

1 **EU - TYPE EXAMINATION CERTIFICATE**

2 **Equipment or Protective System Intended for use in Potentially Explosive Atmospheres  
Directive 2014/34/EU**

3 EU - Type Examination Certificate **Baseefa12ATEX0049X – Issue 1**  
Number:

3.1 In accordance with Article 41 of Directive 2014/34/EU, EC-Type Examination Certificates referring to 94/9/EC that were in existence prior to the date of application of 2014/34/EU (20 April 2016) may be referenced as if they were issued in accordance with Directive 2014/34/EU. Supplementary Certificates to such EC-Type Examination Certificates, and new issues of such certificates, may continue to bear the original certificate number issued prior to 20 April 2016.

4 Product: **MX2032, MX2033 & MX2034 Digital Proximity Systems**

5 Manufacturer: **Metrix Instrument Co.**

6 Address: **8824 Fallbrook, Houston, Texas, 77064. USA**

7 This re-issued certificate extends EC Type Examination Certificate No. Baseefa12ATEX0049X to apply to product designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

8 SGS Baseefa, Notified Body number 1180, 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 product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in confidential Report No. (see certificate history)

9 Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

**EN 60079-0:2012+A11:2013 EN 60079-11:2012**

except in respect of those requirements listed at item 18 of the Schedule.

10 If the sign “X” is placed after the certificate number, it indicates that the product is subject to the Specific Conditions of Use specified in the schedule to this certificate.

11 This EU - TYPE EXAMINATION CERTIFICATE relates only to the design and construction of the specified product. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.

12 The marking of the product shall include the following :

**⊕ II 1G Ex ia IIC T4 Ga (-40°C ≤ T4 ≤ +85°C)**

Baseefa Customer Reference No. **0708**

Project File No. **18/0441**

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R S SINCLAIR

TECHNICAL MANAGER

On behalf of SGS Baseefa Limited

M POWNEY  
Certification  
Manager

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## Schedule

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### Certificate Number Baseefa12ATEX0049X – Issue 1

#### 15 Description of Product

The MX2032-AA-BB-CC-DD, MX2033-AA-BB-CC-DD and MX2034-AA-BB-CC-DD-EE-FF are normally supplied as part of the Digital Proximity System (DPS).

The letters after the main model number denote configuration options not affecting certification except for the MX2034 EE = X4 X5 or X6 that is not covered by this certificate.

The units comprise three potted printed circuit boards housed inside a DIN rail mountable enclosure. A coaxial RF connector is present to enable a proximity probe to be connected using an extension cable, and 3 way accepts the user connections. The MX2034 also includes a BNC connector for dynamic output.

#### TERMINAL PARAMETERS

##### MX2032 & MX2034 Input Terminals Pin 1(Loop-) & Pin 2(Loop+)

$$\begin{aligned}U_i &= 28V \\I_i &= 93mA \\P_i &= 0.66W \\C_i &= 18nF \\L_i &= 2\mu H\end{aligned}$$

The equipment is to be powered only from resistively limited sources.

##### MX2032 & MX2034 Input Terminals Pin 3(Test) w.r.t Pin 1(Loop-) & Pin 2(Loop+)

$$U_m = 0V$$

This connection is not for use in hazardous areas.

##### MX2033 Input Terminals Pin 1(-V<sub>T</sub>), Pin 2(COM) & Pin 3(Sig)

$$\begin{aligned}U_i &= 28V \\I_i &= 138mA \\P_i &= 0.81W \\C_i &= 18nF \\L_i &= 2\mu H\end{aligned}$$

The equipment is to be powered only from resistively limited sources.

##### MX 2034 BNC - Dynamic Output Connector

$$U_m = 0$$

This connection is not for use in hazardous areas.

#### 16 Report Number

See certificate history.

#### 17 Specific Conditions of Use

1. The protection concept used must be irrevocably marked on the label during installation.
2. For the MX2032 and MX2034, the user terminal pin 3 is not for use in hazardous areas.
3. For the MX2034, the top BNC output connector is not for use in hazardous areas.
4. To reduce the risk of electrostatic ignition the equipment must be cleaned only with a damp cloth.

