



## EU Type Examination Certificate CML 22ATEX2668X Issue 0

- 1 Equipment intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU
- 2 Equipment **MS8000UT-HRT/ISA & MS800XUT-HRT/ISA (X- Number of Sensor o/p Channels)**
- 3 Manufacturer **Metal Samples Company (a Division of Alabama Specialty Products Inc)**
- 4 Address **152 Metal Samples Road, Munford,  
AL 36268, USA**

- 5 The equipment is specified in the description of this certificate and the documents to which it refers.
- 6 CML B.V., Chamber of Commerce No 67386717, Koopvaardijweg 32, 4906CV Oosterhout, The Netherlands, Notified Body Number 2776, in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, 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 12.

- 7 If an 'X' suffix appears after the certificate number, it indicates that the equipment is subject to conditions of safe use (affecting correct installation or safe use). These are specified in Section 14.
- 8 This EU Type Examination certificate relates only to the design and construction of the specified equipment or component. Further requirements of Directive 2014/34/EU Article 13 apply to the manufacture of the equipment or component and are separately certified.
- 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 60079-11:2012

- 10 The equipment shall be marked with the following:

MS8000UT-HRT/ISA

MS800XUT-HRT/ISA (X- Number of Sensor o/p Channels)



II 1 G

Ex ia IIC T4 Ga



II 1 G

Ex ia IIC T4 Ga

Ambient range:

With Battery packs ET2812:  $-40^{\circ}\text{C} \leq T_a \leq +70^{\circ}\text{C}$

With Battery packs ET2830:  $-40^{\circ}\text{C} \leq T_a \leq +50^{\circ}\text{C}$



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## 11 Description

The MS8000UT-HRT/ISA & MS800XUT-HRT/ISA (X - Number of Sensor o/p Channels) are battery powered thickness monitoring devices. Readings of the subject are made over time using an ultrasonic sensor to determine the rate of degradation. The data is transmitted via wireless using a HART or ISA communication protocol to the safe area.

The boards have the following output connections for maintenance which have the following parameters.

Host board Port J6	Host board Port J7	Measurement board P5
HART Modem	Maintenance Port	Setup Port
Uo = 5.88 V Io = 0.98 A Po = 0.972 W Ci = 3 uF Li = 44.7 uH	Uo = 5.88V Io = 0.002 A Po = 0.003 mW Ci = 0 Li = 0	Uo = 5.88 V Io = 0.001 A Po = 0.001 W Ci = 0 uF Li = 0 uH

The MS8000UT-HRT/ISA & MS800XUT-HRT/ISA has the following sensor outputs with the following parameters:

Single channel	Multi Channel	
Probe & Thermocouple	Thermocouple	Probe
Uo = 5.88 V Io = 1 A Po = 1.1 W Ci = 15 uF Li = 0	Uo = 1.2 V Io = 0.0007 A Po = 0.0002mW Ci = 0 Li = 0	Uo = 5.88 V Io = 0.891 A Po = 0.646 W Ci = 15 uF Li = 0

Note – all parameters apply to all pins within each connector combined

## 12 Certificate history and evaluation reports

Issue	Date	Associated report	Notes
0	22 Feb 2023	R15813A/00	Initial certificate issue.

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



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### **13 Conditions of Manufacture**

The following conditions are required of the manufacturing process for compliance with the certification.

- i. Where the product incorporates certified parts or safety-critical components, the manufacturer of the product defined on this certificate shall continually monitor these parts/components for any modifications introduced by the manufacturer(s) of these constituent parts. If the manufacturer of any constituent part introduces any changes which affect the compliance of the certified product that is the subject of this certificate, the manufacturer is required to have this certificate updated.

### **14 Specific Conditions of Use (Special Conditions)**

The following conditions relate to safe installation and/or use of the equipment.

- i. Under certain extreme circumstances, the non-metallic parts incorporated in the enclosure of this equipment may generate an ignition-capable level of electrostatic charge. Therefore, the equipment shall not be installed in a location where the external conditions are conducive to the build-up of electrostatic charge on such surfaces. This is particularly important if the equipment is installed in a zone 0 location. In addition, the equipment shall only be cleaned with a damp cloth.
- ii. Only certified sensors or the sensors assessed in this certification shall be used with this equipment
- iii. The enclosure can be manufactured from Aluminium. In rare cases, ignition sources due to impact and friction sparks could occur. This shall be considered during installation, particularly if the equipment is installed in a zone 0 location.

## Certificate Annex

**Certificate Number** CML 22ATEX2668X  
**Equipment** MS8000UT-HRT/ISA & MS800XUT-HRT/ISA  
**Manufacturer** Metal Samples Company (a Division of Alabama Specialty Products Inc)



The following documents describe the equipment or component defined in this certificate:

