

(1) EU-TYPE EXAMINATION CERTIFICATE



- (2) Equipment and Protective Systems intended for use in Potentially Explosive Atmosphere - **Directive 2014/34/EU**
- (3) EU-Type Examination Certificate Number

TÜV 13 ATEX 7439 X

Issue: 01

- (4) Equipment: **Supreme range of enclosures, SPM***
- (5) Manufacturer: **MASHIN SAZI SHOMAL PIROOZ**
- (6) Address: **No. 5, 2nd Baharestan St., pasdaran Ave. Tehran, Iran**
- (7) This product and any acceptable variation thereto are specified in the schedule to this certificate and the documents therein referred to.
- (8) The TÜV Rheinland Zertifizierungsstelle für Explosionsschutz of TÜV Rheinland Industrie Service GmbH, Notified Body No. 0035 in accordance with Article 21 of the Council Directive 2014/34/EU of 26th February 2014, certifies this product which has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmosphere, given in Annex II to the Directive.

The examination and test results are recorded in the confidential report 557/Ex7439.01/13
- (9) Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the schedule of this certificate, has been assessed by reference to:

EN 60079-0:2012+A11:2013 EN 60079-7:2015 EN 60079-11:2012 EN 60079-31: 2014
- (10) If the sign "X" is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the schedule to this certificate.
- (11) This EU-Type Examination Certificate relates only to the design and specification for construction of the equipment or protective system. It does not cover the process for actual manufacture or supply of the equipment or protective system, for which further requirements of the directive are applicable.
- (12) The marking of the equipment shall include the following:



II 2 G or II 2 D or II 2 (1)G

Ex eb IIC T* Gb or Ex ia/ib IIC T* Ga/Gb or Ex eb [ia Ga] IIC T* Gb or Ex tb IIIC T*°C Db

TÜV Rheinland Zertifizierungsstelle für Explosionsschutz

Cologne, 2018-03-12

Dipl.-Ing. Klauspeter Graffi

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This EU-Type Examination Certificate may be circulated only without alteration. Extracts or alterations are subject to approval by the
TÜV Rheinland Industrie Service GmbH TÜV Rheinland Group Am Grauen Stein 51105 Köln
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(13)

Annex

(14)

EU Type Examination Certificate

TÜV 13 ATEX 7439 X Issue: 01

(15) Description of equipment

15.1 Equipment and type:

Supreme range of enclosures, SPM* where "*" is a space holder. See below.

19S	420H	620V	814H
214V	430V	620H	820V
214H	430H	630V	820H
220V	514V	630H	830V
220H	514H	714V	830H
314S	520V	714H	914V
320S	520H	720V	914H
330S	530V	720H	920V
414V	530H	730V	920H
414H	614V	730H	930V
420V	614H	814V	930H

15.2 Description / Details of Change

General product information

The SPM enclosure is manufactured from stainless steel or steel material intended for fixed installation, equipped with increased safety type of protection "e" terminals. The SPM enclosure are manufactured for the main purpose of a junction box or instrumentation and control installations using method of protection Ex t, Ex e or Ex i for increased safety and intrinsically safe circuit, distribute electricity in hazardous explosive areas of zones 0, 1, 2, 21 and 22.

Following devices from IECEx LCI 11.0061X / LCIE 11 ATEX 3091X can be used with SPM* enclosures:

The TQ 4xx transducer has an integral coaxial cable, with various lengths, terminated with a connector.

The EA 4xx cable is an extension cable with various lengths.

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The IQS 4xx conditioner is a signal conditioner.

Electrical parameters:

IQS 4xx : $U_i = 28 \text{ V}$, $I_i = 100 \text{ mA}$, $P_i = 0.7 \text{ W}$, $C_i = 0$, $L_i = 0$

TQ 4xx : $C_i \leq 120 \text{ pF/m}$ (cable), $L_i \leq 50 \text{ }\mu\text{H}$ (transducer)

EA 4xx : $C_i \leq 120 \text{ pF/m}$, $L_i = 0$

Details of Change:

Name of manufacturer changed to legal registered one. Shomal Eng & Mfg (PIROOZ) Co. is the trademark.

Standard update from IEC 60079-7:2006 (Ed.4) to IEC 60079-7:2015 (Ed.5) performed and marking adjusted accordingly.