## 18 Essential Health and Safety Requirements

In addition to the Essential Health and Safety Requirements (EHSRs) covered by the standards listed at item 9, the following are considered relevant to this product, and conformity is demonstrated in the report:

Clause	Subject
1.0.5 indent 2	Application of CE Marking
1.4.1	External effects
1.4.2	Aggressive substances, etc.

## 19 Drawings and Documents

New drawings submitted for this issue of certificate:

Drawing No.	Sheet	Issue	Date	Description
<u>Analog/digital Drawings (MX2032, MX2033, MX2034)</u>				
100495-AGENCY	1 to 4	J	August 13, 2018	Schematic, DPS, Analog/Digital Board
100496-AGENCY	1 to 9	J	AUG-13-18	Fabrication Dwg, Analog PCB, MX2032, MX2033 & MX2034 (Agency)
100497-AGENCY	1	E	AUG-13-18	Assembly, DPS, Analog/Digital Board
<u>Analog/digital Drawings (MX2032, MX2034)</u>				
100497-AGENCY	1 & 2	K	AUG-13-18	BOM, MX2032/2034 Controller Board
<u>Analog/digital Drawings (MX2033)</u>				
100500-AGENCY	2	J	AUG-13-18	BOM, MX2033 Controller Board (Agency)
<u>PSU Drawings (MX2032)</u>				
100488-AGENCY	1 & 2	G	AUG-13-18	BOM, "MX2032 Power Supply Board"
100488-AGENCY	1	C	AUG-13-18	Assy, DPS, Power Supply Bd.
<u>PSU Drawings (MX2033)</u>				
100491-AGENCY	1 & 2	L	AUG-13-18	Parts List, Assy, DPS, Power Supply Board, RoHS
100491-AGENCY	1	B	AUG-13-18	Assy, DPS, Power Supply Bd. (Agency)
<u>PSU Drawings (MX2034)</u>				
100492-AGENCY	1 & 2	H	AUG-13-18	Schematic, DPS, Power Supply Bd.
100494-AGENCY	2	N	AUG-13-18	Parts List, Assy, DPS, Power Supply Board, MX2034, RoHS
100494-AGENCY	1	C	AUG-13-18	Assy, DPS, Power Supply Bd.
100493-AGENCY	1 to 9	E	AUG-13-18	Drill Dwg, Power Supply, MX2034 (Agency)
<u>PSU Drawings (MX2032 &amp; MX2033)</u>				
100486-AGENCY	1	J	AUG-13-18	Schematic MX2032 and MX2033 Power Supply Board
100487-AGENCY	1 to 9	G	AUG-13-18	Drill Dwg, Power Supply, MX2032 & MX2033 (Agency)
<u>Interconnect Drawings (MX2032, MX2033, MX2034)</u>				
100501-AGENCY	1	C	AUG-13-18	Schematic, DPS, Interconnect Bd.
100502-AGENCY	1 to 9	C	AUG-13-18	Drill Dwg, Interconnect PCB, MX2032, MX2033 & MX2034 (Agency)
100972-AGENCY	1	A	03/28/2019	Schem DWG, MX2033/MX2034 Interconnect Board, RoHS Agency

Drawing No.	Sheet	Issue	Date	Description
100973-AGENCY	1 to 9	A	7/31/2019	Drill Dwg, MX2033/MX2034 Interconnect Board, RoHS
100974-AGENCY	1	A	23-July-2019	Parts List, MX2033/MX2034 Interconnect Board, RoHS, Agency
100974-AGENCY	1	A	04/23/19	Assy DWG, MX2033/MX2034 Interconnect Board, RoHS, Agency
100503 AGENCY	1	F	April-26-19	BOM, DPS, Interconnect Board (agency)
100503-AGENCY	1	B	AUG-13-18	Assy, DPS, Interconnect Bd. (Agency)
94019-107-SCD	1	B	04-25-19	SCD, Connector, Screwless Term Block, 3 Pos, 3.5mm, RoHS
94019-108-SCD	1	B	04-25-19	SCD, Connector, Screwless Term Block, 4 Pos, 3.5mm, RoHS
1862198-AGENCY	1	A	October 2019	100974 Interconnect Board (instead of 100503) for MX2034 – 3 Pin Connector (94019-107) or 4 Pin Connector (940-108) Modification Procedure
1881628-AGENCY	1	A	Jun 2019	100974 Interconnect Board (instead of 100503) for MX2033 – 3 Pin Connector (94019-107) Modification Procedure
<u>General (MX2032, MX2033, MX2034)</u>				
100563-XXX-AGENCY	1 & 2	B	AUG-13-18	Label, MX2032, MX2033 & MX2034 (Agency)
100511-XXX-AGENCY	1 & 2	B	AUG-13-18	Label, Top, DPS (AGENCY)
1082695-AGENCY	1	E	AUG-13-18	General Arrangement Drawing
9639-AGENCY	1	B	AUG-13-18	Adapter Board
9639-AGENCY	1	B	AUG-13-18	Assembly, Adapter Board (Agency)

