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30+ years in Process Control Instrumentation

# Coat-Endure - Admittance Level Limit Switch

Version 2.1

Coat-Endure is a compact level limit switch suitable for sticky solids and pastes. The device has been designed specially for packaging plants, where application material has a tendency to stick on the probe.

### Principle

Coat-Endure is an improvement over the traditional principle of admittance. The ring type probe has alternating active and inactive regions, which help the controller to calculate the extent of coating on the probe. In effect, the device is able to identify the differential coating between the sense and the shield by measuring their individual capacitances. As the coating immunity is controlled by the onboard microcontroller, the extent of coating immunity can be easily set.



**Approvals** IP-68 Marking, RoHS Compliance, Flameproof Enclosure (Gas Groups IIA, IIB, IIC)

### Features

- Immune to build-up and coating of application material
- Compact probe size (minimum probe length of 65mm)
- Passive shielding compensation
- Microcontroller-based design
- Self-diagnosis of installation errors
- Suitable for conductive and non-conductive media
- Externally visible output and error indications
- Works well with fluffy powders (e.g. talcum) and pastes

### Applications

- Dairy
- Chemicals
- Poultry
- Foundry
- Pharmaceuticals
- Packaging Industry
- Food & Beverages
- Material Handling

### Why Sapcon

- Sapcon – Synonymous with Level Measurement.
- Pioneers in this field with over 32 years of expertise.
- Understanding your problems, always ready with solutions.
- Masters in customization.
- Offering accelerated delivery, saving your inventory costs.

### Parts

The parts of Coat-Endure are explained in Figure 1. All dimensions are in millimeters.

The top panel of Coat-Endure is shown in Figure 3.

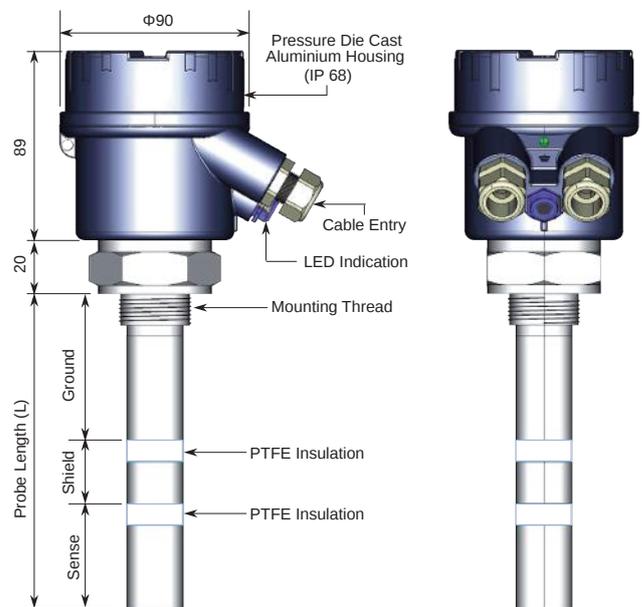


Figure 1: Parts of Coat-Endure

Manufacturing Level Instruments & Speed Monitoring Systems

## SAPCON INSTRUMENTS PVT. LTD.

An ISO 22000 company

131 Palshikar Colony, Indore, Madhya Pradesh, PIN - 452004, India

+91-731-4757575 (100 lines) Fax: +91-731-2475475

www.sapconinstruments.com Email: sales@sapcon.in





## Measuring System

The instrument when calibrated at a single point i.e. in air, can be used with a variety of materials for level detection. When material reaches the switching point, the instrument detects the presence of the material and changes the outputs accordingly. The relay contacts / PNP output / current output can be used for maintaining the level of the material within the desired range in the tank. See Figure 2.

