



# L&J engineering

an L&J Technologies company

evolving at every level

radar • servo • transmitters • overfill protection • inventory management

# evolving at every level

by L&J Technologies

When precise level measurement is critical, L&J Engineering is the clear choice. As an industry leader in level gauging solutions for over 40 years, L&J Engineering's product offering continually evolves to meet changing bulk storage needs.

With products utilizing the most advanced features on the market, L&J Engineering is committed to providing cost-effective, highly precise and innovative level gauging solutions. Whether your application is best served by Radar, Servo or Float & Tape Gauges, L&J Engineering offers the widest variety of application specific level gauging solutions on the market.

Designed, tested and manufactured in the USA, L&J Engineering supplies only the highest quality, most reliable and durable products. Our basic premise is to offer user-friendly products that will get the most accurate data to plant managers that will directly translate into greater profits and more efficiently run facilities.

At L&J Engineering, we understand that every application is unique and that each application requires distinct solutions. That's why we provide interfaces and integration into more systems than any other company.

Whatever your bulk storage needs may be, L&J Engineering has the solution. L&J Engineering is continually evolving at every level.



## Key Features:

The evolution series radar gauges enjoy two key features: the [e.WAVE](#) graphical LCD display and the [e.CAL](#) intuitive setup wizard.

### [e.WAVE Display](#)

- Provides Graphical Profile of Radar Signal inside Tank
- Provides Ability to Fine Tune Radar to Cancel Out any Obstructions or Disturbances in the Tank
- Displays Detailed information on Level, Temperature, Discrete Status and a Multitude of Diagnostics



### [e.CAL Intuitive Setup Wizard](#)

The evolution series utilizes the [e.CAL](#) intuitive setup wizard to simplify startup and calibration once the radar gauge is installed on the tank.

After entering the programming mode with your MCG 2150 Handheld Infrared Calibrator, the radar's e.CAL wizard is the first option displayed. Once entering [e.CAL](#) mode it will then ask you to enter 5 values:

- Display Units
- Datum Level
- Minimum Search Level
- Maximum Search Level
- Seed Level

The radar will then begin to profile the tank and you will be up and gauging in minutes!

\* See back cover.



# Radar Level Gauges\*



## evo 2600 Radar Gauge

- $\pm 3\text{mm}$  Accuracy
- 26 GHz Frequency
- FMCW Technology
- 4-20 mA Loop Powered
- All Digital Protocols Supported
- e.WAVE Display
- e.CAL Intuitive Setup Wizard
- Lightweight
- Handheld Infrared Calibration via Integral or Remote LCD Display
- Wireless Capability Available

**evolution**  
L&J engineering's radar gauge series

## evo 2600SW Stilling Well Adapter



existing float  
& tape gauge



radar gauge using  
existing nozzle

Replacing an existing float and tape gauge with the evo 2600 radar gauge is simple and convenient.

With the evo 2600SW Stilling Well adapter, the evo 2600 can easily fit into an existing 1.5" coupling for the float and tape gauge. The major benefit is there's no need to add additional nozzles to an existing storage tank. This will provide you with accurate non-contact FMCW radar level gauging, saving you maintenance time, money and resources.



## MCG 1600SFI Smart Flash Infrared Radar Gauge

- $\pm 0.5\text{mm}$  Accuracy
- 10 GHz Frequency
- Custody Transfer Accuracy
- FMCW Technology
- Handheld Infrared Calibration via Integral or Remote LCD Display
- All Digital Protocols Supported
- Antennas Tailored for Specific Applications
- Housing Dimensions & Weight: 6.6" H x 9.0" W, 8 lbs
- Wireless Communication Available
- SIL 2, UL/CUL Listed, ATEX Approved
- All programmed and processed information can be displayed on the radar gauge's 32-character backlit LCD display.

**SIL 2** **SMART FLASH™**

## MCG 2150 Remote Calibrator



- Field Programming and Calibration without Wires
- Use on all L&J Gauges
- Convenient, Easy to Carry
- Intrinsically Safe

Years of experience have enabled L&J to provide the optimal antenna configuration for a given radar application. Each antenna accommodates various process parameters which include surface conditions, height to measure, dielectric constant of product and internal obstructions.

## MCG 1600SFI Antenna Options

The MCG 1600SFI can be equipped with a variety of antenna options:



Parabolic

Conar

Stilling Well



[www.ljtechnologies.com](http://www.ljtechnologies.com)

Proudly engineered and manufactured in the United States of America

\* See back cover.

