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

Certificate No.:	IECEx BVS 16.0087X	Issue No: 0	Certificate history: Issue No. 0 (2016-12-20)
Status:	**Current**	Page 1 of 3	
Date of Issue:	**2016-12-20**		
Applicant:	**Micro Motion Inc.** 7070 Winchester Circle, Boulder, Co. 80301 **United States of America**		
Equipment: *Optional accessory:*	**Sensor type HPC010*******3*****		
Type of Protection:	**Equipment protection by type of protection "n", Equipment dust ignition protection by enclosure "t"**		
Marking:	Ex nA IIC T* Gc Ex tc IIIC T*°C Dc *see Parameters		

Approved for issue on behalf of the IECEx Certification Body: J. Koch

Position: Head of Certification Body

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.

Certificate issued by:

DEKRA EXAM GmbH
Dinnendahlstrasse 9
44809 Bochum
Germany

DEKRA
On the safe side.

IECEx Certificate of Conformity

Certificate No:	IECEx BVS 16.0087X	Issue No: 0
Date of Issue:	**2016-12-20**	Page 2 of 3
Manufacturer:	**Micro Motion Inc.** 7070 Winchester Circle, Boulder, Co. 80301 **United States of America**	

Additional Manufacturing location(s):

F-R Tecnologias De Flujo, S.A. de C.V.
Ave. Miguel de Cervantes 111
Chihuahua, Chihuahua, Mexico
31136
Mexico

Emerson Process Management Flow B.V.
Neonstraat 1
6718 WX Ede
The Netherlands

Emerson Process Management Flow Technologies Co., Ltd.
111, Xing Min South Road,
Jiangning District, Nanjing,
Jiangsu Province, 211100
China

Emerson SRL
Emerson Street No 4, 400641
Cluj-Napoca
Romania

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:

IEC 60079-0 : 2011 Edition:6.0	Explosive atmospheres - Part 0: General requirements
IEC 60079-15 : 2010 Edition:4	Explosive atmospheres - Part 15: Equipment protection by type of protection "n"
IEC 60079-31 : 2013 Edition:2	Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"

*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:

DE/BVS/ExTR16.0091/00

Quality Assessment Report:

NO/DNV/QAR08.0005/04
NO/PRE/QAR15.0031/00
NO/PRE/QAR16.0031/00
NO/PRE/QAR16.0032/00
NO/PRE/QAR16.0033/00

IECEx Certificate of Conformity

Certificate No:	IECEx BVS 16.0087X	Issue No: 0
Date of Issue:	**2016-12-20**	Page 3 of 3

Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

Subject and Type

See Annex

Description

See Annex

Parameters

See Annex

CONDITIONS OF CERTIFICATION: YES as shown below:

See Annex

Annex:

BVS_16_0087X_MicroMotion_Annex.pdf

IECEx Certificate of Conformity

Certificate No.: **IECEx BVS 16.0087X**
Annex

Subject and Type

Sensor Type HPC010	*	***	*	*	*	3	*****
	1)	2)	3)	4)	5)		6)

1) P = Nickel alloy N06022
2) Marking without influence to type of protection
3) D = Rupture Disk (vent)
4) Letter for electronic interface
0 = integral 2400
1 = integral 2400 with extender
F = integral 5700
J = integral 2200S
U = integral 2200S with extender
5) Conduit connection
6) Marking without influence to type of protection

Description

The flow sensor in combination with a transmitter is used for flow measurement.

The flow sensor, which consists of magnetically excited oscillating tubes, contains as electrical components coils, resistors, temperature sensors and terminals and connectors.

The sensor is designed for use in connection with a suitable transmitter, e.g. type 24********3**** in accordance with IECEx BVS 05.0014X, e.g. type 22********3**** in accordance with IECEx BVS 08.0042 X, e.g. type 5700*1***3A*** in accordance with IECEx BVS 14.0037X, only the assemblage of the sensor and the transmitter guarantees the necessary degrees of protection.
Additionally the transmitter type 22********3**** and type 5700*1***3A*** may be equipped with the separately certified THUM Wireless HART adaptor (IECEx BAS 09.0058).

