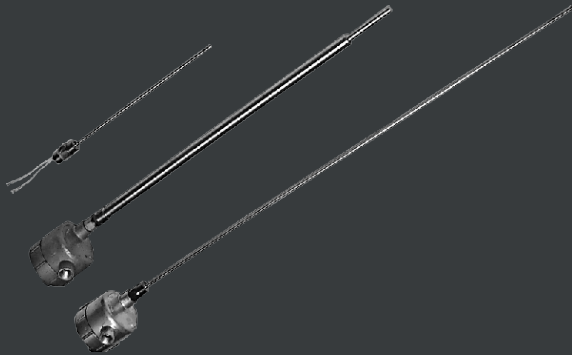


MCG 300

Resistance Temperature Detector

For terminal operations managers, custody transfer engineers, process engineers, and compliance officers who require accurate product temperature measurement for volume correction, inventory reporting, and regulatory documentation, the MCG 300 provides reliable ± 0.5 °F performance and rugged stainless-steel construction. Unlike generic RTDs designed for laboratory or general industrial use, the MCG 300 is engineered specifically for demanding storage tank environments. It offers a wide range of mounting configurations, standard rigid element lengths from 12–60 inches, and flexible probe assemblies up to 100 feet for deep or large-diameter tanks.

The MCG 300 supports industry-standard copper, platinum, and platinum-characterized copper calibrations, ensuring compatibility with custody transfer transmitters and gauging systems worldwide. A dedicated reference lead eliminates lead-wire resistance to maintain accuracy across long cable runs commonly found in tank farms. Designed for cone-roof, floating-roof, and high-pressure vessels, the MCG 300 enables dependable measurement essential for shrinkage calculations, corrected volumes, and precise custody transfer transactions. Its rugged build, broad installation flexibility, and global calibration options help operators maintain long-term measurement integrity and compliance.



Key Features

High Measurement Accuracy

Provides ± 0.5 °F precision, ensuring custody transfer calculations remain reliable even under varying tank temperatures and operating conditions.

Lead-Resistance Compensation

Reference lead removes lead-wire resistance effects, preserving accuracy across long conduit runs typical in tank farm installations.

Wide Installation Flexibility

Supports rigid elements up to 60 inches and flexible probes up to 100 feet to accommodate diverse tank geometries and depths.

Multiple Calibration Options

Copper, DIN platinum, and platinum-characterized copper elements ensure compatibility with global custody transfer standards and gauging equipment.

Rugged Construction

Stainless-steel probe and optional materials withstand corrosive fluids and harsh tank atmospheres for long-term performance.

System Compatibility

Integrates seamlessly with transmitters and gauging systems to support accurate corrected volumes, inventory reporting, and process control.



Typical Applications



CUSTODY TRANSFER

Delivers precise temperature inputs necessary for accurate volume correction, reducing disputes and ensuring audit-ready measurement performance.



PROCESS CONTROL

Enables stable temperature monitoring that supports consistent product quality and prevents variations affecting downstream operational efficiency.



INVENTORY MANAGEMENT

Maintains accurate temperature data used to calculate shrinkage, loss, and corrected inventory values during routine operations.



HIGH-PRESSURE VESSELS

Compatible with thermowells and fittings designed for elevated pressures, ensuring safe and accurate measurements in demanding environments.



FLOATING-ROOF TANKS

Offers mounting hardware and probe configurations that maintain measurement integrity across varying liquid heights in large storage tanks.



DEEP STORAGE TANKS

Flexible probe options up to 100 feet allow temperature measurement at required depths for large crude, fuel, or chemical tanks.

Benefits



Revenue Protection

Provides precise temperature measurement essential for accurate custody transfer volumes, reducing financial exposure from temperature-related errors.



Flexible Deployment

Supports multiple mounting options and probe lengths, enabling installation in cone roof, floating roof, and high-pressure vessel applications.



Improved Accuracy

Eliminates lead-wire resistance effects through a dedicated reference lead, ensuring accurate readings even with extended cable lengths.



Global Compatibility

Multiple calibration choices allow seamless integration with international gauging systems, simplifying multi-region standardization.



Lower Maintenance

Durable stainless-steel construction withstands corrosive environments, reducing replacement frequency and long-term maintenance costs.