## Servo Level Gauge\*



### MCG 1500SFI Smart Flash Infrared Servo Gauge

- Accuracy/Repeatability of 0.4mm
- Measures Product, Interface and Density
- Custody Transfer Accuracy
- Handheld Infrared Calibration via Local LCD Display
- All Digital Protocols Supported
- Minimal Moving Parts (3) Ensure Reliability
- Wireless Communication Available
- UL/CUL Listed, ATEX Approved



## Transmitters\*

### MCG 2000MAX Transmitter



graphical LCD display

- Magnetic Absolute Xmitter
- 2-Wire Loop Powered Operation
- Ultra-Low Power
- All Digital Protocols Supported
- Absolute Magnetic Encoding for Level Detection
- Handheld Infrared Calibration via Local Graphical LCD Display
- Level, Temperature and Optional Discrete/Analog I/O
- Wireless Communication with Battery Power Available
- Couples to Any Float and Tape Gauge
- UL Listed, ATEX Approved

### MCG 1200M Transmitter



- Analog to Digital Conversion
- Monitor Field / Internal Parameters
- Reliable Interface between Analog Devices and Digital Protocols
- All Digital Protocols Supported
- Wireless Infrared Programming
- Wireless Communication Available
- Advanced Flash Memory Technology

## Magnetostrictive Level Gauges\*



### MCG 8100 Tank Monitor

- Complete Monitoring System
- Level, Temperature, BS&W, Volume, Leak Detection and Density
- Optional Remote Communication
- Optional Battery Backup
- Meets EPA UST Regulations
- Approved for Leak Detection in Tanks up to 150,000 gallons
- Optional Inventory Report Generation up to Six Times Per Day
- Programmable Discrete Alarm Contact Outputs
- For Use with MCG 8150/8190 Level Probes



### MCG 8150 Magnetostrictive Level Probe

- High Resolution of  $\pm .001''$
- Measures Product Level and BS&W
- Average Temperature with Internal Sensors
- Rigid Probes up to 25' in Length
- Flexible Probes up to 50' in Length
- Stainless Steel Construction
- UL/CUL Listed

# Inventory Management Systems\*

## MCG 3900

### WinGauge™ Inventory Management System

- Complete Gauging and Inventory Control System
- Supports All Current and Past Communication Protocols
- 1,000+ Tank Capacity
- Easy to use Screen Builder Tools
- Wireless Communication Available
- Redundant Multi-Server Options
- Host Communication Output Support
- Customized Security User Levels/Passwords
- Advanced Diagnostics Available when Used with L&J Level Gauging Products



Built on the Windows™ family of operating systems, this versatile software package incorporates the best of real time and recorded information into one easy to use application.

The application is geared toward operation and control of liquid inventories from the smallest terminals to the largest refineries. A completely scalable package allows for enabling or disabling of specific display pages and functions to let the application be tailored to the customer's needs.

Measured variables available from field devices (levels, temperatures, pressures, densities, etc.) are recorded and displayed in a variety of formats and layouts, from tabular to graphical. Calculated values (such as gross and net volumes) are displayed as well as based on tank specific configured parameters. Information recorded and displayed is available over a network, on client terminals or is available for export in standard formats. The information can also be transmitted digitally to a PLC, DCS or another accounting system.



## MCG 3630

### Touch Panel Tank Monitor

- Displays Level, Temperature, BS&W and Density
- Touch Screen User Input
- Wireless Communication Available
- Supports Host Communication
- Fanless and Ultra-low Power Consumption
- Anti-Shock Design to Ensure Maximum Reliability
- Includes Graphical Operator Page, Tank Summary
- Includes Alarm Support/Controls

## Protocols Supported\*

- L&J Tankway
- Enraf Entis
- Fieldbus
- GPE (31422 & 31423)
- HART
- Modbus
- RGL
- Profibus
- Saab (TRL/2)
- Ti-Way
- Varec
- Wireless

L&J Will Support Any and All Current and Future Protocols  
Please Contact us for More Information



www.ljtechnologies.com

Proudly engineered and manufactured in the United States of America

\* See back cover.

## Overfill Protection\*

### MCG 1090 Level Alarm Probe



- Only True Self-Testing Level Alarm Probe on Market
- Remote Self-Testing
- Reliable Protection Due to Simplified Mechanics
- Solar/Battery/Line Power Options Available on MCG 1095
- Included Solenoid Allows for True Self-Testing

### MCG 1095 Wireless Level Alarm Probe



### MCG 1096 Wireless Level Alarm System



- Wireless Communication
- Reliable Protection due to Simplified Mechanics
- Includes Probe Checker

### MCG 7030 Touch Panel Alarm Monitor



- Displays Alarm Status, Probe Status
- Touch Screen User Input
- Tank Configuration Page includes Alarm/Support Controls

## Wireless Field Equipment\*

### MCG 5102 Wireless Station



- Cost-Effective Installation
- Easy Upgrade to Existing Equipment
- Spread Spectrum Technology
- Point-to-Point Networking Standard
- Mesh Networking Available
- Automated Wireless Gauging of Local and Remote Tank Fields
- Compatible with All L&J Level Gauges and Transmitters



### MCG 1097 Wireless Proximity Switch

- For Pressure/Vacuum Vapor Relief and Liquid Overflow Indication
- Remote Monitoring
- Extended Life Lithium Battery Powered

