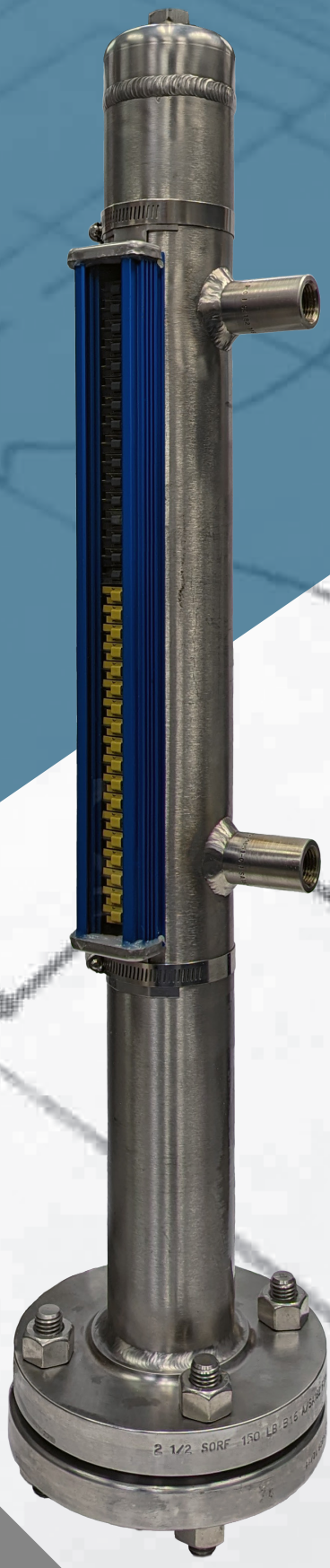
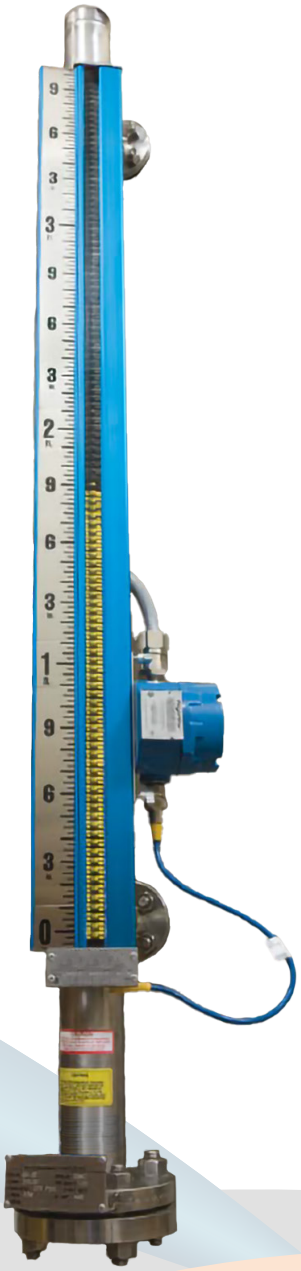
JOHN C. ERNST LLC

FLAGSITE™

MAGNETIC LEVEL GAUGE





APPLICATIONS

- Up to 2400 PSIG
- 0.32 and up Specific Gravity
- Temperatures -325°F to 1000°F
- ASME Flanged connections up to 6”
- Threaded connections also available
- Lengths from 12” to 240”
- Optional Dirty Service chamber

FEATURES

- Standard, Wide 1-1/2” Flags
- Hermetically-Sealed Floats
- Dual Alinco 8 360° Annular Ring Magnets
- Unique Float Indicator Magnet Design for Precise Level Indication and Readability
- Standard Schedule 40 Construction
- A Host of Electronic Options including Switches, Transmitters & Illumination
- Smooth Autogenous Welds

ELECTRONICS OPTIONS

- Transmitters
- Switches
- Illumination
- Heat Tracing

READY TO ORDER?

Must *Haves* when contacting John C Ernst LLC.:

- Process Media
- Specific Gravity
- Connection Size
- Connection Type
- Vessel Connection Centers
- Maximum Pressure
- Maximum Temperature
- Options
- Electronics

Ask about our MINI FLAGSITE™ when fewer features are needed!

How it Works

The Indicator is connected to a process vessel. The chamber, or “column,” contains a sealed float with a permanent magnet assembly which rises and falls as the liquid level changes in the process vessel.

The Indicator Flag Assembly is parallel to the chamber but is completely isolated from the process liquid. Indicator Flags are rotated by the float magnet assembly as it moves up and down the chamber.

