



■ Control Solutions

Industrial Power Supplies

Delta Series Power Supplies
Compact Series Power Supplies
Uninterruptable Power Supplies



Welcome to LUTZE

Cable Solutions



Connectivity Solutions



Cabinet Solutions



Control Solutions



Industrial Power Supplies

LUTZE provides reliable industrial power supplies through innovative design and engineering with 1-, 2- and 3-phase units. LUTZE Delta series power supplies are suitable for industrial applications for standard specifications, providing an economical and reliable solution. LUTZE Compact series power supplies are suitable for industrial applications especially where high inrush power is required, as well as when compact housing or extended reliability are desired.

Both Delta and Compact series offer DIN rail mountable power supplies suitable for a wide variety of different industrial applications. LUTZE's UPS units offer several product solutions when backup power is critical for the application.

LUTZE power supplies are developed with technical innovations in mind. As an example, our Compact power supplies are appr 50 % smaller in size than the industry standard, and yet offer more than 94 % efficiency and are suitable for temperature ranges between -25° C to +75° C.

In your most critical applications, you can rely on LUTZE power supplies to perform beyond your expectations worldwide.

For more information visit our website
www.lutze.com

Power Supplies from LUTZ

Energy efficient and space s

Comprehensive range
of industrial power supplies

High efficiency
through advanced digital technology
Efficiency up to >94 %

Extremely compact

Power Boost

Power range
from 10 W up to 2400 W

Output voltages
from DC 5 V up to DC 72 V.



ZE: saving



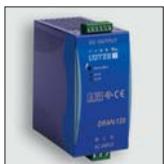
Power Supply · Overview



1-phase, 10 W



1-phase, 30 W



1-phase, 120 W



1-phase, 240 W



1-phase, 480 W



3-phase, 480 W

DELTA Series Power Supplies

Part Number	Input	Output Voltage	Rated Output Power						Connection	Type	Page							
	1-phase	3-phase	5 V	12 V	24 V	10 W	18 W	30 W	60 W	93 W	120 W	240 W	480 W	Spring	Screw	Pluggable Screw		
722761	.	.				2A								.			DRA10-05	14
722752	.	.					0.75A							.			DRA18-24	15
722763	.	.						6A						.			DRAN30-05A	16
722753	.	.						1.25A						.			DRAN30-24A	17
722769	.	.							5A					.			DRAN60-12A	18
722754	.	.							2.5A					.			DRAN60-24A	19
728754	.	.							2.5A					.			DRAN60-24	20
722757	.	.							3.8A					.			DRAN120-24AL	21
722770	.	.								10A				.			DRAN120-12B	22
722758	.	.								5A				.			DRAN120-24B	23
728758	.	.								5A				.			DRAN120-24A	24
722803	.	.								5A				.			WRA120-24	25
722759	.	.								10A				.			DRA240-24B	26
722781	.	.								10A				.			DRA240-24A	27
722804	.	.								10A				.			WRA240-24	28
722782	.	.									20A			.			DRA480-24A	29
722805	.	.									20A			.			WRA480-24	30
722987	.	.									20A			.			DRP-20	31

Power Supply · Overview



Compact Series Power Supplies

Part Number	Input	Output	Rated Output Power						Connection	Type	Page									
	1-phase	2-phase	3-phase	12 V	15 V	24 V	48 V	72 V	80 W	120 W	240 W	480 W	960 W	2400 W	Redundant Module	Screw	Pluggable Screw	Subseries		
722995	.	.			.				5A							.	Uni	CPSB2-120-24	34	
723500	.				.				5A							.	Eco	CPSB1-120-24E	35	
723501	.				.				5A							.	Ultra	CPS2B1-120-24	36	
722784	.				.				2.5A							.	Eco	CPSB1-120-48R	37	
723521	.				.				2.5A							.	Ultra	CPS2B1-120-48	38	
723600	.				.				10A							.	Eco	CPSB1-240-24E	40	
723601	.				.				10A							.	Ultra	CPS2B1-240-24	41	
722996				10A							.	Uni	CPSB-123-240-24	42	
722786	.				.				5A							.	Eco	CPSB1-240-48R	43	
723621	.				.				5A							.	Ultra	CPS2B1-240-48	44	
723700	.				.				20A							.	Ultra	CPS2B1-480-24	45	
723701	.				.				20A							.	Eco	CPSB1-480-24E	47	
722801				20A							.	Uni	CPSB-123-480-24	49	
723721	.				.				10A							.	Ultra	CPS2B1-480-48	50	
722811	.				.				40A							.		CPSB3-960-24	51	
722812	.				.				20A							.		CPSB3-960-48	52	
722813	.				.				13.3A							.		CPSB3-960-72	53	
722814	.				.				100A							.		CPSB3-2400-24	54	
722816	.				.				50A							.		CPSB3-2400-48	56	
722817	.				.				33A							.		CPSB3-2400-72	58	
722999	50A							.		CPSRM50	60	

Programmable DC/DC Converter

Part Number	Input	Output	Features	Type	Page	
723300	DC 11 - 55 V	12 A	DC 5 - 55 V 10 A 240 Watts Adjustable Current Int. fuse Deep Discharging Protection Signal Output Software Configuration	Hiccup Constant Current Digital Display Pluggable Screw	CUDC-240-55	61

UPS Uninterruptable Power Supplies

Part Number	Internal Features	Output	Type	Page
723110	Lead Based Ni-MH Li-ion Capacitive (Buffer)	DC 12V DC 24 V DC 48 V DC 72 V DC 10 A DC 20 A	CNUPS 24	62
723100	.	.	CDCU20 12/24DC UPS	63
723120	.	.	CBU150	65
723115	.	.	CNBP30	66

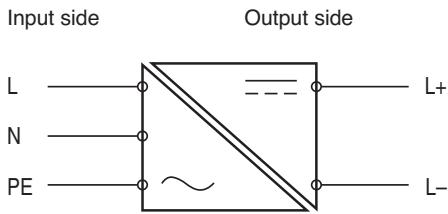
Power Supplies · Basics

A power supply has a decisive influence on the availability and operational reliability of electrical systems.

Consequently, the selection of the right power supply should be just as critically and carefully undertaken as that of the other system components.

1. General structure

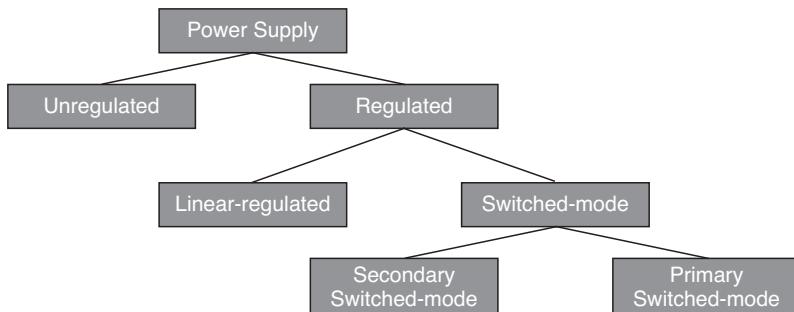
Regardless of the technology employed, power supplies are devices with an input side and an isolated output side.



In technology terms, however, there are two different basic designs:

Unregulated and regulated.

The regulated variants are subdivided into linear-regulated and switched-mode power supplies.



The key criteria in selection of a power supply are:

Input side:

Input voltage
Primary grounding
Current consumption
Inrush current
Input fuse
Frequency
DC supply
Power failure buffering
Power Factor Correction (PFC)

Output side:

Output voltage
Secondary grounding
Short-circuit current
Residual ripple
Output characteristics
Output current

2. Safety

The safety of people and equipment is always the priority. Accordingly, power supplies must comply with unified regulations and standards.

2.1 Galvanic isolation

Galvanic isolation generally refers to the isolation between two conductive objects, such as metal plates or electrical circuits. In the case of electrical circuits it is consequently not possible for charge carriers to flow from one circuit into another, as there is no electrically conductive connection between the two.

In the case of power supplies this means that there is no electrical connection between the input and output sides.

2.2 Insulation

The different kinds of insulation are specified in IEC/EN 60950:

- Functional insulation
Insulation needed for the correct operation of the equipment.

• Basic insulation

Insulation to provide basic protection against hazardous structure-borne currents.

• Supplementary insulation

Protection against hazardous structure-borne currents if the basic insulation fails.

• Double insulation

Insulation comprising both basic insulation and supplementary insulation.

• Reinforced insulation

Unified insulation system. Provides equivalent protection to double insulation.

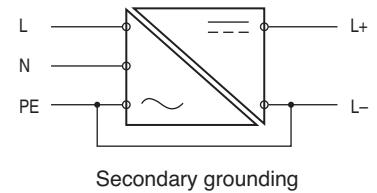
2.3 Safe isolation

Safe isolation according to EN 50178 is required for all interfaces between different electrical circuits, such as between a SELV circuit and a mains circuit.

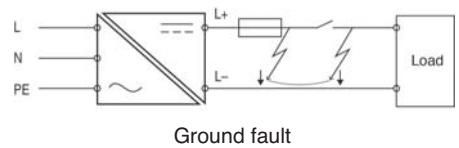
Safe isolation means that no current flow can occur from one electrical circuit to another. This isolation has to be implemented either by double or reinforced insulation or by means of protective shielding.

2.4 Secondary grounding

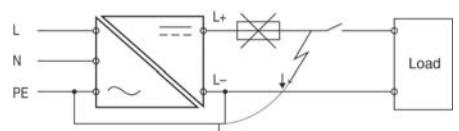
In case of secondary grounding, the output side of the power supply is connected to protective earth (PE) in order to prevent dangerous ground faults.



A ground fault occurs if a current-carrying line has contact to earth. In the worst case, two simultaneous ground faults can lead to a bridging of switches and thus can start equipment accidentally.



If secondary grounding is used, the occurrence of such a ground fault leads to a so-called short circuit to earth which causes the fuses in the secondary circuit to trip.



Power Supplies · Basics

2.5 SELV

SELV according to IEC/EN 60950 is a safety extra low voltage which thanks to its low level and insulation offers better protection against electric shock than higher-tension circuits.

Power supplies generating SELV, for example, must be designed to prevent shorting between the primary and secondary windings and their connections. The windings can only be overlaid if double or reinforced insulation is placed between them. This isolation is termed galvanic isolation. Grounding of the secondary side is not required but permitted.

The peak value must not exceed 42.4 V in case of AC voltages and 60 V in case of DC voltages.

2.6 PELV

PELV according to IEC/EN 60950 is a protective extra low voltage with safe isolation. In case of PELV, the electrical circuits are grounded and (like SELV) safely isolated from circuits of higher voltages. The voltage limits are identical to SELV.

PELV is used where active low-voltage conductors or the equipment structures have to be grounded for operational reasons. That is the case, for example, where potential equalisation is required to prevent sparking inside vessels and explosive rooms.

Thanks to the housing earth, hazardous leakage currents can be discharged via the structure independently of the low voltage when interference occurs on other equipment whose touchable conductive parts receive mains voltage.

2.7 Protection class

The standard IEC/EN 61140 defines protection classes for electrical equipment. The devices are classified according to the safety measures taken to prevent electric shock. The protection classes are divided into the classes 0, I, II and III.

• Protection class 0

Apart from the basic insulation there is no protection against electric shock. These devices cannot be connected to electrical installations with PE. Equipment of class 0 is not allowed in Germany. Protection class 0 will no longer be considered in future versions of the standard.

• Protection class I



In addition to the basic insulation, all electrically conductive parts of the housing are connected to PE. This guarantees that no electric shock can occur in the event of an insulation failure.

• Protection class II



Protection against electric shock is not only based on the basic insulation. The housing is equipped with reinforced or double insulation. If the housing is made of electrically conductive material, no direct contact between the housing and current-carrying parts is possible. The housings of class II devices are not equipped with a PE connection. It is important to note that the PE connection is not only used for the grounding of housings but also to connect filters for EMC measures (electromagnetic compatibility) to ground. This is why even devices of which the housings are completely made of plastic material can be equipped with a PE connection.

• Protection class III



The device is operated with safety extra-low voltage (SELV) and thus does not require any protection measures. Power supplies are usually class I or II equipment.

2.8 Degree of protection

According to DIN EN 60529, electrical equipment is classified using so-called IP codes. IP stands for "International Protection" or "Ingress Protection". The IP code consists of two figures: The first digit specifies the protection against accidental contact and against ingress of solid foreign bodies; the second digit specifies the protection against ingress of water.

Since power supplies are mostly installed inside cabinets, their typical degree of protection is IP 20.

3 Input voltage ranges

3.1 Wide-range input

Wide-range input means that the device can be operated with any voltage within the specified limits. LUTZE devices operate in the single-phase range from AC 90 V to AC 264 V or DC 110 V to DC 370 V and in the three-phase range from AC 340 V to AC 576 V or DC 480 V to DC 820 V. There is no loss of power, i.e. the device is able to deliver the specified rated power over the entire input voltage range.

3.2 Autorange

Power supplies that are equipped with autorange behaviour perform an internal measurement of the applied supply voltage and automatically switch between the available input voltage ranges.

3.3 Manual range selection

In case of manual range selection, the housing of the device is equipped with a selector switch for manual input voltage range selection. LUTZE offers devices permitting operation at AC 115V or 230V.

The operating voltage range is then AC 90 V to AC 132 V; AC 185 V to AC 264 V or DC 300 V to DC 370 V.

4 Self-protection

If motors or other large loads have to be started with high inrush currents, secondary branches selectively switched off, systems moved to a safe state in case of overload or the power supply switched off as quickly as possible in case of fault for the sake of process safety, the output behaviour of the power supplies play a key role.

There are basically two types outside of nominal operation. Overload, which can occur sporadically or continuously, and short-circuit.

Overload means that the current required by the loads exceeds the nominal current of the power supply.

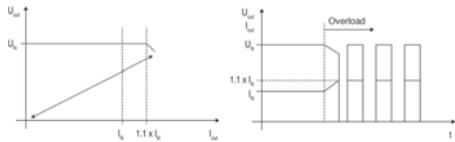
A short-circuit is a special form of overload. In this case, the outputs of the power supply are interconnected at very low resistance, as a result of which the output current may assume extremely high values.

State-of-the-art LUTZE power supplies offer the following protective functions:

Fold-back characteristic/Hiccup mode

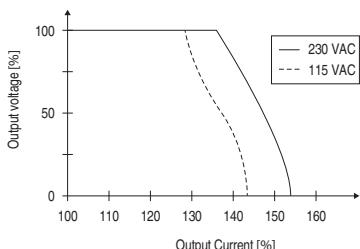
LUTZE power supplies supply a current typically up to 1.2 times the nominal output current. They automatically switch off if the current consumption of the connected loads exceeds this value or if a short-circuit occurs. After a defined period of time, the power supply tries to restart the load. If the overload or the short-circuit still exists, it switches off again. This procedure repeats until the fault is cleared. The power supply has "hiccup". In applications requiring high starting currents, it must be ensured that the overload current capacity is higher than 1.2 I_N . To do so, LUTZE also offers devices with overload capacity of 1.5 I_N featuring Hiccup mode. Another aspect is response to short-circuit. The output voltage is cut very rapidly. Whereas the use of conventional line protection equipment in the secondary circuit is very critical in any case, the function under Hiccup mode is not. Electronic overload protection units such as the LUTZE LOCC-Box should always be used in such cases. They provide safe protection in all circumstances.

Power Supplies · Basics



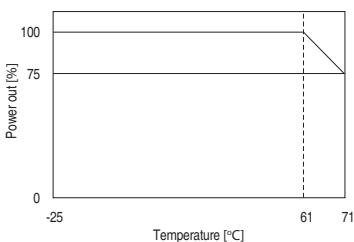
U/I characteristic

LUTZE power supplies with a U/I characteristic perform current limiting to typically 1.2 times the nominal current at constant output voltage. This current is still available in case of an overload or a short circuit. The voltage is slowly lowered, while the output current may rise further (triangular current limiting). Since the current does not sag in case of an overload, this method enables reliable starting of high loads.



5 Influence of ambient temperature

The ambient temperature has a direct influence on the maximum possible output power of a power supply and so on its response to short-circuit or overload. Temperatures inside cabinets may be over 60 °C as a result of internal or external influences. Power supplies still have to operate reliably even at such high temperatures. Due to the components used, however, there is a point from which the output power has to be reduced. That point is described by so-called derating. The Delta series from Lütze is rated for ambient temperatures up to 70° C for example, with derating beginning at 60° C. The reduction in output power is 2.5 %/°C.



Example: Derating curve of Lütze of Delta series

6 Thermal protection

When operating a power supply under extreme conditions for a long duration, e.g. in case of permanent operation within the power limits or in case of very high ambient temperatures, the power supply can heat

up to a degree where safe operation is no longer guaranteed. There are a number of techniques for protecting the power supply against destruction due to overheating.

- The maximum output power is reduced, allowing the power supply to cool down.
- The device is switched off completely and cannot resume operation until a manual reset is performed. Depending on the manufacturer, the reset is done either using a corresponding switch or by disconnecting the supply voltage.
- The device only switches off the output and does not switch it on until the temperature falls below a certain limit value. This is the most frequently used method nowadays, and is the one used by LUTZE.

7 General parameters

7.1 Open circuit resistance

Open circuit resistant power supplies require no minimum load in order to provide a stable output voltage. This is important, for example, in the case of time-critical applications in which a load is applied which has to be immediately supplied with voltage. Power supplies which are not open circuit resistant often require up to the seconds range until an actual supply takes place.

7.2 Resistance to reverse feed

The resistance to reverse feed specifies up to which voltage a power supply is immune against the feeding of voltages into the secondary side. Such a current flow can occur if power supplies are operated in parallel or inductive consumers are connected.

7.3 Overvoltage protection (secondary side)

In case of an internal error of the power supply, this protection mechanism prevents the occurrence of overvoltage on the secondary side that could possibly damage or even destroy a connected load or exceed the SELV voltage limit.

7.4 Power failure buffering

Power supplies must be able to maintain their output voltage for a certain time in case of supply voltage dips. Usually, a power failure buffering time of at least 20 ms is achieved in order to provide buffering for one complete cycle of the mains voltage. In the semiconductor industry longer times are required. The devices must then comply with the requirements of SEM F47. Most LUTZE devices do so.

8 Line cross-section and protection

8.1 Input-side protection

If power supplies have their own input protection, such as a safety fuse, no further protective measures are necessary. However, standards stipulate that a power supply must be capable of being disconnected from the supply mains by external means. Line protection equipment can then be used. For the relevant characteristics refer to the LUTZE data sheets.

8.2 Output-side protection

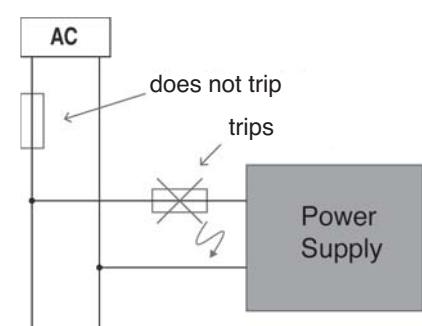
Alongside the output behaviour described in section 4, there is a U/I characteristic with an additional power reserve. However, all these output behaviour modes are ultimately not suitable for safe activation of standard line protection equipment. The reason lies in the technical design of the equipment. Only electronic protection devices capable of reacting fast enough to overload or short-circuit offer a solution. These devices also feature a high degree of repeat accuracy across the entire temperature range. With the LOCC-Box, LUTZE offers intelligent DC protection modules which can also be integrated into field bus communications systems.

8.3 Selectivity

Selectivity means the tripping configuration. In electrical systems, distinction can be made between "series selectivity", which means that individual fuses connected in series are selective against each other, and "parallel selectivity", which means that electrical circuits connected in parallel are selective against each other.

Series selectivity

In case of series-connected fuses, the tripping coordination of fuses is considered as selective if only the fuse installed nearest to the fault trips. Fuses that are located nearer to the energy feeding point do not trip. This guarantees that as many system parts as possible remain operative in the event of one single fault, resulting in an increased availability of electrical systems.

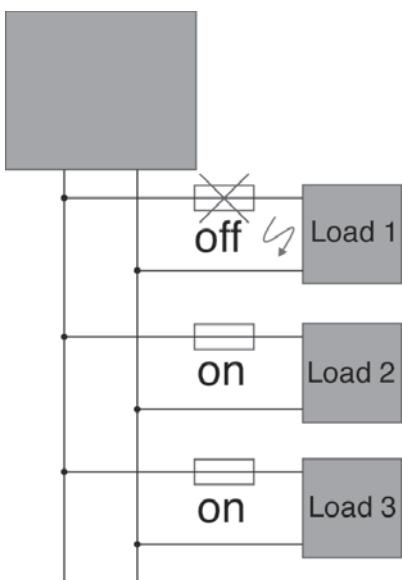


Rule of thumb:
The fuses must differ by two nominal quantities

Power Supplies · Basics

Parallel selectivity

Based on the self-protection, the output voltage is switched off or reduced in the event of a fault. If multiple loads are carried on one power supply, a voltage drop will occur throughout the entire application. To prevent this, protective devices are installed in the individual lines to the consumers. If a fault occurs, the protective device concerned must trip fast enough so as to disconnect the faulty consumer reliably from the rest of the system and such that the other consumers remain available.



8.4 Connection cross-sections

The line cross-sections are selected dependent on the maximum output current. The following table provides an overview of the current capacities of multi-core moveable copper cables with different conductor cross-sections at a temperature of 30 °C and up to a nominal voltage of 1000 V (to DIN 57100-523).

Cross-section in mm ²	A
0.75	12
1	15
1.5	18
2.5	26
4	34
6	44
10	61

9 PFC (Power Factor Correction)

Since January 1st 2001, the European standard regarding the limits for harmonic current emissions (IEC/EN 61000-3-2) is in force. This standard defines the maximum allowed intensity of harmonic currents fed back into the supplying mains system. It is applicable for consuming devices with an active power input between 75 and 100 W that are directly connected to the public electricity supply. Power supplies for industrial applications often do not require PFC, since large installations are equipped with a central PFC, installed between the internal electrical system and the public electricity supply.

9.1 Passive PFC

For passive PFC, a reactance coil is connected to the input circuit. This reactance coil buffers energy from the mains and thus reduces the current pulses. The lower the pulses, the less harmonics are produced. The advantage of this solution is its easy implementation into existing circuitry. However, the drawback is that it is not able to reduce all harmonics.

9.2 Active PFC

Active PFC is able to deliver considerably better results. In a very simplified consideration, one could say that the actual power supply is preceded by another power supply that performs a regulation of the current consumption from the mains. This consumption is oriented towards the sinusoidal supply voltage. Using this technology, it is possible to avoid the production of almost every kind of harmonics. However, the circuitry is much more complex than for passive PFC. LUTZE power supplies are all equipped with active PFC.

10 Applications

10.1 Parallel connection of power supplies for increased capacity operation

An increase of the output power can be obtained by connecting power supplies in parallel. This can be necessary if the current required by the load is higher than a single power supply can deliver, for example after the expansion of an existing installation. The following preconditions must be met when connecting power supplies in parallel for the purpose of increased capacity:

- Parallel connection is only allowed for identical power supplies.
- The power supplies have to be switched on simultaneously.
- The following points must be observed when connecting the power supplies in order to prevent different voltage drops on the supply lines or at the terminals which would lead to unbalanced load at the common connection point:

- Identical lengths of the supply lines

- Identical conductor cross-sections of the supply lines

- Terminal screws have to be fastened with the same torque to guarantee equal contact resistances.

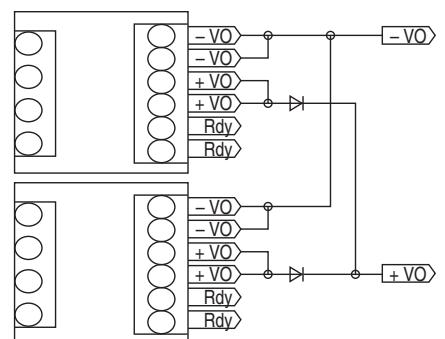
- The output voltages of the power supplies should not differ by more than 50 mV in the open circuit state. Otherwise safe operation cannot be guaranteed.

10.2 Redundancy

The term redundancy generally denotes the existence of several objects that are identical in functionality, content or nature.

In industrial automation, redundancy ensures that in the event of failure of a power supply another one takes over the supply, thereby maintaining operation of the system.

For this the individual power supplies must be isolated from each other, as one faulty power supply might impact the other one. In the worst case the failed power supply effects a secondary-side short-circuit, which would result in failure of the second power supply. To isolate the power supplies from each other, isolating diodes (so-called O-ring diodes) must be looped into the secondary outputs of the power supplies. They then prevent reciprocal loading. This ensures uninterrupted power supply. In the LUTZE Delta series the isolating diodes are built-in to the output. In the Compact series the diodes must be installed externally as follows:



LUTZE offers isolating diodes up to a nominal current of DC20A.

