

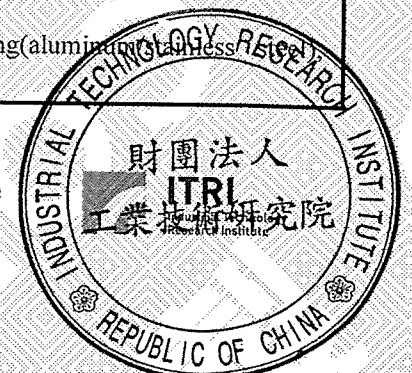
Electrical Equipment for Explosive Atmospheres

Certificate of Type Verification

Applicant	TopWorx Inc.		
Applicant address	3300 Fern Valley Road Louisville, Kentucky 40213 United States of America	TEL	+1-502-969-8000
Manufacturer	1. TopWorx Inc. 2. Emerson Machinery Equipment (Shenzhen) Co., Ltd 3. Emerson Automation Fluid Control & Pneumatics Poland Sp. z o. o. (Emerson AFCP Poland Sp. z o.o.) 4. ASCO Valve (Shanghai) Co., Ltd 5. Ascoval Indústria e Comércio Ltda		
Manufacturer address	1. 3300 Fern Valley Road Louisville, Kentucky 40213 United States of America 2. 101 Building 2, COFCO Park, Honglang North 2nd Road, Xin'an Street Bao'an District, Shenzhen 51801 China 3. Kurczaki 132 Lodz 93-331 Poland 4. No. 480, Xin Miao No.3 Road Xin Qiao Town, Song Jiang District Shanghai 201612 China 5. Rua Goiatuba 81 Jardim Mutinga 06465-010 Barueri - SP Brazil	TEL	
Name of product Type	Switchbox TX-Series		
Ex marking	Ex ia IIC T* Gb Ex tb IIIC T* C Db The temperature class and maximum surface temperature depend on the electrical device fitted in the Switchbox. Refer to Annex.		
Certificate No.	(ITRI)2021 第 07-00238X 號		
Date of first issue	December 07, 2021		
Date of Renewal	December 27, 2024		
Valid period	December 07, 2024 to December 06, 2027		
Standards:	IEC 60079-0 : 2017 IEC 60079-11 : 2011 IEC 60079-31 : 2013		
Ratings:	Refer to Specific conditions of use.		
Ambient temperature:	The ambient temperature depends on the electrical devices fitted in the Switchbox. Refer to Annex.		
Main components:	Lower casing(aluminum/stainless steel), upper casing(aluminum/stainless steel), shaft, switch, O-ring, w/o indicator.		

