

Power supply unit - ESSENTIAL-PS/3AC/24DC/240W/EE - 1018291

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Primary-switched ESSENTIAL POWER power supply for DIN rail mounting, input: 3-phase, output: 24 V DC / 240 W

Your advantages

- ✓ Worldwide use thanks to the wide range input and international approval package
- ✓ Fast installation, thanks to easy DIN rail mounting
- ✓ Greater availability, thanks to fanless convection cooling



Key Commercial Data

Packing unit	1 pc
GTIN	 4 055626 502632
GTIN	4055626502632
Custom tariff number	85044030
Country of origin	China

Technical data

Dimensions

Width	60 mm
Height	130 mm
Depth	152.5 mm
Installation distances left/right	0 mm
Installation distances top/bottom	50 mm

Ambient conditions

Degree of protection	IP20
Ambient temperature (operation)	-25 °C ... 70 °C (> 55 °C Derating: 2.5 %/K)
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Max. permissible relative humidity (operation)	≤ 95 % (at 25 °C, non-condensing)
Climatic class	3K3 (in acc. with EN 60721)

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Technical data

Ambient conditions

Degree of pollution	2
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Input data

Nominal input voltage range	2x / 3x 400 V AC ... 500 V AC
Input voltage range	3x 320 V AC ... 575 V AC
AC frequency range	45 Hz ... 65 Hz
Discharge current to PE	< 3.5 mA
Current consumption	3x 0.6 A (400 V AC)
	3x 0.5 A (480 V AC)
Nominal power consumption	284.4 VA
Inrush current	< 15 A
Mains buffering time	> 20 ms (3x 400 V AC)
Recommended breaker for input protection	6 A ... 16 A
Power factor (cos phi)	0.59
Type of protection	Transient surge protection
Protective circuit/component	Varistor

Output data

Nominal output voltage	24 V DC \pm 1 %
Setting range of the output voltage (U_{Set})	22.5 V DC ... 29.5 V DC (> 24 V DC, constant capacity restricted)
Nominal output current (I_N)	10 A ($U_{OUT} = 24$ V DC)
Derating	55 °C ... 70 °C (2.5%/K)
Connection in parallel	Yes, for redundancy and increased capacity
Connection in series	yes
Feedback voltage resistance	35 V DC
Protection against overvoltage at the output (OVP)	< 35 V DC
Max. capacitive load	unlimited
Active current limitation	approx. 15 A
Control deviation	< 1 % (change in load, static 10 % ... 90 %)
	< 2 % (change in load, dynamic 10 % ... 90 %)
	< 0.1 % (change in input voltage \pm 10 %)
Residual ripple	< 10 mV _{PP}
Output power	240 W
Typical response time	< 1 s
Peak switching voltages nominal load	< 30 mV _{PP}
Maximum power dissipation in no-load condition	7.5 W
Power loss nominal load max.	34 W

General

Net weight	1.1 kg
Operating voltage display	Green LED
Efficiency	88.5 % (at 400 V AC and nominal values)

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General

Insulation voltage input/output	3 kV AC (type test)
	1.5 kV AC (routine test)
Insulation voltage output / PE	500 V DC
Protection class	I (with PE connection)
Degree of protection	IP20
MTBF (IEC 61709, SN 29500)	> 700000 h

Connection data, input

Connection method	Screw connection
Conductor cross section solid min.	0.2 mm ²
Conductor cross section solid max.	2.5 mm ²
Conductor cross section flexible min.	0.2 mm ²
Conductor cross section flexible max.	2.5 mm ²
Conductor cross section AWG min.	24
Conductor cross section AWG max.	14
Stripping length	9 mm
Screw thread	M2,5

Connection data, output

Connection method	Screw connection
Conductor cross section solid min.	0.2 mm ²
Conductor cross section solid max.	2.5 mm ²
Conductor cross section flexible min.	0.2 mm ²
Conductor cross section flexible max.	2.5 mm ²
Conductor cross section AWG min.	16
Conductor cross section AWG max.	12
Stripping length	9 mm
Screw thread	M2,5

