



## Magneto-resistive Magnetel<sup>®</sup> R<sup>3</sup>D<sup>®</sup> & Master Dials for LP Gas Service

### Application

The Magneto-resistive Magnetel<sup>®</sup> Dial is a magnetically-driven, voltage output sender. 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<sup>®</sup> 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.

Magneto-resistance is a solid state technology with no moving contacts. Magneto-resistance is the property of a material to change the value of its electrical resistance when an external magnetic field is applied. Microchip technology converts the resistance change to a useable voltage signal.

The MR Magnetel<sup>®</sup> 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 more efficiently plan deliveries to various consumers.



US Patents Issued

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

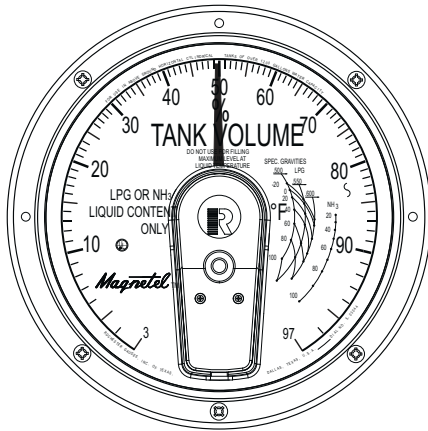
Any person using or applying any products sold by Rochester Gauges, LLC is responsible for learning the perform-

ance 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.

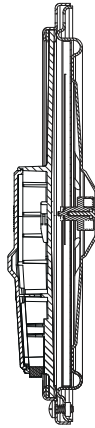
Rochester Gauges, LLC does not provide system design or consulting services, and cannot advise whether any specific application or use of our products would ensure compliance with all performance and safety requirements for any application.

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

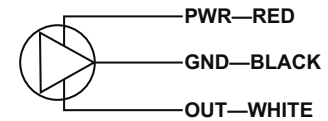
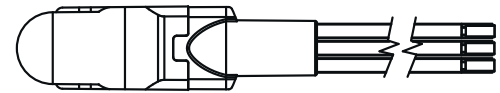
*The Measure of Excellence*



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



Magneto-resistive R<sup>3</sup>D<sup>®</sup> Module  
9701-00054



**General Specifications\***

**Operating Temperature**

-40° to 80°C (-40°F to 176°F).

**Accuracy**

Voltage output ±2% (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**

8mA (No Load).

**Output Current**

±1mA.

**Materials of Construction\***

**Lens**

Acrylic plastic.

**Cover**

Acetal plastic.

**Bezel**

Stainless steel.

**Case**

Aluminum.

**Bezel Screws**

Stainless steel.

See WD-575 for control drawing.

See DS-1781 for output voltages.

**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 overflow or fuel exhaustion condition. This sensor is not to be used for tank filling.

**How To Order**

**Magneto-resistive R<sup>3</sup>D<sup>®</sup> Compatible Dial Assemblies**

Part #	Size	Range	Fits	Dial
5ANTS03047	4"	5-95% **	Rochester Magnetel (M6339)	LP & NH <sub>3</sub>
5APKS03045	4"	5-95% **	Rochester Magnetel	LP & NH <sub>3</sub> Fluorescent
5ANGS03044	8"	3-97%	Rochester Magnetel	LP & NH <sub>3</sub>
5ARWS03066	8"	3-97%	Rochester Magnetel	LP & NH <sub>3</sub> Fluorescent
5ANLS03044	8"	3-97%	Rochester/Taylor Master	LP & NH <sub>3</sub>
5ANLS02784	8"	5-95% **	Taylor Master	LP & NH <sub>3</sub>

**Magneto-resistive Components**

Part #	Description
9701-00054	MR module for 4" & 8" R <sup>3</sup> D <sup>®</sup> dials with 3-97% dial graduations

*Magneto-resistive components only available through remote monitor OEM's.*

MR R<sup>3</sup>D<sup>®</sup> modules MET approved as intrinsically safe when applied to Rochester monitor.

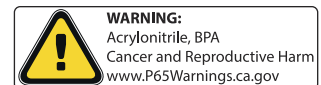
\* Materials and specifications are subject to change without notice. Ratings subject to change due to temperature and other environmental considerations.

\*\* Use 3-97% module.

**WARNING!** 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.

**U.S. Patents**

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



11/06/2019