

# PRODUCT CONFORMITY CERTIFICATE

This is to certify that the

***Detectronic UDFMFC Lite and remote temperature sensor***

manufactured by:

***Detectronic Ltd***  
*Regent Street*  
*Whitewalls Industrial Estate*  
*Colne*  
*Lancashire*  
*BB8 8LJ*

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

**MCERTS Performance Standards for Water Monitoring  
Equipment Part 3, Version 2.4 dated February 2013**

Certification Ranges :

0 to 3m (nominal)

Project No. : 16W22628  
Certificate No : Sira MC100171/03  
Initial Certification : 30 July 2010  
This Certificate issued : 12 February 2015  
Renewal Date : 02 September 2019

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Deputy Certification Manager

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.  
For conditions of use, please consider all the information within.*

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**Registered Office:** Rake Lane, Eccleston, Chester, UK CH4 9JN

*To authenticate the validity of this certificate please visit [www.siracertification.com/mcerts](http://www.siracertification.com/mcerts)*

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## 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](http://www.mcerts.net)*

The product may be used on all MCERTS applications including abstraction, effluent discharge, ultraviolet disinfection and industrial processing.

A field trial was conducted on the inlet to a works flume 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 6740363, dated 20 August 2009

## Product Certified

The measuring system consists of the following parts:

- Detectronic UDFMFC Lite controller
- Detectronic UDFMFC transducer
- Remote temperature sensor (PT100 Class B3)

This certificate applies to all instruments fitted with software version 7.1.9 onwards, serial number 267230 (FlowCERT Lite) and 105160 (dB3 transducer) onwards.

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## Certified Performance

The instrument was evaluated for use under the following conditions:

Ambient Temperature Range: -20°C to +50°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 % certification range, unless otherwise stated.

Test	Results expressed as error % of certification range				Other results	MCERTS specification
	<0.1	<0.2	<0.5	<1.5		
Protection against unauthorised access	The unit is password protected, with a user level and a service level					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	0.040					±0.2% Class 1 ±0.5% Class 2 ±1.5% Class 3 Table 7
Mean error	0.001					Clause 6.3.2 ±0.1% Class 1
Repeatability	0.002					Clause 6.3.2 0.05%
Resolution	0.017					Clause 3.1.15 <2mm Class 1
Supply voltage	0.014				22-28 V dc 100-110 V ac 200-240 V ac	Clause 6.3.3 0.025% Class 1
Output impedance	0.002				50-500Ω	Clause 6.3.4 0.025% Class 1
Ambient air temperature	0.006				-20 to +50 <sup>0</sup> C	Clause 6.3.6 0.025% Class 1 0.075% Class 2 0.25% Class 3
Accuracy of computation	0.026					Clause 6.3.11 0.025% Class 1 0.075% Class 2 0.25% Class 3
					result not included in	Clause 6.3.12

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Test	Results expressed as error % of certification range				Other results	MCERTS specification
	<0.1	<0.2	<0.5	<1.5		
User defined stage-discharge equation	0.004				combined performance characteristic	0.025% Class 1 0.075% Class 2 0.25% Class 3
Warm up time	the unit stabilises after energising within 60 seconds					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
Relative humidity	0.006				result not included in combined performance characteristic	Clause 6.3.6 0.025% Class 1 0.075% Class 2 0.25% Class 3
Sonic velocity compensation and response					Note 1	Clause 6.3.10
Response time					<25s	Clause 6.3.19 <30 seconds
Error under field test conditions	error range -0.15% to +0.10% field test error is <0.2% for 100% of readings					Clause 7.3 0.2% Class 1 0.5% Class 2 1.5% Class 3
Up time					100%	Clause 7.4 >95%
Maintenance					none	Clause 7.5 to be reported

Note 1: Detectronic UDFMFC Lite is always fitted with an external temperature probe for temperature compensation. Therefore, this test was not considered to be applicable.

Note 2: 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	6.3.20 Vibration
6.3.14 Flow reversal	

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## Description

The Detectronic UDFMFC Lite open channel controller has five volt free contacts for use as flow or level alarms, control functions, or assignable to pulse by volume or time units for remote recording or sampler operation. The controller is housed in a polycarbonate IP65 enclosure has an isolated mA output proportional to 'flow rate', and an RS232 connection for parameter upload and downloading through a PC should it be required. Easy prompt led set up, with preset worldwide weirs and flumes configured, and it offers a 32 point linearisation to suit head / flow calculations. Internally there are 2 totalisers, one non-resettable, the other being resettable in the field if needed.

Other communication options are Modbus or Profibus V0 or V1 via 485 connection and optional 256 kb flexible bulk data logging should it be required.

The non-contacting Detectronic UDFMFC transducer uses 125 kHz pulses to measure liquid level to a depth of 3m from the transducer face. The narrow beam angle transducer is IP68 ATEX EEx m certified and can be separated by up to 1000m from the Detectronic UDFMFC Lite controller.

A remote temperature sensor (PT100 Class B3) is to be fitted in a shaded area between the transducer face and the liquid being measured. This measures the ambient air temperature, to allow correction in the Detectronic UDFMFC Lite for 'speed of sound changes' resulting from sensed changes in air temperature.

## 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 for certificate No. Sira MC MC090155/03
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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