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

Certificate No.: **IECEx SIR 14.0046X**

Certificate history:

Issue 5 (2019-01-14)
Issue 4 (2017-06-28)
Issue 3 (2016-05-12)
Issue 2 (2015-07-24)
Issue 1 (2015-03-02)
Issue 0 (2014-07-01)

Status: **Current**

Issue No: 6

Date of Issue: 2020-01-08

Applicant: **Eaton Electric Ltd**
Great Marlings
Butterfield
Luton
Bedfordshire
LU2 8DL
United Kingdom

Equipment: **Industrial Computer Barracuda 15” WS Gen 2**

Optional accessory:

Type of Protection: **Intrinsic Safety and Type nA**

Marking: Ex nA IIC T3 Gc
Ta = -40 °C to + 60 °C
(Some versions may be marked with a -10°C lower ambient temperature limit, see detail of certificate change 3 in Issue 1.)

Ethernet Module
Ex nA [ia Ga] IIC T3 Gc
Ta = -40°C to +45°C

Approved for issue on behalf of the IECEx Certification Body: **Neil Jones**

Position: **Certification Manager**

Signature: (for printed version)

Date:

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 or use of this QR Code.

Certificate issued by:

SIRA Certification Service
CSA Group
Unit 6, Hawarden Industrial Park
Hawarden, Deeside, CH5 3US
United Kingdom

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Manufacturer: **Eaton Electric Ltd**
Great Marlings
Butterfield
Luton
Bedfordshire
LU2 8DL
United Kingdom

Additional 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 60079-11:2011 Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
Edition:6.0

IEC 60079-15:2010 Explosive atmospheres - Part 15: Equipment protection by type of protection "n"
Edition:4

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:

GB/SIR/ExTR14.0164/00
GB/SIR/ExTR15.0069/00
GB/SIR/ExTR15.0192/00
GB/SIR/ExTR16.0119/00
GB/SIR/ExTR17.0133/00
GB/SIR/ExTR19.0008/00
GB/SIR/ExTR19.0329/00

Quality Assessment Report:

GB/BAS/QAR07.0017/08

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EQUIPMENT:
Equipment and systems covered by this Certificate are as follows:

The Barracuda 15 WS Gen 2 is an Industrial Computer Module for use on rig floors and rugged use areas.
The equipment has a cast, post machined aluminium enclosure, and an Aluminum sheet metal sub chassis. The front bezel has an UL Rated ABS inlay to allow the use of a projected Capacitance (P-Cap) touch sensor. The finish is an exterior powder coated Polyester over a trivalent chrome passivation layer.
The equipment has a cast, post machined aluminium enclosure, and an Aluminum sheet metal sub chassis. The front bezel has an UL Rated ABS inlay to allow the use of a projected Capacitance (P-Cap) touch sensor. The finish is an exterior powder coated Polyester over a trivalent chrome passivation layer.
Enclosure and face seals are achieved with silicone closed cell foam gaskets, VHB bonding tapes and military grade RTV front glass permanent sealing. Internally the main unit operates on 12 V DC with an auxiliary 5 V low power module, the maximum operating power around 80 Watts at full brightness and 100% processor utilization. The main heat producing parts are directly and thermally coupled to the heavily finned enclosure in order to move as much heat out the box as necessary to use commercial electronic hardware in +60°C ambient environments.
Refer to EQUIPMENT (continued) for additional information

SPECIFIC CONDITIONS OF USE: YES as shown below:

1. The quoted entity parameters of Co and Lo are applicable for the distributed capacitance and inductance in cable. Where there is circuit capacitance or inductance in the connected equipment (represented by Ci and Li respectively), then these values shall not exceed 50% of the quoted Co and Lo.

2. The safe area connection SK1 must only be connected to Ethernet sources which are not Power over Ethernet (PoE) capable.

3. Identical connectors are used for the safe area and hazardous area connections. Equipment labelling for correct connections shall be observed.

Equipment (continued):

For operation down to -40°C including switch on at -40°C, a thermostatically controlled distributed heater system is used to selectively heat certain parts to a suitable temperature before the system is allowed to start up. Temperature control is is achieved by a electromechanical thermostat which only allows AC mains to the heater PSU below an internal temperature of 15°C. The heater pads are supplied with 24 VDC from the heater PSU, and no pads are running above 20 Watts each. In the DC powered system, the raw DC which can be as low as 9 V is fed to an internal DCDC PSU to provide the necessary 24 VDC for the heater pads. As a protection against thermal run-away in the AC unit, an additional +100°C thermal fuse is in series with the electromechanical thermostat, and can cut heater power permanently. For the DC unit, the same thermostat control is used with the secondary protection being incorporated into the DCDC module itself.
For the AC or DC systems supplied with detachable power cords, there are no user accessible parts under the covers. The cables are attached to the connectors and the unit powered up. For the AC glanded PSU version, the customer is expected to remove the PSU from the main unit and wire in his AC power cabling accessing the terminals under a removable bottom cover.

