



ROTOSWITCH 300

Process Instrumentation

Rotating Paddle Switch for Solids Applications.

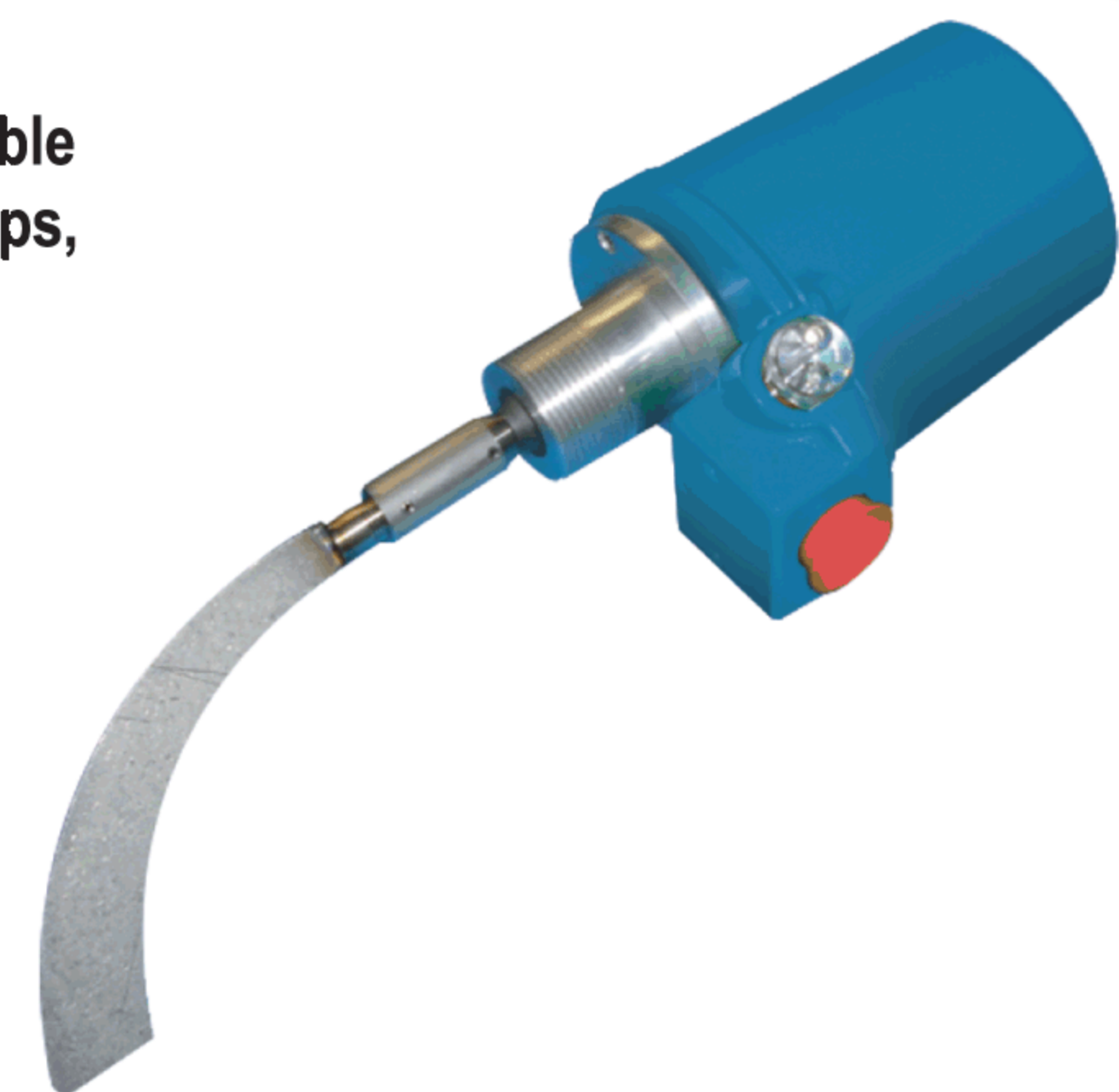
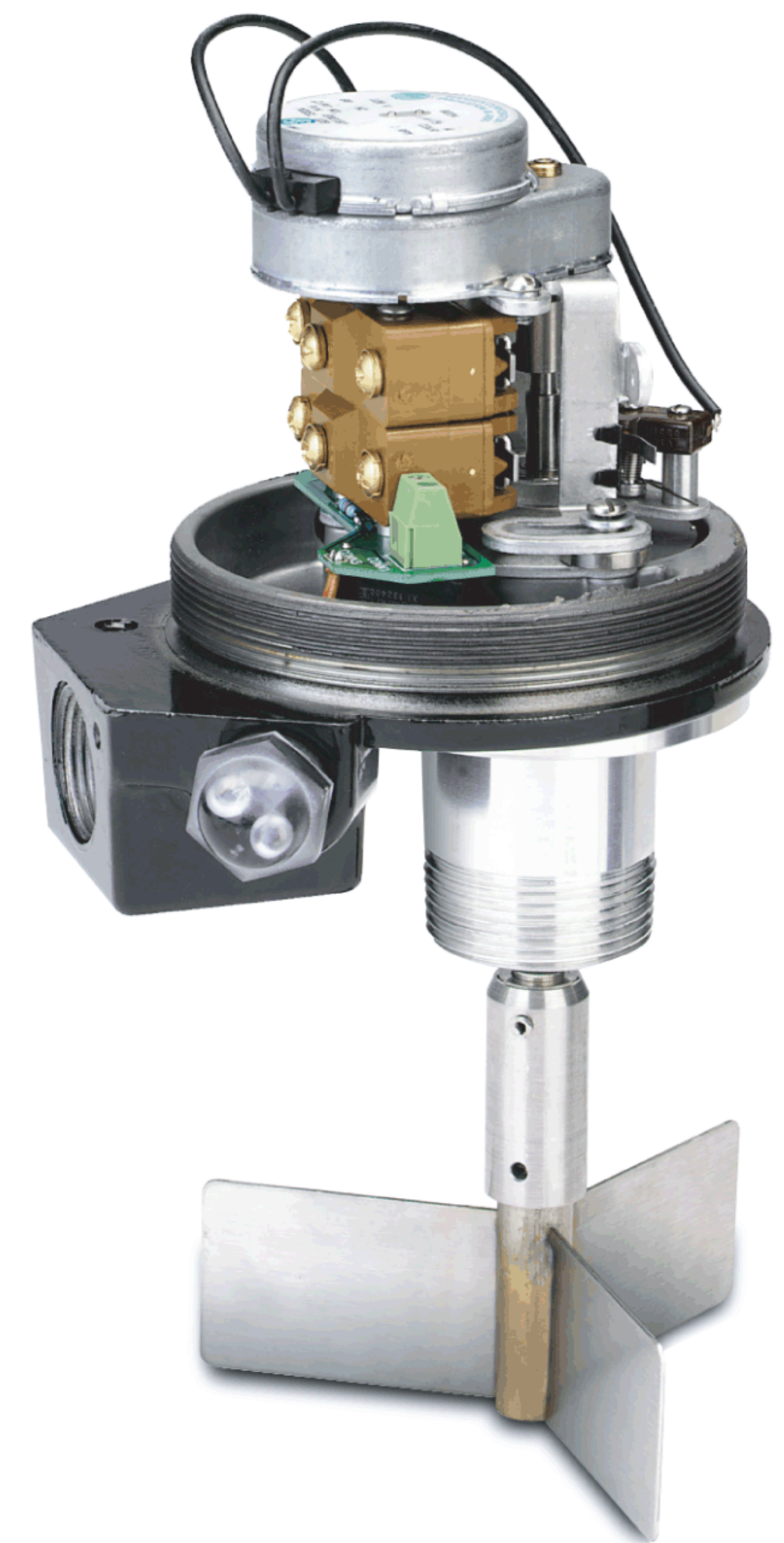
The **RotoSwitch 300 Series** are a range of rotating paddle level switches for monitoring and controlling bulk solids level. A synchronous motor rotates the paddle utilizing a magnetic drive. As the material rises the paddle rotation is impeded from moving and the increased motor torque activates the relay switch and stops the motor. A spring mechanism reactivates the motor and returns the switch to the normal rotating state.

