

Power supply unit - STEP3-PS/1AC/24DC/0.63/PT - 1088495

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Primary-switched power supply unit, STEP POWER, Push-in technology, DIN rail mounting, input: 1-phase, output: 24 V DC / 0.63 A

Product Description

STEP POWER power supplies for distribution boards

The STEP POWER power supply range was developed especially for building automation. The low idling losses and high degree of efficiency ensure maximum energy efficiency. They allow flexible use and can be snapped onto the DIN rail or screwed onto an even surface.



Key Commercial Data

Packing unit	1 pc
GTIN	 4 055626 889436
GTIN	4055626889436
Weight per Piece (excluding packing)	100.000 g
Custom tariff number	85044030
Country of origin	Vietnam

Technical data

Dimensions

Width	18 mm
Height	90 mm
Depth	55 mm
Horizontal pitch	1 Div. (DIN 43880)
Installation distance top/bottom	30 mm / 30 mm
Ambient temperature (operation)	-10 °C ... 70 °C (Derating: > 50 °C; 2 %/K)
Ambient temperature (start-up type tested)	-25 °C

Power supply unit - STEP3-PS/1AC/24DC/0.63/PT - 1088495

Technical data

Ambient temperature (storage/transport)	-40 °C ... 85 °C
Max. permissible relative humidity (operation)	≤ 95 % (at 25 °C, non-condensing)
Maximum altitude	≤ 4000 m (> 2000 m, Derating: 10 %/1000 m)
Vibration (operation)	< 15 Hz, amplitude ±2.5 mm (according to IEC 60068-2-6)
	15 Hz ... 150 Hz, 2.3g, 90 min.
Shock	18 ms, 30g, in each space direction (according to IEC 60068-2-27)
Degree of pollution	2
Climatic class	3K3 (EN 60721)
Overvoltage category (EN 61010-1)	II (≤ 4000 m)
Overvoltage category (EN 62477-1)	III (≤ 2000 m)

Input data

Input voltage range	100 V AC ... 240 V AC -15 % ... +10 %
	110 V DC ... 250 V DC -20 % ... +40 %
Frequency range (f _N)	50 Hz ... 60 Hz ±10 %
Typical national grid voltage	120 V AC
	230 V AC
Voltage type of supply voltage	AC/DC
Network type	Star network
Current consumption	0.29 A (100 V AC)
	0.16 A (240 V AC)
	0.16 A (110 V DC)
	0.07 A (250 V DC)
Discharge current to PE	< 0.25 mA
Mains buffering time	typ. 20 ms (120 V AC)
	typ. 90 ms (230 V AC)
Switch-on time	typ. 2 s
Inrush current	typ. 30 A (25 °C)
Inrush current integral (I ² t)	typ. 0.14 A ² s
Type of protection	Transient surge protection
Protective circuit/component	Varistor
Device mains fuse	1.25 A internal (device protection), slow-blow
Recommended breaker for input protection	6 A ... 16 A (Characteristics B, C, D, K)

Output data

Nominal output voltage	24 V DC
Nominal output current (I _N)	0.63 A
Control deviation	< 0.5 % (Static load change 10 % ... 90 %)
	< 4 % (Dynamic load change 10 % ... 90 %, (10 Hz))

Power supply unit - STEP3-PS/1AC/24DC/0.63/PT - 1088495

Technical data

Output data

	< 0.1 % (change in input voltage ± 10 %)
Short-circuit-proof	yes
No-load proof	yes
Residual ripple	typ. 100 mV _{PP}
Connection in parallel	yes, for increasing power and redundancy with diode
Connection in series	yes, for increased efficiency
Feedback voltage resistance	≤ 35 V DC
Protection against overvoltage at the output (OVP)	< 35 V DC
Rise time	typ. 100 ms ($U_{Out} = 10$ % ... 90 %)
Derating	> 50 °C ... 70 °C (2 % / K)
Crest factor	typ. 3,24
	typ. 4.17
Output power	15 W
Minimum no-load power dissipation	< 0.1 W (120 V AC)
Maximum power dissipation in no-load condition	< 0.1 W (230 V AC)
Minimum nominal load power dissipation	< 2.5 W (120 V AC)
Power loss nominal load max.	< 2.3 W (230 V AC)

General

Net weight	70 g
Efficiency	> 86 % (120 V AC)
	> 87 % (230 V AC)
MTBF (IEC 61709, SN 29500)	> 3500000 h (25 °C)
	> 1800000 h (40 °C)
	> 1200000 h (50 °C)
Insulation voltage input/output	4 kV AC (type test)
	3.75 kV AC (routine test)
Degree of protection	IP20
Protection class	II (in closed control cabinet)
Efficiency Level	VI
Housing material	Polycarbonate
Foot latch material	Polyamid
Mounting position	horizontal DIN rail NS 35, EN 60715
Assembly instructions	alignable: 0 mm horizontally, 30 mm vertically

Input connection data

Connection method	Push-in technology
Stripping length	10 mm

Power supply unit - STEP3-PS/1AC/24DC/0.63/PT - 1088495

Technical data

Input connection data

Conductor cross section solid	0.2 mm ² ... 2.5 mm ²
Conductor cross section flexible	0.2 mm ² ... 2.5 mm ²
Flexible conductor cross section (ferrule with plastic sleeve)	0.2 mm ² ... 1 mm ²
Flexible conductor cross section flexible (ferrule, w/o plastic sleeve)	0.5 mm ² ... 2.5 mm ²
Conductor cross section AWG	24 ... 14 (Cu)

Output connection data

Connection method	Push-in technology
Stripping length	10 mm
Conductor cross section solid	0.2 mm ² ... 2.5 mm ²
Conductor cross section flexible	0.2 mm ² ... 2.5 mm ²
Flexible conductor cross section (ferrule with plastic sleeve)	0.2 mm ² ... 1 mm ²
Flexible conductor cross section flexible (ferrule, w/o plastic sleeve)	0.5 mm ² ... 2.5 mm ²
Conductor cross section AWG	24 ... 14 (Cu)

LED signaling

Types of signaling	LED
U _{Out}	> 0,9 x U _N (U _N = 24 V DC) (LED lights up green)
	< 0,9 x U _N (U _N = 24 V DC) (LED off)

Standards

Standard designation	Electrical safety
Standards/regulations	IEC 61010-1 (SELV)
Standard designation	Safety extra-low voltage
Standards/regulations	IEC 61010-1 (SELV)
	IEC 61010-2-201 (PELV)
Standard designation	Safe isolation
Standards/regulations	IEC 61558-2-16
Standard designation	Low-voltage power supplies, DC output
Standards/regulations	EN 61204-3
Standard designation	Safety requirements for electrical equipment for measurement, control, and laboratory use
Standards/regulations	IEC 61010-1
Standard designation	Safety of electrical devices for household use and similar purposes
Standards/regulations	DIN EN 60335-1

Conformance/approvals

Designation	UL
Identification	UL 1310 Class 2 Power Units
Designation	UL

Power supply unit - STEP3-PS/1AC/24DC/0.63/PT - 1088495

Technical data

Conformance/approvals

Identification	UL/C-UL Listed UL 61010-1
Designation	UL
Identification	UL/C-UL Listed UL 61010-2-201
Designation	UL
Identification	UL/C-UL Listed ANSI/UL 121201 Class I, Division 2, Groups A, B, C, D (Hazardous Location)

EMC data

Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Low Voltage Directive	Conformance with Low Voltage Directive 2014/35/EC
Conducted noise emission	EN 55016
	EN 61000-6-3 (Class B)
Noise emission	EN 55016
	EN 61000-6-3 (Class B)
Harmonic currents	EN 61000-3-2
	EN 61000-3-2 (Class A)
Flicker	EN 61000-3-3
Electrostatic discharge	EN 61000-4-2
Contact discharge	6 kV (Test Level 3)
Discharge in air	8 kV (Test Level 3)
Electromagnetic HF field	EN 61000-4-3
Frequency range	80 MHz ... 1 GHz
Test field strength	10 V/m (Test Level 3)
Frequency range	1 GHz ... 6 GHz
Test field strength	10 V/m (Test Level 3)
Comments	Criterion A
Fast transients (burst)	EN 61000-4-4
Input	asymmetrical 4 kV (Test Level 4)
Output	asymmetrical 2 kV (Test Level 3)
Comments	Criterion A
Surge voltage load (surge)	EN 61000-4-5
Input	symmetrical 2 kV (Test Level 4)
	asymmetrical 4 kV (Test Level 4)
Output	symmetrical 1 kV (Test Level 3)
	asymmetrical 2 kV (Test Level 3)
Comments	Criterion A
Conducted interference	EN 61000-4-6
Frequency range	0.15 MHz ... 80 MHz

Power supply unit - STEP3-PS/1AC/24DC/0.63/PT - 1088495

Technical data

EMC data

Voltage	10 V (Test Level 3)
Comments	Criterion A
Voltage dips	EN 61000-4-11
Voltage	230 V AC
Frequency	50 Hz
Voltage dip	70 %
Number of periods	25 periods
Additional text	Class 3
Comments	Criterion A
Voltage dip	40 %
Number of periods	10 periods
Additional text	Class 3
Comments	Criterion A
Voltage dip	0 %
Number of periods	1 period
Additional text	Class 3
Comments	Criterion A
Criterion A	Normal operating behavior within the specified limits.
Criterion B	Temporary impairment to operational behavior that is corrected by the device itself.
Criterion C	Temporary adverse effects on the operating behavior, which the device corrects automatically or which can be restored by actuating the operating elements.

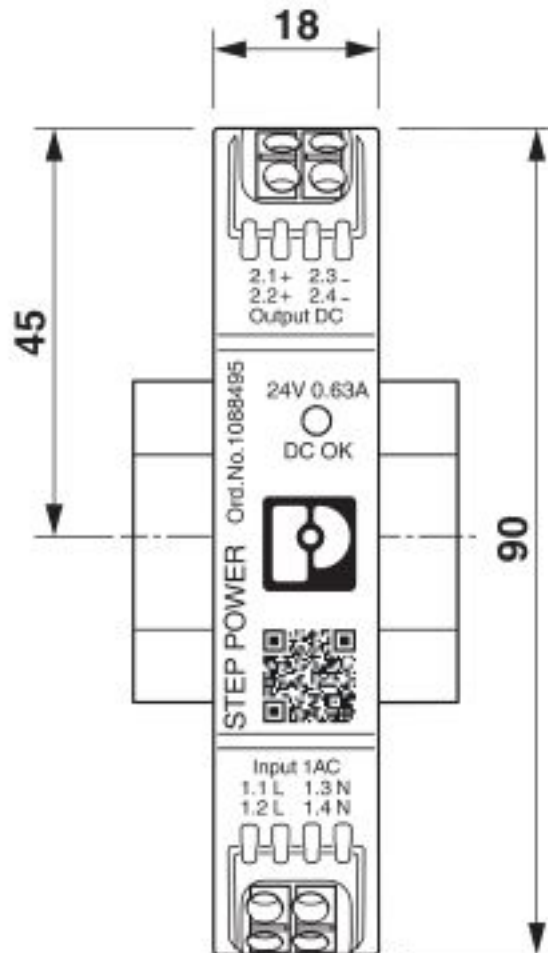
Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
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Drawings

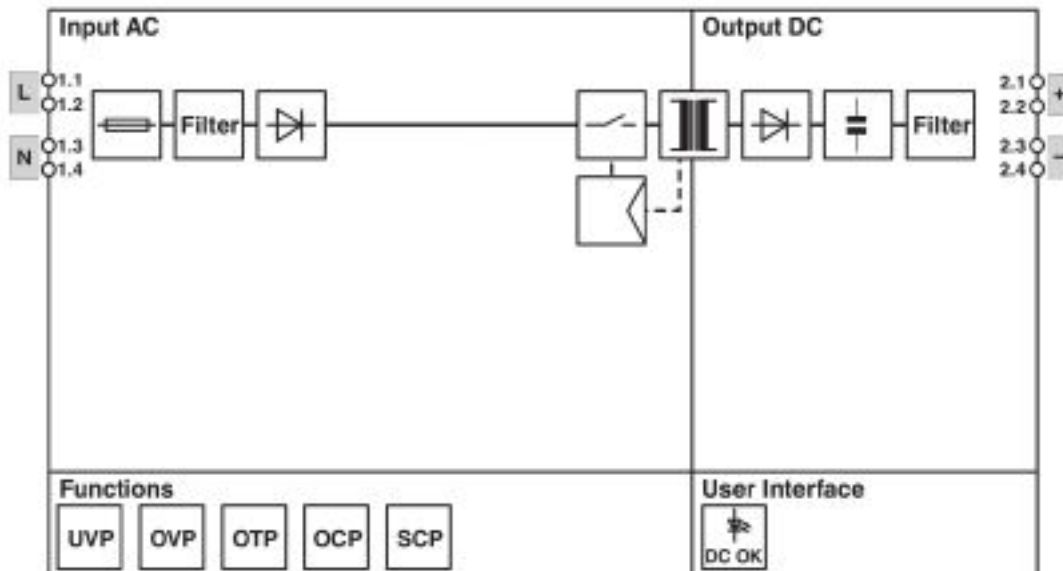
Power supply unit - STEP3-PS/1AC/24DC/0.63/PT - 1088495

