

# MCG 3900L Lite Inventory Management System

The L&J Engineering WINGauge Version 5 Inventory Management System is the latest in a long line of tank gauging and inventory control and management products from L&J Technologies Inc. As a state of the art Microsoft Windows application, WINGauge offers multi-protocol, multi-loop, real-time gauging of an unlimited number of storage tanks, covering the entire spectrum of storage facilities.

Version 5 was developed with flexibility in mind and the end user can easily customize and fine tune the visual displays with WINGauge's Dynamic Form Generator, customize printed reports with the Dynamic Report Generator, and easily setup communication with your gauging products using the Advanced Gauging Module.



TANKS		FIELD CONTROL		MODE CONTROLS	
Tank I.D.	5	Low Temp	-20.0	Dead Tank	YES
Tank Control	[Buttons]	High Rate	15,000.0	Pumping Speed	FAST
Level Control	[Buttons]	Low Rate	0.0	Tank Mode	BOTH
Temp Control	[Buttons]	Float Alarm	00-00-00	VOLUMETRICS	
Loop Scan Time	N/A	Float Warning	00-00-00	Gross Volume	49,682.1
Polling Rate	N/A			Net Volume	50,597.2
CAUGED DATA				Available Product	50,597.2
Product Code	LSC1001			Available Storage	50,317.9
Product Name	Low Sul fur			BS&W Volume	0.0
Date Stamp	30-Apr-07			Critical Volume	49,681.0
Time Stamp	14:27:20			Volume @ Float	...
Product Level	#####			API Gravity	62.4
Level Comm	FAIL			Correction Factor	1.01842
Level Bad	0			FLOW RATE	
Level Fail	0			Current Rate	0.0
Product Temp	#####			Tank Movement	IDLE
Temp Comm	FAIL			Critical Time	N/A
Temp Bad	0			DISCRETES	
Temp Fail	0			Input 1	N/A
ALARM CONTROLS				Input 2	N/A
High Level	50-00-00				
High Level	40-00-00				
Low Level	04-05-00				
Low Level	04-03-00				
High Temp	115.0				

Tank Detail

29	CAT NAPH	30	EMPTY	32	EMPTY
36	EMPTY	37	BUNKER C	38	BUNKER C
43	P.P	44	EMPTY	83	P.P
91	PURITY NCA	107	HighLevel 08-00-00	108	HighLevel 08-00-05

Real-Time

## Features

- Major Features at Lower Cost
- Multi-Loop/Multi-Protocol/Multi-Vendor
- Monitors up to 250 Tanks
- Supports Non-L&J Gauges & Protocols
- Sophisticated Connectivity Features
- Printed Alarm and Inventory Reports

## Applications

The MCG3900L WINGauge and L&J field gauging equipment are installed in a variety of industries worldwide.

Petroleum	Refineries	Pharmaceutical
Petrochemical	Chemical	Food & Beverage
Water Treatment		Bulk Liquid Storage

## Software Features & Functions

### Flexible User Configuration

Desktop Layout, Background  
Field Loop Interface Control

Communications Protocol  
Alarm and Tank Movement Colors

### Advanced Gauging Module

The Advanced Gauging Module is a key component of the MCG3900L WINGauge. It manages all communications to field equipment and provides precise control of field operations. Field loops are configurable for simultaneous gauging with any of the supported protocols, and RS485 two-wire multidrop mode is supported.

#### Interface Device Types:

COM port	Multiport I/O
USB port	RS-485
Auxiliary Port	

#### Communications Parameters:

Data rate (110 bps to 115 Kbps)  
Parity (Odd, Even or None)  
Auto-retry (0 to 255 retries)  
Intergauge Time (0-5000 ms)  
Interpoll Time (0-5000 ms)  
Gauge Latency (0-500 ms)  
Recycle Time (0-10 seconds)  
RS-485 Multidrop Mode  
Port Address & Interrupt (optional)

#### Communications Protocols:

MCG32NDS	MCG4200AI
MCG2000CW	MCG8140
MCG2000CCW	MCG8100
MCG2000SF-CW	GPE31422(ENG)
MCG2000SF-CCW	GPE31423(ENG)
MCG2000SF-32	GPE31422(MET)
MCG2000SF-CRC	GPE31423(MET)
MCG1500EXT	RGL (6)
MCG1000	RGL (7)
MCG1500SSI	Modbus Type A
MCG1500SSI-CRC	Modbus Type B
MCG1500SFI	Modbus Type C
MCG1600	Opto 22
MCG4200DO	Enrav v811b

### Standardized Releases

All WINGauge customers at a given software revision level will receive the same production program code. Clients and servers differ only in their configuration and setup: the actual executables are identical. This is very helpful for license auditing requirements and system upgrades.

### Full-Screen Kiosk Mode

Often it is desirable for a client system to function as a mere data terminal: that is, the user should not be allowed access to any Windows applications or features other than WINGauge itself. Kiosk mode hides the Windows Start Menu, System Tray and Task Bar and allows WINGauge to control the entire desktop.

