

EU-Type Examination Certificate

- [2] EQUIPMENT OR PROTECTIVE SYSTEM INTENDED FOR USE IN POTENTIALLY EXPLOSIVE ATMOSPHERES DIRECTIVE 2014/34/EU
- [3] EU-Type Examination Certificate Number: Presafe 18 ATEX 12921X Issue 0
- [4] Product: Ultraswitch DS/DM
- [5] Manufacturer: PMV Automation AB
- [6] Address: Korta gatan 9
SE-171 54 Solna, Sweden
- [7] This product and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.
- [8] DNV GL Presafe AS, notified body number 2460, in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Annex II to the Directive.
The examination and test results are recorded in confidential reports listed in section 16.
- [9] Compliance with the Essential Health and Safety Requirements has been assured by compliance with: EN 60079-0:2012/A11:2013, EN 60079-1:2014, EN 60079-11:2012 and EN 60079-31:2014
- [10] If the sign "X" is placed after the certificate number, it indicates that the product is subject to the Specific Conditions of Use specified in the schedule to this certificate.
- [11] This EU - TYPE EXAMINATION CERTIFICATE relates only to the design and construction of the specified product. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.
- [12] The marking of the product shall include the following:

For Ex d version of product



II 2 G Ex db IIC T5 Gb $-40^{\circ}\text{C} \leq \text{Ta} \leq +85^{\circ}\text{C}$



II 2 D Ex tb IIIC T94°C Db IP66 $-30^{\circ}\text{C} \leq \text{Ta} \leq +70^{\circ}\text{C}$

For Ex ia version of product



II 1 G Ex ia IIC T4 Ga See Description of Product



II 1 D Ex ia IIIC T135°C Da IP66 See Description of Product



Date of issue:
2018-11-19



Asle Kaastad
For DNV GL Presafe AS
The Certificate has been digitally signed.
See www.presafe.com/digital_signatu.res for more info

This certificate may only be reproduced in its entirety and without any change, schedule included.

EU-Type Examination Certificate

[13]

Schedule

[14] EU-TYPE EXAMINATION CERTIFICATE No.: Presafe 18 ATEX 12921X Issue 0

[15] **Description of Product**

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 3/4" NPT or M25 X 1.5 and provided with third cable entry as an optional without any opening. Certified Ex glands shall be used accordingly for Ex d and Ex t protection type.

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 service temperature above 116°C.

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 is explained below.

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
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

Ex ia	Ex d

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
NS	Pepperl & Fuchs	NJ4-12GM40-E2, PNP NO
NT	Pepperl & Fuchs	NJ4-12GK40-E2, PNP NO
NW	Pepperl & Fuchs	P&F SJ3.5-SN (NAMUR)
NY	Pepperl & Fuchs	NJ4-12GK-SN
F3	IFM	IF5250, 10-36VDC NC PNP, 150mA, 3-wire NC
FC	IFM	IF5718, 10-36VDC NO PNP/NPN, 150mA, plastic
F5	IFM	IF6001, 18-32 VDC, PNP NO
F6	IFM	IF6034, 10-36VDC, NO PNP, 150mA, Stainless steel
F7	IFM	IN0074, 20-250 AC/DC, NO, 350mA/100mA
F8	IFM	IN0081, 20-250 AC/DC, NO, 350mA/100mA w/LED

- HH= Certificate**
- 15 ATEX ia
 - 19 ATEX II 2 GD Ex db IIC T4 Gb -40°C to +85°C, Ex tb IIIC T113°C Db IP66, -30°C to +70°C
 - 21 IECEx ia
 - 25 IEC Ex db IIC T4 Gb -40°C to +85°C, Ex tb IIIC T113°C Db IP66, -30°C to +70°C
 - 26 Inmetro BR
 - 30 Kosha
- I= Product approval marking**
- 0 Self-adhesive marking label, Polyester
 - M Stainless Steel marking plate
- J= Analog Output**
- 0 None
 - 4 4-20 mA transmitter

- R Remote unit 100°; 10KOhm
- K = Terminal Options**
- 0 No extra Terminals
 - 2 2 Extra open terminals (Standard)
 - 4 4 Extra open terminals (Optional, not possible for all switch options)
 - 6 6 Extra open terminals (Optional, not possible for all switch options)
- L = Options / Elastomers**
- 0 Nitrile O-rings (Standard)
 - V Viton O-rings
- M = Brand**
- x X= any character

Example

AA	B	C	D	E	F	GG	HH	I	J	K	L	M		
DS	2	B	N	1	2	M1	-	19	-	0	0	2	0	P



No possible combination/option

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	li mA	Pi mW	Min T	T4	T5	T6	T(IIC)	
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_PT_11.0037

*) Ambient range depending on the selected T-class

[16] **Report No.:** D0002616-01

[17] **Specific Conditions of Use**

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.

[18] **Essential Health and Safety Requirements**

Essential Health and Safety Requirements (EHSRs) are covered by the standards listed at item 9

[19] **Drawings and documents**

Number	Title	Rev.	Date
IIC-App1	PMV Switchbox D-Series (Tolerances)	1	2018-09-07
IIC-App2	PMV Switchbox DS/DM (Material spec)	3	2018-09-10
IIC-App3A	PMV Switchbox Ultraswitch DS/DM (Dimension)	1	2018-09-06
IIC-App3S	PMV Switchbox Ultraswitch DS/DM (Dimension)	1	2018-09-06
IIC-App4	PMV Switchbox DS/DM (Label)	4	2018-10-30
IIC-As1C	PMV Switchbox DS/DM (Assembly)	6	2018-09-10
PRS-As101UC	PMV Switches Phazer BRS	0	2018-03-14
PRS-As201UC	PMV Switchboxes PRS-2 (Phazer)	0	2018-03-28
PRS-As301UC	PMV Switchboxes PRS-3 (Sabre)	0	2018-04-20
XC1414C	PMV Switchbox Ultraswitch D, P & X-Series	1	2017-05-30
DSDM IOM Content	DSDM Mandatory IOM Content (Safety instructions)	1	2018-10-29
DSDM Model-code ATEX-IEC	DSDM Model-code ATEX-IEC	0	2018-04-05
IIC-58C	PMV Switchboxes DS/DM Control drawing	0	2018-04-20
IIC-100C	PMV Switchboxes DS/DM (Label)	0	2018-07-18
IIC-102C	PMV Switchboxes DS/DM (Terminal connection drawing)	0	2018-10-17

[20] **Certificate History**

Issue	Description	Issue date	Report no.
0	Original issue	2018-11-19	D0002616-01

END OF CERTIFICATE