When used with an integral transmitter type 2400S********** the variation gets the denomination type
HPC010 ***** [0, 1] ** *****

When used with an integral transmitter type 2200S********** the variation gets the denomination type
HPC010 ***** [J, U] ** *****

When used with an integral transmitter type 5700*1******** the variation gets the denomination type HPC010 ***** F ** *****

Parameters

1 Drive circuit (pin connection 7-8)

Voltage	DC	30	V
Current		84	mA

2 Pick-off circuit (pin connections 3-4 and 5-6)

Voltage	DC	30	V
Current		25	mA

3 Temperature circuit (pin connections 1-2 and 9)

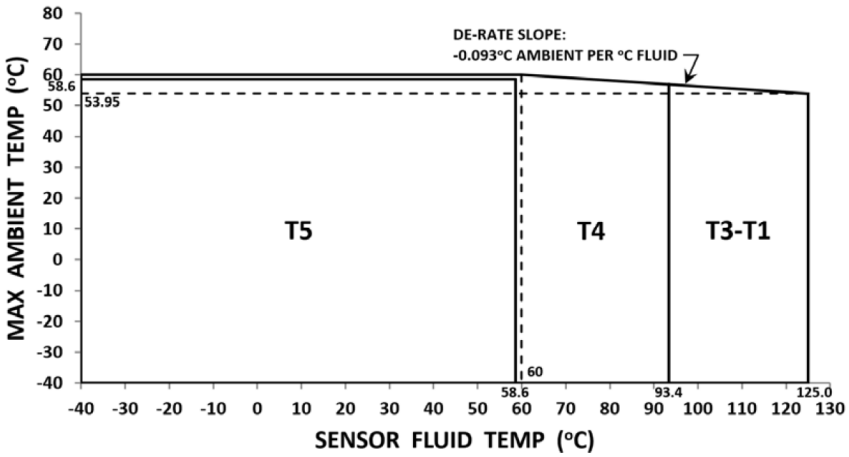
Voltage	DC	30	V
Current		25	mA

4 Temperature class / maximum surface temperature T

The classification into a temperature class / determination of the maximum surface temperature T depends on the temperature of the medium taking into account the maximum operating temperature of the sensor and is shown in the following graphs:

4.1 HPC010 with integral 2400S:

Sensor type	
With 2400S	HPC010*****[0,1]*3*******

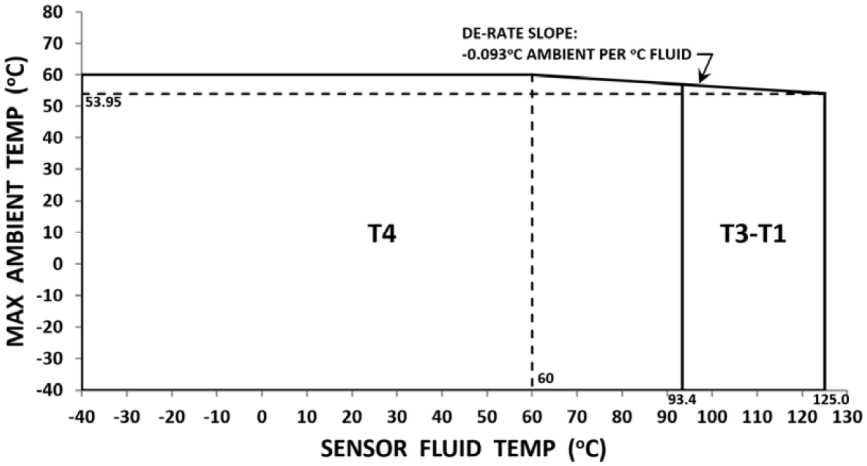


Note 1: Use the above graph to determine the temperature class for a given fluid and ambient temperature.
Note 2: The maximum surface temperature T for dust is as follows: T5: T 95 °C, T4: T 130 °C, T3 - T1: T 163.7 °C