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Type variants:	Refer to Annex.																																													
Specific conditions of use:	<p>The 4-20 mA loop circuit and the various additional sub-assemblies (switches, sensors, valves, etc.) shall be treated as separate intrinsically safe circuit.</p> <p>The entity parameters for simple switches that are not covered by a certificate are $U_i=30$ V, $I_i=200$ mA and $P_i=0.72$ W/switch (T4) or $P_i=0.34$ W/switch (T6).</p> <p>If the equipment is fitted with a HART v7 Module, it may be supplied with a bonding strap that could be used to connect the shield (screen) of the cable to ground when installed in a metallic enclosure. In this case, the user/installer shall take this into consideration and ensure that earthing arrangements of the final circuitry comply with the requirements of local code of practice.</p> <p>Potential electrostatic charging hazard- Clean the enclosure only with a damp cloth.</p> <p>The assessment for cable entry devices is not included. For safe use, certified cable entry devices with proper type of protections shall be correctly fitted to maintain the integrity of specified protections.</p>																																													
Routine tests:	The manufacturer shall carry out the routine tests as prescribed in Clause 6.3.13 and Clause 10.3 of IEC 60079-11. The dielectric test shall be performed at the voltage 600 Vms applied for 1 s.																																													
Approval reference:	The assessment of the above equipment is based on the review of IECEx Certificate of Conformity (IECEX SIR 14.0045X Issue 10) issued by CSA Group Testing UK Ltd (CSAE), United Kingdom and the associate test reports (GB/SIR/ExTR14.0192/00, GB/SIR/ExTR15.0260/00, GB/SIR/ExTR16.0281/00, GB/SIR/ExTR19.0053/00, GB/SIR/ExTR19.0073/00, GB/SIR/ExTR20.0142/00, GB/SIR/ExTR20.0154/00, GB/SIR/ExTR21.0088/00, GB/SIR/ExTR22.140/00, GB/SIR/ExTR24.0005/00, GB/SIR/ExTR24.0040/00).																																													
Certificate history:	<table style="width: 100%; border: none;"> <tr> <td style="width: 60%;">Issue 1 (B202100339)</td> <td style="text-align: right;">(2021-12-07)</td> </tr> <tr> <td>Issue 2 (B202400414)</td> <td style="text-align: right;">(2024-12-27)</td> </tr> </table>	Issue 1 (B202100339)	(2021-12-07)	Issue 2 (B202400414)	(2024-12-27)																																									
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Annex:	<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <td>(1)</td><td>(2)</td><td>(3)</td><td>(4)</td><td>(5)</td><td>(6)</td><td>(7)</td><td>(8)</td><td>(9)</td><td>(10)</td> </tr> <tr> <td>TX</td><td>P</td><td>D</td><td>2</td><td>0</td><td>*</td><td>*</td><td>*</td><td>M</td><td>0</td> </tr> </table> <p>(1)Series- TX (2)Enclosure material- P : aluminum ; S : stainless 316SS (3)(4)Bus/sensor Code of column (3)- 0, L, M, K, Q, P, R, E, T, N, D, B, F, J, V, 3 Code of column (4)- X, 1, 2, 3, 4 (Code X is only available with code 0, E, M, T, Q in column (3)) (5)Area class- 0 : Ex i (9)O-ring- M : silicone (10)Pilot - 0/blank : not installed ; 1 : 24 Vdc fail O/C , 2 : 24 Vdc fail L/P Column (6), (7), (8) are not related to Ex protection.</p> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <thead> <tr> <th>ID</th><th>Device</th><th>Sensing option</th><th>Type</th><th>Description</th></tr> </thead> <tbody> <tr> <td>1</td><td>Mechanical switch</td><td>K</td><td>V7</td><td rowspan="5" style="text-align: center; vertical-align: middle;">Simple switch</td></tr> <tr> <td>2</td><td>GO switch</td><td>L</td><td>35 series</td></tr> <tr> <td>3</td><td>Micro/Limit switch</td><td>M</td><td>VS10N001C2</td></tr> <tr> <td>4</td><td rowspan="2">Reed switch</td><td>P</td><td>HSR-V933</td></tr> <tr> <td>5</td><td>R</td><td>LV-ELE145</td></tr> </tbody> </table>	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	TX	P	D	2	0	*	*	*	M	0	ID	Device	Sensing option	Type	Description	1	Mechanical switch	K	V7	Simple switch	2	GO switch	L	35 series	3	Micro/Limit switch	M	VS10N001C2	4	Reed switch	P	HSR-V933	5	R	LV-ELE145
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ID	Device	Sensing option	Type	Description
6	DPDT Micro switch	T	Cherry Burrell E19 or ITW DPDT-ZZ #26-804	Simple switch
7	ASCO Electro-valve	1 or 2	3021...1A	IECEX INE 10.0002X Issue 3
11	Pepperl+ Fuchs Cuboidal Inductive Proximity Sensor	E	All other types except NJ2-V3-N... supply types 1, 2+3	IECEX PTB 11.0021X Issue 4
14	TopWorx 4-20 mA Transmitter Module and associated potentiometer	X	N/A	IECEX SIR 12.0076U Issue 1
15	Hans Turk two wire proximity sensors	N	...-...-Y1-.../...	IECEX KEM 6.0036X Issue 7
16	GO switch	Q	36 series	IECEX BAS 15.0092U
17	GO switch	D	36D series (D2、D4)	IECEX UL 19.0002U
18	Pepperl + Fuchs switches/sensors	N, E, B, F, J, V, 3 and N+N	SC、SJ、NC 或 NJ (Only one type of switch to be used as per drawing CERT-ES-08677-1 without any other components)	IECEX PTB 11.0021X Issue 4 IECEX PTB 11.0091X Issue 4 IECEX PTB 11.0092X Issue 4 IECEX PTB 11.0037X Issue 5
19	HART v7	G	ES-04900-2	IECEX SIR 16.0107U Issue 2

ID	Gas or dust	Ambient temperature(°C)	Temperature class or T*°C
1-6	Gas	-65~+55	T6
		-65~+70	T5
		-65~+85	T4
		-65~+100	T3
7	Dust	-50~+55	T75°C
		-50~+85	T104°C
7	Gas	-40~+56	T4
	Dust		T75°C
11	Gas	-60~+35	T4
	Dust		T75°C
14	Gas	-40~+52	T4
	Dust		T75°C
15	Gas	-25~+42	T4
	Dust		T75°C
16	Gas	-55~+55	T6
		-55~+85	T4
		-55~+100	T3

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Applicant		TopWorx Inc.		
ID	Gas or dust	Ambient temperature(°C)	Temperature class or T*°C	
16	Dust	-50~+55	T75°C	
		-50~+85	T104°C	
17	Gas	-55~+55	T6	
		-55~+85	T4	
17	Dust	-50~+55	T75°C	
		-50~+85	T104°C	
18	Gas	The ambient temperature and the temperature class will depend on number of switches inside, as marked on internal labels (reference drawing CERT-ES-08677-1)		
	Dust	-50~+85	T104°C	
19	Gas	-40~+80	T5	
	Dust		T104°C	

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