Standards and Regulations

Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Noise emission	EN 55011 (EN 55022) Class B
Noise immunity	EN 61000-6-2:2005
Standards/regulations	EN 61000-4-2
Contact discharge	4 kV (Test Level 2)
Standards/regulations	EN 61000-4-3
Frequency range	80 MHz ... 1 GHz
Test field strength	10 V/m
Frequency range	1.4 GHz ... 2 GHz
Test field strength	3 V/m
Standards/regulations	EN 61000-4-4
Comments	Criterion B

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Standards and Regulations

Standards/regulations	EN 61000-6-3
	EN 61000-4-6
Frequency range	0.15 MHz ... 80 MHz
Voltage	10 V (Test Level 3)
Standards/regulations	EN 61000-4-11
Low Voltage Directive	Conformance with LV directive 2006/95/EC
Standard - Electrical safety	EN 60950-1
Standard – Safety extra-low voltage	EN 60950-1 (SELV)
UL approvals	UL/C-UL listed UL 508
Shock	18 ms, 30g, in each space direction (according to IEC 60068-2-27)
Vibration (operation)	< 15 Hz, amplitude ± 2.5 mm (according to IEC 60068-2-6)
	15 Hz ... 150 Hz, 2.3g, 90 min.
Approval - requirement of the semiconductor industry with regard to mains voltage dips	SEMI F47 - 0706 (200 V AC)

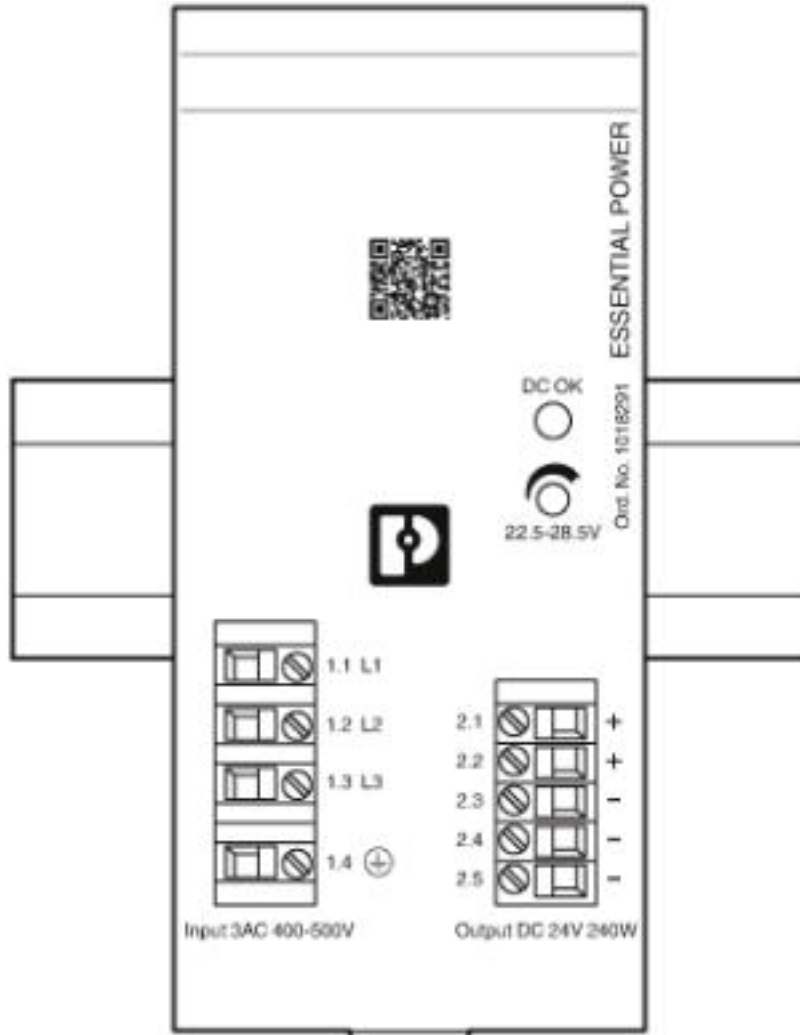
Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
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Drawings