These Indicators are an excellent alternative to sight glasses for many applications. They can eliminate leak paths typically associated with seals around glass. Because magnetic level gauges do not contain glass there are parts to maintain and the possibility of glass breakage is eliminated. Also, a sealed flag assembly offers improved visibility with contrasting high visible color combinations.

Optional Add-ons

Must be requested with the original gauge because some options are unable to be added later.

Scales

Options for your preferred measuring method.

- Metric (Feet/Inches are Standard)
- Percentile
- Negative
- Custom Scales also available

Insulation for Hot Applications

Jacket covers entire gage and includes drawcords at each end for closure. Provided with openings for gage process connections, indicator and switches or transmitters.

- Removable and reusable insulation jacket
- All sewn seam construction
- Custom fitted per gage
- PTFE coated & impregnated fiberglass
- Different thicknesses available based on temperature requirements
- Stainless steel grommets
- Polypropylene / fiberglass draw-cord at ends

Sight Glass / FlagSite™ Combination

- Use level gauge for calibration and level verification
- Available as an upgrade for level gauge installations
- Not for use in ASME Section I Installations

Cryogenic Insulation

Cryogenic insulation helps maintain cold process temperature and creates a moisture barrier to prevent ice buildup on the chamber or other items inside of the insulation.

- 32°F (0°C) to -250°F (-156°C)
- Polyisocyanurate foam insulation – 2″ thick
- .016″ Aluminum jacketing with moisture barrier
- All joints to be sealed
- Optional non frost extension required
- Non-frost

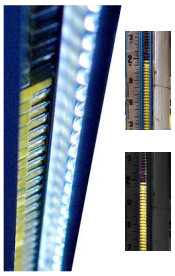
Frost-proof Extension

Accurately read the level without the risk of indicator becoming frosted.

- 2-1/2” Acrylic extension

LED illumination

Illuminators provide an array of bright LEDs to shine on standard mechanical flag indicators. No light or low-light, the operator can easily and reliably verify level.



- High contrast indication
- Not angle dependent – viewer can see clearly from many positions
- Reduced operator exposure in process areas can increase safety
- LEDs have a nominal life of 10 years
- Approved for use in Class I, Div. 1 classified locations
- Power Supply:
  - 120 or 240 VAC
- Process Temperature:
  - Up to 450°F
  - 450°F to 600°F with an air purge kit on indicator

Electric Heat Tracing

- UL Approved, NEMA 4
- Maximum exposure temperature = 375°F
- Maximum maintenance temperature = 250°F
- Thermostat available for temperature regulation
- Optional Class I, Division I for use in hazardous locations

Steam Heat Tracing

- 3/8″ OD tubing with 3/8″ OD compression end fittings
- 4 pass standard

FlashProof

This design addresses two potential problems that may occur with standard level indicators: boiling fluids and flashing vapors. By employing a larger 3″ Schedule 40 pipe and two internal guide rods, entrained gases that build up under the float can harmlessly escape. The float is held to one side of the chamber to insure an optimized magnetic field in close proximity to the indicator, transmitter or switches. This provides an accurate float level and indicator reading.

