

PRODUCT CONFORMITY CERTIFICATE

This is to certify that the

***IQ SENSOR NET 182, 182 XT & 182 XT-4 Controller Unit
FDO 700 IQ Optical Dissolved Oxygen Probe
VisoTurb 700 IQ Turbidity Probe***

Manufactured by:

Xylem Analytics Germany GmbH

Dr.-Karl-Slevogt-Straße 1
D-82362 Weilheim
Germany

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 2: online analysers, Version 3.1 dated August 2010**

Certification Ranges :

DO	0 to 20mg/L / 0 to 200% sat
Turbidity	0 to 100 NTU 0 to 500 NTU

Project No.: 16W31523
Certificate No: Sira MC150280/01
Initial Certification: 21 October 2015
This Certificate issued: 01 July 2016
Renewal Date: 21 October2020

Joe Prince MSc, MInst MC
Deputy Certification Manager

MCERTS is operated on behalf of the Environment Agency by

Sira Certification Service

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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

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

Field trial was conducted on an aeration lane of a wastewater treatment works for 3 months.

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:

WRc report UC10125.01 October 2014
 WRc report P9719 March 2014
 WRc report UC10125.02 February 2015

Product Certified

The measuring system consists of the following parts:

- IQ SensorNet 182, 182 XT & 182 XT-4 Terminal/Controller
- FDO 700 IQ sensor and/or VisoTurb 700 IQ sensor

This certificate applies to all instruments fitted with software version and serial number onwards:

• DIQ/S 182	Serial No:	05050002	Software Ver:	3.54
• DIQ/S 182-XT	Serial No:	05470821	Software Ver:	3.54
• DIQ/S 182 XT-4	Serial No:	08320160	Software Ver:	3.54
• FDO 700 IQ	Serial No:	06440003	Software Ver:	2.27
• VisoTurb IQ	Serial No:	04210008	Software Ver:	2.54

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Certified Performance

The instrument was evaluated for use under the following conditions:

Ambient Temperature Range: -20°C to +55°C

Unless otherwise stated the evaluation was carried out on the certification ranges: DO 0 to 20mg/L, turbidity 0 to 100 NTU

Test	Results expressed as % of the reading				Other results	MCERTS specification
	<0.5	<1	<2	<5		
Combined performance characteristic						
DO				3.39		6% reading
Turbidity			1.83			2.5% span
Warm up time						
DO					23s	Value to be reported
Turbidity					25s	
Response time						
DO					270 seconds	Value to be reported
Turbidity					3 seconds	
Mean error						
DO			-1.9			5% reading
Turbidity (0 to 100 NTU)			1.8			2% span
Turbidity (0 to 500 NTU)			1.3			2% span
Linearity						
DO			1.23			2.5% reading
Turbidity (0 to 100 NTU)	-0.18					1% span
Turbidity (0 to 500 NTU)	0.35					1% span

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Test	Results expressed as % of the reading				Other results	MCERTS specification
	<0.5	<1	<2	<5		
Repeatability						
DO				2.18		2.5% reading
Turbidity (0 to 100 NTU)	0.09					1% span
Turbidity (0 to 500 NTU)	0.25					1% span
Sample matrix effects						
DO (salinity compensation)		0.6				2.5% reading
Turbidity (colour effects)			1.8			-
Drift						
DO			1.1			2.5% reading
Turbidity		-0.54				1% span
Output impedance (10 to 500Ω)						
DO					No effect	1% reading
Turbidity					No effect	0.5% span
Supply voltage AC (100V to 240V)						
DO	0.25					1% reading
Turbidity	0.13					0.5% span
Supply voltage DC (21.01V to 28.01V)						
DO	-0.25					1% reading
Turbidity	-0.5					0.5% span
Ambient temperature (-20°C to +55°C)						
DO		0.96				2.5% reading
Turbidity		0.52				1% span

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Test	Results expressed as % of the reading				Other results	MCERTS specification
	<0.5	<1	<2	<5		
Relative humidity (95% RH)						
DO	0.37					2.5% reading
Turbidity	0.06					1% span
Incident light						
DO	-0.24					1% reading
Turbidity	0.00					1% span
Sample temperature (3°C to 30°C)						
DO		0.73				2.5% reading
Turbidity	0.11					1% span
Sample flow rate						
DO	0.14					1% reading
Turbidity	0.25					0.5% span

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Field test results

Test	Results expressed as % of the reading				Other results	MCERTS specification
	<0.5	<1	<2	<5		
Error under field conditions DO Turbidity					90% 100%	>90% of errors ≤ Uc value
Response time DO Turbidity					10 minutes 58 seconds	To be reported
Up time					100%	>95%
Maintenance	None					To be reported

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Description

IQ SENSOR NET 182, 182 XT & 182 XT-4 Controller

The IQ SENSOR NET 182, 182 XT or 182 XT-4 is a modular digital system which allows up to 4 IQ sensors to be installed on a single network to provide a complete monitoring solution from inlet to final effluent.

- Connect 1-4 digital sensors for a variety of parameters
- 2-wire cable provides power and communications
- System wide lightning protection
- Analogue and digital outputs including PROFIBUS, MODBUS, RS-232
- LED status update

FDO 700 IQ

The FDO is an optical, luminescent based DO sensor for the IQ SensorNet system. During the biological nutrient removal process at wastewater treatment plants, continuous and precise measurement of dissolved oxygen concentration is of vital importance for optimal performance and trouble-free operation.

VisoTurb 700 IQ

The VisoTurb is a part of a family of optical sensors for turbidity and suspended solids measurements. These sensors incorporate an ultrasonic cleaning system. Turbidity measurements are carried out using a nephelometric principle. The best resolution for each measured value can be selected using an autorange function. Thus, one sensor is required to cover applications ranging from drinking water to highly concentrated sludge.

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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 V00 for certificate No. Sira MC150280/01
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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