



ADMITTANCE LEVEL SWITCHES

PRODUCT INTRODUCTION

The Hycontrol range of Admittance level switches provide simple, accurate and reliable level control for a wide range of applications. They are suitable for use on liquids, solids, slurries, pastes, granules, powders and pellets in high temperature, high pressure and corrosive environments.

The main advantage offered by using this admittance range of switches is their ability to totally ignore product build up on the sensing probe.

This unique design utilises a protective insulation electrode between the conventional main electrode and the grounding sleeve which enables the electronics to distinguish between coatings and actual product level.

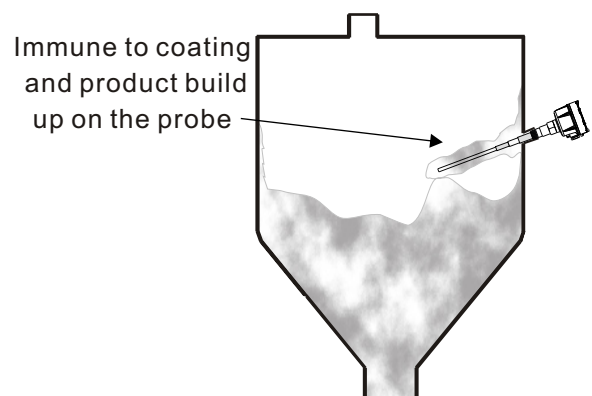
This technology also provides an ideal solution for interface detection applications such as oil on water and liquid detection underneath a layer of foam.

SWITCH FEATURES

- Unaffected by material coating on the sensing probe
- No moving parts to wear out
- Easy installation through a 1" BSP process fitting
- High corrosion and chemical resistance as standard options
- Universal mounting for high or low level detection
- Multiple versions with rod and cable to simplify mounting options
- High temperature versions available
- Low maintenance technology with no moving parts
- Hazardous area certified versions ATEX approved
- Adjustable sensitivity for a wide range of products
- Adjustable time delay to stop spurious signals from surface ripple
- Remote electronics option for high vibration applications
- Interface level detection
- High and low failsafe selection options

TYPICAL APPLICATIONS

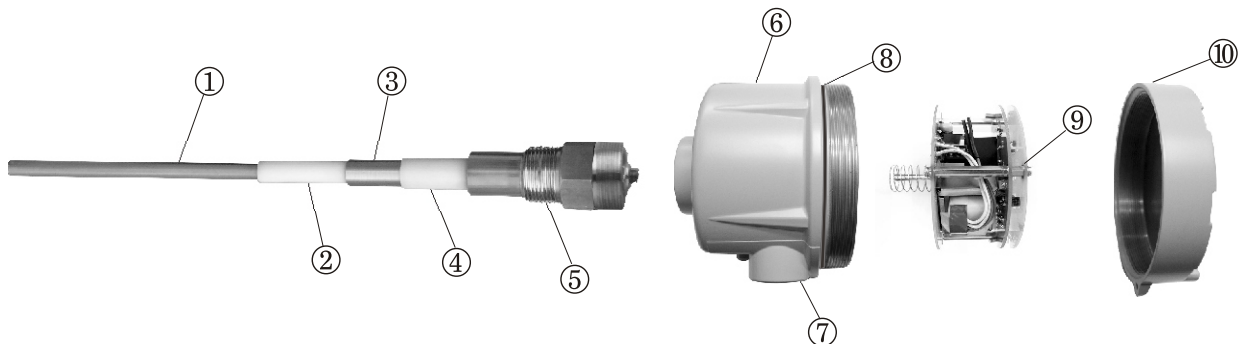
- Acid Tanks and silos
- Bitumen, Tar and Asphalt
- Adhesives, Polymers and Paints
- Syrups and pastes
- Powders, flakes and granules



CONSTRUCTION & APPLICATION

Construction

1. Main Contact Probe:
SUS304 or SUS316 Material
2. Main Insulation Probe:
Insulation of main Probe and reference current, made of either PTFE or PFA.
3. Reference Current:
Conductive metal probe to dissipate any possible presence of false signal.
4. Insulation Probe:
To protect contact probe and external insulation probe, having very low current inducing characteristics and is made of either PTFE or PFA.
5. Process Connection:
1" BSP (Standard model)
6. Housing:
Aluminum Alloy with paint finish
7. Electrical Entry:
1/2" NPT
8. Housing seal:
Buna N 'O' Ring
9. Time Delay:
FSH and FSL, Time Delay Adjustable function
10. Housing Cover:
Aluminum Alloy Spray Paint



Industry Applications

- Brewery Plant
- Chemical Plant
- Cement Plant
- Coal Plant
- Food Processing Plant
- Flour Mill
- Glass Industry
- Paint Plant
- Plastics Plant
- Quarrying Plant
- Aggregate Plant
- Mining Plant
- Paper Manufacturing Plant
- Medical Plant
- Power Plant
- Water and Waste Water Treatment Plant
- Tar Factory
- Beverage Plant
- Bitumen Coating Plant
- Dairy Plant
- Automotive Plant