Ambient temperature range: T_a -40 °C to +60 °C

4.2 HPC010 with integral 2200S:

Sensor type	
With 2200S	HPC010*****[J,U]*3*****

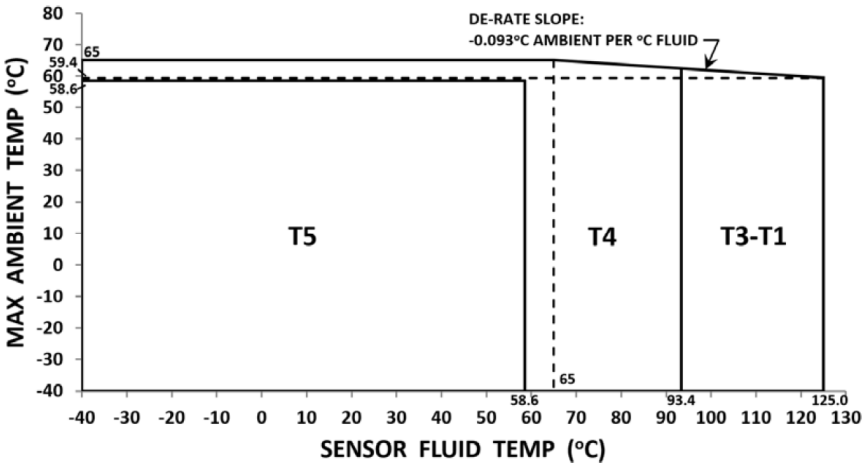


Note 1: Use the above graph to determine the temperature class for a given fluid and ambient temperature.

Ambient temperature range: T_a -40 °C to +60 °C

4.3 HPC010 with integral 5700 without THUM 775 installed:

Sensor type	
With 5700I**A	HPC010*****F*3*****

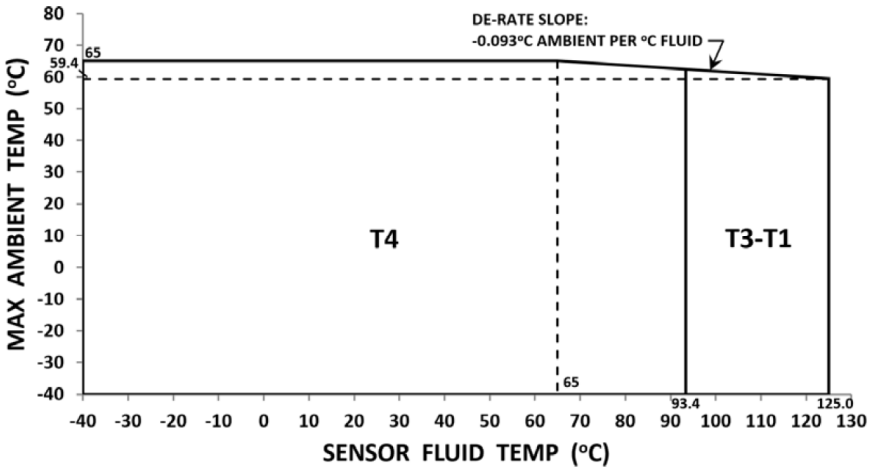


Note 1: Use the above graph to determine the temperature class for a given fluid and ambient temperature.
Note 2: The maximum surface temperature for dust is as follows: T5: T 95 °C, T4: T 130 °C, T3 - T1: T 163.7 °C.

Ambient temperature range: T_a -40 °C to +65 °C

4.4 HPC010 with integral 5700 without THUM 775 installed:

Sensor type	
With 5700I**(C,E,N)	HPC010*****F*3*****

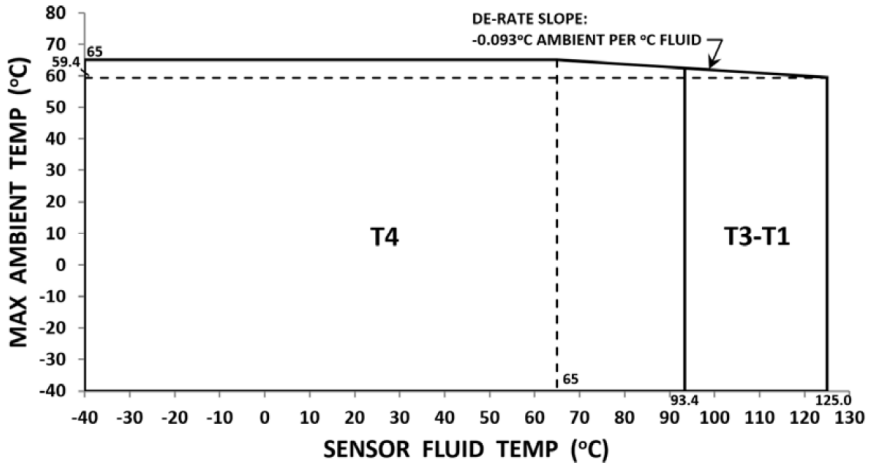


Note 1: Use the above graph to determine the temperature class for a given fluid and ambient temperature.
Note 2: The maximum surface temperature for dust is as follows: T4: T 130 °C,
T3 -T1: T 163.7 °C.

