



# IECEX Certificate of Conformity

## INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification Scheme for Explosive Atmospheres

for rules and details of the IECEx Scheme visit [www.iecex.com](http://www.iecex.com)

Certificate No.: IECEx PRE 15.0067X Issue No: 0 Certificate history:  
Issue No. 0 (2016-03-02)

Status: **Current** Page 1 of 3

Date of Issue: **2016-03-02**

Applicant: **Cavotec Micro-control AS**  
Gevinglia 112  
7517 Hell  
**Norway**

Electrical Apparatus: **Barrier**  
*Optional accessory:*

Type of Protection: **"I" and "nA"**

Marking: [Ex ia Ma] I -30°C ≤ Ta ≤ +65°C  
[Ex ia Ga] IIB -30°C ≤ Ta ≤ +65°C  
[Ex ia Da] IIIC -30°C ≤ Ta ≤ +65°C  
Ex nA [ia Ga] IIB Gc T4 -30°C ≤ Ta ≤ +65°C

Approved for issue on behalf of the IECEx  
Certification Body:

Bjørn Spongsveen

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 the [Official IECEx Website](http://www.iecex.com).

Certificate issued by:

**DNV Nemko Presafe AS**  
Gautadalleen 30  
P.O.Box 73 Blindern  
0314 Oslo  
Norway





# IECEx Certificate of Conformity

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Date of Issue: 2016-03-02 Page 2 of 3  
Manufacturer: **Cavotec Micro-control AS**  
Gevinglia 112  
7517 Hell  
**Norway**

Additional Manufacturing  
location(s):

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 electrical apparatus 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:

<b>IEC 60079-0 : 2011</b> Edition:6.0	Explosive atmospheres - Part 0: General requirements
<b>IEC 60079-11 : 2011</b> Edition:6.0	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
<b>IEC 60079-15 : 2010</b> Edition:4	Explosive atmospheres - Part 15: Equipment protection by type of protection "n"

*This Certificate **does not** indicate compliance with electrical 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 Report:

[NO/PRE/ExTR15.0062/00](#)

Quality Assessment Report:

[NO/NEM/QAR08.0002/06](#)



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## Schedule

### EQUIPMENT:

*Equipment and systems covered by this certificate are as follows:*

Ex barrier with intrinsically safe output. The barrier, MC-EX-BARRIER3, shall be used together with Cavotec's terminal units MC-3200 EX, MC-3300 EX, MC-3-5 EX or MC-3-6 EX. The barrier has galvanically separation between non-IS and IS.

Electrical data:

See annex to this certificate for electrical parameters.

### CONDITIONS OF CERTIFICATION: YES as shown below:

The following requirements have to be fulfilled before the equipment can be used in zone 2:

- Do not separate J1 in a hazardous area when energized.
- The MC-EX-BARRIER3 shall be mounted in an enclosure which complies to the requirements of IEC 60079-15 and fulfil IP54, or alternatively be mounted in an enclosure certified according to IEC 60079-7.
- Needs to be installed with two Ex certified thermostates which are set to maximum 65°C when installed with other equipment inside the enclosure. The thermostates shall be connected in series before the barrier input, so it will have no voltage potential if the temperature exceeds 65°C. The thermostates must be installed close to the barrier.
- The dimensions of the enclosure have to be minimum 30 cm x 20 cm x 15 cm.
- The power supply has to be SELV certified or external transient protection protection device to be set at a level not exceeding 140% of the peak rated voltage of 85VDC or 60VAC has to be used.
- Um: 85VDC / 60VAC.
- $-30^{\circ}\text{C} \leq T_a \leq +65^{\circ}\text{C}$

### Annex:

[Annex to IECEx certificate\\_00.pdf](#)

**Annex to the certificate: IECEx PRE 15.0067X**

**Electrical Data**

Um : 250V

When used in zone 2 Um: 85V d.c / 60V a.c

		Terminal J5 : 1-2	Terminal J5 : 3-4
I / IIB / IIIC	Uo :	9,3V	7,71V
	Io :	2,39A	111mA
	Po :	3,93W	214mW
I	Co :	1000 $\mu$ F	1000 $\mu$ F
IIB / IIIC	Co :	32 $\mu$ F	140 $\mu$ F
I	Lo :	81 $\mu$ H	44mH
IIB / IIIC	Lo :	24 $\mu$ H	14mH
I	Lo/Ro :	84,7 $\mu$ H/ $\Omega$	2,1mH/ $\Omega$
IIB / IIIC	Lo/Ro :	25,8 $\mu$ H/ $\Omega$	668 $\mu$ H/ $\Omega$