Notes

DELTA Power Supplies



DELTA Series

- One and three phase
- 10 to 480 Watts
- Regulated
- Wide input voltage ranges: AC85 - 576 V
- Output voltage range: DC 5/12/24 V
- Output current range: 0.75 - 20 Amps
- Overload and short circuit protection
- High efficiency
- DIN rail mountable
- 5 year warranty
- Class 1, Div.2 units available
- NEC Class 2 compliant units available
- UL 508 Listed

Power supply - 10 W

Switchmode power supplies, Single-phase, NEC Class 2 compliant

Input: AC 90–264 V, DC 120–375 V

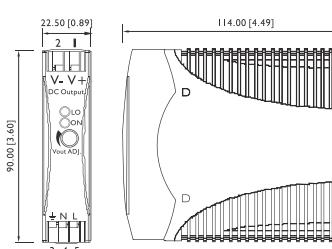
Output: DC 5 V, 2 A



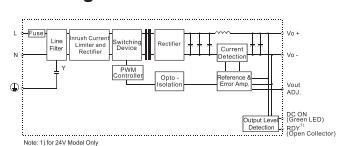
Input			
Rated voltage U_N	AC 100–240 V	Housing material	round
Operation voltage range	AC 90–264 V / DC 120–375 V	Mounting	Plastic
Frequency range	47 Hz – 63 Hz	Degree of protection	DIN rail mountable TS35
Rated current I_N	200 mA @ AC 115 V / 130 mA @ AC 230 V	Protection class	(EN 60715)
Inrush current	15 A @ AC 115 V / 30 A @ AC 230 V	Over voltage category	IP20
Internal fuse	T2A / AC 250 V	Connection type	II (SELV, PELV)
External protection	Mini-circuit breaker: B 4 A		II
Number of phases	1		Screw terminal
			0.20 mm ² – 2.0 mm ²
			AWG 24 – AWG 14
Output			UL 508 Listed (E249179)
Rated voltage U_N	DC 5 V		UL 1310 Class 2 (E320708), (Class
Rated current I_N	2 A		1, Division 2, Groups A, B, C and D)
Setting range $U_{out\ min.}/U_{out\ max.}$	4.5–5.75 V		(E350538)
Ripple and noise	<50 mV		CE
Hold up time	25 ms @ 115 V / 100 ms @ 230 V		UKCA
Status indication DC ON LED green	≥4.5 V		IEC/EN 62368-1
Status indication DC LOW LED red	<3.5–4.50 V		EN 61558-1
Parallel / redundant mode	Max. 2 devices / via external decoupling diodes		EN 61558-2-16
	73 %		EN 61000-6-3
Efficiency	110–135 %		EN 55032 Class B
Rated over load protection	125–145 %		EN 61000-3-2 Class D
Over voltage protection			EN 61000-3-3
Short circuit	Hiccup Mode		EN 61000-6-2
			EN 55024
General			EN 61000-4-2 Level 4
Switching frequency	Approx. 100 kHz		EN 61000-4-3 Level 3
Insulation voltage input / output	AC 3.0 kV _{off}		EN 61000-4-4 Level 4
Insulation voltage input / ground	AC 1.5 kV _{off}		EN 61000-4-5 L-N Level 3
Insulation resistance at DC 500 V	100 MΩ		L/N-FG Level 4
Operation temperature range	-20 °C ... +70 °C (Derating)		EN 61000-4-6 Level 3
Derating	Capacity: -3 %/°C starting at +60 °C		EN 61000-4-8 Level 4
MTBF	704000 h		EN 61000-4-11 ENV 50204 Level 2
Relative air humidity	20 – 95 % RH, not condensing		EN 61204-3
Dimensions (w × h × d)	22.5 mm × 90.0 mm × 115.0 mm		
Cooling	Air convection, 25 mm clearance all-		
		Monitoring	LED green/red

Part No.	Type	Weight/unit kg	PU (units)
722761	DRA10-05	0.12	1

Dimensions



PIN assignment



Power supply - 18 W

Switchmode power supply, Single-phase, NEC Class 2 compliant

Input: AC 90–264 V, DC 120–375 V

Output: DC 24 V, 0.75 A



Input

Rated voltage U_N	AC 100–240 V	Housing material
Operation voltage range	AC 90–264 V / DC 120–375 V	Mounting
Frequency range	47 Hz – 63 Hz	Degree of protection
Rated current I_N	335 mA @ AC 115 V / 210 mA @ AC 230 V	Protection class
Inrush current	15 A @ AC 115 V / 30 A @ AC 230 V	Over voltage category
Internal fuse	T2A / AC 250 V	Connection type
External protection	Mini-circuit breaker: B 4 A	
Number of phases	1	

Output

Rated voltage U_N	DC 24 V	Standards
Rated current I_N	0.75 A	
Setting range $U_{out\ min.}/U_{out\ max.}$	21.6–28.8 V	
Ripple and noise	<50 mV	
Hold up time	20 ms @ 115 V / 75 ms @ 230 V	
Status indication DC ON LED green	≥21.6 V	
Status indication DC LOW LED red	<18–21.6 V	
Parallel / redundant mode	Max. 2 devices / via external decoupling diodes	
Efficiency	77 %	
Rated over load protection	110–135 %	
Over voltage protection	125–145 %	
Short circuit	Hiccup Mode	

General

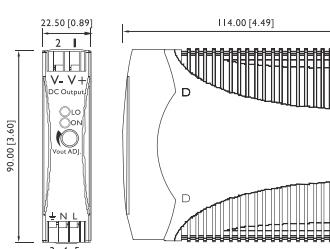
Switching frequency	Approx. 100 kHz
Insulation voltage input / output	AC 3.0 kV _{eff}
Insulation voltage input / ground	AC 1.5 kV _{eff}
Insulation resistance at DC 500 V	100 MΩ
Operation temperature range	-20 °C ... +70 °C (Derating)
Derating	Capacity: -3 %/°C starting at +60 °C
MTBF	800000 h
Relative air humidity	20 – 95 % RH, not condensing
Dimensions (w x h x d)	22.5 mm x 90.0 mm x 115.0 mm
Cooling	Air convection, 25 mm clearance all-

Housing material	round Plastic
Mounting	DIN rail mountable TS35 (EN 60715)
Degree of protection	IP20
Protection class	II (SELV, PELV)
Over voltage category	II
Connection type	Spring terminal
	0.20 mm ² – 2.0 mm ²
	AWG 24 – AWG 14
	UL 508 Listed (E249179)
	UL 1310 Class 2 (E320708), (Class 1, Division 2, Groups A, B, C and D) (E350538)
Approvals	CE
	UKCA
	IEC/EN 62368-1
	EN 61558-1
	EN 61558-2-16
	EN 61000-6-3
	EN 55032 Class B
	EN 61000-3-2 Class D
	EN 61000-3-3
	EN 61000-6-2
	EN 55024
	EN 61000-4-2 Level 4
	EN 61000-4-3 Level 3
	EN 61000-4-4 Level 4
	EN 61000-4-5 L-N Level 3
	L/N-FG Level 4
	EN 61000-4-6 Level 3
	EN 61000-4-8 Level 4
	EN 61000-4-11 ENV 50204 Level 2
	EN 61204-3

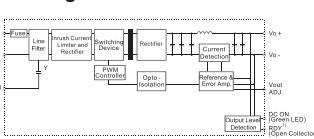
Monitoring	DC ON Control (Rdy)
	LED green/red

Part No.	Type	Weight/unit kg	PU (units)
722752	DRA18-24	0.15	1

Dimensions



PIN assignment



Power supply - 30 W

Switchmode power supplies, Single-phase

Input: wide-range input AC 85–264 V, DC 90–375 V

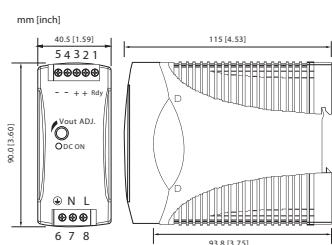
Output: DC 5 V, 6 A



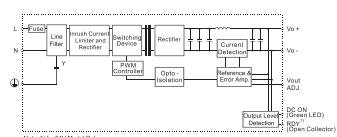
Input		Dimensions (w x h x d)	
Rated voltage U_N	AC 100–240 V	Cooling	40.5 mm x 90.0 mm x 115.0 mm
Operation voltage range	AC 85–264 V / DC 90–375 V	Housing material	Air convection, 25 mm clearance all-round
Frequency range	47 Hz – 63 Hz	Mounting	Plastic
Rated current I_N	560 mA @ AC 115 V / 330 mA @ AC 230 V	Degree of protection	DIN rail mountable TS35 (EN 60715)
Inrush current	20 A @ AC 115 V / 40 A @ AC 230 V	Protection class	IP20
Internal fuse	T2A / AC 250 V	Over voltage category	I
External protection	Mini-circuit breaker: B 4 A	Connection type	II
Number of phases	1		Screw terminal
Output			0,20 mm ² – 2,5 mm ²
Rated voltage U_N	DC 5 V	Approvals	AWG 24 – AWG 14
Rated current I_N	6 A		UL 508 Listed (E249179)
Setting range $U_{out\ min.}/U_{out\ max.}$	5.0–5.5 V		UL 60950-1
Ripple and noise	<50 mV		CE
Hold up time	20 ms @ 115 V / 30 ms @ 230 V		UKCA
Status indication DC ON LED green	<3.5 V		IEC/EN 62368-1
Parallel / redundant mode	Max. 2 devices / via external decoupling diodes e.g. 722987		EN 61000-6-3
Efficiency	79 %		EN 55032 Class B
Rated over load protection	110–150 %		EN 61000-3-2 Class D
Over voltage protection	125–137 %		EN 61000-3-3
Short circuit	Fold Forward		EN 61000-6-2
General			EN 55024
Switching frequency	55 – 135 kHz		EN 61000-4-2 Level 4
Insulation voltage input / output	DC 4.2 kV		EN 61000-4-3 Level 3
Insulation voltage input / ground	DC 2.1 kV		EN 61000-4-4 Level 4
Insulation voltage output / ground	DC 710 V		EN 61000-4-5 L-N Level 4
Insulation resistance at DC 500 V	100 MΩ		L/N-FG Level 4
Operation temperature range	-40 °C ... +70 °C (Derating)		EN 61000-4-6 Level 3
Derating	2.5 %/°C starting 61 °C		EN 61000-4-8 Level 4
MTBF	612000 h		EN 61000-4-11 ENV 50204 Level 2
Relative air humidity	20 – 95 % RH, not condensing		EN 61204-3

Part No.	Type	Weight/unit kg	PU (units)
722763	DRA30-5A	0.35	1

Dimensions



PIN assignment



Power supply - 30 W

Switchmode power supply, Single-phase, NEC Class 2 compliant

Input: AC 90–264 V, DC 120–375 V

Output: DC 24 V, 1.25 A



Input

Rated voltage U_N	AC 100–240 V	Mounting	DIN rail mountable TS35 (EN 60715)
Operation voltage range	AC 90–264 V / DC 120–375 V	Degree of protection	IP20
Frequency range	47 Hz – 63 Hz	Protection class	I
Rated current I_N	560 mA @ AC 115 V / 330 mA @ AC 230 V	Over voltage category	II
Inrush current	20 A @ AC 115 V / 40 A @ AC 230 V	Connection type	Screw terminal
Internal fuse	T2A / AC 250 V		0.20 mm ² – 2.0 mm ²
External protection	Mini-circuit breaker: B 4 A		AWG 24 – AWG 14
Number of phases	1	Approvals	UL 508 Listed (E249179)

Output

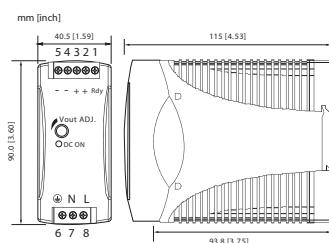
Rated voltage U_N	DC 24 V	Standards	UL 1310 Class 2 (E320708), (Class 1, Division 2, Groups A, B, C and D) (E350538)
Rated current I_N	1.25 A		UL 60950-1
Setting range $U_{out\ min.}/U_{out\ max.}$	24–28 V		CE
Ripple and noise	<50 mV		UKCA
Hold up time	20 ms @ 115 V / 30 ms @ 230 V		IEC/EN 62368-1
Status indication DC ON LED green	18 V		EN 61558-1
Parallel / redundant mode	Max. 2 devices / via external decoupling diodes e.g. 722987		EN 61558-2-16
Efficiency	86 %		EN 61000-6-3
Rated over load protection	110–150 %		EN 55032 Class B
Over voltage protection	125–137 %		EN 61000-3-2 Class D
Short circuit	Fold Forward		EN 61000-3-3

General

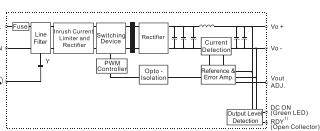
Switching frequency	55 – 135 kHz	Monitoring	DC ON Control (Rdy)
Insulation voltage input / output	DC 4.2 kV	Switching voltage	Switching current
Insulation voltage input / ground	DC 2.1 kV		Isolation voltage
Insulation voltage output / ground	DC 710 V		
Insulation resistance at DC 500 V	100 MΩ		
Operation temperature range	-40 °C ... +70 °C (Derating)		
Derating	2.5 %/°C starting 61 °C		
MTBF	665000 h		
Relative air humidity	20 – 95 % RH, not condensing		
Dimensions (w x h x d)	40.5 [1.59] x 90.0 [3.54] x 115 [4.53] mm		
Cooling	Air convection, 25 mm clearance all-round		
Housing material	Plastic		

Part No.	Type	Weight/unit kg	PU (units)
722753	DRA30-24A	0.29	1

Dimensions



PIN assignment



Power supply - 60 W

Switchmode power supply, Single-phase

Input: wide-range input AC 85–264 V, DC 90–375 V

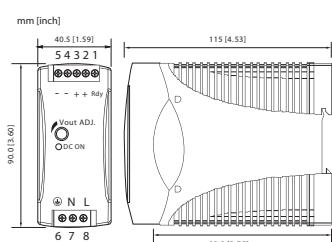
Output: DC 12 V, 5 A



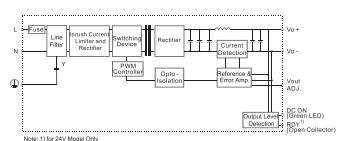
Input	Cooling	Air convection, 25 mm clearance all-round
Rated voltage U_N	AC 100–240 V	Plastic
Operation voltage range	AC 85–264 V / DC 90–375 V	DIN rail mountable TS35 (EN 60715)
Frequency range	47 Hz – 63 Hz	IP20
Rated current I_N	1.06 A @ AC 115 V / 590 mA @ AC 230 V	I
Inrush current	30 A @ AC 115 V / 60 A @ AC 230 V	II
Internal fuse	T2A / AC 250 V	Screw terminal
External protection	Mini-circuit breaker: B 6 A	0,20 mm ² – 2,5 mm ²
Number of phases	1	AWG 26 – AWG 12
Output		UL 508 Listed (E249179)
Rated voltage U_N	DC 12 V	UL 60950-1
Rated current I_N	5 A	CE
Setting range $U_{out\ min.}/U_{out\ max.}$	12–14 V	UKCA
Ripple and noise	50 mV	IEC/EN 62368-1
Hold up time	20 ms @ 115 V / 30 ms @ 230 V	EN 61558-1
Status indication DC ON LED green	<9.0 V	EN 61558-2-16
Parallel / redundant mode	Max. 2 devices / via external decoupling diodes e.g. 722987	EN 61000-6-3
Efficiency	86 %	EN 55032 Class B
Rated over load protection	110–150 %	EN 61000-3-2 Class D
Over voltage protection	125–138 %	EN 61000-3-3
Short circuit	Fold Forward	EN 61000-6-2
General		EN 55024
Switching frequency	55 – 135 kHz	EN 61000-4-2 Level 4
Insulation voltage input / output	DC 4.2 kV	EN 61000-4-3 Level 3
Insulation voltage input / ground	DC 2.1 kV	EN 61000-4-4 Level 4
Insulation voltage output / ground	DC 710 V	EN 61000-4-5 L-N Level 3
Insulation resistance at DC 500 V	100 MΩ	L/N-FG Level 4
Operation temperature range	-40 °C ... +70 °C (Derating)	EN 61000-4-6 Level 3
Derating	2.5 %/°C starting 61 °C	EN 61000-4-8 Level 4
MTBF	556000 h	EN 61000-4-11 ENV 50204 Level 2
Relative air humidity	20 – 90 % RH, not condensing	EN 61204-3
Dimensions (w x h x d)	40.5 mm x 90.0 mm x 115.0 mm	

Part No.	Type	Weight/unit kg	PU (units)
722769	DRA60-12A	0.41	1

Dimensions



PIN assignment



Power supply - 60 W

Switchmode power supply, Single-phase, NEC Class 2 compliant

Input: wide-range input AC 85–264 V, DC 90–375 V

Output: DC 24 V, 2.5 A



Input

Rated voltage U_N	AC 100–240 V
Operation voltage range	AC 85–264 V / DC 90–375 V
Frequency range	47 Hz – 63 Hz
Rated current I_N	1.06 A @ AC 115 V / 590 mA @ AC 230 V
Inrush current	30 A @ AC 115 V / 60 A @ AC 230 V
Internal fuse	T2A / AC 250 V
External protection	Mini-circuit breaker: B 6 A
Number of phases	1

Output

Rated voltage U_N	DC 24 V
Rated current I_N	2.5 A
Setting range $U_{out\ min.}/U_{out\ max.}$	24–28 V
Ripple and noise	50 mV
Hold up time	20 ms @ 115 V / 30 ms @ 230 V
Status indication DC ON LED green	18 V
Parallel / redundant mode	Max. 2 devices / via external decoupling diodes e.g. 722987
Efficiency	89 %
Rated over load protection	110–150 %
Over voltage protection	125–138 %
Short circuit	Fold Forward

General

Switching frequency	55 – 135 kHz
Insulation voltage input / output	DC 4.2 kV
Insulation voltage input / ground	DC 2.1 kV
Insulation voltage output / ground	DC 710 V
Insulation resistance at DC 500 V	100 MΩ
Operation temperature range	-40 °C ... +70 °C (Derating)
Derating	2.5 %/°C starting 61 °C
MTBF	580000 h
Relative air humidity	20 – 90 % RH, not condensing
Dimensions (w x h x d)	40.5 mm x 90.0 mm x 115.0 mm
Cooling	Air convection, 25 mm clearance all-round
Housing material	Plastic

Mounting

Degree of protection	DIN rail mountable TS35 (EN 60715)
Protection class	IP20
Over voltage category	I
Connection type	II
Screw terminal	Screw terminal
0.20 mm ² – 2.0 mm ²	0.20 mm ² – 2.0 mm ²
AWG 24 – AWG 14	AWG 24 – AWG 14

Approvals

UL 508 Listed (E249179)
UL 1310 Class 2 (E320708), (Class 1, Division 2, Groups A, B, C and D) (E350538)
UL 60950-1
CE
UKCA
IEC/EN 62368-1
EN 61558-1
EN 61558-2-16
EN 61000-6-3
EN 55032 Class B
EN 61000-3-2 Class D
EN 61000-3-3
EN 61000-6-2
EN 55024
EN 61000-4-2 Level 4
EN 61000-4-3 Level 3
EN 61000-4-4 Level 4
EN 61000-4-5 L-N Level 3
L/N-FG Level 4
EN 61000-4-6 Level 3
EN 61000-4-8 Level 4
EN 61000-4-11 ENV 50204 Level 2
EN 61204-3

Monitoring

DC ON Control (Rdy)
Switching voltage
Switching current
Isolation voltage

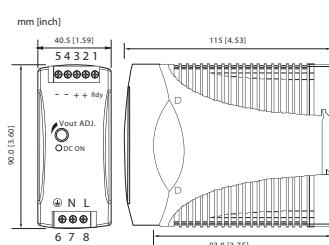
Normally open
DC 24 V

≤ 35 mA

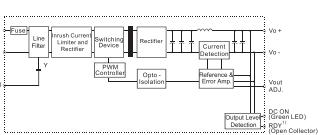
None

Part No.	Type	Weight/unit kg	PU (units)
722754	DRA60-24A	0.41	1

Dimensions



PIN assignment



Power supply - 60 W

Switchmode power supply, Single-phase, NEC Class 2 compliant

Input: wide-range input AC 85–264 V, DC 90–375 V

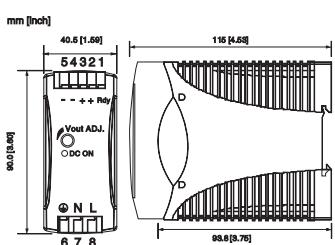
Output: DC 24 V, 2.5 A



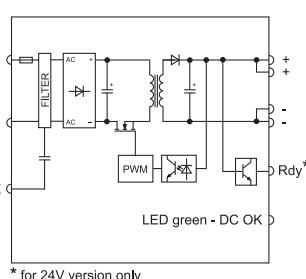
Input		Mounting	DIN rail mountable TS35 (EN 60715)
Rated voltage U_N	AC 100–240 V	Degree of protection	IP20
Operation voltage range	AC 85–264 V / DC 90–375 V	Protection class	I (SELV, PELV)
Frequency range	47 Hz – 63 Hz	Over voltage category	II
Rated current I_N	1.06 A @ AC 115 V / 590 mA @ AC 230 V	Connection type	Spring terminal 0.20 mm ² – 2.0 mm ² AWG 24 – AWG 14
Inrush current	30 A @ AC 115 V / 60 A @ AC 230 V		UL 508 Listed (E249179)
Internal fuse	T2A / AC 250 V		UL 1310 Class 2 (E320708), (Class 1, Division 2, Groups A, B, C and D) (E350538)
External protection	Mini-circuit breaker: B 6 A		UL 60950-1
Number of phases	1		CE
Output			UKCA
Rated voltage U_N	DC 24 V		IEC/EN 62368-1
Rated current I_N	2.5 A		EN 61558-1
Setting range $U_{\text{out min.}} / U_{\text{out max.}}$	24–28 V		EN 61558-2-16
Ripple and noise	50 mV		EN 61000-6-3
Hold up time	20 ms @ 115 V / 30 ms @ 230 V		EN 55032 Class B
Status indication DC ON LED green	>18 V		EN 61000-3-2 Class D
Parallel / redundant mode	Max. 2 devices / via external decoupling diodes		EN 61000-3-3
Efficiency	89 %		EN 61000-6-2
Rated over load protection	110–150 %		EN 55024
Over voltage protection	125–138 %		EN 61000-4-2 Level 4
Short circuit	Fold Forward		EN 61000-4-3 Level 3
General			EN 61000-4-4 Level 4
Switching frequency	55 – 135 kHz		EN 61000-4-5 L-N Level 3
Insulation voltage input / output	DC 4.2 kV		L/N-FG Level 4
Insulation voltage input / ground	DC 2.1 kV		EN 61000-4-6 Level 3
Insulation voltage output / ground	DC 710 V		EN 61000-4-8 Level 4
Insulation resistance at DC 500 V	100 MΩ		EN 61000-4-11 ENV 50204 Level 2
Operation temperature range	-40 °C ... +70 °C (Derating) 2.5 %/°C starting 61 °C		EN 61204-3
Derating	520000 h		
MTBF		Monitoring	
Relative air humidity	20 – 90 % RH, not condensing	DC ON Control (Rdy)	Normally open
Dimensions (w × h × d)	40.5 mm × 90.0 mm × 115.0 mm	Switching voltage	DC 24 V
Cooling	Air convection, 25 mm clearance all-round	Switching current	≤35 mA
Housing material	Plastic	Isolation voltage	None

Part No.	Type	Weight/unit kg	PU (units)
728754	DRA60-24	0.41	1

Dimensions



PIN assignment



Power supply - 93 W

Switchmode power supplies, PFC, Single-phase, NEC Class 2 compliant

Input: wide-range input AC 90–132 V, AC 180–264 V, DC 210–375 V

Output: DC 24 V, 3.8 A



Input

Rated voltage U_N
Operation voltage range

Frequency range

Rated current I_N
Inrush current
Internal fuse
External protection
Power factor correction P.F.C.
Number of phases

Output

Rated voltage U_N
Rated current I_N

Setting range $U_{out\ min.}/U_{out\ max.}$
Ripple and noise

Hold up time

Status indication DC ON LED green
Status indication DC LOW LED red
Parallel / redundant mode

Efficiency

Rated over load protection
Over voltage protection

Short circuit

General

Switching frequency
Insulation voltage input / output
Insulation voltage input / ground
Insulation resistance at DC 500 V
Operation temperature range
Derating
MTBF
Relative air humidity
Dimensions (w x h x d)
Cooling