### **Access-Control System**

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WINGauge sports a complete user & group based access system. Users are assigned to functional groups (for example, maintenance or operators or administrators) and access to specific system functions is controlled via administrator-assigned passwords. Furthermore, access can be controlled right down to the level of individual data entry fields (e.g., level, temperature, gauge type, etc.) Access timeouts can be specified on a user or group basis: the system will automatically log off an inactive user to help prevent unauthorized use.

### **Tank Simulator**

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Systems which are supplied with the Tank Simulator plug-in will have an extra communications protocol available called simulated. Any tank which is set to simulated will begin to generate slowly varying levels and temperatures. Alarm generation will occur, and trending data will be stored as well. This is very useful for initial evaluation of the WINGauge product, and also for training operations personnel without having to generate events using live gauging.

### **Alarm Outputs**

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When specific alarm conditions occur, WINGauge will generate appropriate alarm sounds. If the system (client or server) is multi-media equipped and has speakers, one of three alarm sounds will be produced depending upon the severity of the alarm condition. These alarm sounds are stored as standard Windows .WAV files and may be customized.

If the gauging server is equipped with an MCG3281 Mini-FIC, WINGauge may be optionally configured to trigger the 3281's alarm relay output when an alarm condition occurs.

### **FastGauge High-speed Polling**

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Where it is important to more precisely quantify the contents of a tank that is in motion, a new high-speed polling mode (FastGauge™) is available. This mode allows up to five tanks to be polled at a substantially higher rate, while simultaneously continuing regular polling of gauges that are not in FastGauge mode.

### **Help System**

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The entire user's manual is available in the online help system. This help system provides a wealth of information about the operation and use of the WINGauge gauging system. It is primarily intended for operations and maintenance personnel, and does not include documentation on advanced administrator-level functions. This allows any OPC client with proper authorization to access live gauging and configuration information from any point on a LAN or the Internet.

**The Standard Package Includes (But is Not Limited to) The Following Features:**

**Alarm Generation**

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Level	HiHi	Low
Temperature	High	Low-Low

**Volume Configuration**

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API Table	Strapping Table	Outage Mode
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**Volumetrics**

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Total Capacity	Available Product	Available Storage
BS&W Volume	Gross Volume	API Gravity
Net Volume	Volume Correction Factor	

**Levels**

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Product Level	Level SoftCal	Level Offset
BS&W Level		

**Temperature**

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Product Temp	Temp SoftCal	Temp Offset
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**Tank Communications**

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Gauge Address	Gauge Type	Loop Number
ModBus I.D.	Tank I.D.	Discrete Input 1
Discrete Input 2	Communications Status	Field Loop Status

**Report Generation**

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Group Code	Product Code	Product Name
Inventory	Product Summary	Tank Summary

**Standard System Screens**

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- |  |   |
|--|---|
| <ul style="list-style-type: none"> <li>* Active Tank</li> <li>* Alarm Summary</li> <li>* Strapping Tables</li> <li>* System Configuration</li> <li>* Tank Configuration</li> <li>* Tank Detail</li> <li>* Online Help System</li> <li>* Inventory On Hand</li> <li>* User Login</li> </ul> | <ul style="list-style-type: none"> <li>* User Administration</li> <li>* Software Calibration (Softcal)</li> <li>* Group &amp; Product Codes</li> <li>* Fast Gauge</li> <li>* Group Summary</li> <li>* Tank Groups</li> <li>* Tank Parameters</li> <li>* Tank Summary</li> </ul> |
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## MCG 3900L Ordering Guide

### MCG 3900L Life Inventory Management System

Includes: Windows Based System, 4 GB RAM Minimum, 160 GB (or larger) Hard Drive, 24" LCD, Mouse, Keyboard, Gauging Software Package

### MCG 3905L Industrial Rack Mount

### Model Number Selection:

The model number will consist of a base number **MCG 39XXL** followed by 10 digits. These digits will represent 5 sets of option tables:

**MCG 39XXL - AB - CD - EF - GH - IJ**

AB - Number of Tanks	
00	1-25 Tanks
01	26 - 100 tanks (Requires MCG 3200 Field Interface or two 3281's)
02	101 - 250 tanks (Requires MCG 3200 Field Interface or four 3281's)

CD - Printer	
00	No Printer or Print Software
01	Print Software Only (Customer Supplied Printer)
02	Color Inkjet Printer and Software

EF - Monitor	
10	24" LCD

GH - Communication	
00	L&J Tankway
01	Varec 4-wire, software & hardware
02	GPE 31423, 22 (4 Loops)
03	GPE 31423, 22 (8 Loops)
04	RS-485
05	GPE 31422, COM 1, No Hardware
06	L&J Tankway & Remote MCG 3600 Communication
07	RS-232
08	Varec 4-Wire & Varec Matrix
09	L&J Tankway on RS-232

IJ - Computer Options / Drives	
00	Standard PC
30	Standard PC with Tape Backup Drive