

Surge Protective Device (SPD)



【Factory video @Youtube】

CZYB-E09.02/2022.07

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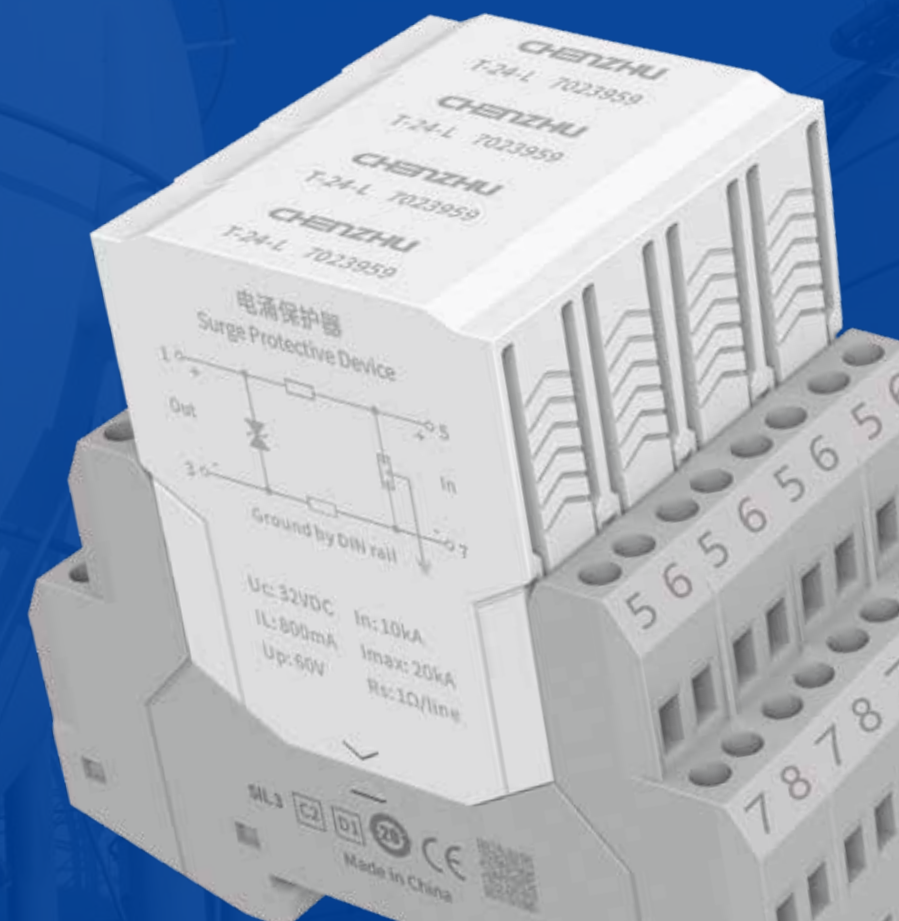
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CHENZHU COMPANY OVERVIEW



Shanghai Chenzhu Instrument Co., Ltd. was founded in April, 2002, who was originated from Shanghai Institute of Process Automation Instrumentation. CHENZHU is a professional company with core expertise of R&D, manufacturing and sale service of high quality safety products, such as isolated barriers, signal conditioners, surge protective devices, safety relays etc.

MANAGEMENT SYSTEMS



ISO9001



ISO14001



ISO45001



IECEx QUALITY ASSESSMENT

R&D Strength

Based on ISO/IEC/GB standards, CHENZHU has established the professional laboratory which is applied up to 70 test capabilities and verification items in CHENZHU's safety electrical products' development process.



R&D Team

28%

Work Force



R&D Investment

11%

of Sale Revenue



Innovation

110+

Patents



Testing Facility

80+

Capabilities

Smart Factory

CHENZHU factory is continually driven by lean management and flexible production. By our strict quality examination, CHENZHU ensures the production meets the design specification and satisfies our customers.



Factory

3500m²

In total



Max Cap.

2,000,000pcs

Year



Sales Volume

1,080,000pcs

In 2021



Lean Production

10+

Years' experience



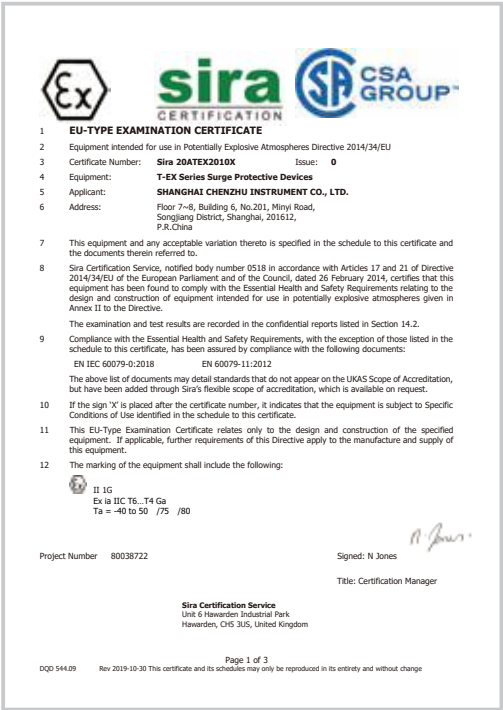
CE Certification



SIL Certification



IECEx Certification



ATEX Certification



NEPSI Certification



Type Test Report



Patent



Product Liability Insurance

T Series Functional SPD



- SPD for signal**
- 12.5mm width
 - 2-wire,3-wire,4-wire is optional
 - Hot pluggable



- SPD for power**
- 18mm/P width
 - T2: 40~80kA (8/20μs)
 - Short circuit withstand-
ing:1000A

CZLB Series Classical SPD



- SPD for signal**
- 7.6mm width
 - Ground via terminal or DIN
35mm rail



- SPD for power**
- 18mm/P width
 - T2: 40kA (8/20μs)
 - T1: 15kA (10/350μs)

CZLBX Series Screw Mounting SPD



- Intrinsic safety certification;explosion proof electrical product certification
- Various of thread specification is optional
- 304 or 316 stainless steel housing is optional

iFL Series Network SPD



- Fully aluminium alloy housing, good electromagnetic shielding
- FE、GE、PoE、wireless is optional
- Grounded by DIN rail or screw terminals

Catalogue

T series



SPD for signal	
For 5V signal (Intrinsic safety)	9
For 24V signal (Intrinsic safety)	10
For 5V signal	11
For 5V signal	12



SPD for power	
DC power	13-15
AC power (40kA)	16-17
AC power (80kA)	18-19
AC power (40kA) (400/690VAC)	20-21

CZLB series



SPD for signal	
For 5V signal (Intrinsic safety)	22
For 24V signal (Intrinsic safety)	23



SPD for power	
DC power	24
AC power (40kA)	25-26
AC power (160kA)(220/380VAC)	27-28

CZLBX series



Screw Mounting SPD	29
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iFL series



SDP for network and video	
Network	30
Network、 power 2 in1	30
GigE	31
PoE	31
Wireless	32

T series SPD for signal

Model	Order No.	Wiring	Load current I _L	Max.operating voltage U _c	Nominal discharge current I _n (8/20μs)	Impulse current I _{imp} (10/350μs)	Protection	Page
T-5-EX-L	7086993	2	500mA	6V DC	10kA	2.5kA	IS, TC、RS-485、CAN	9
T-5-EX-L3	7025543	3	500mA	6V DC	10kA	2.5kA	IS, RTD	9
T-5-EX-L4	7019501	4	500mA	6V DC	10kA	2.5kA	IS, RTD、TC、RS-422	9
T-24-EX-L	7096962	2	500mA	32V DC	10kA	2.5kA	IS, AI、AO、DI、DO	10
T-24-EX-L3	7097610	3	500mA	32V DC	10kA	2.5kA	IS, AI、AO、DI、DO、RS-232	10
T-24-EX-L4	7040569	4	500mA	32V DC	10kA	2.5kA	IS, AI、AO、DI、DO	10
T-5-L	7099647	2	800mA	6V DC	10kA	2.5kA	TC、RS-485、CAN	11
T-5-L3	7050235	3	800mA	6V DC	10kA	2.5kA	RTD	11
T-5-L4	7029162	4	800mA	6V DC	10kA	2.5kA	RTD、TC、RS-422	11
T-24-L	7023959	2	800mA	32V DC	10kA	2.5kA	AI、AO、DI、DO	12
T-24-L3	7091758	3	800mA	32V DC	10kA	2.5kA	AI、AO、DI、DO、RS-232	12
T-24-L4	7074245	4	800mA	32V DC	10kA	2.5kA	AI、AO、DI、DO	12

T series SPD for power

Model	Order No.	Max.operating voltage U _c	Recommended backup fuse	Nominal discharge current I _n (8/20μs)	Max. discharge current I _{max} (8/20μs)	Protection	Remote signaling	Page
T-24	7062371	58VDC/40VAC	—	10kA	20kA	24VDC power (<10A)	—	13
T2-24	7073945	90VDC/60VAC	80A gG	20kA	40kA	24VDC power	—	14
T2-24F	7093094	90VDC/60VAC	80A gG	20kA	40kA	24VDC power	✓	14
T2-110	7089524	180VDC/120VAC	80A gG	20kA	40kA	110VDC power	—	14
T2-110F	7062355	180VDC/120VAC	80A gG	20kA	40kA	110VDC power	✓	14
T2-220	7065567	320VDC/220VAC	80A gG	20kA	40kA	220VDC power	—	14
T2-220F	7011000	320VDC/220VAC	80A gG	20kA	40kA	220VDC power	✓	14
T2-1000	7053964	1000VDC	80A gG	20kA	40kA	1000VDC PV	—	15
T2-1000F	7065508	1000VDC	80A gG	20kA	40kA	1000VDC PV	✓	15
T2-1500	7094994	1500VDC	80A gG	20kA	40kA	1500VDC PV	—	15
T2-1500F	7067731	1500VDC	80A gG	20kA	40kA	1500VDC PV	✓	15
T2-40/2P	7067699	385VAC	80A gG	20kA	40kA	TN System	—	16
T2-40/2PF	7062709	385VAC	80A gG	20kA	40kA	TN System	✓	16
T2-40/3P	7079704	385VAC	80A gG	20kA	40kA	IT、TN-C System	—	16
T2-40/3PF	7046181	385VAC	80A gG	20kA	40kA	IT、TN-C System	✓	16
T2-40/4P	7085466	385VAC	80A gG	20kA	40kA	TN-S System	—	16
T2-40/4PF	7018432	385VAC	80A gG	20kA	40kA	TN-S System	✓	16
T2-40/1P	7056020	385VAC	80A gG	20kA	40kA	Single line	—	17
T2-40/1PF	7031533	385VAC	80A gG	20kA	40kA	Single line	✓	17
T2-40/1P+1	7032273	385VAC	80A gG	20kA	40kA	TT System	—	17
T2-40/1P+1F	7070280	385VAC	80A gG	20kA	40kA	TT System	✓	17
T2-40/3P+1	7085025	385VAC	80A gG	20kA	40kA	TT System	—	17
T2-40/3P+1F	7081984	385VAC	80A gG	20kA	40kA	TT System	✓	17
T2-80/2P	7030066	385VAC	125A gG	40kA	80kA	TN System	—	18
T2-80/2PF	7066780	385VAC	125A gG	40kA	80kA	TN System	✓	18
T2-80/3P	7025082	385VAC	125A gG	40kA	80kA	IT、TN-C System	—	18
T2-80/3PF	7038693	385VAC	125A gG	40kA	80kA	IT、TN-C System	✓	18
T2-80/4P	7018734	385VAC	125A gG	40kA	80kA	TN-S System	—	18
T2-80/4PF	7088870	385VAC	125A gG	40kA	80kA	TN-S System	✓	18
T2-80/1P	7077138	385VAC	125A gG	40kA	80kA	Single line	✓	19
T2-80/1PF	7012410	385VAC	125A gG	40kA	80kA	Single line	✓	19
T2-80/1P+1	7015677	385VAC	125A gG	40kA	80kA	TT System	—	19
T2-80/1P+1F	7042357	385VAC	125A gG	40kA	80kA	TT System	✓	19
T2-80/3P+1	7055729	385VAC	125A gG	40kA	80kA	TT System	—	19
T2-80/3P+1F	7058261	385VAC	125A gG	40kA	80kA	TT System	✓	19
T2-40/700/2P	7031662	700VAC	80A gG	20kA	40kA	TN System	—	20
T2-40/700/2PF	7087013	700VAC	80A gG	20kA	40kA	TN System	✓	20
T2-40/700/3P	7066877	700VAC	80A gG	20kA	40kA	IT、TN-C System	—	20
T2-40/700/3PF	7028674	700VAC	80A gG	20kA	40kA	IT、TN-C System	✓	20

Model	Order No.	Max.operating voltage U _c	Recommended backup fuse	Nominal discharge current I _n (8/20μs)	Max. discharge current I _{max} (8/20μs)	Protection	Remote signaling	Page
T2-40/700/4P	7087771	700VAC	80A gG	20kA	40kA	TN-S	—	20
T2-40/700/4PF	7020165	700VAC	80A gG	20kA	40kA	TN-S	✓	20
T2-40/700/1P+1	7062817	700VAC	80A gG	20kA	40kA	TT	—	21
T2-40/700/1P+1F	7033598	700VAC	80A gG	20kA	40kA	TT	✓	21
T2-40/700/3P+1	7013762	700VAC	80A gG	20kA	40kA	TT	—	21
T2-40/700/3P+1F	7097406	700VAC	80A gG	20kA	40kA	TT	✓	21

CZLB series SPD for signal

Model	Order No.	Wiring	Load current I _L	Max.operating voltage U _c	Nominal discharge current I _n (8/20μs)	Impulse current I _{imp} (10/350μs)	Protection	Page
CZLB-5(T2)	7051773	2	500mA	6V DC	10kA	2.5kA	IS, TC、RS-485、CAN	22
CZLB-5(R3)	7014195	3	500mA	6V DC	10kA	2.5kA	IS, RTD	22
CZLB-24(B2)	7090592	2	500mA	32V DC	10kA	2.5kA	IS, AI、AO、DI、DO	23
CZLB-24(B3)	7013226	3	500mA	32V DC	10kA	2.5kA	IS, AI、AO、DI、DO、RS-232	23