Ambient temperature range: T_a -40 °C to +65 °C

4.5 HPC010 with integral 5700 and THUM 775 installed:

Sensor type	
With 5700	HPC010*****F*3***** with THUM 775



Note 1: Use the above graph to determine the temperature class for a given fluid and ambient temperature.
Note 2: The maximum surface temperature for dust is as follows: T4: T 130 °C,
T3 -T1: T 163.7 °C.
Ambient temperature range: T_a -40 °C to +65 °C

"Conditions of Use" for Ex Equipment, if any:

The sensor is designed for use in connection with a suitable transmitter, e.g. 24********3**** in accordance with IECEx BVS 05.0014X; only the assembly of the sensor and the transmitter guarantees the necessary degrees of protection. By mounting the sensor type directly to the transmitter 2400 the use of the unit will be modified according to the following:

	HPC010*****(0,1)*¥3****
Transmitter type 2400S*A***3**** or 2400S*D***L****	Ex nA nC IIC T5…T1 Gc Ex tc IIIC T[1)]°C Dc IP66/IP67
Transmitter type 2400S*C***3****	Ex nA IIC T5…T1 Gc Ex tc IIIC T[1)]°C Dc IP66/IP67

[1)] For dust temp ratings see temperature graphs

The sensor is designed for use in connection with a suitable transmitter, e.g. 22********3**** in accordance with IECEx BVS 08.0042X; only the assembly of the sensor and the transmitter guarantees the necessary degrees of protection. By mounting the sensor type directly to the transmitter 2200 the use of the unit will be modified according to the following:

	HPC010*****(J,U)*3*****
Transmitter type 2200S*(H,K)***3****	Ex nA IIC T4…T1 Gc IP66/67
Transmitter type 2200S*(5,6)***3****	Ex nA IIC T4…T1 Gc IP66

The sensor is designed for use in connection with a suitable transmitter, e.g. 5700*1***3A*** in accordance with IECEx BVS 14.0037X, only the assembly of the sensor and the transmitter guarantees the necessary degrees of protection. By mounting the sensor type directly to the transmitter 5700 the use of the unit will be modified according to the following:

	HPC010*****F*3*****
Transmitter type 5700I12A*3A***	Ex nA nC IIB + H_2 T5…T1 Gc Ex tc IIIC T[1)]°C Dc IP66/IP67
Transmitter type 5700I1(3,5)A*3A***	Ex nA nC IIC T5…T1 Gc Ex tc IIIC T[1)]°C Dc IP66/IP67
Transmitter type 5700I12C*3A***	Ex nA nC IIB+H_2 T4…T1 Gc Ex tc IIIC T[1)]°C Dc IP66/IP67
Transmitter type 5700I1(3,5)C*3A***	Ex nA nC IIC T4…T1 Gc Ex tc IIIC T[1)]°C Dc IP66/IP67
Transmitter type 5700I12N*3A***	Ex nA IIB+H_2 T4…T1 Gc Ex tc IIIC T[1)]°C Dc IP66/IP67
Transmitter type 5700I1(3,5)N*3A***	Ex nA IIC T4…T1 Gc Ex tc IIIC T[1)]°C Dc IP66/IP67
Transmitter type 5700I12E*3A***	Ex nA [ic] IIB+H_2 T4…T1 Gc Ex tc IIIC T[1)]°C Dc IP66/IP67
Transmitter type 5700I1(3,5)E*3A***	Ex nA [ic] IIC T4…T1 Gc Ex tc IIIC T[1)]°C Dc IP66/IP67
Transmitter type 5700I12**3A*** with THUM 775	Ex nA nC IIB+H_2 T4…T1 Gc IP66
Transmitter type 5700I1(3,5)**3A*** with THUM 775	Ex nA nC IIC T4…T1 Gc IP66