



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 09.0016	issue No.:2	Certificate history: Issue No. 2 (2012-5-2) Issue No. 1 (2010-11-8) Issue No. 0 (2009-4-7)
Status:	Current		
Date of Issue:	2012-05-02	Page 1 of 4	
Applicant:	ifm electronic gmbh Friedrichstrasse 1 45128 Essen formerly Teichstrasse 4 45127 Essen Germany		
Electrical Apparatus: Optional accessory:	Inductive proximity sensors type I7*2***-N*		
Type of Protection:	Equipment protection by intrinsic safety "i", Equipment with equipment protection level (EPL) Ga		
Marking:	Ex ia IIC T* Ga Ta: -40...100 °C (60 °C) Ex ia IIIC T*** °C Da		
Approved for issue on behalf of the IECEx Certification Body:	Dr.-Ing. F. Eickhoff		
Position:	Deputy Head of Certification Body		
Signature: (for printed version)			
Date:	2012-05-02		

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:

DEKRA EXAM GmbH
Dinnendahlstrasse 9
44809 Bochum
Germany

 **DEKRA**
DEKRA EXAM GmbH



IECEx Certificate of Conformity

Certificate No.: IECEx BVS 09.0016

Date of Issue: 2012-05-02

Issue No.: 2

Page 2 of 4

Manufacturer: **ifm electronic gmbh**
ifm Strasse 1
88069 Tettnang
Germany

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:

IEC 60079-0 : 2011 Edition: 6.0	Explosive atmospheres - Part 0: General requirements
IEC 60079-11 : 2011-06 Edition: 6.0	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
IEC 60079-26 : 2006 Edition: 2	Explosive atmospheres - Part 26: Equipment with equipment protection level (EPL) Ga

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/ExTR08.0009/01](#)

Quality Assessment Report:

[DE/BVS/QAR06.0010/03](#)



IECEx Certificate of Conformity

Certificate No.: IECEx BVS 09.0016

Date of Issue: 2012-05-02

Issue No.: 2

Page 3 of 4

Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

Description

The proximity switches are used in explosive atmospheres for detection of metallic parts.
The proximity switches will be connected to intrinsically safe circuits.

Subject and type
see Annex

Parameters
see Annex

CONDITIONS OF CERTIFICATION: NO



IECEx Certificate of Conformity

Certificate No.: IECEx BVS 09.0016

Date of Issue: 2012-05-02

Issue No.: 2

Page 4 of 4

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):

The proximity sensor has been assessed in acc. with IEC 60079-0:2011 and IEC 60079-11:2011.



IECEx Certificate of Conformity



Certificate No.: IECEx BVS 09.0016, Issue 2
Annex
Page 1 of 1

Subject and Type

Proximity switch type I7*2***-N*

Instead of the ** in the complete denomination numerals will be inserted which characterize modifications.

The following variations are possible:

Type	Marking	Ambient temperature range Ta
I7S2002-N I7S23,5-N I7R2010-N I7R2015-N	Ga Ex ia IIC T4 Ex iaD 20 T125°C	-40 °C up to +100 °C
I7R2010-NL I7R2015-NL I7R2010-N/2m I7R2010-NL/2m I7R2015-N/2m I7R2015-NL/2m	Ga Ex ia IIC T5 Ex iaD 20 T100°C	-40 °C up to (see table)
	Ga Ex ia IIC T6 Ex iaD 20 T85°C	-40 °C up to (see table)

Parameters

One of the following combinations with resulting temperature values

Electrical parameters	Voltage Ui [V]	15		16			16			16		
	Current Ii [mA]	50		25			25			52		
	Power Pi [mW]	120		34			64			169		
Temperature class max. surface temperature [°C] for DUST		T6 85	T4 125	T6 85	T5 100	T4 125	T6 85	T5 100	T4 125	T6 85	T5 100	T4 125
Type		Max. ambient temperature (-40 °C up to)										
I7S2***-N*** I7R2***-N***		60	100	70	85	100	70	85	100	55	70	100
I7R2***-NL ***		70	100	75	90	100	75	90	100	70	85	100

Maximum internal capacitance Ci and maximum internal inductance Li in accordance with the following table

Type	Li [µH]	Ci [nF]
I7S2002-N	120	150
I7S23,5-N	150	150
I7R210-N*** I7R2015-N***	100	150
I7R2010-NL ***	90	90
I7R2015-NL ***	65	90

Ambient temperature range Ta -40 °C up to (see table)