CZLB series SPD for power

Model	Order No.	Max.operating voltage U _c	Recommended backup fuse	Nominal discharge current I _n (8/20μs)	Max. discharge current I _{max} (8/20μs)	Protection	Remote signaling	Page
CZLB-24P	7059650	58VDC/40VAC	—	10kA	20kA	24VDC (<10A)	—	24
CZLB-40/2P	7051402	385VAC	80A gG	20kA	40kA	TN System	—	24
CZLB-40/2PF	7028111	385VAC	80A gG	20kA	40kA	TN System	✓	24
CZLB-40/3P	7061543	385VAC	80A gG	20kA	40kA	IT、TN-C System	—	25
CZLB-40/3PF	7023751	385VAC	80A gG	20kA	40kA	IT、TN-C System	✓	25
CZLB-40/4P	7045781	385VAC	80A gG	20kA	40kA	TN-S System	—	25
CZLB-40/4PF	7094265	385VAC	80A gG	20kA	40kA	TN-S System	✓	25
CZLB-40/1P+1	7047317	385VAC	80A gG	20kA	40kA	TT System	—	25
CZLB-40/1P+1F	7054943	385VAC	80A gG	20kA	40kA	TT System	✓	25
CZLB-40/3P+1	7078829	385VAC	80A gG	20kA	40kA	TT System	—	26
CZLB-40/3P+1F	7091611	385VAC	80A gG	20kA	40kA	TT System	✓	26
CZLB-160/440/2P	7024977	440VAC	200A gG	80kA	160kA	TN System	—	26
CZLB-160/440/3P	7069757	440VAC	200A gG	80kA	160kA	IT、TN-C System	✓	26
CZLB-160/440/4P	7086079	440VAC	200A gG	80kA	160kA	TN-S System	—	27
CZLB-160/440/1P+1	7053172	440VAC	200A gG	80kA	160kA	TT System	—	27
CZLB-160/440/3P+1	7083196	440VAC	200A gG	80kA	160kA	TT System	—	27

CZLBX Series Screw Mounting SPD

Model	Order No.	Thread	Wiring	Max. operate voltage U _c	Nominal discharge current I _n (8/20μs)	Impulse current I _{imp} (10/350μs)	Protection	Page
CZLBX-48	7041233...	1/2" NPT...	2	48V DC	10kA	2.5kA	RTD、RS-485、AI、AO、DI、DO	29
CZLBX-48-3	7024477...	1/2" NPT...	3	48V DC	10kA	2.5kA	RTD、RS-485、AI、AO、DI、DO	29
CZLBX-48-4	7060125...	1/2" NPT...	4	48V DC	10kA	2.5kA	RTD、RS-485、AI、AO、DI、DO	29

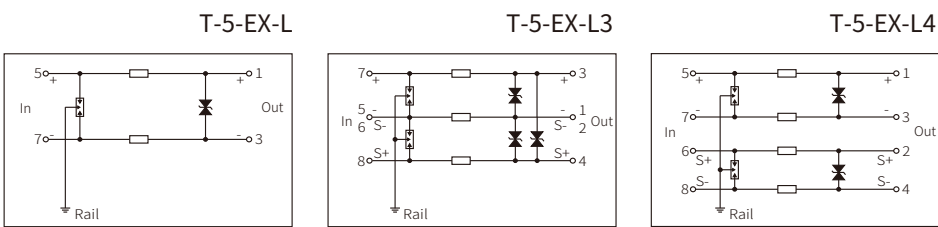
iFL Series Network SPD

Model	Order No.	Max. operate voltage U _c	Nominal discharge current I _n (8/20μs)	Protection	Page
iFL-RJ45	7079893	8VDC	2kA	Network	30
iFL-RJ45-2	7978591	8VDC/58VDC	10kA	Network, 24VDC power 2 in 1	30
iFL-RJ45-2	7054623	8VDC/275VAC	3kA	Network, 220VAC power 2 in 1	30
iFL-RJ45/PoE	7069852	8VDC/60VDC	2kA	PoE	31
iFL-RJ45/GigE	7058560	60VDC	2kA	GigE	31
iFL-RF	7043433	24VDC	10kA	Wireless	32

For 5V signal(IS system)

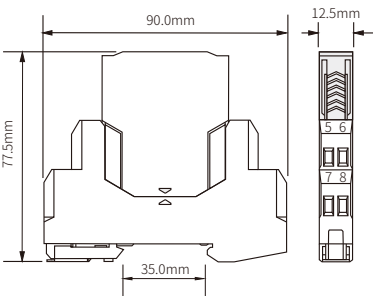
Features

- 12.5mm width
- Pluggable protection module
- Ground via DIN 35mm rail

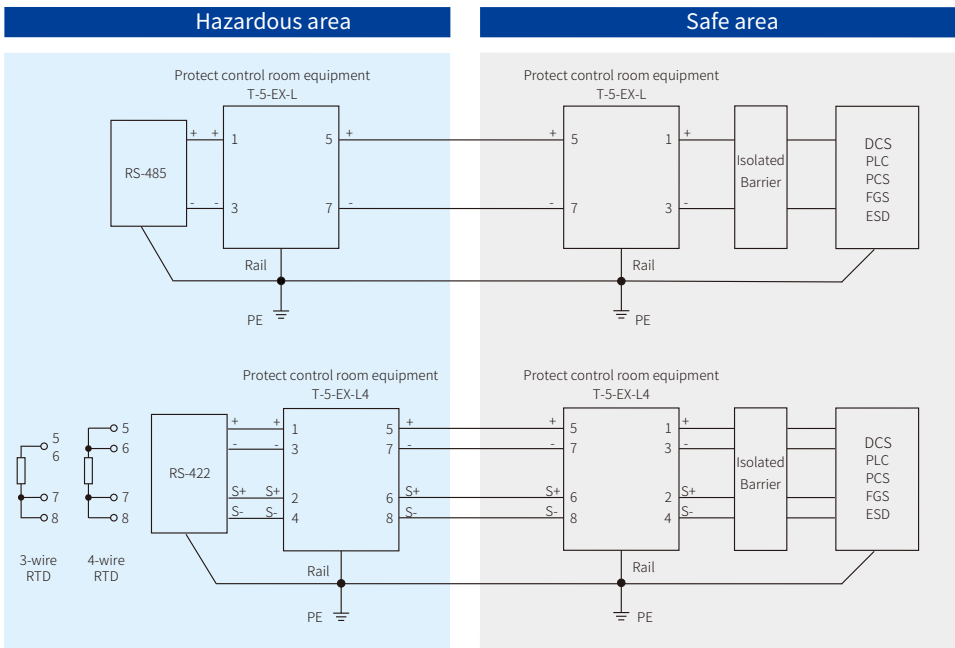


Technical data	2-wire	3-wire	4-wire
Max. continuous operating voltage U_c	6V DC	6V DC	6V DC
Nominal operating current I_L	500mA	500mA	500mA
Resistance(per line)	1Ω	1Ω	1Ω
Nominal discharge current I_n (8/20μs)	10kA	10kA	10kA
Max. discharge current I_{max} (8/20μs)	20kA	20kA	20kA
Impulse current I_{imp} (10/350μs)	2.5kA	2.5kA	2.5kA
Voltage protection level U_p (8/20μs)	L-L/L-G	40V/600V	40V/600V
Voltage protection level U_p (1kV/μs)	L-L/L-G	20V/600V	20V/600V
Bandwidth(-0.5dB)	40MHz	40MHz	40MHz
Response time	1ns	1ns	1ns
Residual current I_{PE}	<10μA	<10μA	<10μA
Housing protection grade(IEC60529)	IP 20	IP 20	IP 20
Housing material/Flammability rating(UL94)	PA66/V0	PA66/V0	PA66/V0
Testing standard	GB/T 18802.21/IEC 61643-21	GB/T 18802.21/IEC 61643-21	GB/T 18802.21/IEC 61643-21
Certification			
Ex marking	II 1G Ex ia IIC T6...T4 Ga	II 1G Ex ia IIC T6...T4 Ga	II 1G Ex ia IIC T6...T4 Ga
Certificate Number	Sira 20ATEX2010X IECEx SIR 20.0018X	Sira 20ATEX2010X IECEx SIR 20.0018X	Sira 20ATEX2010X IECEx SIR 20.0018X
Entity Parameters	Ui=6V; li=500mA; Pi=5.32W; Ci≈0μF; Li≈0mH	Ui=6V; li=500mA; Pi=5.32W; Ci≈0μF; Li≈0mH	Ui=6V; li=500mA; Pi=5.32W; Ci≈0μF; Li≈0mH
Functional safety certification	SIL3	SIL3	SIL3
Type test	Shanghai Lightning Protection Center	Shanghai Lightning Protection Center	Shanghai Lightning Protection Center
Order number	7086993	7025543	7019501

Dimensions



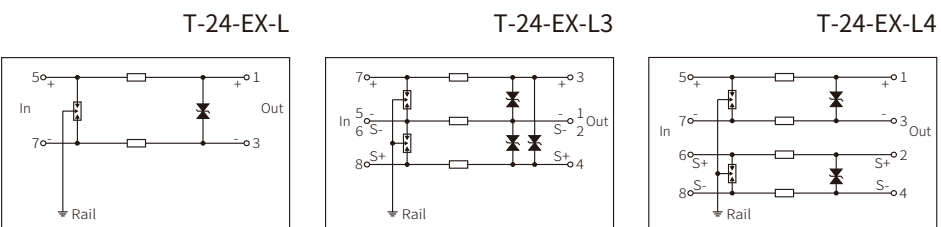
Typical applications



For 24V signal(IS system)

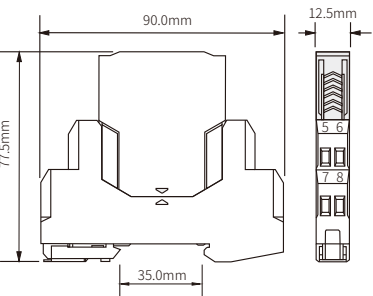
Features

- 12.5mm width
- Pluggable protection module
- Ground via DIN 35mm rail

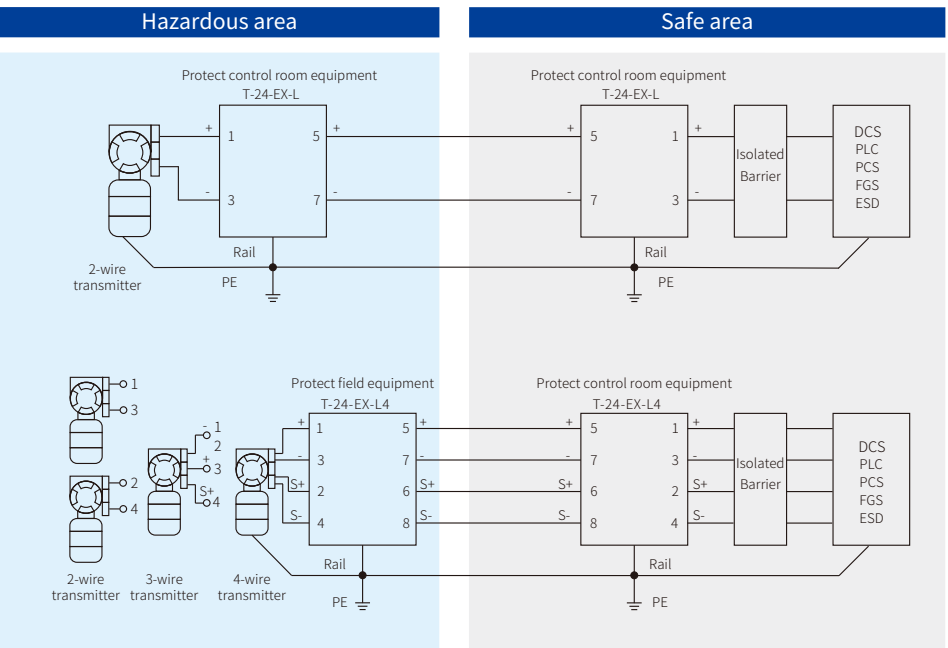


Technical data	2-wire	3-wire	4-wire
Max. continuous operating voltage U_c	32V DC	32V DC	32V DC
Nominal operating current I_L	500mA	500mA	500mA
Resistance(per line)	1Ω	1Ω	1Ω
Nominal discharge current I_n (8/20μs)	10kA	10kA	10kA
Max. discharge current I_{max} (8/20μs)	20kA	20kA	20kA
Impulse current I_{imp} (10/350μs)	2.5kA	2.5kA	2.5kA
Voltage protection level U_p (8/20μs)	L-L/L-G	60V/600V	60V/600V
Voltage protection level U_p (1kV/μs)	L-L/L-G	40V/600V	40V/600V
Bandwidth(-0.5dB)	40MHz	40MHz	40MHz
Response time	1ns	1ns	1ns
Residual current I_{PE}	<1μA	<1μA	<1μA
Housing protection grade(IEC60529)	IP 20	IP 20	IP 20
Housing material/Flammability rating(UL94)	PA66/V0	PA66/V0	PA66/V0
Testing standard	GB/T 18802.21/IEC 61643-21	GB/T 18802.21/IEC 61643-21	GB/T 18802.21/IEC 61643-21
Certification			
Ex marking	II 1G Ex ia IIC T6...T4 Ga	II 1G Ex ia IIC T6...T4 Ga	II 1G Ex ia IIC T6...T4 Ga
Certificate Number	Sira 20ATEX2010X IECEx SIR 20.0018X	Sira 20ATEX2010X IECEx SIR 20.0018X	Sira 20ATEX2010X IECEx SIR 20.0018X
Entity Parameters	Ui=30V; li=500mA; Pi=5.32W; Ci≈0μF; Li≈0mH	Ui=30V; li=500mA; Pi=5.32W; Ci≈0μF; Li≈0mH	Ui=32V; li=500mA; Pi=5.32W; Ci≈0μF; Li≈0mH
Functional safety certification	SIL3	SIL3	SIL3
Type test	Shanghai Lightning Protection Center	Shanghai Lightning Protection Center	Shanghai Lightning Protection Center
Order number	7096962	7097610	7040569

