

PRODUCT LINE

QUICK REFERENCE





Leadership

Since we invented and marketed our first level control in 1932, the Magnetrol® name has become synonymous worldwide with quality and innovation. Today MAGNETROL products serve industries in over 100 countries. Our market leadership is sustained by a strong ongoing commitment to advance the state-of-the-art in level and flow technologies.

Solutions

Because process environments are so diverse, MAGNETROL has created numerous technology groups to address the broad range of control challenges. Each technology group features products that are highly configurable enabling our customers to have the most exacting solution for their specific process requirements.

Innovation

We cultivate innovation through sustained R&D commitment. Products are engineered not only to perform accurately and reliably, but to be easy to install, calibrate, and maintain as well. Turning these better ideas into better products is realized in the MAGNETROL ISO-certified manufacturing environment using leading-edge fabrication systems.

International

A key factor in maintaining innovation and market leadership has been our development of a global information and distribution network. It's a network of technology experts poised to lend assistance to our customers anywhere in the world anytime. You can always count on MAGNETROL for products that are engineered to the highest standards of excellence in the industry.

VISION STATEMENT

*To be the customer's first call
when performance matters.*



Eclipse®

Model 706 GWR Transmitter

Description: An advanced 24 VDC loop powered transmitter with proactive diagnostics and superior signal strength. Not affected by foam, turbulence, and varying media conditions.

Measurement Principle: Guided Wave Radar Time Domain Reflectometry (TDR)

Applications:

Ideal for difficult, low dielectric, high temperature process applications, high pressure steam, or single storage applications.

Features:

- No calibration necessary
- General Purpose, Intrinsically Safe, Explosion Proof and Non-Incendive approvals
- Increased signal strength
- Superior Signal-to-Noise Ratio
- Proactive Diagnostics
- Broad offering of Overfill-capable probes
- Full vacuum to 6250 psi (430 bar); -320 to +850 °F (-196 to +450 °C)
- SIL 2/3 Certified with SFF = 93% (FMEDA available upon request)

Options:

Graphic LCD allows the viewing of waveforms; HART®, FOUNDATION fieldbus™, Profibus PA and Modbus digital communications; broad probe offering with numerous process connections

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Model 700 GWR Transmitter

Description: 24 VDC loop powered transmitter with proactive diagnostics and superior signal strength. Not affected by foam, turbulence, and varying media conditions.

Measurement Principle: Guided Wave Radar Time Domain Reflectometry (TDR)

Applications:

Liquids and slurries, hydrocarbon to water-based media. Process and storage vessels to +400 °F (+200 °C).

Features:

- No calibration necessary
- General Purpose, Intrinsically Safe and Non-Incendive approvals
- Increased signal strength
- Superior Signal-to-Noise Ratio
- Proactive Diagnostics
- Full vacuum to 6250 psi (430 bar); -320 to +400 °F (-196 to +200 °C)
- SIL 2/3 Certified with SFF = 93% (FMEDA available upon request)

Options:

Graphic LCD allows the viewing of waveforms; HART® digital communications

Pulsar®

Model R86 Radar Transmitter

Description: An advanced loop-powered 4–20 mA level transmitter with proactive diagnostics provides accurate measurement even in shifting dielectric and varying media.

Measurement Principle: Pulse Burst Radar

Applications:

Liquids and slurries, hydrocarbons to water-based media, high temperature/high pressure process or storage vessels

Features:

- 26 GHz frequency offers smaller beam angle and improved resolution
- Full vacuum to 2320 psi (160 bar); -100 to +750 °F (-70 to +400 °C)
- Quick connect/disconnect antenna coupling allows vessel to remain sealed
- Wide range of HTHP antennas, with extensions
- Coated Isolation antennas for corrosive applications
- Intuitive false target setup
- Unique Commissioning and Optimization Wizards
- Proactive Diagnostics

Options:

Graphic LCD; HART®, FOUNDATION fieldbus™ and Profibus PA digital communications; Wide variety of horn antenna configurations, all-plastic antenna, antenna extensions

Pulsar®

Model R96 Radar Transmitter

Description: An advanced loop-powered 4–20 mA level transmitter with proactive diagnostics provides accurate measurement even in shifting dielectric and varying media.

