



## Rochester Remote Ready Dial & Hall Effect Module for Industrial Applications

### Application

The Rochester Remote Ready Dial, R<sup>3</sup>D® – IND, 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 and Senior 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 fuels, lubricants and many other liquid measurements, 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 R<sup>3</sup>D® – IND dial is designed to allow a second magnetic coupling. This is a coupling from the R<sup>3</sup>D® – IND 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 R<sup>3</sup>D® – IND and Hall Effect Module can be used as a retrofit on existing tank gauges to provide an electrical output which can be utilized for remote monitoring of tank levels. Existing tank gauges without an R<sup>3</sup>D® dial can be retrofitted using 5ACRS02898 (Sr.) or 5ACPS02898 (Jr.) dials. Remote monitoring of tank levels provides another source of level gauging in addition to manually checking dial gradients.

The R<sup>3</sup>D® – IND 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. 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 R<sup>3</sup>D® – IND 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 gauges with R<sup>3</sup>D® – IND, Rochester Remote Ready Dials, Hall Effect Modules can be ordered and installed anytime, anywhere.

#### **WARNING: Level Gauging devices and sensors sold by Rochester Gauges, 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 Gauges, Inc. cannot certify that our products used solely or in conjunction with other Rochester Gauges, Inc. or other vendors' products will assure desired performance and safety for any application.

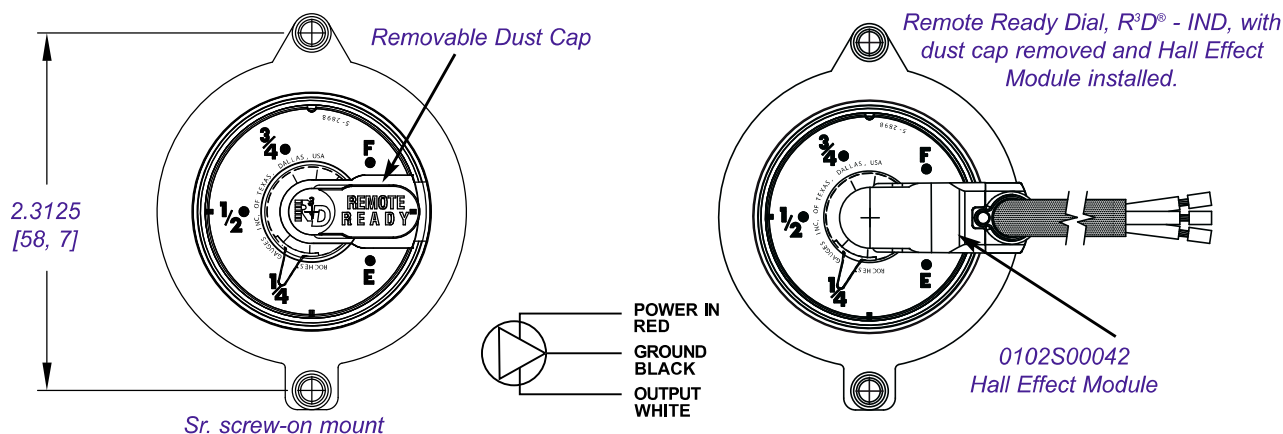
Any person using or applying any products sold by Rochester Gauges, Inc. is responsible for learning the perform-



*US Patents Issued  
Foreign Patents Pending*

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

*The Measure of Excellence*



## General Specifications\*

### 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-1522 for nominal output voltages corresponding with dial graduations.

### Repeatability

$\pm 1\%$ .

### Operational Voltage Range

4.5 to 5.5 vdc/ratiometric.

### Output Voltage

Ratiometric 10-90% of input voltage @ 10-90% volume.

### Resolution

Infinite.

### Operating Current

4.5 mA.

### Output Current

$\pm 1$  mA.

### U.S. Patents

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

Hall Effect modules are UL Classified as intrinsically safe for Class 1, Division 1, Groups C & D (Hazardous Locations). See WD-570 for control drawing.

See DS-1318 for Application Notes.

See DS-1532 for Module Installation Instructions.

See DS-1522 for Calibration Chart

## Materials of Construction\*

### Crystal & Case

Polycarbonate.

### Dial

Painted aluminum.

## How To Order

Remote Ready Dial (R <sup>3</sup> D®)		
Part #	Style	Tank
5ACPS02898	Jr.	Horizontal or Vertical
5ACRS02898	Sr.	

Hall Effect Components		
Model	Style	Wires
0102S00042	Hall Effect Module Potted (Vertical)	6 Feet
0102S00052	Hall Effect Module Potted (Vertical) w/Packard connector (15336029)	5 Feet

## When ordering, specify:

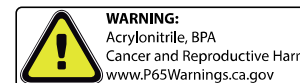
1. Junior or Senior gauge.
2. Or part number.

\* Materials and specifications are subject to change without notice.

Ratings subject to change due to temperature and other environmental considerations.

**Warning:** For gasoline and other hazardous 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 or financial exposure in the event of fuel overfill or fuel exhaustion condition. This sensor is not to be used for tank filling.



10/30/2019