The equipment has an Ethernet interface which provides an intrinsically safe output as shown below:

The BxLAN Ethernet interface is approved

[Ex ia Ga] IIC
Ta = -40°C to +70°C

Part No.	Data Rate	**Configuration**	**Suitable Groups**
BxLAn-OEM	10/100 Mbps	PCB without enclosure (optional covers)	I, IIA, IIC, IIIC

Intrinsic safety is achieved by limiting the energy which can be transferred from the safe area to the hazardous area.

Hazardous area side SK2/PL2:
10/100 Mbps versions

Uo = 6.0V Io = 2.24A Po = 1.16A

Version	**Group**	**Capacitance Co (µF)**	**Inductance Lo (µH)**	**Or**	**Inductance Lo (µH)**
10/100 Mbps	IIC	39	7.1		10.6

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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)
This issue, Issue 6, recognises the following changes; refer to the certificate annex to view a comprehensive history:

1. The introduction of an alternative LCD and SBC (Single Board Computer) were recognised.
2. The introduction of a certified Ethernet module which provides an intrinsically safe output. As a result; the standard IEC 60079-11:2011 Ed. 6 was introduced, the marking and product description were amended and Specific Conditions of Use were introduced therefore, an 'X' suffix was added to the certificate number.
3. Internal changes to the enclosure casting were recognised.

Annex:

IECEx SIR 14.0046X Issue 6 Annexe.pdf

Conditions of manufacture

The Manufacturer shall comply with the following:

1. The Barracuda 15" WS Gen 2 incorporates the following previously-certified devices:
   - ROTA DR4BFUSB02CAN USB connector, Ex d e IIC T6 Gb
   - Stran Technologies Type Gen XP Fibre Optic Connector, Ex e IIC T6 Gb,

   It is therefore the manufacturer's responsibility to continually monitor the status of the certification associated with these devices. The manufacturer shall inform Sira of any modifications to the devices that may impinge upon the explosion safety design of the Barracuda. Additionally, the manufacturer shall comply with the conditions applicable to the user in the above certificates.
2. The manufacturer shall provide, to the user, all the information necessary to install, operate and maintain the equipment, including the appropriate specified minimum and maximum torque values, and the maximum temperature to which the cable seals and seals providing ingress protection may be subjected when in service.

Full certification change history

Issue 1 – this Issue introduced the following changes:

1. The introduction of:
   - The D.C. version of the Barracuda 15 WS Gen 2.
   - A Delta Electronics type BFB0712L-AF00 blower.
   - A 5-Wire Resistive touchscreen controller.
2. The general assembly drawing was modified to include a previously-assessed wireless module.
3. It was recognised that the manufacturer marks some versions of the equipment with a -10°C lower ambient temperature limit. This is done to ensure that these versions will operate correctly and does not affect safety; therefore, the marking in the certificate is unaltered.

Issue 2 – this Issue introduced the following change:

1. The Introduction of the following optional alternative items
   - AMTouch type 28505-000 resistive touch screen and Admetro touchscreen controller
   - A Canbus port
   - A connector for the serial port
   - ROTA Ex USB port, replacing a current USB port which introduces an additional Condition of Manufacture.

Issue 3 – this Issue introduced the following changes:

1. The introduction of an addition of alternate thinner version of the approved P-CAP Touch Screen
2. The inclusion of the following devices, as used in the Barracuda 19 Gen2:
   - Internal USB Memory Device
   - External USB Bluetooth Device
   - Profibus
3. It was acknowledged that the CF door was actually part of the samples submitted to CSA for testing and evaluation.

Issue 4 – this Issue introduced the following changes:

1. Add alternative fiber configuration utilizing a Stran Technologies Type Gen XP Fiber Optic Connector, with a corresponding amendment to an existing Condition of Manufacture and the introduction of a new Condition of Manufacture
2. The introduction of an alternative certification label drawing without North American certification information, this applying to the a.c. version with heater only.

Issue 5 – this Issue introduced the following change:

1. Permit a change in the legal entity, and a modified manufacturing name and address from Azonix Corporation, Building #4, North Billerica. MA 01862, USA to Eaton Electric ltd, Great Marlings, Butterfield, Luton, Bedfordshire, LU2 8DL, UK.

Sira Certification Service
Unit 6 Hawarden Industrial Park,
Hawarden, CH5 3US, United Kingdom
Tel: +44 (0) 1244 670900
Email: ukinfo@csagroup.org
Web: www.csagroupuk.org

Issue 6 – this Issue introduced the following change

1. The introduction of an alternative LCD and SBC (Single Board Computer) were recognised.
2. The introduction of a certified Ethernet module which provides an intrinsically safe output. As a result; the standard IEC 60079-11:2011 Ed. 6 was introduced, the marking and product description were amended and Specific Conditions of Use were introduced therefore, an 'X' suffix was added to the certificate number.
3. Internal changes to the enclosure casting were recognised.

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