Housing material

AC 115 / 230 V (auto select)
AC 90–132 V / AC 180–264 V / DC
210–375 V
47 Hz – 63 Hz
1.65 A @ AC 115 V / 0.65 A @ AC 230 V
24 A @ AC 115 V / 48 A @ AC 230 V
T3, 15 A/AC 250 V
Mini-circuit breaker: B 6 A
0.7
1

DC 24 V
3.8 A
22.5/28.5 V
50 mV
20 ms @ 115 V / 75 ms @ 230 V
≥17.6–19.4 V
≤17.6–19.4 V
Max. 2 devices each with 90 % load
current / via external decoupling diodes
87 %
105–125 %
125–145 %
Current limit

Approx. 80 kHz
AC 3.0 kV_{eff}
AC 1.5 kV_{eff}
100 MΩ_{eff}
-35 °C ... +71 °C (Derating)
Capacity: -2.5 %/°C starting at 60 °C
530000 h
20 – 90 % RH, not condensing
64.0 mm x 124.5 mm x 116.6 mm
Air convection, 25 mm clearance all-round
Metal

Mounting

Degree of protection
Protection class
Over voltage category
Connection type

Approvals

Standards

Monitoring
DC ON Control (Rdy)
Switching voltage
Switching current
Isolation voltage

DIN rail mountable TS35
(EN 60715)
IP20
I (SELV, PELV)
II
Screw terminal
0.20 mm² – 2.5 mm²
AWG 24 – AWG 10
UL 508 Listed (E249179)
UL 1310 Class 2 (E320708), (Class
1, Division 2, Groups A, B, C and D)
(E350538)
UL 60950-1

CE

UKCA

IEC/EN 62368-1

EN 61558-1

EN 61558-2-16

EN 61000-6-3

EN 55032 Class B

EN 61000-3-2 Class D

EN 61000-3-3

EN 61000-6-2

EN 55024

EN 61000-4-2 Level 4

EN 61000-4-3 Level 3

EN 61000-4-4 Level 4

EN 61000-4-5 L-N Level 3

L/N-FG Level 4

EN 61000-4-6 Level 3

EN 61000-4-8 Level 4

EN 61000-4-11 ENV 50204 Level 2

EN 61204-3

Normally open

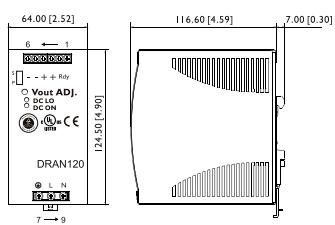
DC 60 V

Max. 300 mA

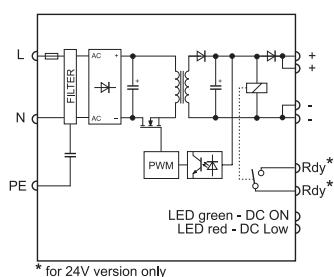
DC 500 V

Part No.	Type	Weight/unit kg	PU (units)
722757	DRAN 120-24AL	0.92	1

Dimensions



PIN assignment



Power supply - 120 W

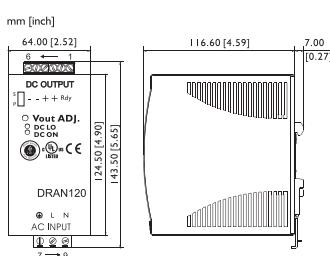
Switchmode power supply, PFC, Single-phase
Input: AC 90–132 V, AC 180–264 V, DC 210–375 V
Output: DC 12 V, 10 A



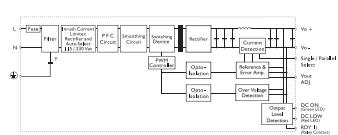
Input	AC 115 / 230 V (auto select) AC 90–132 V / AC 180–264 V / DC 210–375 V 47 Hz – 63 Hz 2.2 A @ AC 115 V / 0.83 A @ AC 230 V 24 A @ AC 115 V / 48 A @ AC 230 V T3, 15 A/AC 250 V Mini-circuit breaker: B 6 A 0.7 1	Dimensions (w x h x d) Cooling Housing material Mounting Degree of protection Protection class Over voltage category Connection type	64.0 mm x 143.5 mm x 116.6 mm Air convection, 25 mm clearance all-round Metal DIN rail mountable TS35 (EN 60715) IP20 I II Screw terminal 0,20 mm ² – 2,5 mm ² AWG 24 – AWG 10
Output	DC 12 V 10 A 11.4–14.5 V 50 mV 25 ms @ 115 V / 30 ms @ 230 V ≥10–11.2 V ≤10–11.2 V Max. 3 units at 90% load current, manual switch S/P 84 % 105–125 % 125–145 % Current limit	Approvals Standards	UL 508 Listed (E249179) UL 60950-1, (Class 1, Division 2, Groups A, B, C and D) (E350538) CE UKCA IEC/EN 62368-1 EN 61558-1 EN 61558-2-16 EN 61000-6-3 EN 55032 Class B EN 61000-3-2 Class D EN 61000-3-3 EN 61000-6-2 EN 55024 EN 61000-4-2 Level 4 EN 61000-4-3 Level 3 EN 61000-4-4 Level 4 EN 61000-4-5 L-N Level 3 L/N-FG Level 4 EN 61000-4-6 Level 3 EN 61000-4-8 Level 4 EN 61000-4-11 ENV 50204 Level 2 EN 61204-3
General	Approx. 80 kHz DC 4.2 kV DC 2.1 kV DC 700 V 100 MΩ -35 °C ... +71 °C (Derating) Capacity: -2.5 %/°C starting at +61 °C 530000 h 20 – 90 % RH, not condensing		

Part No.	Type	Weight/unit kg	PU (units)
722770	DRAN120-12B	0.92	1

Dimensions



PIN assignment



Power supply - 120 W

Switchmode power supply, PFC, Single-phase

Input: AC 90–132 V, AC 180–264 V / DC 210–375 V

Output: DC 24 V, 5 A



Input

Rated voltage U_N
Operation voltage range

AC 115 / 230 V (auto select)
AC 90–132 V / AC 180–264 V / DC
210–375 V

Housing material
Mounting

round
Metal
DIN rail mountable TS35
(EN 60715)

Frequency range

47 Hz – 63 Hz

Degree of protection

IP20

Rated current I_N

2.2 A @ AC 115 V / 0.83 A @ AC 230 V

Protection class

I

Inrush current

24 A @ AC 115 V / 48 A @ AC 230 V

Over voltage category

II

Internal fuse

T3, 15 A/AC 250 V

Connection type

Screw terminal

External protection
Power factor correction P.F.C.
Number of phases

Mini-circuit breaker: B 6 A
0.7
1

Approvals

0.20 mm² – 2.5 mm²
AWG 24 – AWG 10
UL 508 Listed (E249179)

Output

Rated voltage U_N
Rated current I_N

DC 24 V

Standards

CE

Setting range $I_{out\ min.}/I_{out\ max.}$

5 A

UKCA

Ripple and noise

22.5/28.5 V

IEC/EN 62368-1

Hold up time

50 mV

EN 61558-1

Status indication DC ON LED green
Status indication DC LOW LED red
Parallel / redundant mode

25 ms @ 115 V / 30 ms @ 230 V

EN 61558-2-16

Efficiency

≥ 17.6 –19.4 V

EN 61000-6-3

Rated over load protection

≥ 17.6 –19.4 V

EN 55032 Class B

Over voltage protection

Max. 3 units at 90% load current, manual

EN 61000-3-2 Class D

Short circuit

switch S/P

EN 61000-3-3

87 %

105–125 %

EN 61000-6-2

105–125 %

125–145 %

EN 55024

Current limit

Current limit

EN 61000-4-2 Level 4

General

EN 61000-4-3 Level 3

Switching frequency

EN 61000-4-4 Level 4

Insulation voltage input / output

EN 61000-4-5 L-N Level 3

Insulation voltage input / ground

L/N-FG Level 4

Insulation voltage output / ground

EN 61000-4-6 Level 3

Insulation resistance at DC 500 V

EN 61000-4-8 Level 4

Operation temperature range

EN 61000-4-11 ENV 50204 Level 2

Derating

EN 61204-3

MTBF

Monitoring

Relative air humidity

DC ON Control (Rdy)

Dimensions (w x h x d)

Switching voltage

Air convection, 25 mm clearance all-

Switching current

Surroundings

Isolation voltage

Cooling

N/O contact

Surroundings

DC 60 V

Surroundings

Max. 300 mA

Surroundings

DC 500 V

Surroundings

Power supply - 120 W

Switchmode power supply, PFC, Single-phase

Input: AC 90–132 V, AC 180–264 V / DC 210–375 V

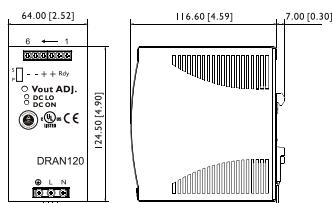
Output: DC 24 V, 5 A



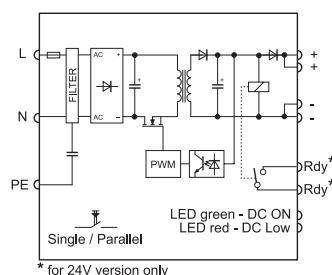
Input			
Rated voltage U_N	AC 115 / 230 V (auto select)	Housing material	round
Operation voltage range	AC 90–132 V / AC 180–264 V / DC 210–375 V	Mounting	Metal
Frequency range	47 Hz – 63 Hz	Degree of protection	DIN rail mountable TS35 (EN 60715)
Rated current I_N	2.2 A @ AC 115 V / 0.83 A @ AC 230 V	Protection class	IP20
Inrush current	24 A @ AC 115 V / 48 A @ AC 230 V	Over voltage category	I
Internal fuse	T3, 15 A/AC 250 V	Connection type	II
External protection	Mini-circuit breaker: B 6 A		Screw terminal
Power factor correction P.F.C.	0.7		0.20 mm ² – 2.5 mm ²
Number of phases	1	Approvals	AWG 24 – AWG 10
Output			UL 508 Listed (E249179)
Rated voltage U_N	DC 24 V		UL 60950-1, (Class 1, Division 2, Groups A, B, C and D) (E350538)
Rated current I_N	5 A		CE
Setting range $U_{out\ min.}/U_{out\ max.}$	22.5/28.5 V		UKCA
Ripple and noise	50 mV	Standards	IEC/EN 62368-1
Hold up time	25 ms @ 115 V / 30 ms @ 230 V		EN 61558-1
Status indication DC ON LED green	≥17.6–19.4 V		EN 61558-2-16
Status indication DC LOW LED red	≤17.6–19.4 V		EN 61000-6-3
Parallel / redundant mode	Max. 3 units at 90% load current, manual switch S/P		EN 55032 Class B
Efficiency	87 %		EN 61000-3-2 Class D
Rated over load protection	110–145 %		EN 61000-3-3
Over voltage protection	125–145 %		EN 61000-6-2
Short circuit	Fold Forward		EN 55024
General			EN 61000-4-2 Level 4
Switching frequency	Approx. 80 kHz		EN 61000-4-3 Level 3
Insulation voltage input / output	DC 4.2 kV		EN 61000-4-4 Level 4
Insulation voltage input / ground	DC 2.1 kV		EN 61000-4-5 L-N Level 3
Insulation voltage output / ground	DC 700 V		L/N-FG Level 4
Insulation resistance at DC 500 V	100 MΩ		EN 61000-4-6 Level 3
Operation temperature range	-35 °C ... +71 °C (Derating)		EN 61000-4-8 Level 4
Derating	Capacity: -2.5 %/°C starting at 60 °C		EN 61000-4-11 ENV 50204 Level 2
MTBF	530000 h		EN 61204-3
Relative air humidity	20 – 90 % RH, not condensing	Monitoring	N/O contact
Dimensions (w × h × d)	64.0 mm × 125.5 mm × 116.6 mm	DC ON Control (Rdy)	DC 60 V
Cooling	Air convection, 25 mm clearance all-	Switching voltage	Max. 300 mA
		Switching current	DC 500 V
		Isolation voltage	

Part No.	Type	Weight/unit kg	PU (units)
728758	DRAN120-24A 120W 5A	0.92	1

Dimensions



PIN assignment



Power supply - 120 W, 3-phase

Switchmode power supply, PFC, 3-phase

Input: AC 340–575 V, DC 480–820 V

Output: DC 24 V, 5 A



Input

Rated voltage U_N
Operation voltage range
Frequency range
Rated current I_N
Inrush current
Internal fuse
External protection
Power factor correction P.F.C.
Number of phases

3 × AC 400–500 V
3 × AC 340–575 V / 3 × DC 480–820 V
47 Hz – 63 Hz
0.36 A @ AC 400 V / 0.3 A @ AC 500 V
10 A
3 × T2, 0 A/AC 600 V
Mini-circuit breaker: 3 × B 6 A
0.6
3

Housing material
Mounting
Degree of protection
Protection class
Over voltage category
Connection type

round
Metal
DIN rail mountable TS35
(EN 60715)
IP20
I
II
Screw terminal
0.20 mm² – 4.0 mm²
AWG 24 – AWG 10
UL 508 Listed (E249179)
UL 60950-1, (Class 1, Division 2, Groups
A, B, C and D) (E350538)

Output

Rated voltage U_N
Rated current I_N
Setting range $U_{out\ min.}/U_{out\ max.}$
Ripple and noise
Hold up time
Status indication DC ON LED green
Status indication DC LOW LED red
Parallel / redundant mode

DC 24 V
5 A
22.5/28.5 V
100 mV
Min. 20 ms
≥17.6–19.4 V
≤17.6–19.4 V
Max. 2 devices / via external decoupling
diodes e.g. 722987
89 %
115–135 %
Temperature: Deactivation at 100–110°C
and automatic activation after cooling off
125–137 %
Hiccup Mode

Standards

CE
UKCA
IEC/EN 62368-1
EN 61558-1
EN 61558-2-16
EN 61000-6-3
EN 55032 Class B
EN 61000-3-2 Class D
EN 61000-3-3
EN 61000-6-2
EN 55024
EN 61000-4-2 Level 4
EN 61000-4-3 Level 3
EN 61000-4-4 Level 4
EN 61000-4-5 L-N Level 3
L/N-FG Level 4
EN 61000-4-6 Level 3
EN 61000-4-8 Level 4
EN 61000-4-11 ENV 50204 Level 2
EN 61204-3

Efficiency
Rated over load protection

Over voltage protection
Short circuit

General

Switching frequency
Insulation voltage input / output
Insulation voltage input / ground
Insulation voltage output / ground
Insulation resistance at DC 500 V
Operation temperature range
Derating
MTBF
Relative air humidity
Dimensions (w × h × d)
Cooling

Approx. 70 kHz
DC 4.2 kV
DC 2.1 kV
DC 700 V
100 MΩ
-40 °C ... +71 °C (Derating)
Capacity: -2.5 %/°C starting at +61 °C
572000 h
20 – 90 % RH, not condensing
74.3 mm × 124.0 mm × 111.9 mm
Air convection, 25 mm clearance all-

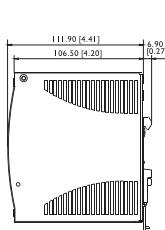
Monitoring

DC ON Control (Rdy)
Switching voltage
Switching current
Isolation voltage

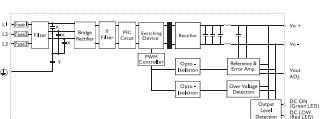
N/O contact
DC 60 V
Max. 300 mA
DC 500 V

Part No.	Type	Weight/unit kg	PU (units)
722803	WRA120-24	0.8	1

Dimensions



PIN assignment



Power supply - 240 W

Switchmode power supply, PFC, Single-phase
Input: AC 90–132 V, AC 180–264 V, DC 210–375 V
Output: DC 24 V, 10 A

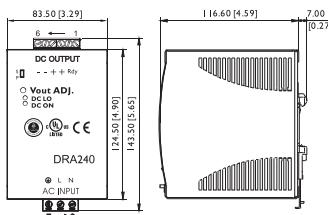


Input			
Rated voltage U_N	AC 115/230 V	Housing material	round
Operation voltage range	AC 90–132 V / AC 180–264 V / DC 210–375 V	Mounting	Metal
Frequency range	47 Hz – 63 Hz	Degree of protection	DIN rail mountable TS35 (EN 60715)
Rated current I_N	4.0 A @ AC 115 V / 1.55 A @ AC 230 V	Protection class	IP20
Inrush current	30 A @ AC 115 V / 60 A @ AC 230 V	Over voltage category	I
Internal fuse	T6, 3 A/AC 250 V	Connection type	II
External protection	Mini-circuit breaker: B 10 A, C 6 A		Screw terminal
Power factor correction P.F.C.	0.7		AWG 24 – AWG 10
Number of phases	1		0.20 mm ² – 4.0 mm ²
			UL 508 Listed (E249179)
			UL 60950-1, (Class 1, Division 2, Groups A, B, C and D) (E350538)
Output			CE
Rated voltage U_N	DC 24 V		UKCA
Rated current I_N	10 A		IEC/EN 62368-1
Setting range $U_{out\ min.}/U_{out\ max.}$	22.5/28.5 V	Standards	EN 61558-1
Ripple and noise	100 mV		EN 61558-2-16
Hold up time	25 ms @ 115 V / 30 ms @ 230 V		EN 61000-6-3
Status indication DC ON LED green	≥17.6–19.4 V		EN 55032 Class B
Status indication DC LOW LED red	≤17.6–19.4 V		EN 61000-3-2 Class D
Parallel / redundant mode	Max. 3 units at 90% load current, manual switch S/P		EN 61000-3-3
	89 %		EN 61000-6-2
Efficiency	105–145 %		EN 55024
Rated over load protection	120–145 %		EN 61000-4-2 Level 4
Over voltage protection	Current limit		EN 61000-4-3 Level 3
Short circuit			EN 61000-4-4 Level 4
			EN 61000-4-5 L-N Level 3
General			L/N-FG Level 4
Switching frequency	Approx. 40 kHz		EN 61000-4-6 Level 3
Insulation voltage input / output	DC 4.2 kV		EN 61000-4-8 Level 4
Insulation voltage input / ground	DC 2.1 kV		EN 61000-4-11 ENV 50204 Level 2
Insulation voltage output / ground	DC 700 V		EN 61204-3
Insulation resistance at DC 500 V	100 MΩ		
Operation temperature range	-40 °C ... +71 °C (Derating)	Monitoring	
Derating	Capacity: -2.5 %/°C starting at +61 °C	DC ON Control (Rdy)	N/O contact
MTBF	423000 h	Switching voltage	DC 60 V
Relative air humidity	20 – 90 % RH, not condensing	Switching current	Max. 300 mA
Dimensions (w × h × d)	83.50 mm × 143.50 mm × 116.6 mm	Isolation voltage	DC 500 V
Cooling	Air convection, 25 mm clearance all-		

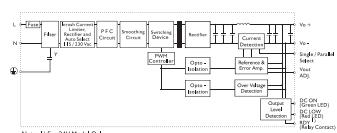
Part No.	Type	Weight/unit kg	PU (units)
722759	DRA240-24B	1.38	1

Dimensions

mm [inch]



PIN assignment



Power supply - 240 W

Switchmode power supply, PFC, Single-phase

Input: AC 90–132 V, AC 180–264 V, DC 210–375 V

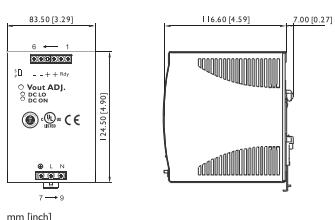
Output: DC 24 V, 10 A



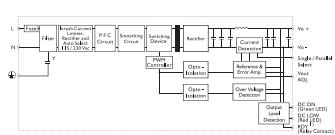
Input			
Rated voltage U_N	AC 115/230 V	Housing material	round
Operation voltage range	AC 90–132 V / AC 180–264 V / DC 210–375 V	Mounting	Metal
Frequency range	47 Hz – 63 Hz	Degree of protection	DIN rail mountable TS35
Rated current I_N	4.0 A @ AC 115 V / 1.55 A @ AC 230 V	Protection class	(EN 60715)
Inrush current	30 A @ AC 115 V / 60 A @ AC 230 V	Over voltage category	IP20
Internal fuse	T6, 3 A/AC 250 V	Connection type	I
External protection	Mini-circuit breaker: B 10 A, C 6 A		II
Power factor correction P.F.C.	0.7		Screw terminal
Number of phases	1	Approvals	0.20 mm ² – 4.0 mm ²
			AWG 24 – AWG 10
			UL 508 Listed (E249179)
			UL 60950-1, (Class 1, Division 2, Groups A, B, C and D) (E350538)
			CE
			UKCA
			IEC/EN 62368-1
			EN 61558-1
			EN 61558-2-16
			EN 61000-6-3
			EN 55032 Class B
			EN 61000-3-2 Class D
			EN 61000-3-3
			EN 61000-6-2
			EN 55024
			EN 61000-4-2 Level 4
			EN 61000-4-3 Level 3
			EN 61000-4-4 Level 4
			EN 61000-4-5 L-N Level 3
			L/N-FC Level 4
			EN 61000-4-6 Level 3
			EN 61000-4-8 Level 4
			EN 61000-4-11 ENV 50204 Level 2
			EN 61204-3
Output			
Rated voltage U_N	DC 24 V		
Rated current I_N	10 A		
Setting range $U_{out\ min.}/U_{out\ max.}$	22.5/28.5 V	Standards	
Ripple and noise	100 mV		
Hold up time	25 ms @ 115 V / 30 ms @ 230 V		
Status indication DC ON LED green	≥ 17.6 –19.4 V		
Status indication DC LOW LED red	≤ 17.6 –19.4 V		
Parallel / redundant mode	Max. 3 units at 90% load current, manual switch S/P		
Efficiency	89 %		
Rated over load protection	105–145 %		
Over voltage protection	120–145 %		
Short circuit	Current limit		
General			
Switching frequency	Approx. 40 kHz		
Insulation voltage input / output	DC 4.2 kV		
Insulation voltage input / ground	DC 2.1 kV		
Insulation voltage output / ground	DC 700 V		
Insulation resistance at DC 500 V	100 MΩ		
Operation temperature range	-40 °C ... +71 °C (Derating)		
Derating	Capacity: -2.5 %/°C starting at +61 °C		
MTBF	481000 h		
Relative air humidity	20 – 90 % RH, not condensing	Monitoring	N/O contact
Dimensions (w x h x d)	83.5 mm x 124.5 mm x 116.6 mm	DC ON Control (Rdy)	DC 60 V
Cooling	Air convection, 25 mm clearance all-	Switching voltage	Max. 300 mA
		Switching current	DC 500 V
		Isolation voltage	

Part No.	Type	Weight/unit kg	PU (units)
722781	DRA240-24A	1.38	1

Dimensions



RIN assignment



Power supply - 240 W, 3-phase

Switchmode power supply, PFC, 3-phase

Input: AC 340–575 V, DC 480–820 V

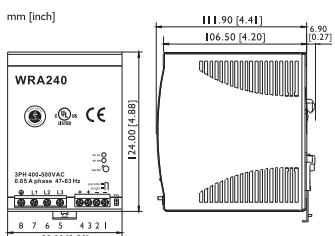
Output: DC 24 V, 10 A



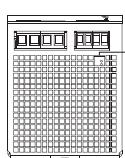
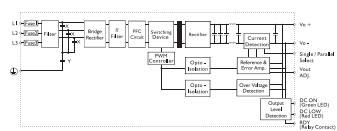
Input			
Rated voltage U_N	3 x AC 400–500 V	Housing material	round
Operation voltage range	3 x AC 340–575 V / 3 x DC 480–820 V	Mounting	Metal
Frequency range	47 Hz – 63 Hz	Degree of protection	DIN rail mountable TS35 (EN 60715)
Rated current I_N	0.65 A @ AC 400 V / 0.55 A @ AC 500 V	Protection class	IP20
Inrush current	20 A	Over voltage category	I
Internal fuse	3 x T2, 0 A/AC 600 V	Connection type	II
External protection	Mini-circuit breaker: 3 x B 6 A		Screw terminal
Power factor correction P.F.C.	0.6		0.20 mm ² – 4.0 mm ²
Number of phases	3		AWG 24 – AWG 10
Output			UL 508 Listed (E249179)
Rated voltage U_N	DC 24 V		UL 60950-1, (Class 1, Division 2, Groups A, B, C and D) (E350538)
Rated current I_N	10 A		CE
Setting range $U_{out\ min.}/U_{out\ max.}$	22.5/28.5 V		UKCA
Ripple and noise	100 mV		IEC/EN 62368-1
Hold up time	Min. 20 ms		EN 61558-1
Status indication DC ON LED green	≥17.6–19.4 V		EN 61558-2-16
Status indication DC LOW LED red	≤17.6–19.4 V		EN 61000-6-3
Parallel / redundant mode	Max. 2 units at 90% load current, manual switch S/P		EN 55032 Class B
Efficiency	90 %		EN 61000-3-2 Class D
Rated over load protection	Temperature: Deactivation at 100–110°C and automatic activation after cooling off		EN 61000-3-3
Over voltage protection	125–137 %		EN 61000-6-2
Short circuit	Hiccup Mode		EN 55024
General			EN 61000-4-2 Level 4
Switching frequency	Approx. 25 kHz		EN 61000-4-3 Level 3
Insulation voltage input / output	DC 4.2 kV		EN 61000-4-4 Level 4
Insulation voltage input / ground	DC 2.1 kV		EN 61000-4-5 L-N Level 3
Insulation voltage output / ground	DC 700 V		L/N-FG Level 4
Insulation resistance at DC 500 V	100 MΩ		EN 61000-4-6 Level 3
Operation temperature range	-40 °C ... +71 °C (Derating)		EN 61000-4-8 Level 4
Derating	Capacity: -2.5 %/°C starting at +61 °C		EN 61000-4-11 ENV 50204 Level 2
MTBF	520000 h		EN 61204-3
Relative air humidity	20 – 90 % RH, not condensing	Monitoring	N/O contact
Dimensions (w x h x d)	89.0 mm x 124.0 mm x 111.9 mm	DC ON Control (Rdy)	DC 60 V
Cooling	Air convection, 25 mm clearance all-	Switching voltage	Max. 300 mA
		Switching current	DC 500 V
		Isolation voltage	