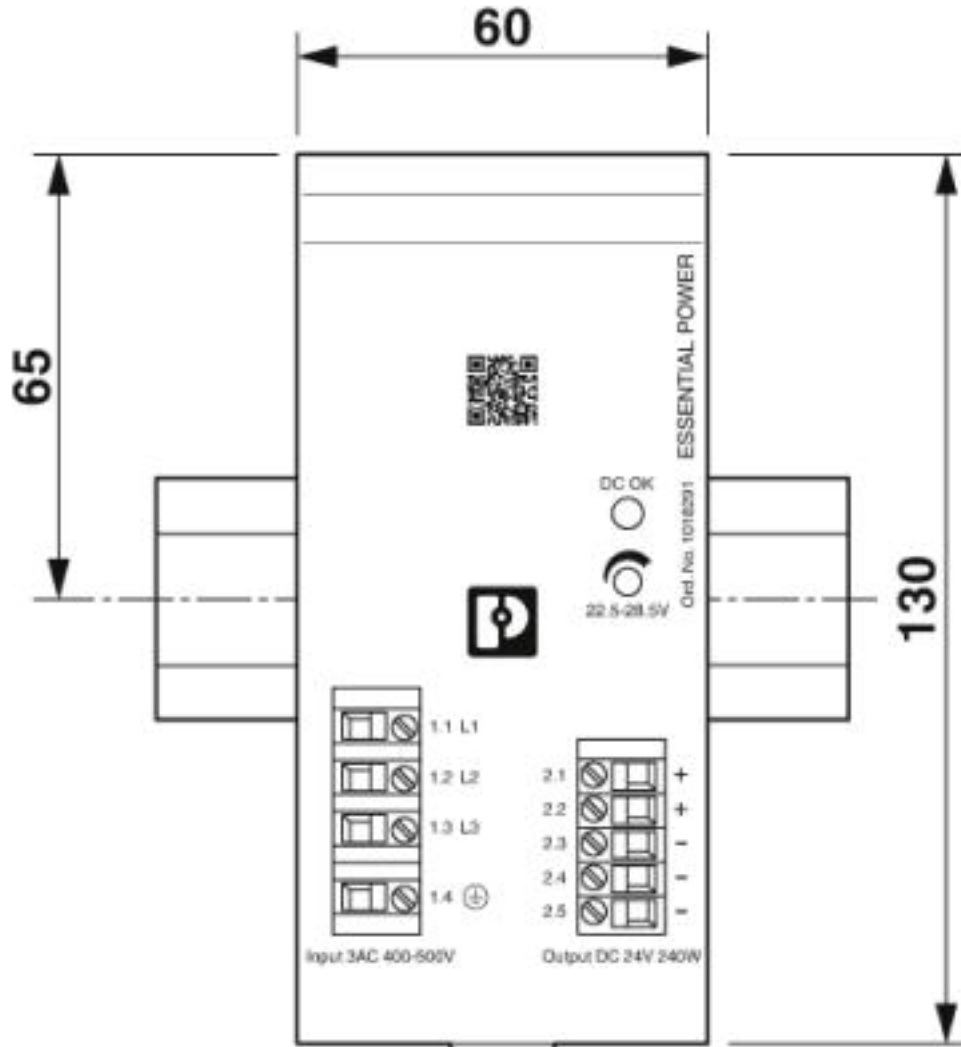
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Schematic diagram