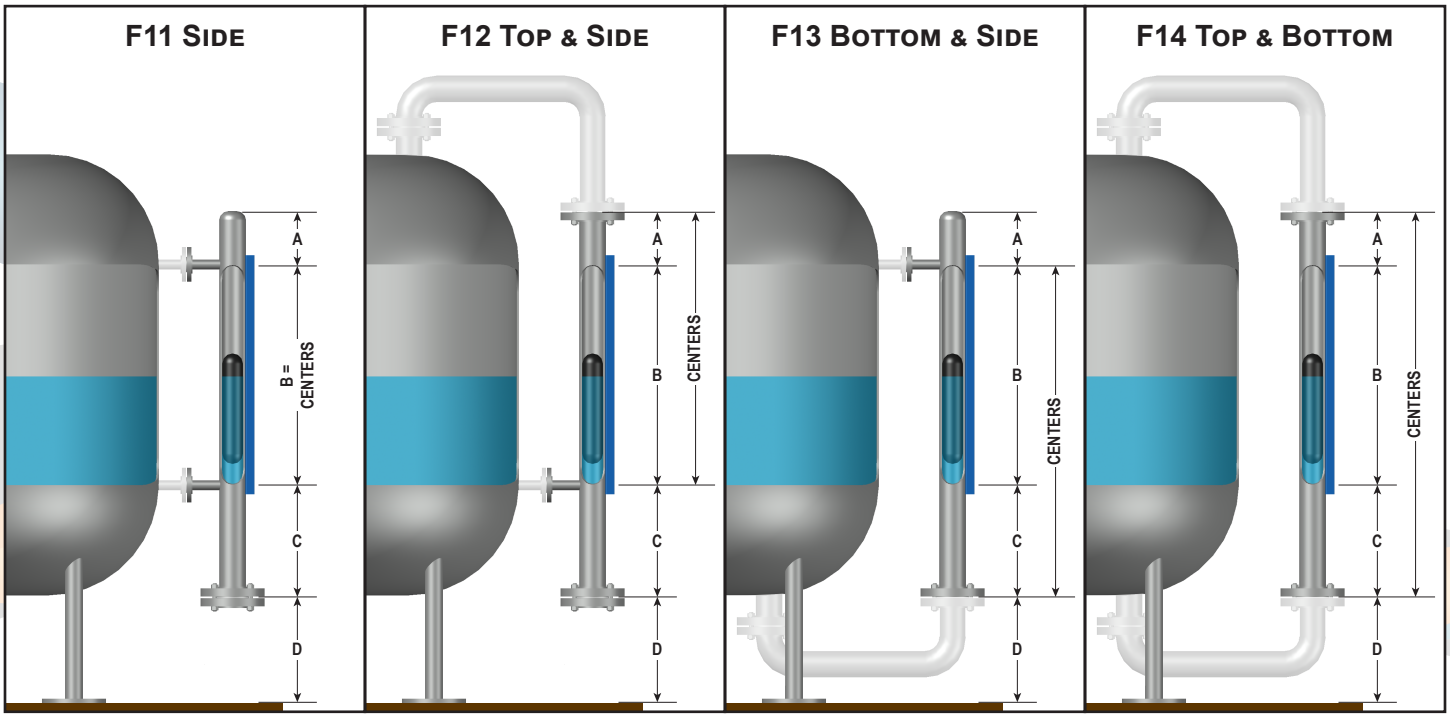
Model Number Break-down

Series No.	Conn. Type	Conn. Size	Conn. Class	Material	Sp. Gravity
F11 = Side Connected F12 = Top & Side F13 = Bottom & Side F14 = Top & Bottom	T = NPT Female F = Flanged B = Butt Weld S = Socket Weld W = Weldneck Flange L = Lap Joint Flange R = Ring Joint Flange	05 = 1/2" 07 = 3/4" 10 = 1" 15 = 1-1/2" 20 = 2" 25 = 2-1/2" 30 = 3" 40 = 4" 60 = 6"	N = Not Applicable 1 = 150# ASME 3 = 300# ASME 6 = 600# ASME 9 = 900# ASME A = 1500# ASME B = 2500# ASME	1 = 304/304LSS 2 = 304, CS Flanges 3 = 316/316LSS (Std) 4 = 316, CS Flanges 5 = Alloy 20 6 = Monel® 7 = Titanium 8 = Hastelloy® B 9 = Hastelloy® C-276 0 = 321SS A = Zicronium B = CPVC C = PVDF D = PFA Coated E = TFE Coated F = Customer Spec	0.32 and up

F11 T 05 N A 0.81 2400 1000 143.99 S 0000

Max Op. Pressure	Max Op. Temp.	Centers	Indicator	Option Code
Upto 2400 PSIG	From -325°F to 1000°F	Up to 240"	S = Wide Flags (Std) 1 = LED 120VAC 2 = LED 240VAC H = Hermetically Sealed Glass P = Hermetically Sealed Polycarb X = No Indicator	Generated at Time of Quote Options Available Include: •Metric Scale •Percentage Scale •Negative Scale •Special Scale •No scale •Set Point Arrows •Dual indicator •Interface •Flash-proof •Non-frost Extension •Electric Heat Trace •Cold Insulation •Steam Traced •Insulation Blanket •3/4" FNPT Vent/Drain, plugged •Drain/Vent Valves

Series Number (Orientation)



Dimension	Name	Notes
A	Cap	Typically 6"
B	Visual Range*	Only same Length as Centers in Side-Connected (F11) Gauges
C	Dead-Leg	Equals Float Length, Typically 12"
D	Ground Clearance	Recommended to match Dead-Leg

* Visual indication determined at time of quote

Transmitter Options

RST2™ Transmitter

The RST2 sensor is a chain of magnetic reed switches and resistors mounted within a heavy wall stainless steel tubing assembly. As the float within the FlagSite™ responds to liquid level change in the chamber, the float actuates adjacent reed switches.

