

iNodes™ Tank Level Monitor (TLM)



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The iNodes Tank Level Monitor (TLM) is an ultrasonic level and distance measurement device that provides an economical non-intrusive method for remote measurement and alarming in storage tanks. The TLM is a self-contained battery-powered, solar-charged system for Class I, Division 1 hazardous locations which utilizes a permit-free radio system for data communications. The TLM provides both remote data reporting and internal logging for convenient trending. Alarm cry-outs are provided for user-settable level conditions as alerts to problems or lost production. The TLM is field-configurable and easy to calibrate.



Features:

- Very low power consumption, solar powered with rechargeable battery storage
- Small, integrated package includes power supply, data storage, processing and communications
- Field configuration, software upgrade and local data retrieval by any iMonitoring-enabled PC, including laptop PCs and PDAs
- Rugged enclosure (IP65)
- Ultrasonic, temperature-compensated level sensing technology
- Non-invasive, easy installation
- Intrinsically safe (UL Class 1, Div. 1, Groups C and D Temperature Code T4)
- User configurable high level, level drop and temperature alarms
- Unique level drop alarm with alarm window notifies the customer if oil is thieved during non-production times
- Alarms notification via telephone or email (requires optional alarm service)
- Alarm holdoff prevents multiple alarm notification, minimizing notification cost
- Data can be secured with cypher encryption

Technical Specifications

Environmental	
Operating Temperature	-40°C to +60°C (-40°F to 140°F)
Storage Temperature	-40°C to +70°C (-40°F to +158°F)
Humidity	5 to 95% RH, non-condensing
Measurement	
Level	<ul style="list-style-type: none">• Calibrated top surface level or distance to target• <i>Technology:</i> Ultrasonic ranging, temperature compensated• <i>Range:</i> 1.5 - 20 feet typical
Alarms	
Level	User-settable low / high setpoint
Level Drop	User-settable drop and time span
Temperature	User-settable low / high setpoint
Alarm Holdoff	User-settable, 0 to 1,440 minutes (1 day)
Logging	
Log Interval	Every one minute or every five minutes (configurable)
Maximum Log Depth	<ul style="list-style-type: none">• 26 days in one minute mode• 132 days in 5 minute mode
Data Reported and Logged	<ul style="list-style-type: none">• Entry Date/Time• Level/Range• Temperature• Energy level• Device (alarm) status

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The iNodes™ Suite of Products Include:

- Tank Level Monitor
- Wireless Data Switch
- Electronic Flow Monitor
- Wireless Pressure/Temperature Monitor
- Concentration & Communications Unit
- Concentration & Communications Unit – Remote Terminal Unit
- Compact Flash Radio
- Universal Serial Bus Radio

Communications

Protocol	iMonitoring proprietary Frequency Hopping Spread Spectrum (FHSS)
Certifications	FCC Part 15.247, CFR 47 Part 15
Service	Half-Duplex
Frequency	902 - 928 MHz
Antenna	Standard 1/2 wave omni or optional 6 dBd Yagi
Range	<ul style="list-style-type: none">• To CCU:<ul style="list-style-type: none">• 1,500 feet typical line of sight• Up to 5,000 feet (with optional high gain antennas)• To iMonitoring-enabled PC or PDA: 500 feet

Power

Source	Solar panel, 0.25W standard. Optional 1W remote solar panel
Storage	<i>Battery:</i> <ul style="list-style-type: none">• <i>Type:</i> Rechargeable 3.6VDC lithium-ion• <i>Life:</i> > 5 years (typical)

Mechanical

Enclosure	<ul style="list-style-type: none">• <i>Ingress protection:</i> Meets IEC IP65 (dust and blowing rain)• <i>Enclosure venting:</i> GORE™ protected vent
Mounting	Screw mount bushing, 2-inch NPT-M fitting

Regulatory Approvals

Safety	UL and c-UL Class I, Division 1, Group D, temperature code T4 (Intrinsically safe).
Communications	Meets FCC Part 15.247 and Code of Federal Regulations (CFR) 47, Part 15



Contact us today to learn how iNodes Technology can help improve your production performance. Visit our web site—or email us at: Automation@FergusonBeauregard.com

P.O. Box 130158

Tyler, TX 75713

(903) 561-4851

fax (903) 561-6567

www.FergusonBeauregard.com