



CERTIFICATE of CONFORMITY

No.: CS2025PV16020117000071

NAME AND ADDRESS OF THE APPLICANT

Shanghai CITELElectronics Co.,LTD.

Building 1, 339 Xiupu Road, Pudong New Area, Shanghai

NAME AND ADDRESS OF THE MANUFACTURER

CCSH Manufacturing CO.,LTD.

Building 2, 339 Xiupu Road, Pudong New Area, Shanghai

NAME AND ADDRESS OF THE FACTORY

CCSH Manufacturing CO.,LTD.

Building 2, 339 Xiupu Road, Pudong New Area, Shanghai

PRODUCT TRADEMARK



CITEL

NAME, MODEL AND SPECIFICATION

Surge protectors for dataline/telecom TSP-EX/C Series

THE STANDARDS AND TECHNICAL REQUIREMENTS FOR THE PRODUCTS

IEC 61508-1:2010、IEC 61508-2:2010

**This is to certify that the products mentioned above have met
the requirement of certification rules:**

SITIAs-RJ03-02 B/1: Implemented rules for certification of functional safety products

Product information detailed in the attachment.

CERTIFICATION MODE

Functional safety assessment + Initial industry inspection + Supervision after obtaining the certificate

Date of Issued: September. 2, 2025

Date of expiry: September. 1, 2030

Date of original certification: September. 2, 2025

**Validity of this certificate is subject to positive result of the regular follow up inspection
by issuing certification body until the expiry date.The specific information of this certificate
can be inquired through the official website of the issuing authority.**

Authorized by : _____

Date : September. 2, 2025

**Shanghai Inspection and Testing Institute of
Instrumentation and Automation Systems Co.,Ltd.**

Address: 103 Caobao Road Shanghai, P.R. of China, 200233

Tel: 86 21 64518419 Website: www.sitias.com.cn



PRODUCT CERTIFICATION ATTACHMENT

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Product:

Surge protectors for dataline
/telecom

Model:

TSP-EX/C Series

Description:

The names, models, and specifications of the covered products are listed in Table 1:

Table 1 Covered Model Specifications of TSP-EX/C Series Surge protectors for dataline/telecom

TSP-EX/C Series	TSP-a-48-b-EX/C
a stands for series connection or parallel connection and wires mode	P2 (2-wire parallel), P3 (3-wire parallel), P4 (4-wire parallel), S2 (2-wireseries), S4 (4-wire series)
b stands for thread specification	when the code of a is P2/P3/P4, it can be M (M20×1.5 interface), NH (1/2" NPT interface), NQ (3/4" NPT interface); when the code of a is S2/S4, it can be M (M20×1.5 interface). NH (1/2" NPT interface)
EX/C represents the model identification for explosion-proof products	EX (explosion-proof), C (CCC certification)

Safety function: Transmitting passing analog or digital signals.

Standards :

IEC 61508-1: 2010 Functional safety of electrical/electronic/programmable electronic safety-related systems – Part 1: General Requirements
IEC 61508-2: 2010 Functional safety of electrical/electronic/programmable electronic safety-related systems – Part 2: Requirements for electrical/electronic/programmable electronic safety-related systems

This attachment shall be used together with the certificate itself.

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Product:

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Model:

TSP-EX/C Series

**Safety Integrity
Level (SIL):**

According to IEC 61508: 2010, the hardware safety integrity level is determined via route 1_H. TSP-EX/C Series Surge protectors for dataline/telecom belongs to Type A safety related elements. In low demand operation mode, the safety integrity level reaches SIL 3 with its HFT (Hardware Fault Tolerance) = 0, and SIL 3 with its HFT = 1.

Model	TSP-EX/C Series				
series connection or parallel connection and wires mode	P2	P3	P4	S2	S4
λ_{Total}	15	30	30	18.5	37
λ_{NE}	14.15	28.3	28.3	16.25	33.2
λ_S	0	0	0	0	0
λ_{DU} (PFH)	0	0	0	0	0
λ_{DD}	0.85	1.7	1.7	2.25	3.8
PFD _{avg} (T1=10Y)	0	0	0	0	0
SIL (HFT=0)	SIL3	SIL3	SIL3	SIL3	SIL3
SIL (HFT=1)	SIL3	SIL3	SIL3	SIL3	SIL3

Note:

1. The failure rate unit is FIT, 1FIT=10⁻⁹/h.
2. The failure of the surge protector can be detected by downstream logic devices (e.g., DCS), such as through signal out-of-range diagnostics.
3. Four-wire channel: L1 and L2 are connected to the power supply, L3 and L4 are connected to the signal end, and PE is grounded. Three-wire channel: L1 and L2 are connected to the power supply, with L1/L2 sharing the negative terminal with L3, where L3 is connected to the signal end. Two-wire channel: L1 and L2 share both power supply and signal transmission connections.

Specification:

Proof test and routine inspection should be performed according to Safety Manual.

Note:

1. Test Report Numbered 2025SPV16020117-000234 is the supporting document of this certificate. This certificate is valid only for products that are consistent with the certification documents and samples approved by SITIiAs. The documents are kept by SITIiAs.

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