



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 ETL 17.0045X** Page 1 of 4 Certificate history:
Status: **Current** Issue No: 3 [Issue 2 \(2020-05-27\)](#)
Date of Issue: 2020-12-10 [Issue 1 \(2019-05-23\)](#)
Applicant: **BK Vibro America Inc** [Issue 0 \(2018-01-11\)](#)
1100 Mark Circle
Gardnerville, NV 89410
United States of America
Equipment: **Setpoint – Machinery Protection System**
Optional accessory:
Type of Protection: **Non-Arcing 'nA', Enclosed Break 'nC'**
Marking: Ex nA nC IIC 160°C (T3) Gc
-20°C ≤ Tamb ≤ +65°C
IECEx ETL 17.0045X

Approved for issue on behalf of the IECEx
Certification Body:

Kevin J. Wolf

Position:

Certification Officer

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:

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

intertek



IECEx Certificate of Conformity

Certificate No.: **IECEx ETL 17.0045X**

Page 2 of 4

Date of issue: 2020-12-10

Issue No: 3

Manufacturer: **BK Vibro America Inc**
1100 Mark Circle
Gardnerville, NV 89410
United States of America

Additional manufacturing locations: **Brüel & Kjær Vibro GmbH**
Leydheckerstr. 10
64293 Darmstadt
Germany

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 60079-15:2010 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:

[US/ETL/ExTR17.0055/00](#)
[US/ETL/ExTR17.0055/03](#)

[US/ETL/ExTR17.0055/01](#)

[US/ETL/ExTR17.0055/02](#)

Quality Assessment Reports:

[DE/PTB/QAR11.0003/04](#)

[US/ETL/QAR17.0010/02](#)



IECEx Certificate of Conformity

Certificate No.: **IECEx ETL 17.0045X**

Page 3 of 4

Date of issue: 2020-12-10

Issue No: 3

EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

The Setpoint – Machinery Protection System consists of a 4-slot, 8-slot, or 16-slot backplane, a rack connect module (RCM), one or two system access modules (SAM), and a combination of universal monitory modules (UMM), temperature monitoring modules (TMM) and power connection modules (PCM).

RCM and SAM are required in all configurations; however, UMM and TMM are optional. A combination of UMM and TMM can be from one of each module or up to 14 combined for 16-slot model.

RCM consists of: primary power input, secondary power input, discrete contact control inputs, rack fault relay, reset button, LED indicators, buffered transducer outputs. PCM is a modified RCM containing only the power circuits.

SAM provides access for: configuring all modules, connection to the control network, local display connection, system event and alarm lists, and connection to condition monitoring host computer.

UMM is a 4-channel machine monitoring modules that supports various sensors including but not limited to proximity, velocity, acceleration, seismic, pressure, LVDT or process variable. All channels are independent and may be configured to use any of the sensors.

TMM is a 6-channel machine monitoring module that supports thermocouple and RTD inputs or external process variable.

Remote display contains of a LCD display, display board and just a door of the enclosure .

Setpoint Modules can be removed while the system is powered (hot swap) only in non-hazardous environment.

Product is nC due to presence of sealed relays; all other components evaluated are non-arcing (nA).

See ANNEX I for manufacturer's documentation.

Routine tests:

Dielectric strength test between all circuit connections and chassis: 500 Vrms for 60s or 600 Vrms for 100ms as per the requirements of IEC 60079-15:2010 clauses 6.5.1 and 23.1

SPECIFIC CONDITIONS OF USE: YES as shown below:

