



**ROCHESTER
GAUGES, INC.**

**Hall Effect TwinSite™
For LP Gas Service**

ISO 9001:2008 CERTIFIED

TS012

Application

The TwinSite™ is a magnetically-driven, Hall Effect, voltage output sender. Senders are utilized on stationary applications where direct reading plus an electrical signal to a remote fuel level monitor are required. Models are available to fit all Rochester Junior™, Senior™ and Snap-On.

General Information & Features

In the area of LP gas measurement, a magnetic drive feature is important because the fluid is stored under pressure. A magnetic drive allows a signal from the float mechanism inside the tank to be transmitted through a solid, non-magnetic bulkhead without the necessity of dynamic seals or pressure-type conductors.

Previous designs of liquid level gauges for magnetically driven dials which produce an electrical output signal had the disadvantages inherent in using variable resistors with a wiper arm contact. There has been a need for a more reliable and simplified design for LP liquid-level gauges which would provide an electrical output related to the liquid level in the vessel.

Hall effect is a solid state technology with no moving contacts. It counts on the fact that a magnet bends the path of electrons moving through a semiconductor. The bending of the electrons can be detected and converted into ratiometric voltage output.

Hall effect sensors have been employed in various automotive applications such as for detecting throttle position. The magnetic connection of the Hall effect sensor is more reliable than systems that depend on the sliding contact of variable resistor devices.

Many existing home and small business LPG storage tanks are equipped with gauges with weak drive magnets suited for low friction direct-indicating dial assemblies. There is no sliding wiper contact, and is compatible with existing gauges equipped with weak drive magnets within the tank. The Hall Effect TwinSite™ is advantageous in that it can be used as a retrofit on these vessels to provide an electrical output which can be utilized for remote monitoring of tank levels. With remote monitoring of tank levels, distributors of LP gas will be able to more efficiently plan deliveries to various consumers.

The TwinSite™ also provides the easiest to read local indication of any TwinSite™ sender Rochester has produced. The bright, user friendly dial face is divided into percentage units.

The case is hermetically sealed by ultrasonic welding to melt and fuse the case into one solid piece. This keeps weather out, ensuring “no-fog” readability while greatly extending mechanical life. This Ultra Sonic weld process is highly reliable and features a back-up o-ring seal. The plastic case is capable of withstanding vibration and shock that would render comparable metal designs useless.

The plastic case is far more resistant to corrosion than any metal-cased version and is capable of withstanding broad variations in temperature. The plastic lens (and the rest of the case) is a special, UV stabilized material.

Electrical connections are sealed with redundant epoxy chambers. The connecting wires are also sealed behind this epoxy barrier. This sealing process presents an impervious barrier to water.

The sender is mounted onto the Rochester Junior™ gauge with #0040-00416 stainless steel dial screws (6 — 32 x 3/8”). An additional item available to ensure weatherproof connections from the TwinSite™ to the receiver is heat shrink solder sleeves part number 0025-00495.



CLASSIFIED
UL
US Patents Issued
Foreign Patents Pending

Potting Cap

**Hall Effect TwinSite™
For LP Gas Service**

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

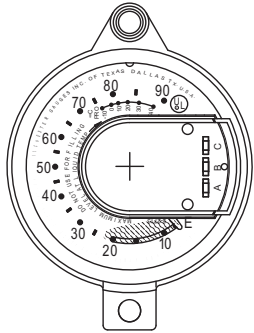
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The Measure of Excellence

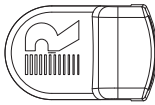
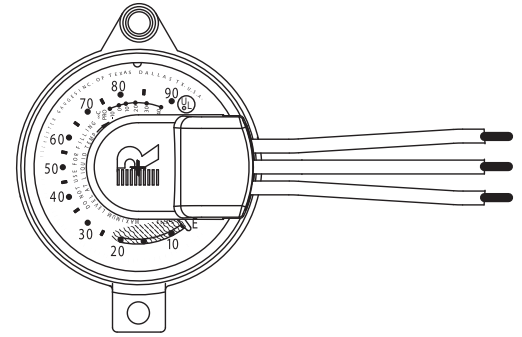
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Hall Effect TwinSite™ For LP Gas Service

[METRIC]



Standard screw-on mount

Potting Cap
(as seen on the dial)Potting Cap
0023-00502Screw-on mount with wires
(Wires shown but not available through Rochester Gauges.)

General Specifications*

Operating Temperature

-40° to 80°C (-40°F to 176°F).

Accuracy

±1½% at E, ±2% at 20%, and ±3% at higher graduations.

See DS-1318.

Hysteresis

Less than 1% typical.

Repeatability

±1%.

Opp. Range

3.5 to 6.0 vdc/ratiometric.

Can be made compliant with alternative operating voltages.

Output Voltage with 5.0 Volt Input

Ratiometric 8-80% of input voltage @ 8-80% volume.

Ratiometric: Empty is 0.4 volt or 8% of input voltage.

Full is 4.0 volt or 80% of input voltage.

Resolution

Infinite.

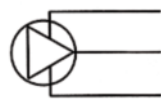
Hall Effect Twinsites are UL Classified as intrinsically safe for Class 1, Division 1, Groups C & D (Hazardous Locations).

See WD-566 for control drawing.

See DS-1318 for application notes.

When ordering, specify:

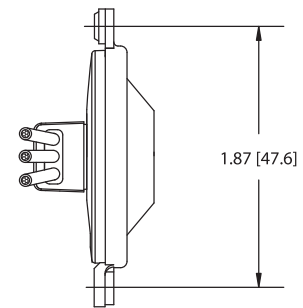
1. Junior™ or Senior™ or Snap-On.
2. Or part number.



GROUND

OUTPUT

3.5-6 VDC



1.87 [47.6]

Materials of Construction*

Crystal & Case

Polycarbonate, ultrasonically sealed.

Dial

Painted aluminum.

How To Order**

Hall Effect Twinsite Series			
Part #	Style	Circuit	Wires
5901S02713	Jr.	Ratiometric	None
5950S02713	Sr.	Ratiometric	None
5994S02713	Snap-On	Ratiometric	None

Potting Cap

Part #	Description
0023-00502	Potting cap for Hall Effect Twinsites

Hall Effect components only available through remote monitor OEM's.

* Materials and specifications are subject to change without notice.
Pressure ratings subject to change due to temperature and other environmental considerations.

** NOTE: these part numbers are furnished less wires.

05/15/09

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