



# IECEX Certificate of Conformity

## INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification System for Explosive Atmospheres

for rules and details of the IECEx Scheme visit [www.iecex.com](http://www.iecex.com)

Certificate No.: **IECEX ETL 18.0020X** Page 1 of 4 [Certificate history:](#)  
Issue 0 (2018-09-04)

Status: **Current** Issue No: 1

Date of Issue: 2023-05-23

Applicant: **Metal Samples Company (a division of Alabama Specialty Products)**  
152 Metal Samples Rd  
Munford, AL 36268  
**United States of America**

Equipment: **MS2701E High Resolution ER Transmitter, MS2801E Ultra Resolution ER Transmitter**

Optional accessory:

Type of Protection: **Flameproof 'db', Intrinsic Safety 'ia', Protection by Enclosure 'tb'**

Marking: Ex db [ia Ga] IIC T6...T4 Gb  
Ex tb [ia Da] IIIC T80°C Db  
-40°C ≤ Ta ≤ +70°C  
IECEX ETL 18.0020X

Approved for issue on behalf of the IECEx  
Certification Body:

**Kevin J. Wolf**

Position:

**Certification officer**

Signature:  
(for printed version)

Date:  
(for printed version)

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting [www.iecex.com](http://www.iecex.com) or use of this QR Code.



Certificate issued by:

**Intertek**  
3933 US Route 11 South  
Cortland NY 13045-2995  
**United States of America**

**intertek**



# IECEX Certificate of Conformity

Certificate No.: **IECEX ETL 18.0020X**

Page 2 of 4

Date of issue: 2023-05-23

Issue No: 1

Manufacturer: **Metal Samples Company (a division of Alabama Specialty Products)**  
Alabama Specialty Products, 152 Metal Samples Rd, Munford, AL 36268  
**United States of America**

Manufacturing  
locations:

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended

## STANDARDS :

The equipment and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards

[IEC 60079-0:2011](#) Explosive atmospheres - Part 0: General requirements  
Edition:6.0

[IEC 60079-1:2014-06](#) Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"  
Edition:7.0

[IEC 60079-11:2011](#) Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"  
Edition:6.0

[IEC 60079-31:2013](#) Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"  
Edition:2

This Certificate **does not** indicate compliance with safety and performance requirements other than those expressly included in the Standards listed above.

## TEST & ASSESSMENT REPORTS:

A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in:

Test Reports:

[US/ETL/ExTR18.0025/00](#)

[US/ETL/ExTR18.0025/01](#)

Quality Assessment Report:

[GB/ITS/QAR14.0019/05](#)



# IECEX Certificate of Conformity

Certificate No.: **IECEX ETL 18.0020X**

Page 3 of 4

Date of issue: 2023-05-23

Issue No: 1

## EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

The MS2701E and MS2801E are remote monitoring equipment which measure the corrosion rate of metallic pipe through resistive probe. The equipment utilizes a cylindrical enclosure with approximate dimensions of either 11cm diameter and 10cm height or 11cm diameter and 14cm height. Both enclosures are certified parts assessed under IECEX UL 08.0005U.

The enclosure has two entries into its base, one to permit power entry and one for the intrinsically safe probe output. The following entity parameters relate to the equipment

### Power Input J1

Designation	Related Um
J1 Pin 1	30V
J1 Pin 2	0V
J1 Pin 3	6V
J1 Pin 4	6V
J1 Pin 5	0V

### Intrinsically safe parameters for J3 (combined)

Designation	Related Parameter
Uo:	5.115V
Io:	0.344A
Po:	0.44W
Co:	0.5 $\mu$ F
Lo:	35 $\mu$ H

### SPECIFIC CONDITIONS OF USE: YES as shown below:

Refer to Certificate Annex for a list of the Special Conditions for Safe Use.



# IECEX Certificate of Conformity

Certificate No.: **IECEX ETL 18.0020X**

Page 4 of 4

Date of issue: 2023-05-23

Issue No: 1

## **DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)**

1. Update to label to permit a variable NB number following CE mark.
2. Addition of alternate pre-certified enclosures to equipment certificate.
3. Minor updates to bill of materials to amend typology errors. These are limited to incorrect entry of model numbers and do not affect the previous intrinsic safety assessment.
  - A. EXBOM-000035 - Fuse F1 – Alternate component specified
  - B. EXBOM-000034 - Additional manufacturers added for non-critical components
4. Minor updates to controlled drawings to fix typology errors.
5. Update to latest iteration of IEC 60079-0.
6. Addition of special condition of use and marking required by newly considered certified parts.

