9402 Guided Wave Radar Sensor

Rochester Sensors has unveiled its latest product, the 9402 Series Guided Wave Radar (GWR, Gen II) transmitter, which provides technical advantages over traditional reed switch probe liquid level sensors. The 9402 GWR sensor utilizes digital technology and requires minimal maintenance, while providing high accuracy measurements in mechanically challenging tanks. It features an anodized aluminum header and a stainless-steel waveguide. The wetted components are suitable for a range of fluids including diesel, biodiesel, synthetic oils, mineral oils, coolants, water, and mildly acidic or corrosive media.

The 9402 sensor is highly configurable and can be customized for specific applications, including the selection of probe length and electrical outputs. The device is designed for stationary applications and is ideal for fuel monitoring for remote backup generators, particularly for tanks with pre-existing small access ports. The low-profile head design extends less than 1" above the tank, and the side cable exit eliminates vertical clearance concerns for industrial systems.

The 9402 GWR sensor operates effortlessly in constrained mechanical environments, foam baffle-filled tanks, and is compatible with multiple fluid types. Standard factory calibration provides a resolution of less than 2mm and measurement accuracy of +/- 3% full scale, suitable for demanding industrial applications. The device is currently being offered for sale through Rochester's Quick-Turn group, which enables users to design, order, and receive small quantities in a short period of time (typically less than 3-4 weeks).

The 9402 provides excellent performance in **static applications** (non-Mobile) and is suitable for a range of markets, including industrial process control, generator applications, EV stations, and stationary storage applications. Rochester Sensors anticipates the release of a mobile version later this year. Interested parties can use this 9402 datasheet (which can be easily downloaded from the website) as well as the Guided Wave Radar II (Design) template by contacting their Rochester Sensors Quick-Turn sales representative to design a unique configuration for your application.

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Applications:

- Extended length tanks up to 3 meters in length
- Constrained mechanical environments without room for a float
- Foam-baffle filled tanks
- Multiple fluid types
- Static applications
- Back-up & remote generators
- Industrial process control
- Critical level monitoring
- Agricultural equipment
- Heavy industrial equipment
- EV charging stations
- Alternative energy production

Mechanical Specifications:

Length/Sensing Range:	Configurable up to 3 meters
Operating and Storage Temp:	-40°C to +85°C
Sealing	IP6K9K
Max Tank Pressure	15 PSI

Materials:

Housing	Die Cast Aluminum with optional Level III anodization
Sensor Tube	304 SS
Wetted Materials	Anodized Aluminum, 304 SS, Acetal, Viton
Cable	Flying leads with 3 wires: Brown: Power Black: Ground Blue: Signal

Electrical Specifications:

Supply Voltage	9-32V dc
Supply Current	35 mA average at 9 Vdc input
Reverse Polarity Protection	60V
Average Power Consumption	400 mW
Output Voltage	0.5V (Empty) to 4.5V (Full), (0-5V optional)
Optional 3-Wire 4-20 mA output	4 mA (Empty) to 20 mA (Full)
EMC/EMI	UN ECE R10 Rev 5 (pending)
ESD	2 kV HBM (pending)

Performance Specifications:

Accuracy	+/- 3.0% FS
Resolution	< 2mm

Ordering Options:

Mounting options:

- 5-bolt SAE
- 1” NPT thread (adapter flange)
- Contact factory for additional mounting options

Output

- 0.5 to 4.5V (0-5V available)
- Optional 3-wire 4-20 mA output
- Linear output standard

Probe Length

- 200 mm to 3.0 m

Cable Length

- 610 mm (24”) standard cable (flying leads)
- 250 mm to 5 m
- Optional connector at customer request

Other Information

Contact your PLM for samples, availability, and pricing information.