1. To be installed inside an IECEx certified IP54 enclosure that has a suitable service temperature range. Mounting of the equipment within a suitable enclosure will cause the internal ambient enclosure temperature to be higher than the maximum external enclosure ambient temperature. The equipment shall not form part of the external enclosure (panel mounted, for example). All cable entries in to the enclosure shall be fitted with IECEx certified cable glands that have a minimum ingress protection of IP54. The cable glands shall have an operating temperature range equal to or greater than the ambient operating temperature.
2. Maximum ambient temperature where the unit is installed shall not exceed 65°C.
3. Transient protection shall be provided on the supply to limit transients to max: 50.4 Vpk (140% of the peak voltage).
4. USB connectors are not for use in hazardous area and will be internal to installation in an IECEx certified IP54 enclosure.
5. System chassis ground must follow section 3.4.1 of the Hazardous Area Installation Manual; Document: S1160865; Rev: 002.
6. Module hot-swapping is not allowed in hazardous locations.
7. Any Ethernet connectors used shall be checked to ensure that the mechanical retaining clip is undamaged and provides a mechanically secured and retained connection.



IECEx Certificate of Conformity

Certificate No.: **IECEx ETL 17.0045X**

Page 4 of 4

Date of issue: 2020-12-10

Issue No: 3

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)

1. Updated manufacture address
2. Updated TMM and UMM board and related drawings
3. Added alternate manufacture: Brüel & Kjær Vibro GmbH

Annex:

[104456564DAL-001- Annex for IECEx ETL 17.0045X issue 3_1.pdf](#)



Annex to IECEx Certificate of Conformity

Certificate No:	IECEX ETL 17.0045X	Issue No. 3
Annex No. 1		

Technical Documents			
Title:	Drawing No.:	Rev. Level:	Date:
*Hazardous Area Installation Manual	Document S1160865.002	003	07-Apr-2020
*Marking Label-VC-8000	S100426-AGENCY	003	13-May-2020
Schematic Temperature Monitor	S100446-AGENCY	001	13-Sep-2017
Display Card	S100449-AGENCY	001	13-Sep-2017
Backplane 16 slot	S100452-AGENCY	001	13-Sep-2017
Backplane 8 slot	S100455-AGENCY	001	13-Sep-2017
Backplane 4 slot	S100521-AGENCY	001	13-Sep-2017
Schematic Vibration Monitor	S100551-AGENCY	001	13-Sep-2017
*Connector Card	S100555-AGENCY	003	13-May-2020
System Monitor	S100560-AGENCY	001	13-Sep-2017
Label, VC-8000, Warning, Explosive atmosphere	S100567-AGENCY	001	13-Sep-2017
Specifications VC-8000, UMM PCB	S100569-AGENCY	001	13-Sep-2017
Specifications VC-8000, TMM Board	S100570-AGENCY	001	13-Sep-2017
Specifications VC-8000, SAM Board, Agency	S100571-AGENCY	001	13-Sep-2017
Specifications VC-8000, RCM PCB, Agency	S100572-AGENCY	001	13-Sep-2017
Specifications Backplane, 8 slot	S100573-AGENCY	001	13-Sep-2017
Specifications Backplane, 16 slot	S100574-AGENCY	001	13-Sep-2017
Specifications VC-8000, Display/BNC Board	S100575-AGENCY	001	13-Sep-2017
Drill DWG, SP-2020 Backplane, 4-slot	S100581-AGENCY	001	13-Sep-2017
Power Connection Module	S100850-AGENCY	001	13-Sep-2017
*VC-8000-RCK, Outline and Dimension	S1089867-AGENCY	002	13-May-2020
*MPS, BOM, AGENCY CONTROLLED COMPONENTS (14 Pages)	S1219238-AGENCY	003	13-May-2020
*VC-8000 DISPLAY BOARD Agency	S106592-03-AGENCY	003	13-May-2020
*Specification VC-8000, Display Board	S106592-AGENCY	002	13-May-2020

Required Manufacturer Routine Testing		
Test	Title/Description of Test	Standard and Clause
1	<p>Routine Electric Strength Test</p> <p>A routine electric strength test will be required between the connector pins and the enclosure of each device. A test voltage of 500V r.m.s. or 700VDC is to be applied for 60s and no breakdown of insulation or separation shall occur. Alternatively, a test shall be carried out at 1.2 times the test voltage, but maintained for at least 100 ms.</p>	IEC 60079-15: 2010, Clause 6.5.1 and 23.1