Dimensions



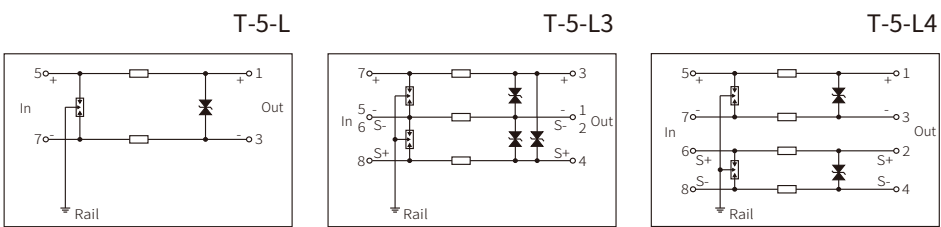
Typical applications



For 5V signal

Features

- 12.5mm width
- Pluggable protection module
- Ground via DIN 35mm rail

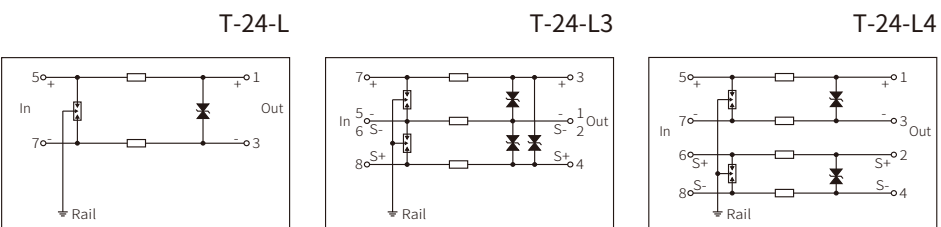


Technical data	2-wire	3-wire	4-wire
Max. continuous operating voltage U_c	6V DC	6V DC	6V DC
Nominal operating current I_L	800mA	800mA	800mA
Resistance(per line)	1Ω	1Ω	1Ω
Nominal discharge current I_n (8/20μs)	10kA	10kA	10kA
Max. discharge current I_{max} (8/20μs)	20kA	20kA	20kA
Impulse current I_{imp} (10/350μs)	2.5kA	2.5kA	2.5kA
Voltage protection level U_p (8/20μs)	L-L/L-G	40V/600V	40V/600V
Voltage protection level U_p (1kV/μs)	L-L/L-G	20V/600V	20V/600V
Bandwidth(-0.5dB)	40MHz	40MHz	40MHz
Response time	1ns	1ns	1ns
Residual current I_{pe}	<10μA	<10μA	<10μA
Housing protection grade(IEC60529)	IP 20	IP 20	IP 20
Housing material/Flammability rating(UL94)	PA66/V0	PA66/V0	PA66/V0
Testing standard	GB/T 18802.21/IEC 61643-21	GB/T 18802.21/IEC 61643-21	GB/T 18802.21/IEC 61643-21
Certification			
Functional safety certification	SIL3	SIL3	SIL3
Type test	Shanghai Lightning Protection Center	Shanghai Lightning Protection Center	Shanghai Lightning Protection Center
Order number	7099647	7050235	7029162

For 24V signal

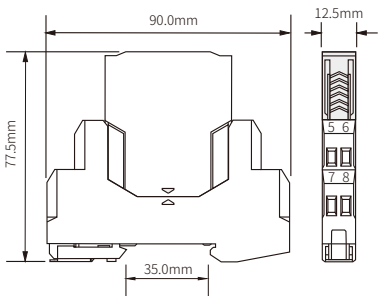
Features

- 12.5mm width
- Pluggable protection module
- Ground via DIN 35mm rail

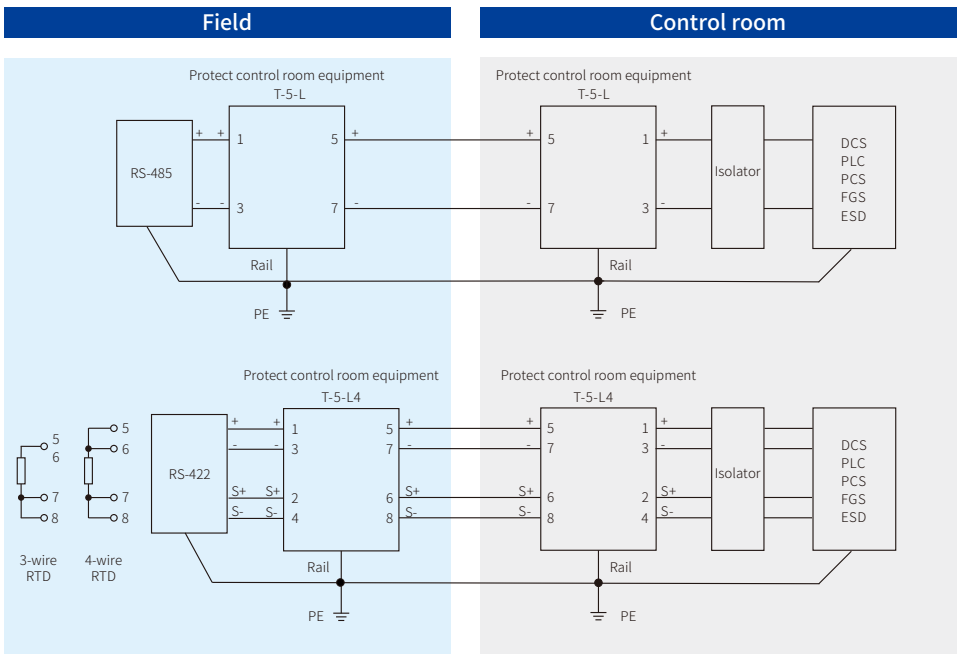


Technical data	2-wire	3-wire	4-wire
Nominal operating voltage U_n	24V DC	24V DC	24V DC
Max. continuous operating voltage U_c	32V DC	32V DC	32V DC
Nominal operating current I_L	800mA	800mA	800mA
Nominal discharge current I_n (8/20μs)	10kA	10kA	10kA
Impulse current I_{imp} (10/350μs)	2.5kA	2.5kA	2.5kA
Total impulse current I_{imp} (10/350μs)	5kA	7.5kA	10kA
Voltage protection level $U_p(I_n)$	L-G:1.3kV	L-G:1.3kV	L-G:1.3kV
Voltage protection level $U_p(I_{imp})$	L-G:70V	L-G:70V	L-G:70V
Voltage protection level U_p (1kV/μs)	L-L:40V,L-G:90V	L-L:40V,L-G:90V	L-L:40V,L-G:90V
Bandwidth(-0.5dB)	40MHz	40MHz	40MHz
Response time	L-L:1ns,L-G:200ns	L-L:1ns,L-G:200ns	L-L:1ns,L-G:200ns
Resistance(per line)	1Ω	1Ω	1Ω
Residual current I_{pe}	<1μA	<1μA	<1μA
Housing protection grade(IEC60529)	IP 20	IP 20	IP 20
Housing material/Flammability rating(UL94)	PA66/V0	PA66/V0	PA66/V0
Testing standard	GB/T 18802.21/IEC 61643-21	GB/T 18802.21/IEC 61643-21	GB/T 18802.21/IEC 61643-21
Certification			
Functional safety certification	SIL3	SIL3	SIL3
Type test	Shanghai Lightning Protection Center	Shanghai Lightning Protection Center	Shanghai Lightning Protection Center
Order number	7023959	7091758	7074245

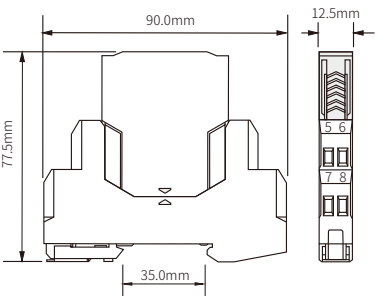
Dimensions



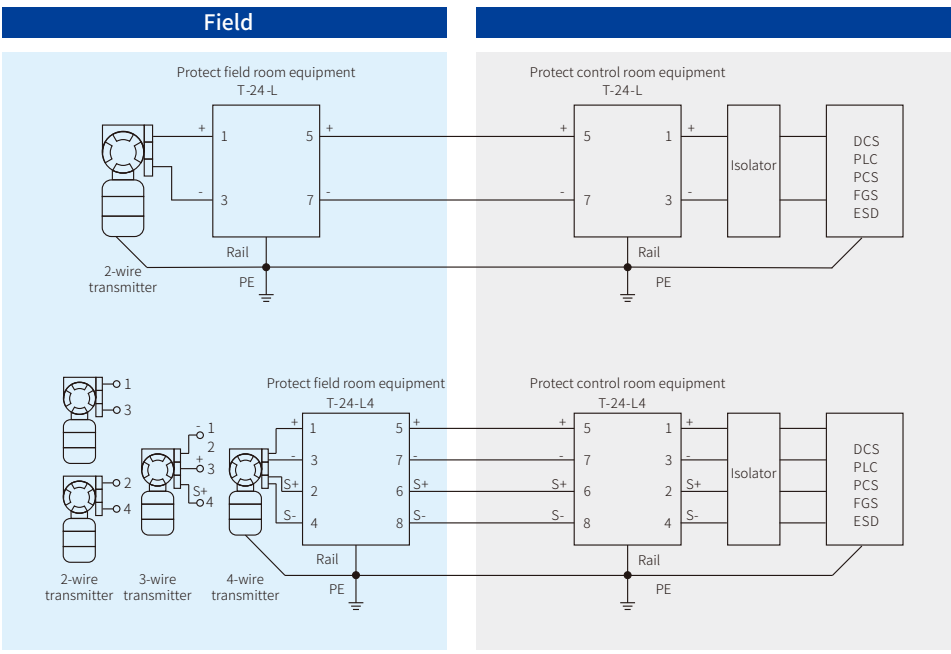
Typical applications



Dimensions



Typical applications



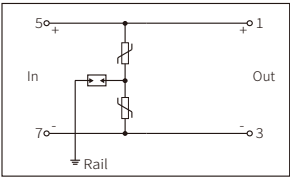
For DC power

Features

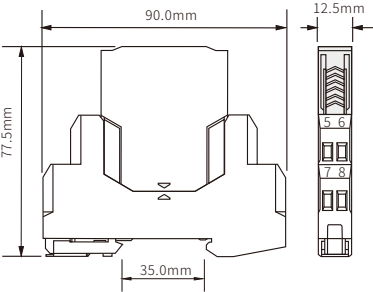
- 12.5mm width
- Pluggable protection module
- Ground via DIN 35mm rail

Technical data	
Max. continuous operating voltage U_c	58VDC/40VAC
Nominal operating current I_n	10A
Nominal discharge current $I_n(8/20\mu s)$	10kA
Max. discharge current $I_{max}(8/20\mu s)$	20kA
Impulse current $I_{imp}(10/350\mu s)$	2.5kA
Voltage protection level U_p	800V
Recommended grounding cable	2.5mm ²
Residual current I_{pe}	<20μA
Response time	25ns
Housing protection grade(IEC60529)	IP 20
Housing material/Flammability rating(UL94)	PA66/V0
Testing standard	GB/T 18802.21/IEC 61643-21
Certification	
Type test	Shanghai Lightning Protection Center
Order number	
	7062371

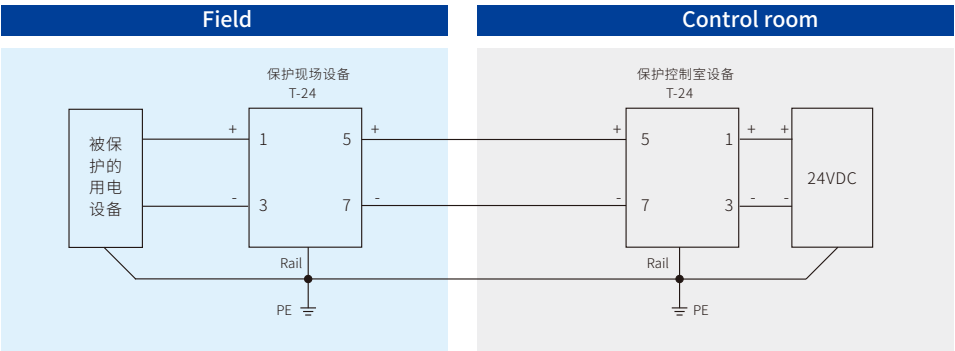
T-24



Dimensions



Typical applications



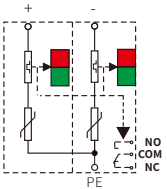
For DC power

Features

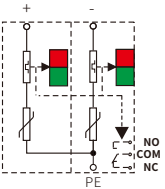
- Status indication:
 - Green: OK
 - Red: Failed
- Pluggable
- Remote alarm output is optional, named with “F”

Technical data		T2-24	T2-110	T2-220
Max. continuous operating voltage U_c		90VDC/60VAC	180VDC/120VAC	320VDC/220VAC
Nominal discharge current $I_n(8/20\mu s)$		20kA	20kA	20kA
Max. discharge current $I_{max}(8/20\mu s)$		40kA	40kA	40kA
Voltage protection level U_p		600V	800V	1.2kV
Recommended backup fuse		80A gG	80A gG	80A gG
Short-circuit current rating I_{SCCR}		1000A	1000A	1000A
Recommended grounding cable		4~35mm ²	4~35mm ²	4~35mm ²
Response time		25ns	25ns	25ns
Residual current		<10μA	<10μA	<10μA
Remote alarm output (model F)		250VAC/0.5A; 24VDC/0.5A	250VAC/0.5A; 24VDC/0.5A	250VAC/0.5A; 24VDC/0.5A
Housing protection grade(IEC60529)		IP 20	IP 20	IP 20
Housing material/Flammability rating(UL94)		PA66/V0	PA66/V0	PA66/V0
Testing standard		GB/T 18802.11/IEC 61643-11	GB/T 18802.11/IEC 61643-11	GB/T 18802.11/IEC 61643-11
Certification				
Type test		Shanghai Lightning Protection Center	Shanghai Lightning Protection Center	Shanghai Lightning Protection Center
Order number				
		T2-24: 7073945	T2-110: 7089524	T2-220: 7065567
		T2-24F: 7093094	T2-110F: 7062355	T2-220F: 7011000

