

ESSENTIAL-PS/3AC/24DC/960W/EE - Power supply unit



1018294

<https://www.phoenixcontact.com/au/products/1018294>

Please be informed that the data shown in this PDF document is generated from our Online Catalog. Please find the complete data in the user documentation. Our General Terms of Use for Downloads are valid.



Primary-switched ESSENTIAL edition power supply for DIN rail mounting, input: 3-phase, output: 24 V DC / 960 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

Commercial Data

Item number	1018294
Packing unit	1 pc
Minimum order quantity	1 pc
Sales Key	CMPB33
Product Key	CMPB33
GTIN	4055626501796
Weight per Piece (including packing)	3,368 g
Weight per Piece (excluding packing)	3,450 g
Customs tariff number	85044083
Country of origin	CN

ESSENTIAL-PS/3AC/24DC/960W/EE - Power supply unit



1018294

<https://www.phoenixcontact.com/au/products/1018294>

Technical Data

Input data

AC operation

Nominal input voltage range	3x 400 V AC ... 500 V AC
Input voltage range	3x 320 V AC ... 575 V AC
Input voltage range AC	3x 320 V AC ... 575 V AC
Voltage type of supply voltage	AC
Inrush current	< 20 A
Inrush current integral (I^2t)	1.3 A ² s
AC frequency range	45 Hz ... 65 Hz
Mains buffering time	> 16 ms (3x 400 V AC)
Current consumption	3x 2 A (400 V AC) 3x 1.6 A (480 V AC)
Nominal power consumption	1149.27 VA
Protective circuit	Transient surge protection; Varistor
Typical response time	< 1 s
Recommended breaker for input protection	10 A ... 16 A (UL: 20 A)
Discharge current to PE	< 3.5 mA

Output data

Efficiency	91.5 % (at 400 V AC and nominal values)
Output characteristic	U/I
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)	40 A ($U_{OUT} = 24$ V DC)
Derating	55 °C ... 70 °C (2.5%/K)
Feedback voltage resistance	35 V DC
Protection against overvoltage at the output (OVP)	< 35 V DC
Active current limitation	approx. 42 A
Residual ripple	< 20 mV _{PP}
Short-circuit-proof	yes
Output power	960 W
Peak switching voltages nominal load	< 40 mV _{PP}
Maximum no-load power dissipation	11 W
Power loss nominal load max.	87 W
Connection in parallel	yes, for redundancy and increased capacity

Connection data

Input

Connection method	Screw connection
Conductor cross section solid min.	0.2 mm ²

ESSENTIAL-PS/3AC/24DC/960W/EE - Power supply unit



1018294

<https://www.phoenixcontact.com/au/products/1018294>

Conductor cross section solid max.	6 mm ²
Conductor cross section flexible min.	0.2 mm ²
Conductor cross section flexible max.	4 mm ²
Conductor cross section AWG min.	22
Conductor cross section AWG max.	10
Stripping length	8 mm
Tightening torque, min	0.5 Nm
Tightening torque max	0.6 Nm

Output

Connection method	Screw connection
Conductor cross section solid min.	0.5 mm ²
Conductor cross section solid max.	16 mm ²
Conductor cross section flexible min.	0.5 mm ²
Conductor cross section flexible max.	10 mm ²
Conductor cross section AWG min.	8
Conductor cross section AWG max.	6
Stripping length	10 mm
Tightening torque, min	1.2 Nm
Tightening torque max	1.5 Nm

LED signaling

Types of signaling	LED
Operating voltage display	Green LED

Signal output

Status display	"DC OK" LED green
Note on status display	U _{OUT} > 21.5 V: LED lights up

Electrical properties

Number of phases	3.00
Insulation voltage input/output	3 kV AC (type test)
	1.5 kV AC (routine test)
Insulation voltage output / PE	500 V DC

Product properties

Product type	Power supply
Product family	ESSENTIAL POWER
MTBF (IEC 61709, SN 29500)	> 700000 h

