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 15.0074X**	Page 1 of 5	Certificate history:
Status:	**Current**	Issue No: 2	Issue 1 (2015-09-24) Issue 0 (2015-08-20)
Date of Issue:	2020-11-16		
Applicant:	**Neles Finland Oy** Vanha Porvoontie 229 Vantaa FIN-01380 **Finland**		
Equipment:	**MZB Module**		
Optional accessory:			
Type of Protection:	**Flameproof d, Intrinsically Safe ib and Dust Protection by Enclosure tb**		
Marking:	Ex d[ib] IIC T4 Gb Ex tb III C T105ºC Db IP68 Ta = -40°C to +85°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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Certificate No.: **IECEx SIR 15.0074X**

Date of issue: 2020-11-16 Issue No: 2

Manufacturer: **Neles Finland Oy**
Vanha Porvoontie 229
Vantaa FIN-01380
Finland

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 60079-1:2014-06 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:

GB/SIR/ExTR15.0235/00 GB/SIR/ExTR15.0252/00 GB/SIR/ExTR20.0210/00

Quality Assessment Report:

NO/DNV/QAR09.0008/10

IECEx Certificate of Conformity

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

The MZB Module is intrinsically safe associated apparatus that converts a nominal 24 Vdc “binary input” signal into an intrinsically safe “binary output”. This circuitry is encapsulated into the base of a flameproof enclosure. In addition, the MZB Module provides a facility for routing an independent, intrinsically safe FISCO supply without modification of the entity parameters.

The binary input is non-intrinsically safe with a nominal maximum voltage of 24 Vdc, but with an assumed fault voltage (Um) of 250 Vrms. The intrinsically safe binary output, as well as the FISCO output, are intended to supply a Neles flameproof VG9000F Valve Controller via an intermediate flameproof bushing that inter-connects the two enclosures. The Valve Controller and bushing are separately certified, but it is intended that all three devices are used together.

The MZB Module has the following intrinsically safe entity parameters:

Fieldbus input (3-way terminal block)	Fieldbus output (3-way terminal block)	Binary output (2-way terminal block
Ui = 9-32 Vdc	Uo = Ui	Uo = 28 V
	Io = Ii	Io = 118 mA
	Po = Pi	Po = 825 mW
		Co = 83 nF
		Lo = 220 µH

SPECIFIC CONDITIONS OF USE: YES as shown below:

1. The equipment contains a shunt zener diode interface, which is internally grounded to the enclosure. The enclosure shall be connected to a suitable earth in accordance with the relevant code of practice (e.g. IEC/EN 60079-14), either using the external earthing stud or by another suitable method.
2. If the ambient temperature is above 70ºC, the cable shall be selected accordingly.

IECEx Certificate of Conformity

Equipment (continued):

Conditions of manufacture

The Manufacturer shall comply with the following:

1. In accordance with IEC 60079-11:2011 clause 11.1.1, a routine test shall be carried out on each completed barrier to check the correct operation of each barrier component and the resistance of the fuse. Where the build includes 9.1 V zener diodes with 5% tolerance, the zener voltage shall not exceed 28 V. The test shall be in accordance with the zener diode manufacturer's data sheet, i.e. the zener voltage is measured with a lead temperature between 23ºC and 33ºC. The voltage measurement is taken 40±10 ms after the application of a test current of 150 mA. Mounting contacts shall be located 9.5 mm to 12.7 mm (3/8″ to 1/2″) from the inside edge of mounting clips to the body of the diode.
   This check is not required if 9.1 V, 2% zener diodes are used.
2. A dielectric strength test shall be undertaken on all manufactured units in accordance with IEC 60079-11:2011 clause 10.3. A voltage of 500 Vrms shall be applied for 60 s between the FISCO circuit and the binary input circuit; there shall be no flashover or breakdown and the leakage current shall not exceed 5 mA.
3. The equipment incorporates a flameproof enclosure, certified under IECEx SIR 07.0111U. It is therefore the responsibility of the manufacturer to continually monitor the status of the certification associated with this device. The manufacturer shall inform Sira of any modifications to the device that may impinge upon the explosion safety design of the equipment.

IECEx Certificate of Conformity

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)
Issue 1 – this Issue introduced the following change:

1. The replacement of:

- Fuse (F2), with a Schurter UMT 250 series 'barrier' fuse which has a slow blowing time characteristic.
- A non-safety critical transient voltage suppressor.

Issue 2 – this Issue introduced the following change:

1. The certificate holders and Manufacturers name was changed:
   From: 'Metso Flow Control OY'
   To: 'Neles Finland OY'