SPECIFICATION

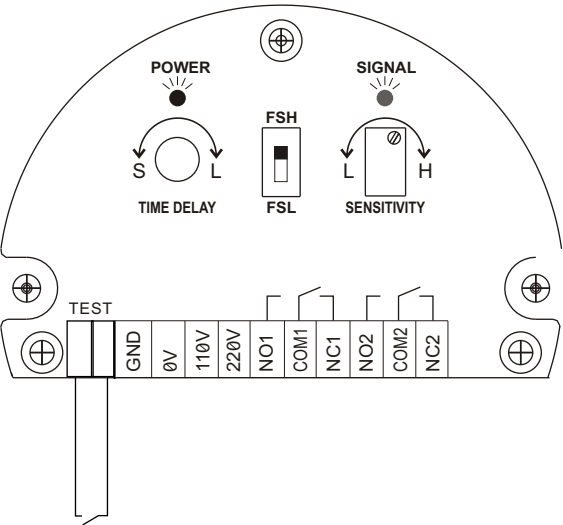
Dimension (mm)			
Model	MD 11 [Standard Model] MD 12 [Standard L Type]	MD 20 [Hi-Temp Model]	MD 1280 [Hi-Temp Model]
Operating Temp.	-40°C~150°C	-40°C~232°C	-40°C~550°C
Ambient Temp.	-40°C~65°C	-40°C~65°C	-40°C~65°C
Housing	Aluminium (IP65)	Aluminium (IP65)	Aluminium (IP65)
Probe Material	304SS or 316SS	304SS or 316SS	304SS or 316SS
Insulation	PTFE or PFA	PTFE or PFA	Ceramic
Connection	1" BSP	1" BSP	1-1/4" BSP
Sensitivity	0.3PF	0.3PF	0.3PF
Supply Voltage	110/220VAC±10% 50/60HZ	110/220VAC±10% 50/60HZ	110/220VAC±10% 50/60HZ
Power Consumption	3~5 W	3~5 W	3~5 W
Contact Rating	5A/250VAC, DPDT	5A/250VAC, DPDT	5A/250VAC, DPDT
Delay Time	0~90 sec	0~90 sec	0~90 sec
Fail safe mode	High / low Selectable	High / low Selectable	High / low Selectable
Conduit	Dual M20 Entry	Dual M20 Entry	Dual M20 Entry
Operation Pressure	20kg/cm ²	20kg/cm ²	20kg/cm ²
Weight	1.7kg	3.5kg	4.2kg

SPECIFICATION

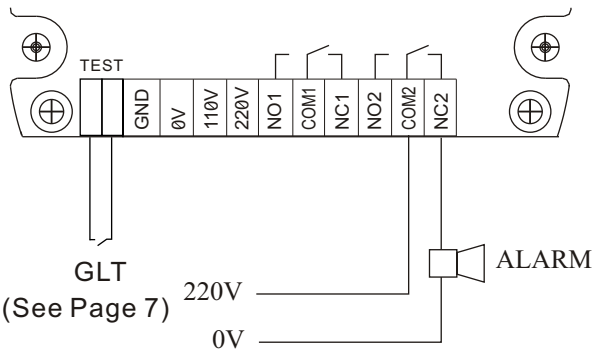
Dimension (mm)			
Model	MD40 [Separation Model]	MD50 [Cable Model]	MD60 [Mini Model]
Operating Temp.	-40°C~150°C, MAX 550°C	-40°C~150°C	-40°C~150°C
Ambient Temp.	-40°C~65°C	-40°C~65°C	-40°C~63°C
Housing	Stainless (IP65) Aluminium (IP65)-separation	Aluminium (IP65)	Aluminium (IP65)
Probe Material	304SS OR 316 SS	304SS OR 316 SS	304SS OR 316 SS
Insulation	PTFE or PFA	PTFE or PFA	PTFE or PFA
Connection	3/4" BSP	3/4" BSP	3/4" BSP
Sensitivity	0.3PF	0.3PF	0.3PF
Supply Voltage	110/220VAC±10% 50/60HZ	110/220VAC±10% 50/60HZ	110/220VAC±10% 50/60HZ
Power Consumption	2.3 W	2.3 W	2.3 W
Contact Rating	5A/250VAC, DPDT	5A/250VAC, DPDT	5A/250VAC, DPDT
Delay Time	0~90 sec	0~90 sec	0~90 sec
Fail safe mode	High / low Selectable	High / low Selectable	High / low Selectable
Conduit	Dual M20 Entry	Dual M20 Entry	Dual M20 Entry
Operation Pressure	20kg/cm ²	20kg/cm ²	20kg/cm ²
Weight		Depend on cable length	

WIRING DIAGRAM

- Ensure the power supply is shut off
- Pull the power lines through the cable inlet into the housing
- Power supply voltage is selected at 110V or 220V, but the live wire must be connected to their respective terminals, 110V live wire to 110V terminal, 220V live wire to 220V terminal. The neutral line can be connected to 0V terminal and the ground line is to be connected to the GND terminal
- Relay output connection:
Relay outputs are set at SPDT or DPDT, maximum switching current and voltage is 5A/250VAC, which can drive small loads such as: solenoid valves, alarm sirens, etc. Bigger loads require a larger relay to drive it. The diagrams below and on the right are common examples of wiring methods.



