

**Type Examination Certificate CML 23UKEX4530X Issue 0****United Kingdom Conformity Assessment**

- 1 Product or Protective System Intended for use in Potentially Explosive Atmospheres UKSI 2016:1107 (as amended)
- 2 Equipment **Signal Conditioner (5580, SW5580)**
- 3 Manufacturer **Metrix Instrument Co. LP**
- 4 Address **8824 Fallbrook  
Houston, Texas 77064  
United States of America**

- 5 The equipment is specified in the description of this certificate and the documents to which it refers.
- 6 Eurofins E&E CML Limited, Newport Business Park, New Port Road, Ellesmere Port, CH65 4LZ, United Kingdom, 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 Schedule 1 of the Regulations.

The examination and test results are recorded in the confidential reports listed in Section 12.


- 7 If an 'X' suffix appears after the certificate number, it indicates that the equipment is subject to specific conditions of use (affecting correct installation or safe use). These are specified in Section 14.
- 8 This Type Examination certificate relates only to the design and construction of the specified equipment. Further requirements of the Regulations apply to the manufacturing process and supply of the product. These are not covered by this certificate.
- 9 Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the confidential report, has been demonstrated through compliance with the following documents:

EN IEC 60079-0:2018

EN 60079-7:2015+A1:2018

EN IEC 60079-15:2019

- 10 The equipment shall be marked with the following:

 II 3 G

Ex ec nC IIC T4 Gc

5580 model :  $-40^{\circ}\text{C} \leq T_a \leq +85^{\circ}\text{C}$

SW5580 model:  $-40^{\circ}\text{C} \leq T_a \leq +65^{\circ}\text{C}$





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## 11 Description

The Signal Conditioner (5580, SW5580) consists of two models, the 5580 and the SW5580. The 5580 is a DIN rail mounted smart vibration signal conditioner and consists of a non-metallic enclosure containing PCBs. The SW5580 is similar to 5580, but each channel of the SW5580 comes with two relays, either dry contacts or solid-state relay contacts, that can be configured for alarm level and time delay. The primary protection concept for this equipment is Ex ec, while the relays are assessed as Ex nC.

The 5580 and SW5580 receive signals from velocity sensors, accelerometers, or shaft observing proximity probe systems to produce a 4-20 mA output proportional to the measured variable and an amplified raw signal. This allows for a configurable signal input type for one or two independent channels plus a configurable scaling output either to peak or RMS units. For each channel, a green LED indicates sensor and cable integrity. In the event of sensor failure, the LED changes to red and the output currents driven below 3.6 mA, thereby signalling a malfunction. A BNC connector gives access to the raw input signal for local analysis. A built-in 4 digit LCD display is used to display both dynamic input and 4-20 mA output signal. Isolation is provided between input, outputs and supply.

### Notes:

- ITS21UKEX0213X is superseded by this certificate.
- The product covered by Issue 0 of this certificate remains identical to that previously covered by ITS21UKEX0213X.
- Where ITS21UKEX0213X is specified in other product certification, or other technical specifications, this certificate reference for the product shall be used in its place; updating of the other product certificate or technical specification is not required.

## 12 Certificate history and evaluation reports

Issue	Date	Associated report	Notes
0	07 Jun 2024	R17124A/00	Issue of Prime Certification

Note: Drawings that describe the equipment are listed in the Annex.

## 13 Conditions of Manufacture

None.

## 14 Specific Conditions of Use

- Equipment shall be installed in an ATEX/ IECEx Ex certified enclosure, in accordance with EN 60079-0. The enclosure shall provide a minimum ingress protection of IP54. The equipment must be mounted on a vertical or horizontal rail within the enclosure.
- The maximum internal equipment surface temperature, measured according to EN 60079-0, Clause 26.5.1, is as follows.

Product	Thermal rise	Ambient	Required Enclosure Service Temperature range
SW5580	27K	-40°C to +65°C	-40°C to +92°C min
5580	27K	-40°C to +85°C	-40°C to +112°C min



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The end user must verify that the enclosure in which this equipment is installed is suitably rated for the service temperature range per the table above.

- iii. Coaxial connections are provided for the access to the input signal reference circuit ground. Care shall be taken whilst installing the equipment to ensure a dielectric isolation of 500Vrms is maintained as per EN 60079-7 Clause 6.1.
- iv. The equipment shall only be used in an area of at least pollution degree 2, as defined in IEC 60664-1.
- v. Transient protection shall be provided on the supply to limit transients to 33.6VDC maximum.

