



**ROCHESTER
GAUGES, INC.**

Voltage Divider TwinSite™ Sender

VD003

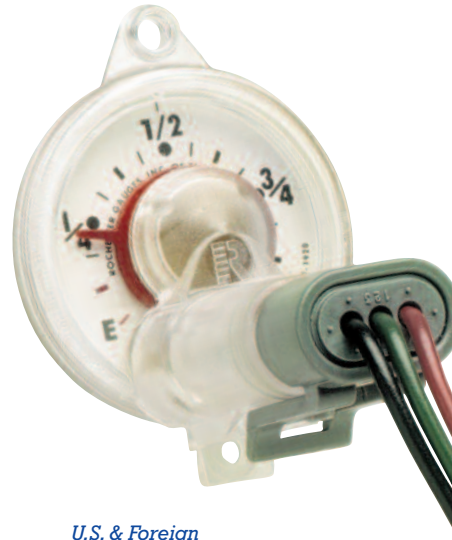
ISO 9001:2008 CERTIFIED

Application

Rochester TwinSite™ Senders are utilized where direct reading plus accurate variable voltage output signal to a remote receiver is required. Models are available to fit all Rochester Junior and Senior gauges equipped with a large Alnico magnet. Some applications require use only with intrinsically safe circuits.

General Information & Features

This three-wire Voltage Divider TwinSite™ Sender incorporates a 10,000 or 15,000 ohm advanced matrix film-conductive polymer element in conjunction with a multi-fingered contact arrangement. This unique combination in the level-gauge industry provides better inherent accuracy and reliability than conventional one- or two-wire resistance senders. Accuracy is not reduced due to changes in temperature, the multiple contact fingers provide for increased reliability, and the thick-film polymer resistance element insures greater durability. Electrical connections are sealed with multiple epoxy chambers. The connecting wires are also sealed behind this epoxy barrier. This sealing process helps prevent sparks or other damage due to inadvertent short circuits, as well as, providing an impervious barrier to the environment.



*U.S. & Foreign
Patents*

The sender is mounted onto the Rochester Junior™ or Senior gauge with #0040-00416 stainless steel dial screws (6 – 32 x ⁵/₁₆”). An additional item available to ensure weatherproof connections from the TwinSite™ to the receiver is heat shrink solder sleeves part number 0025-00495.

Resistance Senders and Voltage-Divider Senders Compared

A resistance-sender output is the variable resistance measured between one end of the resistance element and the wiper pickup contact. Because of this, resistance senders are quite sensitive to changes in contact resistance and other factors. The receivers used with resistance senders are calibrated to indicate at a specific graduation when specific resistance input is received. When the resistance varies for any reason, the Voltage-Divider TwinSite™ Sender reading on the receiver will vary, also. Since standard resistance senders are supplied in narrow ranges of 0-90, 70-10 and 240-30 ohms, it is apparent that small changes in the element or contact resistance will yield sizable errors in receiver readings.

On the other hand, a voltage-divider sender output is a variable percentage of the voltage drop across the entire resistance element. The output voltage is measured between the low end of the resistance element and the wiper pickup contact. When the voltage drop across the element varies due to changes in input voltage or other factors, the output voltage remains the same relative percentage of the total voltage. The voltage divider utilizes a 10,000 or 15,000 ohm resistance element, and it is necessary that the wiper pickup contact be connected to a high impedance load. Because of these factors, any likely change in element or contact resistance will result in a negligible change in output voltage and receiver reading.

Voltage Divider TwinSite™ Sender

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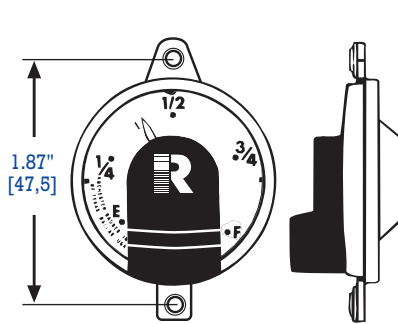
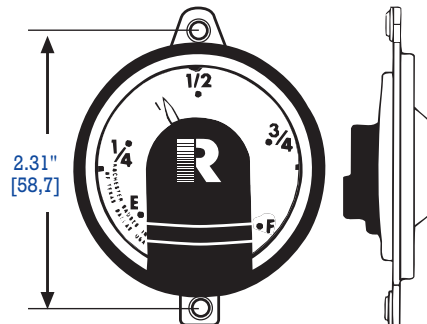
See reverse side for dimensional data, materials of construction, performance, and advice on how to order.

The Measure of Excellence

VD003

Voltage Divider TwinSite™ Sender

[Metric]

**Jr.™ Screw-On Mount****Sr.™ Screw-On Mount**

General Specifications*

Nominal Resistance10K ohms $\pm 5\%$ or 15K ohms $\pm 5\%$ **Dynamic Noise**

Less than 1% of total resistance

Rotational Life (E to F to E Cycles)†

500,000 minimum, mobile model only

Resolution

Infinite

Power

0.5 watts maximum, impedance of load to wiper = 100K ohms minimum.

Repeatability $\pm 0.5\%$ **Conformity** $\pm 3\%$ maximum output deviation**Moisture**

Unit is ultrasonically sealed

Vibration**

Suitable for mobile service applications, mobile model only

Operating Temperature Range -40°F to 158°F , -40°C to 70°C

When ordering, specify:

1. Gauge model number.
2. Tank diameter and riser height.
3. Mounting location.
4. Any listed options.
5. Mobile model.
6. Stationary/low torque model.

Materials of Construction*

Crystal & Case

Polycarbonate or polyamide.

Pointer

Acetal

Magnet

Alnico

Contact and Contact Spring

Proprietary multi-fingered construction

Resistance Element

Proprietary advanced matrix film

Dial

Painted aluminum

Connector Options

- Packard

How To Order

For LP Gas service, select from the available models shown on Price List D6200. For Industrial service, select from the available models shown on price list P6200.

* Materials and specifications are subject to change without notice.

Pressure ratings subject to change due to temperature and other environmental considerations.

† Stationary/low torque model 1,000 minimum.

** Stationary/low torque model not suitable for mobile service applications.

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