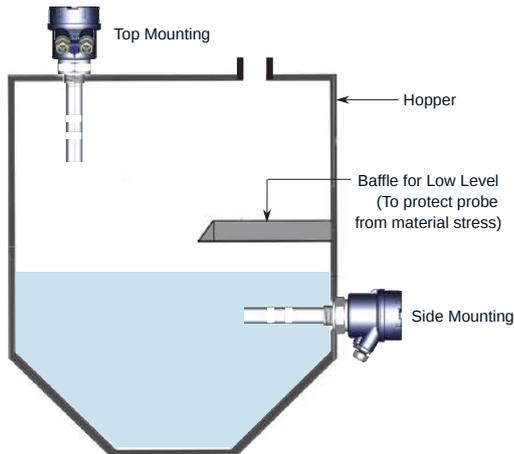


Figure 2: Mounting Arrangement for Coat-Endure

## Technical Specifications

### Mechanical

**Housing:** Pressure die-cast, aluminium, flameproof  
**Mounting:** Threaded: 1/2", 3/4", 1 1/2", 2" BSP / NPT  
 Flanged: Available as per specification  
**Cable Entry:** 2 X 1/2" BSP / NPT or PG 13.5  
**Probe Length:** Rod Probe: 65mm (min.) - 3500mm (max.)  
 Rope Probe: 1000mm (min.) - 5m (max.)

### Electrical

**Input Supply:** 18 - 55 V DC / 90 - 265 V AC (on same terminal)  
**Power:** Consumption: 3W (maximum)  
**Indication:** Bi-color LED (Normal: Green, Alarm: Red)  
**Output:** SDPT / DPDT / PNP / Analog (8-16 mA) / RS-485  
**Temperature:** Standard Model: 0°C to 80°C  
 High Temperature Model: up to 650°C  
**Fail-safe:** Field Selectable  
**Minimum:** Fail-safe Low  
**Maximum:** Fail-safe High  
**Delay Settings:** 2-25 seconds (Covered and Uncovered)

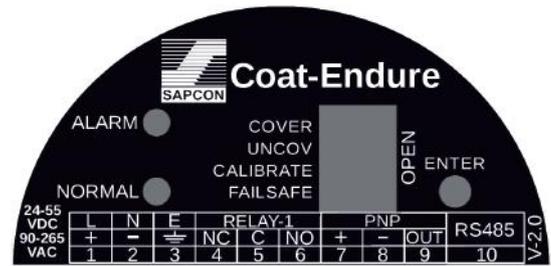


Figure 3: Top Panel of Coat-Endure

## Model Selection

### COAT ENDURE

#### INPUT POWER SUPPLY & OUTPUTS

UR- UNIVERSAL POWER SUPPLY 18-55 VDC, 90-265 VAC,  
 -SINGLE POINT 2 POTENTIAL-FREE RELAY  
 OUTPUTS RATED AT 6A  
 UP- UNIVERSAL POWER SUPPLY 18-55 VDC, 90-265 VAC  
 -SINGLE-POINT SINGLE RELAY (RATED AT 6A)  
 -OPEN COLLECTOR PNP OUTPUT

#### ENCLOSURE

P8- IP-68 WEATHERPROOF HOUSING  
 FA- FLAMEPROOF (GAS GROUP IIA & IIB)  
 FC- FLAMEPROOF FOR GAS GROUP IIC

#### SERVICE TEMPERATURE

A- AMBIENT: BELOW 100° C  
 H1- HIGH TEMPERATURE MAX 150° C  
 H2- HIGH TEMPERATURE 150° C TO 250° C  
 H3- HIGH TEMPERATURE UPTO 650° C

#### PROBE LENGTH

PL- STANDARD PROBE LENGTH 65mm  
 PX- EXTENDED PROBE LENGTH 3500mm

#### PROBE TYPE

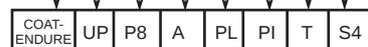
PI- PART PTFE INSULATED ROD PROBE  
 FI- FULL PTFE INSULATED ROD PROBE  
 PC- PART CERAMIC INSULATED ROD  
 PR- PART INSULATED ROPE PROBE

#### PROBE MOUNTING ARRANGEMENT

T- THREADED  
 F- FLANGED  
 O- OTHER (TRI-CLOVER, SMS)

#### WETTED PARTS

S4- SS 304  
 S6- SS 316



## Connect to us

Management: +91 98260 80207 ashwin@sapcon.in

Customer Support: +91 80850 77767 support@sapcon.in