The switch is weatherproof and includes a red LED status indication light. The unit can be side or top mounted with the industry standard 1.25" Male NPT connection and mounting flanges. The modular design allows field installations of any paddle, flanges, shaft extensions or shaft guards.

The magnetic drive isolates and seals the control head from the process to eliminate any material buildup. The slip clutch design prevents damage to the motor or drive mechanism from sudden or excessive loading on the paddle. The motor turns off with activation to increase motor life, prevent burnout and decrease power usage. Flexible couplings are recommended for top mounted switches with shaft extensions to protect from side loads, surges or impacts.

Typical applications may be found in the food, animal feed, pharmaceutical, chemical, plastics, quarrying, power generation, cement and other bulk solids industries. It is suitable for most products including foodstuffs, plaster, cement, chalk, lime, granulates, wood chips, cereals, cocoa, sugar, powders and pellets.

- **Isolated Magnetic Drive**
- **Flexible Coupling for Side or Surge Impacts**
- **Material Densities from 5 to 200 lb/ft³**
- **Motor Shuts-off to Increase Life**
- **Slip Clutch to Protect Motor & Drive**



<p>PADDLE - 1 316 SS three vane paddle for light weight materials with a minimum bulk density of 5 lb/ft³ (80 kg/m³).</p>		<p>PADDLE - 2 316 SS three vane paddle for medium weight materials with a minimum bulk density of 30 lb/ft³ (481 kg/m³).</p>	
<p>PADDLE - 3 316 SS single vane paddle for medium weight materials with a minimum bulk density of 30 lb/ft³ (481 kg/m³). Fits through a 1-1/4" coupling eliminating the need for a mounting flange.</p>		<p>PADDLE - 4 316 SS single vane paddle for heavy weight materials with a minimum bulk density of 70 lb/ft³ (1122 kg/m³). Fits through a 1-1/4" coupling eliminating the need for a mounting flange.</p>	

Technical Specification: RotoSwitch 300 Series



Process Instrumentation

TECHNOLOGY / OPERATION

Measuring Principle Rotating Paddle Level Switch for Solids

PERFORMANCE

Product Density Range 5 lb/ft³ (80 kg/m³) to 200 lb/ft³ (3,200 kg/m³)

Power Supply 110 VAC, 240 VAC, 24 VAC, 24 VDC or 12 VDC

Power Consumption Standard is 5W, Explosion Proof Version is 3W

OUTPUTS

Digital 1 SPDT relay, 15A @ 120/230 VAC, 5A @ 24 VDC

Indication Red LED activates with ON

Digital Optional Red Light for Explosion proof version

ENVIRONMENT

Temperature Range (Standard) Process: -40° to 300°F (-40° to 150°C), Head: -40° to 185°F (-40° to 85°C)

Temperature Range (High Temp) Process: -40° to 500°F (-40° to 260°C), Head: -40° to 185°F (-40° to 85°C)

Pressure Limit 30 psig (2 bar)

Outdoor Rating NEMA 4X (IP 65) Weatherproof

DESIGN

Dimensions of Control Head 4 11/32" (110 mm) Diameter X 6 3/8" (162 mm) Length

Mounting Arrangement Side or Top Mounting

Mounting / Conduit 1.25 inch MNPT (flanges optional) / 3/4" FNPT Conduit Connection

Housing Material Aluminum, Powder-coated

Wetted Material Paddle & Shaft: Stainless Steel 316, Flanges: Carbon Steel or Stainless Steel

Weight (Control Head) Approximate 4 lbs (1.8 kg)

