

# PRODUCT CONFORMITY CERTIFICATE

This is to certify that the

## ***Turbi-Tech 2000LS Sensor & 7200 Monitor Continuous Turbidity Monitoring System***

Manufactured by:

### ***Partech Instruments***

*Charlestown  
St Austell  
Cornwall  
PL25 3NN  
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 Systems, Version 3.1 dated August 2010**

Certification Ranges :

Turbidity	0 to 50 FTU/NTU
	0 to 500 FTU/NTU

Project No. : 16W26040  
Certificate No : Sira MC060083/03  
Initial Certification : 18 October 2006  
This Certificate issued : 11 December 2013  
Renewal Date : 17 October 2016

R Cooper | Eng MInst MC  
Technical Director

MCERTS is operated on behalf of the Environment Agency by

## **Sira Certification Service**

12 Acorn Industrial Park, Crayford Road, Crayford  
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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)*

## 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)*

On the basis of the assessment this instrument is considered suitable for use on treated wastewater, untreated wastewater and receiving water applications.

Field test: The Turbi-Tech 2000 Sensor & 7200 Monitor was assessed on the basis of a three month field trial installed on an urban river application.

## 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:

Environment Agency Warrington	Report Ref: EA-MCERTS-004 V2 dated September 2006
Environment Agency Warrington	Report Ref: EA-MCERTS-005 V1 dated September 2006
Environment Agency Warrington	Report Ref: EA-MCERTS-015 (TR-11) Issue 2 dated September 2012

## Product Certified

The Turbidity Monitoring system consists of the following parts:

- Turbi-Tech 2000LS Sensor
- 7200 Monitor

This certificate applies to all Turbi-tech 2000LS Sensors fitted with software version 1.10 onwards (serial number 1508 onwards). This certificate applies to all 7200 Monitors fitted with software version 1.31 onwards (serial number 1241 onwards).

## Certified Performance

The instrument was evaluated for use under the following conditions:  
Ambient Temperature Range: 0°C to +50°C

Results are expressed as a percentage of the certification range 0 to 50FTU, unless otherwise stated.

Test	Results expressed as expanded uncertainties as a % of the certification range				Other results	MCERTS specification
	<0.5	<1	<2	<4		
Combined performance characteristic			2.22			<2.5%
Mean error						
Turbidity		0.99				<2%
Turbidity (0 to 500FTU range)		-0.58				<2%
Linearity						
Turbidity	0.45					<1%
Turbidity (0 to 500FTU range)				2.38	Note 1	<1%
Repeatability						
Turbidity	0.37					<1%
Turbidity (0 to 500FTU range)		0.96				<1%
Drift	<1.00					<1%
Response time					<10 secs	To be reported
Output impedance	0.10					<0.5%
Supply Voltage	0.12					<0.5%
Loss of supply					Pass	To be reported
Sample temperature		0.86				<1%
Ambient temperature		0.82				<1%
Relative humidity			1.02		Note 2	<1%
Colour interference		1.00				To be reported

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Test	Results expressed as expanded uncertainties as a percentage of the certification range				Other results	MCERTS specification
	<0.5	<1	<2	<4		
Incident light	0.16					<1%
Up-time					99.9%	To be reported
Response time in the field :						
Initial at average reading of 10 NTU (start of field test)					13.3 s	To be reported
Final at average reading of 10 NTU (end of field test)					15 s	To be reported
Response time in the field:						
Initial at average reading of 40 NTU (start of field test)					10 s	To be reported
Final at average reading of 40 NTU (end of field test)					10 s	To be reported
Field test error					90.3%	To be reported

Note 1: The maximum deviation due to linearity was within the measurement uncertainty.

Note 2: Test uncertainty has been considered.

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## Description

The Turbidity Monitoring System consists of the 7200 Monitor, which manages the functions of the Turbi-Tech 2000LS sensor, provides the user interface, local display and telemetry output signals. The system monitors turbidity levels in the ranges 0-50 FTU/NTU to 0-500 FTU/NTU. The system can also be configured to measure extended ranges and Suspended solids where dictated by the application.

The Turbi-Tech 2000LS Sensor is enclosed in IP68 housing and comprises of an 860nm infrared light source operating on the industry standard 90° light-scatter principle. The optical part of the sensor uses two precision Pyrex glass tubes and incorporates a fully automatic self-cleaning function.

The Turbidity Monitoring System is calibrated by placing the Turbi-Tech 200LS Sensor in a standard Formazin reference solution. During the calibration procedure the level of light scattered by the Formazin solution is recorded by the 7200 Monitor and is converted into engineering units for display and transmission via the system telemetry signals. Calibration of the system is required during commissioning and then at regular intervals during operation.

## 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 060083/02
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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