Dimensional drawing

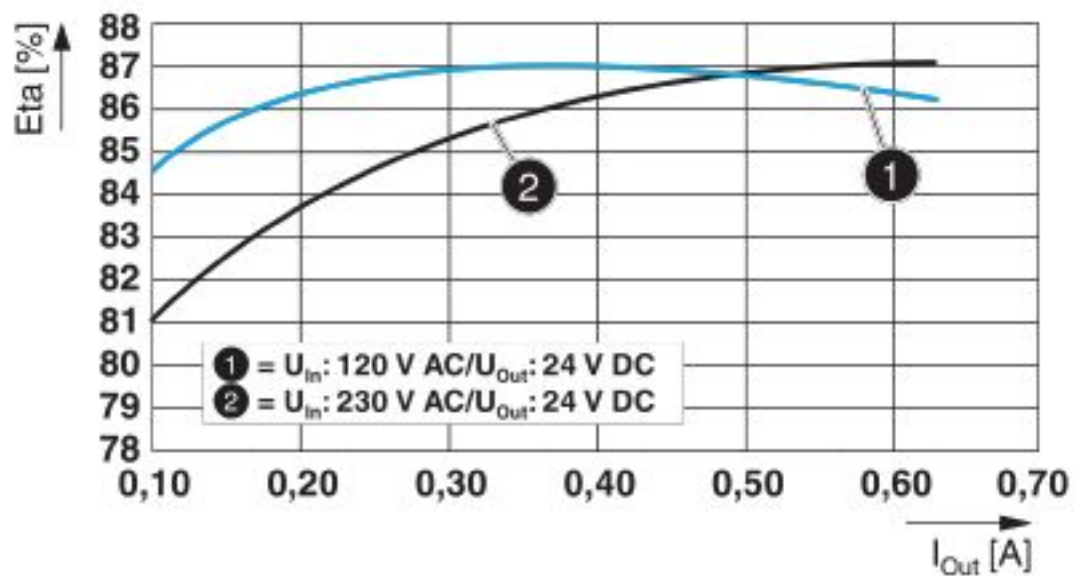


Power supply unit - STEP3-PS/1AC/24DC/0.63/PT - 1088495

Block diagram

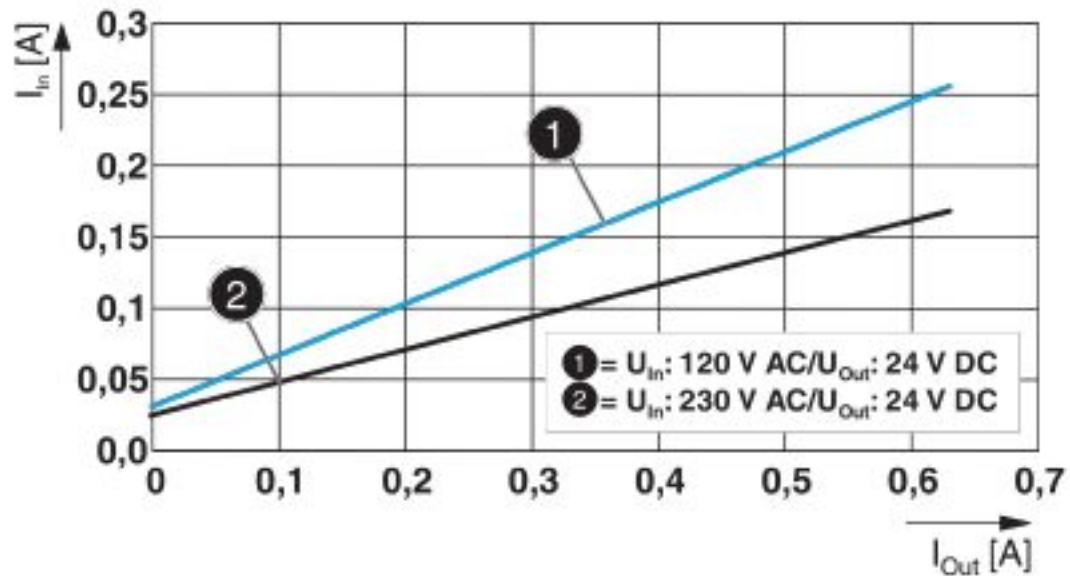


Diagram

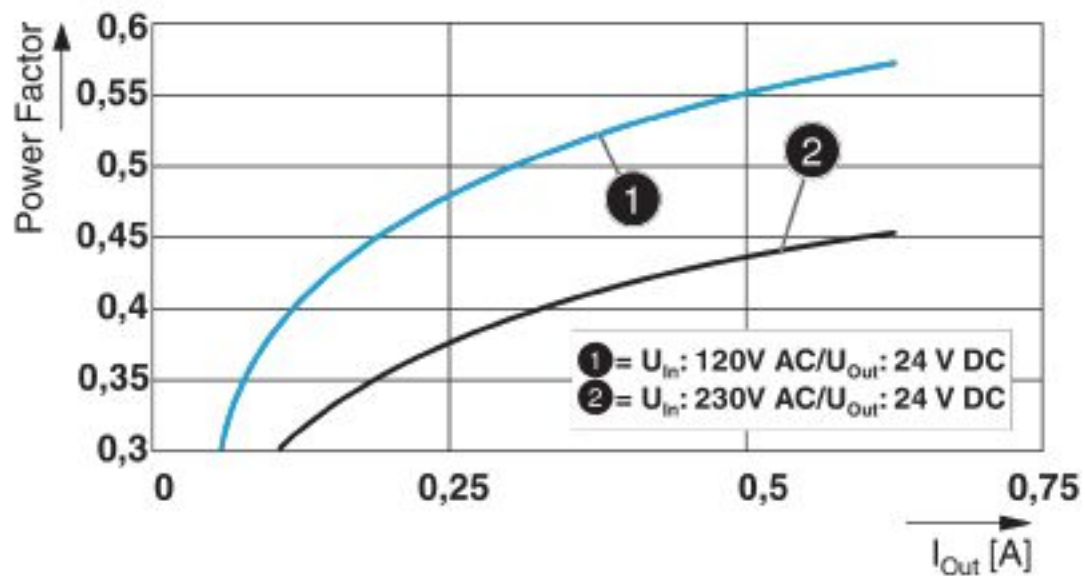


Power supply unit - STEP3-PS/1AC/24DC/0.63/PT - 1088495

Diagram

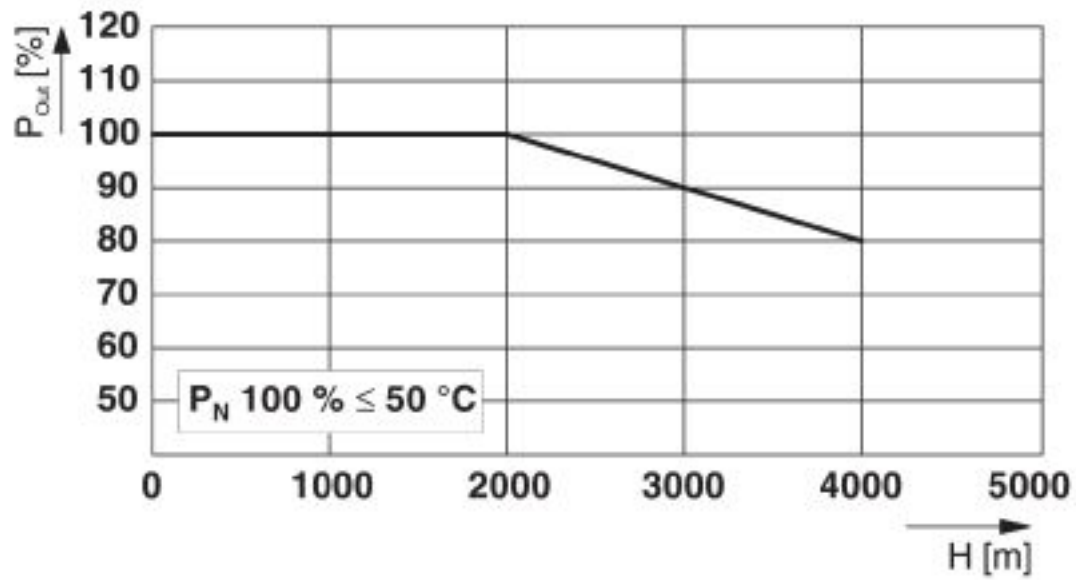


Diagram



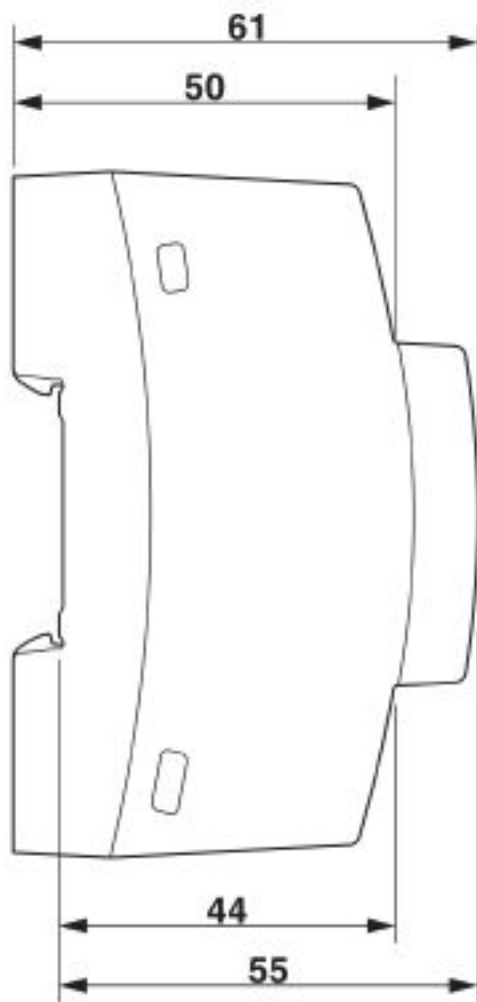
Power supply unit - STEP3-PS/1AC/24DC/0.63/PT - 1088495

Diagram



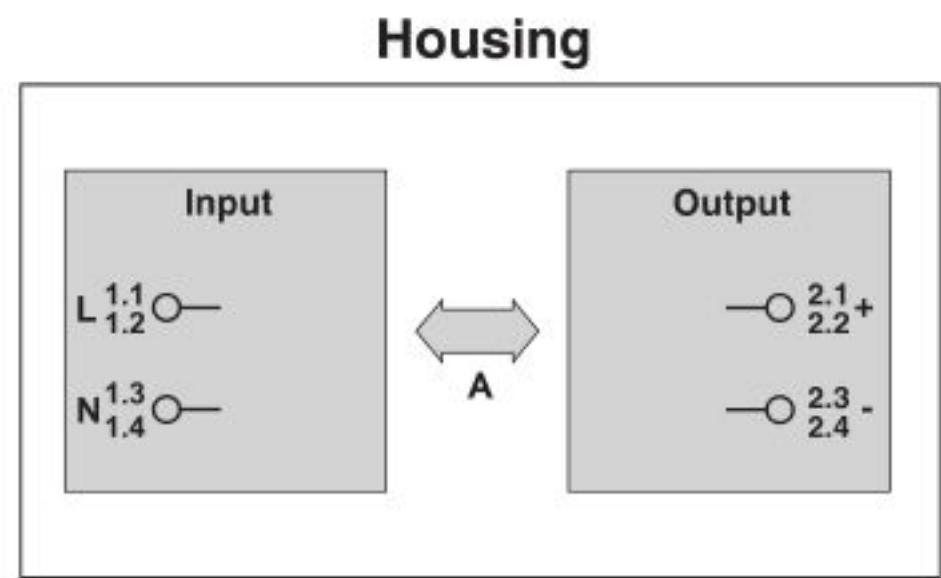
Power supply unit - STEP3-PS/1AC/24DC/0.63/PT - 1088495

Dimensional drawing



Power supply unit - STEP3-PS/1AC/24DC/0.63/PT - 1088495

Schematic diagram



Classifications

eCl@ss

eCl@ss 10.0.1	27040701
eCl@ss 9.0	27040701

Approvals

Approvals

Approvals

cULus Listed

Ex Approvals

cULus Listed

Approval details

Power supply unit - STEP3-PS/1AC/24DC/0.63/PT - 1088495

Approvals

cULus Listed



<http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm>

FILE E 123528

Power supply unit - STEP3-PS/1AC/24DC/1.3/PT - 1088494

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Primary-switched power supply unit, STEP POWER, Push-in technology, DIN rail mounting, input: 1-phase, output: 24 V DC / 1.3 A

Product Description

STEP POWER power supplies for distribution boards

The STEP POWER power supply range was developed especially for building automation. The low idling losses and high degree of efficiency ensure maximum energy efficiency. They allow flexible use and can be snapped onto the DIN rail or screwed onto an even surface.



Key Commercial Data

Packing unit	1 pc
GTIN	 4 055626 890609
GTIN	4055626890609
Weight per Piece (excluding packing)	180.000 g
Custom tariff number	85044030
Country of origin	Vietnam

Technical data

Dimensions

Width	36 mm
Height	90 mm
Depth	55 mm
Horizontal pitch	2 Div. (DIN 43880)
Installation distance top/bottom	30 mm / 30 mm
Ambient temperature (operation)	-10 °C ... 70 °C (Derating: > 50 °C; 2 %/K)
Ambient temperature (start-up type tested)	-25 °C

Power supply unit - STEP3-PS/1AC/24DC/1.3/PT - 1088494

Technical data

Ambient temperature (storage/transport)	-40 °C ... 85 °C
Max. permissible relative humidity (operation)	≤ 95 % (at 25 °C, non-condensing)
Maximum altitude	≤ 4000 m (> 2000 m, Derating: 10 %/1000 m)
Vibration (operation)	< 15 Hz, amplitude ±2.5 mm (according to IEC 60068-2-6)
	15 Hz ... 150 Hz, 2.3g, 90 min.
Shock	18 ms, 30g, in each space direction (according to IEC 60068-2-27)
Degree of pollution	2
Climatic class	3K3 (EN 60721)
Overvoltage category (EN 61010-1)	II (≤ 4000 m)
Overvoltage category (EN 62477-1)	III (≤ 2000 m)

Input data

Input voltage range	100 V AC ... 240 V AC -15 % ... +10 %
	110 V DC ... 250 V DC -20 % ... +40 %
Frequency range (f _N)	50 Hz ... 60 Hz ±10 %
Typical national grid voltage	120 V AC
	230 V AC
Voltage type of supply voltage	AC/DC
Network type	Star network
Current consumption	0.59 A (100 V AC)
	0.33 A (240 V AC)
	0.31 A (110 V DC)
	0.13 A (250 V DC)
Discharge current to PE	< 0.25 mA
Mains buffering time	typ. 20 ms (120 V AC)
	typ. 100 ms (230 V AC)
Switch-on time	typ. 2 s
Inrush current	typ. 22 A
Inrush current integral (I ² t)	typ. 0.27 A ² s
Type of protection	Transient surge protection
Protective circuit/component	Varistor
Device mains fuse	2 A internal (device protection), slow-blow
Recommended breaker for input protection	6 A ... 16 A (Characteristics B, C, D, K)

Output data

Nominal output voltage	24 V DC
Nominal output current (I _N)	1.3 A
Control deviation	< 0.5 % (Static load change 10 % ... 90 %)
	< 3 % (Dynamic load change 10 % ... 90 %, (10 Hz))

Power supply unit - STEP3-PS/1AC/24DC/1.3/PT - 1088494

Technical data

Output data

	< 0.1 % (change in input voltage ± 10 %)
Short-circuit-proof	yes
No-load proof	yes
Residual ripple	typ. 100 mV _{PP}
Connection in parallel	yes, for increasing power and redundancy with diode
Connection in series	yes, for increased efficiency
Feedback voltage resistance	≤ 35 V DC
Protection against overvoltage at the output (OVP)	< 35 V DC
Rise time	typ. 100 ms ($U_{Out} = 10$ % ... 90 %)
Derating	> 50 °C ... 70 °C (2 % / K)
Crest factor	typ. 3,45
	typ. 4,32
Output power	30 W
Minimum no-load power dissipation	< 0.1 W (120 V AC)
Maximum power dissipation in no-load condition	< 0.1 W (230 V AC)
Minimum nominal load power dissipation	< 4.4 W (120 V AC)
Power loss nominal load max.	< 3.9 W (230 V AC)

General

Net weight	170 g
Efficiency	> 87.5 % (120 V AC)
	> 88.5 % (230 V AC)
MTBF (IEC 61709, SN 29500)	> 3100000 h (25 °C)
	> 1600000 h (40 °C)
	> 1000000 h (50 °C)
Insulation voltage input/output	4 kV AC (type test)
	3.75 kV AC (routine test)
Degree of protection	IP20
Protection class	II (in closed control cabinet)
Efficiency Level	VI
Housing material	Polycarbonate
Foot latch material	Polyamid
Mounting position	horizontal DIN rail NS 35, EN 60715
Assembly instructions	alignable: 0 mm horizontally, 30 mm vertically

Input connection data

Connection method	Push-in technology
Stripping length	10 mm

Power supply unit - STEP3-PS/1AC/24DC/1.3/PT - 1088494

Technical data

Input connection data

Conductor cross section solid	0.2 mm² ... 2.5 mm²
Conductor cross section flexible	0.2 mm² ... 2.5 mm²
Flexible conductor cross section (ferrule with plastic sleeve)	0.2 mm² ... 1 mm²
Flexible conductor cross section flexible (ferrule, w/o plastic sleeve)	0.5 mm² ... 2.5 mm²
Conductor cross section AWG	24 ... 14 (Cu)

Output connection data

Connection method	Push-in technology
Stripping length	10 mm
Conductor cross section solid	0.2 mm² ... 2.5 mm²
Conductor cross section flexible	0.2 mm² ... 2.5 mm²
Flexible conductor cross section (ferrule with plastic sleeve)	0.2 mm² ... 1 mm²
Flexible conductor cross section flexible (ferrule, w/o plastic sleeve)	0.5 mm² ... 2.5 mm²
Conductor cross section AWG	24 ... 14 (Cu)

LED signaling

Types of signaling	LED
U_{Out}	$> 0,9 \times U_N$ ($U_N = 24$ V DC) (LED lights up green)
	$< 0,9 \times U_N$ ($U_N = 24$ V DC) (LED off)

Standards

Standard designation	Electrical safety
Standards/regulations	IEC 61010-1 (SELV)
Standard designation	Safety extra-low voltage
Standards/regulations	IEC 61010-1 (SELV)
	IEC 61010-2-201 (PELV)
Standard designation	Safe isolation
Standards/regulations	IEC 61558-2-16
Standard designation	Low-voltage power supplies, DC output
Standards/regulations	EN 61204-3
Standard designation	Safety requirements for electrical equipment for measurement, control, and laboratory use
Standards/regulations	IEC 61010-1
Standard designation	Safety of electrical devices for household use and similar purposes
Standards/regulations	DIN EN 60335-1

