

Mobrey MSP900SH

Ultrasonic liquid level transmitter



- 2 Wire loop powered
- 12m Operating range
- 4-20mA / HART
- Sealed IP68
- ATEX IS certified
- CSA Zone zero certified
- FM IS approved
- Measures
 - Level
 - Contents
 - Flow

Introduction

The MSP900SH is a sealed 4-20mA loop powered level transmitter specifically designed for use in Waste Water and Effluent Treatment Plant on aqueous applications.

ATEX certified Intrinsically Safe for use in Zone 0 areas, the rugged UPVC transmitter is factory fitted with up to 50m of two core cable for simple low cost installation in sumps, wet-wells and over open channel flow structures.

The MSP900SH can be connected directly to a plant control system or used with a Mobrey MCU900 control unit which gives flexible and comprehensive user programmable control functionality.

Calibration and programming are usually accomplished through the Mobrey MCU900 Control unit, or alternatively, if the MSP900SH transmitter is connected directly to the plant control system, using a HART compatible programmer or software tool.

The MSP900SH transmitter replaces the popular MSP90 transducer, and may be connected to existing MSP90 Control units using the 4-20mA input terminals.

Transmitter features and application

- 4-20mA output proportional to measured or calculated value.
- Factory sealed IP68 for use in wet-wells and sumps up to 12m deep. Option of submersion shield to protect transmitter face from contamination if well is liable to flooding.
- Rugged all UPVC construction ideal for application on exposed sites such as reservoirs, rivers or remote works.
- Supplied complete with 316SS mounting bracket and 1" lock nut to facilitate fast and low cost installation using either rigid or suspension mounting methods.
- ATEX Intrinsically Safe certification allows unrestricted use in hazardous areas, including Zone 0, without the need for expensive cable protection and installation.
- May be programmed to calculate contents or flow in accordance with BS3680 Pt.4, ISO1438/1 and ISO4359 using pre-programmed algorithms or a user- defined look-up table.
- On-board HART digital communications allows programming, remote interrogation and diagnostics.
- Use two MSP900 transmitters to monitor differential level across a screen, automating screen cleaning cycles, or on two flow channels to sum total flow into or out of a works.



Specification sheet

IP2032
December 2005

Level

Technical specification

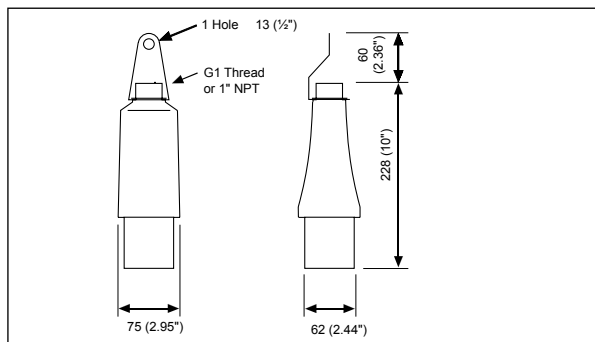
Operating	
Range	0.3 to 12m
Accuracy*	+/- 0.25% of measured range (>1.0 to 12.0m)
Resolution	1mm
Pressure	0bar to 3bar
Temperature	-40°C to +60°C wetside -40°C to +60°C ambient
Environmental	
Suitable for indoor or outdoor use	
Mechanical	
Body material	UPVC (stabilised)
Lock-nut	G1" Nylon
Bracket	316 Stainless Steel
Cable	PVC two core shielded cable
Weight	1.2 Kg

* Under stable operating conditions.
(Accuracy in near range 0.3 to 1.0m is better than +/- 7mm.)

Ordering information

MSP	Mobrey ultrasonic level transmitter		
900	UPVC construction, 12m operating range		
SH	Factory sealed transmitter, HART communications		
-A	ATEX/CSA certified I.S.		
-U	FM/CSA certified I.S.		
/3	Fitted with 3m two core shielded cable		
/20	Fitted with 20m two core shielded cable		
/50	Fitted with 50m two core shielded cable		
MSP 900 SH -A /20 Typical model number			

Dimensions



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Electrical	
Supply voltage	12V dc to 40V dc (transmitter in non-hazardous area) 12V dc to 30V dc (transmitter in hazardous area, supplied from a protected supply)
Output	4–20mA HART Digital comms (Rev.5)
Cable size	Overall diameter 4.0mm, 2 cores each 0.22mm ²
Cable length	3,20 or 50m to order. May be extended or shortened on site.
Cable resistance	0.1 Ohm/m
Approvals	
ATEX coding	II 1 G EEx ia IIC
CSA	Ex ia IIC
FM	IS Class I Div 1 Gps A,B,C,D IS Class I Zone 0 AEx ia IIC
Temperature class	T4(Ta: -40°C to +60°C) T6(Ta: -40°C to +55°C)

Accessories and associated equipment

MSP-SUB2 Tubular shield which fits over transmitter to prevent fouling of transmit face if the transmitter is submerged.

MSP-HVD Head Verification Device for open channel flow applications to allow checking and certification of the transmitter. Supports a target plate at a fixed distance from the transmit face which may be swung under the transmitter to verify of transmitter accuracy. See data sheet IP267.

MCU900 Control units for MSP transmitters, providing comprehensive control functionality for pumps and alarms.

May also be used with any industrial 4-20mA or HART compatible transmitter. See data sheet IP2031 and IP2033 (logging versions)

Systems for the water industry Level and flow control systems designed for the water industry, featuring Mobrey ultrasonic and hydrostatic transmitters and MCU900 control units. See data sheet IP203.

Useful installation information is given in instruction leaflet IP2040/IM, and application and operating information for Mobrey systems is given in Quick-start booklets IP2040/QS, IP2041/QS & IP2042/QS, available on request.



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