (NEMA 4)
Conduit entries	2900 FTT Enclosure: 2 x 3/4" NPT (standard configuration uses one entry) Terminal junction box: 2 x 3/4" NPT

Environmental

Operating temperature	-13 °F to +185 °F (-25 °C to +85 °C)
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Operating humidity	0 to 95% relative humidity non-condensing
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Performance

Accuracy	0.25% at 100% span, 0.35% at 45% span
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Power

Power requirements	15 to 48 Vdc 115 Vac +/- 10% 50/60 Hz (on board 30 Vdc power supply) 230 Vac +/- 10% 50/60 Hz (on board 30 Vdc power supply)
Operating voltage	15 Vdc - minimum 48 Vdc - maximum

Certifications & Approvals

Factory Mutual (FM) Class I Division 1, Groups C & D (NEMA Type 4) (FMRS 1T7H9.AE)
CSA Class I, Groups C & D Enclosure Type 4 rated (LR 40894-25)

Order Codes

8200 Current Output Transmitter

		Power Input	
0	48 V _{dc}	– by user	
1	115 V _{ac}	– integral DC supply	
2	230 V _{ac}	– integral DC supply	
		Level Ranges	
1	0 to 12.5 ft		
2	0 to 25 ft		
3	0 to 50 ft		
4	0 to 100 ft		
5	0 to 3.75 m		
6	0 to 7.5 m		
7	0 to 15 m		
8	0 to 24 m		
		Approvals	
0	FM		
1	CSA		
		General Options	
0	Additional option not used		
1	2 SPDT switches (normally open)		
2	4 SPDT switches (normally open)		
3	Reverse reading		
		Junction Box	
0	None		
1	Junction Box		
N8200-			Complete product designation

www.varec.com

5834 Peachtree Corners East • Norcross, GA 30092
 Tel: +1 (770) 447-9202 • Toll Free: +1 (866) 698-2732 • Fax: +1 (770) 662-8939



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