



MATRIX™ TANK LEVEL MONITORING SYSTEM

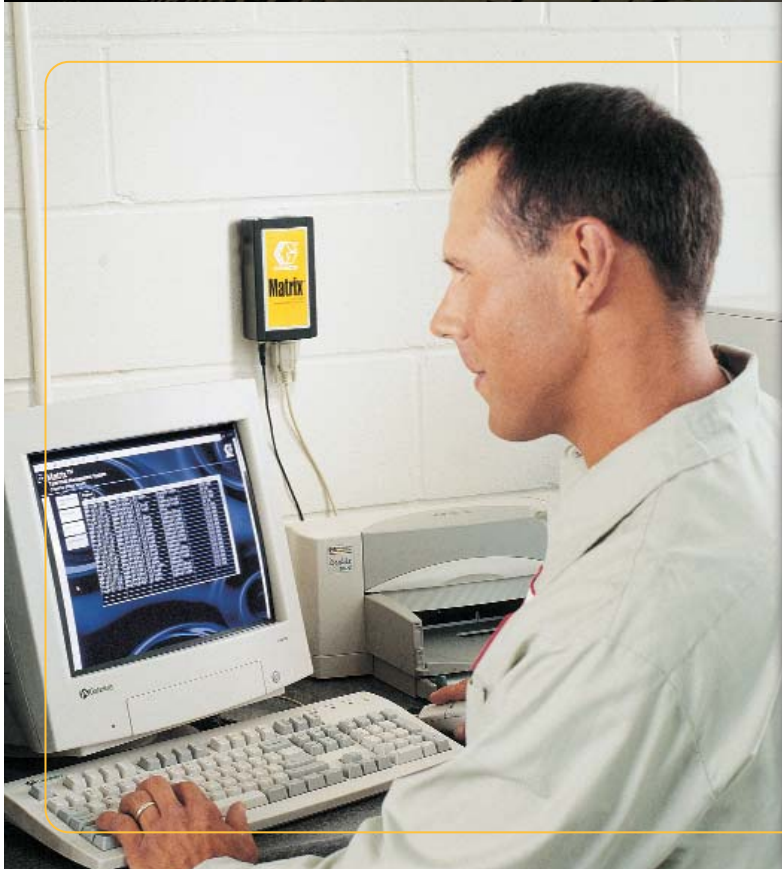
Wireless transmission and reception
of tank level information



LUBRICATION

PROVEN QUALITY. LEADING TECHNOLOGY.

Matrix Wireless Tank Level Monitoring Technology



EASY TO INSTALL. EASY TO USE. EASY TO TRACK.

Monitor both new oil bulk tanks and used oil levels without additional labor costs. Once the Tank Level Monitor has been installed, everything is automatic, allowing for easy viewing and management of all tank levels!

DESIGNED ESPECIALLY FOR:

- Oil Tank Farms
- Car and Truck Dealerships
- Off-Road Fleets
- In-Plant Lubrication
- Fast Lubes
- Agriculture, Marine, Railcar and Military

Matrix set-up and installation is as easy as 1-2-3!

1. Insert CD and the Matrix Tank Level Monitor Software will automatically install on your computer's hard drive.
2. Follow instructions to customize your preferences.
3. The software enables you to set up the tank level monitor in a matter of minutes.

You're ready to go!

Tank Level Monitor System Benefits

REDUCED LABOR SAVINGS

- Minimize labor expenses associated with manual tank level readings
- Reduce driver labor costs by improving oil delivery routing

INCREASED OPERATING SAVINGS

- Reduce operating mileage with more efficient delivery process
- Virtually eliminate the number of unprofitable "emergency" runs

REDUCED DOWNTIME

- Monitor fluid levels and prevent time consuming stock-outs

IMPROVED RECORD KEEPING AND REPORTING

- Export tank information to create valuable inventory management reports
- Automatically e-mail tank level information

ENJOY ULTIMATE CONTROL

- Control and track tank level information from your PC
- Customizable to fit your needs

Matrix Tank Level Monitoring Components

1 TANK LEVEL MONITOR

Ultrasonic signal accurately measures fluid levels and communicates this information wirelessly to a PC.