Insulation characteristics

Protection class	I (with PE connection)
Degree of pollution	2

Dimensions

ESSENTIAL-PS/3AC/24DC/960W/EE - Power supply unit



1018294

<https://www.phoenixcontact.com/au/products/1018294>

Installation dimensions

Installation distance right/left	0 mm / 0 mm
Installation distance top/bottom	50 mm / 50 mm

Mounting

Mounting type	DIN rail mounting
With protective coating	No

Material specifications

Housing material	Metal
Type of housing	Steel sheet, zinc-plated
Side element version	Aluminum
Housing material	Aluminum (AlMg3) / sheet steel, zinc-plated

Environmental and real-life conditions

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
Climatic class	3K3 (in acc. with EN 60721)
Max. permissible relative humidity (operation)	≤ 95 % (at 25 °C, non-condensing)
Shock	15g
Vibration (operation)	< 15 Hz, amplitude ±2.5 mm (according to IEC 60068-2-6) 15 Hz ... 150 Hz, 2.3g, 90 min.

Standards and regulations

Standard - Electrical safety	EN 60950-1
Standard – Safety extra-low voltage	EN 60950-1 (SELV)
Approval - requirement of the semiconductor industry with regard to mains voltage dips	SEMI F47 - 0706 (200 V AC)

Approval data

CSA	CSA-C22.2 Nr. 107.1-01
	CSA-C22.2 Nr. 60950-01
UL approvals	UL/C-UL listed UL 508

Conformity/Approvals

SIL in accordance with IEC 61508	0
Performance level according to ISO 13849	without

EMC data

Low Voltage Directive	Conformance with Low Voltage Directive 2014/35/EC
Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
EMC requirements for noise emission	EN 61000-6-3
	EN 61000-6-4

ESSENTIAL-PS/3AC/24DC/960W/EE - Power supply unit



1018294

<https://www.phoenixcontact.com/au/products/1018294>

EMC requirements for noise immunity	EN 61000-6-1
	EN 61000-6-2
Noise emission	EN 55011 (EN 55022) Class B
Noise immunity	EN 61000-6-2:2005

Electrostatic discharge

Standards/regulations	EN 61000-4-2
-----------------------	--------------

Electrostatic discharge

Contact discharge	6 kV
Discharge in air	8 kV (Test Level 3)
Comments	Criterion B

Electromagnetic HF field

Standards/regulations	EN 61000-4-3
-----------------------	--------------

Electromagnetic HF field

Frequency range	80 MHz ... 1 GHz
Test field strength	10 V/m
Frequency range	1 GHz ... 2 GHz
Test field strength	10 V/m
Frequency range	2 GHz ... 3 GHz
Test field strength	10 V/m
Comments	Criterion A

Fast transients (burst)

Standards/regulations	EN 61000-4-4
-----------------------	--------------

Fast transients (burst)

Input	4 kV (Test Level 4 - asymmetrical)
Output	4 kV (Test Level 4 - asymmetrical)
Signal	2 kV (Test Level 3 - asymmetrical)
Comments	Criterion A

Surge voltage load (surge)

Standards/regulations	EN 61000-4-5
Input	2 kV (Test Level 3 - symmetrical)
	4 kV (Test Level 4 - asymmetrical)
Output	1 kV (Test Level 2 - symmetrical)
	2 kV (Test Level 3 - asymmetrical)
Comments	Criterion A

Conducted interference

Standards/regulations	EN 61000-4-6
-----------------------	--------------

Conducted interference

Frequency range	0.15 MHz ... 80 MHz
Comments	Criterion A

ESSENTIAL-PS/3AC/24DC/960W/EE - Power supply unit



1018294

<https://www.phoenixcontact.com/au/products/1018294>

Voltage	Test Level 3
Voltage dips	
Standards/regulations	EN 61000-4-11
Emitted interference	
Standards/regulations	EN 61000-6-3
Radio interference voltage in acc. with EN 55011	EN 55011 (EN 55022) Class B, area of application: Industry and residential
Emitted radio interference in acc. with EN 55011	EN 55011 (EN 55022) Class B, area of application: Industry and residential
Criteria	
Criterion A	Normal operating behavior within the specified limits.
Criterion B	Temporary impairment to operational behavior that is corrected by the device itself.