Measurement Principle: Pulse Burst Radar

Applications:

Liquids and slurries, hydrocarbons to water-based media, process or storage vessels

Features:

- 6 GHz frequency
- 24 VDC, loop-powered
- 4–20 mA with HART®
- 130' (40 m) measurement range
- Full vacuum to 750 psi (52 bar); -40 to +400 °F (-40 to +200 °C)
- Quick connect/disconnect antenna coupling allows vessel to remain sealed
- Intuitive false target setup General purpose, Intrinsically Safe, Explosion Proof, Intrinsically Safe, Explosion Proof and Non-Incendive approvals
- Proactive diagnostics

Options:

Graphic LCD allows the viewing of waveforms; HART® and FOUNDATION fieldbus™ digital communications; horn or dielectric rod antenna configuration, all-plastic antenna, antenna extensions

Radar

Model R82 Radar Transmitter

Description: An economical loop-powered 4–20 mA level transmitter in a compact single compartment housing.

Measurement Principle: Pulse Burst Radar

Applications:

Liquids and slurries, hydrocarbons to water-based media, process or storage vessels

Features:

- 26 GHz frequency
- 24 VDC, loop-powered
- 4–20 mA with HART®
- 40' (12 m) measurement range
- Full vacuum to 200 psi (14 bar); -40 to +200 °F (-40 to +95 °C)
- Configure with 2-line x 16-character display, 4-push-button keypad
- Adjustable beam pattern without removing the transmitter from vessel
- General Purpose and Intrinsically Safe

Options:

Cast aluminum or Lexan enclosure, 2" or 8" (50 or 200 cm) antenna extension, polypropylene or Tefzel® antenna material

THERMAL DISPERSION



Thermatel®

Models TD1/TD2 Flow/Level Switch

Description: Reliable flow/level/interface switch detects changes in heat transfer due to changes in media or flow rate.

Measurement Principle:
Thermal dispersion

Applications:

Flow switch for liquids and gases. Popular for pump protection to detect low flow rates. Also used for level/interface detection

Features:

- Continuous diagnostics with fault detection
- Temperature compensation
- mA output signal on TD2 permits flow monitoring and diagnostics
- Temperatures to +850 °F (+450 °C), pressure to 6000 psi (410 bar)
- Adjustable set point and time delay

Options:

Relay type, input voltage, integral or remote mounting, window to view LEDs, probe types and probe process connections

Thermatel®

Model TA2 Mass Flow Transmitter

Description: An easy-to-use, economical, continuous gas flow meter to manage energy costs or meet environmental regulations.

Measurement Principle:
Thermal mass/dispersion

Applications:

Combustion air, compressed air, natural gas, flare gas, aeration lines, digester/biogas/LFG, low flow/low pressure

Features:

- Direct mass flow measurement
- Calibration verification in the field prevents sending unit back to the factory
- Strong signal at low flows and low pressures
- High turndown ratio
- Rotatable head and display for ease of viewing and proper installation

Options:

2-line × 16-character display, HART® and FOUNDATION fieldbus™ digital communications, probe length, process connection, Hot Tap, temperature output and pulse output, remote electronics

Echotel®

Model 910 Level Switch

Description: Integral mount, low cost ultrasonic level switch with worldwide safety approvals.

Measurement Principle:
Ultrasonic

Applications:

Clean liquids, wastewater, hydrocarbons, foods and pharmaceuticals, solvents, seal pot level

Features:

- Tip sensitive gap style
- Integral mount unit with dual conduit hubs
- Field selectable high or low level fail-safe
- 8-amp DPDT gold flash or 5-amp DPDT hermetically sealed relay
- Vertical or horizontal mount
- No calibration required
- Two-year warranty

Options:

Housings, process connections, input power, relay type, and actuation length

ULTRASONIC



Echotel®

Models 961/962 Level Switches

Description: Universally applied liquid level switch with advanced self-test capabilities, time delay and pulsed signal technology for superior performance in difficult applications.

