

PRODUCT CONFORMITY CERTIFICATE

This is to certify that the

***MSP900FH-A (or Rosemount 3108) Level Transmitter
& MCU900 (or Rosemount 3490) Series Transmitter Control
Unit***

Manufactured by:

Rosemount Measurement Ltd

158 Edinburgh Avenue
Slough
SL1 4UE
UK

has been assessed by Sira Certification Service
and for the conditions stated on this certificate complies with:

**MCERTS Performance Standards for Continuous Water Monitoring
Equipment, Part 3, July 2018**

The combined performance characteristic (U_c , the expanded uncertainty) is **0.19%** (Class1)

Certification Ranges:

0 to 3m (nominal)

Project No.: 674/0329/70201484
Certificate No: Sira MC080131/08
Initial Certification: 04 November 2008
This Certificate issued: 17 March 2021
Renewal Date: 03 November 2023



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Environmental Project Engineer

MCERTS is operated on behalf of the Environment Agency by

Sira Certification Service

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*The MCERTS certificate consists of this document in its entirety.
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Certificate Contents

Approved Site Application.....	2
Basis of Certification	2
Product Certified.....	2
Certified Performance	3
Description.....	5
General Notes	6

Approved Site Application

Any potential user should ensure, in consultation with the manufacturer, that the monitoring system is suitable for the intended application. For general guidance on monitoring techniques refer to the Environment Agency Monitoring Technical Guidance Notes available at www.mcerts.net

The product is suitable for use, where it is appropriate, for regulated applications such as abstraction, effluent discharge, ultraviolet disinfection and industrial processing.

A three month field test was conducted on the final effluent discharge at a municipal waste water treatment plant.

Basis of Certification

This certification is based on the following Test Report(s) and on Sira's assessment and ongoing surveillance of the product and the manufacturing process:

Sira Evaluation Report 6740329 dated 22 June 2009

WRc report Number UC10234 dated July 2014

Product Certified

The MSP900FH-A (or Rosemount 3108) Level Transmitter & MCU900 (or Rosemount 3490) Series Transmitter Control Unit measuring system consists of the following parts:

- MSP900FH-A Level Transmitter or equivalent Rosemount 3108 Level Transmitter (with integral remote temperature probe MSP RTP)
- MCU900 Series Control Unit or equivalent Rosemount 3490 Series Control Unit

Emerson sun shield or equivalent (for applications where the transmitter/sensor is installed in direct sunlight).

This certificate applies to all instruments fitted with software version 3.30 onwards (serial number 702022 (sensor) and the 00206009 (control unit) onwards).

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Certified Performance

The instrument was evaluated for use under the following conditions:

Ambient Temperature Range: -25°C to +55°C

The instrument meets MCERTS Class 1 requirements for the combined performance characteristic as specified in Table 7 of the MCERTS performance standard. Details of individual performance characteristics are summarised below:

Results are expressed as error % of certification range, unless otherwise stated.

Test	Results expressed as % of the certification range				Other results	MCERTS specification
	<0.5	<1	<2	<5		
Protection against unauthorised access	A user defined 4 digit PIN can be used, preventing any changes to the default settings					Clause 3.1.2
Units of measurement	The indicating device and output are scaled in metric units					Clause 3.1.6
Indicating device	The flowmeter incorporates an indicating device, analogue and digital output signal					Clause 3.1.3
Flow computation	The flowmeter incorporates a facility for a user defined stage/discharge curve to be entered					Clause 3.1.11
Combined performance characteristic					Note 2 0.19%	Clause 4.2.1 ±0.2% Class 1
Mean error	-0.06					Clause 6.3.2 0.1% Class 1
Repeatability	0.03					Clause 6.3.2 0.05% Class 1
Resolution					0.1mm	Clause 3.1.15 <2mm Class 1
Supply voltage (18 to 30 V DC, 190 to 258 V AC)	<0.01					Clause 6.3.3 0.025% Class 1
Output impedance 50-1000Ω	<0.01					Clause 6.3.4 0.025% Class 1
Ambient air temperature -25°C to +55°C	-0.03					Clause 6.3.6 0.075% Class 2
Accuracy of computation	-0.02					Clause 6.3.11 0.025% Class 1
User defined stage-discharge equation	-0.06					Clause 6.3.12 0.075% Class 2

