

Technical Datasheet



Level Switch Series

Ultrasonic Level Switch

Model: 003

Key Features

- Relay or solid-state output
- Corrosion resistant PPS construction
- 1-in. or ¾-in. threaded mounting
- Small in-tank dimensions
- 24 Vac or dc powered
- Lightweight
- No moving parts

Series Overview

The 003 sensor is a highly reliable level switch with no moving parts.

Comprising a one piece moulded body with an integral PCB, the 003 Level Switch is factory sealed and supplied with a flying lead for customer connection.

The sensor is designed for high or low level alarm duties to give a voltage free contact or solid state transistor output for alarm signalling or as part of a pump control system.

Other products

Other products we can offer :

- Ultrasonic GAP sensors
- Mechanical level switches



CE

Product applications

- Low level alarms in header tanks
- Pump control duty in feeder tanks
- High or low alarms in storage tanks
- Level or pump control in storage tanks
- Small or thin wall tanks
- Bund level detection
- Steering gear oil
- Chemical and water treatment applications

How can we help you?

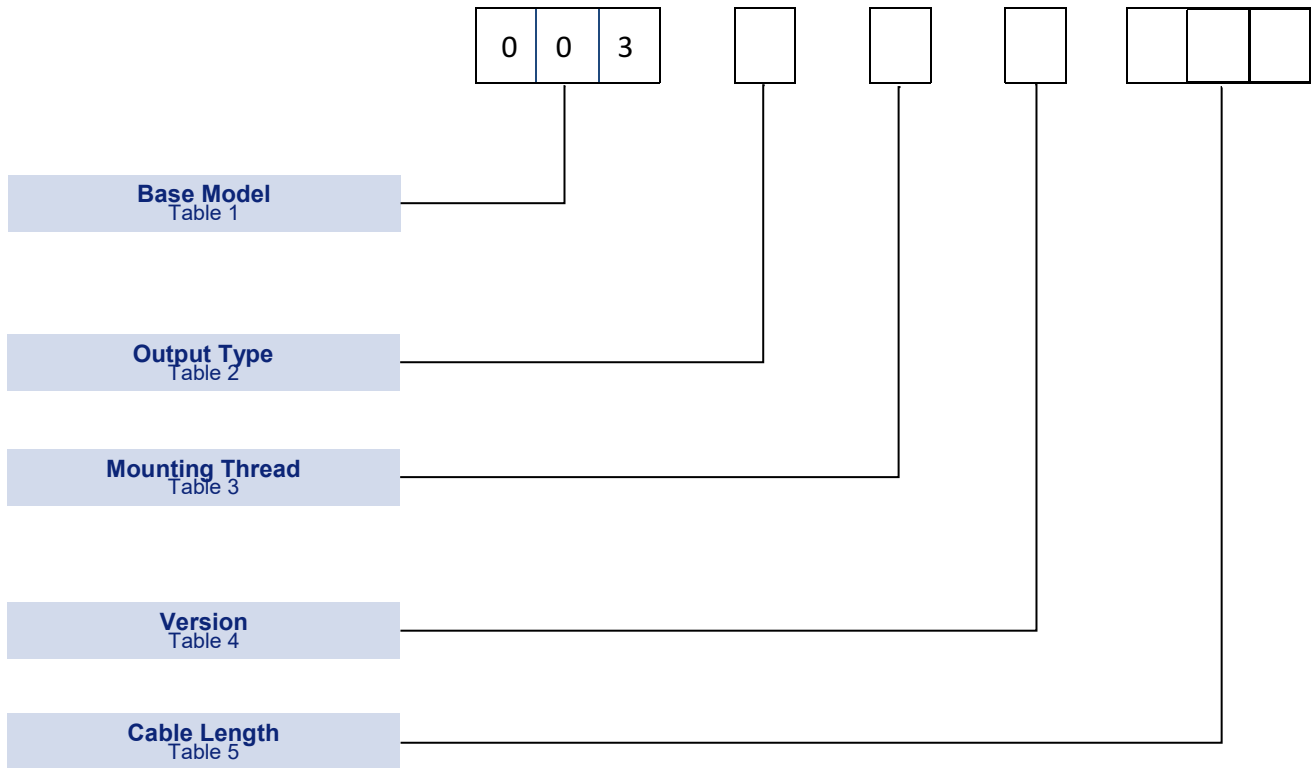
Delta Mobrey offers fast, efficient and knowledgeable support when and where you need it. Please visit our website at www.delta-mobrey.com to find your local support centre or call us on:

+44 (0)1252 729140

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How to order

Switches can be configured by selecting codes representing the desired features from the tables that follow. The chart below, describes how the model code is built up. For assistance in configuring a switch that best suits your needs, please contact your local sales office.