## **Annex:**

[Annex to IECEx ETL 18.0020X Issue 1.pdf](#)



# IECEx Certificate of Conformity

<b>Certificate No:</b>	<b>IECEx ETL 18.0020X</b>	<b>Issue No. 1</b>
<b>Annex No. 1</b>		

**The following drawing list relates to IECEx ETL 18.0020X**

<b>Technical Documents:</b>				
<b>Title:</b>	<b>Drawing No.:</b>	<b>Rev. Level:</b>	<b>Sheets:</b>	<b>Date:</b>
Circuit Diagram - High Resolution ER Transmitter Digital Board (RS485)isolated	EXCDB-000034	0	1	03/09/2018
Circuit Diagram - High Resolution ER TransmitterPower Board(RS485) Isolated	EXCDB-000035	0	1	05/10/18
Circuit Diagram - ER Measurement Board Type -II	EXCDB-000023	0	1	03/8/17
Bill of Materials - High Resolution ER Transmitter Digital Board(RS485) Isolated	EXBOM-000034	A	2	06/10/2022
*Bill of Materials - High Resolution ER Transmitter Power Board(RS485) Isolated	EXBOM-000035	A	2	06/10/2022
*Bill of Materials - Measurement Board Type- II	EXBOM-000023	B	3	06/10/2022
PCB Fabrication Drawing - High Resolution ER Transmitter Digital Board (RS485)isolated	EXPCB-000034	0	12	04/10/2018
PCB Fabrication Drawing - High Resolution ER Transmitter Power Board(RS485) Isolated	EXPCB-000035	0	10	05/10/2018
PCB Fabrication Drawing - ER Measurement Board Type -II	EXPCB-000023	A	12	05/03/18
Assembly Drawing - High Resolution ER Transmitter Digital Board (RS485)isolated	EXET1907	0	1	04/10/2018
Assembly Drawing - High Resolution ER Transmitter Power Board(RS485) Isolated	EXET1920	0	1	05/10/2018
Assembly Drawing - ER Measurement Board Type -II	EXET1607	A	1	05/03/2018
*ER Transmitter (RS-485) EX ASSEMBLY MODEL NO.: MS27XX/MS28XX	EXMDB-010553	B	2	2022-05-04
*CROSS-SECTIONAL AREA DRAWING AL ADALET ENCLOSURE MODEL XIHDCX2/XIHDCX2 Exd INSTRUMENTS	EXMDB-011029	A	1	2022-07-11
*CROSS-SECTIONAL AREA DRAWING ADALET MIDSIZE ENCLOSURE MODEL NO.: XIHFCX2/XIHMFCX2 Exd INSTRUMENTS	EXMDB-011030	A	1	2022-07-11
*CROSS-SECTIONAL AREA DRAWING. SS MOORE INDUSTRIES ENCLOSURE, SB2X Exd INSTRUMENTS	EXMDB-011195	0	1	2022-07-11
*CROSS-SECTIONAL AREA DRAWING SS IME ENCLOSURE, MODEL: 8092TM-05, Exd INSTRUMENTS	EXMDB-011196	0	1	2022-07-11
*CROSS-SECTIONAL AREA DRAWING SS ADALET ENCLOSURE, MODEL: XIHNSFCX, Exd INSTRUMENTS	EXMDB-011197	0	1	2022-07-11
*CROSS-SECTIONAL AREA DRAWING AL IME ENCLOSURE, MODEL: 8092XX-XX, Exd INSTRUMENTS	EXMDB-011198	0	1	2022-07-11
*CROSS-SECTIONAL AREA DRAWING SS ADALET ENCLOSURE, MODEL: XIHNSDCX, Exd INSTRUMENTS	EXMDB-011202	0	1	2022-07-11
*CROSS-SECTIONAL AREA DRAWING AL ADALET ENCLOSURE MODEL NO.: XIHXMFCX2/XIHMFCX2 Exd INSTRUMENTS	EXMDB-011203	0	1	2022-07-11
*CROSS-SECTIONAL AREA DRAWING AL ADALET ENCLOSURE MODEL NO.: XIHMDCX/XIHMDCX2 Exd INSTRUMENTS	EXMDB-011204	0	1	2022-07-11
*CROSS-SECTIONAL AREA DRAWING AL ADALET ENCLOSURE MODEL NO.: XIHLFCX Exd INSTRUMENTS	EXMDB-011205	0	1	2022-07-11
*CROSS-SECTIONAL AREA DRAWING AL ADALET ENCLOSURE MODEL NO.: XIHLDCX Exd INSTRUMENTS	EXMDB-011206	0	1	2022-07-11

Certificate issued by:

**Intertek**  
**3933 US Route 11 South**  
**Cortland NY 13045-2995**  
**United States of America**





# IECEX Certificate of Conformity

<b>Certificate No:</b>	<b>IECEX ETL 18.0020X</b>	<b>Issue No. 1</b>
<b>Annex No. 1</b>		

<b>Technical Documents:</b>				
<b>Title:</b>	<b>Drawing No.:</b>	<b>Rev. Level:</b>	<b>Sheets:</b>	<b>Date:</b>
*CROSS-SECTIONAL AREA DRAWING AL ADALET ENCLOSURE MODEL NO.: XIHMDGXC Exd INSTRUMENTS	EXMDB-011207	0	1	2022-07-11
*CROSS-SECTIONAL AREA DRAWING AL ADALET ENCLOSURE MODEL NO.: XIHLDGXC Exd INSTRUMENTS	EXMDB-011208	0	1	2022-07-11
*CROSS-SECTIONAL AREA DRAWING SS ADALET ENCLOSURE MODEL NO.: XIHNSFGCX Exd INSTRUMENTS	EXMDB-011209	0	1	2022-07-11
ER TRANSMITTER (RS-485) EX MODEL BOARD ASSEMBLY ISOLATED	EXET1994	0	1	2018-04-13
*HAZARDOUS AREA LABEL - MS2701E & MS2801E ER TRANSMITTER	EXMDB-011194	0	1	04/22/2022
*Control Drawing - MS2701E / MS2801E High Resolution ER RS485 Transmitter ( Multi Drop)	EXWDB-000094	E	1	08/08/2022
MS2701E/ MS2801E Hazardous Area Certification Details	EXDOC-000015	0	1	05/08/2018
User Manual - MS2700E High Resolution ER RS485 Transmitter		G	22	05/29/2018
User Manual - MS2801E High Resolution ER RS485 Transmitter		I	22	05/29/2018

Certificate issued by:

**Intertek**  
3933 US Route 11 South  
Cortland NY 13045-2995  
United States of America

**intertek**  
Total Quality. Assured.



# IECEx Certificate of Conformity

<b>Certificate No:</b>	<b>IECEx ETL 18.0020X</b>	<b>Issue No. 1</b>
<b>Annex No. 1</b>		

**The following special conditions for safe use apply to certificate IECEx ETL 18.0020X**

- Equipment has been assessed for connection to a simple resistive probe produced from either wiring or a metallic sheet metal mounted onto an epoxy substrate (which has been approximated to tracking). The Temperature Classification in which the equipment may be used is dependent upon the probe connected. The equipment may be used in Temperature Classification T6 providing the following conditions are met as applicable:
  - a) The equipment probe is a simple device produced from wire with a diameter of 0.1mm or higher
  - b) The equipment probe is a simple device produced from tracking with a width of 0.3mm or higher

If these parameters cannot be verified, a generic probe may be used with the equipment in Temperature Classification T4 providing it is a simple device produced from wiring or tracking and does not contain any discrete components or resistances.

- Equipment has been assessed for connection to a simple resistive probe produced from either wiring or a metallic sheet metal mounted onto an epoxy substrate (which has been approximated to tracking). The equipment may be used in Group III environments with a maximum surface temperature of T80°C providing the following conditions are met as applicable:
  - a) The equipment probe is a simple device produced from wire with a diameter of 0.1mm or higher
  - b) The equipment probe is a simple device produced from tracking with a width of 0.3mm or higher
- All cable glands, blanking elements and thread adapters used with the equipment shall be suitable certified Ex db and Ex tb parts, providing a degree of protection of IP66 and be suitable for use in an ambient temperature range of -40°C to +75°C. No more than one Hazardous area reducer shall be used on any entry.
- External non-metallic materials pose a potential electrostatic charging hazard. Refer to the manufacturers' instruction manual for details on the mitigation of electrostatic charging.
- The resistive probe has been considered as simple apparatus. The probe shall maintain the following minimum parameters in accordance with Clause 5.7 of IEC 60079-11:
  - a) The probe circuitry shall maintain a dielectric strength of 500V between its terminals and the equipment frame.
  - b) Where non-metallic materials are used in the construction of the external enclosure the probe shall be installed in accordance with the guidance for mitigation of electrostatic charging contained within the manufacturer's instruction manual
  - c) Where metallic materials are used in the construction of the external enclosure it shall be ensured that the materials do not contain more than 7,5 % in total of magnesium, titanium and zirconium.

Certificate issued by:

**Intertek**  
**3933 US Route 11 South**  
**Cortland NY 13045-2995**  
**United States of America**

**intertek**  
Total Quality. Assured.