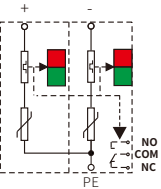
T2-24
T2-24F



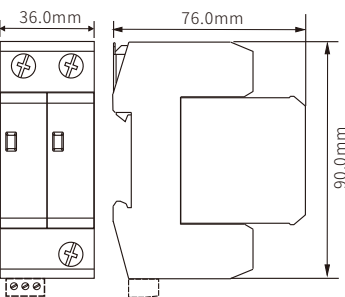
T2-110
T2-110F



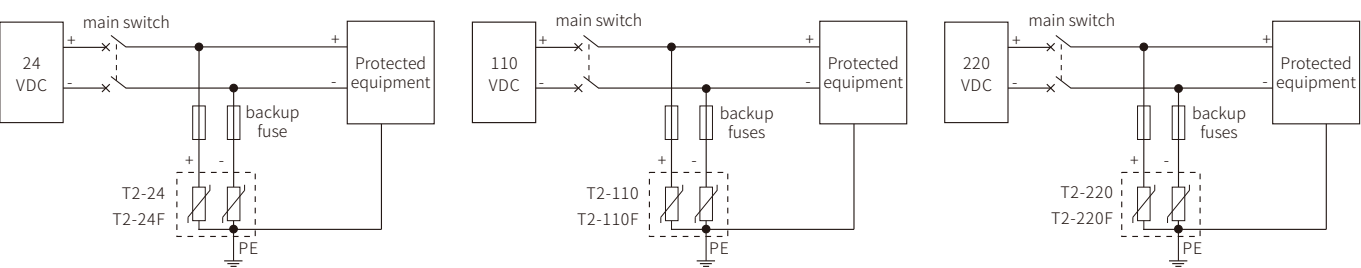
T2-220
T2-220F



Dimensions (18mm/P)



Typical applications



Cautions:
Backup fuses are recommended to be installed in case SPD get short-circuited.
For connecting to L/N.cables with a cross-sectional area $\geq 4\text{mm}^2$ are recommended.
For connecting to PE.cables with a cross-sectional area $\geq 6\text{mm}^2$ are recommended.

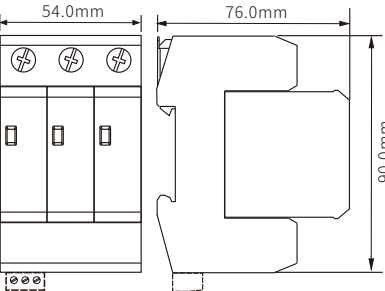
For DC power

Features

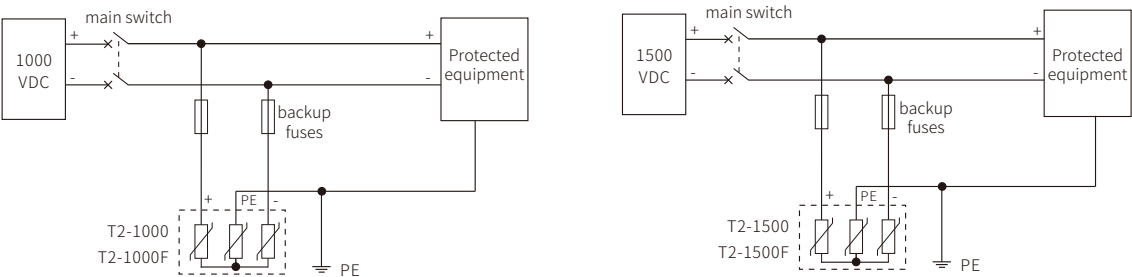
- Status indication:
 - Green: OK
 - Red: Failed
- Pluggable
- Remote alarm output is optional, named with “F”

Technical data		T2-1000	T2-1500
Max. continuous operating voltage U_c		1000VDC	1500VDC
Nominal discharge current $I_n(8/20\mu s)$		20kA	20kA
Max. discharge current $I_{max}(8/20\mu s)$		40kA	40kA
Voltage protection level U_p		4kV	6kV
Short-circuit current rating I_{scpv}		1000A	1000A
Recommended backup fuse		80A gG	80A gG
Recommended grounding cable		4~35mm ²	4~35mm ²
Response time		25ns	25ns
Residual current		<10μA	<10μA
Remote alarm output (model F)		250VAC/0.5A; 24VDC/0.5A	250VAC/0.5A; 24VDC/0.5A
Housing protection grade(IEC60529)		IP 20	IP 20
Housing material/Flammability rating(UL94)		PA66/V0	PA66/V0
Testing standard		GB/T 18802.31/IEC 61643-31	GB/T 18802.31/IEC 61643-31
Certification			
Type test		Shanghai Lightning Protection Center	Shanghai Lightning Protection Center
Order number			
		T2-1000: 7053964	T2-1500: 7094994
		T2-1000F: 7065508	T2-1500F: 7067731

Dimensions (18mm/P)



Typical applications



Cautions:
Backup fuses are recommended to be installed in case SPD get short-circuited.
For connecting to L/N.cables with a cross-sectional area $\geq 4\text{mm}^2$ are recommended.
For connecting to PE.cables with a cross-sectional area $\geq 6\text{mm}^2$ are recommended.

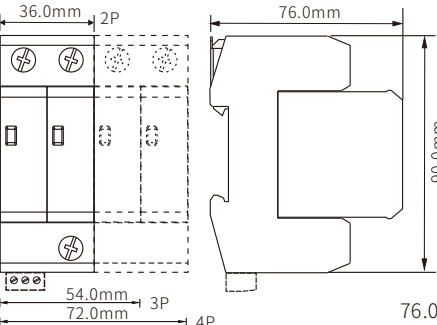
For AC power(40kA)

Features

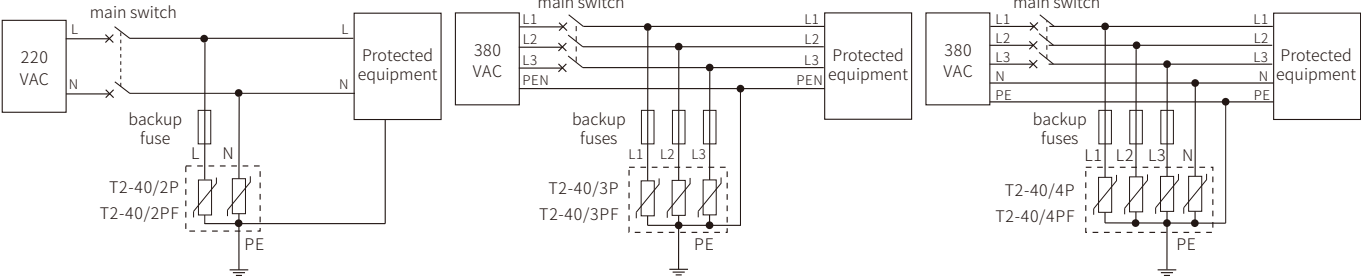
- Status indication:
 - Green: OK
 - Red: Failed
- Pluggable
- Remote alarm output is optional, named with “F”

Technical data		T2-40/2P T2-40/2PF	T2-40/3P T2-40/3PF	T2-40/4P T2-40/4PF
Max. continuous operating voltage U_c		385VAC	385VAC	385VAC
Nominal discharge current $I_n(8/20\mu s)$		20kA	20kA	20kA
Max. discharge current $I_{max}(8/20\mu s)$		40kA	40kA	40kA
Voltage protection level U_p		1.7kV	1.7kV	1.7kV
Recommended backup fuse		80A gG	80A gG	80A gG
Short-circuit current rating I_{SCCR}		1000A	1000A	1000A
Recommended grounding cable		4~35mm ²	4~35mm ²	4~35mm ²
Response time		25ns	25ns	25ns
Residual current		<20μA	<20μA	<20μA
Remote alarm output (model F)		250VAC/0.5A; 24VDC/0.5A	250VAC/0.5A; 24VDC/0.5A	250VAC/0.5A; 24VDC/0.5A
Housing protection grade(IEC60529)		IP 20	IP 20	IP 20
Housing material/Flammability rating(UL94)		PA66/V0	PA66/V0	PA66/V0
Testing standard		GB/T 18802.11/IEC 61643-11	GB/T 18802.11/IEC 61643-11	GB/T 18802.11/IEC 61643-11
Power supply system		Single phase (TN)	Three-phase four line (TN-C) Three-phase three line (IT)	Three-phase five line (TN-S)
Certification				
Type test		Shanghai Lightning Protection Center	Shanghai Lightning Protection Center	Shanghai Lightning Protection Center
Order number				
		T2-40/2P: 7067699	T2-40/3P: 7079704	T2-40/4P: 7085466
		T2-40/2PF: 7062709	T2-40/3PF: 7046181	T2-40/4PF: 7018432

Dimensions (18mm/P)



Typical applications



Single phase (TN) Three-phase four line (TN-C) Three-phase five line (TN-S)

Cautions:
Backup fuses are recommended to be installed in case SPD get short-circuited.
For connecting to L/N.cables with a cross-sectional area $\geq 4\text{mm}^2$ are recommended.
For connecting to PE.cables with a cross-sectional area $\geq 6\text{mm}^2$ are recommended.

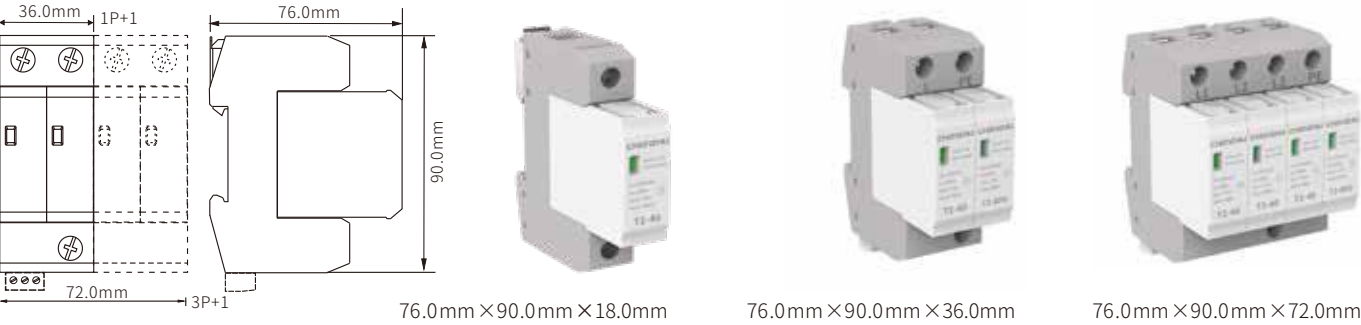
For AC power(40kA)

Features

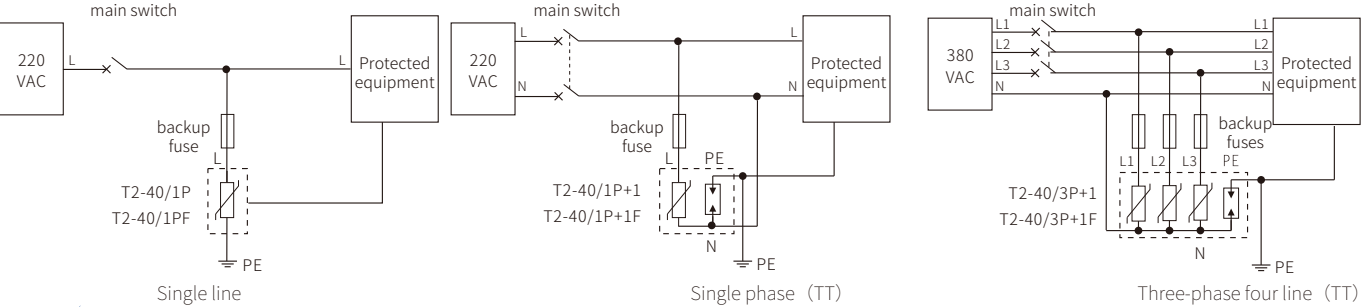
- Status indication:
 - Green: OK
 - Red: Failed
- Pluggable
- Remote alarm output is optional, named with “F”

Technical data		T2-80G module	T2-40 module	T2-80G module	T2-40 module
Max. continuous operating voltage U_c	385VAC	255VAC	385VAC	255VAC	385VAC
Nominal discharge current $I_n(8/20\mu s)$	20kA	40KA	20kA	40KA	20kA
Max. discharge current $I_{max}(8/20\mu s)$	40kA	80kA	40kA	80kA	40kA
Voltage protection level U_p	1.7kV	1.2kV	1.7kV	1.2kV	1.7kV
Recommended backup fuse	80A gG		80A gG		80A gG
Short-circuit current rating I_{SCCR}	1000A		1000A		1000A
Recommended grounding cable	4~35mm ²		4~35mm ²		4~35mm ²
Response time	25ns		25ns		25ns
Residual current	<20μA		<20μA		<20μA
Remote alarm output (model F)	250VAC/0.5A; 24VDC/0.5A	250VAC/0.5A; 24VDC/0.5A		250VAC/0.5A; 24VDC/0.5A	
Housing protection grade(IEC60529)	IP 20		IP 20		IP 20
Housing material/Flammability rating(UL94)	PA66/V0		PA66/V0		PA66/V0
Testing standard	GB/T 18802.11/IEC 61643-11	GB/T 18802.11/IEC 61643-11		GB/T 18802.11/IEC 61643-11	
Power supply system	Single line		Single phase (TT)		Three-phase four line (TT)
Certification					
Type test	Shanghai Lightning Protection Center	Shanghai Lightning Protection Center		Shanghai Lightning Protection Center	
Order number		T2-40/1P: 7056020 T2-40/1PF: 7031533	T2-40/1P+1: 7032273 T2-40/1P+1F: 7070280	T2-40/3P+1: 7085025 T2-40/3P+1F: 7081984	

Dimensions (18mm/P)



Typical applications



Cautions:
Backup fuses are recommended to be installed in case SPD get short-circuited.
For connecting to L/N.cables with a cross-sectional area $\geq 4mm^2$ are recommended.
For connecting to PE.cables with a cross-sectional area $\geq 6mm^2$ are recommended.