## Wireless Communication\*

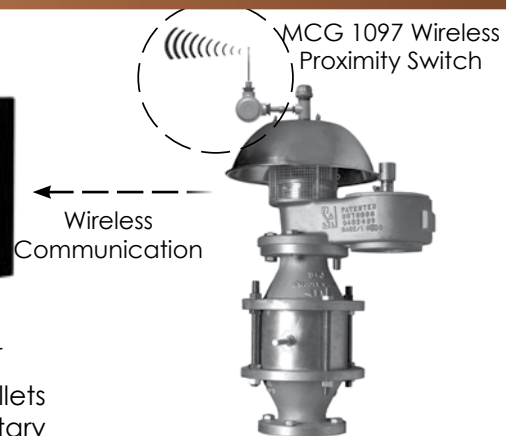
### Monitor Your Vents When They Are Relieving

Our MCG 1097 Wireless Proximity Switch can send a signal to notify the operator when a pressure device is relieving. This valuable information can be monitored and tracked.

The MCG 7030 Touch Panel Monitor: Monitors open/closed pressure pallets & can alarm on pressure relief to monitor emissions. Using L&J proprietary algorithms, it instantaneously sends back open relief alert as well as continually checking battery conditions. It can also be used for overfill protection to monitor MCG 109X Series Level Alarm Probes.



MCG 7030  
Touch Panel Monitor



Shand & Jurs 94570  
Combination Conservation  
Vent & Flame Arrester

\* See back cover.



# Temperature Probes/Detectors\*



## MCG 300 RTD

- Accurate Temperature Measurement
- No Maintenance
- Optional Spring Loading
- Customer Specified Length and Mounting



## MCG 351

### Average Temperature Probe

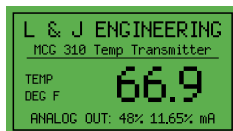
- Multi-Spot Averaging Temperature
- Stainless Steel Construction
- Customer Specified Mounting Options
- High Accuracy Temperature Measurement
- Connects to MCG 2350
- Requires L&J Level Gauging Device and MCG 2350



## MCG 2350

### Average Temperature Converter

- Resolution Ranges of 0.1°C
- Explosion-Proof Housing with Intrinsic Safety Barrier



## MCG 310 RTD w/ Analog Output

- All Features of MCG 300
- Analog 4-20 mA Output
- Optional Graphical LCD Display

## Service\*

From the most complicated data highway interfaces to the simplest open vent, L&J Technologies has the expertise to keep your tanking operations running efficiently. For more than ninety years, L&J Technologies technical service specialists have repaired and maintained tank gauging, conservation vents, tank fittings and control system equipment. Let L&J Technologies help keep your operations running smoothly and profitably. Additionally, we can repair and rebuild equipment in our state-of-the-art, ISO 9001 factory located in Hillside Illinois.

### On-Site Services

- Emergency Repair
- Troubleshooting
- Field Surveys
- Equipment Evaluation
- Start-up
- Operator Training
- Maintenance
- Engineering Assistance
- Maintenance Training

### Factory Repairs

- Two Week Turnaround (Standard)
- 24 Hour Turnaround (Emergency)
- Rebuilds & Bench Testing
- Upgrades & Exchanges
- Equipment Loan Programs
- Training Seminars



evo 2600 Radar Gauge  
Wireless Installation



MCG 1500SFI  
Smart Flash Infrared Servo Gauge  
Wireless Installation



L&J Technologies  
Service Technician



[www.ljtechnologies.com](http://www.ljtechnologies.com)

Proudly engineered and manufactured  
in the United States of America



\* See back cover.



# L&J TECHNOLOGIES

L&J Technologies offers a complete line of products that provide solutions for hundreds of industrial and commercial applications. Visit us at [www.ljtechnologies.com](http://www.ljtechnologies.com)

## L&J engineering



Tank Level Gauging  
Solutions for Bulk Storage



Liquid Level Switches

## DELAVAN



Point/Multi-Point Level  
Controls & Continuous  
Level Sensors

## SHAND&JURS



Tank Vents, Flame and  
Detonation Arresters,  
Fittings & FRP Equipment

## BIO-GAS SHAND&JURS



Digester Gas Equipment  
Waste Gas Burners

## GPE



Mold Level and Strip  
Guiding Measurement  
and Control Systems for  
Metals/Steel Industries



## Locations

### World Headquarters

5911 Butterfield Road  
Hillside, IL 60162  
Phone: 708-236-6000  
Fax: 708-236-6006

### Houston Sales Office

Phone: 281-821-0322  
Fax: 281-821-1796

### Singapore Sales Office

Phone: 65-6293-1355  
Fax: 65-6293-1357

[www.ljtechnologies.com](http://www.ljtechnologies.com)

Proudly engineered and manufactured in the United States of America 

\* L&J Technologies or any of its subsidiaries assume no responsibility and shall not be liable for any damage, injury or death caused by the mis-application or improper installation of the products that it provides. Installation shall be per manufacturer's instructions in accordance to any applicable local, state or federal regulations. It is the responsibility of the purchaser to ensure these guidelines are followed and that the products are applied properly.