Part No.	Type	Weight/unit kg	PU (units)
722804	WRA240-24	1.1	1

Dimensions



PIN assignment



Power supply - 480 W

Switchmode power supply, PFC, Single-phase

Input: AC 90–264 V, DC 120–375 V

Output: DC 24 V, 20 A



Input

Rated voltage U_N
Operation voltage range
Frequency range
Rated current I_N
Inrush current
Internal fuse
External protection
Power factor correction P.F.C.
Number of phases

AC 115 / 230 V (auto select)
AC 90–264 V / DC 120–375 V
47 Hz – 63 Hz
4.9 A @ AC 115 V / 2.5 A @ 230 V
25 A @ AC 115 V / 50 A @ AC 230 V
T10 A/AC 250 V
Mini-circuit breaker: B 16 A
0.99
1

Housing material
Mounting

Metal
DIN rail mountable TS35
(EN 60715)

IP20

I

II

Screw terminal
0.20 mm² – 4.0 mm²

AWG 24 – AWG 10

UL 508 Listed (E249179)
UL 60950-1, (Class 1, Division 2, Groups A, B, C and D) (E350538)

CE
UKCA

IEC/EN 62368-1

EN 61558-1

EN 61558-2-16

EN 61000-6-3

EN 55032 Class B

EN 61000-3-2 Class D

EN 61000-3-3

EN 61000-6-2

EN 55024

EN 61000-4-2 Level 4

EN 61000-4-3 Level 3

EN 61000-4-4 Level 4

EN 61000-4-5 L-N Level 3

L/N-FG Level 4

EN 61000-4-6 Level 3

EN 61000-4-8 Level 4

EN 61000-4-11 ENV 50204 Level 2

EN 61204-3

Output

Rated voltage U_N
Rated current I_N
Setting range $U_{out\ min.}/U_{out\ max.}$
Ripple and noise
Hold up time
Status indication DC ON LED green
Status indication DC LOW LED red
Parallel / redundant mode

DC 24 V
20 A
22.5/28.5 V
100 mV
Min. 30 ms
≥17.6–19.4 V
≤17.6–19.4 V
Max. 3 units at 90% load current, manual switch S/P
89 %
120–140 %
125–137 %
Current limit

Standards

General

Switching frequency
Insulation voltage input / output
Insulation voltage input / ground
Insulation voltage output / ground
Insulation resistance at DC 500 V
Operation temperature range
Derating
MTBF
Relative air humidity
Dimensions (w x h x d)
Cooling

Approx. 80 kHz
DC 4.2 kV
DC 2.1 kV
DC 700 V
100 MΩ
-40 °C ... +71 °C (Derating)
Capacity: -2.5 %/°C starting at +56 °C
469000 h
20 – 90 % RH, not condensing
175.5 mm x 124.5 mm x 116.6 mm
Air convection, 25 mm clearance all-around

Monitoring

DC ON Control (Rdy)
Switching voltage
Switching current
Isolation voltage

N/O contact

DC 60 V

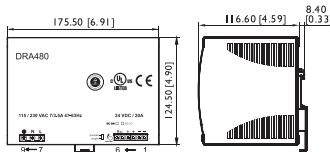
Max. 300 mA

DC 500 V

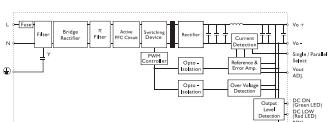
Part No.	Type	Weight/unit kg	PU (units)
722782	DRA480-24A	1.92	1

Dimensions

mm [inch]



PIN assignment



Power supply - 480 W, 3-phase

Switchmode power supply, PFC, 3-phase

Input: AC 340–575 V, DC 480–820 V

Output: DC 24 V, 20 A



Input

Rated voltage U_N	3 x AC 400–500 V	Cooling	Air convection, 25 mm clearance all-round
Operation voltage range	3 x AC 340–575 V / 3 x DC 480–820 V	Housing material	Metal
Frequency range	47 Hz – 63 Hz	Mounting	DIN rail mountable TS35 (EN 60715)
Rated current I_N	1.1 A @ AC 400 V / 0.93 A @ AC 500 V	Degree of protection	IP20
Inrush current	20 A	Protection class	I
Internal fuse	T3, 15 A/Phase	Over voltage category	II
External protection	Mini-circuit breaker: 3 x B 10 A, C 6 A	Connection type	Screw terminal
Power factor correction P.F.C.	0.7		0.20 mm ² – 4.0 mm ²
Number of phases	3		AWG 24 – AWG 10

Output

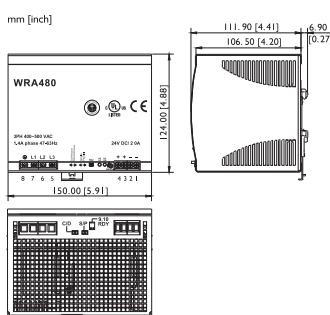
Rated voltage U_N	DC 24 V	Approvals	UL 508 Listed (E249179)
Rated current I_N	20 A		UL 60950-1, (Class 1, Division 2, Groups A, B, C and D) (E350538)
Setting range $U_{out\ min.}/U_{out\ max.}$	22.5/28.5 V		CE
Ripple and noise	100 mV		UKCA
Hold up time	Min. 20 ms		IEC/EN 62368-1
Status indication DC ON LED green	≥ 17.6 –19.4 V		EN 61558-1
Status indication DC LOW LED red	≤ 17.6 –19.4 V		EN 61558-2-16
Parallel / redundant mode	Max. 3 units at 90% load current, manual switch S/P		EN 61000-6-3
Efficiency	90 %		EN 55032 Class B
Rated over load protection	115–135 %		EN 61000-3-2 Class D
Over voltage protection	125–137 %		EN 61000-3-3
Short circuit	Current limit (C) / Hiccup Mode (D), switching with switch C/D		EN 61000-6-2
	Hiccup Mode: deactivation within 3 s and restart after 30 s		EN 55024

General

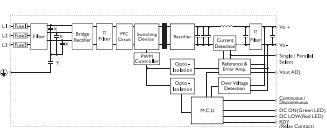
Switching frequency	Approx. 80 kHz	Standards	L/N-FG Level 4
Insulation voltage input / output	DC 4.2 kV		EN 61000-4-6 Level 3
Insulation voltage input / ground	DC 2.1 kV		EN 61000-4-8 Level 4
Insulation voltage output / ground	DC 700 V		EN 61000-4-11 ENV 50204 Level 2
Insulation resistance at DC 500 V	100 MΩ		EN 61204-3
Operation temperature range	-40 °C ... +71 °C (Derating)	Monitoring	N/O contact
Derating	Capacity: -2.5 %/°C starting at +61 °C	DC ON Control (Rdy)	DC 60 V
MTBF	412000 h	Switching voltage	Max. 300 mA
Relative air humidity	20 – 90 % RH, not condensing	Switching current	DC 500 V
Dimensions (w x h x d)	150.00 mm x 124.0 mm x 118.8 mm	Isolation voltage	

Part No.	Type	Weight/unit kg	PU (units)
722805	WRA480-24	1.75	1

Dimensions



PIN assignment



Power supply - Redundant module

Redundant module 20 A with 2 inputs

Potential-free signalling contact and Status LED per input

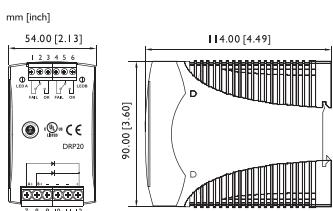
Over- and undervoltage control



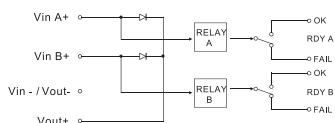
Input		
Rated voltage U_N	DC 24 V	
Operation voltage range	DC 21–28 V	Approvals
Rated current I_N	max. 20 A in total	
No. of inputs	2	
Output		Standards
Rated voltage U_N	24 V	
Rated current I_N	20 A	
Max. output current	30 A, 5 s @ 24 V	
Status indication DC ON LED green	ON: DC input A or B OK / OFF: Error	
Rated over load protection	No	
Over voltage protection	No	
Voltage drop	0.5 V	
Inverse voltage	30 V	
General		
Operation temperature range	-40 °C ... +71 °C (Derating)	Monitoring
MTBF	659000 h	DC ON Control (Rdy)
Dimensions (w × h × d)	54.0 mm × 90.0 mm × 114.0 mm	
Cooling	Air convection	
Housing material	Plastic	
Mounting	DIN rail mountable TS35 (EN 60715)	
Degree of protection	IP20 (IEC 529 / EN 60529)	Switching voltage
Over voltage category	II	Switching current
Connection type	Screw terminal	Switching capacity
		Isolation voltage
		Changeover contact per input
		No error: input voltage >20 V or <30 V, connection 2(5) - 3(6) closed
		Error: input voltage <20 V or >30 V, connection 2(5) - 1(4) closed
		AC 300 V / DC 150 V
		AC/DC 1 A
		300 VA / 30 W
		AC 100 V

Part No.	Type	Weight/unit kg	PU (units)
722987	DRP20	0.21	1

Dimensions



PIN assignment



Notes

COMPACT Power Supplies



COMPACT Series

- One, two and three phase
- 80 to 2400 Watts
- Regulated
- Wide input voltage ranges: AC 90 - 550 V
- Output voltage range: DC 24/48/72 V
- Output current range: 5 - 100 Amps
- Overload and short circuit protection
- High efficiency
- DIN rail mountable
- Compact footprint
- Subseries: Eco, Universal, Ultra
- 5 year warranty
- UL Listed

Power supply - Compact Universal, 120 W

Switchmode power supplies, PFC, 1/2-phase

Input: wide-range input AC 187–550 V, DC 270–725 V

Output: DC 24 V, 5 A



Input

Rated voltage U_N
Operation voltage range
Frequency range
Rated current I_N
Inrush current
External protection
Power factor correction P.F.C.
Number of phases

AC 200–500 V
AC 187–550 V / DC 270–725 V
47 Hz – 63 Hz
1.4 A @ AC 200 V / 0.7 A @ AC 500 V
<21 A
Mini-circuit breaker: D 6 A, C 6 A / safety fuse: T 4 A (required)
>0.55
2

Cooling

Housing material
Mounting
Degree of protection
Protection class
Over voltage category
Connection type

Air convection, 50 mm distance top/bottom, 20 mm side

Aluminum
DIN rail mountable TS35 (EN 60715)

IP20 (IEC 529 / EN 60529)

I

III
Screw terminal
0,20 mm² – 2,5 mm²
AWG 24 – AWG 12

plug-in

CE
UKCA

cULus (E249179)

UL 508

IEC/EN 61010-1

IEC/EN 61010-2-201

IEC/EN 60950

EN 55011 (CISPR11) Class A

EN 55022 (CISPR22) Class A

EN 61000-4-2 Level 3

EN 61000-4-3 Level 3

EN 61000-4-4 Level 3

EN 61000-4-5 Level 4

EN 61000-4-11 Level 2

IEC 60068-2-6 (Vibration sinuoidal),

5-17.8 Hz: ±1.6 mm, 17.8-500 Hz: 2 g 2 hours / axis (X,Y,Z)

IEC 60068-2-27 (Shock), 30 g 6 ms, 20 g 11 ms, 3 bumps / direction, 18 bumps total

Output

Rated voltage U_N
Rated current I_N
Max. output current
Short-circuit current
Setting range $U_{out\ min.}/U_{out\ max.}$
Ripple and noise
Hold up time

DC 24 V
5 A
7.5 A, 30 s
14 A
23-28 V
<110 mV pp
>17 ms @ AC 120 V / >60 ms @ AC 230 V
≥21.6 V
 $I_{out} > 110 \% I_N$
Yes/via external decoupling diode e.g. 722999
88 %
Yes
>DC 33 V
Hiccup Mode

Approvals

Standards

General

Insulation voltage input / output
Insulation voltage input / ground
Insulation voltage output / ground
Operation temperature range

DC 4.2 kV
DC 2.2 kV
DC 750 V
-20 °C ... +70 °C (overtemperature protection)
>60 °C: -1.2 W/°C
>500000 h: SN29500 / >500000 h: MIL HDBK 217F
5 – 95 % RH, non-condensing
40.0 mm × 115.0 mm × 110.0 mm

Monitoring

DC ON Control (Rdy)
Switching voltage
Switching current
Switching capacity
Isolation voltage

N/O contact

AC/DC 300 V / DC 150 V

AC/DC 1 A

300 VA / 30 W

AC 500 V

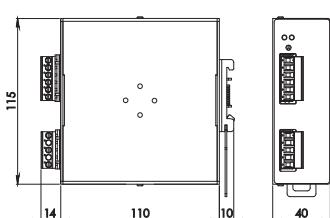
Derating

MTBF

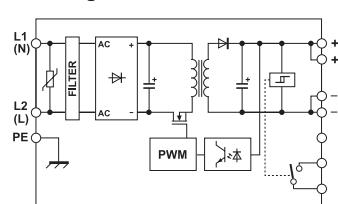
Relative air humidity
Dimensions (w × h × d)

Part No.	Type	Weight/unit kg	PU (units)
722995	CPSB2-120-24	0.5	1

Dimensions



PIN assignment



Power supply - Compact Economy, 120 W

Switchmode power supply, PFC, Single-phase

Input: wide-range input AC 85–264 V, DC 110–345 V

Output: DC 24 V, 5 A



Input

Rated voltage U_N
Operation voltage range
Frequency range
Rated current I_N
Inrush current
Internal fuse
External protection
Power factor correction P.F.C.
Number of phases

AC 120/240 V
AC 85–264 V / DC 110–345 V
47 Hz – 63 Hz
2.1 A @ AC 120 V / 1.2 A @ AC 240 V
 ≤ 30 A / 0.72 A²s
T3, 15 A/AC 250 V
Mini-circuit breaker: C 6 A / Fusible link:
T 10 A
 >0.6
1

Output

Rated voltage U_N
Rated current I_N
Max. output current
Setting range $U_{out\ min.} / U_{out\ max.}$
Ripple and noise
Hold up time
Status indication DC ON LED green
Status indication DC LOW LED red
Parallel / redundant mode
Efficiency
Over voltage protection
Short circuit
Overtemperature protection

DC 24 V
5 A
7 A, 5 s
DC 23–28 V
 <60 mV
 >20 ms @ AC 120 V / 50 ms @ AC 230 V
 ≥ 21.6 V
 ≤ 21.6 V
Yes/via external decoupling diode e.g.
722999
 >87 %
 \geq DC 33 V
Hiccup Mode
Yes

General

Insulation voltage input / output
Insulation voltage input / ground
Insulation voltage output / ground
Operation temperature range
Derating
Relative air humidity
Dimensions (w x h x d)

DC 4.2 kV
DC 2.2 kV
DC 750 V
 -40 °C ... $+70$ °C (UL approved up to
 $+60$ °C)
 >60 °C: -2.4 W/°C
 5 – 95 % RH, non-condensing
40.0 mm x 115.0 mm x 110.0 mm

Cooling

Housing material
Mounting
Degree of protection
Protection class
Over voltage category
Connection type

Approvals

Standards

Air convection, 50 mm distance top/
bottom, 20 mm side
Aluminum
DIN rail mountable TS35
(EN 60715)
IP20 (IEC 529 / EN 60529)
I
III
Screw terminal
0.20 mm² – 2.5 mm²
plug-in
CE
UKCA
cULus (E249179)
UL 508
IEC/EN 61010-1
IEC/EN 61010-2-201
IEC/EN 60950
EN 55011 (CISPR11) Class A
EN 55022 (CISPR22) Class A
EN 61000-4-2 Level 3
EN 61000-4-3 Level 3
EN 61000-4-4 Level 3
EN 61000-4-5 Level 3
EN 61000-4-11 Level 2
IEC 60068-2-6 (Vibration sinusoidal),
5–17.8 Hz: ± 1.6 mm, 17.8–500 Hz: 2 g 2
hours / axis (X,Y,Z)
IEC 60068-2-27 (Shock), 30 g 6 ms, 20
g 11 ms, 3 bumps / direction, 18 bumps
total

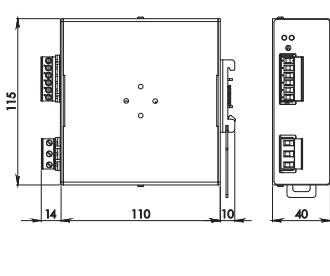
Monitoring

DC ON Control (Rdy)
Switching voltage
Switching current
Switching capacity
Isolation voltage

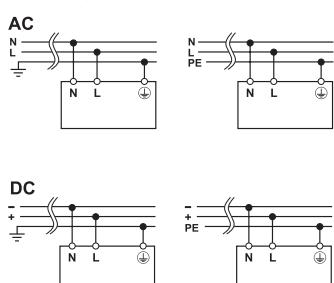
N/O contact
AC 300 V / DC 150 V
AC/DC 1 A
300 VA / 30 W
AC 500 V

Part No.	Type	Weight/unit kg	PU (units)
723500	CPSB1-120-24E	0.45	1

Dimensions



PIN assignment



Power supply - Compact Ultra, 120 W

Primary switchmode power supply, PFC, Single-phase

Input: AC 90–264 V, DC 110–345 V

Output: DC 24 V, 5 A



Input

Rated voltage U_N
Operation voltage range
Frequency range
Rated current I_N

Internal fuse
External protection

Power factor correction P.F.C.
Number of phases
Inrush peak current

AC 120/240 V (UL certified)
AC 90–264 V / DC 110–345 V
47 Hz – 63 Hz
1.4 A @ AC 120 V / 0.7 A @ AC 240
V1.4 A @ AC 120 V / 0.7 A @ AC 240 V
T3, 15 A (non-replaceable)
Mini-circuit breaker: C 4 A / Fusible link:
T 4 A
>0.90, enabled
1
 ≤ 32 A / 0.49 A²s

Output

Rated voltage U_N
Rated current I_N
Max. output current

Setting range $U_{out\ min.}/U_{out\ max.}$
Ripple and noise
Hold up time

Status indication DC ON LED green
Status indication DC LOW LED red
Parallel / redundant mode

Efficiency
Over voltage protection
Short circuit
Overload limit in constant current mode
Overtemperature protection

DC 24 V
5 A
7.5 A, 5 s @ Hiccup Mode 7.5 A, 5 s @
Hiccup Mode
DC 11.5–29 V
 ≤ 60 mV pp
 ≥ 20 ms @ AC 120 V / ≥ 30 ms @ AC 240
V

≥ 21.6 V
 ≤ 21.6 V
Yes/via external decoupling diode e.g.
Part-No. 722999
>90 % @ AC 240 V
 \geq DC 33 V ($U_A=24$ V)
Hiccup Mode / Current limit
7.5 A
Yes

General

Insulation voltage input / output
Insulation voltage input / ground
Insulation voltage output / ground
Operation temperature range
Derating
MTBF

DC 4.2 kV, 1 min.
DC 2.2 kV, 1 min.
DC 750 V, 1 min.
-35 °C ... +70 °C
>60 °C: 1.2 W/°C
MIL-HDBK-217F, >500000 h at 25 °C
ambient full load

Relative air humidity

5 – 95 % RH, non-condensing

Dimensions (w x h x d)
Cooling

Housing material
Mounting

Degree of protection
Protection class
Over voltage category
Connection type

Strip length
Screwdriver
Tightening torque
Approvals

Standards

35.0 mm x 103.0 mm x 126.0 mm
Air convection, 50 mm distance top/bottom, 20 mm side

Aluminum
DIN rail mountable TS35 (EN 60715)

IP20 (IEC 529 / EN 60529)

I (EN 50178)

Screw terminal

0.20 mm² – 2.5 mm² / AWG 24 – 12
6.0 – 7.5 mm / 0.24 – 0.30 in

3.0 x 0.5 mm
0.5 – 0.6 Nm / 4.42 – 5.30 lbf in

CE

UKCA

cULus (E249179)

UL 508

IEC/EN 61010-1

IEC/EN 61010-2-201

IEC/EN 60950

EN 55011 (CISPR11) Class B (EMC Emission)

EN 61000-3-2 Class A

EN 61000-4-2 Level 3

EN 61000-4-3 Level 3

EN 61000-4-4 Level 4

EN 61000-4-5 Level 4

EN 61000-4-11 Level 2

IEC 60068-2-6 (Vibration sinusoidal), 5–17.8 Hz: ± 1.6 mm, 17.8–500 Hz: 2 g hours / axis (X,Y,Z)

IEC 60068-2-27 (Shock), 30 g 6 ms, 20 g 11 ms, 3 bumps / direction, 18 bumps total

Monitoring

DC ON Control (Rdy)
Switching voltage
Switching current
Switching capacity
Isolation voltage

N/O contact

AC/DC 300 V / DC 150 V

AC/DC 1 A

300 VA / 30 W

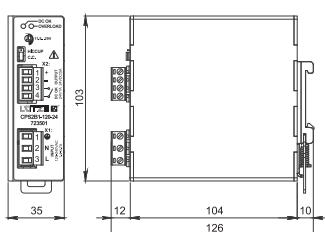
AC 500 V

Weight/unit kg

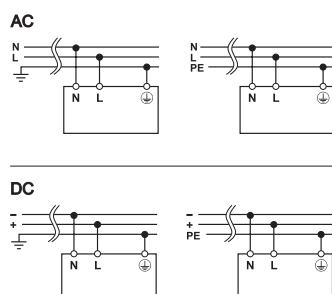
PU (units)

Part No.	Type	Weight/unit kg	PU (units)
723501	CPS2B1-120-24	0.45	1

Dimensions



PIN assignment



Power supply - Compact Economy, 120 W

Switchmode power supply, PFC, Single-phase

Input: wide-range input AC 90–264 V, DC 110–345 V

Output: DC 48 V, 2.5 A



Input

Rated voltage U_N	AC 120/230 V
Operation voltage range	AC 90–264 V / DC 110–370 V
Frequency range	47 Hz – 63 Hz
Rated current I_N	2.1 A @ AC 115 V / 1.2 A @ AC 230 V
Inrush current	$\leq 30 \text{ A} / 0.72 \text{ A}^2\text{s}$
Internal fuse	T3, 15 A/AC 250 V
External protection	Mini-circuit breaker: C 6 A / Fusible link: T 10 A
Power factor correction P.F.C.	>0.6
Number of phases	1

Output

Rated voltage U_N	DC 48 V
Rated current I_N	2.5 A
Max. output current	3.7 A, 5 s
Short-circuit current	30 A
Setting range $U_{out \min.}/U_{out \max.}$	DC 45–55 V
Ripple and noise	60 mV
Hold up time	>10 ms @ AC 120 V / 50 ms @ AC 230 V
Status indication DC ON LED green	≥43.2 V
Status indication DC LOW LED red	≤43.2 V
Parallel / redundant mode	Yes / decoupling diode contained internally
Efficiency	>86 %
Rated over load protection	Yes
Over voltage protection	Yes
Short circuit	Hiccup Mode
Overtemperature protection	Yes

General

Switching frequency	Approx. 110 kHz
Insulation voltage input / output	DC 4.2 kV
Insulation voltage input / ground	DC 2.2 kV
Insulation voltage output / ground	DC 750 V
Operation temperature range	-40 °C ... +70 °C (UL approved up to +60 °C)
Derating	>60 °C: -2.4 W/°C
MTBF	>500000 h: SN29500 / >600000 h: MIL HDBK 217F

