Economical Rotary Paddle Level Control, Top or Side Mounting for Dry Bulk Materials

Incorporated in the design of the PLS is a magnetic drive that is time proven by decades of use in our Mark Series valve position indicator product line. A 1 rpm synchronous motor rotates the paddle utilizing a magnetic drive. As product builds up the paddle is impeded from moving and the resulting motor torque activates the output switches and stops the motor. A spring mechanism reactivates the motor and returns the switches to normal state when the product no longer impedes the paddle rotation.

Standard construction is weatherproof with explosion-proof optional, and the unit can be side or top mounted. The PLS is designed with the industry standard 1-1/4˝ male NPT connection and mounting flanges.

FEATURES

• Magnetic drive that isolates and completely seals the control head from the process and environment preventing material or dust from entering the control head.
• Motor shuts-off when paddle stalls increasing motor life, preventing motor burnout, and decreasing power usage.
• Slip clutch design enabled by the magnetic drive that prevents damage to motor and drive mechanism from sudden or excessive loading on the paddle.
• Status indication light on weatherproof models.
• Modular design to allow field installation of any paddle, flanges, shaft extensions, or shaft guards.

Specifications:

Service: Dry powder or bulk materials compatible with wetted materials.

Wetted Materials:
- Paddles: 316 SS; Exposed shaft: 316 SS; Shaft seal: PTFE;
- Mounting boss: Aluminum; Flexible coupling: 316 SS;
- Mounting flanges: Carbon steel or 316 SS;
- Shaft extension and shaft guards: Galvanized steel or 316 SS.

Temperature Limits:
- Standard construction: Process: -40 to 300ºF (-40 to 148.9ºC);
- Ambient: -40 to 185ºF (-40 to 85ºC);
- High temperature option: Process: -40 to 500ºF (-40 to 260ºC);
- Ambient: -40 to 185ºF (-40 to 85ºC).

Pressure Limit:
- 30 psig (2.07 bar) maximum for .5 micron or larger material.

Power Requirement:
- Select by part number: 110-120 VAC, 230 VAC, 24 VAC, 48 VAC, 12 VDC, or 24 VDC.

Power Consumption:
- Weatherproof models: 5 watts; Explosion-proof models: 3 watts.

Enclosure: Aluminum, powder coated.

Enclosure Rating:
- Weatherproof (W, WH construction): NEMA 4X; Explosion-proof (E, EH construction): NEMA 4X and rated for Class I, Div. 1 & 2, Groups C & D, Div. 1 & 2, Groups E, F, & G.

Switch Type:
- SPDT or optional DPDT snap switch.

Electrical Rating:
- 15A @ 120/230 VAC, 5A @ 24 VDC.

Electric Connections:
- Screw terminals.

Conduit Connection:
- 3/4˝ female NPT.

Process Connection:
- 1-1/4˝ male NPT, Optional flange.

Weight:
- Control head only: 4 lb (1.81 kg).

Indication Light:
- Red LED that activates when switch is made or when switch is not made with RL option (Not available on explosion-proof models).

Options:
- Time delay relay, high temperature construction, top mount, shaft extensions, shaft shields, flexible couplings, other power voltages, reversed light.

Agency Approvals:
- UL approved as an auxiliary device or as an auxiliary device for hazardous locations.

Control

<table>
<thead>
<tr>
<th>Paddles</th>
<th>Flanges</th>
<th>Description</th>
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<tbody>
<tr>
<td>PDL-1</td>
<td>FLG-CSH</td>
<td>Carbon Steel with Half Coupling.</td>
</tr>
<tr>
<td>PDL-2</td>
<td>FLG-CSF</td>
<td>Carbon Steel with Full Coupling.</td>
</tr>
<tr>
<td>PDL-3</td>
<td>FLG-SSH</td>
<td>316 SS with Half Coupling.</td>
</tr>
<tr>
<td>PDL-4</td>
<td>FLG-SSF</td>
<td>316 SS with Full Coupling.</td>
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</tbody>
</table>

Contact the factory for pricing of shaft extensions, protective shields, and other options. More detailed information available in our Measurement & Control for Powder, Dust, and Bulk Materials Catalog.