Measurement Principle:
Ultrasonic

Applications:

Water-based liquids, hydrocarbons, chemicals, low/high level detection, overflow protection, seal pot level

Features:

- Suitable for use in Safety Integrity Level (SIL) 2 loops
- Adjustable time delay for turbulent aerated liquids
- Tip-sensitive transducer
- Advanced self-test technology with malfunction alarm output
- Integral or remote mount electronics
- Pulsed signal technology
- Available for single (961) or dual point (962) liquid level detection.
- Plastic probes available

Options:

Housing materials, input power, output signal, integral or remote mounting and actuation length

Echotel®

Model 355 Transmitter

Description: Loop-powered, integral mount, ultrasonic transmitter for level, volume, or open channel flow.

Measurement Principle:
Non-Contact 60 kHz ultrasonic

Applications:

Open channel flow, simpler level measurement with less vapors, foam and agitation

Features:

- Two-wire, loop-powered
- 4–20 mA with HART®
- PACTware PC program
- 20' (6 m) measurement range
- Temperature compensated echo rejection profile
- Dynamic baseline noise compensation
- Open channel flow equations
- Resettable and non-resettable flow totalizers

Options:

Cast aluminum or Lexan enclosure, polypropylene or Kynar® Flex transducer



Float Type

Top Mount Level Switch

Description: A simple and reliable float switch designed for top mounting on virtually any process or storage vessel.

Measurement Principle:
Buoyancy

Applications:

Virtually any tank or vessel; condensate receivers, cooling towers, interface detection

Features:

- Single or tandem float configurations
- Rugged reliability
- Wide selection of switches
- Actuating depths of up to 48" (1219 mm)
- Simple operation
- Maintenance-free
- Variety of process connections

Options:

Single or tandem units, tank connection type and float size, NACE construction, electric or pneumatic switch mechanisms, guide cages



External Cage

Float Type Level Switch

Description: A highly reliable level switch in an external cage and designed to be mounted outside the process vessel.

Measurement Principle:
Buoyancy

Applications:

Clean liquids or interface in scrubbers, feedwater heater, flair pots, day tanks, accumulators, knockout drums, etc.

Features:

- Sealed or flanged float cages
- Pressures to 3700 psi (255 bar) and temperatures over +1000 °F (+540 °C)
- Single or multiple actuation levels
- Carbon steel or stainless steel cage materials
- Floats for SGs as low as 0.32

Options:

Electric or pneumatic switches, ASME B31.1, B31.3 or NACE construction, exotic materials of construction, wide variety of process connections



Tuffy®

Float Type Level Switch

Description: A compact, highly reliable level switch designed for horizontal mounting into a process vessel or an external cage.

Measurement Principle:
Buoyancy

Applications:

Clean liquids or interface in virtually any tank or vessel, including storage tanks and process vessels

Features:

- Available in narrow and wide adjustable differential models
- Float and trim parts in 316 SS or Hastelloy C
- Pressures to 2630 psi (181 bar) and temperatures to +900 °F (+482 °C)
- Explosion proof enclosure with variety of agency approvals
- Ease of wiring in enlarged switch housing

Options:

Pneumatic switch model, ASME B31.3 or NACE construction, wide variety of process connections, cast iron and aluminum switch housings



Modulevel®

Model E3 Displacer Level Transmitter

Description: Advanced displacer/range spring actuated intrinsically safe two-wire transmitter.

Measurement Principle:
Buoyancy/Range
Spring/LVDT

Applications:

Feedwater heaters, scrubbers, receivers, separators, boilers, condensate drip pots, interface measurement

Features:

- No calibration required
- Range spring suppresses effects of turbulence
- Pressures to 5150 psi (355 bar); +850 °F (+450 °C) non-steam applications; +800 °F (+425 °C) steam applications
- HART® or FOUNDATION fieldbus compatible
- Field-selectable fault signal, 3.6 or 22 mA, or HOLD
- SIL 2/3 Certified
- Advanced self-check and diagnostics

Options:

Pneumatic models, ASME B31.1, B31.3 or NACE construction PACTware for enhanced configuration and trending capabilities



Top Mount

Displacer Type Level Switch

Description: Highly reliable one-, two- or three-stage level switches offering wide and narrow level differentials.