Relative air humidity

Dimensions (w x h x d)
Cooling

5 – 95 % RH, non-condensing
40.0 mm x 115.0 mm x 134.0 mm
Air convection, 50 mm distance top/bottom, 20 mm side

Aluminum
DIN rail mountable TS35
(EN 60715)

IP20 (IEC 529 / EN 60529)

I

III

Screw terminal
0.20 mm² – 2.5 mm²
plug-in

CE

UKCA

cULus (E249179)

UL 508

IEC/EN 61010-1

IEC/EN 61010-2-201

IEC/EN 60950

EN 55011 (CISPR11) Class A

EN 55022 (CISPR22) Class A

EN 61000-4-2 Level 3

EN 61000-4-3 Level 3

EN 61000-4-4 Level 3

EN 61000-4-5 Level 3

EN 61000-4-11 Level 2

IEC 60068-2-6 (Vibration sinusoidal),
5–17.8 Hz: ±1.6 mm, 17.8–500 Hz: 2 g 2 hours / axis (X,Y,Z)

IEC 60068-2-27 (Shock), 30 g 6 ms, 20 g 11 ms, 3 bumps / direction, 18 bumps total

Monitoring

DC ON Control (Rdy)
Switching voltage
Switching current
Switching capacity
Isolation voltage

N/O contact

AC 300 V / DC 150 V

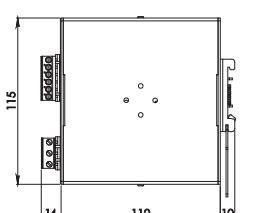
AC/DC 1 A

300 VA / 30 W

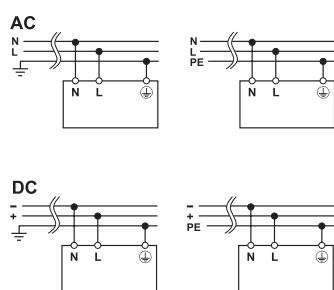
AC 500 V

Part No.	Type	Weight/unit kg	PU (units)
722784	CPSB1-120-48R	0.45	1

Dimensions



PIN assignment



Power supply - Compact Ultra, 120 W

Primary switchmode power supply, PFC, Single-phase

Input: AC 90–264 V, DC 110–345 V

Output: DC 48 V, 2.5 A



Input

Rated voltage U_N	AC 120/240 V (UL certified)
Operation voltage range	AC 90–264 V / DC 110–345 V
Frequency range	47 Hz – 63 Hz
Rated current I_N	1.4 A @ AC 120 V / 0.7 A @ AC 240 V 1.4 A @ AC 120 V / 0.7 A @ AC 240 V
Internal fuse	T3, 15 A (non-replaceable)
External protection	Mini-circuit breaker: C 4 A / Fusible link: T 4 A
Power factor correction P.F.C.	>0.90, enabled
Number of phases	1
Inrush peak current	≤32 A / 0.49 A ² s

Output

Rated voltage U_N	DC 48 V
Rated current I_N	2.5 A
Max. output current	3.75 A, 5 s @ Hiccup Mode
Setting range $U_{out\ min.}/U_{out\ max.}$	DC 23–56 V
Ripple and noise	≤60 mV pp
Hold up time	≥20 ms @ AC 120 V / ≥30 ms @ AC 240 V

Status indication DC ON LED green	≥43.2 V
Status indication DC LOW LED red	≤43.2 V
Status indication DC ON LED red	Redundancy error Yes/via external decoupling diode e.g. Part-No. 722999
Parallel / redundant mode	Yes

Efficiency

Over voltage protection	>90 % @ AC 240 V
Short circuit	≥DC 68 V
Overload limit in constant current mode	Adjustable: Hiccup, C.C. Mode
Overtemperature protection	3.75 A

General

Insulation voltage input / output	DC 4.2 kV, 1 min.
Insulation voltage input / ground	DC 2.2 kV, 1 min.
Insulation voltage output / ground	DC 750 V, 1 min.
Operation temperature range	-35 °C ... +70 °C
Derating	>60 °C: -1.2 W/°C
MTBF	MIL-HDBK-217F, >500000 h at 25 °C ambient full load

Relative air humidity

Dimensions (w x h x d)	35.0 mm × 103.0 mm × 126.0 mm
Cooling	Air convection, 50 mm distance top/bottom, 20 mm side
Housing material	Aluminum
Mounting	DIN rail mountable TS35 (EN 60715)
Degree of protection	IP20 (IEC 529 / EN 60529)
Protection class	I
Over voltage category	III (EN 50178)
Connection type	Screw terminal
Strip length	0,20 mm ² – 2,5 mm ² / AWG 24 – 12
Screwdriver	6,0 – 7,5 mm / 0,24 – 0,30 in
Tightening torque	3,0 × 0,5 mm 0,5 – 0,6 Nm / 4,42 – 5,30 lbf in
Approvals	CE
Standards	UKCA cULus (E249179) UL 508 IEC/EN 61010-1 IEC/EN 61010-2-201 IEC/EN 60950 EN 55011 (CISPR11) Class B (EMC Emission) EN 61000-3-2 Class A EN 61000-4-2 Level 3 EN 61000-4-3 Level 3 EN 61000-4-4 Level 4 EN 61000-4-5 Level 4 EN 61000-4-11 Level 2 IEC 60068-2-6 (Vibration sinusoidal), 5–17.8 Hz: ±1.6 mm, 17.8–500 Hz: 2 g 2 hours / axis (X,Y,Z) IEC 60068-2-27 (Shock), 30 g 6 ms, 20 g 11 ms, 3 bumps / direction, 18 bumps total

Monitoring

DC ON Control (Rdy)	N/O contact
Switching voltage	AC/DC 300 V / DC 150 V
Switching current	AC/DC 1 A
Switching capacity	300 VA / 30 W
Isolation voltage	AC 500 V

Power supply - Compact Ultra, 120 W

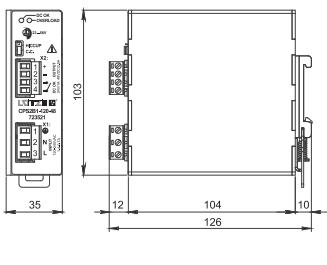
Primary switchmode power supply, PFC, Single-phase

Input: AC 90–264 V, DC 110–345 V

Output: DC 48 V, 2.5 A

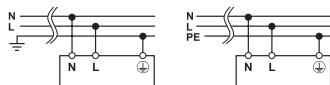
Part No.	Type	Weight/unit kg	PU (units)
723521	CPS2B1-120-48	0.45	1

Dimensions

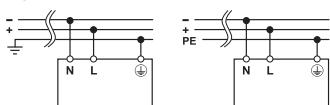


PIN assignment

AC



DC



Power supply - Compact Economy, 240 W

Switchmode power supply, PFC, Single-phase

Input: AC 90–132 V, AC 187–264 V, DC 270–345 V

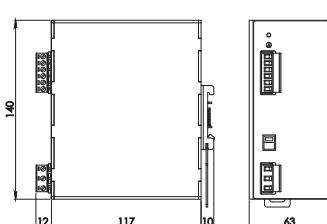
Output: DC 24 V, 10 A



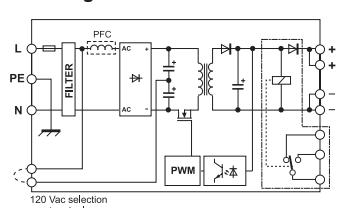
Input	Cooling	Air convection, 50 mm distance top/bottom, 20 mm side
Rated voltage U_N Operation voltage range	AC 120/240 V (manual) AC 90–132 V / AC 187–264 V / DC 270–345 V	Aluminum Mounting
Frequency range	47 Hz – 63 Hz	DIN rail mountable TS35 (EN 60715)
Rated current I_N	4 A @ AC 120 V / 2 A @ AC 240 V	IP20 (IEC 529 / EN 60529) III
Inrush current	<40 A	Screw terminal
Internal fuse	T6, 3 A/AC 250 V	0,20 mm ² – 2,5 mm ²
External protection	Mini-circuit breaker: C 10 A / Safety fuse: T 10 A	plug-in
Power factor correction P.F.C.	>0.6	CE
Number of phases	1	UKCA
Output	Approvals	cULus (E249179)
Rated voltage U_N	DC 24 V	UL 508
Rated current I_N	10 A	IEC/EN 61010-1
Max. output current	13.5 A, 30 s	IEC/EN 61010-2-201
Setting range $U_{out\ min.}/U_{out\ max.}$	DC 23–27.5 V	IEC/EN 60950
Ripple and noise	<100 mV pp	EN 55011 (CISPR11) Class A
Hold up time	>60 ms @ AC 120 V / >70 ms @ AC 240 V	EN 55022 (CISPR22) Class A
Status indication DC ON LED green	≥21.6 V	EN 61000-4-3 Level 3
Status indication DC LOW LED red	≤21.6 V	EN 61000-4-2 Level 3
Parallel / redundant mode	Yes/via external decoupling diode e.g. 722999	EN 61000-4-4 Level 3
Efficiency	>87 %	EN 61000-4-5 Level 3
Over voltage protection	>DC 33 V ($U_A=24$ V)	EN 61000-4-11 Level 2
Short circuit	Hiccup Mode	IEC 60068-2-6 (Vibration sinusoidal), 5-17.8 Hz: ±1.6 mm, 17.8-500 Hz: 2 g 2 hours / axis (X,Y,Z)
Overtemperature protection	Yes	IEC 60068-2-27 (Shock), 30 g 6 ms, 20 g 11 ms, 3 bumps / direction, 18 bumps total
General	Standards	
Insulation voltage input / output	DC 4.2 kV	
Insulation voltage input / ground	DC 2.2 kV	
Insulation voltage output / ground	DC 750 V	
Operation temperature range	-40 °C ... +70 °C (UL approved up to +50 °C)	
Derating	>60 °C: -5 W/°C	
Dimensions (w × h × d)	63.0 mm × 140.0 mm × 139.0 mm	
Monitoring	N/O contact	
	DC ON Control (Rdy)	AC 300 V / DC 150 V
	Switching voltage	AC/DC 1 A
	Switching current	300 VA / 30 W
	Switching capacity	AC 500 V
	Isolation voltage	

Part No.	Type	Weight/unit kg	PU (units)
723600	CPSB1-240-24E	0.75	1

Dimensions



PIN assignment



Power supply - Compact Ultra, 240 W

Primary switchmode power supply, PFC, Single-phase

Input: AC 90–264 V, DC 110–345 V

Output: DC 24 V, 10 A



Input

Rated voltage U_N

Operation voltage range

Frequency range

Rated current I_N

Internal fuse

External protection

Power factor correction P.F.C.

Number of phases

Inrush peak current

Output

Rated voltage U_N

Rated current I_N

Max. output current

Setting range $U_{out\ min.}/U_{out\ max.}$

Ripple and noise

Hold up time

Status indication DC ON LED green

Status indication DC LOW LED red

Parallel / redundant mode

Efficiency

Over voltage protection

Short circuit

Overload limit in constant current mode

Overtemperature protection

General

Insulation voltage input / output

Insulation voltage input / ground

Insulation voltage output / ground

Operation temperature range

Derating

MTBF

Relative air humidity

Dimensions (w x h x d)

Cooling

AC 120/240 V (UL certified)

AC 90–264 V / DC 110–345 V

47 Hz – 63 Hz

2.4 A @ AC 120 V / 1.2 A @ AC 240 V

T6, 3 A (non-replaceable)

Mini-circuit breaker: C 10 A / Safety fuse:

T 10 A

>0,90, enabled

1

≤34 A / 0.66 A²s

DC 24 V

10 A

15 A, 5 s @ Hiccup Mode

DC 22–29 V

≤260 mV pp

≥20 ms @ AC 240 V

≥21.6 V

≤21.6 V

Yes/via external decoupling diode e.g.

Part-No. 722999

>93 % @ AC 240 V

≥DC 33 V

Hiccup Mode, Constant current (C.C.)

11 A

Yes

DC 4.2 kV, 1 min.

DC 2.2 kV, 1 min.

DC 750 V, 1 min.

-40 °C ... +70 °C

no derating

MIL-HDBK-217F, >600000 h at 25 °C

ambient full load

5 – 95 %, non-condensing

40.0 mm x 115.0 mm x 133.0 mm

Air convection, 100 mm distance top/

Housing material

Mounting

Degree of protection

Protection class

Over voltage category

Connection type

Strip length

Screwdriver

Tightening torque

Approvals

Standards

Monitoring

DC ON Control (Rdy)

Switching voltage

Switching current

Switching capacity

Isolation voltage

bottom, 20 mm side

Aluminum

DIN rail mountable TS35

(EN 60715)

IP20 (IEC 529 / EN 60529)

I

III (EN 50178)

Screw terminal

0,20 mm² – 2,5 mm² / AWG 24 – 12

6,0 - 7,5 mm / 0,24 - 0,30 in

3,0 x 0,5 mm

0,5 – 0,6 Nm / 4,42 – 5,30 lbf in

CE

UKCA

cULus (E249179)

UL 508

IEC/EN 61010-1

IEC/EN 61010-2-201

IEC/EN 60950

EN 55011 (CISPR11) Class B (EMC Emission)

EN 61000-3-2 Class A

EN 61000-4-2 Level 3

EN 61000-4-3 Level 3

EN 61000-4-4 Level 4

EN 61000-4-5 Level 4

EN 61000-4-11 Level 2

IEC 60068-2-6 (Vibration sinusoidal), 5-17,8 Hz: ±1,6 mm, 17,8-500 Hz: 2 g 2 hours / axis (X,Y,Z)

IEC 60068-2-27 (Shock), 30 g 6 ms, 20 g 11 ms, 3 bumps / direction, 18 bumps total

N/O contact

AC/DC 300 V / DC 150 V

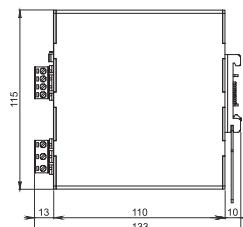
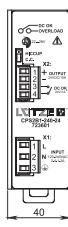
AC/DC 1 A

300 VA / 30 W

AC 500 V

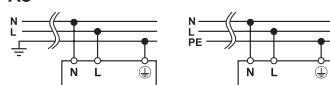
Part No.	Type	Weight/unit kg	PU (units)
723601	CPS2B1-240-24	0.75	1

Dimensions

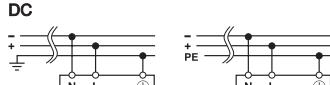


PIN assignment

AC



DC



Power supply - Compact Universal, 240 W

Switchmode power supplies, PFC, 1/2/3-phase

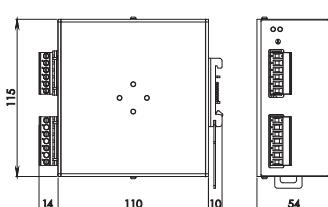
Input: wide-range input AC 187–550 V, DC 250–725 V (UL: DC 300–500 V)

Output: DC 24 V, 10 A

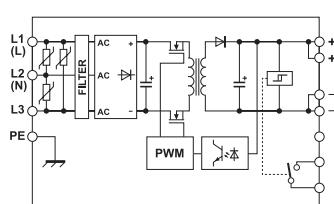


Input	AC 200–500 V AC 187–550 V / DC 250–725 V (UL: DC 300–500 V) 47 Hz – 63 Hz 1-/2-/3-phase: 2.2 A @ AC 220 V / 1.1 A @ AC 500 V, 3-phase: 1.5 A @ AC 220 V / 0.8 A @ AC 500 V ≤45 A / 1.31 A ² s Mini-circuit breaker: D 4 A, C 6 A / safety fuse: T 6.3 A (required) >0.6 @ 230 V, >0.5 @ 400 V 3	Relative air humidity Dimensions (w x h x d) Cooling Housing material Mounting Degree of protection Protection class Over voltage category Connection type	5 – 95 % RH, non-condensing 54.0 mm x 115.0 mm x 110.0 mm Air convection, 50 mm distance top/bottom, 20 mm side Aluminum DIN rail mountable TS35 (EN 60715) IP20 (IEC 529 / EN 60529) I III Screw terminal 0.20 mm ² – 2.5 mm ² AWG 30 – AWG 12 plug-in
Output	DC 24 V 10 A 15 A, 6 A 38 A 23–28 V <100 mV pp >15 ms @ AC 230 V / >100 ms @ AC 500 V ≥21.6 V ≤21.6 V Yes/via external decoupling diode e.g. 722999 >93 % Yes >DC 33 V Hiccup Mode	Approvals Standards	CE UKCA cULus (E249179) UL 508 IEC/EN 61010-1 IEC/EN 61010-2-201 IEC/EN 60950 EN 55011 (CISPR11) Class A EN 55022 (CISPR22) Class A EN 61000-4-2 Level 3 EN 61000-4-3 Level 3 EN 61000-4-4 Level 3 EN 61000-4-5 Level 1 EN 61000-4-11 Level 2 IEC 60068-2-6 (Vibration sinusoidal), 5–17.8 Hz: ±1.6 mm, 17.8–500 Hz: 2 g 2 hours / axis (X,Y,Z) IEC 60068-2-27 (Shock), 30 g 6 ms, 20 g 11 ms, 3 bumps / direction, 18 bumps total
General	DC 4.2 kV DC 2.2 kV DC 750 V -40 °C ... +70 °C (UL approved up to +50 °C) >50 °C: -4.2 W/°C >500000 h: SN29500 / >500000 h: MIL HDBK 217F	Monitoring DC ON Control (Rdy) Switching voltage Switching current Switching capacity Isolation voltage	N/O contact DC 30 V DC 1 A 30 W AC 500 V
Part No.	Type	Weight/unit kg	PU (units)
722996	CPSB-123-240-24	0.65	1

Dimensions



PIN assignment



Power supply - Compact Economy, 240 W

Switchmode power supply, PFC, Single-phase

Input: AC 90–132 V, AC 187–264 V, DC 270–345 V

Output: DC 48 V, 5 A



Input

Rated voltage U_N
Operation voltage range

AC 120 / 230 V (manual)
AC 90–132 V / AC 187–264 V / DC
270–345 V

Relative air humidity
Dimensions (w x h x d)
Cooling

5 – 95 % RH, non-condensing
63.0 mm x 140.0 mm x 117.0 mm
Air convection, 100 mm distance top/bottom, 20 mm side

Frequency range

47 Hz – 63 Hz

Housing material

Aluminum

Rated current I_N

4 A @ AC 115 V / 2 A @ AC 230 V

Mounting

DIN rail mountable TS35

Inrush current

$\leq 32 \text{ A} / 1.18 \text{ A}^2\text{s}$

(EN 60715)

Internal fuse

T6, 3 A/AC 250 V

IP20 (IEC 529 / EN 60529)

External protection

Mini-circuit breaker: C 10 A / Safety fuse:

I

Power factor correction P.F.C.

T 10 A

III

Number of phases

>0.6

Screw terminal

1

1

0.20 mm² – 2.5 mm²

max. 0.56 Nm

Output

Rated voltage U_N

DC 48 V

Approvals

CE

Rated current I_N

5 A

UKCA

Max. output current

6.8 A, 5 s

cULus (E249179)

Short-circuit current

20 A

UL 508

Setting range $U_{\text{out min}} / U_{\text{out max}}$

45-55 V

IEC/EN 61010-1

Ripple and noise

100 mV

IEC/EN 61010-2-201

Hold up time

>60 ms @ AC 120 V / >70 ms @ AC 230 V

IEC/EN 60950

Status indication DC ON LED green

≥43.2 V

EN 55011 (CISPR11) Class A

Status indication DC LOW LED red

≤43.2 V

EN 55022 (CISPR22) Class A

Parallel / redundant mode

Yes / decoupling diode contained internally

EN 61000-4-3 Level 3

Efficiency

88 %

EN 61000-4-3 Level 3

Rated over load protection

Yes

EN 61000-4-4 Level 3

Over voltage protection

Yes

EN 61000-4-5 Level 3

Short circuit

Hiccup Mode

EN 61000-4-11 Level 2

General

Switching frequency

Approx. 110 kHz

IEC 60068-2-6 (Vibration sinusoidal),

Insulation voltage input / output

DC 4.2 kV

5-17.8 Hz: ±1.6 mm, 17.8-500 Hz: 2 g 2 hours / axis (X,Y,Z)

Insulation voltage input / ground

DC 2.2 kV

IEC 60068-2-27 (Shock), 30 g 6 ms, 20 g 11 ms, 3 bumps / direction, 18 bumps total

Insulation voltage output / ground

DC 750 V

Operation temperature range

-40 °C ... +70 °C (UL approved up to +50 °C)

Monitoring

Derating

>60 °C: -5 W/°C

DC ON Control (Rdy)

MTBF

>500000 h: SN29500 / >500000 h: MIL HDBK 217F

Switching voltage

AC 300 V / DC 150 V

N/O contact

Switching current

AC/DC 1 A

AC 500 V

Switching capacity

300 VA / 30 W

Isolation voltage

Dimensions

Part No.

Type

Weight/unit kg

PU (units)

722786

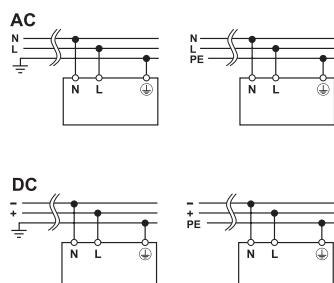
CPSB1-240-48R

0.75

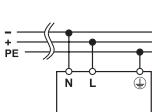
1

PIN assignment

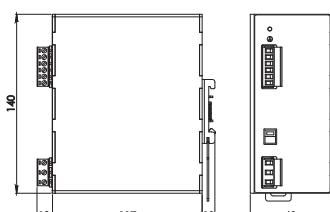
AC



DC



Dimensions



Power supply - Compact Ultra, 240 W

Primary switchmode power supply, PFC, Single-phase

Input: AC 90–264 V, DC 110–345 V

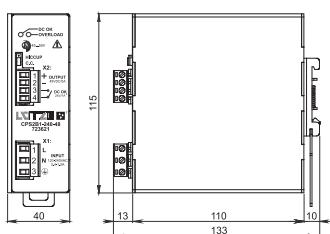
Output: DC 48 V, 5 A



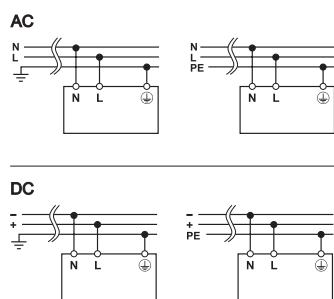
Input	Rated voltage U _N Operation voltage range Frequency range Rated current I _N Internal fuse External protection Power factor correction P.F.C. Number of phases Inrush peak current Touch current (leakage current)	AC 120/240 V (UL certified) AC 90–264 V / DC 110–345 V 47 Hz – 63 Hz 2.4 A @ AC 120 V / 1.2 A @ AC 240 V T6, 3 A (non-replaceable) 10AT or MCB 10A C-curve >0.90, enabled 1 ≤34 A / 0.66 A ² s ≤0.6 mA	Housing material Mounting Degree of protection Protection class Over voltage category Connection type Strip length Screwdriver Tightening torque Approvals	Aluminum DIN rail mountable TS35 (EN 60715) IP20 (IEC 529 / EN 60529) I III (EN 50178) Screw terminal 0.20 mm ² – 2.5 mm ² / AWG 24 – 12 6.0 – 7.5 mm / 0.24 – 0.30 in 3.0 x 0.5 mm 0.5 – 0.6 Nm / 4.42 – 5.30 lbf in CE UKCA cULus (E249179) UL 508 IEC/EN 61010-1 IEC/EN 60950 IEC/EN 61010-2-201 EN 55011 (CISPR11) Class B (EMC Emission) EN 61000-3-2 Class A EN 55022 (CISPR22) Class B (EMC Emission) EN 61000-4-2 Level 3 EN 61000-4-3 Level 3 EN 61000-4-4 Level 4 EN 61000-4-5 Level 4 EN 61000-4-11 Level 2 IEC 60068-2-6 (Vibration sinusoidal), 5–17.8 Hz: ±1.6 mm, 17.8–500 Hz: 2 g 2 hours / axis (X,Y,Z) IEC 60068-2-27 (Shock), 30 g 6 ms, 20 g 11 ms, 3 bumps / direction, 18 bumps total
Output	Rated voltage U _N Rated current I _N Max. output current Setting range U _{out min.} / U _{out max.} Ripple and noise Hold up time Status indication DC ON LED green Status indication DC LOW LED red Parallel / redundant mode	DC 48 V 5 A 8.5 A, 5 s @ Hiccup Mode DC 45–55 V ≤400 mV pp ≥20 ms @ AC 240 V ≥43.2 V ≤43.2 V Yes/via external decoupling diode e.g. Part-No. 722999 ≥93.5 % @ AC 240 V ≥DC 68 V Adjustable: Hiccup, C.C. Mode 7 A Yes	Standards	
Efficiency		DC 4.2 KV, 1 min. DC 2.2 KV, 1 min. DC 750 V, 1 min. -40 °C ... +70 °C no derating		
General	Derating MTBF	MIL-HDBK-217F, >600000 h at 25 °C ambient full load 5 – 95 %, non-condensing	Monitoring	
Relative air humidity		40.0 mm x 115.0 mm x 133.0 mm	DC ON Control (Rdy)	N/O contact AC/DC 300 V / DC 150 V
Dimensions (w x h x d)		Air convection, 100 mm distance top/bottom, 20 mm side	Switching voltage	AC/DC 1 A 300 VA / 30 W
Cooling			Switching current	AC 500 V
			Switching capacity	
			Isolation voltage	

Part No.	Type	Weight/unit kg	PU (units)
723621	CPS2B1-240-48	0.75	1

Dimensions



PIN assignment



Power supply - Compact Ultra, 480 W

Primary switchmode power supply, PFC, Single-phase

Input: AC 90–264 V, DC 110–345 V

Output: DC 24 V, 20 A



Input

Rated voltage U_N

Operation voltage range

Frequency range

Rated current I_N

Internal fuse

External protection

Power factor correction P.F.C.