- Two-wire, 4-20 mA loop powered, proportional transmitter
- 316SS Body material
- Sensing lengths from 6 inches to 228 inches (15 cm to 6 meters)
- Continuous level measurement with 1/2″ resolution
- UL/CUL approved for use in hazardous locations:
  - Class I, Division 1 Groups B, C, D
  - Class II, Division 2 Groups E, F, G
- Electronics housed in NEMA 4X, 7 (Groups B, C, D) and IP 66/67 enclosure
- Sensor Operating Temperature up to 500°F (Process Temp.); Transmitter Ambient Temperature Range -20°F to 180°F

Model Number Break-down

RST2-4/20 - 048.00 - 2 - D

Series No.	Sensor Length	Electrical Requirements	Options
RST2-4/20	Up to 240"	2 = 2-Wire 24 VDC; 50 VDC Max (Loop Powered) 3 = 3-Wire 8 VDC to 36 VDC 4 = 4-Wire 115 VAC (Std); 230 VAC (Option)	R = Remote Transmitter D = Digital Indicator

JMT™ Series Magnetostrictive Transmitter

The JMT™ Series Magnetostrictive Transmitter offers additional features and versatility. Utilizing signal capture technology, the JMT features unsurpassed signal to noise ratio.

- 4-20 mA loop powered; 12.5 to 36 VDC
- HART Protocol Communication Standard (HART 7 EDDL Pending)
- Sensing lengths from 12 inches to 360 inches (9 meters)
- Process Temperature -300ºF to 700ºF (-185ºC to 372ºC) (Insulation Safeguards Required over 350ºF [176ºC])
- Ambient Temperature -58°F to 185°F
- Dual Float Functionality (Interface and Total Level) (Requires Dual Level Gauge)
- ETL approved for USA, Canada, ATEX and IECEx (Explosion/Flame Proof /Intrinsic Safety)
- Dual Compartment NEMA 4X; IP66 Enclosure

Model Number Break-down

JMT G - A2A - 050/04800 - SS1

Series No.	Mounting Style	Housing	Orientation	Max Sensing Range	Measuring Range
JMT	G = Gauge Mount	A2 = Aluminum Dual Compartment S2 = Stainless Steel Dual Compartment	A = Top Left Hand (Std) B = Top Right Hand C = Bottom Right Hand D = Bottom Left Hand	12" to 360" In 1" increments (Determined by manufacturer)	12" to 360" In 1" increments, in hundredths of an inch (Example: 48" = 04800)

Process Temp.	Level	Area Classification	Remote Mount	Safety Integrity Level
S = Standard H = High Temperature C = Cold Temperature V = Vibration	S = Single Level D = Dual Level	0 = Ordinary Location 1 = North American Explosion Proof/Flame Proof 2 = North American Intrinsic Safety 3 = ATEX / IECEx Flame Proof 4 = ATEX / IECEx Intrinsic Safety All Options are IP66/Type 4X	Null = Standard	Null = None

Switch Options

RS-2™ Reed Switch

This simple reed switch device can be used to directly control low-amp equipment, or as an input to user supplied controllers or DCS systems.

- Hermetically Sealed Bi-Stable Latching Reed Switch
- Maximum 1 Amp, Current Load @ 120 VAC/VDC
- NEMA 7 for NEC Class 1, Div. 1, Groups B, C & D
- Completely Sealed – Never has to be opened or exposed to the environment
- UL, CUL approved for service in Class I, Groups B, C, & D. Class II, Groups E, F, & G Hazardous Locations
- Maximum temperature 300°F, Minimum -40°F

Model Number Break-down

RS - 2/2

Series No.	Switch Type
RS	2 = SPDT 2/2 = DPDT

SAS-16™ SNAP-ACTION SWITCH

The switch mechanism is based on a unique tri-magnet design where the snap action is accomplished by the utilization of magnetic repulsion. The magnet mounted in the float causes the secondary magnet to rotate as it passes up and down.

- Externally Mounted – No Contact with Fluid Process
- Suitable for Applications up to 750ºF!
- Fully Adjustable Switch Post
- Highly Resistant to Vibration
- SPDT (Single-Pole Double-Throw)
- 10 Amp Rating 120 VAC; 10 Amp 240 VAC
- Standard Anodized Aluminum Enclosure; Available in 316 Stainless Steel
- ATEX Version Available
- Standard Anodized Aluminum enclosure, 316SS Optional

Model Number Break-down

SAS-16 - A25669

Series No.	Switch Type
SAS-16	A25669 = 16A SPDT FM / FMc Approved NEMA 4 / 7 Class I, Div. 1 (Std) A26044 = 16A SPDT FM / FMc Approved w/ NEMA 4 / 7 Junction Box A25669-T = 16A SPDT FM / FMc Approved w/ 316 SS Housing A25669-CE = 16A SPDT ATEX / IECEx Approved A26044-CE = 16A SPDT w/ NEMA 4 / 7 Junction Box All ATEX / IECEx Approved A26617-CE = 16A SPDT ATEX / IECEx Approved w/ Gold Contacts