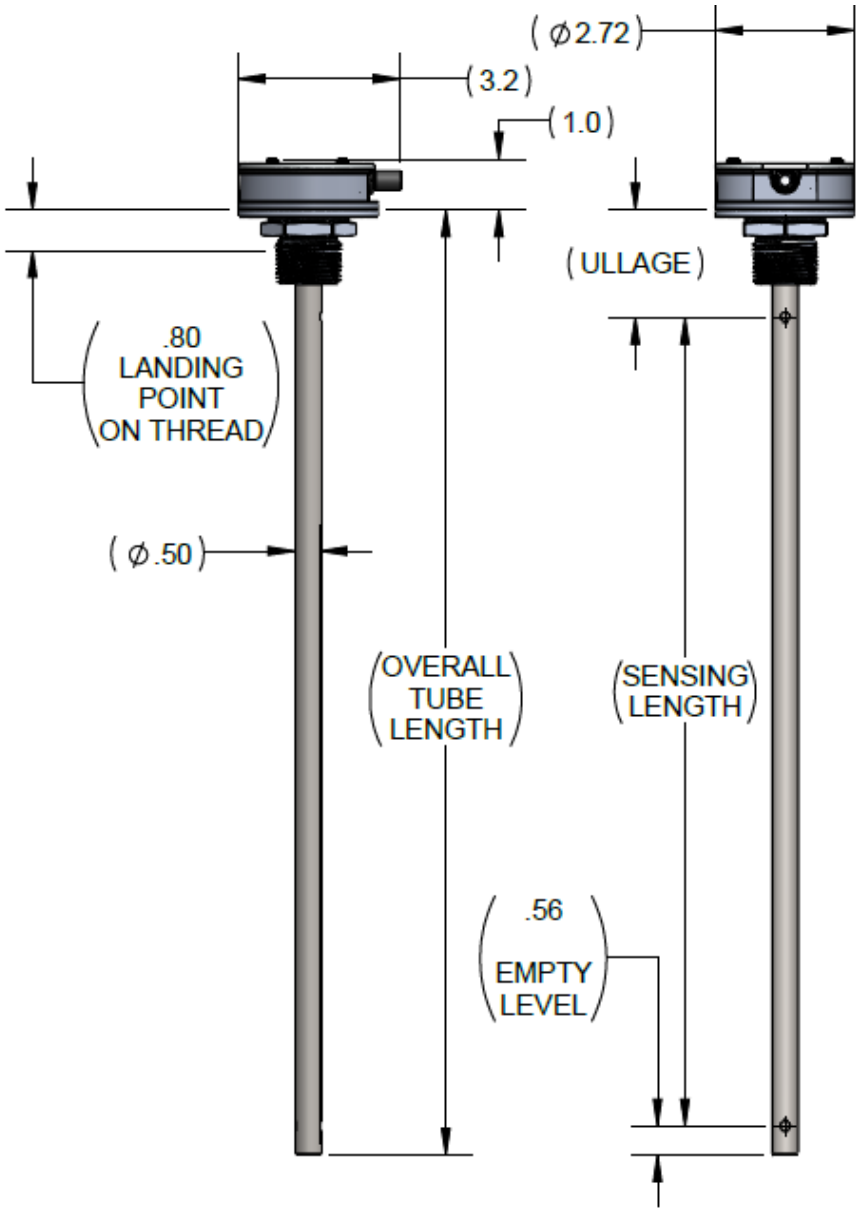

Fig 1 :Optional 1” NPT mounting flange adapter

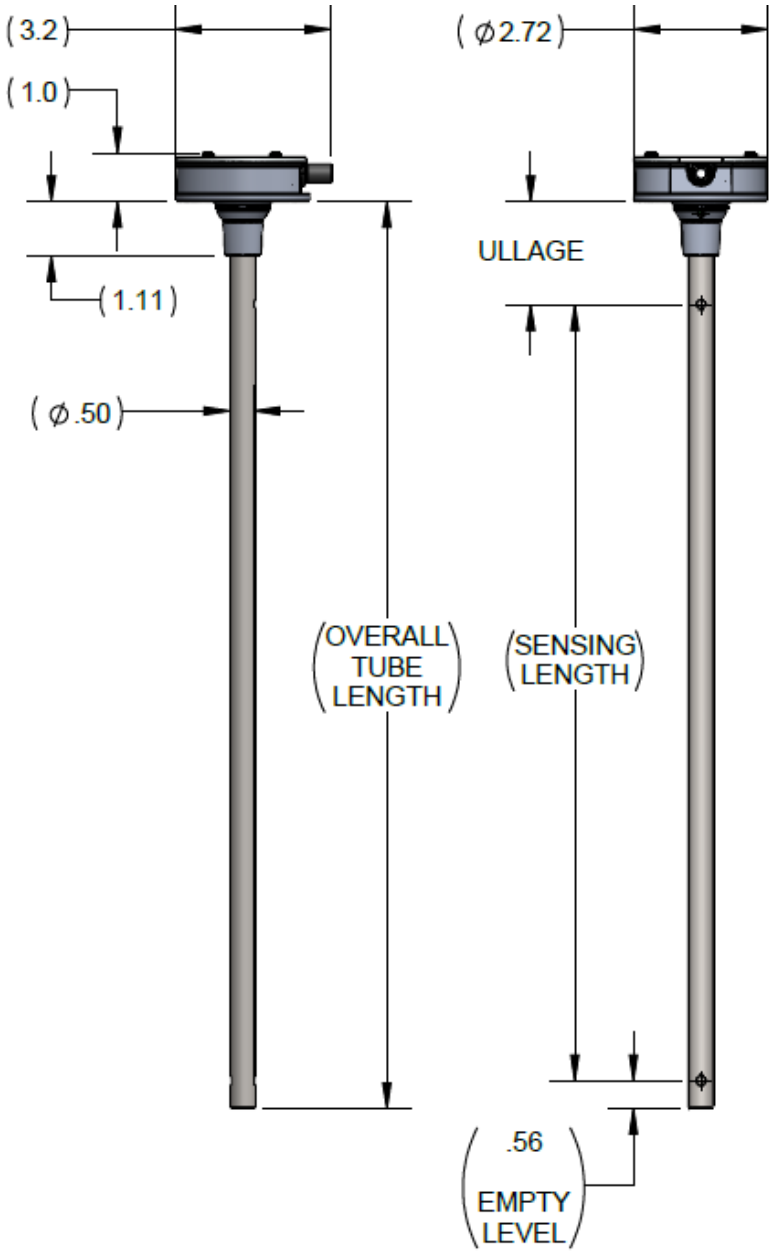

Fig 2: Standard 5 bolt SAE mounting option