Number of phases

Inrush peak current

Output

Rated voltage U_N

Rated current I_N

Max. output current

Setting range $U_{out\ min.}/U_{out\ max.}$

Ripple and noise

Hold up time

Status indication DC ON LED green

Status indication DC LOW LED red

Parallel / redundant mode

Efficiency

Over voltage protection

Short circuit

Overload limit in constant current mode

Overtemperature protection

General

Insulation voltage input / output

Insulation voltage input / ground

Insulation voltage output / ground

Operation temperature range

Derating

MTBF

Relative air humidity

AC 120/240 V (UL certified)

AC 90–264 V / DC 110–345 V

47 Hz – 63 Hz

4.8 A @ AC 120 V / 2.4 A @ AC 240 V

8 AT (non-replaceable)

Mini-circuit breaker: C 10 A / Safety fuse:

T 10 A

>0,90, enabled

1

≤23 A / 0.56 A²s

DC 24 V

20 A

30 A, max. 5 s @ Hiccup Mode

21 A @ CC Mode

DC 22–29 V

<150 mV pp

>25 ms @ AC 240 V

≥21.6 V

≤21.6 V

Yes/via external decoupling diode e.g.

Part-No. 722999

>93 % @ AC 240 V

≥DC 33 V

Adjustable: Hiccup, C.C. Mode

21 A

Yes

DC 4.2 kV, 1 min.

DC 2.2 kV, 1 min.

DC 750 V, 1 min.

-40 °C ... +70 °C (UL approved up to

+50 °C) @ AC 120 V or up to +60 °C @

AC 240 V

>50 °C: -7.6 W/°C @ AC 120 V

>60 °C: -7.2 W/°C @ AC 240 V

MIL-HDBK-217F, >600000 h at 25 °C

ambient full load

5 – 95 %, non-condensing

Dimensions (w × h × d)

Cooling

Housing material

Mounting

Degree of protection

Protection class

Over voltage category

Connection type

Strip length

Screwdriver

Tightening torque

Approvals

Standards

56.0 mm × 140.0 mm × 139.0 mm

Air convection, 100 mm distance top/bottom, 20 mm side

Aluminum

DIN rail mountable TS35

(EN 60715)

IP20 (IEC 529 / EN 60529)

I

III (EN 50178)

Screw terminal

0,20 mm² – 2,5 mm² / AWG 24 – 12

6,0 - 7,5 mm / 0,24 - 0,30 in

3,0 × 0,5 mm

0,5 – 0,6 Nm / 4,42 – 5,30 lbf in

CE

UKCA

cULus (E249179)

UL 508

IEC/EN 61010-1

IEC/EN 61010-2-201

IEC/EN 60950

EN 55011 (CISPR11) Class B (EMC Emission)

EN 61000-3-2 Class A

EN 61000-4-2 Level 3

EN 61000-4-3 Level 3

EN 61000-4-4 Level 4

EN 61000-4-5 Level 4

EN 61000-4-11 Level 2

IEC 60068-2-27 (Shock), 30 g 6 ms, 20 g 11 ms, 3 bumps / direction, 18 bumps total

IEC 60068-2-6 (Vibration sinuosoidea), 5–17.8 Hz: ±1.6 mm, 17.8–500 Hz: 2 g 2 hours / axis (X,Y,Z)

Monitoring

DC ON Control (Rdy)

Switching voltage

Switching current

Switching capacity

Isolation voltage

N/O contact

AC/DC 300 V / DC 150 V

AC/DC 1 A

300 VA / 30 W

AC 500 V

Power supply - Compact Ultra, 480 W

Primary switchmode power supply, PFC, Single-phase

Input: AC 90–264 V, DC 110–345 V

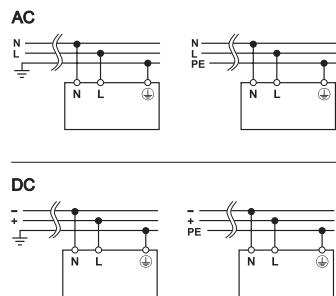
Output: DC 24 V, 20 A

Part No.	Type	Weight/unit kg	PU (units)
723700	CPS2B1-480-24E	1.1	1

Dimensions



PIN assignment



Power supply - Compact Economy, 480 W

Primary switchmode power supply, PFC, Single-phase

Input: AC 187–264 V, DC 250–375 V

Output: DC 24 V, 20 A



Input

Rated voltage U_N	AC 200–240 V (UL certified)
Operation voltage range	AC 187–264 V / DC 250–375 V
Frequency range	47 Hz – 63 Hz
Rated current I_N	2.9 A @ AC 200 V / 2.5 A @ AC 240 V
Internal fuse	No internal fuse, an external fuse must be provided.
External protection	6.3AT or MCB 6A C-curve or 4A D-curve
Power factor correction P.F.C.	>0.90, enabled
Number of phases	1
Inrush peak current	≤29 A / 0.61 A ² s
Touch current (leakage current)	≤0.5 mA

Output

Rated voltage U_N	DC 24 V
Rated current I_N	20 A
Max. output current	28 A, 5 s @ Hiccup Mode
Setting range $U_{out\ min.}/U_{out\ max.}$	DC 23–28 V
Ripple and noise	≤50 mV pp
Hold up time	≥50 ms @ AC 240 V
Status indication DC ON LED green	≥21.6 V
Status indication DC LOW LED red	≤21.6 V
Parallel / redundant mode	Yes/via external decoupling diode e.g. Part-No. 722999
Efficiency	>91 % @ AC 240 V
Over voltage protection	≥DC 33 V ($U_A=24$ V)
Short circuit	Hiccup Mode
Overload limit in constant current mode	50 A
Overtemperature protection	Yes

General

Insulation voltage input / output	DC 4.2 kV, 1 min.
Insulation voltage input / ground	DC 2.2 kV, 1 min.
Insulation voltage output / ground	DC 750 V, 1 min.
Operation temperature range	-40 °C ... +70 °C
Derating	>45 °C: -10 W/C @ AC 240 V
MTBF	MIL-HDBK-217F, >500000 h at 25 °C ambient full load
Relative air humidity	5 – 95 %, non-condensing
Dimensions (w x h x d)	73.0 mm x 140.0 mm x 149.0 mm

Cooling

Housing material	Air convection, 100 mm distance top/bottom, 20 mm side
Mounting	Aluminum
Degree of protection	DIN rail mountable TS35 (EN 60715)
Protection class	IP20 (IEC 529 / EN 60529)
Over voltage category	III (EN 50178)
Connection type	Screw terminal
Strip length	0,20 mm ² – 2,5 mm ² / AWG 24 – 12
Screwdriver	6,0 - 7,5 mm / 0,24 - 0,30 in
Tightening torque	3,0 x 0,5 mm
Approvals	0,5 – 0,6 Nm / 4,42 – 5,30 lbf in

CE	CE
UKCA	UKCA
cULus (E249179)	cULus (E249179)
UL 508	UL 508
IEC/EN 61010-1	IEC/EN 61010-1
IEC/EN 61010-2-201	IEC/EN 61010-2-201
IEC/EN 60950	IEC/EN 60950
EN 55011 (CISPR11) Class A	EN 55011 (CISPR11) Class A
EN 55022 (CISPR22) Class A	EN 55022 (CISPR22) Class A
EN 61000-3-2 Class A	EN 61000-3-2 Class A
EN 61000-4-2 Level 3	EN 61000-4-2 Level 3
EN 61000-4-3 Level 3	EN 61000-4-3 Level 3
EN 61000-4-4 Level 4	EN 61000-4-4 Level 4
EN 61000-4-5 Level 3	EN 61000-4-5 Level 3
EN 61000-4-11 Level 2	EN 61000-4-11 Level 2
IEC 60068-2-6 (Vibration sinusoidal), 5-17.8 Hz: ±1.6 mm, 17.8-500 Hz: 2 g 2 hours / axis (X,Y,Z)	IEC 60068-2-6 (Vibration sinusoidal), 5-17.8 Hz: ±1.6 mm, 17.8-500 Hz: 2 g 2 hours / axis (X,Y,Z)
IEC 60068-2-27 (Shock), 30 g 6 ms, 20 g 11 ms, 3 bumps / direction, 18 bumps total	IEC 60068-2-27 (Shock), 30 g 6 ms, 20 g 11 ms, 3 bumps / direction, 18 bumps total

Standards

DC ON Control (Rdy)	N/O contact
Switching voltage	AC/DC 300 V / DC 150 V
Switching current	AC/DC 1 A
Switching capacity	300 VA / 30 W
Isolation voltage	AC 500 V

Power supply - Compact Economy, 480 W

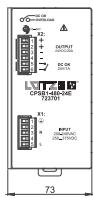
Primary switchmode power supply, PFC, Single-phase

Input: AC 187–264 V, DC 250–375 V

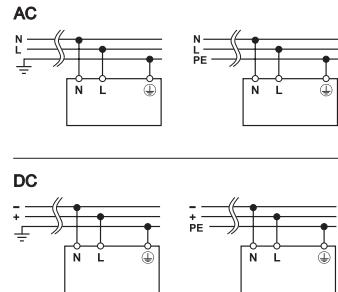
Output: DC 24 V, 20 A

Part No.	Type	Weight/unit kg	PU (units)
723701	CPSB1-480-24E	1	1

Dimensions



PIN assignment



Power supply - Compact Universal, 480 W

Switchmode power supplies, PFC, 1/2/3-phase

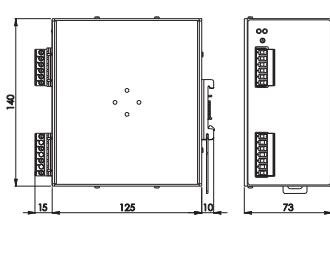
Input: wide-range input AC 187–550 V, DC 250–725 V (UL: DC 300–500 V)

Output: DC 24 V, 20 A

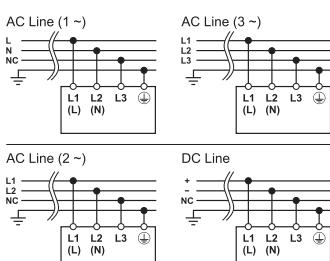


Input		Dimensions (w x h x d)	
Rated voltage U_N	One-, two- and three-phase AC 200–500 V	73.0 mm x 140.0 mm x 125.0 mm	
Operation voltage range	AC 187–550 V / DC 250–725 V (UL: DC 300–500 V)	Air convection, 50 mm distance top/bottom, 20 mm side	
Frequency range	47 Hz – 63 Hz	Aluminum	
Rated current I_N	1/2-phase: 2.9 A @ AC 200 V / 1.3 A @ AC 500 V, 3-phase: 1.8 A @ AC 200 V / 0.8 A @ AC 500 V	DIN rail mountable TS35 (EN 60715)	
Inrush current	$\leq 55 \text{ A} / 2.16 \text{ A}^2\text{s}$	IP20 (IEC 529 / EN 60529)	
External protection	Mini-circuit breaker: C 6 A, or D 4 A (required)	I	
Power factor correction P.F.C.	>0.9	III	
Number of phases	3	Screw terminal	
		0.20 mm ² – 2.5 mm ²	
Output		AWG 24 – AWG 12	
Rated voltage U_N	DC 24 V	plug-in	
Rated current I_N	20 A	CE	
Max. output current	28 A, 5 s	UKCA	
Short-circuit current	50 A	cULus (E249179)	
Setting range $U_{out\ min.}/U_{out\ max.}$	23–28 V	UL 508	
Ripple and noise	<50 mV pp	IEC/EN 61010-1	
Hold up time	>50 ms	IEC/EN 61010-2-201	
Status indication DC ON LED green	$\geq 21.6 \text{ V}$	IEC/EN 60950	
Status indication DC LOW LED red	$I_{out} > 1.1 I_N$	EN 55011 (CISPR11) Class A	
Parallel / redundant mode	Yes/via external decoupling diode	EN 61000-3-2 Class A	
Efficiency	>92 %	EN 61000-4-2 Level 3	
Over voltage protection	$\geq \text{DC } 33 \text{ V}$	EN 61000-4-4 Level 4	
Short circuit	Hiccup Mode	EN 61000-4-5 Level 3	
Overtemperature protection	Yes	EN 61000-4-11 Level 2	
General		IEC 60068-2-27 (Shock), 30 g 6 ms, 20 g 11 ms, 3 bumps / direction, 18 bumps total	
Insulation voltage input / output	DC 4.2 kV	IEC 60068-2-6 (Vibration sinusoidal), 5–17.8 Hz: $\pm 1.6 \text{ mm}$, 17.8–500 Hz: 2 g 2 hours / axis (X,Y,Z)	
Insulation voltage input / ground	DC 2.2 kV		
Insulation voltage output / ground	DC 750 V		
Operation temperature range	-40 °C ... +70 °C (UL approved up to +45 °C)		
Derating	>45 °C: -10 W/°C		
MTBF	>500000 h: SN29500 / >500000 h: MIL HDBK 217F		
Relative air humidity	5 – 95 % RH, non-condensing		
Part No.	Type	Weight/unit kg	PU (units)
722801	CPSB-123-480-24	1	1

Dimensions



PIN assignment



Monitoring

DC ON Control (Rdy)
Switching voltage
Switching current
Switching capacity
Isolation voltage

N/O contact
AC/DC 30 V
AC/DC 1 A
30 VA / 30 W
AC 500 V

Power supply - Compact Ultra, 480 W

Primary switchmode power supply, PFC, Single-phase

Input: AC 90–264 V, DC 110–345 V

Output: DC 48 V, 10 A



Input

Rated voltage U _N	AC 120/240 V (UL certified)	Housing material
Operation voltage range	AC 90–264 V / DC 110–345 V	Mounting
Frequency range	47 Hz – 63 Hz	Degree of protection
Rated current I _N	4.8 A @ AC 120 V / 2.4 A @ AC 240 V	Protection class
Internal fuse	8 AT (non-replaceable)	Over voltage category
External protection	Mini-circuit breaker: C 10 A / Safety fuse: T 10 A	Connection type
Power factor correction P.F.C.	>0.90, enabled	Strip length
Number of phases	1	Screwdriver
Inrush peak current	≤23 A / 0.56 A ² s	Tightening torque

Output

Rated voltage U _N	DC 48 V	Standards
Rated current I _N	10 A	
Max. output current	17 A, 5 s @ Hiccup Mode	
Setting range U _{out min.} / U _{out max.}	DC 45–55 V	
Ripple and noise	<200 mV pp	
Hold up time	>25 ms @ AC 240 V	
Status indication DC ON LED green	≥43.2 V	
Status indication DC LOW LED red	≤43.2 V	
Parallel / redundant mode	Yes/via external decoupling diode e.g. Part-No. 722999	
Efficiency	>94 % @ AC 240 V	
Over voltage protection	≥DC 68 V	
Short circuit	Hiccup Mode, Constant current (C.C.)	
Overload limit in constant current mode	12 A	
Overtemperature protection	Yes	

General

Insulation voltage input / output	DC 4.2 kV, 1 min.
Insulation voltage input / ground	DC 2.2 kV, 1 min.
Insulation voltage output / ground	DC 750 V, 1 min.
Operation temperature range	-40 °C ... +70 °C
Derating	>50 °C: -7.6 W/°C @ AC 120 V
MTBF	>60 °C: -7.2 W/°C @ AC 240 V
Relative air humidity	MIL-HDBK-217F, >60000 h at 25 °C ambient full load
Dimensions (w × h × d)	5 – 95 %, non-condensing
Cooling	56.0 mm × 140.0 mm × 139.0 mm
	Air convection, 100 mm distance top/

Housing material

Mounting	DIN rail mountable TS35 (EN 60715)
Protection class	IP20 (IEC 529 / EN 60529)
Over voltage category	I
Connection type	III (EN 50178)
Strip length	Screw terminal
Screwdriver	0.20 mm ² – 2.5 mm ² / AWG 24 – 12
Tightening torque	6.0 – 7.5 mm / 0.24 – 0.30 in
Approvals	3.0 x 0.5 mm

CE	0.5 – 0.6 Nm / 4.42 – 5.30 lbf in
UKCA	CE
cULus (E249179)	UKCA
UL 508	cULus (E249179)
IEC/EN 61010-1	UL 508
IEC/EN 61010-2-201	IEC/EN 61010-1
IEC/EN 60950	IEC/EN 61010-2-201
EN 55011 (CISPR11) Class B (EMC Emission)	IEC/EN 60950
EN 61000-3-2 Class A	EN 55011 (CISPR11) Class B (EMC Emission)
EN 61000-4-2 Level 3	EN 61000-3-2 Class A
EN 61000-4-3 Level 3	EN 61000-4-2 Level 3
EN 61000-4-4 Level 4	EN 61000-4-3 Level 3
EN 61000-4-5 Level 4	EN 61000-4-4 Level 4
EN 61000-4-11 Level 2	EN 61000-4-5 Level 4
IEC 60068-2-6 (Vibration sinusoidal), 5–17.8 Hz: ±1.6 mm, 17.8–500 Hz: 2 g 2 hours / axis (X,Y,Z)	EN 61000-4-11 Level 2
IEC 60068-2-27 (Shock), 30 g 6 ms, 20 g 11 ms, 3 bumps / direction, 18 bumps total	IEC 60068-2-27 (Shock), 30 g 6 ms, 20 g 11 ms, 3 bumps / direction, 18 bumps total

Monitoring

DC ON Control (Rdy)	N/O contact
Switching voltage	AC/DC 300 V / DC 150 V
Switching current	AC/DC 1 A
Switching capacity	300 VA / 30 W
Isolation voltage	AC 500 V

Part No.

Type

723721 CPS2B1-480-48

Weight/unit
kg

1.1

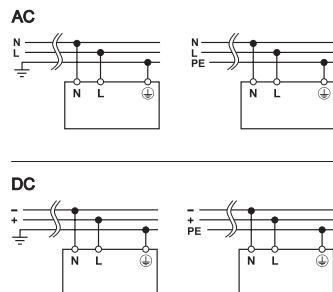
PU (units)

1

Dimensions



PIN assignment



Power supply - Compact 3-phase, 960 W

Switchmode power supply, PFC, 3-phase

Input: Wide range input AC 340 - 550 V

Output: DC 24 V, 40 A



Input

Rated voltage U_N	AC 400–500 V
Operation voltage range	AC 340–550 V / DC 520–725 V
Frequency range	47 Hz – 63 Hz
Rated current I_N	2.4 A @ AC 400 V / 2.1 A @ AC 500 V
Inrush current	≤ 50 A / 1.86 A ² s
External protection	Mini-circuit breaker: 3 x C 10 A / safety fuse: 3 x T 10 A (required)
Power factor correction P.F.C.	>0.7
Number of phases	3

Output

Rated voltage U_N	DC 24 V
Rated current I_N	40 A
Max. output current (limited current)	44 A
Max. output current (HICCUP, 5 sec)	60 A
Setting range $U_{out\ min.}/U_{out\ max.}$	23–28 V
Ripple and noise	<150 mV pp
Hold up time	>15 ms
Status indication DC ON LED green	≥21.6 V
Status indication DC LOW LED red	≤21.6 V
Parallel / redundant mode	Max. 2 devices / via external decoupling diodes e.g. 722999
Efficiency	>92.5 %
Rated over load protection	>90°C, auto-reset
Over voltage protection	≥DC 33 V
Short circuit	Adjustable: Hiccup, current limiting

General

Switching frequency	Approx. 70 – 110 kHz
Insulation voltage input / output	DC 4.2 kV
Insulation voltage input / ground	DC 2.2 kV
Insulation voltage output / ground	DC 750 V
Operation temperature range	-40 °C ... +70 °C (UL approved up to +45 °C)
Derating	>45 °C: -15 W/°C
MTBF	>500000 h: SN29500 / >500000 h: MIL HDBK 217F
Relative air humidity	5 – 95 % RH, non-condensing

Dimensions (w x h x d)

Cooling

Housing material

Mounting

Degree of protection

Protection class

Over voltage category

Connection type

80.0 mm x 127.0 mm x 137.5 mm

Air convection, forced cooling >50°C, 50 mm distance top/bottom

Aluminum

DIN rail mountable TS35

(EN 60715)

IP20 (IEC 529 / EN 60529)

I

III

Screw terminal

0.20 mm² – 10.0 mm²

max. 0.62 Nm

CE

UKCA

cULus (E249179)

UL 508

IEC/EN 61010-1

IEC/EN 61010-2-201

IEC/EN 60950

EN 55011 (CISPR11) Class A

EN 55022 (CISPR22) Class A

EN 61000-4-2 Level 3

EN 61000-4-3 Level 3

EN 61000-4-4 Level 3

EN 61000-4-5 Level 4

EN 61000-4-11 Level 2

IEC 60068-2-6 (Vibration sinuoidal),

5–17.8 Hz: ±1.6 mm, 17.8–500 Hz: 2 g 2

hours / axis (X,Y,Z)

IEC 60068-2-27 (Shock), 30 g 6 ms, 20

g 11 ms, 3 bumps / direction, 18 bumps

total

Monitoring

DC ON Control (Rdy)

Switching voltage

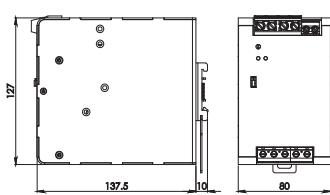
Switching current

Switching capacity

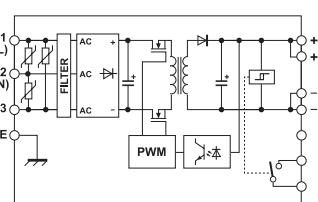
Isolation voltage

Part No.	Type	Weight/unit kg	PU (units)
722811	CPSB3-960-24	1.3	1

Dimensions



PIN assignment



Power supply - Compact 3-phase, 960 W

Switchmode power supply, PFC, 3-phase

Input: Wide range input AC 340 - 550 V

Output: DC 48 V, 20 A



Input

Rated voltage U_N
Operation voltage range
Frequency range
Rated current I_N
Inrush current
External protection
Power factor correction P.F.C.
Number of phases

3 x AC 400–500 V
AC 340–550 V / DC 520–725 V
47 Hz – 63 Hz
2.4 A @ AC 400 V / 2.1 A @ AC 500 V
 ≤ 50 A / 1.86 A²s
Mini-circuit breaker: 3 x C 10 A / safety fuse: 3 x T 10 A (required)
>0.7
3

Output

Rated voltage U_N
Rated current I_N
Max. output current (limited current)
Max. output current (HICCUP, 5 sec)
Setting range $U_{out\ min.}/U_{out\ max.}$
Ripple and noise
Hold up time
Status indication DC ON LED green
Status indication DC LOW LED red
Parallel / redundant mode
Efficiency
Rated over load protection
Over voltage protection
Short circuit

DC 48 V
20 A
22 A
30 A
45–55 V
<150 mV pp
>15 ms
≥43.2 V
≤43.2 V
Max. 2 devices / via external decoupling diodes e.g. 722999
>92.5 %
> 90°C, auto-reset
≥DC 68 V
Adjustable: Hiccup, current limiting (C.C. Modus)

General

Switching frequency
Insulation voltage input / output
Insulation voltage input / ground
Insulation voltage output / ground
Operation temperature range
Derating
MTBF

Approx. 70 - 110 kHz
DC 4.2 kV
DC 2.2 kV
DC 750 V
-40 °C ... +70 °C (UL approved up to +45 °C)
>45 °C: -15 W/°C
>500000 h: SN29500 / >500000 h: MIL HDBK 217F