For AC power(80kA)

Features

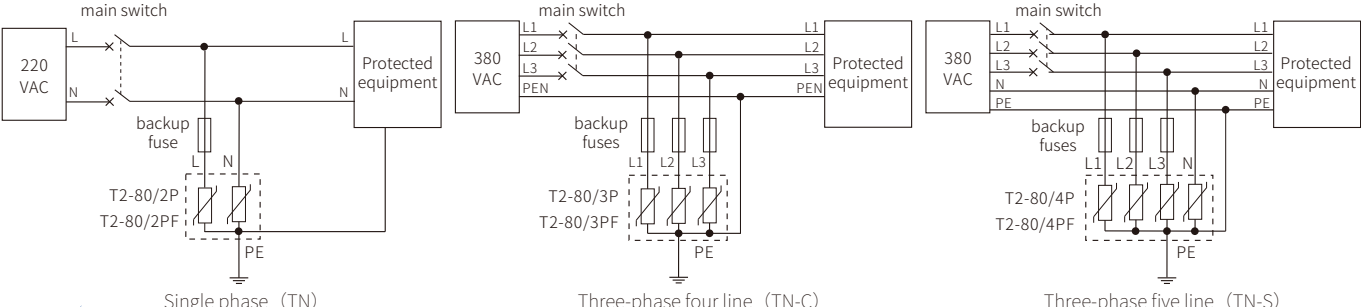
- Status indication:
 - Green: OK
 - Red: Failed
- Pluggable
- Remote alarm output is optional, named with “F”

Technical data		T2-80/2P T2-80/2PF	T2-80/3P T2-80/3PF	T2-80/4P T2-80/4PF
Max. continuous operating voltage U_c	385VAC		385VAC	385VAC
Nominal discharge current $I_n(8/20\mu s)$	40kA		40kA	40kA
Max. discharge current $I_{max}(8/20\mu s)$	80kA		80kA	80kA
Voltage protection level U_p	2.0kV		2.0kV	2.0kV
Recommended backup fuse	125A gG		125A gG	125A gG
Short-circuit current rating I_{SCCR}	1000A		1000A	1000A
Recommended grounding cable	4~35mm ²		4~35mm ²	4~35mm ²
Response time	25ns		25ns	25ns
Residual current	<20μA		<20μA	<20μA
Remote alarm output (model F)	250VAC/0.5A; 24VDC/0.5A	250VAC/0.5A; 24VDC/0.5A	250VAC/0.5A; 24VDC/0.5A	250VAC/0.5A; 24VDC/0.5A
Housing protection grade(IEC60529)	IP 20		IP 20	IP 20
Housing material/Flammability rating(UL94)	PA66/V0		PA66/V0	PA66/V0
Testing standard	GB/T 18802.11/IEC 61643-11	GB/T 18802.11/IEC 61643-11	GB/T 18802.11/IEC 61643-11	GB/T 18802.11/IEC 61643-11
Power supply system	Single phase (TN)		Three-phase four line (TN-C) Three-phase three line (IT)	Three-phase five line (TN-S)
Certification				
Type test	Shanghai Lightning Protection Center	Shanghai Lightning Protection Center		Shanghai Lightning Protection Center
Order number		T2-80/2P: 7030066 T2-80/2PF: 7066780	T2-80/3P: 7025082 T2-80/3PF: 7038693	T2-80/4P: 7018734 T2-80/4PF: 7088870

Dimensions (18mm/P)



Typical applications



Cautions:
Backup fuses are recommended to be installed in case SPD get short-circuited.
For connecting to L/N.cables with a cross-sectional area $\geq 4mm^2$ are recommended.
For connecting to PE.cables with a cross-sectional area $\geq 6mm^2$ are recommended.

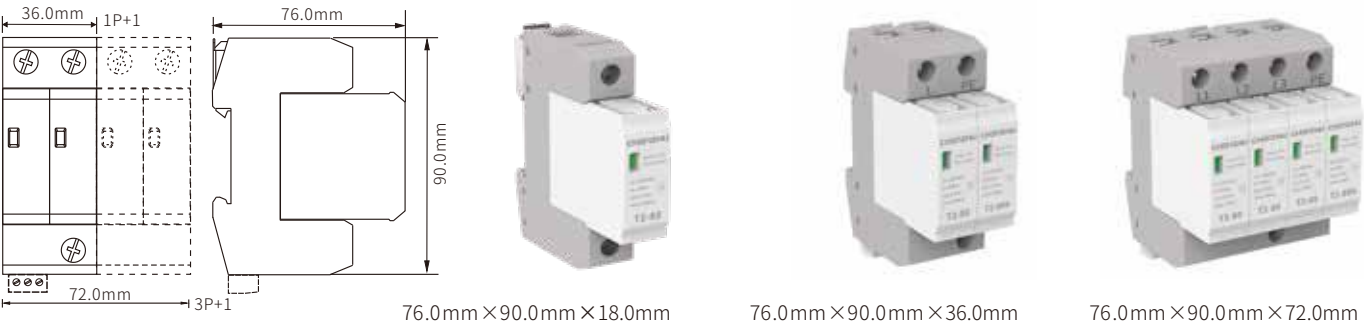
For AC power(80kA)

Features

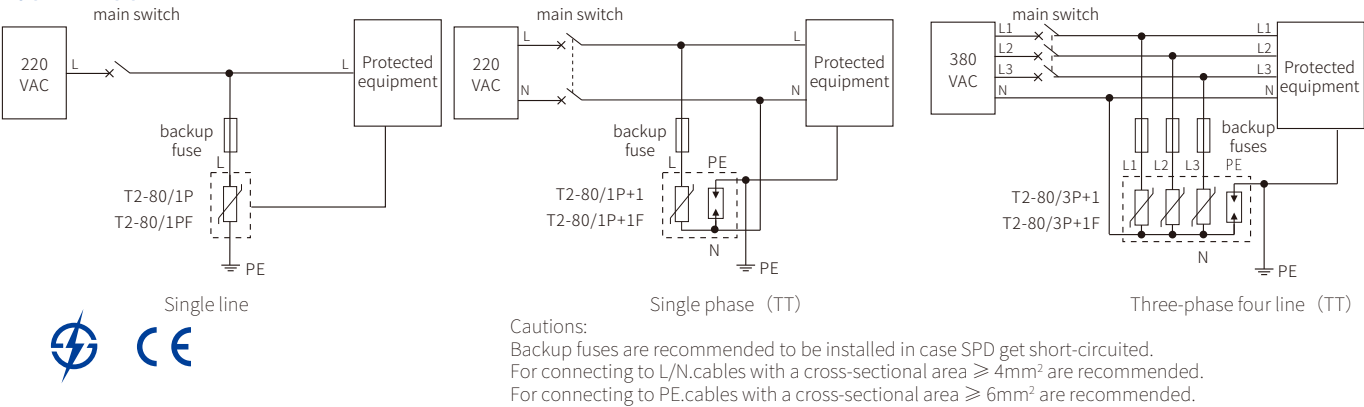
- Status indication:
 - Green: OK
 - Red: Failed
- Pluggable
- Remote alarm output is optional, named with “F”

Technical data		T2-80G module		T2-80 module	
Max. continuous operating voltage U_c	385VAC	255VAC	385VAC	255VAC	385VAC
Nominal discharge current $I_n(8/20\mu s)$	40kA	40KA	40kA	40KA	40kA
Max. discharge current $I_{max}(8/20\mu s)$	80kA	80kA	80kA	80KA	80kA
Voltage protection level U_p	2.0kV	1.2kV	2.0kV	1.2kV	2.0kV
Recommended backup fuse	125A gG	125A gG	125A gG	125A gG	125A gG
Short-circuit current rating I_{SCCR}	1000A	1000A	1000A	1000A	1000A
Recommended grounding cable	4~35mm ²	4~35mm ²	4~35mm ²	4~35mm ²	4~35mm ²
Response time	25ns	25ns	25ns	25ns	25ns
Residual current	<20μA	<20μA	<20μA	<20μA	<20μA
Remote alarm output (model F)	250VAC/0.5A; 24VDC/0.5A	250VAC/0.5A; 24VDC/0.5A	250VAC/0.5A; 24VDC/0.5A	250VAC/0.5A; 24VDC/0.5A	250VAC/0.5A; 24VDC/0.5A
Housing protection grade(IEC60529)	IP 20	IP 20	IP 20	IP 20	IP 20
Housing material/Flammability rating(UL94)	PA66/V0	PA66/V0	PA66/V0	PA66/V0	PA66/V0
Testing standard	GB/T 18802.11/IEC 61643-11	GB/T 18802.11/IEC 61643-11	GB/T 18802.11/IEC 61643-11	GB/T 18802.11/IEC 61643-11	GB/T 18802.11/IEC 61643-11
Power supply system	Single line	Single phase (TT)	Three-phase four line (TT)	Single phase (TT)	Three-phase four line (TT)
Certification					
Type test	Shanghai Lightning Protection Center	Shanghai Lightning Protection Center	Shanghai Lightning Protection Center	Shanghai Lightning Protection Center	Shanghai Lightning Protection Center
Order number	T2-80/1P: 7077138	T2-80/1P+1: 7015677	T2-80/3P+1: 7055729	T2-80/1P: 7077138	T2-80/1P+1: 7015677
	T2-80/1PF: 7012410	T2-80/1P+1F: 7042357	T2-80/3P+1F: 7058261	T2-80/1PF: 7012410	T2-80/1P+1F: 7042357

Dimensions (18mm/P)



Typical applications



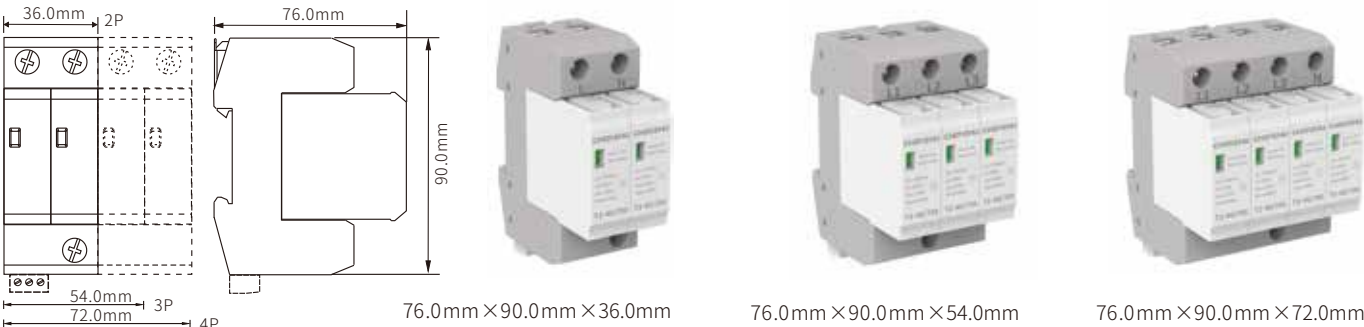
For AC power(40kA)(400/690VAC)

Features

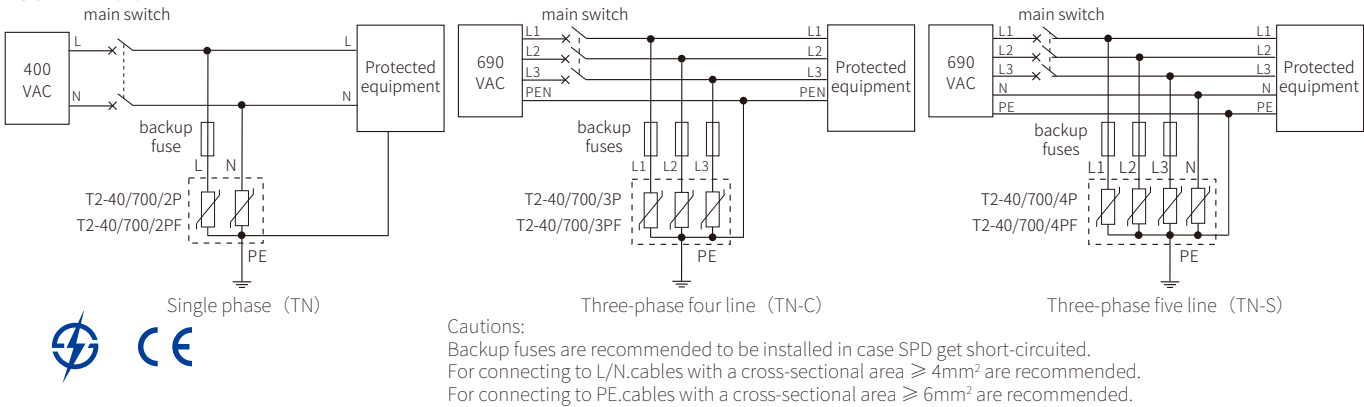
- Status indication:
 - Green: OK
 - Red: Failed
- Pluggable
- Remote alarm output is optional, named with “F”