Conformance/approvals

Designation	UL
Identification	UL 1310 Class 2 Power Units
Designation	UL

Power supply unit - STEP3-PS/1AC/24DC/1.3/PT - 1088494

Technical data

Conformance/approvals

Identification	UL/C-UL Listed UL 61010-1
Designation	UL
Identification	UL/C-UL Listed UL 61010-2-201
Designation	UL
Identification	UL/C-UL Listed ANSI/UL 121201 Class I, Division 2, Groups A, B, C, D (Hazardous Location)

EMC data

Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Low Voltage Directive	Conformance with Low Voltage Directive 2014/35/EC
Conducted noise emission	EN 55016
	EN 61000-6-3 (Class B)
Noise emission	EN 55016
	EN 61000-6-3 (Class B)
Harmonic currents	EN 61000-3-2
	EN 61000-3-2 (Class A)
Flicker	EN 61000-3-3
Electrostatic discharge	EN 61000-4-2
Contact discharge	6 kV (Test Level 3)
Discharge in air	8 kV (Test Level 3)
Electromagnetic HF field	EN 61000-4-3
Frequency range	80 MHz ... 1 GHz
Test field strength	10 V/m (Test Level 3)
Frequency range	1 GHz ... 6 GHz
Test field strength	10 V/m (Test Level 3)
Comments	Criterion A
Fast transients (burst)	EN 61000-4-4
Input	asymmetrical 4 kV (Test Level 4)
Output	asymmetrical 2 kV (Test Level 3)
Comments	Criterion A
Surge voltage load (surge)	EN 61000-4-5
Input	symmetrical 2 kV (Test Level 4)
	asymmetrical 4 kV (Test Level 4)
Output	symmetrical 1 kV (Test Level 3)
	asymmetrical 2 kV (Test Level 3)
Comments	Criterion A
Conducted interference	EN 61000-4-6
Frequency range	0.15 MHz ... 80 MHz

Power supply unit - STEP3-PS/1AC/24DC/1.3/PT - 1088494

Technical data

EMC data

Voltage	10 V (Test Level 3)
Comments	Criterion A
Voltage dips	EN 61000-4-11
Voltage	230 V AC
Frequency	50 Hz
Voltage dip	70 %
Number of periods	25 periods
Additional text	Class 3
Comments	Criterion A
Voltage dip	40 %
Number of periods	10 periods
Additional text	Class 3
Comments	Criterion A
Voltage dip	0 %
Number of periods	1 period
Additional text	Class 3
Comments	Criterion A
Criterion A	Normal operating behavior within the specified limits.
Criterion B	Temporary impairment to operational behavior that is corrected by the device itself.
Criterion C	Temporary adverse effects on the operating behavior, which the device corrects automatically or which can be restored by actuating the operating elements.

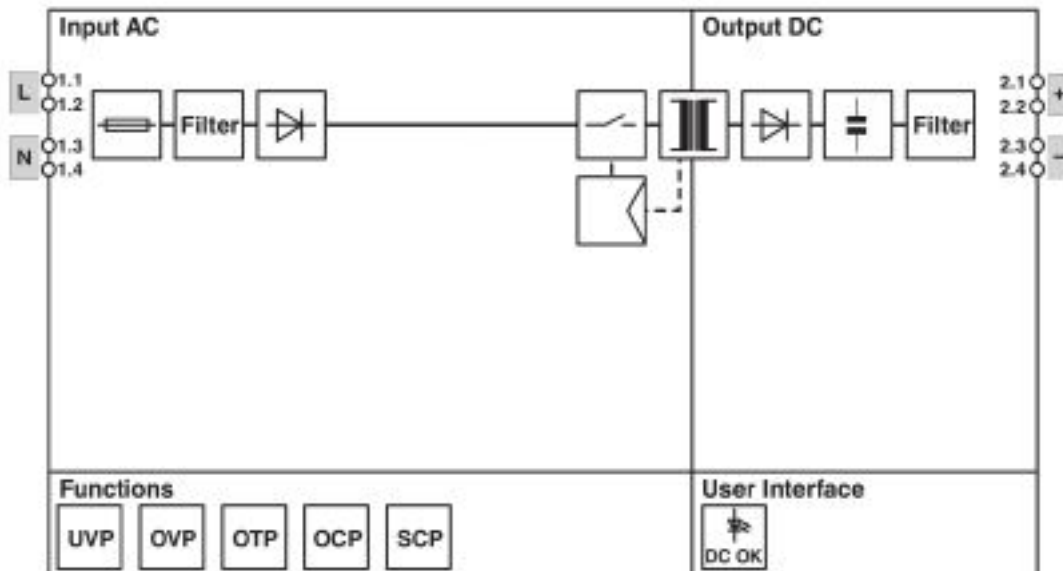
Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
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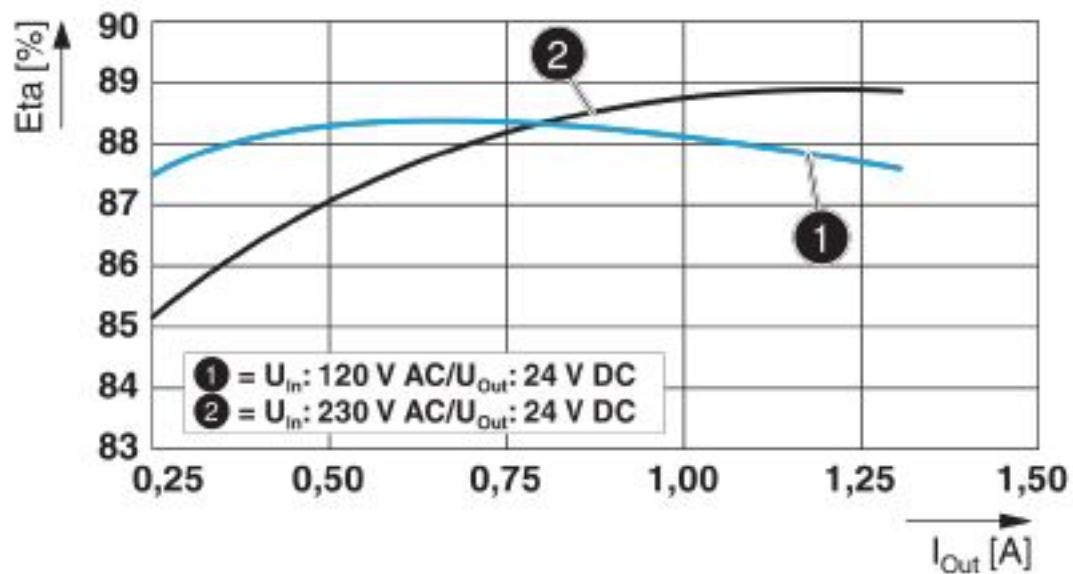
Drawings

Power supply unit - STEP3-PS/1AC/24DC/1.3/PT - 1088494

Block diagram

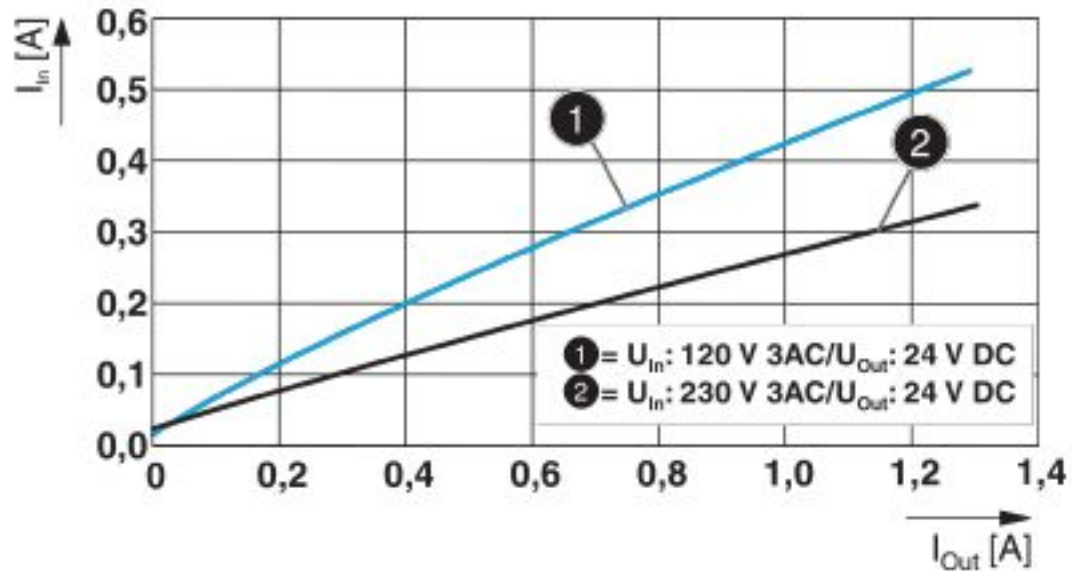


Diagram

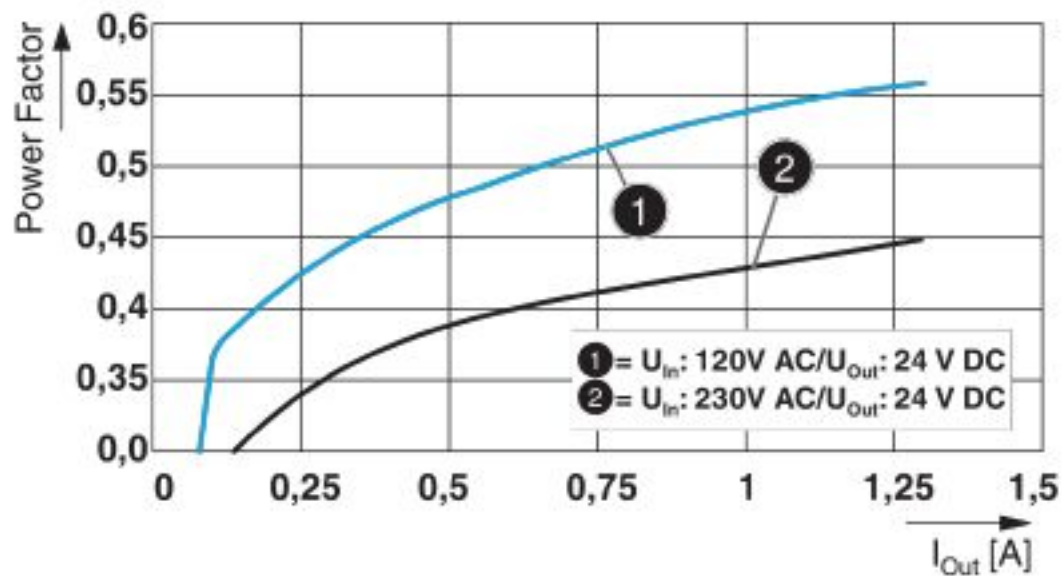


Power supply unit - STEP3-PS/1AC/24DC/1.3/PT - 1088494

Diagram

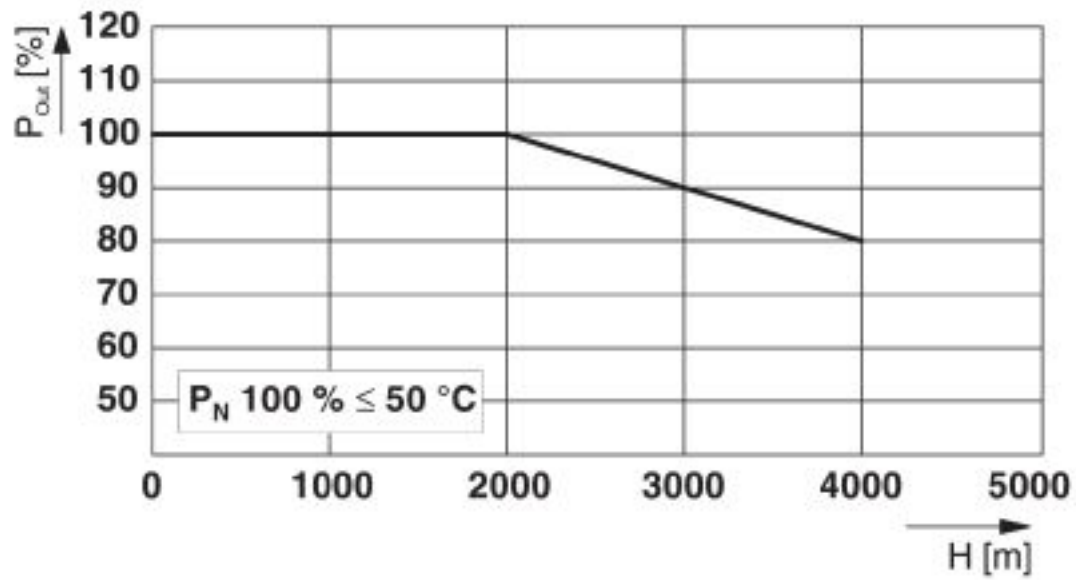


Diagram



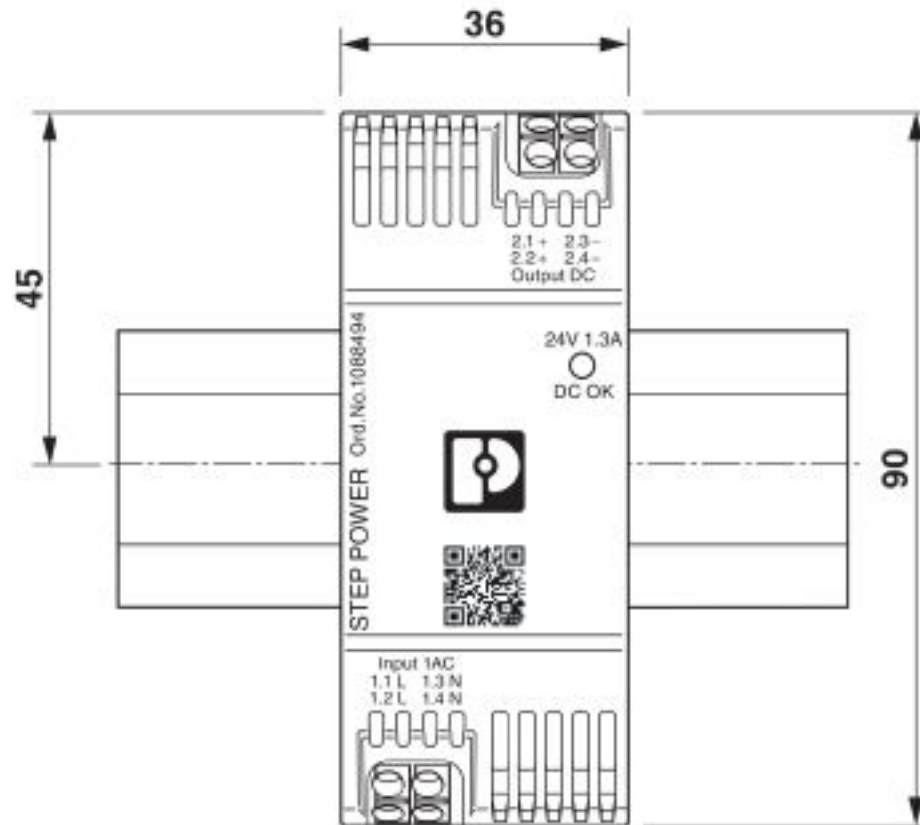
Power supply unit - STEP3-PS/1AC/24DC/1.3/PT - 1088494