ESSENTIAL-PS/3AC/24DC/960W/EE - Power supply unit

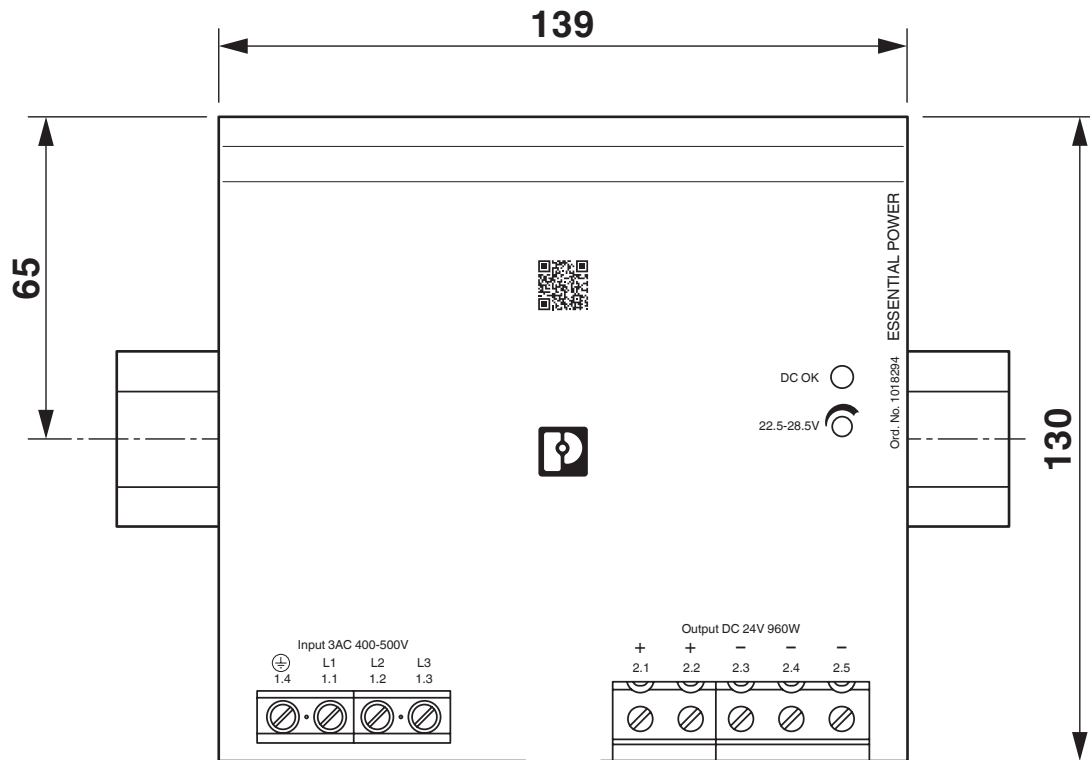


1018294

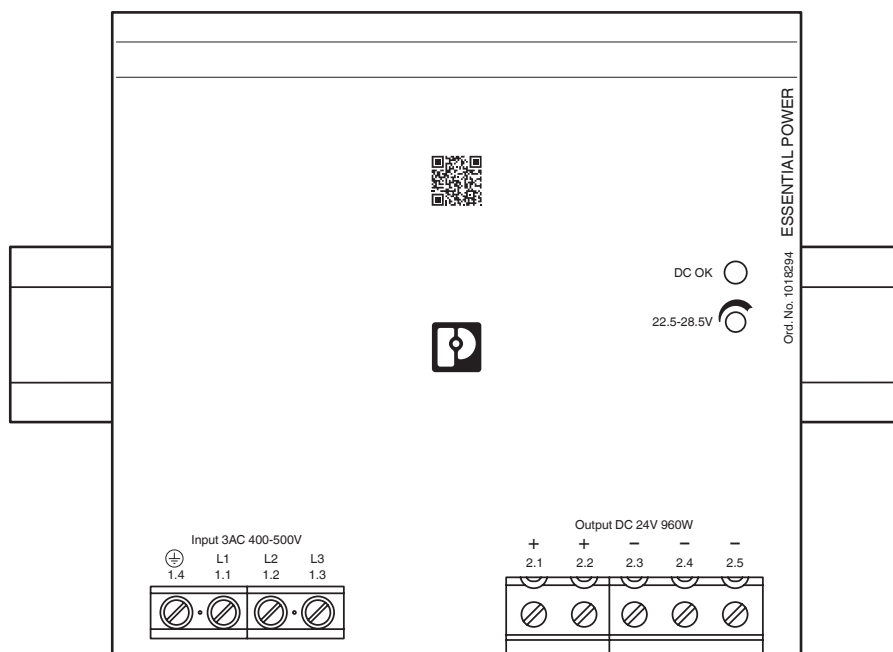
<https://www.phoenixcontact.com/au/products/1018294>