## Certificate Annex

**Certificate Number** CML 23UKEX4530X  
**Equipment** Signal Conditioner (5580, SW5580)  
**Manufacturer** Metrix Instrument Co. LP



The following documents describe the equipment defined in this certificate:

### Issue 0

Drawing No	Sheets	Rev	Approved date	Title
100995-AGENCY	1 to 2	B	31 May 2024	PARTS LIST, ANALOG PCB, 5580, SIGNAL CONDITIONER, AGENCY
100998-AGENCY	1 of 1	A	31 May 2024	PARTS LIST, DIGITAL PCB, 5580, SIGNAL CONDITIONER, RoHS, AGENCY
101050-AGENCY	1 to 2	B	31 May 2024	PARTS LIST, ASSY, INTERCONNECT PCB, 5580, SIGNAL CONDITIONER, RoHS, AGENCY
101051-AGENCY	1 to 2	B	31 May 2024	PARTS LIST, ASSY, INTERCONNECT PCB, SW5580, SOLID STATE SWITCHES, RoHS, AGENCY
101004-AGENCY	1 to 2	B	31 May 2024	PARTS LIST, INTERCONNECT PCB, SW5580, ELECTROMECHANICAL RELAYS, SWITCH, AGENCY
101001-AGENCY	1 to 2	B	31 May 2024	PARTS LIST, FRONT PCB, 5580, SIGNAL CONDITIONER, AGENCY
100993-AGENCY	1 to 6	B	31 May 2024	Analog BOARD-AGENCY
100996-AGENCY	1 to 7	A	31 May 2024	SCH, DIGITAL PCB, 5580, SIGNAL CONDITIONER, RoHS, AGENCY
101002-AGENCY	1 to 2	B	31 May 2024	INTERCONNECT BOARD, AGENCY
100999-AGENCY	1 of 1	B	31 May 2024	Front Panel-AGENCY
1899675	1 to 8	B	31 May 2024	5580 Smart Vibration Signal Conditioner & SW5580 Dual Channel Configurable Switch Datasheet
101031-XXX-AGENCY	1 to 2	C	31 May 2024	SIDE LABEL, AGENCY APPROVALS, SIGNAL CONDITIONER, 5580 & SMART SWITCH, SW5580, AGENCY



**The following pages are the prior revisions of this certificate.**

# TYPE EXAMINATION CERTIFICATE

Product or Protective Systems Intended for Use in Potentially Explosive Atmospheres  
UKSI 2016:1107 (as amended)

1. **Type Examination Certificate Number:** ITS21UKEX0213X
2. **Product:** Signal Conditioner (5580, SW5580)
3. **Manufacturer:** Metrix Instruments Co. LP
4. **Address:** 8824 Fallbrook Drive  
Houston, TX 77064-4855  
USA
5. This product and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.
6. Intertek Testing and Certification Limited, certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of the products intended for use in potentially explosive atmospheres given in Schedule 1 of UKSI 2016:1107 (as amended).

The examination and test results are recorded in the confidential report 104621114DAL-002.

7. Compliance with the Essential Health and Safety Requirements has been assured by compliance with EN IEC 60079-0:2018, EN 60079-7:2015+A1:2018 and EN 60079-15:2019 except in respect of those requirements referred to within item 14 of the Schedule
8. If the sign "X" is placed after the certificate number, it indicates that the product is subject to the special conditions of use specified in the Schedule to this certificate.
9. This Type Examination Certificate relates only to the design of the specified product and not to specific items subsequently manufactured.
10. The marking of the product shall include the following:



II 3 G Ex ec nC IIC T4 Gc

5580 model:  $-40^{\circ}\text{C} \leq \text{Ta} \leq +85^{\circ}\text{C}$

SW5580 model:  $-40^{\circ}\text{C} \leq \text{Ta} \leq +65^{\circ}\text{C}$

**Certification Officer:**   
Todd L. Relyea

**Date:** 26 July 2021

METRIX DOC NO: 1915574  
REV: A

## SCHEDULE:

TYPE EXAMINATION CERTIFICATE NUMBER ITS21UKEX0213X

### 11. Description of Equipment or Protective System

The products covered by this report are DIN rail mounted smart vibration signal conditioners and switch (SW5580 model only) from Metrix. The SW5580 is similar to 5580, but each channel comes with two relays either dry contacts or solid state relay contacts that can be configured for alarm level and time delay.

