LAMONT CONTROLS

INSTALLATION & OPERATING MANUAL

SurePoint™

Magnetic point-level switch

DOCUMENT	ISSUED	CONTACT
SP-IM-011	November 2026	SPDT, latching



COMPATIBLE **Magnamont** **Fortimag** **Polysight**

1 Introduction

SurePoint™ is a leverless, latching SPDT switch for point-level detection on Lamont Controls magnetic level gauges (MLGs). It clamps to the outside of the gauge chamber and is actuated by the magnetic field of the MLG float. Switches provide high, high-high, low and low-low level detection with no contact with the process fluid, no moving levers and no actuation power. The contact is sealed. The set point is the clamp position, and no recalibration is required after it is moved. SurePoint is supplied for Magnamont™, Fortimag™ and Polysight™ gauges.

2 How it works

The MLG float carries a permanent magnet. The float follows the process level in the chamber, and the magnetic field moves with it. When the float reaches the elevation at which SurePoint is clamped, the field passes through the chamber wall and changes the state of the switch's internal SPDT contact. Because SurePoint senses the float through the chamber wall, the switch stays fully isolated from the process.

- **Latching operation:** the contact changes state as the float passes the set point and holds that state until the float passes back through it. The output therefore indicates whether the level is above or below the switch, with no chatter while the float dwells at the set point.



FIG 1 Render. Typical. SurePoint clamped to the gauge chamber at the set point, leads routed down

3 Specifications

PARAMETER	VALUE
Contact configuration	SPDT, latching
Max switching voltage	150 VDC · 230 VAC
Max switching current	1 A at 24 VDC · 0.2 A at 130 VAC · 0.1 A at 230 VAC (resistive)
Max switching power	25 W (resistive)
Contact resistance (max)	0.1 Ω (initial)
Insulation resistance (min)	1 × 10⁹ Ω
Operating / storage temperature	−50 to +105 °C (−58 to +221 °F)
Housing material	300-series stainless steel
Actuation	Magnetic coupling to the MLG float magnet; non-contact, through the chamber wall
Operate distance	Application-dependent, based on float magnet strength and chamber geometry
Process-wetted parts	None
Mounting	External band clamp to the MLG chamber; field-adjustable
Lead wires	18 AWG TFE, 36 in (914 mm)
Body length	2.750 in (69.85 mm)
Electrical connection	Flying leads

Specifications per SP-TS-011. Subject to change without notice.

4 Safety: read before installing

WARNING — EXPLOSION HAZARD.
Do not connect or disconnect wiring while the circuit is energized unless the area is known to be non-hazardous. Doing so in a hazardous atmosphere can cause ignition.

CAUTION.
De-energize before servicing. Install and wire per the Canadian Electrical Code / National Electrical Code and all applicable local codes.

- Install only within the rated temperature, voltage, current and power limits.
- Do not exceed the contact ratings; protect the contacts on inductive, capacitive, high-inrush or long-run circuits (see section 6, Wiring).
- Only qualified personnel should install and wire this device.

5 Installation

IMPORTANT **The mounting clamp is supplied only when SurePoint is ordered with a Lamont MLG.** Ordered on its own, SurePoint ships without a clamp; use a non-magnetic band or hose clamp (304/316 stainless or brass) sized to the chamber.

5.1 **Locate the set point.** Identify the level on the gauge scale at which switching is required: high, high-high, low or low-low.

5.2 **Clamp at the set point.** Position the switch vertically against the outside of the chamber at the set-point elevation, body flat to the chamber wall, and secure it with the band clamp. Tighten snug, enough to prevent movement; do not overtighten.

5.3 **Adjust in the field.** The set point is the clamp position and can be moved at any time: loosen the clamp, slide the switch up or down the chamber to the required level on the scale and re-tighten. No recalibration is required.

5 Installation — continued

5.4 Use non-magnetic hardware. The clamp and any nearby brackets and fasteners must be non-magnetic: 300-series stainless (304/316) or brass. 400-series stainless and plated steel are magnetic; they distort the field and can shift the trip point.

5.5 Protect the switch and leads. Do not bend or mechanically stress the body. Support the leads so the switch does not carry their weight. In high-vibration service, secure the clamp and leads so the set point cannot migrate.

5.6 Route the leads. Run the leads to the junction box, controller or relay panel, and keep signal wiring away from high-energy power runs.



FIG 2 Render. Typical. The set point is the clamp position: loosen, slide to the required scale reading, re-tighten (step 5.3)

6 Wiring

SurePoint is supplied with flying leads. SPDT, latching: common (C), normally open (NO), normally closed (NC), plus ground; 18 AWG TFE leads, 36 in (914 mm) standard. Lead colours are identified on the switch delivered.

Contact protection. For inductive, capacitive or high-inrush loads, use an interposing relay or a contact-protection network (RC snubber, MOV or flyback diode as appropriate) to protect the contact and extend its life. On long signal runs, drive an interposing relay near the switch rather than the final load.

Series / parallel. Several switches may be wired in series or parallel to suit the control logic; observe the contact ratings for the combined load.

7 Commissioning (functional check)

1. With wiring complete and the circuit safe to energize, raise or lower the level (fill or drain) so that the float passes the set point.
2. Confirm that the contact changes state as the flag indicator reaches the set-point elevation, and resets as the float passes back through it.
3. To fine-tune, de-energize, loosen the clamp, slide the switch into exact alignment with the scale reading, re-tighten and re-check.

8 Maintenance and troubleshooting

No recalibration is required after the set point is moved. Periodically confirm the clamp is tight and the leads are sound.

No switching

CAUSE Switch is off the set point; weak or absent float magnet; open wiring

ACTION Re-align to the scale; verify the gauge float; check the leads

Erratic switching

CAUSE Vibration or a loose clamp

ACTION Secure the clamp and leads

Trip point shifted

CAUSE Magnetic hardware nearby (400-series stainless, plated steel); switch has migrated on the clamp

ACTION Use non-magnetic (304/316) hardware; re-align and re-tighten the clamp

Contacts fail early

CAUSE Unprotected inductive or high-inrush load

ACTION Add contact protection or an interposing relay (see section 6, Wiring)

9 Certifications and compliance

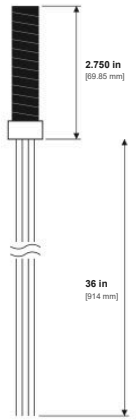
Hazardous location	Class I, Division 1 (UL 1203) · Class II, Groups E, F, G (CSA C22.2 No. 25). Gas groups, temperature code and final marking are confirmed at quotation.
Temperature code	Confirmed at quotation.
Protection	Explosionproof / dust-ignition proof per UL 1203; factory sealed.
Standards	UL 1203 · UL 508 / CSA C22.2 No. 14-13 · CSA C22.2 No. 25-1966 · CSA C22.2 No. 30-M1986 · ATEX 2014/34/EU · IECEx · Low Voltage Directive 2014/35/EU · RoHS2 Directive 2011/65/EU.

Hazardous-area certifications are held by Lamont's component manufacturing partner and apply to the supplied product. Final certification, temperature class and marking depend on configuration and are confirmed at quotation.

10 Warranty and support

SurePoint is supplied and warranted by Lamont Controls. For application support, configuration or warranty service, contact Lamont Controls: +1 416 800 0739 · info@lamontcontrols.com · www.lamontcontrols.com.

FIG 3 · DIMENSIONAL Body and lead wires (see section 3, Specifications)



Shown in the installed orientation, leads routed down. The lead-wire length shown is standard, 36 in (914 mm); custom lengths are available on request.

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