Diagram



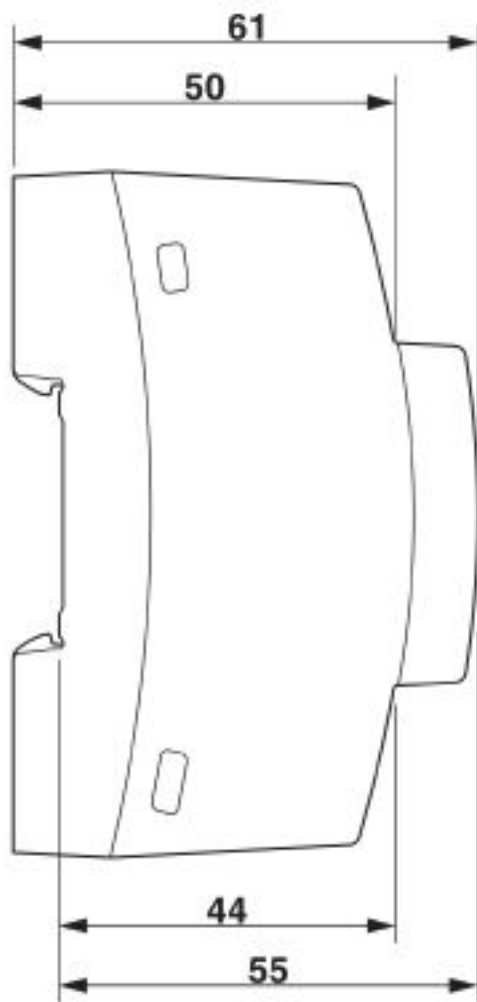
Power supply unit - STEP3-PS/1AC/24DC/1.3/PT - 1088494

Dimensional drawing



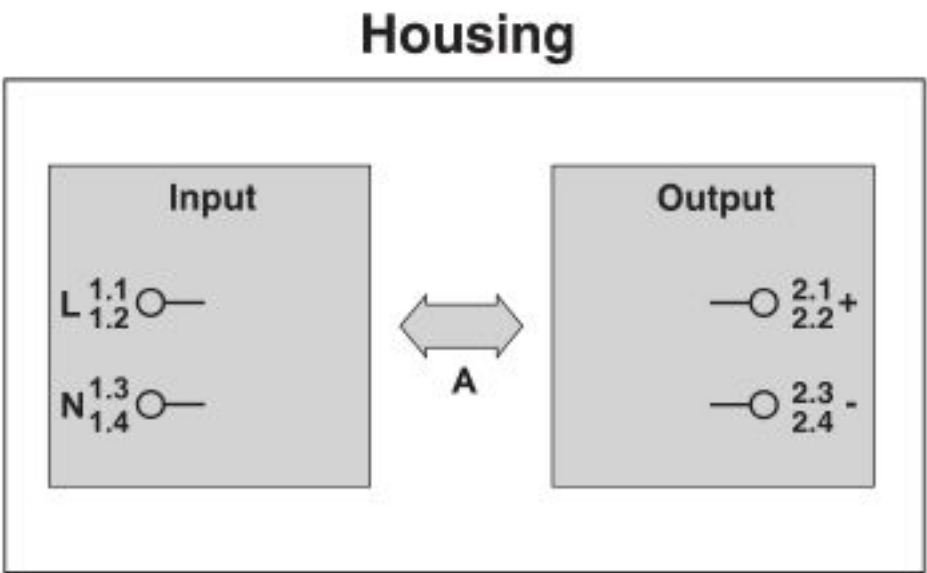
Power supply unit - STEP3-PS/1AC/24DC/1.3/PT - 1088494

Dimensional drawing



Power supply unit - STEP3-PS/1AC/24DC/1.3/PT - 1088494

Schematic diagram



Classifications

eCl@ss

eCl@ss 10.0.1	27040701
eCl@ss 9.0	27040701

Approvals

Approvals

Approvals

cULus Listed

Ex Approvals

cULus Listed

Approval details

Power supply unit - STEP3-PS/1AC/24DC/1.3/PT - 1088494

Approvals

cULus Listed



<http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm>

FILE E 123528

Power supply unit - STEP3-PS/1AC/24DC/2.5/PT - 1088491

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Primary-switched power supply unit, STEP POWER, Push-in technology, DIN rail mounting, input: 1-phase, output: 24 V DC / 2.5 A

Product Description

STEP POWER power supplies for distribution boards

The STEP POWER power supply range was developed especially for building automation. The low idling losses and high degree of efficiency ensure maximum energy efficiency. They allow flexible use and can be snapped onto the DIN rail or screwed onto an even surface.



Key Commercial Data

Packing unit	1 pc
GTIN	 4 055626 890227
GTIN	4055626890227
Custom tariff number	85044030
Country of origin	Vietnam

Technical data

Dimensions

Width	54 mm
Height	90 mm
Depth	55 mm
Horizontal pitch	3 Div. (DIN 43880)
Installation distance top/bottom	30 mm / 30 mm
Ambient temperature (operation)	-10 °C ... 70 °C (Derating: > 50 °C; 2 %/K)
Ambient temperature (start-up type tested)	-25 °C
Ambient temperature (storage/transport)	-40 °C ... 85 °C

Power supply unit - STEP3-PS/1AC/24DC/2.5/PT - 1088491

Technical data

Max. permissible relative humidity (operation)	≤ 95 % (at 25 °C, non-condensing)
Maximum altitude	≤ 4000 m (> 2000 m, Derating: 10 %/1000 m)
Vibration (operation)	< 15 Hz, amplitude ±2.5 mm (according to IEC 60068-2-6)
	15 Hz ... 150 Hz, 2.3g, 90 min.
Shock	18 ms, 30g, in each space direction (according to IEC 60068-2-27)
Degree of pollution	2
Climatic class	3K3 (EN 60721)
Overvoltage category (EN 61010-1)	II (≤ 4000 m)
Overvoltage category (EN 62477-1)	III (≤ 2000 m)

Input data

Input voltage range	100 V AC ... 240 V AC -15 % ... +10 %
	110 V DC ... 250 V DC -20 % ... +40 %
Derating	< 100 V AC ... 85 V AC (1 %/V)
	< 110 V DC ... 88 V DC (1 %/V)
Frequency range (f _N)	50 Hz ... 60 Hz ±10 %
Typical national grid voltage	120 V AC
	230 V AC
Voltage type of supply voltage	AC/DC
Network type	Star network
Current consumption	1.2 A (100 V AC)
	0.64 A (240 V AC)
	0.61 A (110 V DC)
	0.26 A (250 V DC)
Discharge current to PE	< 0.25 mA
Mains buffering time	typ. 25 ms (120 V AC)
	typ. 130 ms (230 V AC)
Switch-on time	typ. 2 s
Inrush current	typ. 28 A
Inrush current integral (I ² t)	typ. 0.9 A ² s
Type of protection	Transient surge protection
Protective circuit/component	Varistor
Device mains fuse	4 A internal (device protection), slow-blow
Recommended breaker for input protection	6 A ... 16 A (Characteristics B, C, D, K)

Output data

Nominal output voltage	24 V DC
Setting range of the output voltage (U _{Set})	22 V DC ... 27 V DC (> 24 V DC, constant capacity restricted)
Nominal output current (I _N)	2.5 A

Power supply unit - STEP3-PS/1AC/24DC/2.5/PT - 1088491

Technical data

Output data

Control deviation	< 0.5 % (Static load change 10 % ... 90 %)
	< 3 % (Dynamic load change 10 % ... 90 %, (10 Hz))
	< 0.1 % (change in input voltage ± 10 %)
Short-circuit-proof	yes
No-load proof	yes
Residual ripple	typ. 100 mV _{pp}
Connection in parallel	yes, for increasing power and redundancy with diode
Connection in series	yes, for increased efficiency
Feedback voltage resistance	≤ 35 V DC
Protection against overvoltage at the output (OVP)	< 35 V DC
Rise time	typ. 100 ms ($U_{Out} = 10$ % ... 90 %)
Derating	> 50 °C ... 70 °C (2 % / K)
Crest factor	typ. 3,4
	typ. 4.08
Output power	60 W
Minimum no-load power dissipation	< 0.21 W (120 V AC)
Maximum power dissipation in no-load condition	< 0.21 W (230 V AC)
Minimum nominal load power dissipation	< 6.8 W (120 V AC)
Power loss nominal load max.	< 6.2 W (230 V AC)

General

Net weight	200 g
Efficiency	> 89 % (120 V AC)
	> 90 % (230 V AC)
MTBF (IEC 61709, SN 29500)	> 3440000 h (25 °C)
	> 2000000 h (40 °C)
	> 1370000 h (50 °C)
Insulation voltage input/output	4 kV AC (type test)
	3.75 kV AC (routine test)
Degree of protection	IP20
Protection class	II (in closed control cabinet)
Efficiency Level	VI
Housing material	Polycarbonate
Foot latch material	Polyamid
Mounting position	horizontal DIN rail NS 35, EN 60715
Assembly instructions	alignable: 0 mm horizontally, 30 mm vertically

Input connection data

Power supply unit - STEP3-PS/1AC/24DC/2.5/PT - 1088491

Technical data

Input connection data

Connection method	Push-in technology
Stripping length	10 mm
Conductor cross section solid	0.2 mm ² ... 2.5 mm ²
Conductor cross section flexible	0.2 mm ² ... 2.5 mm ²
Flexible conductor cross section (ferrule with plastic sleeve)	0.2 mm ² ... 1 mm ²
Flexible conductor cross section flexible (ferrule, w/o plastic sleeve)	0.5 mm ² ... 2.5 mm ²
Conductor cross section AWG	24 ... 14 (Cu)

Output connection data

Connection method	Push-in technology
Stripping length	10 mm
Conductor cross section solid	0.2 mm ² ... 2.5 mm ²
Conductor cross section flexible	0.2 mm ² ... 2.5 mm ²
Flexible conductor cross section (ferrule with plastic sleeve)	0.2 mm ² ... 1 mm ²
Flexible conductor cross section flexible (ferrule, w/o plastic sleeve)	0.5 mm ² ... 2.5 mm ²
Conductor cross section AWG	24 ... 14 (Cu)

LED signaling

Types of signaling	LED
U _{Out}	> 0,9 x U _N (U _N = 24 V DC) (LED lights up green)
	< 0,9 x U _N (U _N = 24 V DC) (LED off)

Standards

Standard designation	Electrical safety
Standards/regulations	IEC 61010-1 (SELV)
Standard designation	Safety extra-low voltage
Standards/regulations	IEC 61010-1 (SELV)
	IEC 61010-2-201 (PELV)
Standard designation	Safe isolation
Standards/regulations	IEC 61558-2-16
Standard designation	Low-voltage power supplies, DC output
Standards/regulations	EN 61204-3
Standard designation	Safety requirements for electrical equipment for measurement, control, and laboratory use
Standards/regulations	IEC 61010-1
Standard designation	Safety of electrical devices for household use and similar purposes
Standards/regulations	DIN EN 60335-1

Conformance/approvals

Designation	UL
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Power supply unit - STEP3-PS/1AC/24DC/2.5/PT - 1088491

Technical data

Conformance/approvals

Identification	UL 1310 Class 2 Power Units
Designation	UL
Identification	UL/C-UL Listed UL 61010-1
Designation	UL
Identification	UL/C-UL Listed UL 61010-2-201
Designation	UL
Identification	UL/C-UL Listed ANSI/UL 121201 Class I, Division 2, Groups A, B, C, D (Hazardous Location)

EMC data

Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Low Voltage Directive	Conformance with Low Voltage Directive 2014/35/EC
Conducted noise emission	EN 55016
	EN 61000-6-3 (Class B)
Noise emission	EN 55016
	EN 61000-6-3 (Class B)
Harmonic currents	EN 61000-3-2
	EN 61000-3-2 (Class A)
Flicker	EN 61000-3-3
Electrostatic discharge	EN 61000-4-2
Contact discharge	6 kV (Test Level 3)
Discharge in air	8 kV (Test Level 3)
Electromagnetic HF field	EN 61000-4-3
Frequency range	80 MHz ... 1 GHz
Test field strength	10 V/m (Test Level 3)
Frequency range	1 GHz ... 6 GHz
Test field strength	10 V/m (Test Level 3)
Comments	Criterion A
Fast transients (burst)	EN 61000-4-4
Input	asymmetrical 4 kV (Test Level 4)
Output	asymmetrical 2 kV (Test Level 3)
Comments	Criterion A
Surge voltage load (surge)	EN 61000-4-5
Input	symmetrical 2 kV (Test Level 4)
	asymmetrical 4 kV (Test Level 4)
Output	symmetrical 1 kV (Test Level 3)
	asymmetrical 2 kV (Test Level 3)
Comments	Criterion B

Power supply unit - STEP3-PS/1AC/24DC/2.5/PT - 1088491

Technical data

EMC data

Conducted interference	EN 61000-4-6
Frequency range	0.15 MHz ... 80 MHz
Voltage	10 V (Test Level 3)
Comments	Criterion A
Voltage dips	EN 61000-4-11
Voltage	230 V AC
Frequency	50 Hz
Voltage dip	70 %
Number of periods	25 periods
Additional text	Class 3
Comments	Criterion A
Voltage dip	40 %
Number of periods	10 periods
Additional text	Class 3
Comments	Criterion A
Voltage dip	0 %
Number of periods	1 period
Additional text	Class 3
Comments	Criterion A
Criterion A	Normal operating behavior within the specified limits.
Criterion B	Temporary impairment to operational behavior that is corrected by the device itself.
Criterion C	Temporary adverse effects on the operating behavior, which the device corrects automatically or which can be restored by actuating the operating elements.

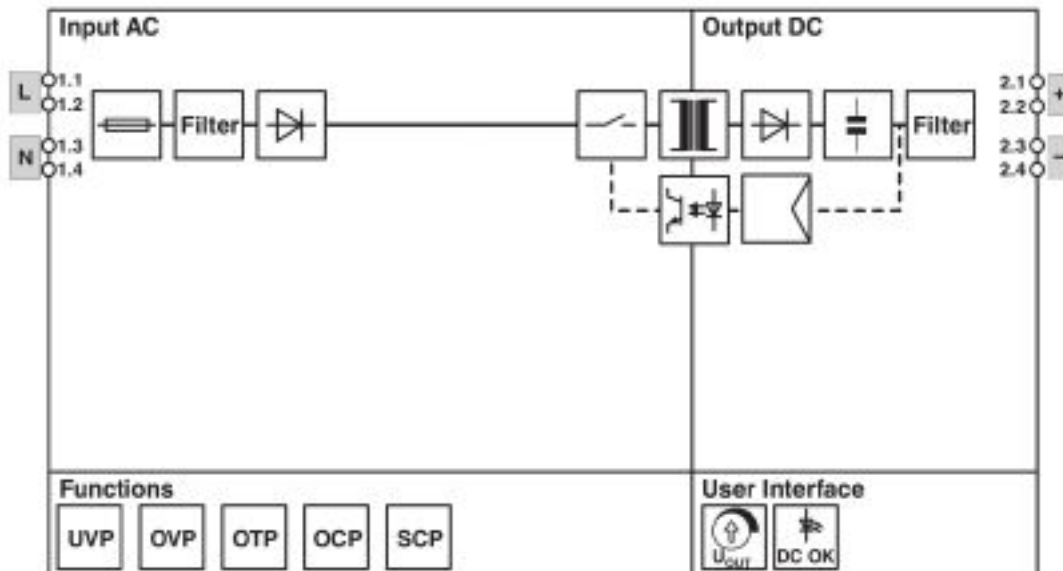
Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
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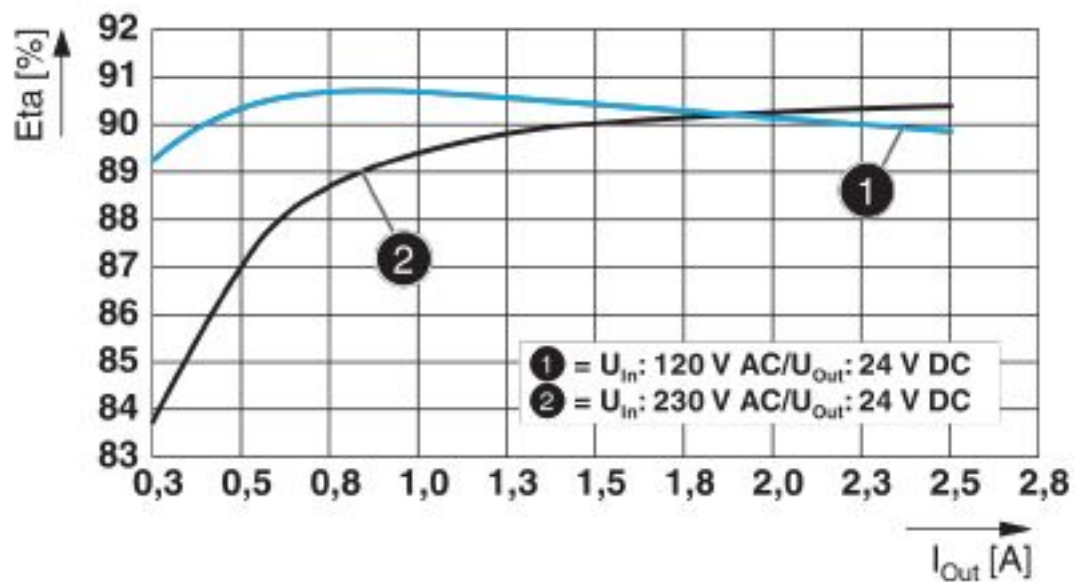
Drawings

