



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 PRE 18.0076X

Issue No: 0

Certificate history:

Issue No. 0 (2018-11-19)

Status: **Current**

Page 1 of 3

Date of Issue: **2018-11-19**

Applicant: **PMV Automation AB**
Korta gatan 9
SE-171 54 Solna
Sweden

Equipment: **Ultraswitch DS/DM**

Optional accessory:

Type of Protection: **Ex d version and Ex ia version of product**

Marking:

For Ex d version of product
Ex db IIC T5 Gb, $-40^{\circ}\text{C} \leq T_a \leq 85^{\circ}\text{C}$
Ex tb IIIC T94 $^{\circ}\text{C}$ Db IP66, $-30^{\circ}\text{C} \leq T_a \leq +70^{\circ}\text{C}$

For Ex ia version of product
Ex ia IIC T4 Ga
Ex ia IIIC T135 $^{\circ}\text{C}$ Da
IP66 (See full specs in Annex to Certificate)

*Approved for issue on behalf of the IECEx
Certification Body:*

Asle Kaastad

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 GL Nemko Presafe AS
Veritasveien 3
1363 Høvik
Norway





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Manufacturer: **PMV Automation AB**
Korta gatan 9
SE-171 54 Solna
Sweden

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 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 60079-1 : 2014-06 Edition:7.0	Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
IEC 60079-11 : 2011 Edition:6.0	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
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:

[NO/PRE/ExTR18.0051/00](#)

Quality Assessment Report:

[NO/NEM/QAR08.0008/09](#)



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Certificate No: IECEx PRE 18.0076X

Issue No: 0

Date of Issue: 2018-11-19

Page 3 of 3

Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

PMV DS/DM limit switch enclosures provide local and remote position indication for automated valves. They may also be used as a junction box for direct installation of solenoid valves. The enclosure are made of Aluminium or Stainless steel material, with two cable entries of ¾" NPT or M25 X 1.5 and provided with third cable entry as an optional without any opening. The aluminium enclosure has order code of B, C, W and stainless steel enclosure with S. NBR & Viton are the two gaskets used for the ingress protection. Connecting cables must be rated for ambient temperature above 161°C. Certified Ex glands shall be used accordingly for Ex d and Ex t protection type

Internal parts are wiring terminals and the switches, up to four switches may be installed. No other active electronics exist in EUT. The Ex ia version of EUT is similarly built-up using the Ex d enclosure and having terminals and switches as internal parts. Each switch is used as a separated circuit. The safety input parameters are therefore dedicated for each single switch.

A wide range of switches could be ordered, which leads to a larger range of EUT's version. The order code of EUT and electrical safety parameters are described in Annex to IECEx certificate.

SPECIFIC CONDITIONS OF USE: YES as shown below:

- The flamepath gaps are less than those given in the standards and shall not be enlarged. For the repair of flameproof joints, the manufacturer shall be consulted.
- Potential risk of electrostatic discharge. See instructions for guidance to minimize risk of electrostatic discharge
- Minimum cable size shall be 1mm² or 17 AWG for switches rated higher than 3A and minimum cable size shall be 0.8mm² or 18 AWG for switches rated at 3A or lower.

Annex:

[Annex to IECEx certificate.pdf](#)

Annex to certificate: IECEx PRE 18.0048X

Product model code: XXXXXXXXXXXXXXXX (16 positions)

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
A	A	B	C	D	E	F	G	G	H	H	I	J	K	L	M

AA= Product & Connections (cable entry)

- DS Explosion proof / Flame proof switchbox with 3/4" NPT cable entries
- DM Explosion proof / Flame proof switchbox with M25x1,5 cable entries

B= Number of open cable entries (1-3)

C= Housing material / Surface treatment

- x (x= anything but S) Aluminium housing, polyester powder coating different colors
- S Stainless Steel housing

D= Shaft

- x X= anything (different shaft external interface)