Body of the instrument shows as minimum the marking below listed

- Series (according to codes in table 1)
- Type of output (according codes in table 2)
- Process connection size (according to codes in table 3)

Version, Cable Length and Description of Special Engineering, are shown on the commercial documentation supplied with the instrument.

Models

For standard applications up to 5 bar (72psi)

TABLE 1	0	0	3						
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Description	Code
General Purpose The body is Polyphenylene Sulphide (PPS), with weather protection not less than NEMA type 6P, IP66/IP68.	003

Output Type

TABLE 2	0	0	3						
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Description	Code
Integral SPCO relay (energised when sensor is wet)	S
Two open-drain FET transistors (one conducting when sensor is wet; and the other conducting when the sensor is dry)	H

Mounting Thread

TABLE 3	0	0	3						
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Description	Code
3/4" BSPT (dual)	0
1" BSPT (dual)	2
1"-11 NPTM (dual)	5

Version

¹ Cable, 5 core 7/0.2mm, PVC sheathed

² Cable, 5 core 19/0.2mm, Screened and Jacketed

TABLE 4	0	0	3						
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Description	Code
General purpose ¹	W
Marine ²	M

Cable Length

3 metres minimum, 50 metres maximum

TABLE 5	0	0	3						
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Description	Code
3 metres	/M03
TBA	/M--

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Special Engineering

For these instruments, we have many other options already designed and configured, for example:

- Carbon Fibre body
- Alternative cables, including low smoke or halogen free
- Sensor with the relay output energized dry

Other options can also be designed to meet specific requirements of an application. Please contact us for further information.

Technical Specification

003S		003H	
003 ULTRASONIC TYPE SWITCHES	Operating Pressure	5 Bar (72.5psi)	5 Bar (72.5psi)
	Ambient and Operating Temperature	-20 to 70°C (-4 to 158°F)	-40 to 105°C (-40 to 221°F)
	Minimum Specific Gravity	0.50	0.50
	Maximum Viscosity	5000Cst at 20°C (68°F)	5000Cst at 20°C (68°F)
	Switching response	50ms dry/wet, 0.5s wet/dry	50ms dry/wet, 0.5s wet/dry
	Hysteresis	<4mm (0.12 in.)	<4mm (0.12 in.)
	Repeatability	+/- 2mm (0.08 in.)	+/- 2mm (0.08 in.)
	Switching function	SPCO relay (energized Wet)	2 x FET open drain (short circuit protected).
	Maximum switching current	1A resistive, 0.2A inductive	100mA max
	Maximum switching voltage	30V	30V
Power Supply	18 to 30 Vdc/ac	18 to 30 Vdc/ac	
Current drawn when dry	10mA nominal	8mA nominal (4mA minimum)	
Current drawn when wet	25mA maximum	16mA nominal (20mA maximum)	
IP rating	IP66/68 (3m) – NEMA 6P (10ft)	IP66/68 (3m) – NEMA 6P (10ft)	
Overall Length	110 mm (4.33 in.)	110 mm (4.33 in.)	
Length into Tank	79 mm (3.11 in.)	79 mm (3.11 in.)	
Body Diameter	22 mm (0.87 in.)	22 mm (0.87 in.)	
Weight (with 3m of Cable)	0.2 kgs	0.2 kgs	

Approvals

EUROPEAN DIRECTIVES



Electromagnetic Compatibility Directive (EMC) 2014/30/EU.

This product is compliant with the directive. EN 61326-1:2013

Restriction of Hazardous Substances Directive (RoHS) 2011/65/EU.

This product is compliant with the directive

Low voltage Directive (LVD) 2014/35/EU.

This product is outside the scope of the directive as it designed for a voltage less than 50Vac and 75Vdc.