Power supply unit - STEP3-PS/1AC/24DC/2.5/PT - 1088491

Block diagram

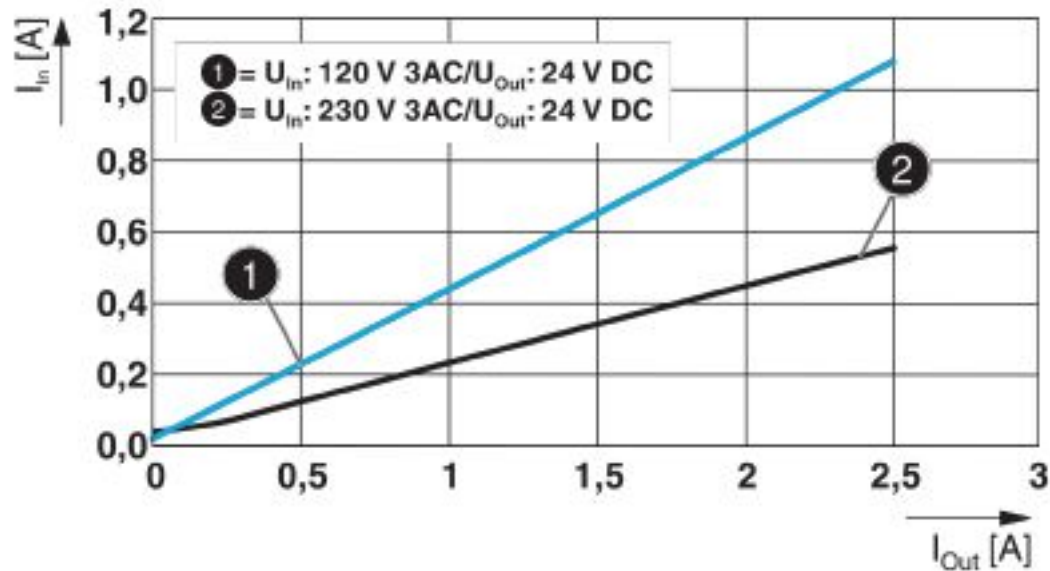


Diagram

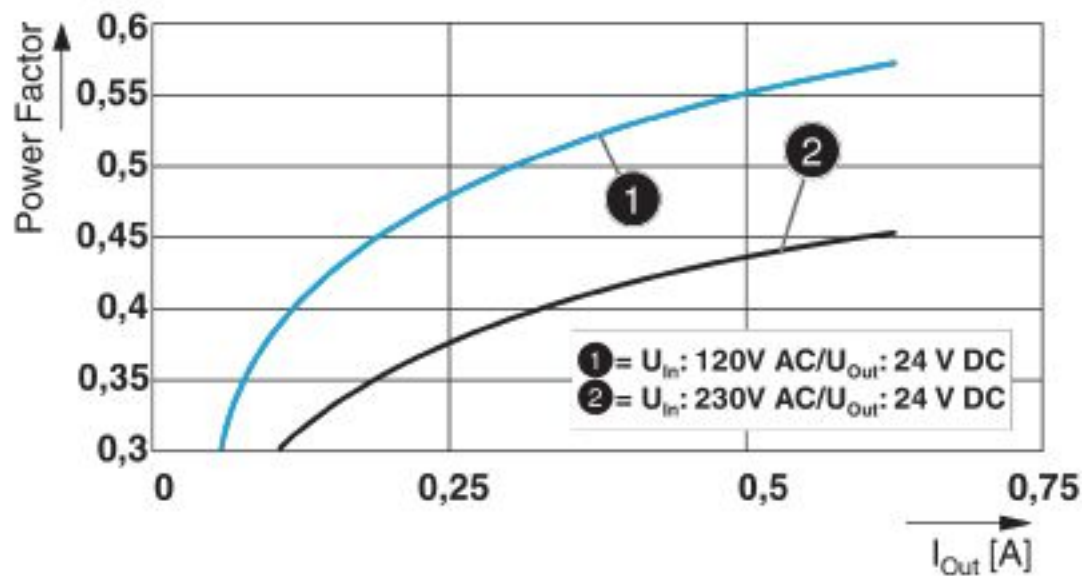


Power supply unit - STEP3-PS/1AC/24DC/2.5/PT - 1088491

Diagram

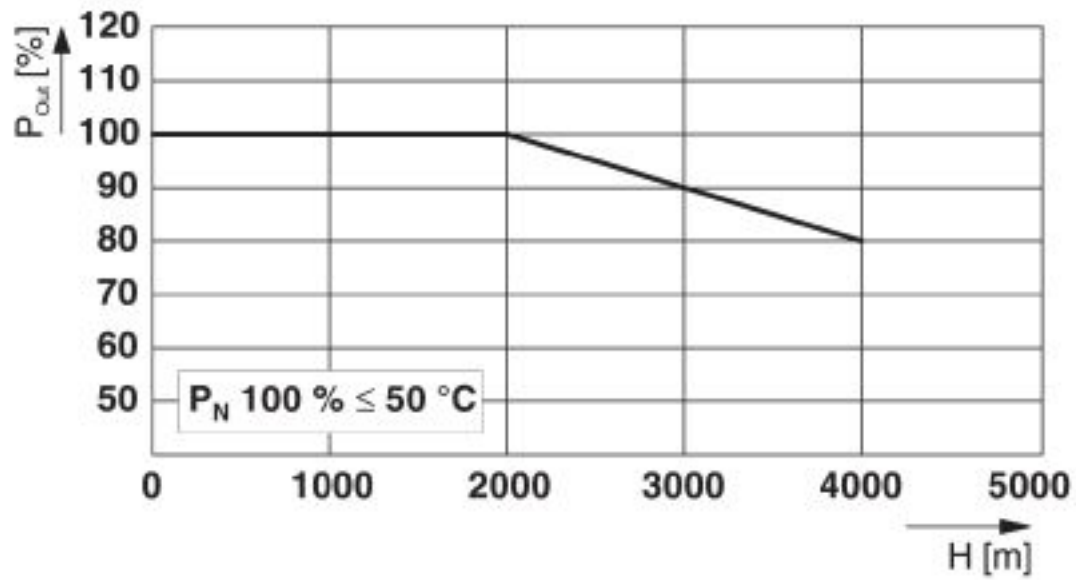


Diagram



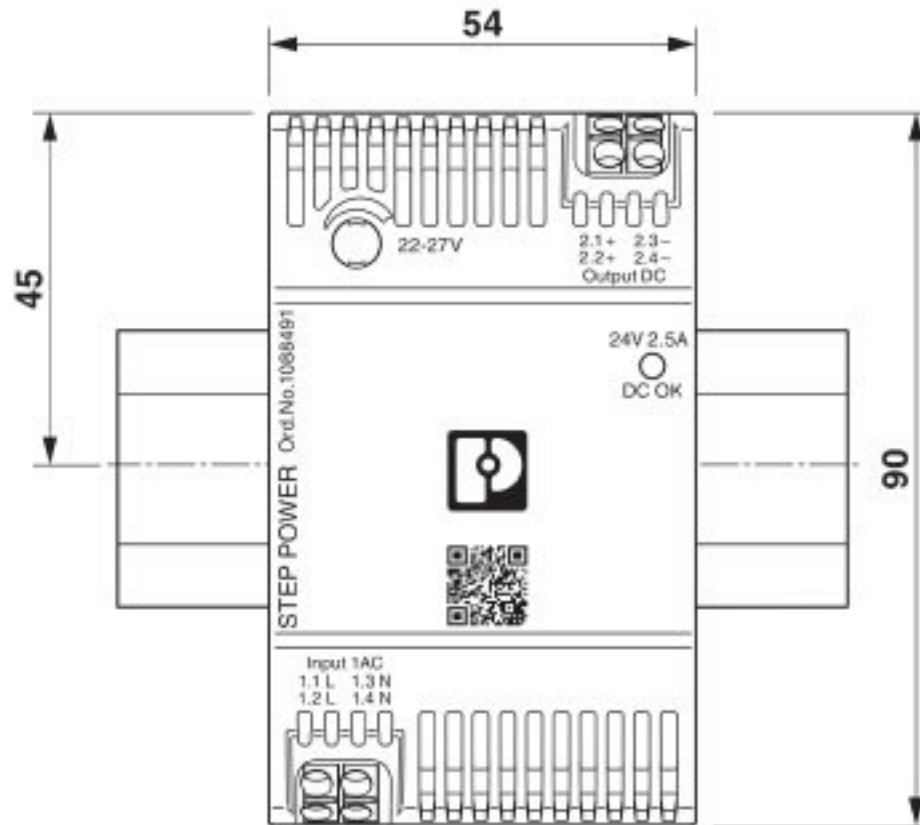
Power supply unit - STEP3-PS/1AC/24DC/2.5/PT - 1088491

Diagram



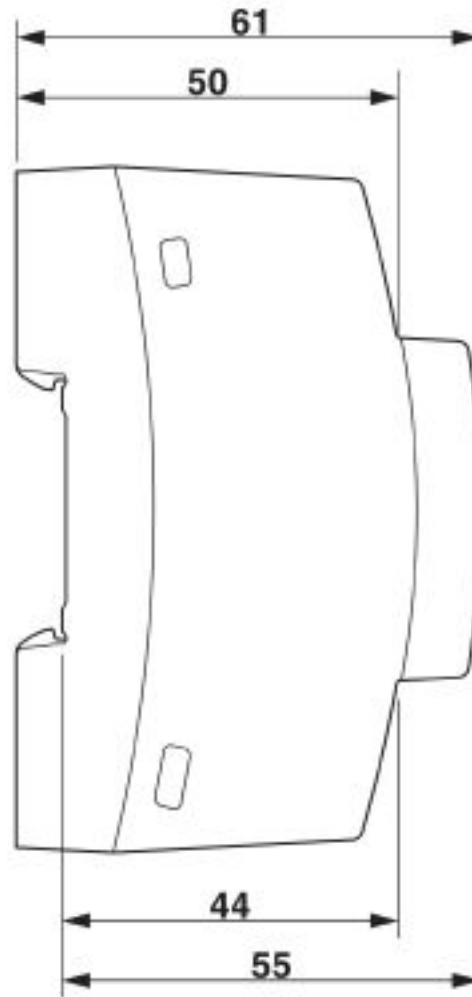
Power supply unit - STEP3-PS/1AC/24DC/2.5/PT - 1088491

Dimensional drawing



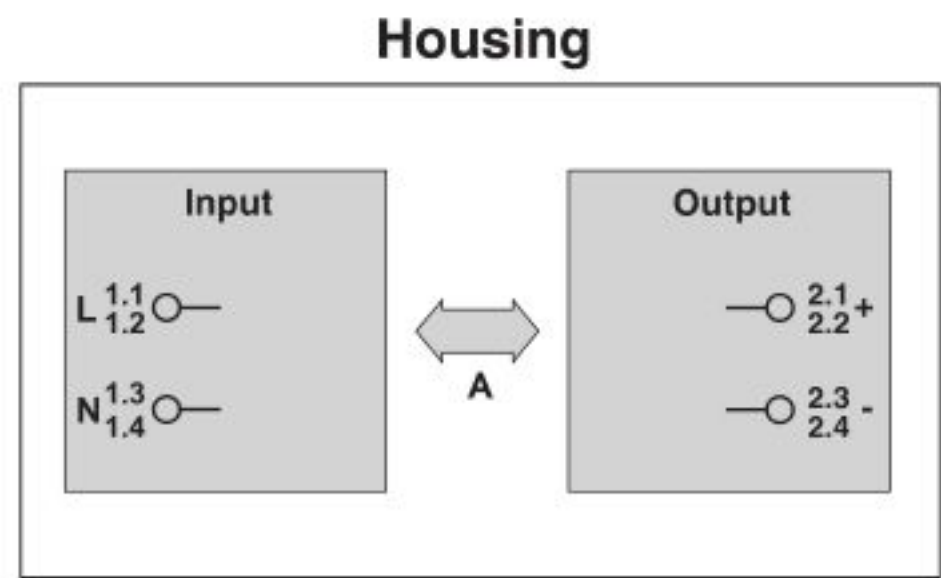
Power supply unit - STEP3-PS/1AC/24DC/2.5/PT - 1088491

Dimensional drawing



Power supply unit - STEP3-PS/1AC/24DC/2.5/PT - 1088491

Schematic diagram



Classifications

eCl@ss

eCl@ss 10.0.1	27040701
eCl@ss 9.0	27040701

Approvals

Approvals

Approvals

cULus Listed

Ex Approvals

cULus Listed

Approval details

Power supply unit - STEP3-PS/1AC/24DC/2.5/PT - 1088491

Approvals

cULus Listed



<http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm>

FILE E 123528

Power supply unit - STEP3-PS/1AC/24DC/4/PT - 1140066

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Primary-switched power supply unit, STEP POWER, Push-in technology, DIN rail mounting, input: 1-phase, output: 24 V DC / 4 A

Product Description

STEP POWER power supplies for distribution boards

The STEP POWER power supply range was developed especially for building automation. The low idling losses and high degree of efficiency ensure maximum energy efficiency. They allow flexible use and can be snapped onto the DIN rail or screwed onto an even surface.