Technical data		T2-40/700/2P		T2-40/700/3P		T2-40/700/4P	
Max. continuous operating voltage U_c	700VAC	700VAC	700VAC	700VAC	700VAC	700VAC	700VAC
Nominal discharge current $I_n(8/20\mu s)$	20kA	20kA	20kA	20kA	20kA	20kA	20kA
Max. discharge current $I_{max}(8/20\mu s)$	40kA	40kA	40kA	40kA	40kA	40kA	40kA
Voltage protection level U_p	2.8kV	2.8kV	2.8kV	2.8kV	2.8kV	2.8kV	2.8kV
Recommended backup fuse	80A gG	80A gG	80A gG	80A gG	80A gG	80A gG	80A gG
Short-circuit current rating I_{SCCR}	1000A	1000A	1000A	1000A	1000A	1000A	1000A
Recommended grounding cable	4~35mm ²	4~35mm ²	4~35mm ²	4~35mm ²	4~35mm ²	4~35mm ²	4~35mm ²
Response time	25ns	25ns	25ns	25ns	25ns	25ns	25ns
Residual current	<20μA	<20μA	<20μA	<20μA	<20μA	<20μA	<20μA
Remote alarm output (model F)	250VAC/0.5A; 24VDC/0.5A	250VAC/0.5A; 24VDC/0.5A	250VAC/0.5A; 24VDC/0.5A	250VAC/0.5A; 24VDC/0.5A	250VAC/0.5A; 24VDC/0.5A	250VAC/0.5A; 24VDC/0.5A	250VAC/0.5A; 24VDC/0.5A
Housing protection grade(IEC60529)	IP 20	IP 20	IP 20	IP 20	IP 20	IP 20	IP 20
Housing material/Flammability rating(UL94)	PA66/V0	PA66/V0	PA66/V0	PA66/V0	PA66/V0	PA66/V0	PA66/V0
Testing standard	GB/T 18802.11/IEC 61643-11	GB/T 18802.11/IEC 61643-11	GB/T 18802.11/IEC 61643-11	GB/T 18802.11/IEC 61643-11	GB/T 18802.11/IEC 61643-11	GB/T 18802.11/IEC 61643-11	GB/T 18802.11/IEC 61643-11
Power supply system	Single phase (TN)	Three-phase four line (TN-C)	Three-phase three line (IT)	Single phase (TN)	Three-phase four line (TN-C)	Three-phase three line (IT)	Three-phase five line (TN-S)
Certification							
Type test	Shanghai Lightning Protection Center	Shanghai Lightning Protection Center	Shanghai Lightning Protection Center	Shanghai Lightning Protection Center	Shanghai Lightning Protection Center	Shanghai Lightning Protection Center	Shanghai Lightning Protection Center
Order number	T2-40/700/2P: 7031662	T2-40/700/3P: 7066877	T2-40/700/4P: 7087771	T2-40/700/2P: 7031662	T2-40/700/3P: 7066877	T2-40/700/4P: 7087771	T2-40/700/2P: 7031662
	T2-40/700/2PF: 7087013	T2-40/700/3PF: 7028674	T2-40/700/4PF: 7020165	T2-40/700/2PF: 7087013	T2-40/700/3PF: 7028674	T2-40/700/4PF: 7020165	T2-40/700/2PF: 7087013

Dimensions (18mm/P)



Typical applications



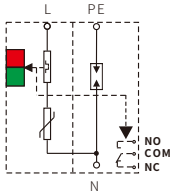
For AC power(40kA)(400/690VAC)

Features

- Status indication:
 - Green: OK
 - Red: Failed
- Pluggable
- Remote alarm output is optional, named with “F”

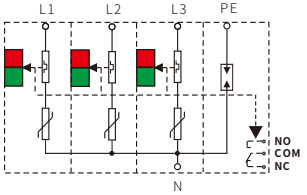
Technical data
Max. continuous operating voltage U_c
Nominal discharge current $I_n(8/20\mu s)$
Max. discharge current $I_{max}(8/20\mu s)$
Voltage protection level U_p
Recommended backup fuse
Short-circuit current rating I_{SCCR}
Recommended grounding cable
Response time
Residual current
Remote alarm output (model F)
Housing protection grade(IEC60529)
Housing material/Flammability rating(UL94)
Testing standard
Power supply system
Certification
Type test
Order number

T2-40/700/1P+1
T2-40/700/1P+1F



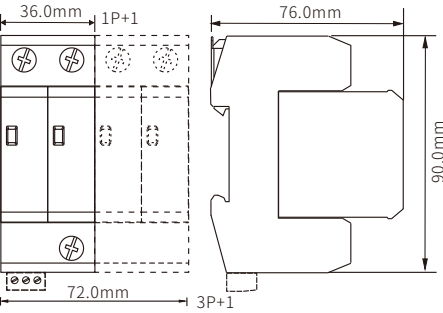
T2-80GH module	T2-40/700 module
2000VDC	700VAC
40kA	20kA
80kA	40kA
3.5kV	2.8kV
	80A gG
	1000A
	4~35mm ²
	25ns
	<20μA
	250VAC/0.5A; 24VDC/0.5A
	IP 20
	PA66/V0
	GB/T 18802.11/IEC 61643-11
	Single phase (TT)
	Shanghai Lightning Protection Center
	T2-40/700/1P+1: 7062817
	T2-40/700/1P+1F: 7033598

T2-40/700/3P+1
T2-40/700/3P+1F



T2-80GH module	T2-40/700 module
2000VDC	700VAC
40kA	20kA
80kA	40kA
3.5kV	2.8kV
	80A gG
	1000A
	4~35mm ²
	25ns
	<20μA
	250VAC/0.5A; 24VDC/0.5A
	IP 20
	PA66/V0
	GB/T 18802.11/IEC 61643-11
	Three-phase four line (TT)
	Shanghai Lightning Protection Center
	T2-40/700/3P+1: 7013762
	T2-40/700/3P+1F: 7097406

Dimensions (18mm/P)

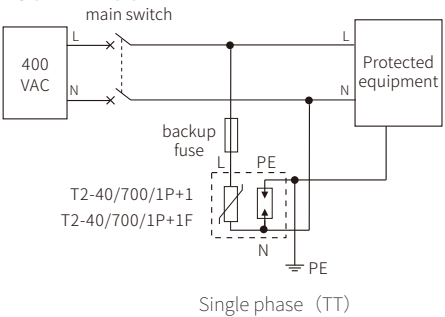


76.0mm×90.0mm×36.0mm

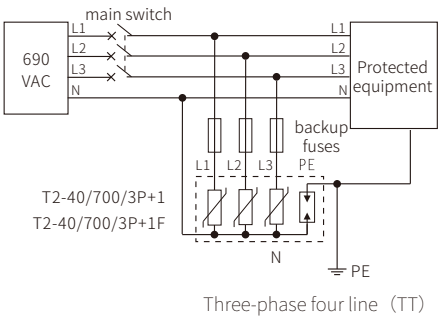


76.0mm×90.0mm×72.0mm

Typical applications



Single phase (TT)



Three-phase four line (TT)

Cautions:
Backup fuses are recommended to be installed in case SPD get short-circuited.
For connecting to L/N.cables with a cross-sectional area ≥ 4mm² are recommended.
For connecting to PE.cables with a cross-sectional area ≥ 6mm² are recommended.

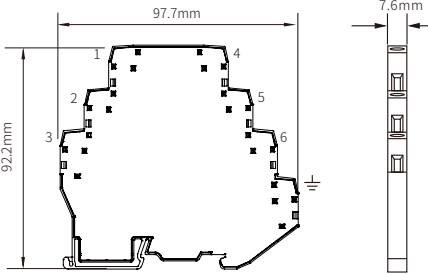
For 5V signal(IS system)

Features

- 7.6mm width
- Resistance per line:1Ω
- Ground viaterminal or DIN 35mm rail

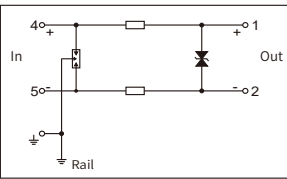
Technical data
Max. continuous operating voltage U_c
Nominal operating current I_l
Resistance(per line)
Nominal discharge current $I_n(8/20\mu s)$
Max. discharge current $I_{max}(8/20\mu s)$
Impulse current $I_{imp}(10/350\mu s)$
Voltage protection level U_p
Bandwidth (-0.5dB)
Response time
Residual current
Housing protection grade(IEC60529)
Housing material/Flammability rating(UL94)
Testing standard
Certification
Ex marking
Certificate Number
Entity Parameters
Functional safety certification
Type test
Order number

Dimensions

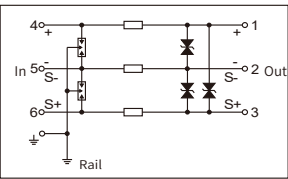


SIL3 IEC61508 Ex NEPSI CE CCC

CZLB-5(T2)

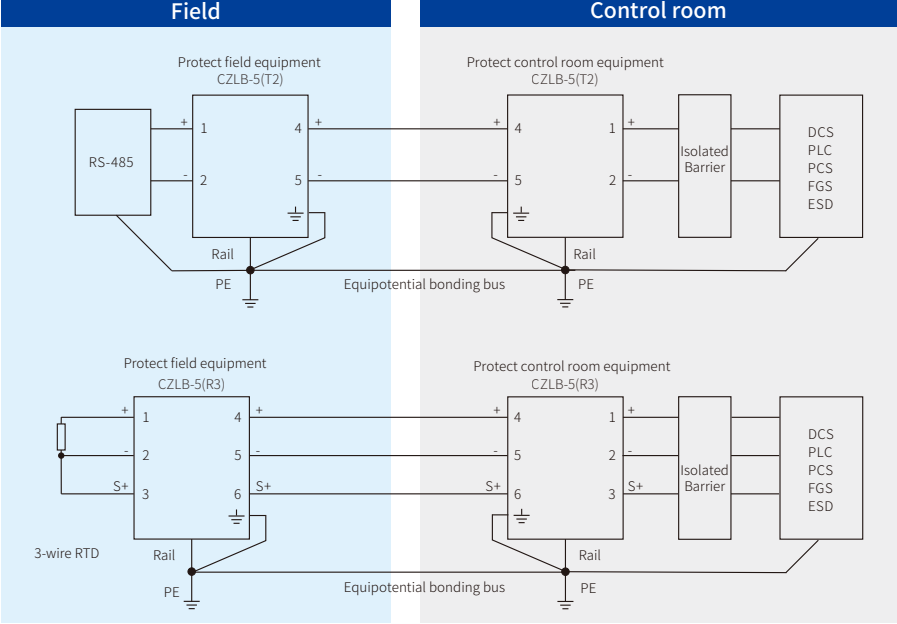


CZLB-5(R3)



	2-wire	3-wire
Max. continuous operating voltage U_c	6V DC	6V DC
Nominal operating current I_l	500mA	500mA
Resistance(per line)	1Ω	1Ω
Nominal discharge current $I_n(8/20\mu s)$	10kA	10kA
Max. discharge current $I_{max}(8/20\mu s)$	20kA	20kA
Impulse current $I_{imp}(10/350\mu s)$	2.5kA	2.5kA
Voltage protection level U_p	40V/600V	40V/600V
Bandwidth (-0.5dB)	40MHz	40MHz
Response time	1ns	1ns
Residual current	<10μA	<10μA
Housing protection grade(IEC60529)	IP 20	IP 20
Housing material/Flammability rating(UL94)	PA66/V0	PA66/V0
Testing standard	GB/T 18802.21/IEC 61643-21	GB/T 18802.21/IEC 61643-21
Certification		
Ex marking	Ex ia IIC T4...T6 Ga	Ex ia IIC T4...T6 Ga
Certificate Number	See Certification for details	See Certification for details
Entity Parameters	Ui=6V; Ii=500mA; Pi=0.75W; Ci≈0μF; Li≈0mH	Ui=6V; Ii=500mA; Pi=0.75W; Ci≈0μF; Li≈0mH
Functional safety certification	SIL3	SIL3
Type test	Shanghai Lightning Protection Center	Shanghai Lightning Protection Center
Order number	7051773	7014195

Typical applications



For 24V signal(IS system)

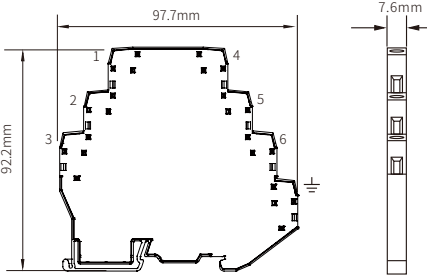
Features

- 7.6mm width
- Resistance per line:1Ω
- Ground viaterminal or DIN 35mm rail

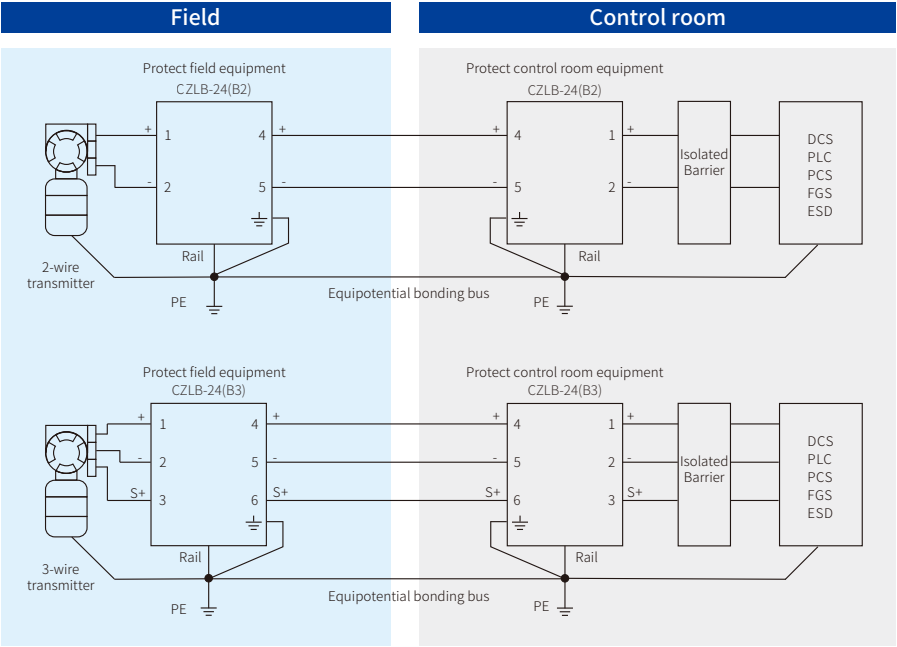
Technical data	
Max. continuous operating voltage U_c	
Nominal operating current I_n	
Resistance(per line)	
Nominal discharge current $I_n(8/20\mu s)$	
Max. discharge current $I_{max}(8/20\mu s)$	
Impulse current $I_{imp}(10/350\mu s)$	
Voltage protection level U_p	L-L/L-G
Bandwidth (-0.5dB)	
Response time	
Residual current	
Housing protection grade(IEC60529)	
Housing material/Flammability rating(UL94)	
Testing standard	
Certification	
Ex marking	
Certificate Number	
Entity Parameters	
Functional safety certification	
Type test	
Order number	