These drawings are held with IECEx BAS 12.0032X Issue 1 and are common to IECEx BAS 12.0033X Issue 1, IECEx BAS 19.0096X, Baseefa12ATEX0050X Issue 1 & Baseefa19ATEX0110X.

Current drawings which remain unaffected by this issue: None.

## 20 Certificate History

Certificate No.	Date	Comments
Baseefa12ATEX0049X	16 July 2015	The release of the prime certificate. The associated test and assessment against the requirements of EN 60079-0:2012 +A11:2013 and EN 60079-11:2012 is documented in Test Report GB/BAS/ExTR12.0040/00 for project 11/0418.
Baseefa12ATEX0049X Issue 1	25 October 2018	This issue of the certificate permits minor electrical changes, minor drawing changes and incorporates previously issued primary certificate & this supplementary certificate into one certificate. The associated test and assessment is documented in Test Report GB/BAS/ExTR18.0205/00 for project 18/0441.
For drawings applicable to each issue, see original of that issue.		



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

1 **EC - TYPE EXAMINATION CERTIFICATE**

2 **Equipment or Protective System Intended for use in Potentially Explosive Atmospheres  
Directive 94/9/EC**

3 EC - Type Examination Certificate Number: **Baseefa12ATEX0049X**

4 Equipment or Protective System: **MX2032, MX2033 & MX2034 Digital Proximity Systems**

5 Manufacturer: **Metrix Instrument Co.**

6 Address: **8824 Fallbrook, Houston, Texas, 77064. USA**

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

8 Baseefa, Notified Body number 1180, in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment or protective system has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in confidential Report No. **GB/BAS/ExTR12.0040/00**

9 Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

**EN 60079-0:2012+A11:2013 EN 60079-11:2012**

except in respect of those requirements listed at item 18 of the Schedule.

10 If the sign "X" is placed after the certificate number, it indicates that the equipment or protective system 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 or protective system. Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system. These are not covered by this certificate.

12 The marking of the equipment or protective system shall include the following :

**⊕ II 1G Ex ia IIC T4 Ga (-40°C ≤ T4 ≤ +85°C)**

Baseefa Customer Reference No. **0708**

Project File No. **11/0418**

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**R S SINCLAIR  
GENERAL MANAGER**

On behalf of SGS Baseefa Limited

METRIX DOC NO: 1456012  
REV: A

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## Schedule

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Certificate Number Baseefa12ATEX0049X

### 15 Description of Equipment or Protective System

The MX2032, MX2033 and MX2034 are normally supplied as part of the Digital Proximity System (DPS). The units comprise three potted printed circuit boards housed inside a DIN rail mountable enclosure. A coaxial RF connector is present to enable a proximity probe to be connected using an extension cable, and screw terminal plug and socket assembly accepts the user connections. The MX2034 also includes a BNC connector for dynamic output.

#### TERMINAL PARAMETERS

##### MX2032 & MX2034 Input Terminals Pins 1 & 2

$$\begin{aligned}U_i &= 28V \\I_i &= 93mA \\P_i &= 0.66W \\C_i &= 18nF \\L_i &= 2\mu H\end{aligned}$$

The equipment is to be powered only from resistively limited sources.

##### MX2032 & MX2034 Input Terminals Pins 3 w.r.t Pins 1 & 2

$$U_m = 0V$$

This connection is not for use in hazardous areas.

