



# CERTIFICATE FOR CHINA COMPULSORY PRODUCT CERTIFICATION

No.: 2022312307000281

**Applicant** Topworx Incorporated  
**Address** 3300 Fern Valley Road, Louisville, Kentucky 40213, United States of America  
**Manufacturer** Topworx Incorporated  
**Address** 3300 Fern Valley Road, Louisville, Kentucky 40213, United States of America  
**Production Factory** Topworx Incorporated  
**Production Address** 3300 Fern Valley Road, Louisville, Kentucky 40213, United States of America  
**Product** Switchbox  
**Model/Type** TX\*-\*0\*\*\*M\*\*\*\*\*  
**Ex marking** Ex ia IIC T3/T4/T5/T6 Gb, Ex tb IIIC T75°C/T104°C Db  
**Reference Standards** GB/T 3836.1-2021, GB/T 3836.4-2021, GB/T 3836.31-2021

**Certification mode** Type Test + Initial Factory Inspection + Post-Certification Surveillance

The product(s) is verified and certified according to CNCA-C23-01: 2019 *China Compulsory Certification Implementation Rule on Explosion Protected Electrical Product* and CNEX-C2301-2019 *Guideline of China Compulsory Certification Implementation Rule on Explosion Protected Electrical Product*.

See Annex for the detailed product information (7 pages).

Initial issue date: 2022-04-13

Issued date: 2023-03-24

Valid to: 2027-04-12

The validity of this certificate is maintained through the regular supervision of the issuing authority during the validity period.

Where any discrepancy arises between the English translation and the original Chinese version, the Chinese version shall prevail.

Director:



Nanyang Explosion Protected Electrical Apparatus Research Institute Co.,Ltd.



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CN 0001650



# CERTIFICATE FOR CHINA COMPULSORY PRODUCT CERTIFICATION (Annex)

No.: 2022312307000281

Page 1 of 7

**Product information:**

1. This certificate covers the following models:

- TX\*-0\*\*\*M\*\*\*\*\*

**Nomenclature:**

TX	*	-	*	0	*	*	*	M	*	*	*	*	*	*
1)	2)		3)	4)	5)	6)	7)	8)	9)	10)	11)	12)	13)	14)

1) Enclosure

2) Enclosure Material:

P=Aluminum

S=316SS

3) Bus/Sensor

D2, D4 = 36SD SERIES GO SWITCH

E1, E2, E3, E4 = P+F NJ2-V3-N

EX = (2) P+F NJ2-V3-N w/4-20mA Transmitter

K1, K2, K3, K4 = MECH SWITCH SPDT w/GOLD CONTACTS

KX = (2) MECH SWITCH SPDT w/4-20mA Transmitter

L1, L2 = GO SWITCH SPDT

M1, M2, M3, M4 = MECH SWITCH SPDT

MX = (2) MECH SWITCH SPDT w/4-20mA Transmitter

N1, N2, N3, N4 = ANY NAMUR SWITCH

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# CERTIFICATE FOR CHINA COMPULSORY PRODUCT CERTIFICATION (Annex)

No.: 2022312307000281

Page 2 of 7

P1, P2, P3, P4 = 3 AMP REED SWITCH  
Q2, Q4 = 36 SERIES GO SWITCH  
R1, R2, R3, R4 = 1 AMP REED SWITCH  
T1, T2 = MECH SWITCH DPDT  
TX = MECH SWITCH DPDT w/4-20mA Transmitter  
OX = NO SWITCHES w/4-20mA Transmitter

4) Area Class

0 = Intrinsic Safety

5) Visual Display:

ANY NUMBER OR LETTER

6) Shaft

ANY NUMBER OR LETTER

7) Conduit Entries:

ANY NUMBER OR LETTER

8) O-Rings

M = SILICONE

9) Pilot

0 or BLANK = No Pilot

1 = 24VDC FAIL Open/Closed

2 = 24VDC FAIL Last Position

10) Spool

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No.: 2022312307000281

Page 3 of 7

ANY NUMBER OR LETTER OR BLANK

11) Valve Cv

ANY NUMBER OR LETTER OR BLANK

12) Override

ANY NUMBER OR LETTER OR BLANK

13) Regional Certs

0 or BLANK = UL (North America), IECEX, ATEX

B = InMetro (Brazil)

K = KCs (Korea)

N = CCCEX (China)

P = PESO (India)

R = EAC (Eurasian Economic Union)

T = ITRI (China Taiwan)

14) Custom Build Indents

6 digits (without relevance for explosion protection)

The switch box shall only be fitted with devices that that are listed in the table below. Where applicable; these devices shall also conform to the certificates, supplements and amendments that are also listed therein. Because the exact composition of the switch box is variable, Topworx Inc. shall:

- Supply the installer/end user with a full set of appropriate certificates and instructions that are relevant to the contents of the enclosure.

- Indicate which certificates apply to the contents of the enclosure.