Relative air humidity

Dimensions (w x h x d)

Cooling

Housing material

Mounting

Degree of protection

Protection class

Over voltage category

Connection type

Approvals

Standards

5 – 95 % RH, non-condensing
80.0 mm x 127.0 mm x 137.5 mm
Air convection, forced cooling >50°C, 50 mm distance top/bottom
Aluminum
DIN rail mountable TS35 (EN 60715)
IP20 (IEC 529 / EN 60529)
I
III
Screw terminal
0.20 mm² – 6.0 mm²
max. 0.62 Nm
CE
UKCA
cULus (E249179)
UL 508
IEC/EN 61010-1
IEC/EN 61010-2-201
IEC/EN 60950
EN 55011 (CISPR11) Class A
EN 55022 (CISPR22) Class A
EN 61000-4-2 Level 3
EN 61000-4-3 Level 3
EN 61000-4-4 Level 4
EN 61000-4-11 Level 2
IEC 60068-2-6 (Vibration sinusoidal), 5–17.8 Hz: ±1.6 mm, 17.8–500 Hz: 2 g 2 hours / axis (X,Y,Z)
IEC 60068-2-27 (Shock), 30 g 6 ms, 20 g 11 ms, 3 bumps / direction, 18 bumps total

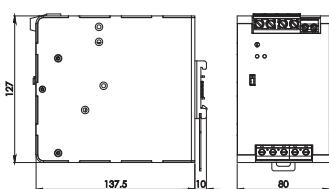
Monitoring

DC ON Control (Rdy)
Switching voltage
Switching current
Switching capacity
Isolation voltage

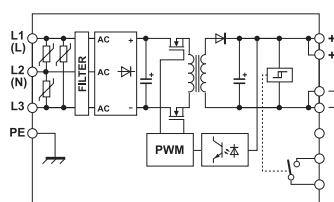
N/O contact
AC 300 V / DC 150 V
AC/DC 1 A
300 VA / 30 W
AC 500 V

Part No.	Type	Weight/unit kg	PU (units)
722812	CPSB3-960-48	1.3	1

Dimensions



PIN assignment



Power supply - Compact 3-phase, 960 W

Switchmode power supply, PFC, 3-phase

Input: Wide range input AC 340 - 550 V

Output: DC 72 V, 13.3 A



Input

Rated voltage U_N	AC 400–500 V
Operation voltage range	AC 340–550 V / DC 520–725 V
Frequency range	47 Hz – 63 Hz
Rated current I_N	2.4 A @ AC 400 V / 2.1 A @ AC 500 V
Inrush current	≤ 50 A / 1.86 A ² s
External protection	Mini-circuit breaker: 3 x C 10 A / safety fuse: 3 x T 10 A (required)
Power factor correction P.F.C.	>0.7
Number of phases	3

Output

Rated voltage U_N	DC 72 V
Rated current I_N	13.3 A
Max. output current (limited current)	15 A
Max. output current (HICCUP, 5 sec)	20 A
Setting range $U_{out\ min.}/U_{out\ max.}$	72–85 V
Ripple and noise	<150 mV pp
Hold up time	>15 ms
Status indication DC ON LED green	≥64.8 V
Status indication DC LOW LED red	≤64.8 V
Parallel / redundant mode	Max. 2 devices / via external decoupling diodes e.g. 722999
Efficiency	>93 %
Rated over load protection	> 90°C, auto-reset
Over voltage protection	<100 V
Short circuit	Adjustable: Hiccup, current limiting (C.C. Modus)

General

Switching frequency	Approx. 70 - 110 kHz
Insulation voltage input / output	DC 4.2 kV
Insulation voltage input / ground	DC 2.2 kV
Insulation voltage output / ground	DC 750 V
Operation temperature range	-40 °C ... +70 °C (UL approved up to +45 °C)
Derating	>45 °C: -15 W/°C
MTBF	>500000 h: SN29500 / >500000 h: MIL HDBK 217F
Relative air humidity	5 – 95 % RH, non-condensing

Dimensions (w × h × d)
Cooling

80.0 mm × 127.0 mm × 137.5 mm
Air convection, forced cooling >50°C, 50 mm distance top/bottom

Aluminum
DIN rail mountable TS35 (EN 60715)

IP20 (IEC 529 / EN 60529)

I

III

Screw terminal
0.20 mm² – 6.0 mm²
max. 0.62 Nm

CE

UKCA

cULus (E249179)

UL 508

IEC/EN 61010-1

IEC/EN 61010-2-201

IEC/EN 60950

EN 55011 (CISPR11) Class A

EN 55022 (CISPR22) Class A

EN 61000-4-2 Level 3

EN 61000-4-3 Level 3

EN 61000-4-4 Level 3

EN 61000-4-4 Level 4

EN 61000-4-11 Level 2

IEC 60068-2-6 (Vibration sinusoidal), 5–17.8 Hz: ±1.6 mm, 17.8–500 Hz: 2 g 2 hours / axis (X,Y,Z)

IEC 60068-2-27 (Shock), 30 g 6 ms, 20 g 11 ms, 3 bumps / direction, 18 bumps total

Monitoring

DC ON Control (Rdy)
Switching voltage
Switching current
Switching capacity
Isolation voltage

N/O contact

AC 300 V / DC 150 V

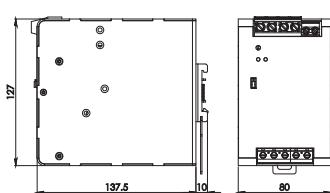
AC/DC 1 A

300 VA / 30 W

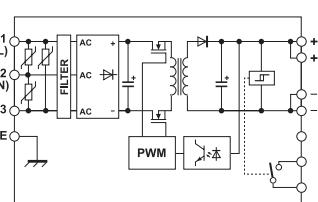
AC 500 V

Part No.	Type	Weight/unit kg	PU (units)
722813	CPSB3-960-72	1.3	1

Dimensions



PIN assignment



Power supply - Compact 3-phase, 2400 W

Switchmode power supply, PFC, 3-phase

Input: Wide range input AC 340 - 550 V

Output: DC 24 V, 100 A



Input			
Rated voltage U_N	3 x AC 400–500 V	Housing material	mm distance top/bottom, 10 mm side
Operation voltage range	AC 340–550 V / DC 520–750 V	Mounting	Aluminum
Frequency range	47 Hz – 63 Hz	DIN rail mountable TS35	(EN 60715)
Rated current I_N	4.5 A @ AC 400 V / 3.5 A @ AC 500 V	Protection class	IP20 (IEC 529 / EN 60529)
Inrush current	< 12.5 A (active inrush current limitation)	Over voltage category	I
External protection	Mini-circuit breaker: 3 x C 10 A / safety fuse: 3 x T 10 A (required)	Connection type	III
Power factor correction P.F.C.	>0.92	Screw terminal	Input 0.20 mm ² – 4.0 mm ²
Input protection	Surge protection according to VDE 0160, over/undervoltage (auto restart)	Input	Output 0.20 mm ² – 35.0 mm ²
Number of phases	Phase monitoring (reduced output power): PFC error	Auxiliary	0.20 mm ² – 1.5 mm ²
Output	3	CE	CE
Rated voltage U_N	DC 24 V	UKCA	UKCA
Rated current I_N	100 A	cULus (E249179)	cULus (E249179)
Max. output current (limited current)	>100 A	UL 508	UL 508
Max. output current (HICCUP, 5 sec)	150 A	IEC/EN 61010-1	IEC/EN 61010-1
Setting range $U_{out\ min.}/U_{out\ max.}$	DC 11.9–29 V	IEC/EN 61010-2-201	IEC/EN 61010-2-201
Ripple and noise	<200 mV pp	IEC/EN 60950	IEC/EN 60950
Hold up time	>10 ms @ AC 400 V / >10 ms @ AC 500 V	EN 55011 (CISPR11) Class A	EN 55011 (CISPR11) Class A
Status indication DC ON LED green	Alphanumeric display	EN 55022 (CISPR22) Class A	EN 55022 (CISPR22) Class A
Status indication DC LOW LED red	Alphanumeric display	EN 61000-3-2 Class A	EN 61000-3-2 Class A
Parallel / redundant mode	Max. 4 devices	EN 61000-4-2 Level 3	EN 61000-4-2 Level 3
Efficiency	>92 %	EN 61000-4-3 Level 3	EN 61000-4-3 Level 3
Over voltage protection	>DC 33 V	EN 61000-4-4 Level 4	EN 61000-4-4 Level 4
Short circuit	Adjustable: Hiccup, current limiting (C.C. Modus)	EN 61000-4-5 Level 4	EN 61000-4-5 Level 4
General		EN 61000-4-11 Level 2	EN 61000-4-11 Level 2
Insulation voltage input / output	DC 4.2 kV	IEC 60068-2-6 (Vibration sinuosoidal), 5-17.8 Hz: ±1.6 mm, 17.8-500 Hz: 2 g 2 hours / axis (X,Y,Z)	IEC 60068-2-6 (Vibration sinuosoidal), 5-17.8 Hz: ±1.6 mm, 17.8-500 Hz: 2 g 2 hours / axis (X,Y,Z)
Insulation voltage input / ground	DC 2.2 kV	IEC 60068-2-27 (Shock), 30 g 6 ms, 20 g 11 ms, 3 bumps / direction, 18 bumps total	IEC 60068-2-27 (Shock), 30 g 6 ms, 20 g 11 ms, 3 bumps / direction, 18 bumps total
Insulation voltage output / ground	DC 750 V		
Operation temperature range	-40 °C ... +70 °C (UL approved up to +50 °C)		
Derating	>50 °C: -60 W/°C		
MTBF	Automatic power derating (1200 W) for 2 phases operation		
Relative air humidity	>500000 h: SN29500 / >700000 h: MIL HDBK 217F		
Dimensions (w x h x d)	5 – 95 % RH, non-condensing		
Cooling	233.0 mm x 160.0 mm x 101.0 mm		
	Air convection, forced cooling >45°C, 80		
		Monitoring	
		DC ON Control (Rdy)	
		Switching capacity	Relay, N/O contact active, adjustable,
		Isolation voltage	DCok: 90–110 % Usel, ACok: acc. input
		Output current	voltage range, overload
			Overtemperature range, charging complete
			AC/DC 30 V, 1 A, 30 W
			AC 500 V
			galvanically isolated: 0–10 V and 4–20 mA

Power supply - Compact 3-phase, 2400 W

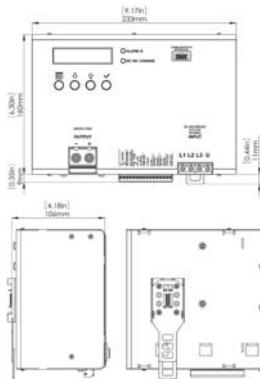
Switchmode power supply, PFC, 3-phase

Input: Wide range input AC 340 - 550 V

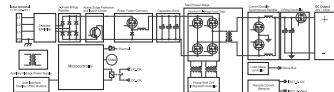
Output: DC 24 V, 100 A

Part No.	Type	Weight/unit kg	PU (units)
722814	CPSB3-2400-24	2.8	1

Dimensions



PIN assignment



Power supply - Compact 3-phase, 2400 W

Switchmode power supply, PFC, 3-phase

Input: Wide range input AC 340 - 550 V

Output: DC 48 V, 50 A



Input			
Rated voltage U_N	3 x AC 400–500 V	Housing material	mm distance top/bottom, 10 mm side
Operation voltage range	AC 340–550 V / DC 520–750 V	Mounting	Aluminum
Frequency range	47 Hz – 63 Hz	DIN rail mountable TS35	(EN 60715)
Rated current I_N	4.5 A @ AC 400 V / 3.5 A @ AC 500 V	Protection class	IP20 (IEC 529 / EN 60529)
Inrush current	< 10 A (active inrush current limitation)	Over voltage category	I
External protection	Mini-circuit breaker: 3 x C 10 A / safety fuse: 3 x T 10 A (required)	Connection type	III
Power factor correction P.F.C.	>0.92	Screw terminal	Input 0.20 mm ² – 4.0 mm ²
Input protection	Surge protection according to VDE 0160, over/undervoltage (auto restart)	Input	Output 0.20 mm ² – 35.0 mm ²
Number of phases	Phase monitoring (reduced output power): PFC error	Auxiliary	0.20 mm ² – 1.5 mm ²
Output	3	CE	CE
Rated voltage U_N	DC 48 V	UKCA	UKCA
Rated current I_N	50 A	cULus (E249179)	cULus (E249179)
Max. output current (limited current)	50 A	UL 508	UL 508
Max. output current (HICCUP, 5 sec)	75 A	IEC/EN 61010-1	IEC/EN 61010-1
Setting range $U_{out\ min.}/U_{out\ max.}$	DC 23–56 V	IEC/EN 61010-2-201	IEC/EN 61010-2-201
Ripple and noise	<200 mV pp	IEC/EN 60950	IEC/EN 60950
Hold up time	>10 ms @ AC 400 V / >10 ms @ AC 500 V	EN 55011 (CISPR11) Class A	EN 55011 (CISPR11) Class A
Status indication DC ON LED green	Alphanumeric display	EN 55022 (CISPR22) Class A	EN 55022 (CISPR22) Class A
Status indication DC LOW LED red	Alphanumeric display	EN 61000-3-2 Class A	EN 61000-3-2 Class A
Parallel / redundant mode	Max. 4 devices	EN 61000-4-2 Level 3	EN 61000-4-2 Level 3
Efficiency	>92 %	EN 61000-4-3 Level 3	EN 61000-4-3 Level 3
Over voltage protection	≥DC 68 V	EN 61000-4-4 Level 4	EN 61000-4-4 Level 4
Short circuit	Adjustable: Hiccup, current limiting (C.C. Modus)	EN 61000-4-5 Level 4	EN 61000-4-5 Level 4
General		EN 61000-4-11 Level 2	EN 61000-4-11 Level 2
Insulation voltage input / output	DC 4.2 kV	IEC 60068-2-6 (Vibration sinuosoidal), 5-17.8 Hz: ±1.6 mm, 17.8-500 Hz: 2 g 2 hours / axis (X,Y,Z)	IEC 60068-2-6 (Vibration sinuosoidal), 5-17.8 Hz: ±1.6 mm, 17.8-500 Hz: 2 g 2 hours / axis (X,Y,Z)
Insulation voltage input / ground	DC 2.2 kV	IEC 60068-2-27 (Shock), 30 g 6 ms, 20 g 11 ms, 3 bumps / direction, 18 bumps total	IEC 60068-2-27 (Shock), 30 g 6 ms, 20 g 11 ms, 3 bumps / direction, 18 bumps total
Insulation voltage output / ground	DC 750 V		
Operation temperature range	-40 °C ... +70 °C (UL approved up to +50 °C)		
Derating	>50 °C: -60 W/°C		
MTBF	Automatic power derating (1200 W) for 2 phases operation		
Relative air humidity	>500000 h: SN29500 / >700000 h: MIL HDBK 217F		
Dimensions (w x h x d)	5 – 95 % RH, non-condensing		
Cooling	233.0 mm x 160.0 mm x 101.0 mm		
	Air convection, forced cooling >45°C, 80		
		Monitoring	
		DC ON Control (Rdy)	
		Switching capacity	Relay, N/O contact active, adjustable,
		Isolation voltage	DCok: 90–110 % Usel, ACok: acc. input
		Output current	voltage range, overload
			Overtemperature range, charging complete
			AC/DC 30 V, 1 A, 30 W
			AC 500 V
			galvanically isolated: 0–10 V and 4–20 mA

Power supply - Compact 3-phase, 2400 W

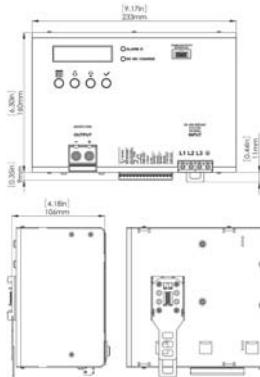
Switchmode power supply, PFC, 3-phase

Input: Wide range input AC 340 - 550 V

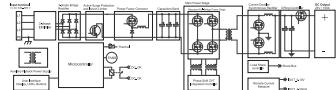
Output: DC 48 V, 50 A

Part No.	Type	Weight/unit kg	PU (units)
722816	CPSB3-2400-48	2.8	1

Dimensions



PIN assignment



Power supply - Compact 3-phase, 2400 W

Switchmode power supply, PFC, 3-phase

Input: Wide range input AC 340 - 550 V

Output: DC 72 V, 33 A



Input

Rated voltage U_N	3 x AC 400–500 V
Operation voltage range	AC 340–550 V / DC 520–750 V
Frequency range	47 Hz – 63 Hz
Rated current I_N	4.5 A @ AC 400 V / 3.5 A @ AC 500 V
Inrush current	< 10 A (active inrush current limitation)
External protection	Mini-circuit breaker: 3 x C 10 A / safety fuse: 3 x T 10 A (required)
Power factor correction P.F.C.	>0.92
Input protection	Surge protection according to VDE 0160, over/undervoltage (auto restart) Phase monitoring (reduced output power): PFC error

Number of phases

Output	DC 72 V
Rated voltage U_N	33 A
Rated current I_N	33 A
Max. output current (limited current)	50 A
Max. output current (HICCUP, 5 sec)	DC 50–87 V
Setting range $U_{out\ min.}/U_{out\ max.}$	<200 mV pp
Ripple and noise	>10 ms @ AC 400 V / >10 ms @ AC 500 V
Hold up time	Alphanumeric display
Status indication DC ON LED green	Alphanumeric display
Status indication DC LOW LED red	Max. 4 devices
Parallel / redundant mode	>93 %
Efficiency	>DC 100 V
Over voltage protection	Adjustable: Hiccup, current limiting (C.C.)
Short circuit	Modus)

General

Insulation voltage input / output	DC 4.2 kV
Insulation voltage input / ground	DC 2.2 kV
Insulation voltage output / ground	DC 750 V
Operation temperature range	-40 °C ... +70 °C (UL approved up to +50 °C)
Derating	>50 °C: -60 W/°C Automatic power derating (1200 W) for 2 phases operation
MTBF	>500000 h: SN29500 / >150000 h: MIL HDBK 217F
Relative air humidity	5 – 95 % RH, non-condensing
Dimensions (w x h x d)	233.0 mm x 160.0 mm x 101.0 mm
Cooling	Air convection, forced cooling >45°C, 80

Housing material

Mounting	mm distance top/bottom, 10 mm side
DIN rail mountable TS35	Aluminum
(EN 60715)	DIN rail mountable TS35
IP20 (IEC 529 / EN 60529)	(EN 60715)
I	IP20 (IEC 529 / EN 60529)
III	Screw terminal
Screw terminal	Input
Input	0.20 mm ² – 4.0 mm ²
0.20 mm ² – 35.0 mm ²	Output
Auxiliary	0.20 mm ² – 1.5 mm ²
0.20 mm ² – 1.5 mm ²	CE
CE	UKCA
UKCA	cULus (E249179)
cULus (E249179)	UL 508
UL 508	IEC/EN 61010-1
IEC/EN 61010-1	IEC/EN 61010-2-201
IEC/EN 61010-2-201	IEC/EN 60950
IEC/EN 60950	EN 55011 (CISPR11) Class A
EN 55011 (CISPR11) Class A	EN 55022 (CISPR22) Class A
EN 55022 (CISPR22) Class A	EN 61000-3-2 Class A
EN 61000-3-2 Class A	EN 61000-4-2 Level 3
EN 61000-4-2 Level 3	EN 61000-4-3 Level 3
EN 61000-4-3 Level 3	EN 61000-4-4 Level 4
EN 61000-4-4 Level 4	EN 61000-4-5 Level 4
EN 61000-4-5 Level 4	EN 61000-4-11 Level 2
EN 61000-4-11 Level 2	IEC 60068-2-6 (Vibration sinuosoidal), 5-17.8 Hz: ±1.6 mm, 17.8-500 Hz: 2 g 2 hours / axis (X,Y,Z)
IEC 60068-2-6 (Vibration sinuosoidal), 5-17.8 Hz: ±1.6 mm, 17.8-500 Hz: 2 g 2 hours / axis (X,Y,Z)	IEC 60068-2-27 (Shock), 30 g 6 ms, 20 g 11 ms, 3 bumps / direction, 18 bumps total

Approvals

Standards

Monitoring

DC ON Control (Rdy)

Switching capacity	DCok: 90–110 % Usel, ACok: acc. input voltage range, overload
Isolation voltage	Overtemperature range, charging complete
Output current	AC/DC 30 V, 1 A, 30 W
	AC 500 V
	galvanically isolated: 0–10 V and 4–20 mA

Power supply - Compact 3-phase, 2400 W

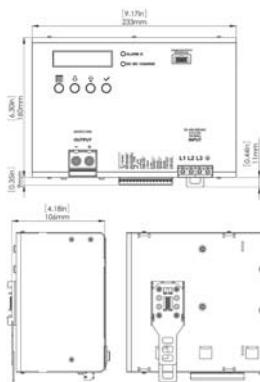
Switchmode power supply, PFC, 3-phase

Input: Wide range input AC 340 - 550 V

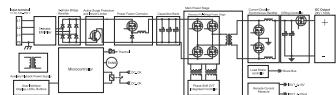
Output: DC 72 V, 33 A

Part No.	Type	Weight/unit kg	PU (units)
722817	CPSB3-2400-72	2.8	1

Dimensions



PIN assignment



Power supply - Compact series, Redundant module

Redundant module 12 to 85 V, 50 A

Potential-free signalling contact

Status LED per input



Input
Operation voltage range
Rated current I_N
No. of inputs

DC 12–85 V
max. 50 A per input
2

Output
Max. output current
Status indication DC ON LED green
Status indication DC ON LED red
Over voltage protection
Voltage drop
Overtemperature protection

300 A
IN1, IN2 OK
Redundancy error
No
<0.2 V
No

General
Operation temperature range

-40 °C ... +75 °C (UL approved up to +75 °C)

Relative air humidity
Dimensions (w × h × d)
Cooling
Housing material
Mounting

5 – 95 % RH, non-condensing
40.0 mm × 115.0 mm × 110.0 mm

Air convection

Aluminum

DIN rail mountable TS35

(EN 60715)

IP20 (IEC 529 / EN 60529)

II

Degree of protection
Over voltage category
Connection type

Input

Screw terminal
plug-in
0.20 mm² – 16.0 mm²

Output

Screw terminal
plug-in
0.20 mm² – 16.0 mm²

Approvals

Standards

Relays
Screw terminal
plug-in
0.20 mm² – 1.5 mm²
CE
UKCA
cULus (E249179)
UL 508
IEC/EN 61010-1
IEC/EN 61010-2-201
IEC/EN 60950
EN 55011 (CISPR11) Class A
EN 55022 (CISPR22) Class A
EN 61000-4-2 Level 3
EN 61000-4-3 Level 3
EN 61000-4-4 Level 3
EN 61000-4-5 Level 3
EN 61000-4-11 Level 2

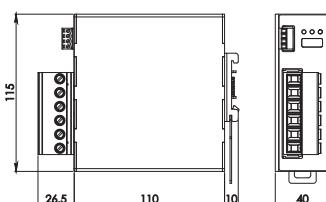
IEC 60068-2-6 (Vibration sinuoidal),
5-17.8 Hz: ±1.6 mm, 17.8-500 Hz: 2 g² hours / axis (X,Y,Z)
IEC 60068-2-27 (Shock), 30 g 6 ms, 20 g 11 ms, 3 bumps / direction, 18 bumps total

Monitoring
DC ON Control (Rdy)
Switching voltage
Switching current
Switching capacity
Isolation voltage

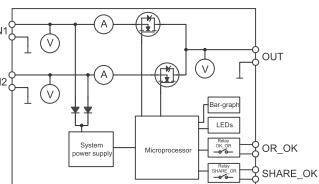
N/O contact
AC 300 V / DC 24 V
AC/DC 1 A
300 VA / 30 W
DC 100 V

Part No.	Type	Weight/unit kg	PU (units)
722999	CPSRM50	0.35	1

Dimensions



PIN assignment



Power supply - Compact DC/DC-Converter, 240 W

Programmable DC/DC-Converter

Input: wide-range input DC 12–48 V

Output: DC 5–55 V



Input

Rated voltage U_N
Operation voltage range
Rated current I_N
Inrush current
Internal fuse
External protection
Power factor correction P.F.C.
Protection device Input
Reverse voltage protection

DC 12–48 V
DC 11–55 V
max. 12 A
<40 A
20 A(not user replacable)
Mini-circuit breaker: C 20 A
>0.6
Overvoltage protection, > 60 V Cut-off
Yes

Dimensions (w × h × d)
Cooling

40.0 mm × 115.0 mm × 132.2 mm
Air convection, 50 mm distance top/bottom, 20 mm side

Output

Rated voltage U_N
Rated current I_N
Max. output current (limited current)
Max. output current (HICCUP, 5 sec)
Setting range $U_{out\ min.}/U_{out\ max.}$
Ripple and noise
Hold up time
Parallel / redundant mode
Efficiency
Over voltage protection
Short circuit
Overtemperature protection

DC 5–55 V
10 A
11 A (264 W)
15 A (360 W)
DC 5–55 V
<200 mV
≥5 ms
yes
77 % – 92 %, depending on the input/output voltage
120% of the output voltage
Current limit
Hiccup Mode
Yes

Approvals

Aluminum

General

Insulation voltage input / output
Insulation voltage input / ground
Insulation voltage output / ground
Operation temperature range
Derating
MTBF
Relative air humidity

DC 4.2 kV
DC 2.2 kV
DC 750 V
-40 °C ... +70 °C (UL approved up to +60 °C)
>60 °C: -2.4 W/°C
>600000 h: MIL-HDBK-217F
5 – 95 % RH, non-condensing

Monitoring
DC ON Control (Rdy)
Switching voltage
Switching current
Switching capacity
Isolation voltage

N/O contact
AC/DC 24 V
AC/DC 1 A
24 W
AC 500 V

Part No.

