

MCG 1600SFI Smart Flash Infrared Radar Gauge

Dual Microprocessors

At the heart of the MCG 1600SFI is a high integration core microprocessor which can be customized to specific applications. A separate DSP microprocessor provides high speed measurement and algorithm processing for high accuracy, obstruction avoidance, self-calibration, and echo cancellation. All programmed and processed information can be displayed on the gauge's 32-character LCD as well as an optional ground level display.

Antennas

Years of experience have enabled L&J Engineering to provide the optimal antenna configuration for a given application. Four antenna designs, parabolic, cone, rod and stillwell, accommodate various process parameters which include surface conditions, height to measure, dielectric constant of product and internal obstructions.

Inventory Management

The MCG 1600SFI Radar Gauge, which transmit level and temperature data, can be remotely accessed by a computer/receiver such as the MCG 3900 via the L&J Tankway. Product temperature is obtained by using a MCG 300 3-wire R.T.D. (copper or platinum), or a MCG 350/351 averaging temperature probe with a MCG 2350 which is connected to an on-board analog-to-digital converter. It is no longer necessary to climb to the top of the tank to access the desired information or perform any of the programming functions. Simple plug-in interface modules emulate any existing, as well as custom field protocols or analog outputs. New or updated programs can be downloaded to any MCG 1600SFI into its on-board flash memory "on the fly" to incorporate communication protocol changes and additional functionality.

Ground Level Display

The optional Ground Level Display (MCG 1350) is a remote LCD display which is identical in form and function to the display on the main unit. It enables complete programming and calibration functions via the hand-held infrared calibrator, MCG 2150.



Features

- Frequency Modulated Continuous Waveform
- Crystal Controlled Phase Lock Loop Technology
- Ultra Highspeed Floating Point Digital Signal Processor for Continuous Calibration
- Density Measurement/Hybrid Gauge
- Antennas Tailored for Specific Applications

Applications

Liquid level gauging of virtually any corrosive, contaminated or viscous product including;

oil	chemicals	gasoline	polyethylene
tar	molten sulfur	phosgene	pharmaceuticals
latex	paraffin	titanium dioxide	cryogenic or liquified gases
limestone rock	chocolate	molten aluminum	

Specifications

Measuring Principle:

FMCW Radar

Range:

0-75 feet (23m) standard.
Up to 180 feet (55m) optional

Accuracy:

+/- .5 mm

Resolution:

.1 mm

Radar Power Consumption:

Less than 1mw (0dBm)

Electronics Temperature:

-40° F to 150° F (-40° C to +65° C)

Product Temperature:

-148° F to 482° F (-100° C to 250° C)

Local Display:

2 line x16 Character LCD

Lightning Protection:

Comprehensive Surge
Protection Standard

Max. Pressure:

150PSIG (or 300PSIG optional)

Construction:

Aluminum
Stainless Steel

Mounting:

2" NPT Standard
Flanged Connection Available (See Ordering Guide)

Weight:

8 lbs. (Aluminum)

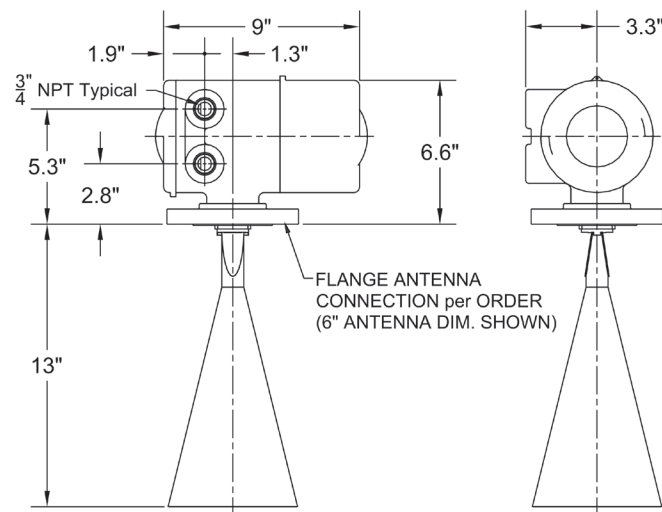
Safety Approvals:

Explosion Proof/ *Intrinsically Safe
Class I, Div. 1, Group B, C & D
UL/C-UL Approved
ABS Approved
CE/ATEX Approved II 1/2 G EEx d IIB T6, T5

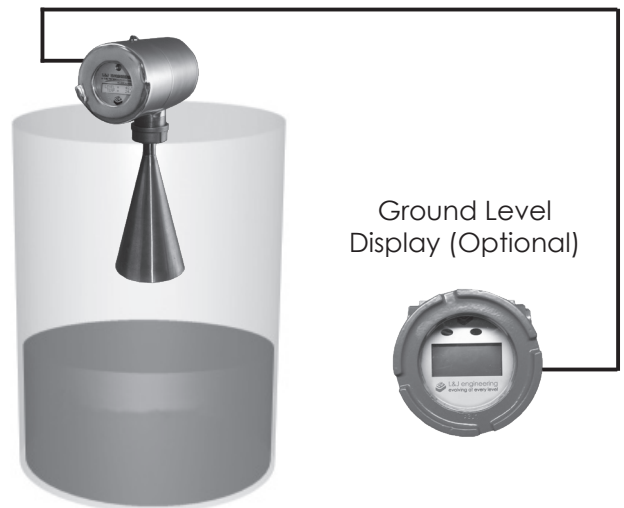
Antennas:

Parabolic, Cone, Stilling Well

Dimensions



Typical System Layout



All designs subject to change. Certified dimensions and specifications available upon request.