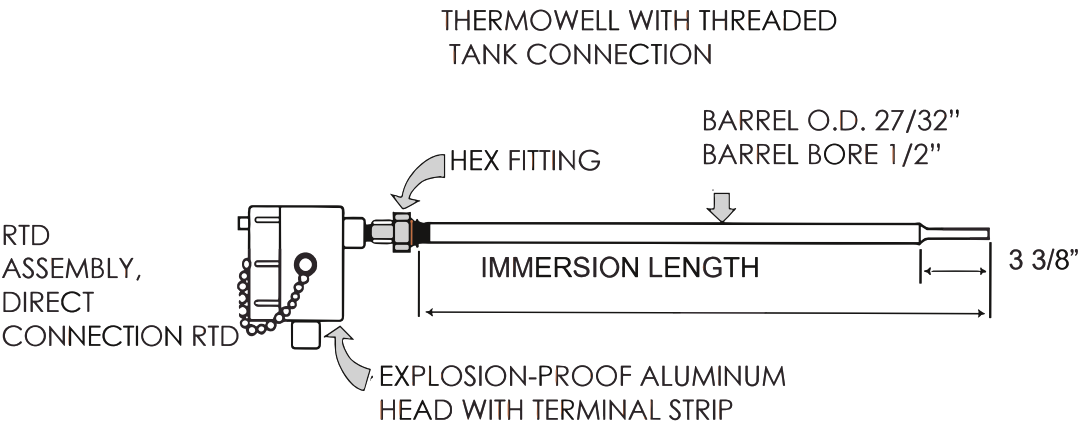
Reliable Performance

Stable RTD technology provides consistent, drift-free readings that maintain measurement integrity across changing operating conditions.

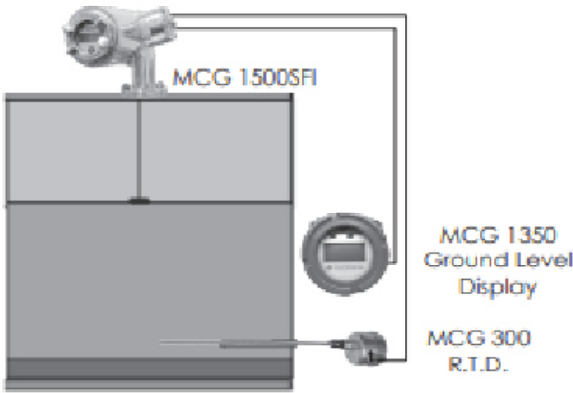
Technical Specifications
& Key Features

Accuracy:	±0.5 °F
Construction:	Stainless Steel Probe (other materials available)
Element Lengths:	12" through 60" standard; up to 100' flexible available
Mounting Hardware:	Available for cone roof, floating roof, & high-pressure vessels
Thermowell Connections:	Up to 1.5" NPT, up to 3" ANSI flange
Calibrations:	100 ohm Copper, 100 ohm DIN Platinum, 100 ohm "Platinum Characterized" Copper
Options:	Single or dual element, spring-loaded or normal mounting
Housing:	304 Stainless Steel with 1/2" NPT connection standard

Dimensions



Typical System Layout



MCG 300 Resistance Temperature Detector

Includes: 304 Stainless Steel Housing, 1/2" NPT Connection

Model Number Selection:

The model number will consist of a base number MCG 300 followed by 10 digits. These digits will represent 6 sets of option tables:

MCG 300 - AB - CD - EF - GH - IJ

AB • LENGTH	
01	12" Long (30 cm)
02	24" Long (60 cm)
03	36" Long (90 cm)
04	48" Long (120 cm)
05	18" Long (45 cm)

CD • HEAD	
01	None
02	With Head (Condulet)

EF • WELL (3/4" NPT)	
01	None
02	Standard
03	Machined
04	2" - 300# Stainless Steel RF Flange
05	Van Stone Connection
06	2" - 150# Stainless Steel RF Flange

G • CALIBRATION	
0	Standard Single Element
1	Dual Element

H • CALIBRATION	
1	PI Standard Curve (.3850 coefficient, European)
2	PI American Curve
3	Cu (option 01 is recommended for greater temperature range)

IJ • SPRING LOADING	
01	Normal
02	Spring Loaded

Summary

With more than 100 years in tank gauging and safety, Cognesense delivers trusted solutions for accurate measurement. The MCG 300 embodies this legacy, offering precision, durability, and system compatibility. By choosing the MCG 300, operators gain confidence in every custody transfer, inventory report, and compliance audit.

info@cognesense.com

Tel: (708) 236-6000

5911 Butterfield Road Hillside, Illinois 60162 USA

This document is for information purposes only. All designs subject to change. Certified dimensions, specifications, and performance data available upon request