Type

Weight/unit kg

PU (units)

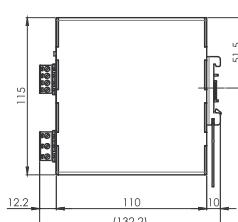
723300

CUDC-240-55

0.4

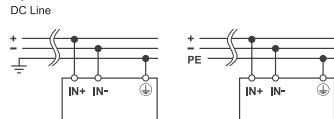
1

Dimensions



PIN assignment

Input connection DC Line



Power supply - Compact DC UPS, 240 W

Uninterrupted DC power supply

DC UPS for lead batteries

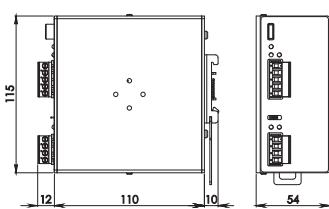
Input: DC 24 V, Output: max. DC 10 A



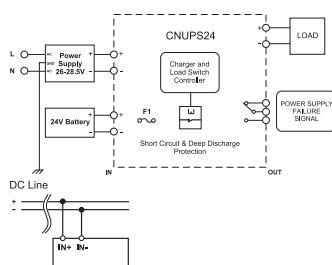
Input			
Input voltage	DC 26 – 28.5 V	Over voltage category	II
Input current	DC 3 – 10 A	Connection type	Connector with screws: 2.5 mm ² (AWG 24-12)
Status display input	LED green: PS OK, LED red: Reverse polarity LED green: Battery OK, LED red: Battery low	Approvals	CE UKCA cULus (E249179) UL 508
Parameterisation	Charging current adjustable by jumper	Standards	IEC/EN 61010-1 IEC/EN 61010-2-201 IEC/EN 60950
Protection device Input	None		EN 55011 (CISPR11) Class A EN 55022 (CISPR22) Class A
Energy storage			EN 61000-4-2 Level 3 EN 61000-4-3 Level 3 EN 61000-4-4 Level 3 EN 61000-4-5 Level 1 EN 61000-4-11 Level 2
Memory type	Chemical (lead based)		IEC 60068-2-6 (Vibration sinuoidal), 5-17.8 Hz: ±1.6 mm, 17.8-500 Hz: 2 g 2 hours / axis (X,Y,Z)
Nominal battery voltage	DC 24 V		IEC 60068-2-27 (Shock), 30 g 6 ms, 20 g 11 ms, 3 bumps / direction, 18 bumps total
Max. charging current	DC 2 A or DC 4 A		Suitable for power supply with applicable output voltage
Max. battery capacity	75 % @ 26 V, 85 % @ 27 V, 100 % @ 28 V		Load mode with simultaneous charging
Backup time	Depends on battery and charging current		Integrated battery fuse
Fuse for memory medium	Vehicle fuse 15 A / 32 V, Mini Type		Deep discharging protection
Deep discharge protection	18.5 V ± 0.5 V		Battery not included
Output			
Rated voltage U _N	DC 24 V		
Max. output current	DC 10 A		
Status display output	LED yellow: Load OK	Comments	
Output voltage	DC 20 - 28 V		
General			
Operation temperature range	-40 °C ... +70 °C (UL approved up to +60 °C)		
Derating	>60 °C: -0.25 A/°C		
Relative air humidity	5 – 95 % RH, non-condensing		
Dimensions (w × h × d)	54.0 mm × 115.0 mm × 110.0 mm		
Cooling	Free convection		
Housing material	Aluminum		
Mounting	DIN rail mountable TS35 (EN 60715)		
Degree of protection	IP20 (EN 60529)		
Monitoring			
	Switching voltage		DC 24 V
	Switching current		DC 1 A
	Isolation voltage		0.5 kV, 1 min.
	Number of channels		1
	Monitored functions		Battery mode
	Contact type		Change over contact

Part No.	Type	Weight/unit kg	PU (units)
723110	CNUPS24	0.3	1

Dimensions



PIN assignment



Power supply - Compact DC UPS, 480 W

Uninterrupted DC system voltage

DC UPS for lead batteries, NiMH (NiCd), Li-ION (LiFePO4)

Input: wide-range input DC 12 V, DC 24 V, output: max. DC 20 A



Input			
Input voltage	DC 12 V or 24 V	Max. power loss (Nominal operations)	<13 W
Input current	Max. DC 20 A	Max. power loss (Battery mode)	<18 W
Status display input	See monitoring	Charging efficiency	>90 %
Parameterisation	Button/LCD display Software Powermaster (free Download LUTZE web page)	Approvals	CE UKCA cULus (E249179) UL 508 IEC/EN 61010 IEC/EN 61010-2-201 IEC/EN 60950 EN 61000-6-4 EN 61000-6-2
Power Dissipation	<3 W	Standards	IEC 60068-2-27 (Shock), 30 g 6 ms, 20 g 11 ms, 3 bumps / direction, 18 bumps total IEC 60068-2-6 (Vibration sinusoidal), 5-17.8 Hz: ±1.6 mm, 17.8-500 Hz: 2 g 2 hours / axis (X,Y,Z)
Protection device Input	None		Monitoring via LCD display Suitable for lead batteries, NI-MH, Li
Energy storage			Digital control
Memory type	Chemical (lead based, Ni-MH / Ni-Cd, Li-ION / LiFePo ₄)		Battery charging current up to 5 A
Nominal battery voltage	DC 12 V or DC 24 V		Output current up to 20 A
Max. charging current	DC 5 A		Cold start automatic
Max. battery capacity	Max. 150 Ah		Configuration / monitoring also via software
Switching time on memory medium	<5 µs		Remote On / Off
Backup time	Can be configured max. up to deep discharging protection	Comments	Battery not included
Output			
Rated voltage U _N	DC 24 V	User Interface	Connection to PC
Rated current I _N	20 A	USB	4 keys (menu selection and programming)
Max. output current	DC 20 A, 35 A @ 5 s	Control Elements	LED red ON: System error, flashing: Battery mode
Status display output	See monitoring	Status indication	1.5 inch, colour, graphic
Output voltage	DC 10 - 29 V	LCD display	
General			
Insulation voltage input / ground	0.5 kV, 1 min.	Monitoring	30 V
Operation temperature range	-40 °C ... +60 °C (UL approved up to +60 °C)	Switching voltage	2 A
Relative air humidity	5 - 95 % RH, non-condensing	Switching current	2
Dimensions (w x h x d)	54.0 mm x 115.0 mm x 110.0 mm	Number of channels	Coulomb counter, battery temperature, battery operating hours, no. of charging cycles
Cooling	Free convection	Monitored functions	N/O contact
Housing material	Aluminum		
Mounting	DIN rail mountable TS35 (EN 60715)	Contact type	
Degree of protection	IP20 (EN 60529)		
Over voltage category	I (EN 50178)		
Connection type	IN/Battery/Out : 6 pin connector 2.5 mm ² , Grid dimensions 5.08		
	Auxiliary: 7 pin connector 0.5 mm ² , Grid dimensions 2.54		
	Temperature sensor: 2 pin, friction lock, Grid dimensions 2 mm		
	USB: Mini USB connector		

Power supply - Compact DC UPS, 480 W

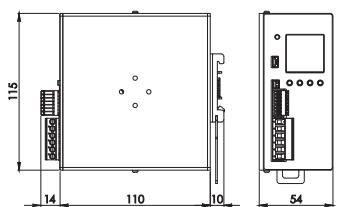
Uninterrupted DC system voltage

DC UPS for lead batteries, NiMH (NiCd), Li-ION (LiFePO4)

Input: wide-range input DC 12 V, DC 24 V, output: max. DC 20 A

Part No.	Type	Weight/unit kg	PU (units)
723100	CDCU20 12/24DC UPS	0.5	1

Dimensions



Power supply · Compact DC UPS, buffer module

Uninterrupted DC system voltage

Capacitive energy store

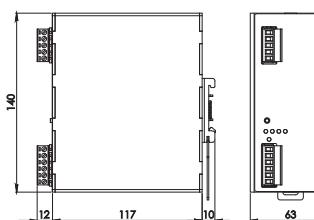
Input: wide-range input DC 12 V - DC 85 V, output: max. DC 20 A



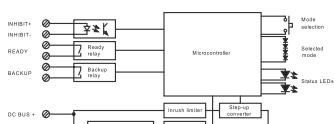
Input			
Input voltage	DC 12 V / 24 V / 48 V / 72 V or automatic recognition	Connection type	Plug-in screw terminal 2.5 mm ² (AWG 24-12)
Input current	Max. DC 20 A	Approvals	CE
Status display input	LED green: selected voltage		UKCA
Parameterisation	Button	Standards	cULus (E249179)
	Selection of input voltage		UL 508
			IEC/EN 61010-1
			IEC/EN 61010-2-201
			IEC/EN 60950
Energy storage			EN 55011 (CISPR11) Class A
Memory type	Capacitive		EN 55022 (CISPR22) Class A
Discharge time at load current max	12 V: 600 ms, 24 V: 300ms, 48 V: 150 ms, 72 V: 75 ms		EN 61000-4-2 Level 3
Output			EN 61000-4-3 Level 3
Rated current I _N	20 A		EN 61000-4-4 Level 2
Max. output current	20 A		EN 61000-4-5 Level 1
Ripple and noise	<250 mV @ DC 24 V, 20 A		IEC 60068-2-6 (Vibration sinuosoidal), 5-17.8 Hz: ±1.6 mm, 17.8-500 Hz: 2 g 2 hours / axis (X,Y,Z)
Status display output	LED green: DC OK, LED red: Overload		IEC 60068-2-27 (Shock), 30 g 6 ms, 20 g 11 ms, 3 bumps / direction, 18 bumps total
Short circuit	Enabled		Input voltage range DC 12 V to DC 85 V
Output voltage	Input voltage -1 V		Automatic detection of DC supply
Protection device	Over voltage protection, active		Economical design thanks to standard electrolyte capacitors
General			Digital control
Insulation voltage input / ground	0.75 kV		Compact size
Operation temperature range	-40 °C ... +70 °C (UL approved up to +70 °C)		
Relative air humidity	5 – 95 % RH, non-condensing	Monitoring	DC 12 V
Dimensions (w x h x d)	63.0 mm x 140.0 mm x 139.0 mm	Switching voltage	DC 1 A
Cooling	Free convection	Switching current	2
Housing material	Aluminum	Number of channels	N/O contact
Mounting	DIN rail mountable TS35 (EN 60715)	Contact type	
Degree of protection	IP00 (EN 60529)		

Part No.	Type	Weight/unit kg	PU (units)
723120	CBU150U	0.9	1

Dimensions



PIN assignment



Power supply - Compact DC UPS, Lead acid battery housing

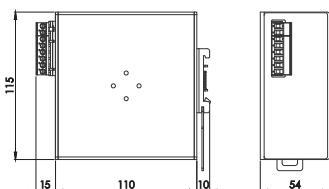
Battery housing for two lead batteries 12 V / 1.2 Ah



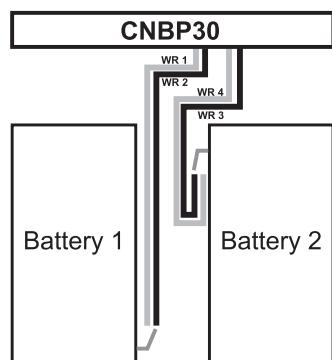
Energy storage	2x lead batteries DC 12 V / 1.2 Ah	Dimensions (w x h x d)	54.0 mm x 115.0 mm x 135.0 mm
Memory type	600 mA @ DC 12 V, 300 mA @ DC 24 V	Cooling	Free convection
Max. charging current	15 A, automatic resetting	Housing material	Aluminum
Fuse for memory medium		Mounting	DIN rail mountable TS35 (EN 60715)
Output		Degree of protection	IP20 (EN 60529)
Max. output current	5 A @ DC 2 V, 3 A @ DC 24 V	Over voltage category	II
General		Connection type	Connector with screws: 2.5 mm ² (AWG 24–12)
Insulation voltage input / ground	0.5 kV, 1 min.	Comments	Suitable for DC 12 V and DC 24 V applications, integrated self-healing fuse
Operation temperature range	-20 °C ... +40 °C (or equivalent battery limit values)		Batteries not included
Relative air humidity	5 – 95 % RH, non-condensing		

Part No.	Type	Configured weight max./unit kg	PU (units)
723115	CNBP30	1.2	1

Dimensions



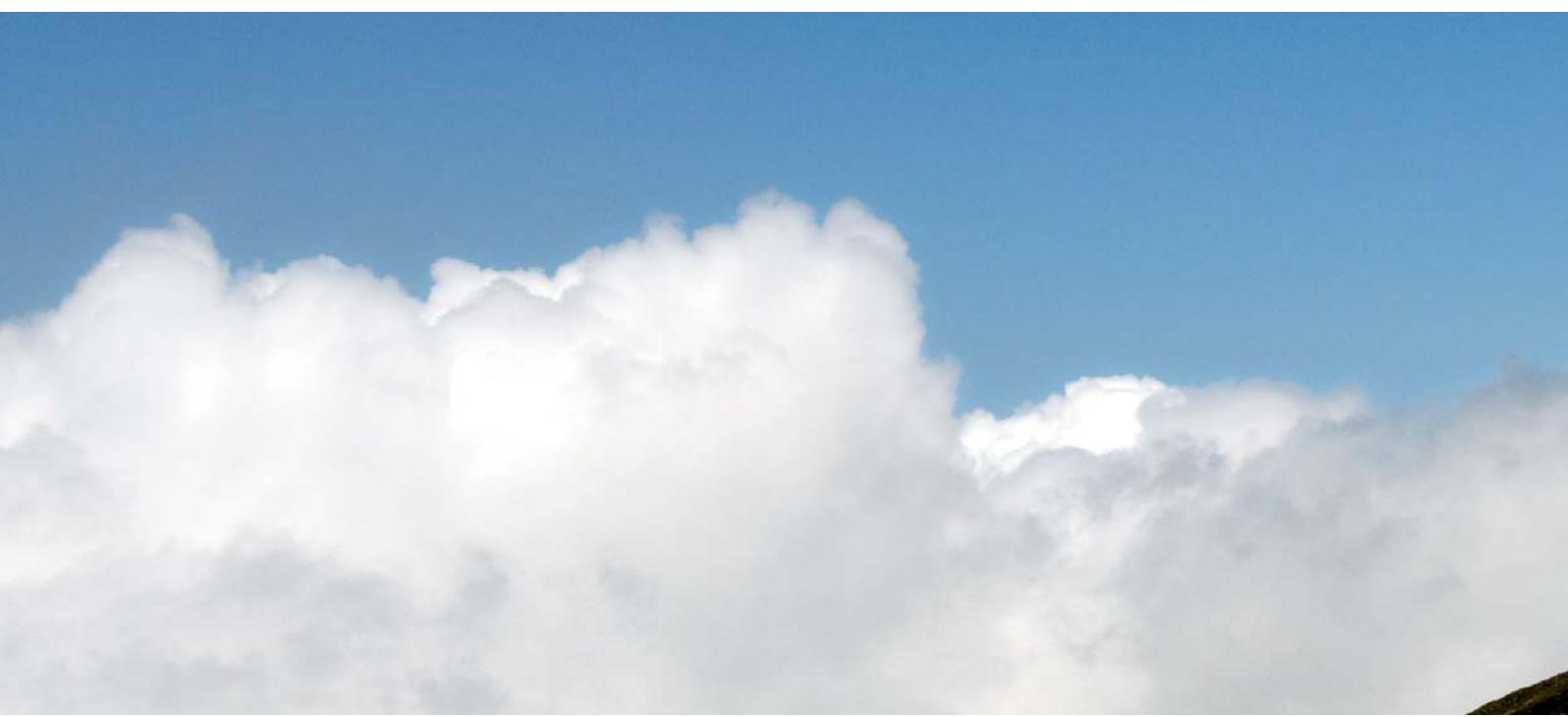
PIN assignment



Notes



Business Management Sustainable and forward



The future is blue

Sustainable enterprise means thinking and planning ahead, understanding and embedding the belief that long lasting success is more important than short-term profit maximisation.

This is an attitude that has existed within LUTZE for quite some time. Economic and environmental responsibilities complement each

other well and are reflected in the sustainable management and product policy - and from now in the **SkyBLUE** campaign.

We manufacture our products in a resourceful and energy-conscious manner. We use long lasting, environmentally-friendly materials. And our products, in turn, help our customers save energy and

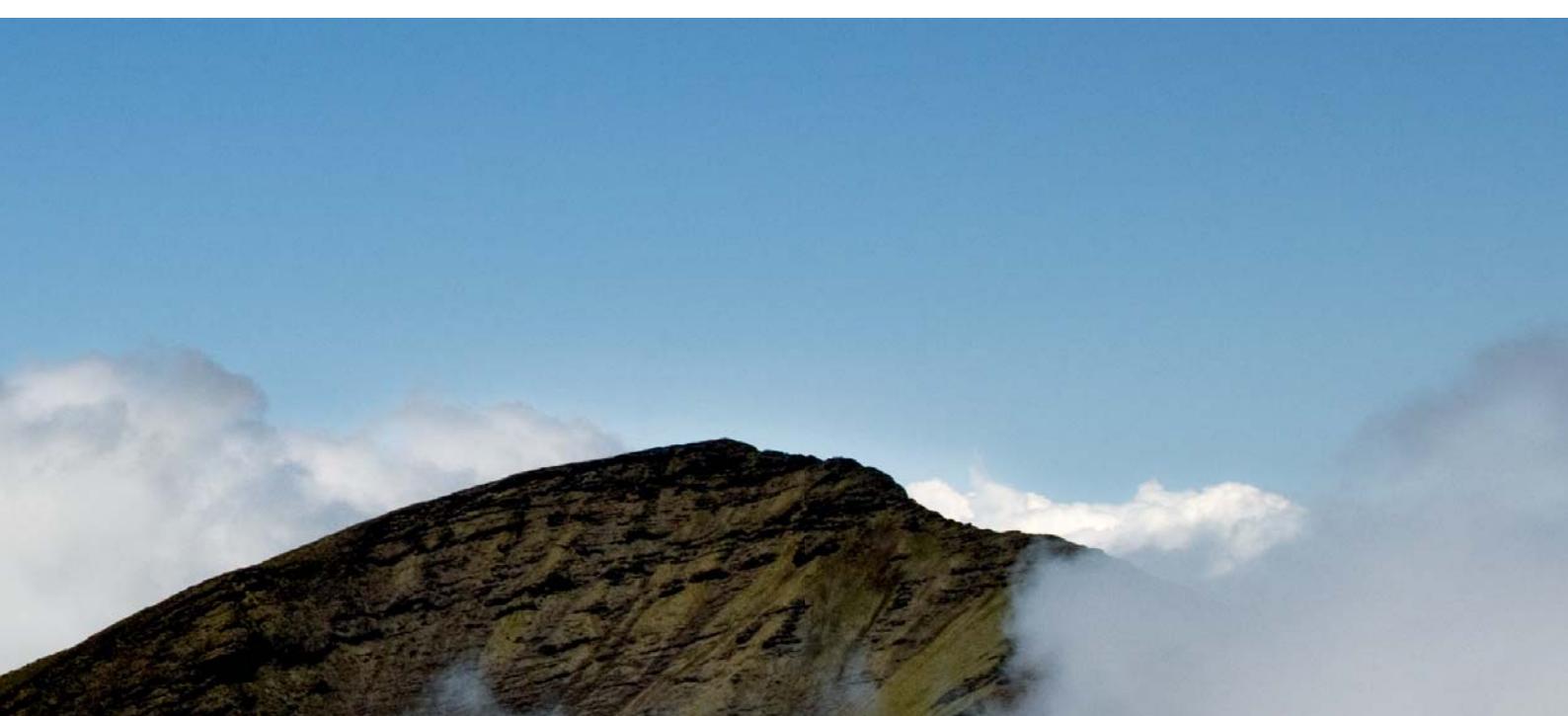
resources. Good for everyone: for us, for the environment, for our customers a win-win-win situation.

Forward-looking

"The competitiveness of our industry and of its suppliers depends quite substantially on how we succeed in developing practical results. The results that we produce together today, are our competitive advantages in the future."

Udo Lütze,

*Member of the Executive Committee of
the Green Carbody Innovation Alliance*



Goods with real value

The value of a product or a solution from LUTZE is determined by its sustainable qualities as well. Every innovation is only as successful in the future if it has a long-term positive effect. Therefore, we provide long lasting as well as highly efficient components. We are incorporating the necessary knowledge and manufacturing competence in numerous joint

projects with the objective of improving energy efficiency and sustainable technologies and industries. Thus, LUTZE provides answers and demonstrates how to handle resources responsibly, with our environment and our future in mind.



RoHS

Part number index

Part-No	Page										
722752	15										
722753	17										
722754	19										
722757	21										
722758	23										
722759	26										
722761	14										
722763	16										
722769	18										
722770	22										
722781	27										
722782	29										
722784	37										
722786	43										
722801	49										
722803	25										
722804	28										
722805	30										
722811	51										
722812	52										
722813	53										
722814	55										
722816	57										
722817	59										
722987	31										
722995	34										
722996	42										
722999	60										
723100	64										
723110	62										
723115	66										
723120	65										
723300	61										
723500	35										
723501	36										
723521	39										
723600	40										
723601	41										
723621	44										
723700	46										
723701	48										
723721	50										
728754	20										
728758	24										

Copyright

Protected trademarks and trade names are not always labelled as such in this publication. This does not mean they are free names as defined in the trademark and brand mark law. Publication does not imply that the descriptions or pictures used are free from rights of third parties. The information is published without regard to possible patent protection. Trade names are used without any guarantee that they can be used freely. In putting together text, pictures and data, we proceeded with the greatest care. Despite this, the possibility of errors cannot be completely excluded. We therefore reject any legal responsibility or liability. We are, of course, grateful for any recommendations for improvement or information useful for making corrections or establishing the truth. But the author does not assume any responsibility for the content of these documents.

Cable Solutions

Highly flexible tray cables and continuous motion cables for industrial control, Ethernet, motor, VFD, and servo applications

Connectivity Solutions

Servo cable assemblies, industrial Ethernet and M12 connectors, panel pass through devices and cable entry systems

Cabinet Solutions

Control cabinet wiring with energy efficient and space saving **AirSTREAM** wiring system

Control Solutions

Industrial power supplies, electronic control circuit protection, network gateways for IIoT, relays and signal converters

USA

LUTZE Inc.
13330 South Ridge Drive
Charlotte, NC 28273
Tel.: +1 704 504-0222
Fax: +1 704 504-0223
info@lutze.com

Germany

Friedrich Lütze GmbH
Postfach 1224 (PLZ 71366)
Bruckwiesenstraße 17-19
D-71384 Weinstadt
Tel.: +49 7151 60 53-0
Fax: +49 7151 60 53-277(-288)
info@luetze.de

United Kingdom

LÜTZE Ltd.
Unit 3 Sandy Hill Park
Sandy Way, Amington
Tamworth, Staffs, B77 4DU
Tel.: +44 1827 313330
Fax: +44 1827 313332
sales.gb@lutze.co.uk

Austria

LÜTZE Elektrotechnische
Erzeugnisse Ges.m.b.H.
office@luetze.at

Switzerland

LÜTZE AG
info@luetze.ch

France

LUTZE SASU
lutze@lutze.fr

Spain

LUTZE, S.L.
info@lutze.es

China

Luetze Trading (Shanghai) Co.Ltd.
info@luetze.cn



SkyBLUE
LÜTZE



RoHS

www.lutze.com

LÜTZE®
SYSTEMATIC TECHNOLOGY