Pressure Equipment Directive (PED) 2014/68/EU:

This product is outside the scope of the directive as it does not enclose a volume (Pressure Equipment Directive Guideline, A-40)

MARINE

DNV

Certificate no. TAA0000140 (003**M/*)

DNV rules for classification –Ships, offshore units, and high speed and light craft

Location classes: Temperature B

Humidity B

Vibration A

EMC A

Enclosure C / IP66

D /IP68 (3m)

Dimensions

Figure 1. 003S* Schematic

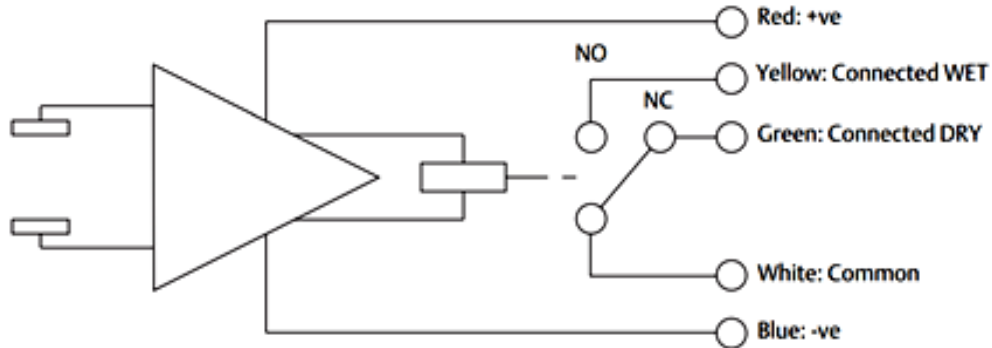
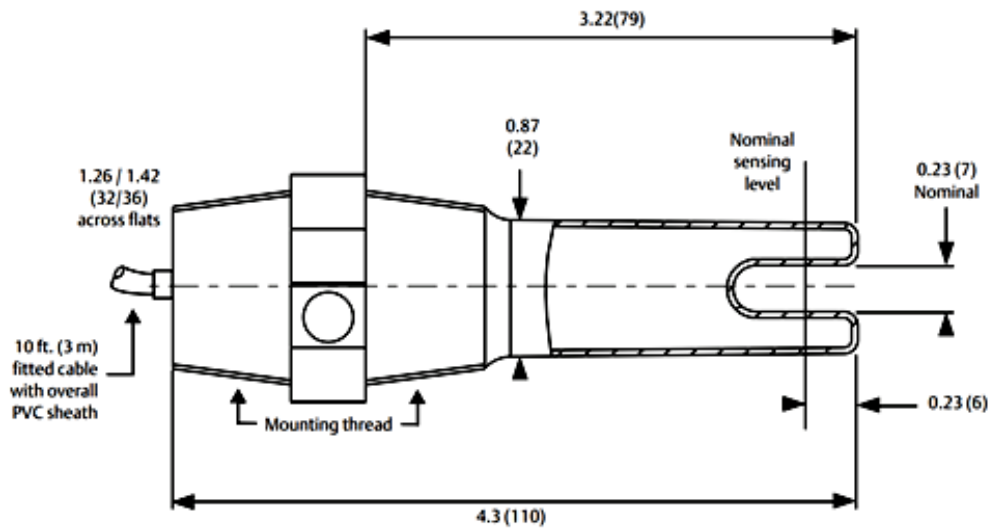
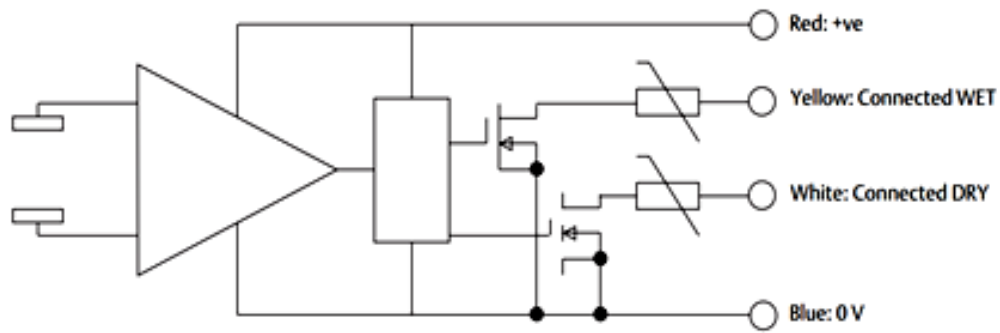


Figure 2. 003H* Schematic



Dimensions are in inches (mm) unless otherwise stated.

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