Ground level test connection for simple push button switch, volt free contact.



Fail safe mode:

Fail safe mode is used primarily to detect malfunction situations. Example: Power supply disruptions, causing the relay to lose it's driving voltage, this type of situation is called fail safe, meaning that in cases of black out, there will be an alarm signal. The fail safe mode "FSH" and "FSL" selection is dependent on the installation position of the probe, the table below shows the fail safe conditions of each mode:

High fail safe mode

Condition	Probe in contact with medium	Probe not in contact with medium
Signal light Indicator	Light	Dim
Relay	Not Energized	Energized
N.C. Contact	Closed	Open
N.O. Contact	Open	Closed

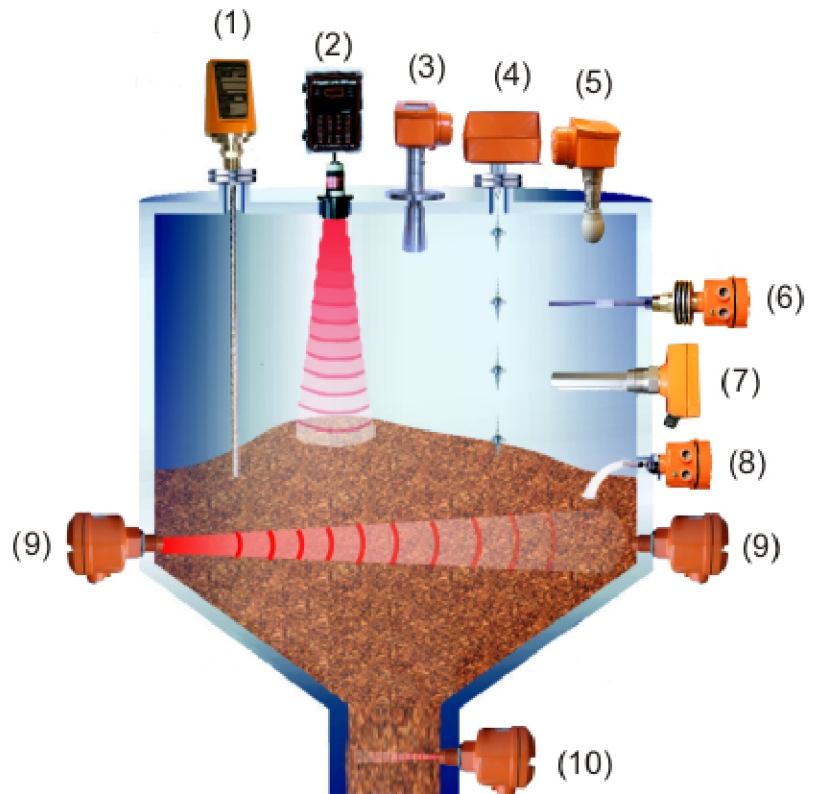
Low fail safe mode

Condition	Probe in contact with medium	Probe not in contact with medium
Signal light Indicator	Light	Dim
Relay	Energized	Not Energized
N.C. Contact	Open	Closed
N.O. Contact	Closed	Open

HYCONTROL LEVEL TECHNOLOGIES

Product Range For Solids :-

- (1) TDR Radar For Solids
- (2) Ultrasonic, 'Through Air'
- (2) 2 Wire Ultrasonic Transmitter
- (3) FMCW 2 Wire Radar
- (4) Continuous 'Servo' Level Indicator
- (5) FMCW 2 Wire Radar
- (6) Capacitance Level Switch
- (7) Vibrating Probe Level Switch
- (8) Rotating Paddle Level switch
- (9) Microwave Level Switch
- (10) Doppler Flow Switch



Product Range For Liquids :-

- (1) By-Pass Level Indicator With Radar
- (2) TDR Radar For Liquids
- (3) 2 Wire Ultrasonic Transmitter
- (4) FMCW 'Horn' Radar 2 Wire
- (5) Magnetic Float Switches
- (6) FMCW 2 Wire Radar
- (7) Capacitance Level Switch
- (8) RF Admittance Level Switch
- (9) Side Mounting 316 SS Float Switch
- (10) Tuning Fork Level Switch
- (11) Tuning Fork Level Switch
- (12) Ultrasonics 'Through Wall'
- (13) Mini Magnetic Float Level Switch
- (14) Foam Switch