Drawings

Dimensional drawing



Schematic diagram



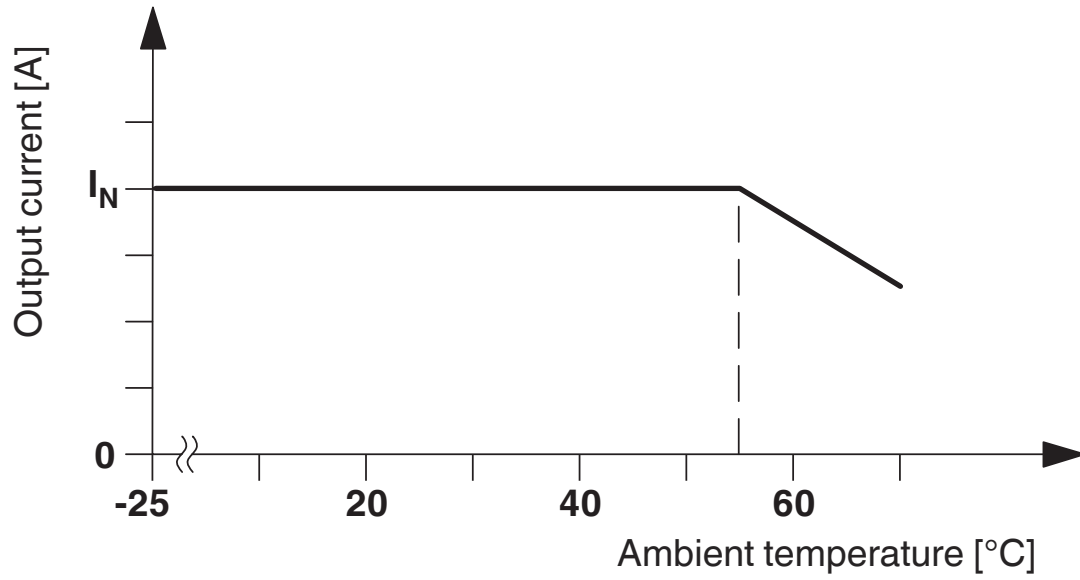
ESSENTIAL-PS/3AC/24DC/960W/EE - Power supply unit