APPROVALS

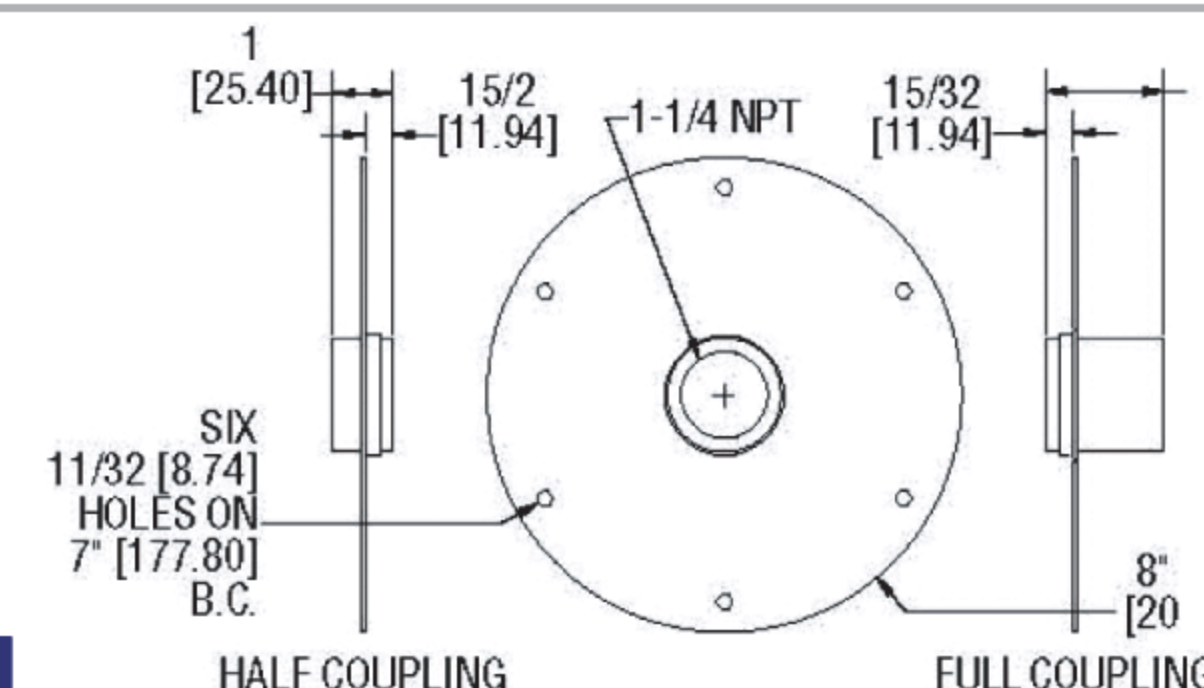
Approval CuL Approved as an auxiliary device (Std and EX versions)

Explosion Proof Version Class I, Div. 1 & 2, Groups C & D, Class II, Div. 1 & 2, Groups E-G

WARRANTY

Product Warranty 1 year

Our policy is one of constant development and improvement. ECHO reserves the right to amend details as necessary. Environmental conditions can affect accuracy slightly.



PART NUMBER CONFIGURATOR

MODEL	RotoSwitch - Rotating Paddle Level Switch	R	S	3																
CONFIGURATION	STANDARD					0	0													
	EXPLOSION PROOF					0	1													
	HIGH TEMPERATURE					0	2													
	EXPLOSION PROOF & HIGH TEMPERATURE					0	3													
POWER SUPPLY	110 VAC																		1	
	230 VAC																		2	
	24 VAC																		3	
	48 VAC																		4	
	12 VAC																		5	
	24 VAC																		6	
PADDLE	NO PADDLE PROVIDED																		0	
	LOW DENSITY PADDLE (PADDLE-1)																		1	
	MEDIUM DENSITY PADDLE (PADDLE-2)																		2	
	BANANA PADDLE (PADDLE-3)																		3	
	HIGH DENSITY PADDLE (PADDLE-4)																		4	
FLANGE	NO MOUNTING FLANGE										0	0	0	0						
	CARBON STEEL - HALF COUPLING (CSHC)										C	S	H	C						
	CARBON STEEL - FULL COUPLING (CSFC)										C	S	F	C						
	316 SS - HALF COUPLING (SSHC)										S	S	H	C						
	316 SS - FULL COUPLING (SSFC)										S	S	F	C						
SHAFT EXTENSION	STANDARD INSERTION LENGTH (6")														L	0	6			
CUSTOM	Custom Insertion Length - Galvanized Steel (7" to 48")														G	X	X			
	Custom Insertion Lengths - 316 Stainless Steel (7" to 48")														S	X	X			
REQUIRED																			X	X