2 TRANSCEIVER

Sends and receives signals from the Tank Level Monitors to the PC.

3 APPLICATION SOFTWARE

- Tank Level Monitor application software, supplied with a Transceiver, is capable of set-up and operation of Matrix Tank Level Monitoring System.
- Network software on multiple PC's



Get Accurate Tank Levels in Seconds!

Save time. Save money.

Whether you are tracking new product supply or used oil levels, the Matrix Tank Level Monitor provides the convenience of wireless transmission of tank level information.

Once your Tank Level Monitor has been installed, everything is automatic, allowing for easy viewing and management of all tank levels without additional labor costs. Information is then stored in a database and may be automatically e-mailed. All you need is a high speed internet connection to get up and running.

TYPICAL MATERIALS

- Petroleum-based oil
- Synthetic oil
- Gear lube
- Anti-freeze
- Transmission fluid
- Hydraulic oil
- Used oil



How it works

Simply install the Tank Level Monitor into a standard 2 inch bung opening. Then, program the monitor with tank specific information using Matrix software.

THAT'S IT!

Ultrasonic technology measures the fluid and transmits the number of gallons (liters) to your PC. The application software records the information in the database for organized viewing and/or e-mailed.

FEATURES

- Effectively monitors tanks up to 30 ft (9 m) tall
- Operates on two replaceable 9-volt alkaline batteries
- Designed with integrated tank vent fitting
- Measures vertical, cylindrical and obround tanks

Application software is simple to install and easy to operate!

Graco is making it easy to monitor your bulk tank inventories with totally customizable Tank Level Monitor software.

Simply click the install icon and you're ready to go!



FEATURES

- Software allows you to monitor and save important data including:
 - Bulk fluid inventories
 - Type and brand of oil
- Customized reports for fluid inventory may be viewed or exported as Microsoft® Excel files
- Email tank level reports to those responsible for maintaining oil inventories
- Network software to multiple workstations



TANK SET UP

Configuring and programming Matrix Tank Level Monitors can be achieved with just a few mouse clicks.

Because operating screens are clear and intuitive, it's easy to customize fluid lists and configure vertical wall, cylindrical and obround tanks with up to ten tank readings per day.



Transceiver

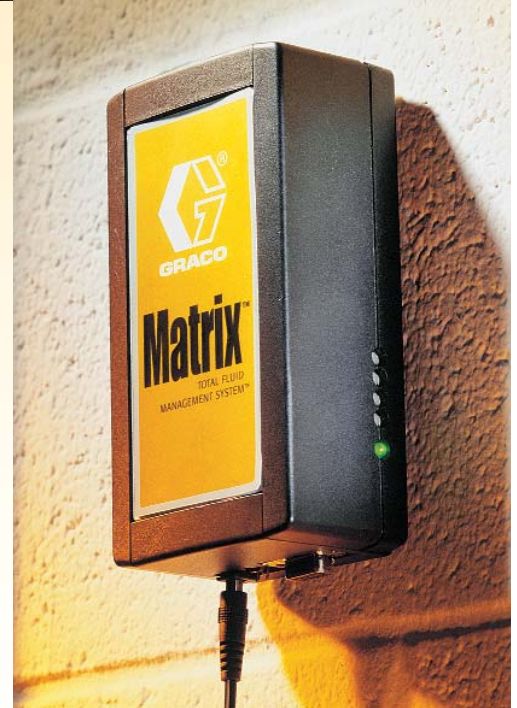
Experience wireless communication technology with a Matrix Transceiver!

When it comes to wireless communication, the Matrix frequency hopping, spread-spectrum technology can go the distance.

Typically only one Transceiver is needed to allow your PC to communicate with the Matrix Meters and Tank Level Monitors, giving you exact dispense and tank level information.

Based on your distributor's recommendations, units can be mounted to the wall, ceiling, or any other convenient surface in the main body of the shop.

With a Matrix Transceiver, clear RF reception can easily be achieved, even in the most demanding RF environments!



Increase your efficiency and profitability!

The Matrix Tank Level Monitor tells you exactly what type and quantity of fluid you need in your trucks so you'll be able to schedule deliveries with confidence and reduce the number of emergency stops.

Return-on-investment

Use this Return-on-Investment tool to see how quickly the Graco Matrix System pays for itself!