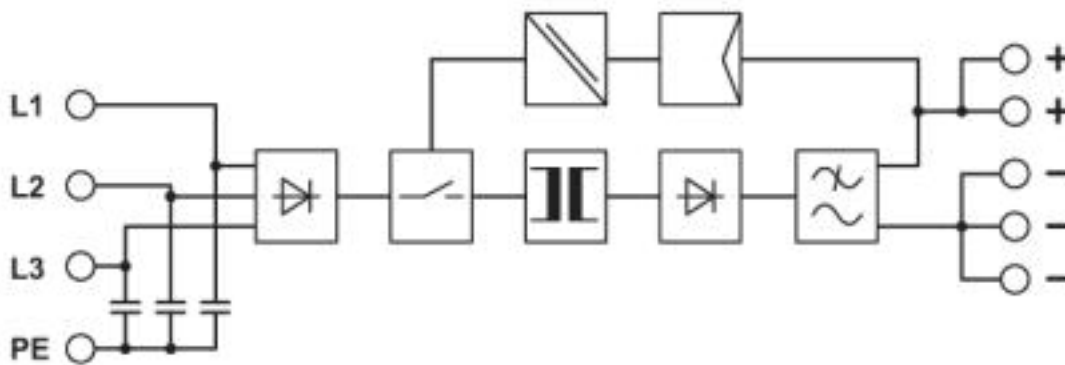


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Dimensional drawing

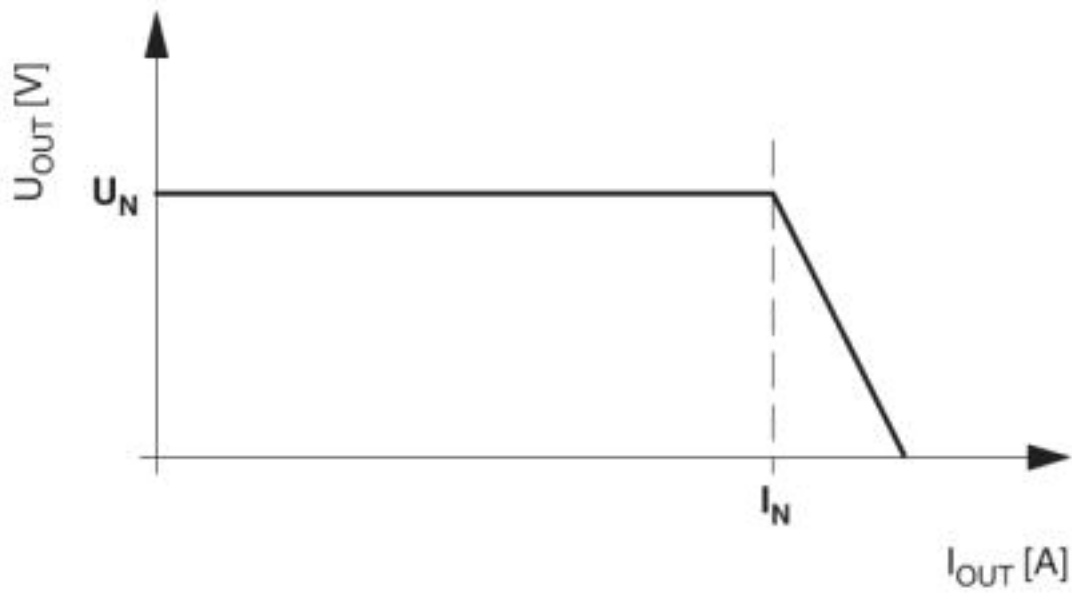


Block diagram

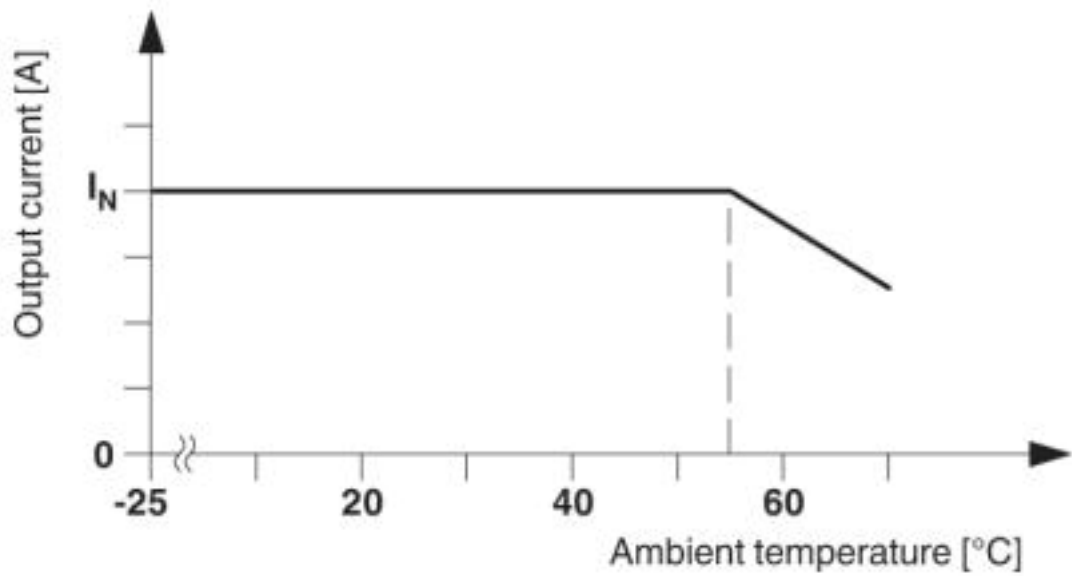


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Diagram

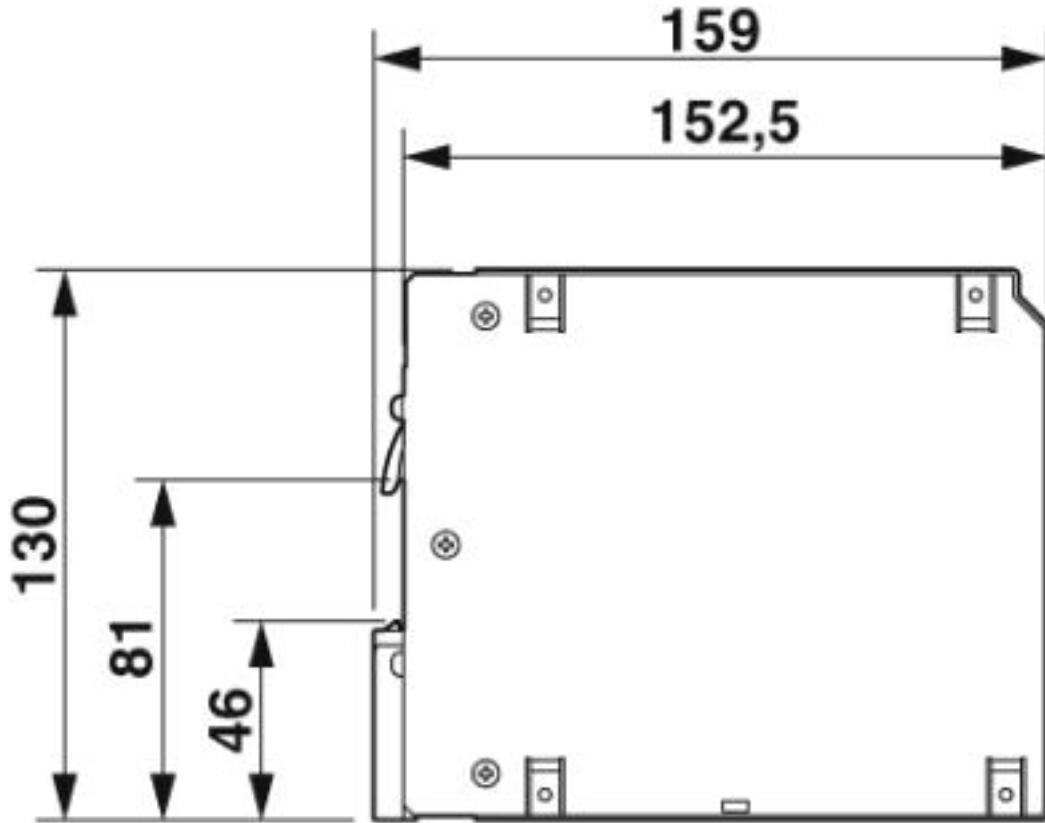


Diagram

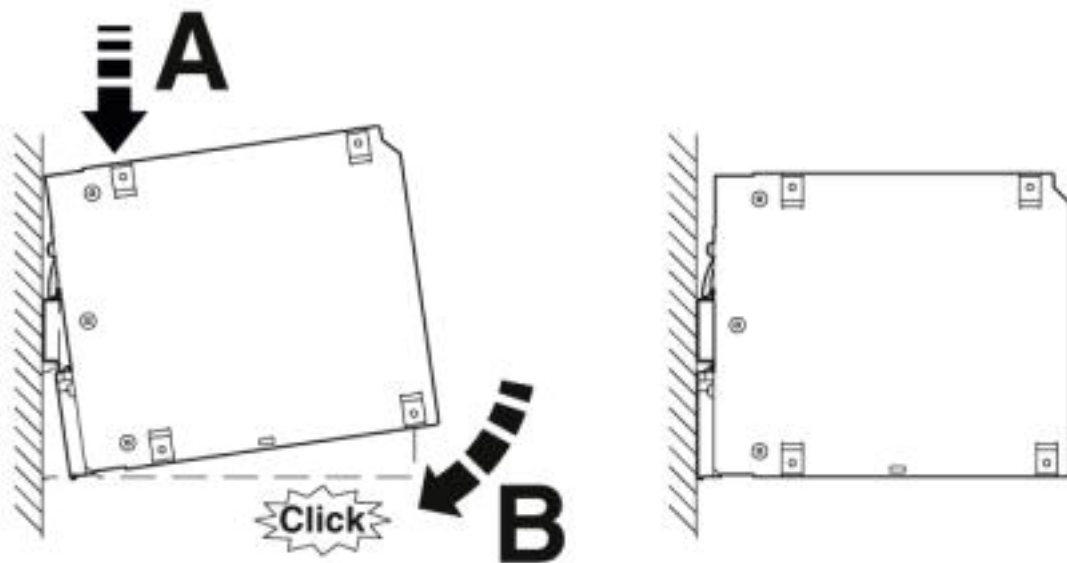


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Dimensional drawing

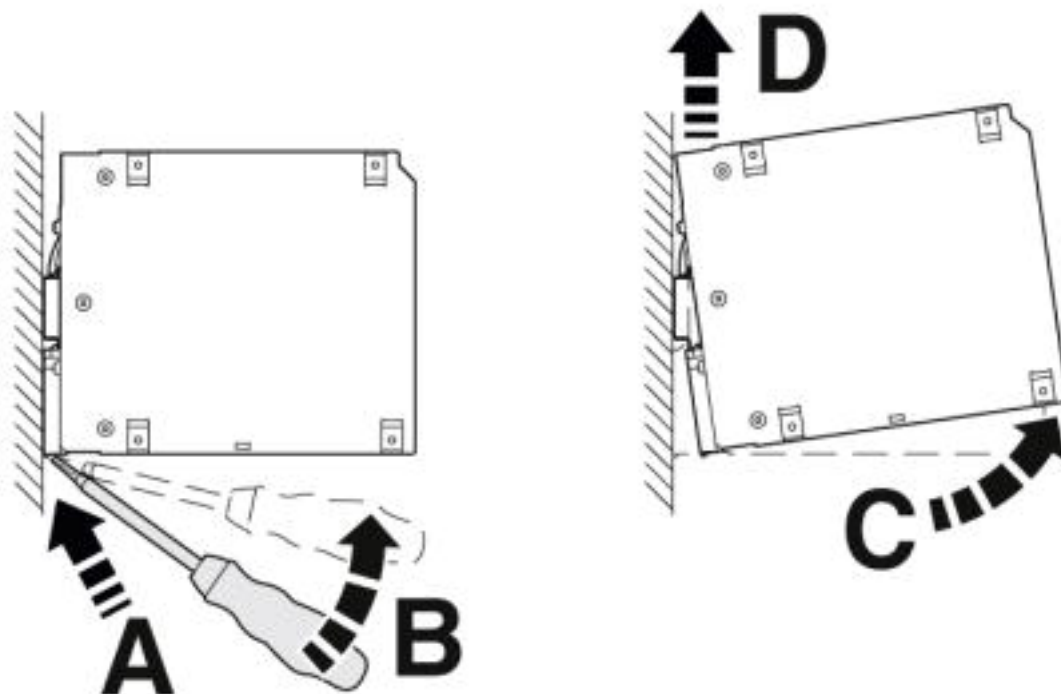


Schematic diagram



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Schematic diagram



Classifications

eCl@ss

eCl@ss 6.0	27049000
eCl@ss 7.0	27049002
eCl@ss 9.0	27040701

ETIM

ETIM 6.0	EC002540
ETIM 7.0	EC002540

Approvals

Approvals

Approvals


EAC

Ex Approvals

Approval details

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Approvals

EAC		EAC*DE*08*02578
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Accessories

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Device protection

Type 3 surge protection device - PLT-SEC-T3-3S-230-FM - 2905230



Plug-in device protection, according to type 3/class III, for 3-phase power supply networks with separate N and PE (5-conductor system: L1, L2, L3, N, PE), with integrated surge-proof fuse and remote indication contact.

Type 3 surge protection device - PLT-EE-T3-24-FM - 2910540



Pluggable device protection, according to type 3/Class III, for 1-phase power supply networks with separate N and PE (3-conductor system: L1, N, PE) with remote indication contact.