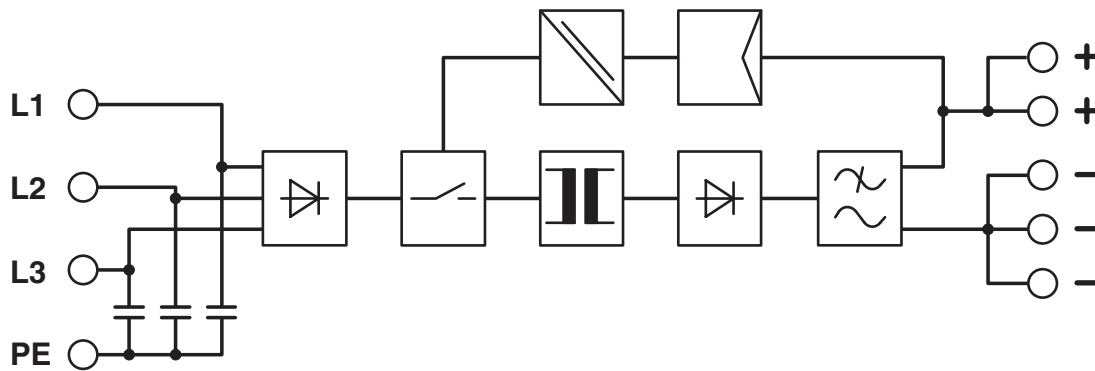
1018294

<https://www.phoenixcontact.com/au/products/1018294>

Diagram



Block diagram



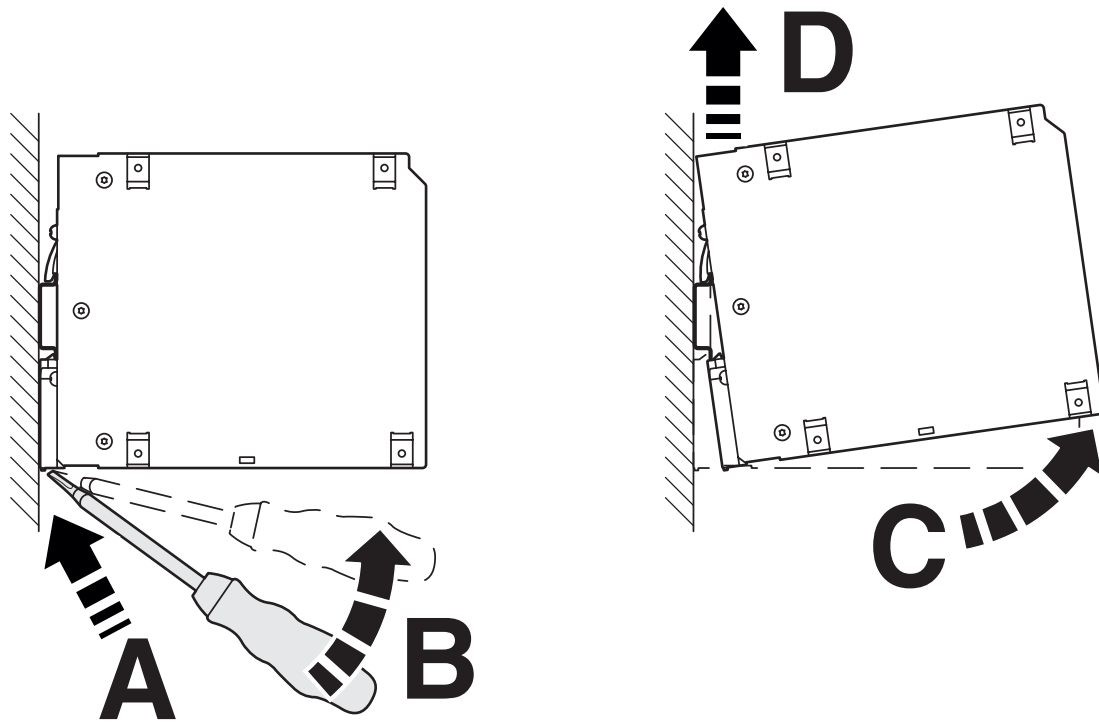
ESSENTIAL-PS/3AC/24DC/960W/EE - Power supply unit