For Bulk Tank Users:

Labor Savings*	Example Estimate	Actual
Labor Savings (per week) (inventory and communication)	10 hours X	<input type="text"/> X
Labor cost (per hour with overhead)	\$20 =	<input type="text"/> =
Total labor cost (per week)	\$200 X	<input type="text"/> X
Weeks (per year)	52 =	<input type="text"/> =
Total labor savings	\$10,400	<input type="text"/>

*Labor savings in U.S. dollars

Technical Specifications and Ordering Information

Software System

Ordering Information

Packaged with the Matrix Transceiver. May not be ordered separately.

Operating Requirements

During set up, the Matrix Software program and other files are decompressed and copied to the hard disk. Note: The system administrator function of the program must be set up before using the software or other system components.

This software is not compatible with Apple® Computers, and is not available for the Apple® Operating system.

Tank Level Monitor

Ordering Information

119274 Tank Level Monitor (120105 Australian part number)

Technical Specifications

Ultrasonic Tank Depth Measurement Range 0 - 30 ft. (0-9 m)

Not recommended for use with pressurized tanks.

Fluid Level Measurement Accuracy* ± 0.5%

Weight 2.34 lbs (1.06 kg)

Operating Temperature Range -22°F - 122°F (-30°C - 50°F)

RF Operating Temperature Range -40°F - 185°F (-40°C - 85°F)

Storage Temperature Range -40°F - 185°F (-40°C - 85°F)

Batteries (2) 9 VDC Alkaline only

Battery Life (based on 1 report/day) 2 years

US and Canadian RF Communication 902-928 MHz frequency hopping, spread-spectrum

Australia RF Communication 915-928 MHz frequency hopping, spread-spectrum

Unobstructed RF Communication Range 300 - 500 ft (91.0 - 152.0 m)

Obstructed RF Communication Range 250 - 300 ft (76.2 - 91.0 m)

Totally Unobstructed RF Communication Range 0.25 mile/1,320 ft (0.4 km/402.3 m)

Intrinsic Safety . . . Exia for use in Class I, Division 1, Group D, Locations when used with (2) 9-volt alkaline batteries. Ambient temperature range -22°F - 122°F (-30°C - 50°C). Temperature Code T3.

Note: Do NOT use the Matrix Tank Level Monitor with gasoline, diesel fuel, or other flammable liquids, and materials with an auto ignition flash point below 419°F (215°C).

Vertical Wall Tanks

Maximum volume 999,999 gallons or liters

Maximum height 30 ft (360 in)

Cylindrical and Obround Tanks

Maximum volume 999,999 gallons or liters

Maximum diameter 30 ft (360 in)

Maximum length Unlimited

US and Canadian Approvals FCC, Industry Canada (IC), UL, cUL
Conforms to Australian communication requirements

Warranty Two years

Instruction Manual 309500

** The difference in air temperature between the inside and outside of the tank may affect the accuracy of fluid levels.*

Transceiver

249021 Transceiver and Tank Level Monitoring Software (249885 Australian part number)

117256 Transceiver only (120108 Australian part number)

Technical Specifications

Weight 1.0 lbs (454 grams)

US and Canadian RF Communication 902-928 MHz frequency hopping, spread-spectrum

Australia RF Communication 915-928 MHz frequency hopping, spread-spectrum

Unobstructed RF Communication Range 300 - 500 ft (91.0 - 152.0 m)

Obstructed RF Communication Range 250 - 300 ft (76.2 - 91.0 m)

RF Operating Temperature Range -40°F - 185°F (-40°C - 85°C)

US and Canadian Power Supply 120 VAC to 12VDC plug in transformer
Australian Power Supply 240 VAC

US and Canadian Approvals FCC, UL, Industry Canada (IC), cUL
Conforms to Australian communication requirements

Warranty Two years

Instruction Manual 309498

Transceiver to PC Connection Hardware

119435 RS232/RS422 converter

249019 RS422 Connector kit (includes 25 RS422 connectors and 100 ferrules)

119645 RS422 Connector crimping tool

119572 1000 ft (305 m) roll of RS422 cable

118346 100 ft (30.5 m) RS232 pre-connected cable