##### MX2033 Input Terminals Pins 1, 2 & 3

$$\begin{aligned}U_i &= 28V \\I_i &= 138mA \\P_i &= 0.81W \\C_i &= 18nF \\L_i &= 2\mu H\end{aligned}$$

The equipment is to be powered only from resistively limited sources.

##### MX 2034 Dynamic Output Connector

$$U_m = 0$$

This connection is not for use in hazardous areas.

### 16 Report Number

GB/BAS/ExTR12.0040/00

### 17 Specific Conditions of Use

1. The protection concept used must be irrevocably marked on the label during installation.
2. For the MX2032 and 2034, the user terminal pin 3 is not for use in hazardous areas.
3. For the MX2034, the top BNC output connector is not for use in hazardous areas.
4. To reduce the risk of electrostatic ignition the equipment must be cleaned only with a damp cloth.

### 18 Essential Health and Safety Requirements

All relevant Essential Health and Safety Requirements are covered by the standards listed at item 9.

**19 Drawings and Documents**

Number	Sheet	Issue	Date	Description
<b>Controller Drawings (MX2032, MX2033, MX2034)</b>				
100495	1 to 4	H	March 11, 2015	Schematic, DPS, Analog/Digital Board
100496-AGENCY	1 to 9	H	02-25-14	Fabrication Dwg, Analog PCB, MX2032, MX2033 & MX2034 (Agency)
100497-AGENCY	1	D	10-22-08	Assembly, DPS, Analog/Digital Board
<b>Controller Drawings (MX2032, MX2034)</b>				
100497-AGENCY	-	J	4/23/2014	BOM, MX2032/2034 Controller Board
<b>Controller Drawings (MX2033)</b>				
100500-AGENCY	-	H	2-26-14	BOM, MX2033 Analog/digital Board (Agency)
<b>PSU Drawings (MX2032)</b>				
100488-AGENCY	-	F	06/28/2013	BOM, "MX2032 Power Supply Board"
100488-AGENCY	1	B	07-18-11	Assy, DPS, Power Supply Bd.
<b>PSU Drawings (MX2033)</b>				
100491-AGENCY	-	J	3/30/2015	BOM, "MX2033 Power Supply Board"
100491-AGENCY	1	A	02-25-14	Assy, DPS, Power Supply Bd. (Agency)
<b>PSU Drawings (MX2034)</b>				
100492-AGENCY	1 & 2	G	07-18-11	Schematic, DPS, Power Supply Bd.
100494-AGENCY	-	H	2/26/2014	BOM, "MX2034 Power Supply Board"
100494-AGENCY	1	B	07-18-11	Assy, DPS, Power Supply Bd.
100493-AGENCY	1 to 9	D	06-13-13	Drill Dwg, Power Supply, MX2034 (Agency)
<b>PSU Drawings (MX2032 &amp; MX2033)</b>				
100486-AGENCY	1	H	March 30, 2015	Schematic MX2032 and MX2033 Power Supply Board
100487-AGENCY	1 to 9	F	02-25-14	Drill Dwg, Power Supply, MX2032 & MX2033 (Agency)
<b>Interconnect Drawings (MX2032, MX2033, MX2034)</b>				
100501-AGENCY	1	B	05-20-11	Schematic, DPS, Interconnect Bd.
100502-AGENCY	1 to 9	B	02/25/14	Drill Dwg, Interconnect PCB, MX2032, MX2033 & MX2034 (Agency)
100503 AGENCY	-	C	2/25/2014	BOM, DPS, Interconnect Board (agency)
100503-AGENCY	1	A	02-25-14	Assy, DPS, Interconnect Bd. (Agency)
<b>General (MX2032, MX2033, MX2034)</b>				
100563-XXX-AGENCY	1 & 2	A	02/25/14	Label, MX2032, MX2033 & MX2034 (Agency)
100511-XXX-AGENCY	1 & 2	A	08/11/14	Label, Top, DPS (AGENCY)
1082695-AGENCY	1	D	05/23/11	General Arrangement Drawing
9639-AGENCY	001	A	02-26-14	Adapter Board
These drawings are held with IECEx BAS 12.0032X and are common to IECEx BAS 12.0033X & Baseefa12ATEX0050X.				