Measurement Principle:
Buoyancy

Applications:

Foaming, surging or agitated liquids, dirty or clean liquids, heavy oils or slurries in sumps, storage tanks or process vessels, overflow prevention

Features:

- Field-adjustable levels and differential
- Variety of displacer, cable and wetted parts materials
- Ease of installation
- Variety of narrow and wide level differential combinations
- Suitable for use in liquids with SG from 0.40 to 2.40

Options:

Proof-er® ground-checker, floating rooftop/liquid dual detection, extended displacer cable, customer specific levels and differential arrangements, pneumatic or electric switches

CAPACITANCE



Kotron®

Model 805 Smart Transmitter

Description: High performance, loop-powered, 4–20 mA, RF Capacitance transmitter.

Measurement Principle:
RF Capacitance

Applications:

Clean or dirty liquids, viscous slurries

Features:

- Two-wire, loop-powered
- 2-line × 8-character liquid crystal display
- HART® Communications
- Proven RF technology

Options:

n/a

VISUAL INDICATION



Atlas™

Magnetic Level Indicator

Description: The standard, high-performance magnetic level indicator suitable for a wide range of process conditions.

Measurement Principle:
Buoyancy, magnetic coupling

Applications:

Feedwater heaters, boilers, oil-water separators, flash drums, surge tanks, gas chillers

Features:

- Broad range of chamber configurations
- Fabricated non-magnetic chambers
- ASME and EN flanges
- Precision manufactured float
- Flag or shuttle type indicator
- Reveal™ wide view indicator

Options:

Custom span, process connections, scale units of measure, high temperature and cryogenic insulation, clamp-on reed, micro and pneumatic switches

Aurora®

Magnetic Level Indicator

Description: Unique combination of magnetic level indication with guided wave radar results in a truly redundant level control instrument.

Measurement Principle:
Buoyancy, magnetic coupling and micropower impulse radar

Applications:

Feedwater heaters, vacuum tower bottoms, alkylation units, oil-water separators, deaerators, boiler drums

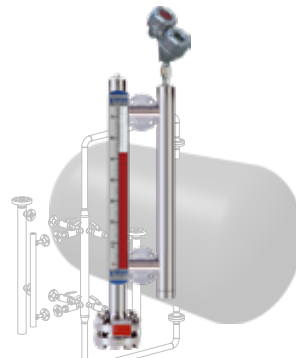
Features:

- True redundancy through use of two independent technologies
- Reveal™ wide view indicator
- Built to ASME B31.1, B31.3, PED, ASME U, UM, S Stamp, NACE construction available
- All metallic pressure boundary materials
- Pressures to 4500 psi (310 bar)
- SGs as low as 0.25
- Temperatures to +800 °F (+425 °C)

Options:

Remote mounted electronics, custom span, process connections, scale units of measure, high temperature and cryogenic insulation, clamp-on reed, micro and pneumatic switches

MAGNETOSTRICTIVE



Gemini™

MLI with Modulelevel Instrumentation Bridle

Description: Unique, fully customized design of Modular Instrumentation Bridle (MIB) designed to best incorporate different instrumentation packages and maximize performance to reduce total cost of ownership (TOC).

Applications:

Feedwater heaters, boilers, oil-water separators, flash drums, surge tanks, gas chillers, etc.

Features:

- Refer to ORI-210 brochure for details.
- True redundancy through use of two independent technologies

Options:

Full customization



Jupiter®

Model JM4 Magnetostrictive Transmitter

Description: Highly accurate level measurement device that can be directly inserted into a tank or externally mounted to any one of our MLIs.

Measurement Principle:
Time-of-flight measurement utilizing a magnetostrictive wire which interacts with a float

Applications:

Separators, surge tanks, gas chillers, bio-therapeutics, pharmaceuticals, process vessels and more

Features:

- Full graphic local user interface and local waveform capture
- 4-20 mA output
- Rotatable and Removable transmitter head
- Ergonomic dual compartment enclosure
- Simple set-up and configuration
- Smart Probe technology
- Easy attachment to an MLI or modular bridle instrumentation
- Direct insertion for a wide variety of vessels and applications

Options:

HART® or FOUNDATION fieldbus™ communications; Hastelloy® or Monel® materials of construction; Threaded or flanged process connections; External Jupiter® models can be top- or bottom-mounted to an MLI