Marking [ja Ga] adjusted if Sensors in Zone 0 are supplied by SPM* boxes.

Added certified terminals from IECEx ULD 14.0005U / DEMKO 14ATEX1338U

Added certified devices from IECEx LCI 11.0061X / LCIE 11ATEX 3091X.

Adjustments of type and technical data.

Technical Data

<i>SPM</i>	<i>L</i> [mm]	<i>W</i> [mm]	<i>H</i> [mm]	<i>Lid and body</i> <i>thickness</i> <i>Minimum</i> [mm]	<i>Gland plate</i> <i>thickness</i> <i>Minimum</i> [mm]
19S	120	120	90	1,5	*
214V	200	300	153	1,5	3
214H			213		
220V			213		
220H			213		
314S	300	300	153		
320S			213		
330S			313		
414V	320	370	153		
414H			213		
420V			213		
420H			313		
430V			313		
430H			313		
514V	380	450	153		
514H			213		
520V			213		
520H			313		
530V			313		
530H			313		

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614V	510	600	153	2	
614H			213		
620V					
620H					
630V			313		
630H					
714V	510	800			
714H					
720V			213		
720H					
730V					
730H					
814V	650	950	153		
814H					
820V			213		
820H					
830V					
830H					
914V	800	1250	153		
914H					
920V			213		
920H					
930V				313	
930H					

Maximum allowed dissipation power						
-20 °C to +40 °C				-30 °C to +55 °C		
SPM	T6(T85°C)	T5(T100°C)	T4(T135°C)	T6(T85°C)	T5(T100°C)	T4(T135°C)
19S	2,42	3,33	5,45	1,51	2,42	4,54
214V,214H	9,56	13,15	21,51	5,98	9,56	17,93
220V,220H	11,80	16,23	26,55	7,38	11,80	22,13
314S	12,90	17,74	29,03	8,06	12,90	24,19
320S	15,50	21,31	34,88	9,69	15,50	29,06
330S	21,30	29,29	47,93	13,31	21,30	39,94
414V,414H	14,80	20,35	33,30	9,25	14,80	27,75
420V,420H	19,70	27,09	44,33	12,31	19,70	36,94
430V,430H	23,60	32,45	53,10	14,75	23,60	44,25
514V,514H	20,20	27,78	45,45	12,63	20,20	37,88
520V,520H	25,80	35,48	58,05	16,13	25,80	48,38

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530V,520H	32,80	45,10	73,80	20,50	32,80	61,50
614V,614H	33,40	45,93	75,15	20,88	33,40	62,63
620V,620H	40,70	55,96	91,58	25,44	40,70	76,31
630V,630H	49,10	67,51	110,48	30,69	49,10	92,06
714V,714H	44,10	60,64	99,23	27,56	44,10	82,69
720V,720H	52,70	72,46	118,58	32,94	52,70	98,81
730V,730H	62,20	85,53	139,95	38,88	62,20	116,63
814V,814H	63,10	86,76	141,98	39,44	63,10	118,31
820V,820H	73,30	100,79	164,93	45,81	73,30	137,44
830V,830H	84,50	116,19	190,13	52,81	84,50	158,44
914V,914H	99,90	137,36	224,78	62,44	99,90	187,31
920V,920H	113,00	155,38	254,25	70,63	113,00	211,88
930V,930H	127,00	174,63	285,75	79,38	127,00	238,13

(16) Test-Report No. 557/Ex7439.01/13

(17) Special Conditions for safe use

1. Suitable certified cable glands or blanking elements, that sustain the type of protection and IP, must be used.
2. Insulation of conductors must match with temperature requirements.
3. For devices from IECEx LCI 11.0061X / LCIE 11 ATEX 3091X:
 - The equipment can only be connected to intrinsically safe certified equipment. This combination must be compatible regarding the intrinsic safety rules.
 - The inductance and capacitance of connection cables between the conditioner IQS4xx and the transducer TQ4xx (cable includes) do not exceed any of these following values: $L \leq 3.5\text{mH}$, $C \leq 0.083\mu\text{F}$.
 - The conditioner (IQS4xx) shall not be exposed to friction or mechanical impacts.

(18) Basic Safety and Health Requirements

Covered by afore mentioned standard

TÜV Rheinland Zertifizierungsstelle für Explosionsschutz

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