	2-wire	3-wire
Max. continuous operating voltage U_c	32V DC	32V DC
Nominal operating current I_n	500mA	500mA
Resistance(per line)	1Ω	1Ω
Nominal discharge current $I_n(8/20\mu s)$	10kA	10kA
Max. discharge current $I_{max}(8/20\mu s)$	20kA	20kA
Impulse current $I_{imp}(10/350\mu s)$	2.5kA	2.5kA
Voltage protection level U_p	60V/600V	60V/600V
Bandwidth (-0.5dB)	40MHz	40MHz
Response time	1ns	1ns
Residual current	<1μA	<1μA
Housing protection grade(IEC60529)	IP 20	IP 20
Housing material/Flammability rating(UL94)	PA66/V0	PA66/V0
Testing standard	GB/T 18802.21/IEC 61643-21	GB/T 18802.21/IEC 61643-21
Certification		
Ex marking	Ex ia IIC T4 ...T6 Ga	Ex ia IIC T4 ...T6 Ga
Certificate Number	See Certification for details	See Certification for details
Entity Parameters	$U_i=30V;I_i=500mA; P_i=0.75W;$ $C_i\approx 0\mu F;L_i\approx 0mH$	$U_i=30V;I_i=500mA; P_i=0.75W;$ $C_i\approx 0\mu F;L_i\approx 0mH$
Functional safety certification	SIL3	SIL3
Type test	Shanghai Lightning Protection Center	Shanghai Lightning Protection Center
Order number	7090592	7013226

Dimensions



Typical applications



For low-voltage power ($\leq 10A$)

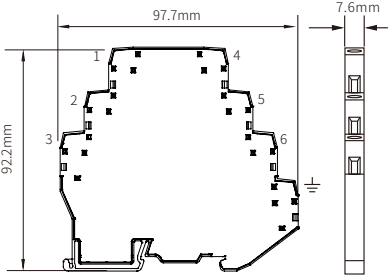
Features

- 7.6mm width
- Ground via terminal or DIN 35mm rail

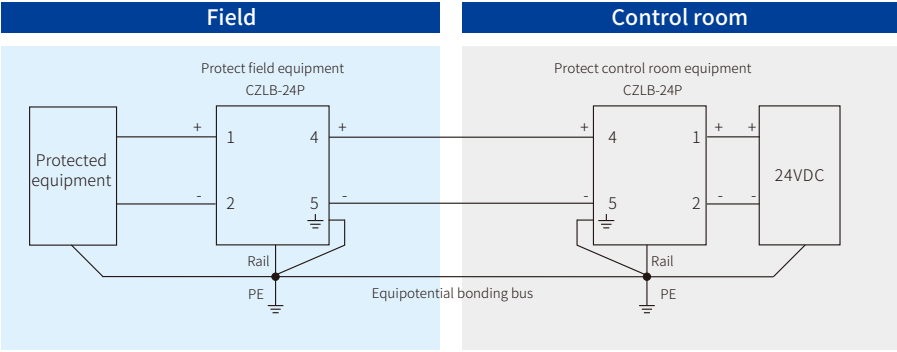
Technical data	
Max. continuous operating voltage U_c	
Nominal operating current I_n	
Nominal discharge current $I_n(8/20\mu s)$	
Max. discharge current $I_{max}(8/20\mu s)$	
Impulse current $I_{imp}(10/350\mu s)$	
Voltage protection level U_p	
Recommended grounding cable	
Response time	
Residual current	
Housing protection grade(IEC60529)	
Housing material/Flammability rating(UL94)	
Testing standard	
Certification	
Type test	
Order number	

	CZLB-24P
Max. continuous operating voltage U_c	58VDC/40VAC
Nominal operating current I_n	10A
Nominal discharge current $I_n(8/20\mu s)$	10kA
Max. discharge current $I_{max}(8/20\mu s)$	20kA
Impulse current $I_{imp}(10/350\mu s)$	2.5kA
Voltage protection level U_p	800V
Recommended grounding cable	2.5mm ²
Response time	25ns
Residual current	<20μA
Housing protection grade(IEC60529)	IP 20
Housing material/Flammability rating(UL94)	PA66/V0
Testing standard	GB/T 18802.21/IEC 61643-21
Certification	
Type test	Shanghai Lightning Protection Center
Order number	7059650

Dimensions



Typical applications



For AC Power(40kA)

Features

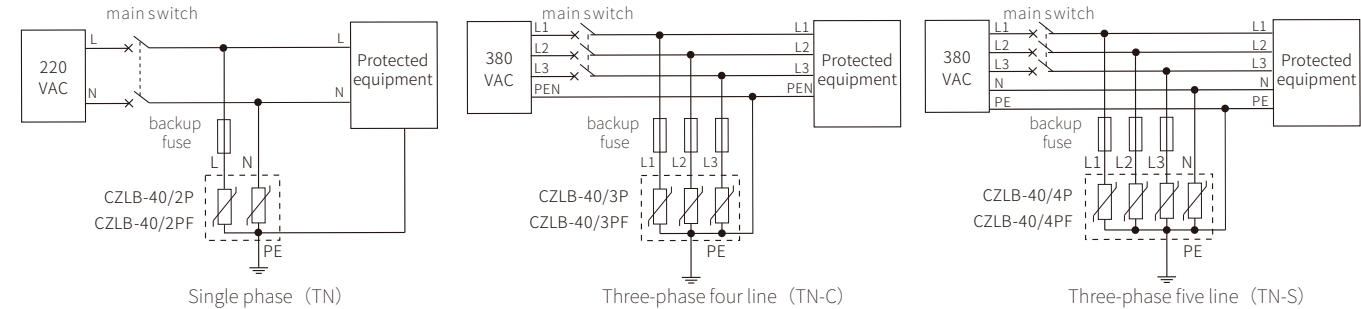
- Status indication:
 - Green: OK
 - Red: Failed
- Pluggable
- Remote alarm output is optional, named with “F”

Technical data	CZLB-40/2P CZLB-40/2PF	CZLB-40/3P CZLB-40/3PF	CZLB-40/4P CZLB-40/4PF
Max. continuous operating voltage U_c	385VAC	385VAC	385VAC
Nominal discharge current $I_n(8/20\mu s)$	20kA	20kA	20kA
Max. discharge current $I_{max}(8/20\mu s)$	40kA	40kA	40kA
Voltage protection level U_p	1.7kV	1.7kV	1.7kV
Recommended backup fuse	80A gG	80A gG	80A gG
Short-circuit current rating I_{SCCR}	1000A	1000A	1000A
Recommended grounding cable	4~25mm ²	4~25mm ²	4~25mm ²
Response time	25ns	25ns	25ns
Residual current	<20μA	<20μA	<20μA
Remote alarm output (model F)	250VAC/0.5A; 24VDC/0.5A	250VAC/0.5A; 24VDC/0.5A	250VAC/0.5A; 24VDC/0.5A
Housing protection grade(IEC60529)	IP 20	IP 20	IP 20
Housing material/Flammability rating(UL94)	PA66/V0	PA66/V0	PA66/V0
Testing standard	GB/T 18802.11/IEC 61643-11	GB/T 18802.11/IEC 61643-11	GB/T 18802.11/IEC 61643-11
Power supply system	Single phase (TN)	hree-phase four line (TN-C) Three-phase three line (IT)	Three-phase five line (TN-S)
Certification			
Type test	Shanghai Lightning Protection Center	Shanghai Lightning Protection Center	Shanghai Lightning Protection Center
Order number	CZLB-40/2P: 7051402 CZLB-40/2PF: 7028111	CZLB-40/3P: 7061543 CZLB-40/3PF: 7023751	CZLB-40/4P: 7045781 CZLB-40/4PF: 7094265

Dimensions (18mm/P)



Typical applications



Cautions:
Backup fuses are recommended to be installed in case SPD get short-circuited.
For connecting to L/N.cables with a cross-sectional area $\geq 4\text{mm}^2$ are recommended.
For connecting to PE.cables with a cross-sectional area $\geq 6\text{mm}^2$ are recommended.

For AC Power(40kA)

Features

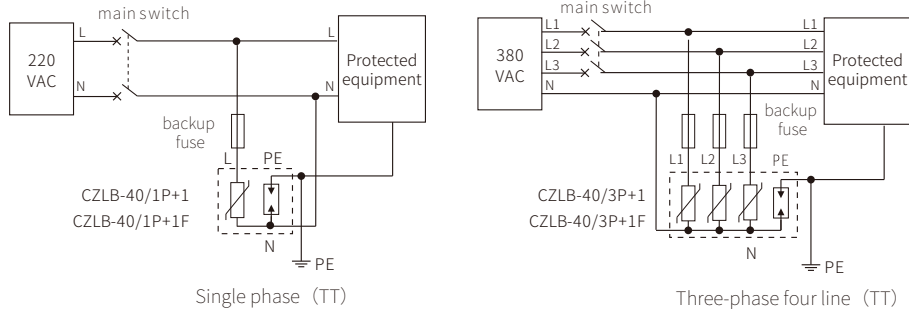
- Status indication:
 - Green: OK
 - Red: Failed
- Pluggable
- Remote alarm output is optional, named with “F”

Technical data
Max. continuous operating voltage U_c
Nominal discharge current $I_n(8/20\mu s)$
Max. discharge current $I_{max}(8/20\mu s)$
Voltage protection level U_p
Recommended backup fuse
Short-circuit current rating I_{SCCR}
Recommended grounding cable
Response time
Residual current
Remote alarm output (model F)
Housing protection grade(IEC60529)
Housing material/Flammability rating(UL94)
Testing standard
Power supply system
Certification
Type test
Order number

Dimensions (18mm/P)



Typical applications



Cautions:
Backup fuses are recommended to be installed in case SPD get short-circuited.
For connecting to L/N.cables with a cross-sectional area $\geq 4\text{mm}^2$ are recommended.
For connecting to PE.cables with a cross-sectional area $\geq 6\text{mm}^2$ are recommended.

For AC Power(160kA)

Features

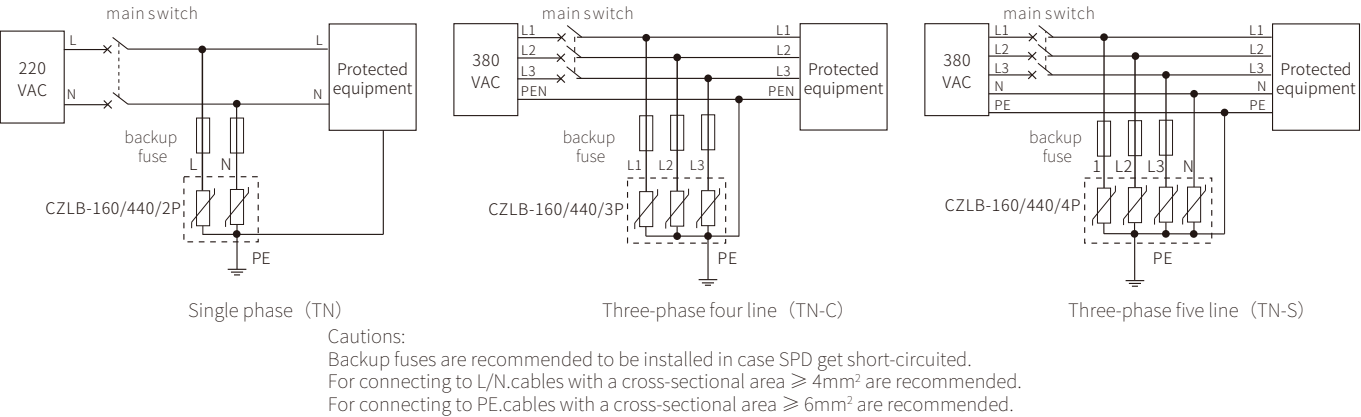
- Status indication:
 - Green: OK
 - Red: Failed
- Pluggable
- Remote alarm output is optional, named with “F”

Technical data	CZLB-160/440/2P	CZLB-160/440/3P	CZLB-160/440/4P
Max. continuous operating voltage U_c	440VAC	440VAC	440VAC
Nominal discharge current $I_n(8/20\mu s)$	80kA	80kA	80kA
Max. discharge current $I_{max}(8/20\mu s)$	160kA	160kA	160kA
Impulse current $I_{imp}(10/350\mu s)$	15kA	15kA	15kA
Voltage protection level $U_p(In)$	2.8kV	2.8kV	2.8kV
Recommended backup fuse	200A gG	200A gG	200A gG
Recommended grounding cable	4~35mm ²	4~35mm ²	4~35mm ²
Response time	25ns	25ns	25ns
Housing protection grade(IEC60529)	IP 20	IP 20	IP 20
Housing material/Flammability rating(UL94)	PA66/V0	PA66/V0	PA66/V0
Testing standard	GB/T 18802.11/IEC 61643-11	GB/T 18802.11/IEC 61643-11	GB/T 18802.11/IEC 61643-11
Power supply system	Single phase (TN)	hree-phase four line (TN-C) Three-phase three line (IT)	Three-phase five line (TN-S)
Certification			
Type test	Shanghai Lightning Protection Center	Shanghai Lightning Protection Center	Shanghai Lightning Protection Center
Order number	7024977	7069757	7086079

Dimensions (36mm/P)



