

# CERTIFICATE OF CONFORMITY

## UNIT VERIFICATION

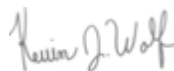
Equipment or Protective System Intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU

- Unit Verification Certificate Number:** ITS19ATEX204319X      **Issue** 00
- Product:** MPR E-Scan I.S. CCD Sensor Head
- Serial Number(s):** 14408-X, 14409-X, 14412-X, 14415-X, 14411-X, 14316-X, 14410-X, 14407-X, 14414-X, 14413-X
- Manufacturer:** Electron Machine Corporation
- Address:** 15824 Co Rd 450, Umatilla, FL 32784, USA
- This product and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.
- Intertek Testing and Certification Limited, Notified Body number 0359 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 the products intended for use in potentially explosive atmospheres given in Annex II to the Directive, using the Unit Verification Module as detailed in Annex IX of the Directive 2014/34/EU of 26 February 2014.
- Compliance with the Essential Health and Safety Requirements has been assured by compliance with EN 60079-0:2018 and EN 60079-11:2012 except in respect of those requirements referred to within item 15 of the Schedule.
- If the sign "X" is placed after the certificate number, it indicates that the equipment or protective system is subject to the special conditions of use specified in the schedule to this certificate.
- This Certificate of Conformity Unit Verification Certificate relates only to the design of the specified product identified in Section 4.
- The marking of the product shall include the following:



II 1 G Ex ia IIC T4 Ga  
-20°C ≤ Ta ≤ 52°C

**Certification Officer:**

  
Kevin J. Wolf

**Date:**

20 August 2019

## SCHEDULE:

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### 12. Description of Product:

The product covered by this report is an Inline Process Refractometer. The evaluation for present certification includes only the sensing head that directly comes in contact with the process fluid. Supply to the sensor head is fed through a head barrier. The head barrier provides electrical ratings  $U_o = 7.14V$  and  $I_o = 0.729A$ .

The sensing head utilizes charged coupled device technology to accomplish scanning the reflected light returned from the prism. Light radiated from LED passes through the prism surface to be reflected off mirror to the prism-to-process interface. Light intersecting the interface at an angle greater than critical angle is refracted into the solution. The light intersecting the interface at an angle less than critical angle is reflected upto mirror 2 and out of prism to the CCD linear array to be scanned.

Part of the sensing head comes in contact with the process fluids for measurement purposes. The max. process fluid temperature is  $150^{\circ}C$ .

### 13. Report Number

Intertek Report: 103740353DAL-001 Issue: 00 Dated: 15-August-2019

### 14. Conditions of Certification

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

- Process fluid temperature must not exceed  $150^{\circ}C$ .
- Refer to instruction manual before use.
- All sealing devices/connections including cable glands, blanking elements, thread adapters, stopping plugs, cables and connectors shall maintain a minimum degree of protection of IP-66 depending on installation and environmental condition.
- For use only with a certified barrier with the following entity parameters:
  - $U_i = 7.14V$
  - $I_i = 0.729A$
  - $C_i = 2.87\mu F$
  - $L_i = 0H$
  - $P_i = 0.784W$
  - $R_{barrier} \geq 9.8\Omega$

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

- N/A

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

## SCHEDULE:

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The relevant Essential Health and Safety Requirements (EHSRs) affected by this variation have been identified and assessed in Intertek Report: 103740353DAL-001 Issue: 00 Dated: 15-August-2019.

### 16. Drawings and Documents

Title:	Drawing No.:	Rev. Level:	Date:
Electron Machine Corporation – MPR E-Scan – I.S. CCD Sensor Head – Marking Information – V1R3	MKG-BGS-CCD_V1R3	V1R3	08/09/2019
MPR E-Scan Low Power CCD PCB V1R3	PCB-BGS-CCD_V1R3	V1R3	11/13/2018
Electron Machine Corporation - E-Scan - Low Power CCD Board Schematic - V1R7	SCH-BGS-CCD_V1R7.SchDoc	7	01/17/2019
OPERATING AND SERVICE MANUAL	MPR E-SCAN I/S	B	08/12/2019
Electron Machine Corporation - MPR E-Scan - I.S. CCD Sensor Head - Bill of Materials V1R4	BOM-BGS-CCD_V1R4	V1R4	08/19/2019
Squeeze fitting nut	A-7919	A	02/20/1986
Cover assembly E-scan	B-11450	A	05/08/1996
Assembly MPR E-Scan head for Intrinsic Safety	B-11805	I	10/22/2001
Assembly, LED E-Scan	A-11399	D	10/26/2018
Inter Diag, Intrinsic Safety Sensing Head	B-11827	A	11/12/2018