### Issue 0

Drawing No	Sheets	Rev	Approved date	Title
EXET2828	1 of 1	0	21 Feb 2023	Hazardous Area Label battery Holder Assembly for UT - Tadiran
EXET2829	1 of 1	0	21 Feb 2023	Hazardous Area Label Battery Holder assembly for UT - Xeno
EXBOM-000058	1 to 7	0	21 Feb 2023	Bill of Materials - UT Host Board
EXBOM-000059	1 to 5	0	21 Feb 2023	Bill of Materials – UT Measurement Board Single Channel
EXBOM-000060	1 to 5	0	21 Feb 2023	Bill of Materials – UT Measurement Board Multi-Channel
EXBOM-000065	1 to 7	0	21 Feb 2023	Bill of Materials -UT Host board (HART)
EXBOM-000066	1 to 7	0	21 Feb 2023	Bill of Materials - UT Host board
EXBOM-000067	1 to 2	0	21 Feb 2023	Bill of Materials – Battery Protection Circuit for UT
EXCDB-000058	1 to 3	0	21 Feb 2023	Circuit Diagram – MS800XUT host board (PIC)
EXCDB-000059	1 to 3	0	21 Feb 2023	Circuit Diagram – Single Channel UT Measurement Board
EXCDB-000060	1 to 3	0	21 Feb 2023	Circuit Diagram – Multi-Channel UT Measurement Board
EXCDB-000065	1 to 3	0	21 Feb 2023	Circuit Diagram – MS800XUT-HRT Host Board (STM)
EXCDB-000066	1 to 3	0	21 Feb 2023	Circuit Diagram – MS800XUT Host Board (SIL)
EXCDB-000067	1 of 1	0	21 Feb 2023	Circuit Diagram – Battery Pack Protection Module for UT
EXET2643	1 of 1	0	21 Feb 2023	Assembly Drawing – MS800XUT-HRT Host Board (PIC)
EXET2644	1 of 1	0	21 Feb 2023	Assembly Drawing – MS8000UT Measurement board – Single Channel
EXET2645	1 of 1	0	21 Feb 2023	Assembly Drawing – MS800XUT Measurement Board – Multi Channel
EXET2797	1 of 1	0	21 Feb 2023	Assembly Drawing MS800XUT-HRT Host Board (STM)
EXET2798	1 of 1	0	21 Feb 2023	Assembly Drawing MS800XUT-HRT Host Board (SIL)

# Certificate Annex

**Certificate Number** CML 22ATEX2668X  
**Equipment** MS8000UT-HRT/ISA & MS800XUT-HRT/ISA  
**Manufacturer** Metal Samples Company (a Division of Alabama Specialty Products Inc)



Drawing No	Sheets	Rev	Approved date	Title
EXET2799	1 of 1	0	21 Feb 2023	Assembly Drawing – MS800XUT-ISA Host board (PIC)
EXET2800	1 of 1	0	21 Feb 2023	Assembly Drawing MS800XUT-ISA Host Board (STM)
EXET2801	1 of 1	0	21 Feb 2023	Assembly Drawing – MS800XUT-ISA Host Board (SIL)
EXET2767	1 of 1	0	21 Feb 2023	UT Instrument assembly multichannel 4/8 channels
EXET2770	1 of 1	0	21 Feb 2023	UT Instrument assembly Single Channel
EXET2827	1 of 1	0	21 Feb 2023	Assembly drawing – Battery Pack protection Module for UT
EXMDB-011213	1 of 1	0	21 Feb 2023	Hazardous Area Label for MS8000XUT-XXX Single Channel
EXMDB-011214	1 of 1	0	21 Feb 2023	Hazardous Area Label for MS800XUT-XXX Multi Channel
EXMDB-011215	1 of 1	0	21 Feb 2023	Manufacturer’s Label for MS8000UT-XXX Single Channel
EXMDB-011216	1 of 1	0	21 Feb 2023	Manufacturer’s Label for MS800XUT-XXX Multi Channel
EXPCB-000058	1 to 12	0	21 Feb 2023	PCB Fabrication Drawing – MS800XUT Host Board (PIC)
EXPCB-000059	1 to 11	0	21 Feb 2023	PCB Fabrication Drawing – Single Channel UT Measurement Board
EXPCB-000060	1 to 11	0	21 Feb 2023	PCB Fabrication Drawing – Multi-channel UT Measurement Board
EXPCB-000065	1 to 12	0	21 Feb 2023	PCB Fabrication Drawing – MS800XUT Hots Board (STM)
EXPCB-000066	1 to 12	0	21 Feb 2023	PCB Fabrication Drawing – MS800XUT Host Board (SIL)
EXPCB-000067	1 to 9	0	21 Feb 2023	PCB Fabrication Drawing – Battery Pack protection Module For UT
EXWDB-000172	1 to 2	0	21 Feb 2023	Control Drawing – MS8000UT-HRT- Single Channel
EXWDB-000173	1 to 2	0	21 Feb 2023	Control Drawing – MS8000UT-ISA- Single Channel
EXWDB-000174	1 to 2	0	21 Feb 2023	Control Drawing – MS8000UT-HRT-Multi-Channel
EXWDB-000175	1 to 2	0	21 Feb 2023	Control Drawing – MS8000UT-ISA-Multi-Channel

## Certificate Annex

**Certificate Number** CML 22ATEX2668X  
**Equipment** MS8000UT-HRT/ISA & MS800XUT-HRT/ISA  
**Manufacturer** Metal Samples Company (a Division of Alabama Specialty Products Inc)



Drawing No	Sheets	Rev	Approved date	Title
EXDOC-000030	1 to 2	0	21 Feb 2023	MS8000UT-HRT Hazardous Area Certification Details
EXDOC-000031	1 to 2	0	21 Feb 2023	MS8000UT-ISA Hazardous Area Certification Details
EXDOC-000032	1 to 2	0	21 Feb 2023	MS800XUT-ISA Hazardous Area Certification Details
EXDOC-000033	1 to 2	0	21 Feb 2023	MS800XUT-ISA Hazardous Area Certification Details