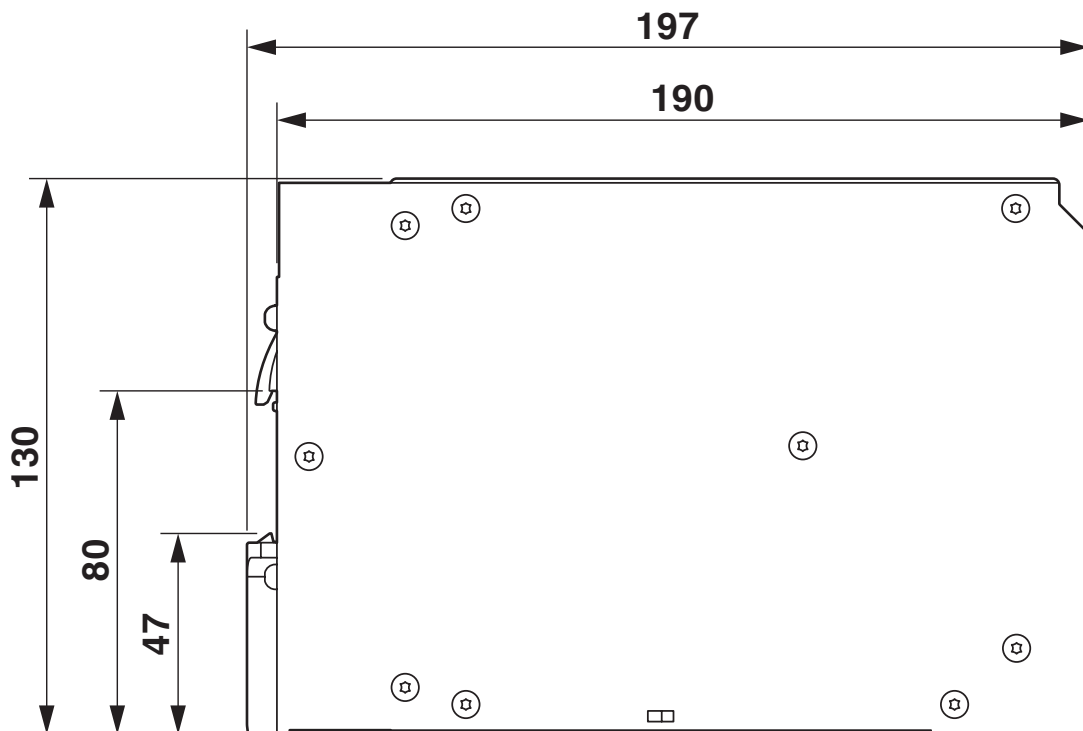
1018294

<https://www.phoenixcontact.com/au/products/1018294>

Schematic diagram



Dimensional drawing



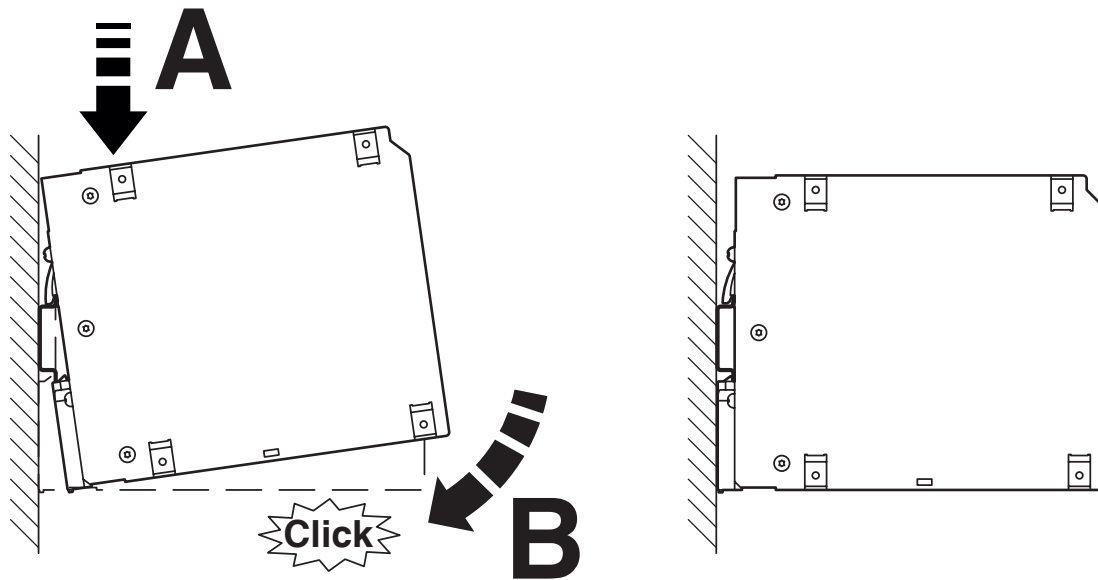
ESSENTIAL-PS/3AC/24DC/960W/EE - Power supply unit



