

FM Approvals
1151 Boston Providence Turnpike
P.O. Box 9102 Norwood, MA 02062 USA
T: 781 762 4300 F: 781-762-9375 www.fmaprovals.com

CERTIFICATE OF COMPLIANCE

HAZARDOUS (CLASSIFIED) LOCATION ELECTRICAL EQUIPMENT

This certificate is issued for the following equipment:

I7a2b-Nc/d Inductive Proximity Sensors

IS / I, II, III / 1 / ABCDEFG / T* – Ta = * - 704943 Entity; IP67

I / 0 / AEx ia IIC / T* – Ta = * 704943 Entity

NI / I / 2 / ABCD / T* – Ta = *

I / 2 / IIC / T* – Ta = *

*see control drawing

a = S or R

b = Slot width or Ring Diameter

c = L or blank

d = 2M or blank

Type No.	Electrical feature	Housing
I7S2002-N	Standard IS, normally closed	Slot Housing, Slot, width 2 mm 2 cable 0.06 mm ² , length 0.5 m
I7S23,5-N	Standard IS, normally closed	Slot Housing, Slot, width 3.5 mm 2 cable 0.14 mm ² , length 0.065 m with DUBOX connector
I7R2010-N	Standard IS, normally closed	Ring housing, Diameter 10 mm, 2 cable 0,14 mm ² , length 0.15 m
I7R2010-NL	Standard IS, normally closed, Bipolar detection	Ring housing, Diameter 10 mm 2 cable 0,14 mm ² , length 0.15 m
I7R2015-N	Standard IS, normally closed	Ring housing, Diameter 15 mm 2 cable 0,14 mm ² , length 0.15 m

I7R2015-NL	Standard IS, normally closed, Bipolar detection	Ring housing, Diameter 15 mm 2 cable 0,14 mm ² , length 0.15 m
I7R2010-N/2M	Standard IS, normally closed	Ring housing, Diameter 10 mm, 2 cable 0,14 mm ² , length 2 m
I7R2010-NL/2M	Standard IS, normally closed, Bipolar detection	Ring housing, Diameter 10 mm 2 cable 0,14 mm ² , length 2 m
I7R2015-N/2M	Standard IS, normally closed	Ring housing, Diameter 15 mm 2 cable 0,14 mm ² , length 2 m
I7R2015-NL/2M	Standard IS, normally closed, Bipolar detection	Ring housing, Diameter 15 mm 2 cable 0,14 mm ² , length 2 m

Characteristic values	Ui = 15V	Ui = 16V	Ui = 16V	Ui = 16V	
	Ii = 50 mA	Ii = 25 mA	Ii = 25 mA	Ii = 52 mA	
	Pi = 120 mW	Pi = 34 mW	Pi = 64 mW	Pi = 169 mW	
Type number	Max. Permissible operating temperature in °C for use in temperature class (Gas) or max. surface temperature (Dust)				
	T6 / 85°C	T6 / 85°C	T6 / 85°C	T6 / 85°C	T5 / 100°C
I7S2***-N...	60	72	70	55	70
I7R2***-N...	60	75	70	55	70
I7R2***-NL	70	75	75	70	85

Equipment Ratings:

Intrinsically safe for Class I, II and III, Division 1, Groups A-G; and Class I, Zone 0 Group IIC;
 Nonincendive for Class I, Division 2, Groups A-D; and Class I, Zone 2 Group IIC; indoor and outdoor
 Hazardous (Classified) Locations. Temperature class and ambient temperature per table

FM Approved for:

ifm electronic GmbH
 Essen D-45128, GERMANY

This certifies that the equipment described has been found to comply with the following Approval Standards and other documents:

Class 3600	1998
Class 3610	2010
Class 3611	2004
Class 3810	2005
ANSI/ISA-60079-0	2005
ANSI/ISA-60079-11	2009
ANSI/IEC 60529	2004

Original Project ID: 3036518

Approval Granted: December 5, 2011

Subsequent Revision Reports / Date Approval Amended

Report Number	Date	Report Number	Date
RR207798	December 20, 2016		

FM Approvals LLC



James E. Marquedant
Group Manager, Electrical

20 December 2016
Date

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CERTIFICATE OF COMPLIANCE

HAZARDOUS LOCATION ELECTRICAL EQUIPMENT PER CANADIAN REQUIREMENTS

This certificate is issued for the following equipment:

I7a2b-Nc/d Inductive Proximity Sensors

IS / I, II, III / 1 / ABCDEFG / T* – Ta = * - 704943 Entity; IP67

I / 0 / Ex ia IIC / T* – Ta = * 704943 Entity

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I / 2 / IIC / T* – Ta = *

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FM Approved for:

ifm electronic GmbH
 Essen D-45128, GERMANY

This certifies that the equipment described has been found to comply with the following Approval Standards and other documents:

CSA-C22.2 No 157	1992
CSA-C22.2 No. 60079-0	2009
CSA-C22.2 No. 60079-11	2009
CSA C22.2 No. 213	1987
CSA C22.2 No. 1010.1	1982
CSA C22.2 No. 142	1987
CSA-C22.2 No. 60529	2005

Original Project ID: 3036518C

Approval Granted: December 5, 2011

Subsequent Revision Reports / Date Approval Amended

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