Key Commercial Data

Packing unit	1 pc
GTIN	 4 063151 089115
GTIN	4063151089115
Weight per Piece (excluding packing)	300.000 g
Custom tariff number	85044030
Country of origin	Vietnam

Technical data

Dimensions

Width	72 mm
Height	90 mm
Depth	55 mm
Horizontal pitch	4 Div. (DIN 43880)
Installation distance top/bottom	30 mm / 30 mm
Ambient temperature (operation)	-10 °C ... 70 °C (Derating: > 50 °C; 2 %/K)
Ambient temperature (start-up type tested)	-25 °C

Power supply unit - STEP3-PS/1AC/24DC/4/PT - 1140066

Technical data

Ambient temperature (storage/transport)	-40 °C ... 85 °C
Max. permissible relative humidity (operation)	≤ 95 % (at 25 °C, non-condensing)
Maximum altitude	≤ 4000 m (> 2000 m, Derating: 10 %/1000 m)
Vibration (operation)	< 15 Hz, amplitude ±2.5 mm (according to IEC 60068-2-6)
	15 Hz ... 150 Hz, 2.3g, 90 min.
Shock	18 ms, 30g, in each space direction (according to IEC 60068-2-27)
Degree of pollution	2
Climatic class	3K3 (EN 60721)
Overvoltage category (EN 61010-1)	II (≤ 4000 m)
Overvoltage category (EN 62477-1)	III (≤ 2000 m)

Input data

Input voltage range	100 V AC ... 240 V AC -15 % ... +10 %
	110 V DC ... 250 V DC -10 % ... +40 %
Derating	< 100 V AC ... 85 V AC (1 %/V)
	< 110 V DC ... 88 V DC (1 %/V)
Frequency range (f_N)	50 Hz ... 60 Hz ±10 %
Typical national grid voltage	120 V AC
	230 V AC
Voltage type of supply voltage	AC/DC
Network type	Star network
Current consumption	1.07 A (100 V AC)
	0.47 A (240 V AC)
	0.97 A (110 V DC)
	0.41 A (250 V DC)
Discharge current to PE	< 0.25 mA
Mains buffering time	typ. 20 ms (120 V AC)
	typ. 20 ms (230 V AC)
Switch-on time	typ. 2 s
Inrush current	typ. 37 A
Inrush current integral (I^2t)	typ. 0.4 A ² s
Type of protection	Transient surge protection
Protective circuit/component	Varistor
Device mains fuse	4 A internal (device protection), slow-blow
Recommended breaker for input protection	6 A ... 16 A (Characteristics B, C, D, K)

Output data

Nominal output voltage	24 V DC
Setting range of the output voltage (U_{Set})	22 V DC ... 27 V DC (> 24 V DC, constant capacity restricted)

Power supply unit - STEP3-PS/1AC/24DC/4/PT - 1140066

Technical data

Output data

Nominal output current (I_N)	4 A
Control deviation	< 0.5 % (Static load change 10 % ... 90 %)
	< 3 % (Dynamic load change 10 % ... 90 %, (10 Hz))
	< 0.1 % (change in input voltage ± 10 %)
Short-circuit-proof	yes
No-load proof	yes
Residual ripple	typ. 150 mV _{pp}
Connection in parallel	yes, for increasing power and redundancy with diode
Connection in series	yes, for increased efficiency
Feedback voltage resistance	≤ 35 V DC
Protection against overvoltage at the output (OVP)	< 35 V DC
Rise time	typ. 100 ms ($U_{Out} = 10$ % ... 90 %)
Derating	> 50 °C ... 70 °C (2 % / K)
Crest factor	typ. 1.74
	typ. 2.08
Output power	96 W
Minimum no-load power dissipation	< 0.21 W (120 V AC)
Maximum power dissipation in no-load condition	< 0.21 W (230 V AC)
Minimum nominal load power dissipation	< 7 W (120 V AC)
Power loss nominal load max.	< 5.7 W (230 V AC)

General

Net weight	255 g
Efficiency	> 93 % (120 V AC)
	> 94 % (230 V AC)
MTBF (IEC 61709, SN 29500)	> 1350000 h (25 °C)
	> 750000 h (40 °C)
	> 488000 h (50 °C)
Insulation voltage input/output	4 kV AC (type test)
	3.75 kV AC (routine test)
Degree of protection	IP20
Protection class	II (in closed control cabinet)
Efficiency Level	VI
Housing material	Polycarbonate
Foot latch material	Polyamid
Mounting position	horizontal DIN rail NS 35, EN 60715
Assembly instructions	alignable: 0 mm horizontally, 30 mm vertically

Power supply unit - STEP3-PS/1AC/24DC/4/PT - 1140066

Technical data

Input connection data

Connection method	Push-in technology
Stripping length	10 mm
Conductor cross section solid	0.2 mm ² ... 2.5 mm ²
Conductor cross section flexible	0.2 mm ² ... 2.5 mm ²
Flexible conductor cross section (ferrule with plastic sleeve)	0.2 mm ² ... 1 mm ²
Flexible conductor cross section flexible (ferrule, w/o plastic sleeve)	0.5 mm ² ... 2.5 mm ²
Conductor cross section AWG	24 ... 14 (Cu)

Output connection data

Connection method	Push-in technology
Stripping length	10 mm
Conductor cross section solid	0.2 mm ² ... 2.5 mm ²
Conductor cross section flexible	0.2 mm ² ... 2.5 mm ²
Flexible conductor cross section (ferrule with plastic sleeve)	0.2 mm ² ... 1 mm ²
Flexible conductor cross section flexible (ferrule, w/o plastic sleeve)	0.5 mm ² ... 2.5 mm ²
Conductor cross section AWG	24 ... 14 (Cu)

LED signaling

Types of signaling	LED
U _{Out}	> 0,9 x U _N (U _N = 24 V DC) (LED lights up green)
	< 0,9 x U _N (U _N = 24 V DC) (LED off)

Standards

Standard designation	Electrical safety
Standards/regulations	IEC 61010-1 (SELV)
Standard designation	Safety extra-low voltage
Standards/regulations	IEC 61010-1 (SELV)
	IEC 61010-2-201 (PELV)
Standard designation	Safe isolation
Standards/regulations	IEC 61558-2-16
Standard designation	Low-voltage power supplies, DC output
Standards/regulations	EN 61204-3
Standard designation	Safety requirements for electrical equipment for measurement, control, and laboratory use
Standards/regulations	IEC 61010-1
Standard designation	Safety of electrical devices for household use and similar purposes
Standards/regulations	DIN EN 60335-1

Conformance/approvals

Designation	UL
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Power supply unit - STEP3-PS/1AC/24DC/4/PT - 1140066

Technical data

Conformance/approvals

Identification	UL/C-UL Listed UL 61010-1
Designation	UL
Identification	UL/C-UL Listed UL 61010-2-201
Designation	UL
Identification	UL/C-UL Listed ANSI/UL 121201 Class I, Division 2, Groups A, B, C, D (Hazardous Location)

EMC data

Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Low Voltage Directive	Conformance with Low Voltage Directive 2014/35/EC
Conducted noise emission	EN 55016
	EN 61000-6-3 (Class B)
Noise emission	EN 55016
	EN 61000-6-3 (Class B)
Harmonic currents	EN 61000-3-2
	EN 61000-3-2 (Class A)
Flicker	EN 61000-3-3
Electrostatic discharge	EN 61000-4-2
Contact discharge	6 kV (Test Level 3)
Discharge in air	8 kV (Test Level 3)
Electromagnetic HF field	EN 61000-4-3
Frequency range	80 MHz ... 1 GHz
Test field strength	10 V/m (Test Level 3)
Frequency range	1 GHz ... 6 GHz
Test field strength	10 V/m (Test Level 3)
Comments	Criterion A
Fast transients (burst)	EN 61000-4-4
Input	asymmetrical 4 kV (Test Level 4)
Output	asymmetrical 2 kV (Test Level 3)
Comments	Criterion A
Surge voltage load (surge)	EN 61000-4-5
Input	symmetrical 2 kV (Test Level 4)
	asymmetrical 4 kV (Test Level 4)
Output	symmetrical 1 kV (Test Level 3)
	asymmetrical 2 kV (Test Level 3)
Comments	Criterion A
Conducted interference	EN 61000-4-6
Frequency range	0.15 MHz ... 80 MHz

Power supply unit - STEP3-PS/1AC/24DC/4/PT - 1140066

Technical data

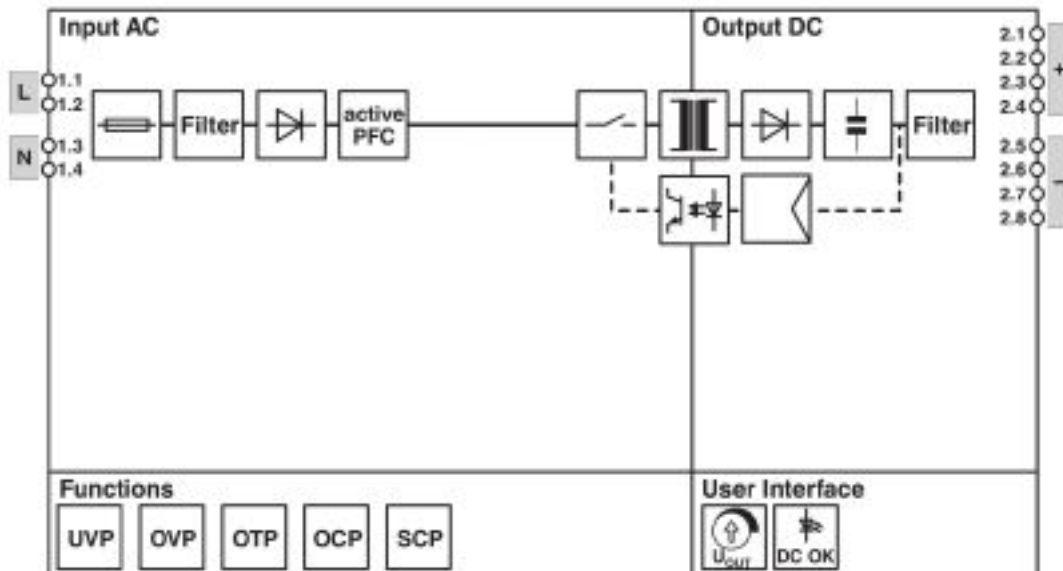
EMC data

Voltage	10 V (Test Level 3)
Comments	Criterion A
Voltage dips	EN 61000-4-11
Voltage	230 V AC
Frequency	50 Hz
Voltage dip	70 %
Number of periods	25 periods
Additional text	Class 3
Comments	Criterion A
Voltage dip	40 %
Number of periods	10 periods
Additional text	Class 3
Comments	Criterion B
Voltage dip	0 %
Number of periods	1 period
Additional text	Class 3
Comments	Criterion A
Criterion A	Normal operating behavior within the specified limits.
Criterion B	Temporary impairment to operational behavior that is corrected by the device itself.
Criterion C	Temporary adverse effects on the operating behavior, which the device corrects automatically or which can be restored by actuating the operating elements.

