

**Operating
Data
Installation
Maintenance
Instructions**

**For
Fuel Level Transducer**

FCSR Series

**TEST WITH OHM METER ONLY
See wiring table = last page**

Level Transducer

1. Note

Please read and take note of these operating instructions before unpacking and commissioning. The instruments may only be used, maintained and installed by qualified personal familiar with the operating instructions and the applicable health and safety requirements.

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3. Specific Applications

The Level Control Transducer has been designed for use in rugged level monitoring applications and pump control for liquids

The probe part of the gauge can be manufactured from most non-magnetic materials including plastics. The floats can be either stainless, buna or engineered plastics.

The Level Transducer can be configured from the factory in many lengths and configurations.

4. Operating Principles

Hermitically sealed reed switches and a resistive chain are potted inside the transducer on an engineered printed circuit board. The float (stainless, buna or plastic all contain either a rod or ring magnet potted or gripped inside. As fluid moves the float – it's magnetic lines of force change the resistance output of the transducer. Standard output is 3 wires for voltage use or **for a fuel sender type using two wires from the resistance stack. – To work with specific fuel gauges – resistance should be indicted on ordering.** A 4-20 option is available.

5. Instrument Instructions

The instruments are thoroughly inspected by the factory prior to shipment and sent in perfect working condition. Should any damage to the device be visible, we recommend a thorough inspection of the delivery packing. In case of damage please inform your parcel service/forwarding agent immediately, since they are responsible for damages incurred during transit.

Scope of delivery:

- Level Transducer per Purchase Order
- Operation Manual

Level Transducer

6. Mechanical Installation

Must be installed to local piping and plumbing codes. Use caution when handling the wires, as they can be easily crushed against the head or potting. Ensure that the bottom of the probe does not come in contact the tank bottom, as the probe will easily bend.

Use a wrench on the larger of the two fittings to install. Do not use any tool or clamp on the actual probe tube.

7. Technical Specifications

Preliminary Technical Data Sheet

Instrument Type	Fuel Sender
Model	316 Stainless Steel or Plastic
Housing Size	Custom
Housing Material	316 Stainless Steel
Float	Buna or SS or PP
Flag Display	N/A
Temperature	-20 to 300 Deg. F
Reed Only	40 VAC/DC
Top Fitting	Custom
Bottom Flange	N/A
Reed position	Fixed
Ruler	N/A
Liquid Indication	Remote wires
No Liquid Indication	N/A

8. Electrical Connection

ATTENTION: Ensure that the voltage levels of your supply system are in agreement with the voltage levels given on specification sheet.

Make sure that the electric supply lines are not active during connection to this device.

- Improper wiring can lead to damage of this device as well as injury to the user.
- Make sure that installation; wiring and circuit protection are in **accordance with all local electrical codes.**
- Make sure the supply circuit **provides adequate fuse or circuit breaker protection** that is in accordance with the circuits current rating.

Electrical connections to the relay module are made by - connecting the wires to and out of the NEMA box. Wiring is per attached drawings and specifications.

Wiring Table

Fuel Sender

Black - negative

White (stack)

Red + (not used)

Operation Instructions Rev. 1 Jan 01
Specifications are subject to change

Level Transducer

Adjustments

Continuous controls are not adjustable

Operation

The resistance will change as the float moves on the transducer.

Wiring Diagram

See enclosed 4-20 spec sheet

9. Set Up

IMPORTANT INFORMATION

The unit is rugged - but the electrical controls are pilot duty devices good for millions of operations if installed correctly.

10. Troubleshooting

The resistance does not change:

Not field fixable.

- Check the sensor black and white wire OHM meter scale to read from near 0 about 5000 ohms. Or :
- Check with voltage 1 to 10 VDC – Black is (-) Red is (+) white is (stack) slide the float - a mA scale should show float position

11. Maintenance

The Level Transducer requires no special maintenance other than making sure sludge or debris to not enter the gauge. If the application is dirty – wipe the unit down on a regular schedule to prevent buildup on the probe interfering with float movement. Sensors can be replaced as well as added to.

There are no user serviceable parts inside the Level Transducer. If repair is required, please contact your local distributor to return for repair.