They have been designed to accept signals from machine casing mounted velocity sensors, accelerometers or shaft observing proximity probe systems and produce a 4-20 mA output proportional to the measured variable and an amplified raw signal. It provides the user with a configurable signal input type for one or two independent channels plus a configurable feature to scale output either to peak or RMS units. For each channel, a green LED indicates sensor and cable integrity. In the event of sensor failure, the LED changes to red and the output current is driven below 3.6 mA, thereby signaling a malfunction. A BNC connector gives access to the raw input signal for local analysis. A built-in 4-digit LCD display is used to display both dynamic input and 4-20 mA output signal. Isolation is provided between input, outputs and supply.

### 12. Report Number

Intertek Report: 104621114DAL-002 Dated: 07-07-2021.

### 13. Conditions of Certification

#### (a). Special Conditions of Use

- The maximum internal equipment surface temperature measured according test conducted per Clause 26.5.1 IEC/EN/UL/CSA 60079-0 Standard was 91.84°C (@ 65°C ambient) for SW5580 model and 111.84°C (@ 85°C ambient) for 5580 model. End user must verify that the enclosure in which this equipment is installed is suitably rated for service per these temperatures.
- Equipment shall be installed in an Ex certified enclosure that is tool secured which provides a minimum ingress protection of IP54. The equipment must be mounted on a vertical or horizontal rail within the enclosure.
- Coaxial connections provided for the access to the input signal reference circuit ground. Care shall be taken whilst installing the equipment to ensure a dielectric isolation of 500Vrms is maintained.
- The equipment shall only be used in an area of at least pollution degree 2, as defined in IEC 60664-1.
- Transient protection shall be provided on the supply to limit transients not to exceed 33.6VDC.

#### (b). Conditions of Manufacture - Routine Tests

- None

METRIX DOC NO: 1915574  
REV: A

#### 14. Essential Health and Safety Requirements (EHSRs)

The relevant Essential Health and Safety Requirements (EHSRs) affected by this variation have been identified and assessed in Intertek Report: 104621114DAL-002 Dated: 07-07-2021.

#### 15. Drawings and Documents

Title:	Drawing No.:	Rev. Level:	Date:
PARTS LIST, ANALOG PCB, 5580, SIGNAL CONDITIONER, AGENCY	100995-AGENCY	B	05/11/2021
PARTS LIST, DIGITAL PCB, 5580, SIGNAL CONDITIONER, RoHS, AGENCY	100998-AGENCY	A	10/26/2020
PARTS LIST, ASSY, INTERCONNECT PCB, 5580, SIGNAL CONDITIONER, RoHS, AGENCY	101050-AGENCY	B	05/11/2021
PARTS LIST, ASSY, INTERCONNECT PCB, SW5580, SOLID STATE SWITCHES, RoHS, AGENCY	101051-AGENCY	B	05/11/2021
PARTS LIST, INTERCONNECT PCB, SW5580, ELECTROMECHANICAL RELAYS, SWITCH, AGENCY	101004-AGENCY	B	05/11/2021
PARTS LIST, FRONT PCB, 5580, SIGNAL CONDITIONER, AGENCY	101001-AGENCY	B	05/11/2021
Analog BOARD-AGENCY	100993-AGENCY	B	05/11/2021
SCH, DIGITAL PCB, 5580, SIGNAL CONDITIONER, RoHS, AGENCY	100996-AGENCY	A	07/23/2020
INTERCONNECT BOARD, AGENCY	101002-AGENCY	B	05/11/2021
Front Panel-AGENCY	100999-AGENCY	B	05/11/2021
5580 Smart Vibration Signal Conditioner & SW5580 Dual Channel Configurable Switch Datasheet	1899675	B	June 2021
Installation Manual	1874512	B	June 2021
SIDE LABEL, AGENCY APPROVALS, SIGNAL CONDITIONER, 5580 & SMART SWITCH, SW5580, AGENCY	101031-XXX-AGENCY	B	06/08/2021

*Note: An \* is included before the title of documents that are new or revised.*

#### 16. Details of Certificate changes

N/A

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