

PT-IQ-1X2-EX-24DC-UT - Surge protection device



2801512

<https://www.phoenixcontact.com/pc/products/2801512>

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Surge protection, consisting of protective plug and base element, with integrated multi-stage status indicator on the module, for one 2-wire floating Ex i signal circuit, HART-compatible.

Your advantages

- Predictive monitoring with 3-stage LED display
- Integration of the status message into the system controller via group remote signaling
- Install quickly and error-free with DIN rail connectors
- Maximum ease of maintenance, thanks to the 2-piece design
- Maximum protection for MCR applications with high discharge capacity

Commercial data

Item number	2801512
Packing unit	1 pc
Minimum order quantity	1 pc
Product key	CL2152
Catalog page	Page 153 (C-4-2019)
GTIN	4046356801225
Weight per piece (including packing)	110.5 g
Weight per piece (excluding packing)	107.4 g
Customs tariff number	85363010
Country of origin	DE

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Technical data

Product properties

Product type	Surge protection for MCR technology
Product family	PLUGTRAB IQ
IEC test classification	C1
	C2
	C3
	D1
Type	DIN rail module, two-section, divisible
Wire pairs per module	1

Insulation characteristics

Overvoltage category	III
Pollution degree	2

Electrical properties

Nominal voltage U_N	24 V DC
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Indicator/remote signaling

Switching function	via DIN rail connector
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Connection data

Connection method	Screw connection
Screw thread	M3
Tightening torque	0.5 Nm
Conductor cross section flexible	0.2 mm ² ... 2.5 mm ²
Conductor cross section rigid	0.2 mm ² ... 4 mm ²
Conductor cross section AWG	24 ... 12

Ex data

Maximum inner capacitance C_i	negligible
Max. internal inductance L_i	negligible
Max. input current I_i	350 mA
Max. input voltage U_i	30 V DC
max. input power P_i	1.20 W
Insulation voltage to ground	> 500 V AC
Ambient temperature (operation)	-40 °C ... 50 °C (T6)
	-40 °C ... 70 °C (T4)

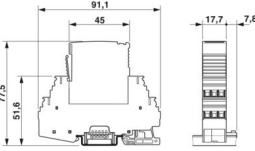
Dimensions

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Dimensional drawing	
Width	17.7 mm
Height	91.1 mm
Depth	77.5 mm (incl. DIN rail 7.5 mm)
Horizontal pitch	1 Div.

Material specifications

Color	black (RAL 9005)
	black (RAL 9005)
Flammability rating according to UL 94	V-0
Insulating material	PA 6.6
Housing material	PA 6.6

Mechanical properties

Mechanical data

Open side panel	No
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Protective circuit

Direction of action	Line-Line & Line-Signal Ground/Shield & optional Signal Ground/Shield-Earth Ground
Maximum continuous voltage U_C	30 V DC
	21 V AC
Rated current	350 mA
Operating effective current I_C at U_C	$\leq 5 \mu\text{A}$ (per system)
Residual current I_{PE}	$\leq 100 \text{ nA}$ (per system)
Nominal discharge current I_n (8/20) μs (line-line)	10 kA
Nominal discharge current I_n (8/20) μs (line-ground)	10 kA
Pulse discharge current I_{imp} (10/350) μs (line-earth)	2 kA
Total discharge current I_{total} (8/20) μs	20 kA
Voltage protection level U_p (line-line)	$\leq 60 \text{ V}$ (C1 - 1 kV / 500 A)
	$\leq 110 \text{ V}$ (C2 - 10 kV / 5 kA)
	$\leq 140 \text{ V}$ (C2 - 10 kA)
	$\leq 50 \text{ V}$ (C3 - 25 A)
	$\leq 55 \text{ V}$ (C3 - 100 A)
Voltage protection level U_p (line-earth)	$\leq 1.3 \text{ kV}$ (C2 - 10 kV / 5 kA)
	$\leq 1.5 \text{ kV}$ (C2 - 10 kA)
	$\leq 1.3 \text{ kV}$ (C3 - 100 A)
Response time t_A (line-line)	$\leq 1 \text{ ns}$
Response time t_A (line-earth)	$\leq 100 \text{ ns}$

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Input attenuation aE, sym.	typ. 0.3 dB (≤ 300 kHz / 150 Ω)
Cut-off frequency f_g (3 dB), sym. in 150 Ω system	typ. 1.1 MHz
Capacity (Core-Earth)	typ. 2 nF
Resistance per path	1.2 $\Omega \pm 5\%$
Surge protection fault message	Optical, multi-stage
Max. required back-up fuse	350 mA (F)
Impulse durability (line-line)	C1 - 1 kV / 500 A
	C2 - 10 kA
	C3 - 100 A
Impulse durability (line-earth)	C2 - 10 kA
	D1 - 2 kA
Pulse reset time (line-line)	≤ 30 ms
Pulse reset time (line-earth)	≤ 30 ms