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Test	Results expressed as % of the certification range				Other results	MCERTS specification
	<0.5	<1	<2	<5		
Warm up time					The unit stabilises after energising within 2 minutes	Clause 6.1.2 To be reported
Loss of Power for electronic flowmeters	No changes in pre-set data				Clause 6.3.1 To be reported	<2.0%
Relative humidity	0.26				Note 3	Clause 6.3.6 0.25% Class 3
Direct solar radiation	0.13					Clause 6.3.10 0.15% Class 2
Response time					15s	Clause 6.3.19 <30 seconds
Error under field test conditions	Error range -0.59% to +0.04% Field test error is <0.2% for 61% of readings Field test error is <0.5% for 96% of readings					Clause 7.3 0.5% Class 2
Up time					100%	Clause 7.4 >95%
Maintenance					None	Clause 7.5 To be reported

Note 1: The following tests are not applicable to the flowmeter:

6.3.5	Fluid temperature	6.3.15	Ancillary devices
6.3.7	Incident light	6.3.16	Effect of conduit material
6.3.8	Sensor location	6.3.17	Effect of conduit size
6.3.9	Presence of stray currents	6.3.18	Fill level
6.3.13	Bi-directional flow		
6.3.14	Flow reversal		

Note 2: The combined performance characteristic reported is the root-sum-square addition of the maximum errors recorded in the following tests: mean error, repeatability, supply voltage, output impedance, ambient temperature, direct solar radiation and fluid temperature.

Note 3: Does not meet the MCERTS specification.

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Description

The Mobrey MSP900FH-A (Rosemount 3108) is a non-contact level measurement transmitter using an ultrasonic pulse echo technique to measure liquid level in open channels and tanks up to a measurement span of 3 metres. The transmitter is used to measure flow in conjunction with primary flow measuring devices such as weirs and flumes.

The transmitter is supplied in a fully encapsulated UPVC housing rated to IP68 and incorporates a remote temperature sensor that must be installed in a shaded area in the air space between the transmitter and the liquid surface. The remote temperature sensor accurately measures the ambient air temperature above the liquid surface and below the MSP900FH-A (Rosemount 3108) transmitter to correct for changes in the speed of sound due to changes in air temperature.

It is strongly recommended to install the MSP900FH-A (Rosemount 3108) on a rigid mounting platform or bracket to maintain flow measurement accuracy and repeatability. An optional Head Verification Device (MSP-HVD or Rosemount Pt No. 03107-7003-0005) is also available for mounting the transmitter and provides a retractable reference target plate for verifying the transmitter reading and uncertainty.

The MSP900FH-A (Rosemount 3108) provides a digital output signal (HART) to a remote control unit which may be a Mobrey MCU900 series control unit or a Rosemount 3490 series control unit. The MCU900 or Rosemount 3490 controller receives the level measurement value from the MSP900FH-A (Rosemount 3108) transmitter and converts this to the required flow output signal.

The MCU900/3490 control units incorporate pre-programmed flow equations to provide a flow display and analogue output proportional to flow. The control units also provide flow totalisers to display both cumulative and daily flow totals as well as five programmable relays (SPDT) which can be used to signal remote counters or flow sampling devices. A flow data logging version is available (MCU90F or Rosemount 3493) which can store up to 7000 flow values (logging interval 1 to 99 minutes, average flow) and stores 365 daily totals. Data download is via a PC Windows based software package supplied with the controller.

Programming the MCU900 or Rosemount 3490 control units is via a simple six key tactile keypad using an intuitive menu with programming “wizards” to assist with the simple set-up. Configuration of the system can be protected by the use of a user defined 4 digit PIN code for additional security.

General Notes

1. This certificate is based upon the equipment tested. The Manufacturer is responsible for ensuring that on-going production complies with the standard(s) and performance criteria defined in this Certificate. The Manufacturer is required to maintain an approved quality management system controlling the manufacture of the certified product. Both the product and the quality management system shall be subject to regular surveillance according to 'Regulations Applicable to the Holders of Sira Certificates'. The design of the product certified is defined in the Sira Design Schedule V06 for certificate No. Sira MC080131/05
2. If certified product is found not to comply, Sira Certification Service should be notified immediately at the address shown on this certificate.
3. The Certification Marks that can be applied to the product or used in publicity material are defined in 'Regulations Applicable to the Holders of Sira Certificates'.
4. This document remains the property of Sira and shall be returned when requested by the company.

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