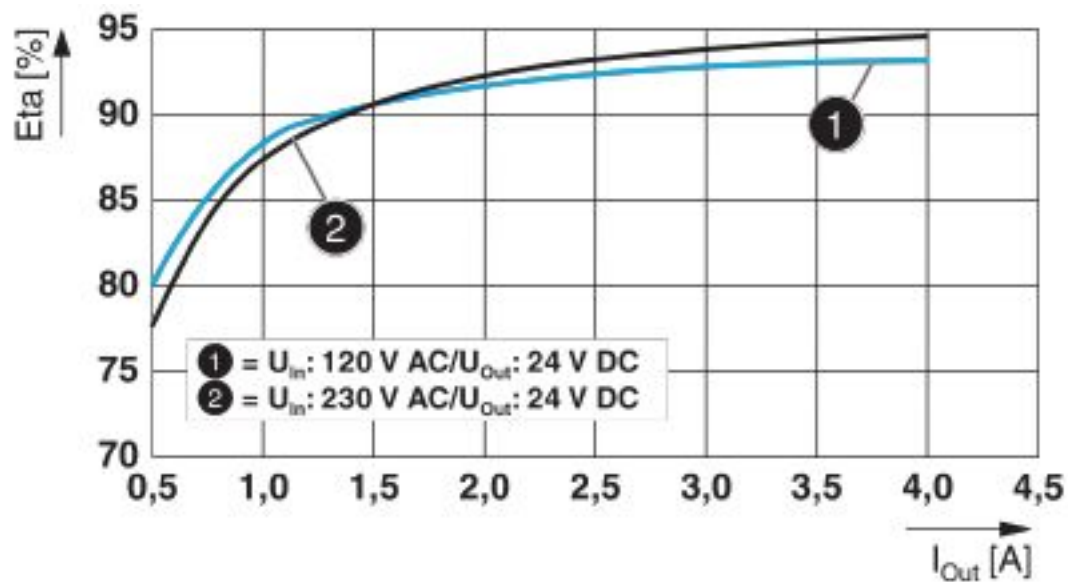
Drawings

Power supply unit - STEP3-PS/1AC/24DC/4/PT - 1140066

Block diagram

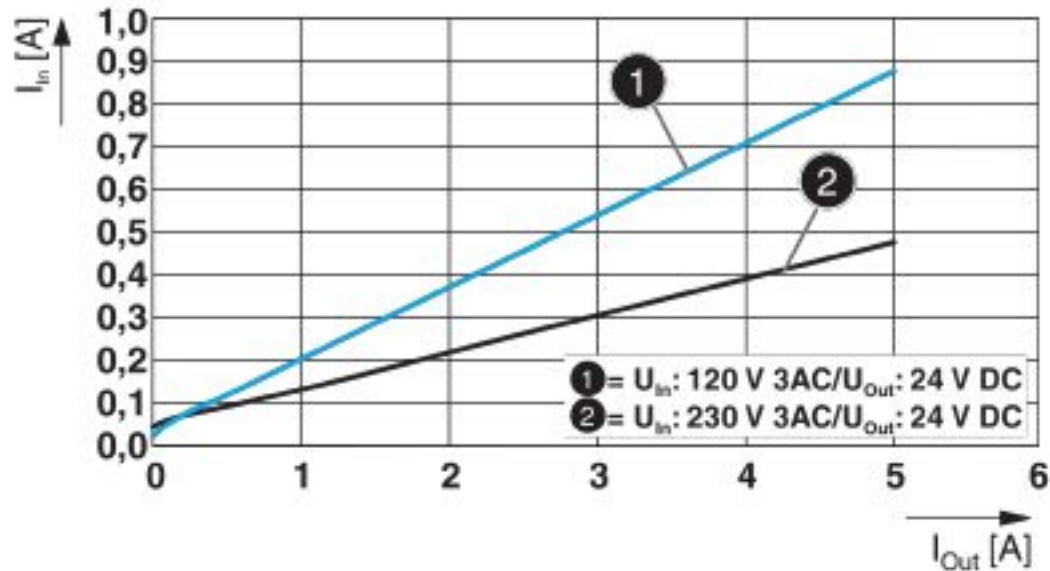


Diagram

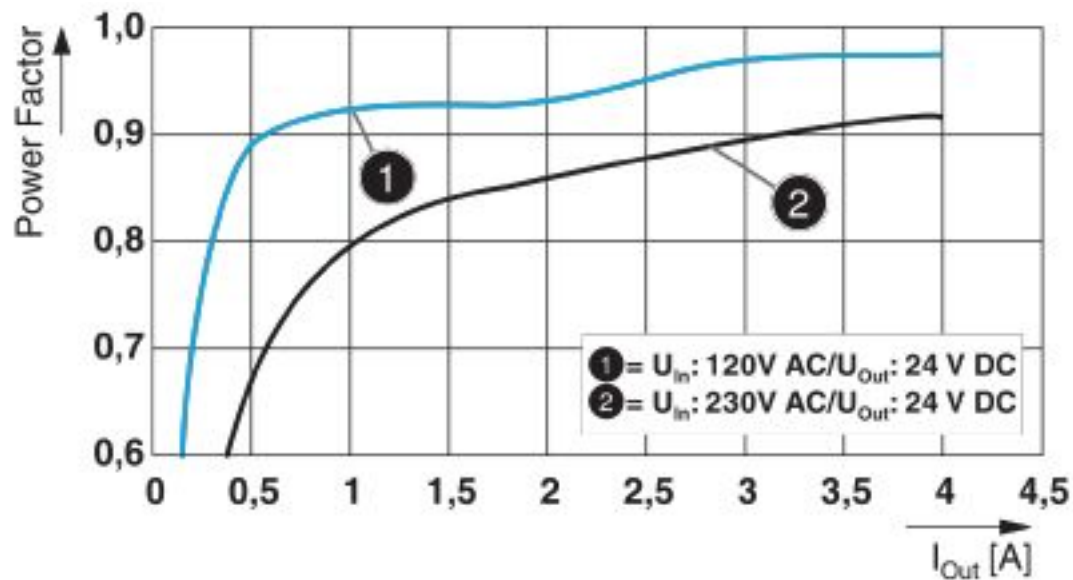


Power supply unit - STEP3-PS/1AC/24DC/4/PT - 1140066

Diagram

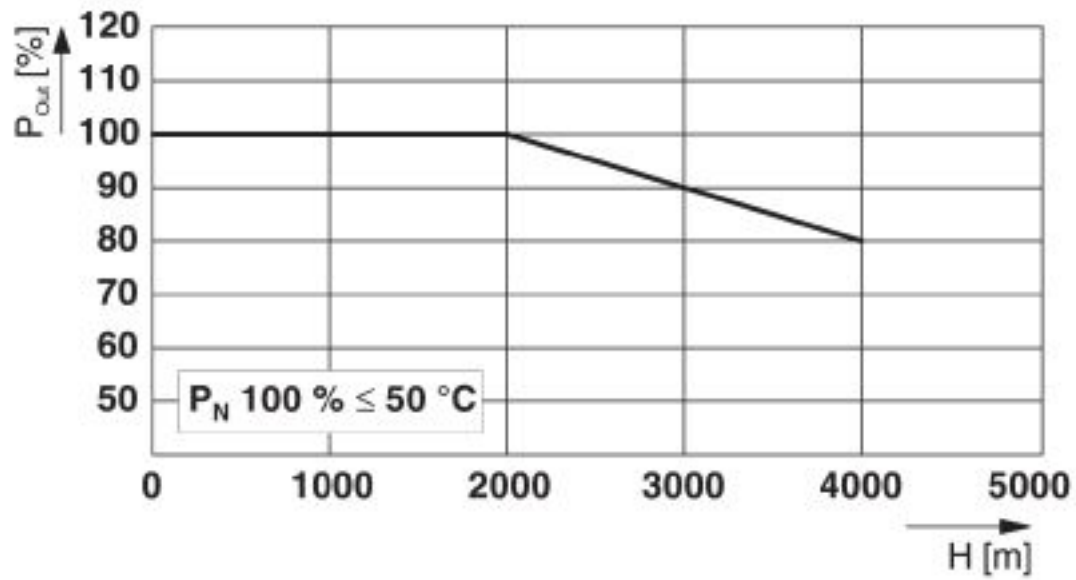


Diagram



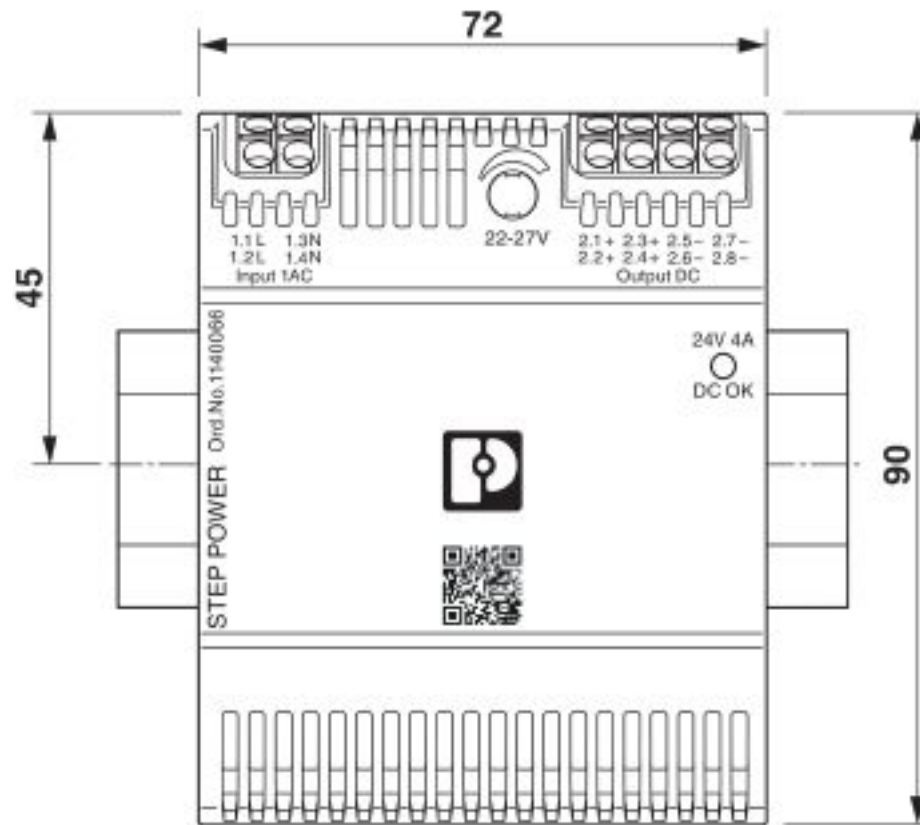
Power supply unit - STEP3-PS/1AC/24DC/4/PT - 1140066

Diagram



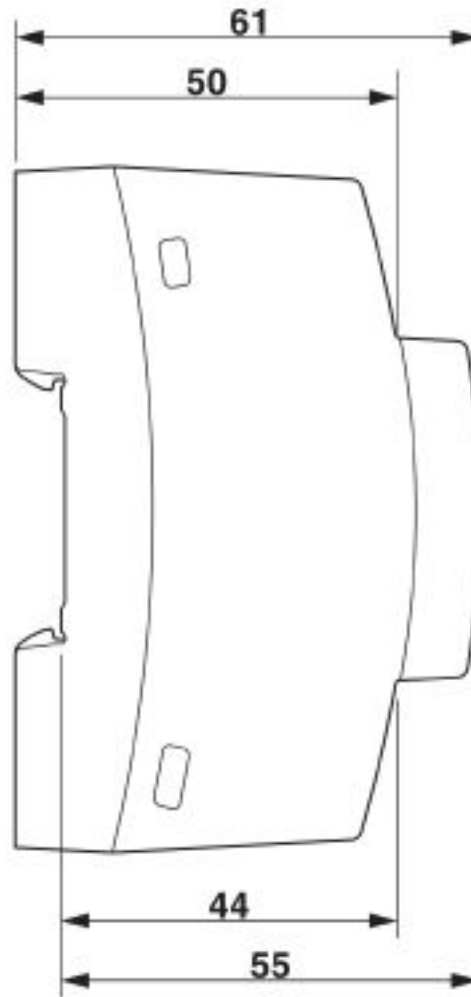
Power supply unit - STEP3-PS/1AC/24DC/4/PT - 1140066

Dimensional drawing



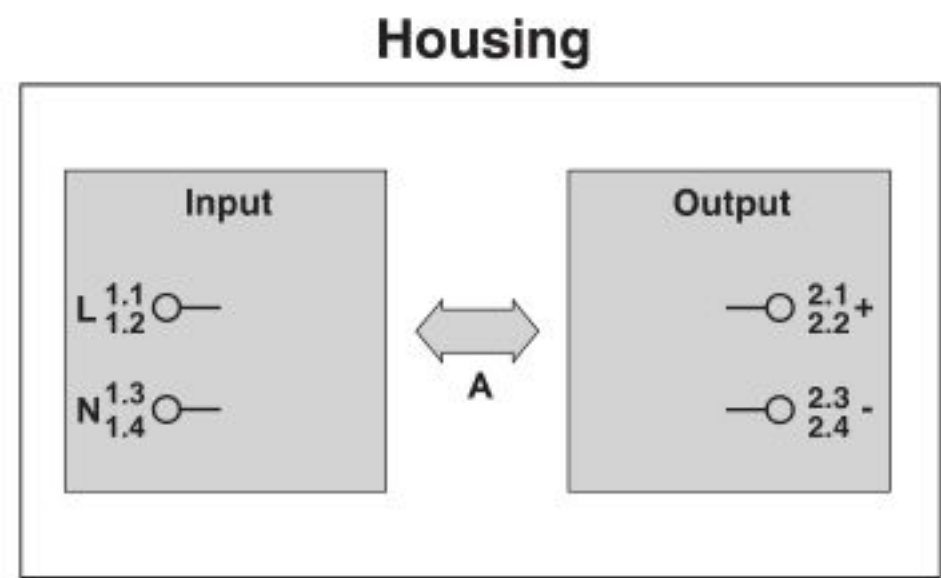
Power supply unit - STEP3-PS/1AC/24DC/4/PT - 1140066

Dimensional drawing



Power supply unit - STEP3-PS/1AC/24DC/4/PT - 1140066

Schematic diagram



Classifications

eCl@ss

eCl@ss 10.0.1	27040701
eCl@ss 9.0	27040701

Approvals

Approvals

Approvals

cULus Listed

Ex Approvals

cULus Listed

Approval details

Power supply unit - STEP3-PS/1AC/24DC/4/PT - 1140066

Approvals

cULus Listed



<http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm>

FILE E 123528

Power supply unit - STEP3-PS/1AC/24DC/5/PT - 1088478

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Primary-switched power supply unit, STEP POWER, Push-in technology, DIN rail mounting, input: 1-phase, output: 24 V DC / 5 A

Product Description

STEP POWER power supplies for distribution boards

The STEP POWER power supply range was developed especially for building automation. The low idling losses and high degree of efficiency ensure maximum energy efficiency. They allow flexible use and can be snapped onto the DIN rail or screwed onto an even surface.



Key Commercial Data

Packing unit	1 pc
GTIN	 4 055626 890203
GTIN	4055626890203
Weight per Piece (excluding packing)	300.000 g
Custom tariff number	85044030
Country of origin	Vietnam

Technical data

Dimensions

Width	72 mm
Height	90 mm
Depth	55 mm
Horizontal pitch	4 Div. (DIN 43880)
Installation distance top/bottom	30 mm / 30 mm
Ambient temperature (operation)	-10 °C ... 70 °C (Derating: > 50 °C; 2 %/K)
Ambient temperature (start-up type tested)	-25 °C

Power supply unit - STEP3-PS/1AC/24DC/5/PT - 1088478

Technical data

Ambient temperature (storage/transport)	-40 °C ... 85 °C
Max. permissible relative humidity (operation)	≤ 95 % (at 25 °C, non-condensing)
Maximum altitude	≤ 4000 m (> 2000 m, Derating: 10 %/1000 m)
Vibration (operation)	< 15 Hz, amplitude ±2.5 mm (according to IEC 60068-2-6)
	15 Hz ... 150 Hz, 2.3g, 90 min.
Shock	18 ms, 30g, in each space direction (according to IEC 60068-2-27)
Degree of pollution	2
Climatic class	3K3 (EN 60721)
Overvoltage category (EN 61010-1)	II (≤ 4000 m)
Overvoltage category (EN 62477-1)	III (≤ 2000 m)

Input data

Input voltage range	100 V AC ... 240 V AC -15 % ... +10 %
	110 V DC ... 250 V DC -10 % ... +40 %
Derating	< 115 V AC ... 85 V AC (1 %/V)
	< 115 V DC ... 99 V DC (1 %/V)
Frequency range (f_N)	50 Hz ... 60 Hz ±10 %
Typical national grid voltage	120 V AC
	230 V AC
Voltage type of supply voltage	AC/DC
Network type	Star network
Current consumption	1.32 A (100 V AC)
	0.57 A (240 V AC)
	1.29 A (110 V DC)
	0.51 A (250 V DC)
Discharge current to PE	< 0.25 mA
Mains buffering time	typ. 20 ms (120 V AC)
	typ. 20 ms (230 V AC)
Switch-on time	typ. 2 s
Inrush current	typ. 37 A
Inrush current integral (I^2t)	typ. 0.4 A ² s
Type of protection	Transient surge protection
Protective circuit/component	Varistor
Device mains fuse	4 A internal (device protection), slow-blow
Recommended breaker for input protection	6 A ... 16 A (Characteristics B, C, D, K)

Output data

Nominal output voltage	24 V DC
Setting range of the output voltage (U_{Set})	22 V DC ... 27 V DC (> 24 V DC, constant capacity restricted)

Power supply unit - STEP3-PS/1AC/24DC/5/PT - 1088478

Technical data

Output data

Nominal output current (I_N)	5 A
Control deviation	< 0.5 % (Static load change 10 % ... 90 %)
	< 3 % (Dynamic load change 10 % ... 90 %, (10 Hz))
	< 0.1 % (change in input voltage ± 10 %)
Short-circuit-proof	yes
No-load proof	yes
Residual ripple	typ. 150 mV _{pp}
Connection in parallel	yes, for increasing power and redundancy with diode
Connection in series	yes, for increased efficiency
Feedback voltage resistance	≤ 35 V DC
Protection against overvoltage at the output (OVP)	< 35 V DC
Rise time	typ. 100 ms ($U_{Out} = 10$ % ... 90 %)
Derating	> 50 °C ... 70 °C (2 % / K)
Crest factor	typ. 1.74
	typ. 2.08
Output power	120 W
Minimum no-load power dissipation	< 0.21 W (120 V AC)
Maximum power dissipation in no-load condition	< 0.21 W (230 V AC)
Minimum nominal load power dissipation	< 8.8 W (120 V AC)
Power loss nominal load max.	< 6.8 W (230 V AC)

General

Net weight	255 g
Efficiency	> 93 % (120 V AC)
	> 94.5 % (230 V AC)
MTBF (IEC 61709, SN 29500)	> 1350000 h (25 °C)
	> 750000 h (40 °C)
	> 488000 h (50 °C)
Insulation voltage input/output	4 kV AC (type test)
	3.75 kV AC (routine test)
Degree of protection	IP20
Protection class	II (in closed control cabinet)
Efficiency Level	VI
Housing material	Polycarbonate
Foot latch material	Polyamid
Mounting position	horizontal DIN rail NS 35, EN 60715
Assembly instructions	alignable: 0 mm horizontally, 30 mm vertically

Power supply unit - STEP3-PS/1AC/24DC/5/PT - 1088478

Technical data

Input connection data

Connection method	Push-in technology
Stripping length	10 mm
Conductor cross section solid	0.2 mm ² ... 2.5 mm ²
Conductor cross section flexible	0.2 mm ² ... 2.5 mm ²
Flexible conductor cross section (ferrule with plastic sleeve)	0.2 mm ² ... 1 mm ²
Flexible conductor cross section flexible (ferrule, w/o plastic sleeve)	0.5 mm ² ... 2.5 mm ²
Conductor cross section AWG	24 ... 14 (Cu)

Output connection data

Connection method	Push-in technology
Stripping length	10 mm
Conductor cross section solid	0.2 mm ² ... 2.5 mm ²
Conductor cross section flexible	0.2 mm ² ... 2.5 mm ²
Flexible conductor cross section (ferrule with plastic sleeve)	0.2 mm ² ... 1 mm ²
Flexible conductor cross section flexible (ferrule, w/o plastic sleeve)	0.5 mm ² ... 2.5 mm ²
Conductor cross section AWG	24 ... 14 (Cu)

LED signaling

Types of signaling	LED
U _{Out}	> 0,9 x U _N (U _N = 24 V DC) (LED lights up green)
	< 0,9 x U _N (U _N = 24 V DC) (LED off)

Standards

Standard designation	Electrical safety
Standards/regulations	IEC 61010-1 (SELV)
Standard designation	Safety extra-low voltage
Standards/regulations	IEC 61010-1 (SELV)
	IEC 61010-2-201 (PELV)
Standard designation	Safe isolation
Standards/regulations	IEC 61558-2-16
Standard designation	Low-voltage power supplies, DC output
Standards/regulations	EN 61204-3
Standard designation	Safety requirements for electrical equipment for measurement, control, and laboratory use
Standards/regulations	IEC 61010-1
Standard designation	Safety of electrical devices for household use and similar purposes
Standards/regulations	DIN EN 60335-1

Conformance/approvals

Designation	UL
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Power supply unit - STEP3-PS/1AC/24DC/5/PT - 1088478

Technical data

Conformance/approvals

Identification	UL/C-UL Listed UL 61010-1
Designation	UL
Identification	UL/C-UL Listed UL 61010-2-201
Designation	UL
Identification	UL/C-UL Listed ANSI/UL 121201 Class I, Division 2, Groups A, B, C, D (Hazardous Location)