Environmental and real-life conditions

Ambient conditions

Degree of protection	IP20
Ambient temperature (operation)	-40 °C ... 70 °C
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Altitude	≤ 2000 m (amsl)

Approvals

Conformity/Approvals

UL, USA / Canada	Class I, Div. 2, Groups A, B, C, D T5
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Standards and regulations

Standards/specifications	EN 61643-21
Note	A2:2013
Standards/specifications	IEC 61643-21
Note	A2:2012
Standards/specifications	EN 61000-6-2
Note	2005
Standards/specifications	EN 61000-6-3
Note	A1:2011
Standards/specifications	EN 60079-0
Note	2018
Standards/specifications	EN 60079-11
Note	2012
Standards/specifications	EN 60079-15
Note	2010
Standards/specifications	IEC 60079-0
Note	2017
Standards/specifications	IEC 60079-11

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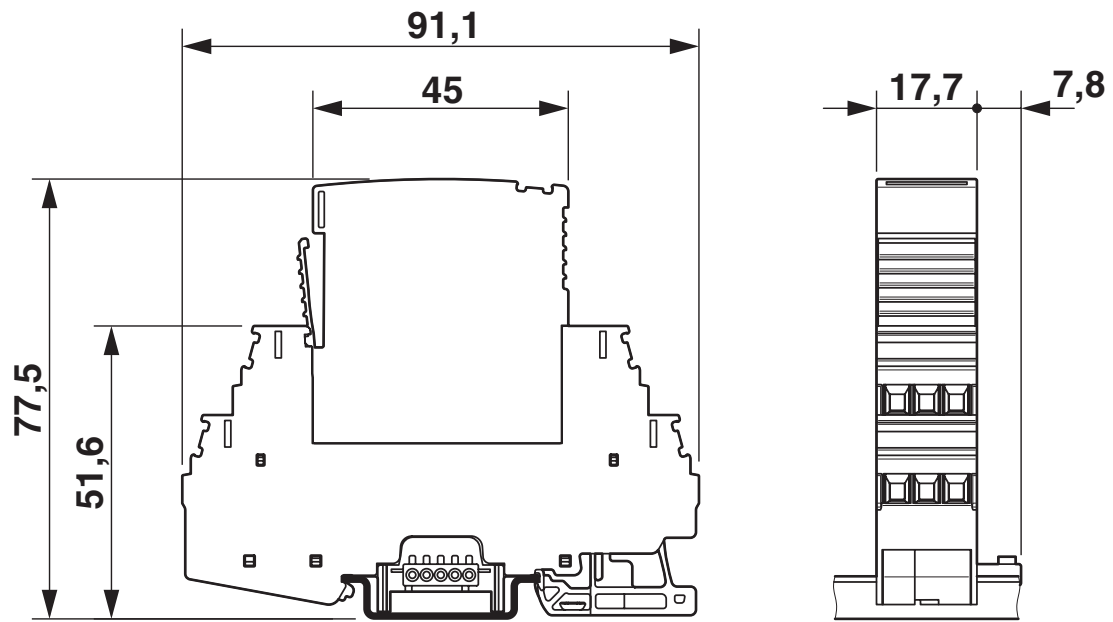
Note	2011
Standards/specifications	IEC 60079-15
Note	2010

Mounting

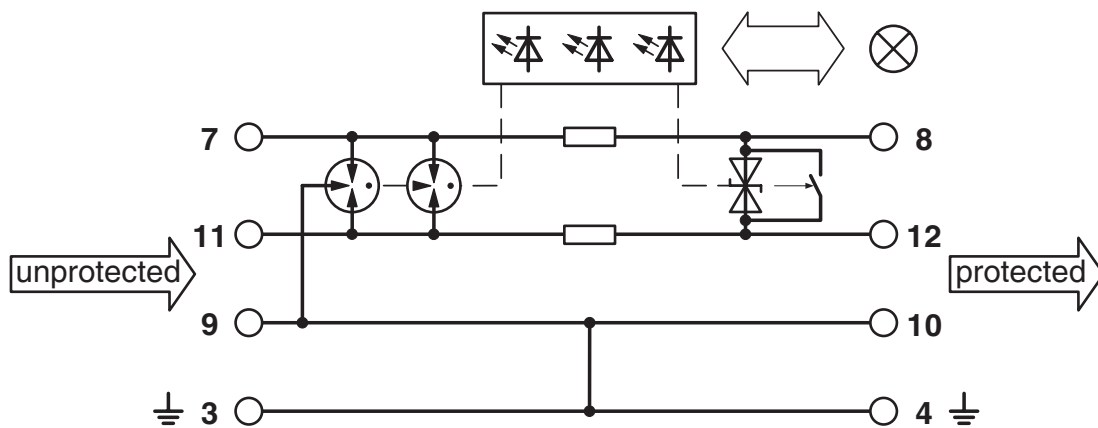
Mounting type	DIN rail: 35 mm
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Drawings

