



1 **EC TYPE-EXAMINATION CERTIFICATE**

2 Equipment intended for use in Potentially Explosive Atmospheres Directive 94/9/EC

3 Certificate Number: **Sira 16ATEX2048** Issue: **0**

4 Equipment: **Sentro Humidity Sensor type TX6356.01.****

5 Applicant: **Trolex Limited**

6 Address: **10a Newby Road
Hazel Grove
Stockport
Cheshire
SK7 5DY**

7 This equipment and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

8 Sira Certification Service, notified body number 0518 in accordance with Article 9 of Directive 94/9/EC of 23 March 1994, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in the confidential reports listed in Section 14.2.

9 Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the schedule to this certificate, has been assured by compliance with the following documents:

EN 60079-0:2012/A11:2013 EN 60079-11:2012

The above list of documents may detail standards that do not appear on the UKAS Scope of Accreditation, but have been added through Sira's flexible scope of accreditation, which is available on request.

10 If the sign 'X' is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the schedule to this certificate.

11 This EC type-examination certificate relates only to the design and construction of the specified equipment. If applicable, further requirements of this Directive apply to the manufacture and supply of this equipment.

12 The marking of the equipment shall include the following:



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Project Number 70055144

C Ellaby
Deputy Certification Manager

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Sira Certification Service
Unit 6, Hawarden Industrial Park,
Hawarden, CH5 3US, United Kingdom



SCHEDULE

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13 DESCRIPTION OF EQUIPMENT

The Sentro Humidity Sensor type TX6356.01.** monitors relative humidity within the range 10% to 90%. The equipment consists of a Sentro Base Unit and a Humidity rModule that plugs into a module receptacle housing inside the Sentro Base Unit. A Humidity Sensor Head is mounted external to the Sentro Base Unit, it being attached via a M20 gland entry in the Sentro Base Station Unit enclosure. The Humidity rModule and the Humidity Sensor Head are interconnected via an adapter cable.

The Sentro Humidity Sensor has the option of the following output PCB's to form the following equipment versions:

Type	Output PCB
TX6356.01.01	4-20mA 4 Wire Option Comms/Analogue Output
TX6356.01.02	0.4-2V Option Comms/Analogue Output
TX6356.01.03	5-15Hz Option Relay PCB
TX6356.01.04	RS485 Option Comms/Analogue Output
TX6356.01.05	Dual Relay Normally Closed
TX6356.01.06	Dual Relay Normally Open

The Sentro Humidity Sensor has the following Intrinsic Safety Parameters:

Model	Field Screw Terminals	Input Parameters					Output Parameters				
		Ui	Ii	Ci	Li	Pi	Uo	Io	Po	Co	Lo
TX6356.01.01 (4..20mA)	5 wrt 6	14.4V	*1	0	0	-	-	-	-	-	-
	1 wrt (2 or 3)	-	-	-	-	-	14.4V	477mA	1.72W	*3	2.1mH
TX6356.01.02 (0.4..2V)	5 wrt 6	14.4V	*1	0	0	-	-	-	-	-	-
	1 wrt (2 or 3)	-	-	-	-	-	14.4V	40mA	135mW	*3	292mH
TX6356.01.03 (5-15Hz)	5 wrt 6	14.4V	*1	0	0	-	-	-	-	-	-
	1 wrt 2	16.5V	-	0	0	2.5W	0	0	0	0	0
TX6356.01.04 (RS485)	5 wrt 6	14.4V	*1	0	0	-	-	-	-	-	-
	1 wrt 2	6.88V	*1	0	0	-	5.88V	66mA	97mW	*3	26mH
	2 wrt 3	-	-	-	-	-	-	-	-	-	-
TX6356.01.05 (Dual Relay Normally Closed)	5 wrt 6	14.4V	*1	0	0	-	-	-	-	-	-
	1 wrt 2	30V	*1	0	0	-	0	0	0	0	0
	3 wrt 4	30V	*1	0	0	-	0	0	0	0	0
TX6356.01.06 (Dual Relay Normally Open)	5 wrt 6	14.4V	*1	0	0	-	-	-	-	-	-
	1 wrt 2	30V	*1	0	0	-	0	0	0	0	0
	3 wrt 4	30V	*1	0	0	-	0	0	0	0	0

*1 – Ii : Not critical.