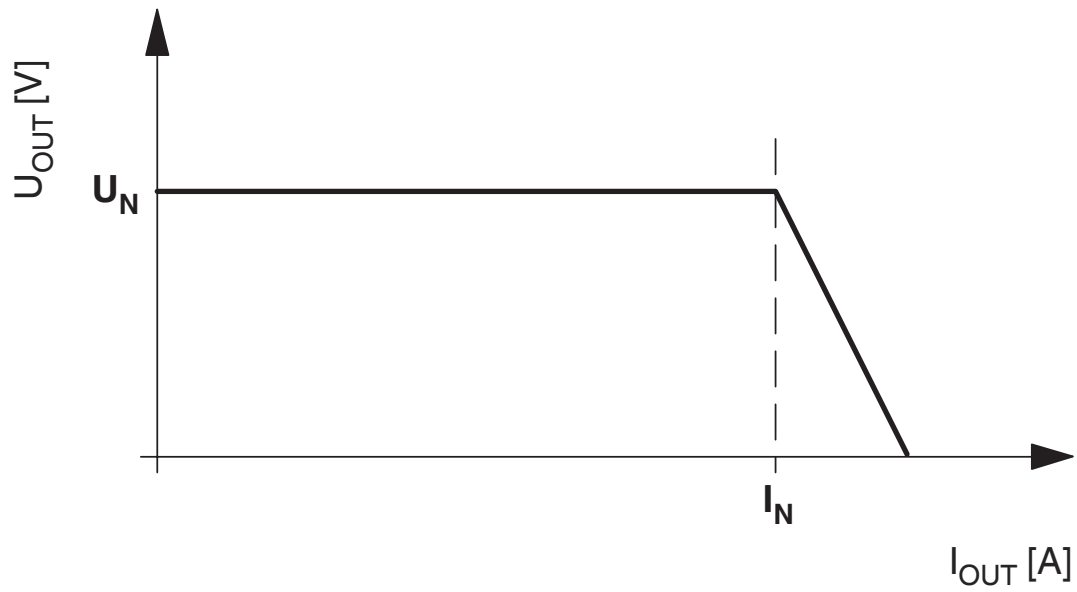
1018294

<https://www.phoenixcontact.com/au/products/1018294>

Schematic diagram



Diagram



ESSENTIAL-PS/3AC/24DC/960W/EE - Power supply unit



1018294

<https://www.phoenixcontact.com/au/products/1018294>

Classifications

ECLASS

ECLASS-10.0.1	27040701
ECLASS-11.0	27040701
ECLASS-12.0	27040701

ETIM

ETIM 8.0	EC002540
----------	----------

UNSPSC

UNSPSC 21.0	39121000
-------------	----------

ESSENTIAL-PS/3AC/24DC/960W/EE - Power supply unit



1018294

<https://www.phoenixcontact.com/au/products/1018294>

Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 25;
	For information on hazardous substances, refer to the manufacturer's declaration available under "Downloads"

ESSENTIAL-PS/3AC/24DC/960W/EE - Power supply unit



1018294

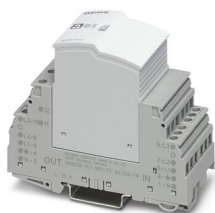
<https://www.phoenixcontact.com/au/products/1018294>

Accessories

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

2905230

<https://www.phoenixcontact.com/au/products/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.

Phoenix Contact 2023 © - all rights reserved
<https://www.phoenixcontact.com>

PHOENIX CONTACT PTY Ltd
Unit 7, 2-8 South Street
Rydalmere NSW 2116
1300 786 411
customerservice@phoenixcontact.com.au