Magnetrol® designs, manufactures, markets and services level and flow instrumentation for the process industries worldwide



Crude Oil



Natural Gas



Petroleum Refining



Chemical



Power Generation



Nuclear Power



Water & Wastewater



Renewable Energy



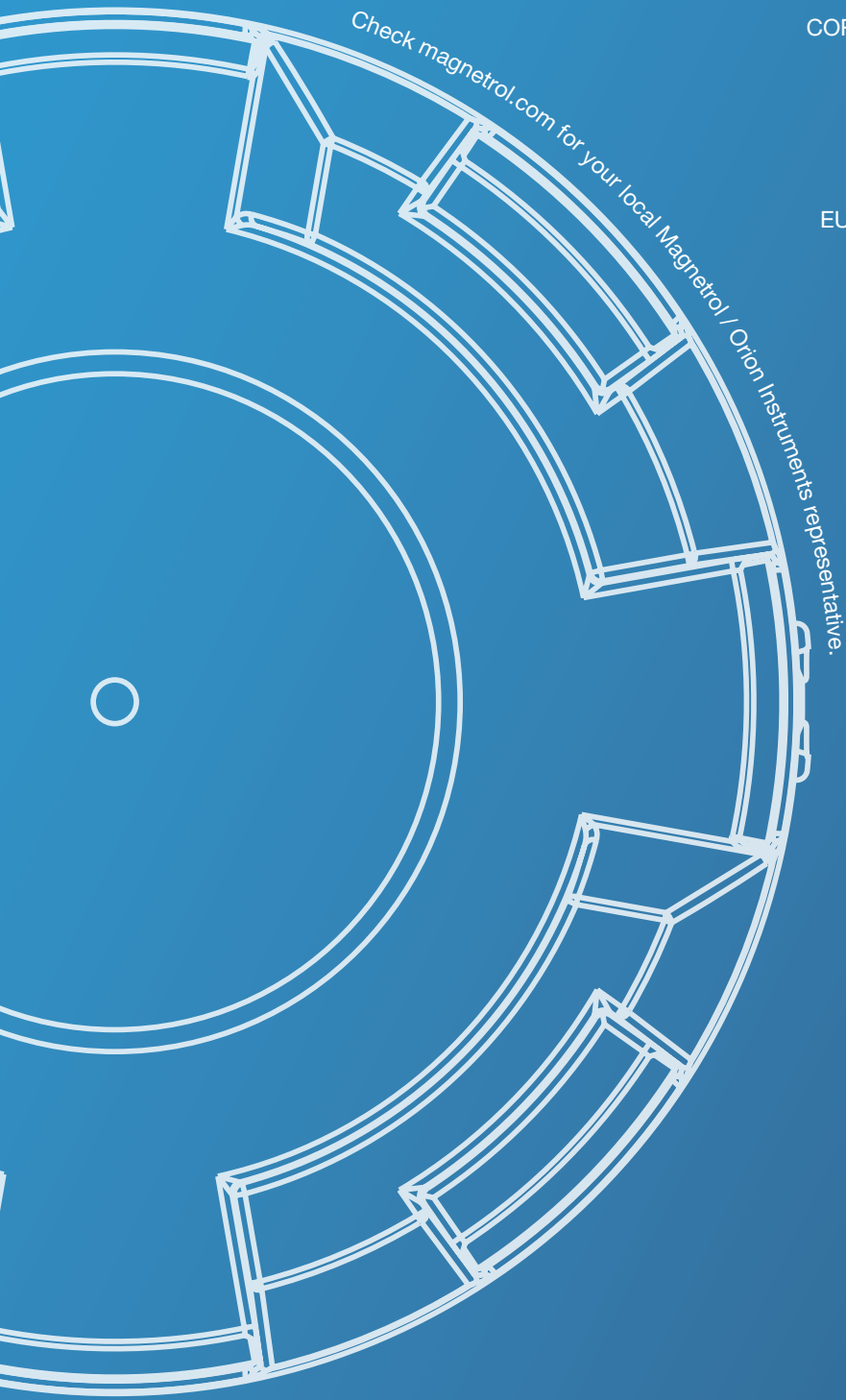
Life Science



Food & Beverage



Pulp & Paper



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