Dimensions



For AC Power(160kA)

Features

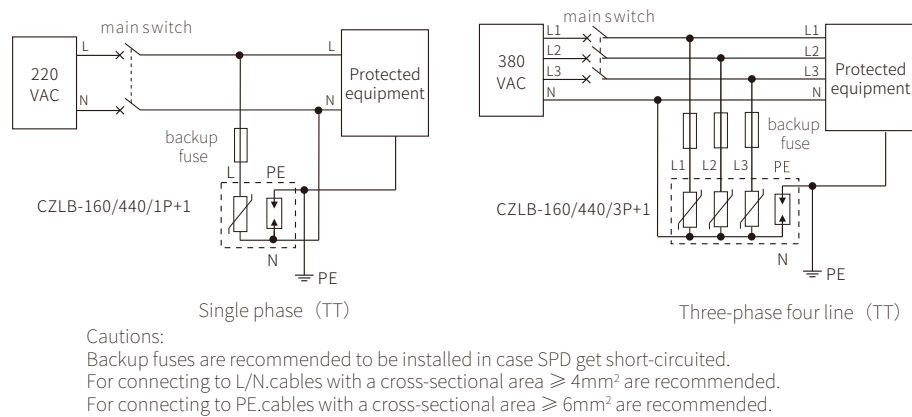
- Status indication:
 - Green: OK
 - Red: Failed
- Pluggable
- Remote alarm output is optional, named with “F”

Technical data
Max. continuous operating voltage U_c
Nominal discharge current $I_n(8/20\mu s)$
Max. discharge current $I_{max}(8/20\mu s)$
Impulse current $I_{imp}(10/350\mu s)$
Voltage protection level $U_p(In)$
Recommended backup fuse
Recommended grounding cable
Response time
Housing protection grade(IEC60529)
Housing material/Flammability rating(UL94)
Testing standard
Power supply system
Certification
Type test
Order number

Dimensions (36mm/P)



Dimensions



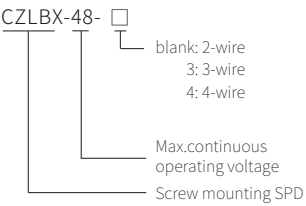
Screw mounting SPD

Features

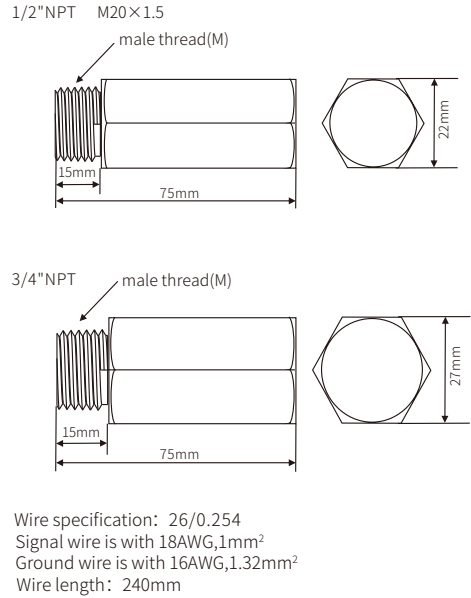
- Intrinsic safety certification;explosion proof electrical product certification
- Available in various of thread specification
- Available in various of housing material

Technical data	2-wire	3-wire	4-wire
Nominal operating voltage U_n	24V DC	24V DC	24V DC
Max. continuous operating voltage U_c	48V DC	48V DC	48V DC
Nominal discharge current I_n (8/20 μ s)	10kA	10kA	10kA
Impulse current I_{imp} (10/350 μ s)	2.5kA	2.5kA	2.5kA
Voltage protection level U_p (I_n)	L-G:1kV	L-G:1kV	L-G:1kV
Voltage protection level U_p (I_{imp})	L-G:680V	L-G:680V	L-G:680V
Voltage protection level U_p (1kV/ μ s)	L-L:60V;L-G:90V	L-L:60V;L-G:90V	L-L:60V;L-G:90V
Bandwidth(-0.5dB)	10MHz	10MHz	10MHz
Response time	L-L:1ns,L-G:200ns	L-L:1ns,L-G:200ns	L-L:1ns,L-G:200ns
Housing protection grade(IEC60529)	IP 67	IP 67	IP 67
Housing material	304 or 316	304 or 316	304 or 316
Testing standard	GB/T 18802.21/IEC 61643-21	GB/T 18802.21/IEC 61643-21	GB/T 18802.21/IEC 61643-21
Certification			
Ex marking	Ex ia II C T6...T4 Ga	Ex ia II C T6...T4 Ga	Ex ia II C T6...T4 Ga
Certificate Number	CSANe 21ATEX2011X	CSANe 21ATEX2011X	CSANe 21ATEX2011X
Entity Parameters	Ui=48V;Ii=500mA; Pi=5.32W; Ci=0nF;Li=0mH	Ui=48V;Ii=500mA; Pi=5.32W; Ci=0nF;Li=0mH	Ui=48V;Ii=500mA; Pi=5.32W; Ci=0nF;Li=0mH
Functional safety certification	SIL3	SIL3	SIL3
Type test	Shanghai Lightning Protection Center	Shanghai Lightning Protection Center	Shanghai Lightning Protection Center
Order number	1/2" NPT(304): 7041233 3/4" NPT(304): 7030261 M20×1.5(304): 7019156 ...	1/2" NPT(304): 7024477 3/4" NPT(304): 7079620 M20×1.5(304): 7018599 ...	1/2" NPT(304): 7060125 3/4" NPT(304): 7031784 M20×1.5(304): 7020401 ...

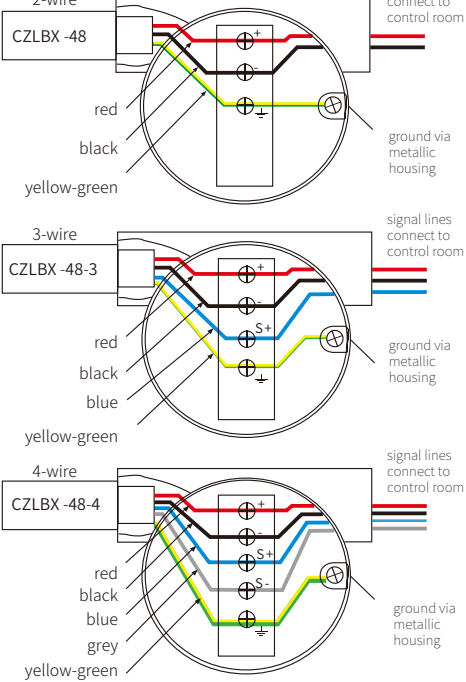
Naming



Dimensions



Typical applications



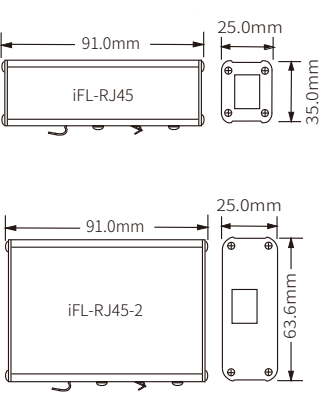
iFL Network SPD

Features

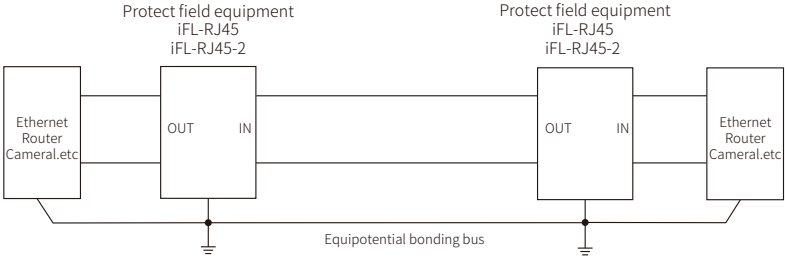
- Fully aluminium alloy housing, good electromagnetic shielding.
- Suitable for various of network cameras.
- Grounded by DIN rail or screw terminals

Technical data	RJ45	24VDC	220VAC
Max. continuous operating voltage U_c	8VDC	58VDC/40VAC	270VAC
Nominal discharge current I_n	2kA	10kA	3kA
Voltage protection level U_p (L-L/L-G)	100V/300V	850V/1kV	1kV/1.2kV
Bandwidth	100MHz	-	-
Insertion loss (0.1~50MHz)	0.5dB	-	-
Wires protected	1/2,3/6	+/-	L/N
Interface	RJ45	plug-inwiring	plug-inwiring
Housing protection grade(IEC60529)	IP20	IP20	IP20
Housing material(housing/end face)	Aluminium alloy/304 stainless steel	Aluminium alloy/304 stainless steel	Aluminium alloy/304 stainless steel
Testing standard	GB/T 18802.21/IEC 61643-21	GB/T 18802.21/IEC 61643-21	GB/T 18802.21/IEC 61643-21
Certification			
Type test	Shanghai Lightning Protection Center	Shanghai Lightning Protection Center	Shanghai Lightning Protection Center
Order number	7079893	7978591	7054623

Dimensions



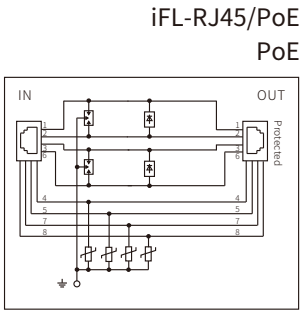
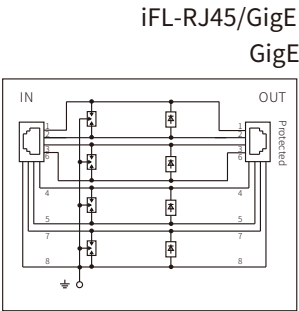
Typical applications



Features

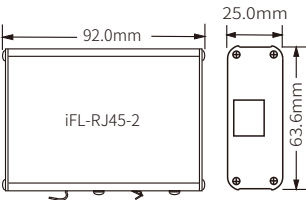
- Fully aluminium alloy housing, good electromagnetic shielding.
- Suitable for various of network cameras.
- Grounded by DIN rail or screw terminals

Technical data	
Max. continuous operating voltage U_c	60VDC
Nominal discharge current I_n	2kA
Voltage protection level U_p (L-L/L-G)	600V/1kV
Bandwidth	500MHz
Insertion loss (0.1~50MHz)	≤0.5dB
Wires protected	1/2,3/6,4/5,7/8
Interface	RJ45
Housing protection grade(IEC60529)	IP20
Housing material (housing/end face)	Aluminium alloy/304 stainless steel
Testing standard	GB/T 18802.21/IEC 61643-21
Certification	
Type test	Shanghai Lightning Protection Center
Order number	7058560

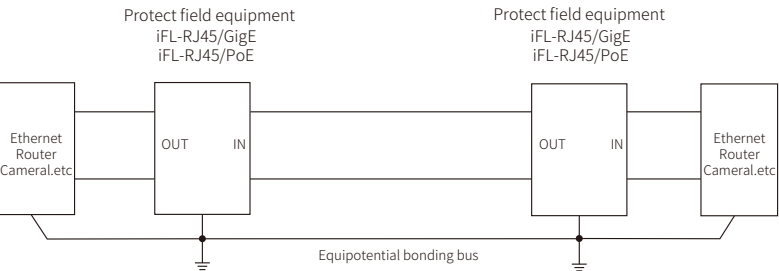


	GigE	PoE power
Max. continuous operating voltage U_c	60VDC	60VDC
Nominal discharge current I_n	2kA	2kA
Voltage protection level U_p (L-L/L-G)	600V/1kV	600V/1kV
Bandwidth	500MHz	-
Insertion loss (0.1~50MHz)	≤0.5dB	-
Wires protected	1/2,3/6,4/5,7/8	+/-
Interface	RJ45	RJ45
Housing protection grade(IEC60529)	IP20	IP20
Housing material (housing/end face)	Aluminium alloy/304 stainless steel	Aluminium alloy/304 stainless steel
Testing standard	GB/T 18802.21/IEC 61643-21	GB/T 18802.21/IEC 61643-21
Certification		Shanghai Lightning Protection Center
Type test	Shanghai Lightning Protection Center	Shanghai Lightning Protection Center
Order number	7058560	7069852

Dimensions



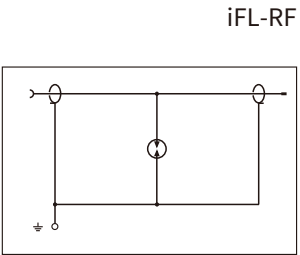
Typical applications



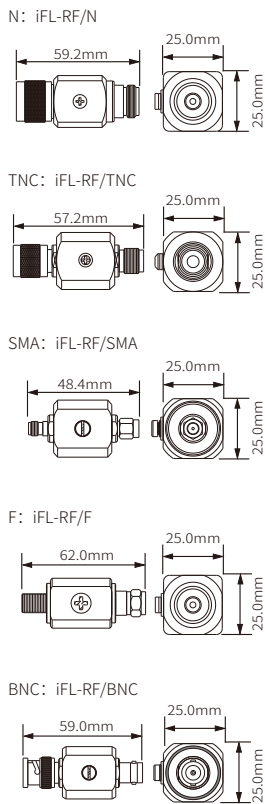
Features

- Fully aluminium alloy housing, good electromagnetic shielding.
- Available in various of thread specification.
- Low insertion loss and standing wave ratio

Technical data	
Max. continuous operating voltage U_c	24V
Nominal discharge current I_n (8/20μs)	10kA
Max. discharge current I_{max} (8/20μs)	20kA
Voltage protection level U_p	450V
Frequency range	0~4GHz
Response time	100ns
Interface	SMA、N、F、TNC、BNC
Insertion loss	≤1.5GHz(0.1dB)/≤4GHz(2dB)
Characteristic impedance	50Ω(N、TNC、SMA);75Ω(F、BNC)
Housing protection grade(IEC60529)	IP 55
Housing material	aluminium alloy
Testing standard	GB/T 18802.21/IEC 61643-21



Dimensions



Typical applications