Internal Components Table:

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# CERTIFICATE FOR CHINA COMPULSORY PRODUCT CERTIFICATION (Annex)

No.: 2022312307000281

Page 4 of 7

ID	Device	Sensing Option	Type	Description
1	Mechanical switch	K	V7	Simple switch
2	Go switch	L	35 Series	Simple switch
3	Micro/Limit switch	M	VS10N001C2	Simple switch
4	Reed switch	P	HSR-V933	Simple switch
5	Reed switch	R	LV-ELE145	Simple switch
6	DPDT Micro switch	T	Cherry Burrell E19 or ITW DPDT-ZZ #26-804	Simple switch
7	ASCO Electro-valve Module	1 or 2	3021....IA	FR/INE/ExTR10.00 01/02
8	Pepperl + Fuchs Slot Type Initiators	N	SJ... & SC... (supply types 1, 2 + 3)	CCC: 2020322315002306
9	Pepperl + Fuchs Cuboidal Inductive Proximity sensor	E	Type NJ2-V3-N... (supply types 1, 2 + 3)	CCC: 2020322315002302
10	Pepperl + Fuchs Cuboidal Inductive Proximity sensor	E	All other types (supply types 1, 2 + 3)	CCC: 2020322315002255
11	Pepperl + Fuchs	N	Types NC... and NJ... (supply types 1, 2 + 3)	CCC:

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No.: 2022312307000281

Page 5 of 7

	Cylindrical Inductive Proximity sensor			2020322315002255
12	Pepperl + Fuchs SN sensor	N	Types NC... and NJ... (supply types 1, 2 + 3)	CCC: 2020322315002308
13	TopWorx 4-20 mA transmitter module & associated potentiometer	X	N/A	GB/SIR/ExTR13.02 51/00
14	Go switch	Q	36 Series	GB/BAS/ExTR15.0 225/00
15	GO Switch	D	36 SD Series (D2, D4 or DS)	US/UL/ExTR19.000 2/00
16	Pepperl+Fuchs Switches/sensors	N, E, B, F, J, V, 3 and N_+N_---	SC, SJ, NC or NJ (Only one type of switch to be used as per drawing CERT-ES-08677- 1 without any other components)	CCC: 2020322315002255 2020322315002302 2020322315002306 2020322315002308

The temperature class, ambient temperature range and surface temperature depend on the devices used in the construction of these switch box, the manufacturer shall therefore mark their products in accordance with the table below:

ID (see table above)	Gas or Dust	Ambient temperature range	Temperature class or T*°C
1, 2, 3, 4, 5, 6	Gas	-65~+55°C	T6
		-65~+70°C	T5
		-65~+85°C	T4
		-65~+100°C	T3

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No.: 2022312307000281

Page 6 of 7

	Dust	-50~+55°C	T75°C
		-50~+85°C	T104°C
7	Gas	-40~+56°C	T4
	Dust	-40~+56°C	T75°C
8	Gas	-60~+47°C	T4
	Dust	-50~+47°C	T75°C
9	Gas	-60~+56°C	T4
	Dust	-50~+56°C	T75°C
10	Gas	-60~+35°C	T4
	Dust	-50~+35°C	T75°C
11	Gas	-60~+39°C	T4
	Dust	-50~+39°C	T75°C
12	Gas	-60~+40°C	T4
	Dust	-50~+40°C	T75°C
13	Gas	-40~+52°C	T4
	Dust	-40~+52°C	T75°C
14	Gas	-55~+55°C	T6
		-55~+85°C	T4
		-55~+100°C	T3
	Dust	-55~+55°C	T75°C
		-55~+85°C	T104°C
15	Gas	-50~+55°C	T6
		-50~+85°C	T4
	Dust	-50~+55°C	T75°C
		-50~+85°C	T104°C
16	Gas	Tamb and Tcode will depend on number of switches inside, as marked on internal labels (reference drawing CERT-ES-08677-1)	
	Dust	-50~+85°C	T104°C

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No.: 2022312307000281

Page 7 of 7

Ingress protection: IP66/IP67

Ex marking: Ex ia IIC T3/T4/T5/T6 Gb, Ex tb IIIC T75°C/T104°C Db

- Producers should organize production in accordance with the technical documents approved by the certification body.

2. Specific conditions of safety use:

- The 4-20 mA loop circuit and the various additional sub-assemblies (switches, sensors, valves, etc.) shall be treated as separate intrinsically safe circuits.

- The entity parameters for simple switches that are not covered by a certificate are  $U_i = 30\text{ V}$ ,  $I_i = 200\text{ mA}$  and  $P_i = 0.72\text{ W/switch (T4)}$  or  $P_i = 0.34\text{ W/switch (T6)}$ . The entity parameters of certified devices fitted shall be obtained from the applicable certificate.

- See instruction for other information.

3. Certificate related report(s):

- Type test report: CQST2112C095, CQST2112C095/01

- Factory inspection report: CN2022Q010019

4. Certificate change information:

- 1st change on March 24, 2023: Updated the standards for certification.

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