E= Indicator option

- x If x=a number flat top if x=character ultradome

F= Qty of switches 0 to 4 switches

GG= Switch options

	Manufacturer	Switch type	Ex ia	Ex d
M1	Honeywell	SPDT Mechanical switches 250VAC 10A		
MC	Honeywell	SPDT Mechanical switches 250°F		
MG	Honeywell	SPDT Mechanical - Gold Contacts		
MK	Essen	SPDT Mechanical switches 250VAC 10A		
P4	Aleph	SPST Proximity		
P5	Hamlin (Littlefuse)	SPDT Proximity		
PE	Flowserve	Sabre SPDT Proximity (PRS3, HSR630RT)		
PP	Flowserve	Phazer SPDT Proximity		
PT	Flowserve	Phazer BRS SPST Proximity (Bestack R25U)		
N1	Pepperl & Fuchs	NJ4-12GM40_E, Proximity 3-wire NPN NO		
N3	Pepperl & Fuchs	SJ3.5-S1N (NAMUR)		
N8	Pepperl & Fuchs	NJ2-V3-N (NAMUR)		
N9	Pepperl & Fuchs	NBB3-V3-Z4		
NA	Pepperl & Fuchs	NBN4-12GM40-E2, Inductive. 3 wires PNP NO		
NC	Pepperl & Fuchs	NJ4-12GM-N		
ND	Pepperl & Fuchs	NCB2-12GM40-Z1 Proximity inductive 2-wire DC NC		
NE	Pepperl & Fuchs	NCB2-12GM35-N0 NAMUR with LED		
NF	Pepperl & Fuchs	NCN4-12GM35-N0 NAMUR with LED		
NG	Pepperl & Fuchs	NJ5-11-N-G		
NK	Pepperl & Fuchs	NCN4-12GM40-Z0 Proximity 2-wire DC NO		
NM	Pepperl & Fuchs	NJ2-11-SN-G		
NP	Pepperl & Fuchs	SJ3.5-N (NAMUR)		
NQ	Pepperl & Fuchs	NJ4-12GK-N (NAMUR)		
NR	Pepperl & Fuchs	NJ4-12GM40-E1, NPN NC		

Annex to certificate: IECEx PRE 18.0048X

Specifications

For Ex ia versions of equipment the safety parameter input is specified:

Model Code	Intrinsic safe parameters					Ta: Ambient range of equipment *)					Remark (See Note)
	Ci nF	Li uH	Ui V	Ii mA	Pi mW	Min T	T4	T5	T6	T(IIIC)	
M1	1	1	28	45	315	-40	78	60	45	85	
MG	1	1	28	45	315	-40	78	60	45	85	
MK	1	1	28	45	315	-55	78	60	45	85	
N3	30	100	16	52	169	-25	68	40	28	89	2
N8	40	50	16	52	169	-25	68	40	28	89	3
NC	45	50	16	52	169	-25	67	44	32	67	4
NE	90	100	16	52	169	-25	81	57	45	81	4
NF	95	100	16	52	169	-25	81	57	45	81	4
NM	50	150	16	52	169	-40	80	57	45	81	2
NP	50	250	16	52	169	-25	68	40	28	89	1
NW	30	100	16	52	169	-40	68	40	28	89	2
NY	70	150	16	52	169	-50	74	46	34	80	2
P4	1	1	28	45	315	-10	40			85	
P5	1	1	28	45	315	-40	80			85	
PE	1	1	28	45	315	-40	80	70	55	85	
PT	1	1	28	45	315	-40	80	70	55	85	

Note 1! For reference & additional values, see Certificate PTB 99 ATEX 2219 X or IECEx PTB 11.0091X

Note 2! For reference & additional values, see Certificate PTB 00 ATEX 2049 X or IECEx PTB 11.0092X

Note 3! For reference & additional values, see Certificate PTB 00 ATEX 2032 X or IECEx PTB 11.0021X

Note 4! For reference & additional values, see Certificate PTB 00 ATEX 2048 X or IECEx_PTБ_11.0037

*) Ambient range depending on the selected T-class