*2 – Lo : Is calculated using the $1/2Lo(Io*1.5)^2=525\mu J$.

*3 – Co : $1\mu F$, unless the conditions stated in EN 60079-11:2012, Clause 10.1.5.2 part b can be satisfied.

14 DESCRIPTIVE DOCUMENTS

14.1 Drawings

Refer to Certificate Annexe.

14.2 Associated Sira Reports and Certificate History

Issue	Date	Report number	Comment
0	25 February 2016	R70055144A	The release of the prime certificate.

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Hawarden, CH5 3US, United Kingdom



SCHEDULE

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- 15 **SPECIAL CONDITIONS FOR SAFE USE** (denoted by X after the certificate number)
- 15.1 None
- 16 **ESSENTIAL HEALTH AND SAFETY REQUIREMENTS OF ANNEX II (EHSRs)**
- The relevant EHSRs that are not addressed by the standards listed in this certificate have been identified and individually assessed in the reports listed in Section 14.2.
- 17 **CONDITIONS OF CERTIFICATION**
- 17.1 The use of this certificate is subject to the Regulations Applicable to Holders of Sira Certificates.
- 17.2 Holders of EC type-examination certificates are required to comply with the production control requirements defined in Article 8 of directive 94/9/EC.

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Certificate Annexe



Certificate Number: Sira 16ATEX2048
 Equipment: Sentro Humidity Sensor type TX6356.01.**
 Applicant: Trolex Limited

Issue 0

Drawing No.	Sheets	Rev.	Date (Sira Stamp)	Title
P5536-103	1 of 1	A	22 Feb 16	Relay Certification Details
P5536-104	1 to 5	A	08 Feb 10	Relay Encapsulation Details
P5536.202	1 to 2	E	30 Apr 14	Circuit Diagram Control PCB (Group I Build)
P5536.204	1 to 2	B	22 Feb 16	Circuit Diagram Display PCB (Group I Build)
P5536.205	1 of 1	C	22 Feb 16	PCB, Display
P5536.225	1 to 2	D	22 Feb 16	Circuit Diagram 4-20mA Loop Powered Output PCB (Group I Build)
P5536.276	1 to 5	A	22 Feb 16	Circuit Diagram Master Analogue/Comms Output PCB (Alternative Build)
P5536.277	1 of 1	A	22 Feb 16	PCB, Analogue/Comms Output (Alternative Build)
P5536.278	1 to 4	A	22 Feb 16	Circuit Diagram Master 5-15Hz/Relay Output PCB (Alternative Build)
P5536.279	1 of 1	A	22 Feb 16	PCB, 5-15Hz/Relay Output (Alternative Build)
P5553.21	1 of 1	B	01 Sep 10	PCB Connector Board
P5553.29	1 to 2	C	22 Feb 16	Circuit Diagram Signal Conditioning CPU Board (Group I)
P5553.30	1 of 1	B	01 Sep 10	PCB, Signal Conditioning CPU Board
P5553.174	1 to 2	A	22 Feb 16	Circuit Diagram 0.4V-2V Humidity Input Module Base PCB (Group I)
P5553.175	1 of 1	A	22 Feb 16	PCB, Humidity I/P Module Baseboard
P5553.176	1 of 1	A	22 Feb 16	0.4-2V Humidity Input rModule Block Diagram
P5553-177	1 of 1	B	22 Feb 16	General Arrangement
P5559.203	1 of 1	B	22 Feb 16	PCB, Control
P5559.212	1 of 1	B	22 Feb 16	PCB, Connector
P5559.226	1 of 1	C	22 Feb 16	PCB, Loop Powered 4-20mA/2-Wire
P5597.01	1 to 2	B	22 Feb 16	Certified Circuit Diagram Humidity Sensor Module
P5597.02	1 of 1	A	22 Feb 16	rModule Interconnections Humidity Sensor Head
P5597.03	1 of 1	B	22 Feb 16	PCB, Humidity Sensor Module
P5597.21.ATEX	1 of 1	A	22 Feb 16	General Arrangement Transmitter
P5597.2019	1 of 1	A	22 Feb 16	Certification Markings ATEX Main Enclosure
P5597.2020	1 of 1	A	22 Feb 16	Certification Markings ATEX rModule
P5597.2021	1 of 1	A	24 Feb 16	Certification Markings ATEX Sensor Head

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