

Rochester Remote Ready Dial & Hall Effect Module for LP Applications

Applications

The Rochester Remote Ready Dial, R3 D® – LP, is a magnetically-driven, Hall Effect compatible dial. Dials are utilized on stationary applications where direct reading plus an electrical signal to a remote fuel level monitor may be required. Models are available to fit all Rochester Junior, Senior and Snap-On liquid-level gauges.

Rochester's Hall Effect Module is designed to snap-fit into the recess in the Remote Ready Dial lens. Once installed, the module can provide ratiometric voltage output proportional to the liquid volume inside the tank.



General Information & Features

In the area of LP gas measurement, a magnetic drive feature is important because a magnetic drive allows a signal from the float mechanism inside the tank to be transmitted through a solid bulkhead.

The R3D® – LP dial is designed to allow a second magnetic coupling. This is a coupling from the R3D® – LP pointer magnet, through the sealed lens and into the Hall Effect Module.

Previous designs of magnetically driven dials that produce an electrical output signal had the disadvantages inherent in using variable resistors with a wiper arm contact. The magnetic connection of the Hall Effect sensor is more reliable than systems that depend on the sliding contact of variable resistor devices.

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 electron path can be detected and converted into an electrical signal.

The R3D® – LP and Hall Effect Module can be used as a retrofit on existing LP tank gauges 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 R3D® – LP case is hermetically sealed by ultrasonic welding to melt and fuse the case into one solid piece. This keeps weather out, ensuring “no-fog” read ability while greatly extending mechanical life. The seal is a high reliability, no-gasket design.

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

The R3D® – LP dial is mounted onto Rochester Junior or Senior gauges with #0040-00416 stainless steel dial screws (6 — 32 x 3/8"). An additional item available to ensure weatherproof connections from the module to the remote monitor is heat shrink solder sleeve part number 0025-00495.

Remote Ready Gauge

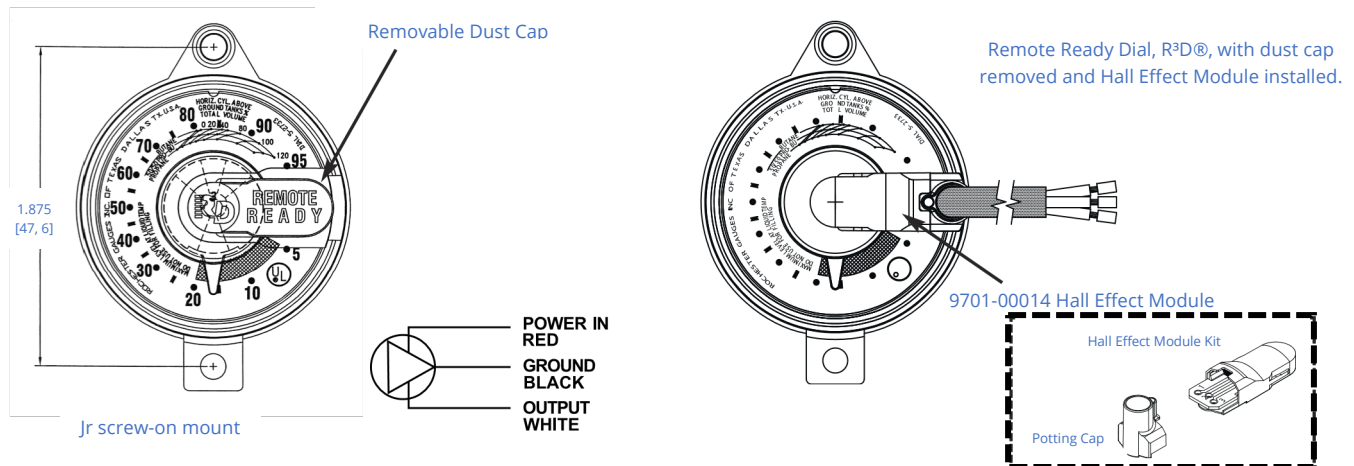
If you specify new Rochester Sensors with R3D® –LP, Rochester Remote Ready Dials, Hall Effect Modules can be ordered and installed any time, anywhere.

WARNING: Level Gauging devices and sensors sold by Rochester Sensors, Inc. are components only.

The purchaser/installer is solely responsible for the application of these components and ensuring all necessary steps have been taken to assure each application and use meets all performance and applicable safety requirements and/or local, national and/or international safety codes as required by the application. Rochester Sensors, Inc. cannot certify that our products used solely or in conjunction with other Rochester Sensors, Inc. or other vendors' products will assure desired performance and safety for any application.

Any person using or applying any products sold by Rochester Sensors, Inc. is responsible for learning the performance and safety requirements for their individual application and applying them, and therefore assumes all risks, and accepts full and complete responsibility for the suitability of the product for their respective application.

Rochester Sensors, Inc. does not provide system design or consulting services, and cannot advise whether any specific application or use of our products would ensure compliance with all performance and safety requirements for any application.



General Specification*

Operating Temperature

-40°C to 80°C (-40°F to 176°F).

Accuracy

Voltage output $\pm 4\%$ (full scale) of visual dial indication. (Float gauge errors not included). See DS-1318 for nominal output voltages corresponding with dial graduations.

Repeatability

$\pm 1\%$

Operational Voltage Range

4.5 to 5.5 vdc/ratiometric

Output Voltage

Ratiometric 5-80% of input voltage @ 5-80% volume.

Resolution

Infinite

Operating Current

4.5 mA.

Output Current

± 1 mA.

U.S. Patents

6,564,632; 6,679,116; 6,584,838

When ordering, specify:

1. Junior, Senior or Snap-On, Horizontal Tank, Vertical Tank or Below Ground Tank.
2. Or part number.

See DS-1828 for Application Notes for 3V modules.

See DS-1318 for Application Notes for 5V modules.

See DS-1532 for modules installation instructions.

WARNING: for LP-gas and other flammable product service applications, connect only to circuits and power sources classified and labeled as Intrinsically Safe for Class 1, Division 1, Group C and D hazardous locations. The connection of non-intrinsically safe power could cause fire or explosion of flammable vapor which may be present.

WARNING: this sensor is not to be used as the primary means of determining high or low fuel condition. It must not be used in the absence of redundant systems in critical applications where there may be significant safety risk of financial exposure in the event of fuel overfill or fuel exhaustion condition. This sensor is not to be used for tank filling.

Materials of Construction*

Crystal & Case

Polycarbonate.

Dial

Painted aluminum.

How to Order

Remote Ready Dial (R³D®)		
Part #	Style	Tank
5909S02733	Jr.	Horizontal
5986S02733	Sr.	
5AAAS02733	Snap-On	
5909S02772	Jr.	Vertical DOT
5909S02799	Jr.	Below Ground

Hall Effect Components		
Model	Style	Wires
9704-RD06	3V Hall Effect Module Overmold (Vertical)	6 Feet
9701-M0014	5V Hall Effect Module Overmold (Vertical)	

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

Note: Materials and specifications are subjected to change without notice.

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