EMC data

Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Low Voltage Directive	Conformance with Low Voltage Directive 2014/35/EC
Conducted noise emission	EN 55016
	EN 61000-6-3 (Class B)
Noise emission	EN 55016
	EN 61000-6-3 (Class B)
Harmonic currents	EN 61000-3-2
	EN 61000-3-2 (Class A)
Flicker	EN 61000-3-3
Electrostatic discharge	EN 61000-4-2
Contact discharge	6 kV (Test Level 3)
Discharge in air	8 kV (Test Level 3)
Electromagnetic HF field	EN 61000-4-3
Frequency range	80 MHz ... 1 GHz
Test field strength	10 V/m (Test Level 3)
Frequency range	1 GHz ... 6 GHz
Test field strength	10 V/m (Test Level 3)
Comments	Criterion A
Fast transients (burst)	EN 61000-4-4
Input	asymmetrical 4 kV (Test Level 4)
Output	asymmetrical 2 kV (Test Level 3)
Comments	Criterion A
Surge voltage load (surge)	EN 61000-4-5
Input	symmetrical 2 kV (Test Level 4)
	asymmetrical 4 kV (Test Level 4)
Output	symmetrical 1 kV (Test Level 3)
	asymmetrical 2 kV (Test Level 3)
Comments	Criterion A
Conducted interference	EN 61000-4-6
Frequency range	0.15 MHz ... 80 MHz

Power supply unit - STEP3-PS/1AC/24DC/5/PT - 1088478

Technical data

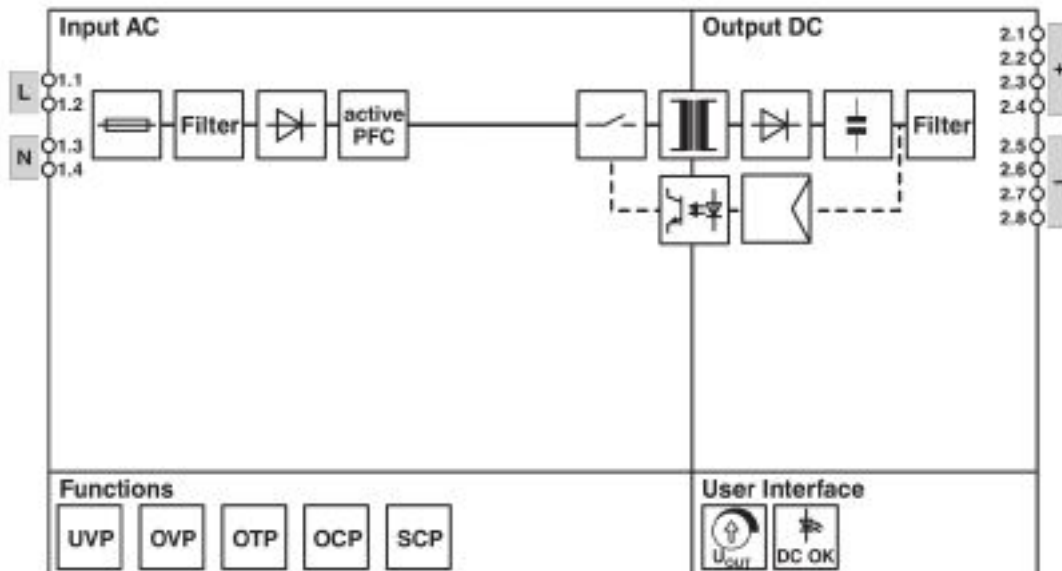
EMC data

Voltage	10 V (Test Level 3)
Comments	Criterion A
Voltage dips	EN 61000-4-11
Voltage	230 V AC
Frequency	50 Hz
Voltage dip	70 %
Number of periods	25 periods
Additional text	Class 3
Comments	Criterion A
Voltage dip	40 %
Number of periods	10 periods
Additional text	Class 3
Comments	Criterion B
Voltage dip	0 %
Number of periods	1 period
Additional text	Class 3
Comments	Criterion A
Criterion A	Normal operating behavior within the specified limits.
Criterion B	Temporary impairment to operational behavior that is corrected by the device itself.
Criterion C	Temporary adverse effects on the operating behavior, which the device corrects automatically or which can be restored by actuating the operating elements.

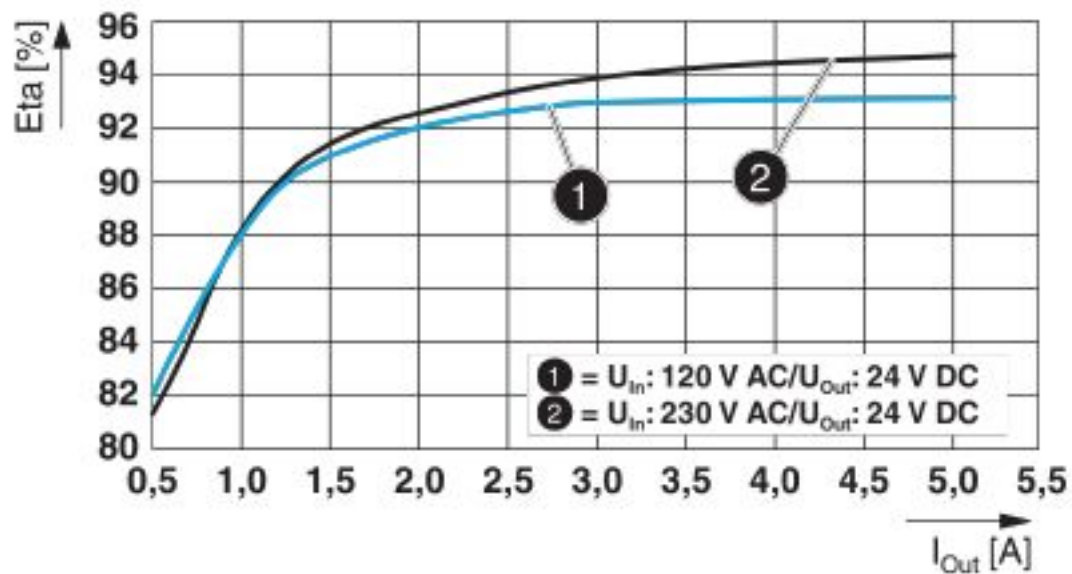
Drawings

Power supply unit - STEP3-PS/1AC/24DC/5/PT - 1088478

Block diagram

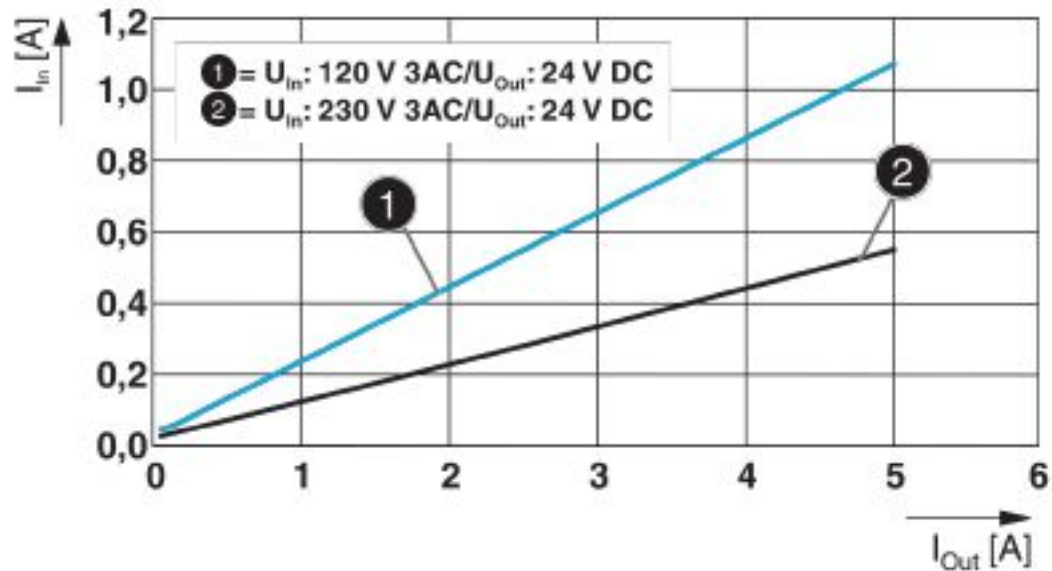


Diagram

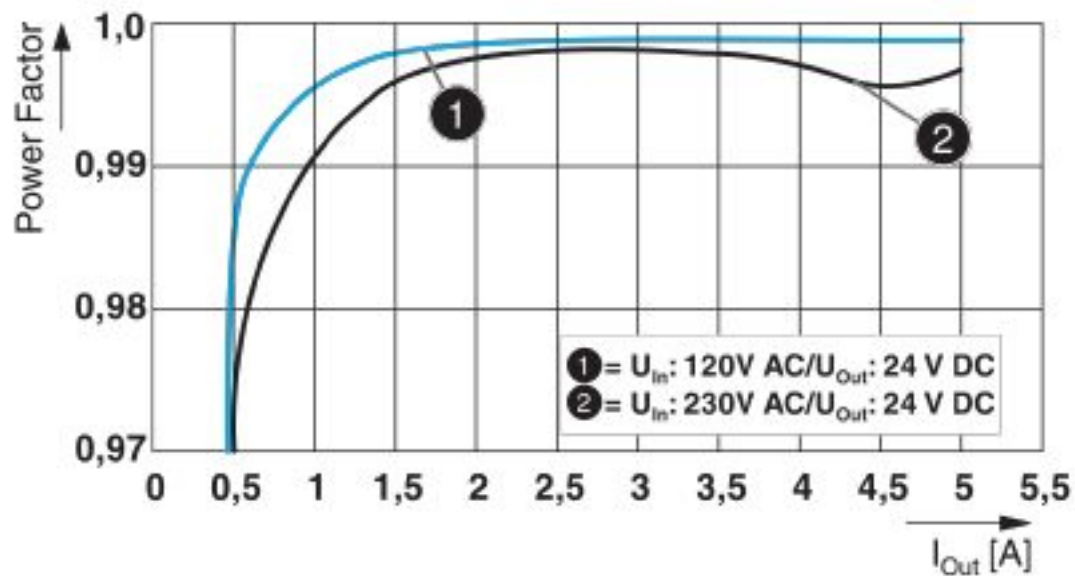


Power supply unit - STEP3-PS/1AC/24DC/5/PT - 1088478

Diagram

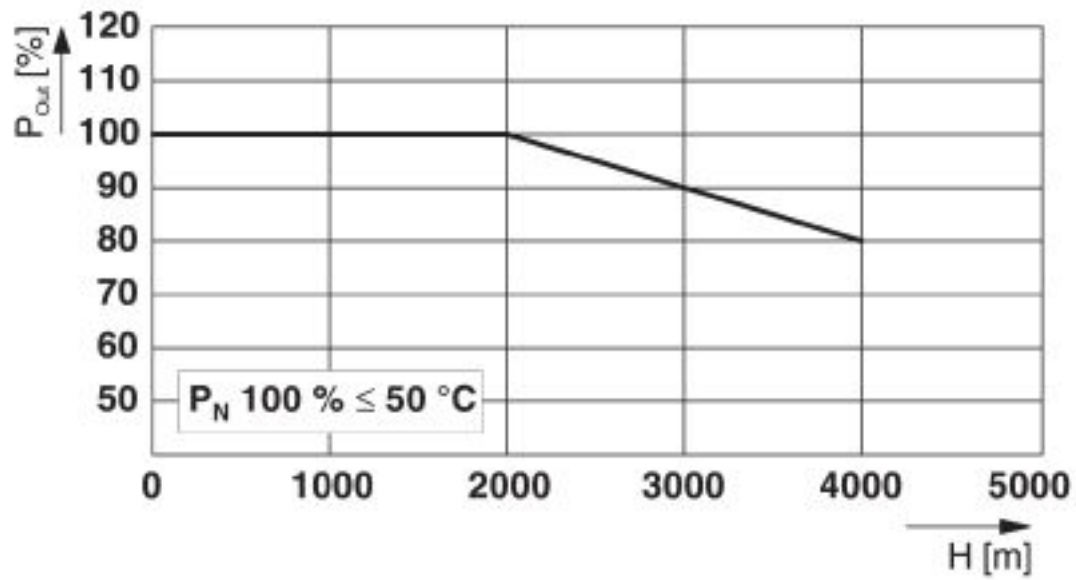


Diagram



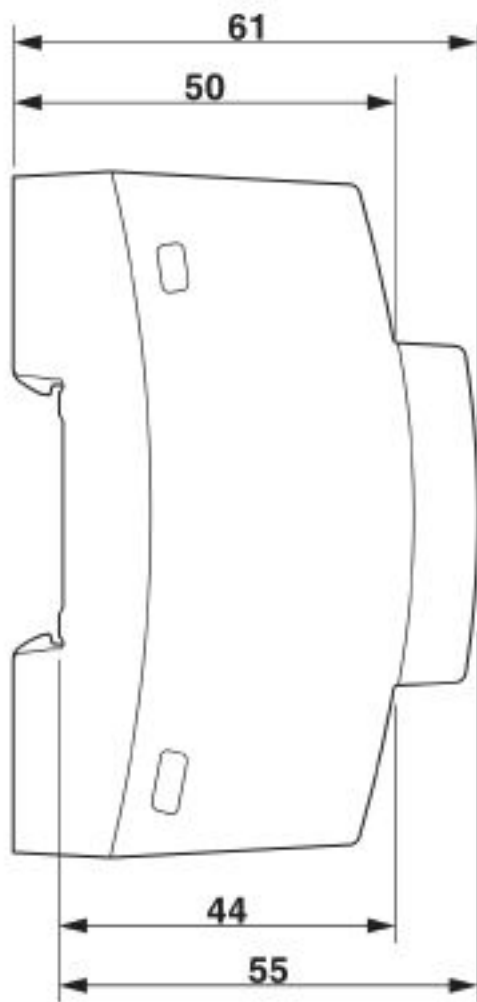
Power supply unit - STEP3-PS/1AC/24DC/5/PT - 1088478

Diagram



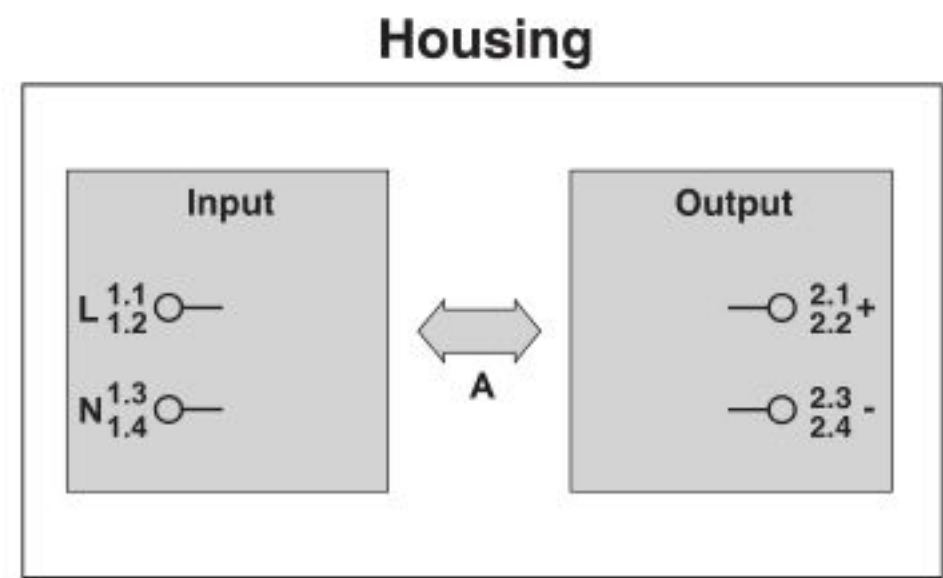
Power supply unit - STEP3-PS/1AC/24DC/5/PT - 1088478

Dimensional drawing



Power supply unit - STEP3-PS/1AC/24DC/5/PT - 1088478

Schematic diagram



Classifications

eCl@ss

eCl@ss 10.0.1	27040701
eCl@ss 9.0	27040701

Approvals

Approvals

Approvals

cULus Listed

Ex Approvals

cULus Listed

Approval details

Power supply unit - STEP3-PS/1AC/24DC/5/PT - 1088478

Approvals

cULus Listed



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