Dimensional drawing



Circuit diagram



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Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/pc/products/2801512>



UL Listed

Approval ID: FILE E 138168

Functional Safety

Approval ID: 13-04-032 R017 V4R0



EAC Ex

Approval ID: RU C-DE.**87.B.00420



IECEx

Approval ID: IECEx BVS 14.0017X



cUL Listed

Approval ID: FILE E 333250



UL Listed

Approval ID: FILE E 333250



ATEX

Approval ID: BVS 14 ATEX E 020 X



NEPSI-EX

Approval ID: GYJ20.1158X



CCC

Approval ID: 2020322316001010



UKCA-EX

Approval ID: DEKRA 23UKEX0111X

cULus Listed

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Classifications

ECLASS

ECLASS-11.0	27130807
ECLASS-13.0	27171502

ETIM

ETIM 9.0	EC000943
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UNSPSC

UNSPSC 21.0	39121600
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Environmental product compliance

EU RoHS

Fulfills EU RoHS substance requirements	Yes
Exemption	6(c), 7(a), 7(c)-I

China RoHS

Environment friendly use period (EFUP)	EFUP-50
	An article-related China RoHS declaration table can be found in the download area for the respective article under "Manufacturer declaration". For all articles with EFUP-E, no China RoHS declaration table issued and required.

EU REACH SVHC

REACH candidate substance (CAS No.)	Lead(CAS: 7439-92-1)
SCIP	e6dee515-1e70-4e8e-a0af-747ccf5bb4ce

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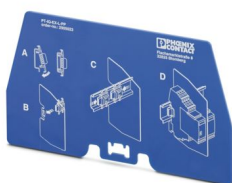
<https://www.phoenixcontact.com/pc/products/2801512>

Mandatory accessories

PT-IQ-EX-L-PP - Separating plate

2905023

<https://www.phoenixcontact.com/pc/products/2905023>

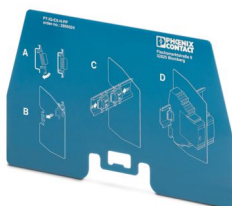


Partition plate for NS-35/7,5 DIN rails to ensure a clearance of 50 mm between the controller and surge protection for PT-IQ-EX systems.

PT-IQ-EX-H-PP - Separating plate

2905024

<https://www.phoenixcontact.com/pc/products/2905024>



Partition plate for NS-35/7,5 isolated DIN rails (DIN rail is isolated using the AB/NS support bracket) to ensure a clearance of 50 mm between the controller and surge protection for PT-IQ-EX systems.

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PT-IQ-PTB-UT - Supply and remote module

2800768

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Module for power supply and multi-stage, floating remote signaling of connected surge protection modules.

Accessories

ZBF 5:UNBEDRUCKT - Zack Marker strip, flat

0808642

<https://www.phoenixcontact.com/pc/products/0808642>



Zack Marker strip, flat, Strip, white, unlabeled, can be labeled with: PLOTMARK, CMS-P1-PLOTTER, mounting type: snapped, for terminal block width: 5 mm, lettering field size: 5.1 x 5.2 mm, Number of individual labels: 10

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ZBF 5/WH-100:UNBEDRUCKT - Zack Marker strip, flat

0808668

<https://www.phoenixcontact.com/pc/products/0808668>



Zack Marker strip, flat, Strip, white, unlabeled, can be labeled with: CMS-P1-PLOTTER, PLOTMARK, mounting type: snapped, for terminal block width: 5 mm, lettering field size: 5.15 x 5.15 mm, Number of individual labels: 1000

ZBF 5,LGS:FORTL.ZAHLEN - Zack Marker strip, flat

0808671

<https://www.phoenixcontact.com/pc/products/0808671>



Zack Marker strip, flat, Strip, white, labeled, printed horizontally: consecutive numbers 1 ... 10, 11 ... 20, etc. up to 491 ... 500, mounting type: snapped, for terminal block width: 5 mm, lettering field size: 5.15 x 5.15 mm, Number of individual labels: 10

