

Magnetel® R³D® & Master Dials for LP Gas Service

Applications



The Magnetel® R³D® Dial is a magnetically driven, Hall Effect compatible dial. These dials are utilized on applications where direct reading plus an electrical signal to a remote fuel level monitor are required. Models are available to fit Rochester 4" & 8" Magnetel® and Taylor 8" Master liquid-level gauges.

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 produced 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 these LP gas liquid-level gauges that would provide an electrical output related to the liquid level in the vessel.

The Magnetel® R³D® Dial is advantageous in that it can be used as a retrofit on existing vessels to provide an electrical output that can be utilized for remote monitoring of tank levels. With remote monitoring of tank levels, distributors of LP gas will be able to plan deliveries more efficiently to various consumers.



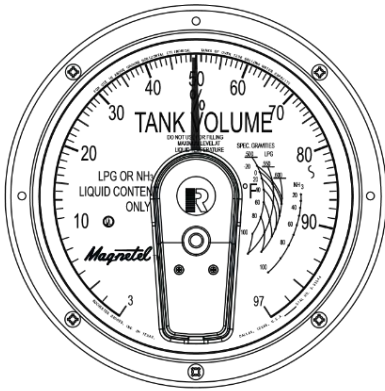
US Patents Issued

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

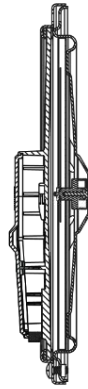
The purchaser/installer is solely responsible for the application of these components and ensuring all necessary steps have been taken to assure each application and use meets all performance and applicable safety requirements and/or local, national and/or international safety codes as required by the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

Any person using or applying any products sold by Rochester Sensors, LLC 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.

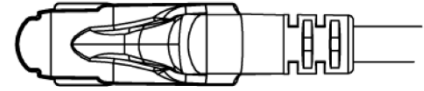
Rochester Sensors, LLC does not provide system design or consulting services, and cannot advise whether any specific application or use of our products would ensure compliance with all performance and safety requirements for any application.



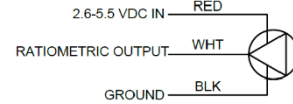
Dial Opening
ø 7.8 [200]
Bezel Bolt Circle
ø 8.87 [225]



Magnetel® R³D® Module
9704-SM###M



ELECTRICAL SCHEMATIC



General Specifications*

Operating Temperature

-40° to 80°C (-40°F to 176°F).

Accuracy

Voltage output ±4% (full scale) of visual dial indication. (Float gauge errors not included.) See DS-1781 for output voltages corresponding with dial graduations.

Operational Voltage Range

4.5v to 5.5v ratiometric.

Resolution

Infinite.

Operating Current

4mA

Output Current

±1 mA.

U.S. Patents

10,175,088 - D832,124 (Foreign patents pending).

Materials of Construction*

Lens

Acrylic plastic.

Cover

Acetal plastic.

Bezel

Stainless steel.

Case

Aluminum.

Bezel Screws

Stainless steel.

See WD-580 for control drawing.

See DS-1781 for output voltage.

How to order

Magnetel® R ³ D® Compatible Dial Assemblies				
Part #	Size	Range	Fits	Dial
5ANTS03047	4"	5-95% **	Rochester Magnetel (M6339)	LP & NH3
5APKS03045	4"	5-95% **	Rochester Magnetel	LP & NH3 Fluorescent
5ANGS03044	8"	3-97%	Rochester Magnetel	LP & NH3
5ARWS03066	8"	3-97%	Rochester Magnetel	LP & NH3 Fluorescent
5ANLS03044	8"	3-97%	Rochester/ Taylor Master	LP & NH3
5ANLS02784	8"	5-95% **	Taylor Master	LP & NH3

Magnetel® R ³ D® Module	
Part #	Description
9704-SM####M	Magnetel® R ³ D® module for 4" & 8" dials with 3-97% dial graduations

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

Magnetel R3D® modules MET approved as intrinsically safe when applied to Rochester monitor.

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

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

*** Use 3-97% module.*

WARNING: This sensor is not to be used as the primary means of determining high- or low-level 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.

WARNING: For LP-Gas and other flammable product service applications, connect only to circuits and power sources classified and labelled 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: IMPROPER INSTALLATION OR USE OF THIS PRODUCT MAY CAUSE SERIOUS INJURY OR PROPERTY DAMAGE.

These instructions are prepared to assist tradesmen and others qualified to service liquid storage tank equipment. Consumers are not qualified to perform the installation described in this document. If there are any questions concerning installation or operation of the gauge, contact Rochester Sensors or one of our authorized distributors for assistance. This document is not instructions for tank filling.