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ZBF 5,LGS:GERADE ZAHLEN - Zack Marker strip, flat

0810821

<https://www.phoenixcontact.com/pc/products/0810821>



Zack Marker strip, flat, Strip, white, labeled, printed horizontally: consecutive even numbers 2 ... 20, 22 ... 40, etc. up to 82 ... 100, mounting type: snapped, for terminal block width: 5 mm, lettering field size: 5.15 x 5.15 mm, Number of individual labels: 10

ZBF 5,LGS:UNGERADE ZAHLEN - Zack Marker strip, flat

0810863

<https://www.phoenixcontact.com/pc/products/0810863>



Zack Marker strip, flat, Strip, white, labeled, printed horizontally: Odd numbers 1 - 19, 21 - 39, etc. up to 81 - 99, mounting type: snapped, for terminal block width: 5 mm, lettering field size: 5.15 x 5.15 mm, Number of individual labels: 10

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ZBF 5,QR:FORTL.ZAHLEN - Zack Marker strip, flat

0808697

<https://www.phoenixcontact.com/pc/products/0808697>



Zack Marker strip, flat, Strip, white, labeled, Printed vertically: consecutive numbers 1 ... 10, 11 ... 20, etc. up to 91 ... 100, mounting type: snapped, for terminal block width: 5 mm, lettering field size: 5.15 x 5.15 mm, Number of individual labels: 10

ZBN 18:UNBEDRUCKT - Zack marker strip

2809128

<https://www.phoenixcontact.com/pc/products/2809128>



Zack marker strip, Strip, white, unlabeled, can be labeled with: CMS-P1-PLOTTER, PLOTMARK, mounting type: snapped, for terminal block width: 18 mm, lettering field size: 18 x 5 mm, Number of individual labels: 5

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E/ME TBUS NS35 GY - End bracket

2713780

<https://www.phoenixcontact.com/pc/products/2713780>



End clamp, stable construction for DIN rail bus connector

ZBN 18 CUS - Zack marker strip

0825059

<https://www.phoenixcontact.com/pc/products/0825059>



Zack marker strip, can be ordered: Strip, white, labeled according to customer specifications, mounting type: snap into tall marker groove, for terminal block width: 18 mm, lettering field size: 18 x 5 mm, Number of individual labels: 5

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SSA 3-6 - Shield connection

2839295

<https://www.phoenixcontact.com/pc/products/2839295>

Shield fast connection for 3 ... 6 mm cable diameter. Potential connecting cable:
200 mm, 1 mm², color: black



SSA 5-10 - Shield connection

2839512

<https://www.phoenixcontact.com/pc/products/2839512>

Shield fast connection for 5 ... 10 mm cable diameter. Potential connecting cable:
200 mm, 1 mm², color: black



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X-PEN 0,35 - Marker pen

0811228

<https://www.phoenixcontact.com/pc/products/0811228>



Marker pen without ink cartridge, for manual labeling of markers, labeling extremely wipe-proof, line thickness 0.35 mm

SZS 0,6X3,5 VDE - Screwdriver

1212602

<https://www.phoenixcontact.com/pc/products/1212602>



Screwdriver, slot-headed, VDE insulated, size: 0.6 x 3.5 x 100 mm, 2-component grip, with non-slip grip

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PT-IQ-1X2-EX-24DC-P - Surge protection plug

2801514

<https://www.phoenixcontact.com/pc/products/2801514>



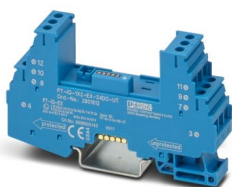
Surge protection plug with integrated multi-stage status indicator on the module for one 2-wire floating Ex-i signal circuit. Nominal voltage: 24 V DC

PT-IQ-3-EX-BE-UT - Surge protection base-element

2905496

<https://www.phoenixcontact.com/pc/products/2905496>

Base element for protective plug PLUGTRAB PT-IQ-1X2-EX



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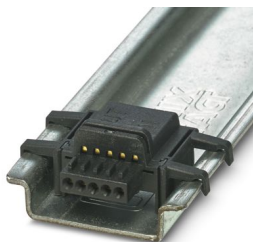
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PT-IQ-17,5-TBUS-5-2.0 - DIN rail bus connectors

2906878

<https://www.phoenixcontact.com/pc/products/2906878>



DIN rail connector for PT-IQ system for establishing remote signaling and the power supply when a surge protection module is snapped on.

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