Power supply unit - ASI PS 100-240 AC/2.4 EFD - 2741273

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AS-i primary switched-mode power supply, input voltage 100 - 240 V AC or 130 - 370 V DC, nominal output voltage 30 V DC 3%, nominal output current 2.4 A with integrated harmonic filter and automatic earth fault detection

Product Description

Power supply unit for AS-Interface systems
Special power supply units with an output voltage range of 29.5 V - 31.6 V DC are used to supply the AS-Interface systems. The AS-i system also requires a data decoupling network in the power supply unit in order to be able to transmit communication signals along the power line. The ASI PS 100-240 AC/4.8 EFD power supply unit can supply an AS-i system with up to 4.8 A.
Safety through automatic earth fault detection
If two earth faults occur in an AS-i system, this can cause the machines to inadvertently start up or not to be able to stop operation. The power supply unit has an integrated earth fault detection function. An earth fault is signaled via LED and a signal output.
Worldwide use
The wide-range input of the power supply unit can be operated with all conventional AC and DC networks without having to make any settings.. The devices can thus be used worldwide.
Harmonic current wave filter integrated
The EN 61000-3-2 came into force on 1.1.2001. All primary switched power supplies that are directly connected to the public low-voltage network must be accordingly equipped with a harmonic current wave filter.
For this purpose, the power supply unit has a PFC filter (Power Factor Correction). As well as the filter function, this circuit guarantees mains buffering of over 40 ms.
Varnished PCB
The power supply unit can also be used in a damp environment. The varnished PCB means that the power supply is insensitive to high humidity and condensation in the inside of the device.

Key Commercial Data

Packing unit	1 STK
Weight per Piece (excluding packing)	973.700 g
Custom tariff number	85044094
Country of origin	Germany

Technical data

Dimensions

Width	55 mm

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Dimensions

Height	130 mm
Depth	125 mm

Ambient conditions

Degree of protection	IP20
Ambient temperature (operation)	-25 °C ... 60 °C (> 60 °C Derating: 2.5 %/K)
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Max. permissible relative humidity (operation)	95 % (at 25 °C, non-condensing)
Noise immunity	EN 61000-6-2:2005

Input data

Nominal input voltage range	100 V AC ... 240 V AC
AC frequency range	47 Hz ... 63 Hz
Frequency range DC	0 Hz
Current consumption	approx. 1 A (at 120 V AC (nominal load))
	approx. 0.5 A (at 230 V AC (nominal load))
Inrush surge current	< 10 A (typical)
Power failure bypass	> 20 ms (at 120 V AC)
	> 80 ms (for 230 V AC)
Input fuse	5 A (slow-blow, internal)
Power factor (cos phi)	approx. 0.95
Type of protection	Surge protection
Protective circuit/component	Varistor

Output data

Nominal output voltage	30 V ±1.5 %
Connection in parallel	Yes, for assembling redundant systems and increasing efficiency
Connection in series	yes
Residual ripple	< 100 mV_{PP} (0 kHz ... 10 kHz)
	< 50 mV_{PP} (10 kHz ... 500 kHz)
Output power	72 W
Typical response time	< 0.5 s
Peak switching voltages idling	< 100 mV_{PP} (0 kHz ... 10 kHz)
Peak switching voltages nominal load	< 50 mV_{PP} (10 kHz ... 500 kHz)
Maximum power dissipation in no-load condition	< 3 W
Power loss nominal load max.	< 11 W
Type of protection	Protection against internal surge voltages

General

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Technical data

General

Net weight	0.5 kg
Operating voltage display	Green LED
Efficiency	approx. 88 %
Insulation voltage input/output	2 kV (routine test)
	4 kV (type test)
MTBF (IEC 61709, SN 29500)	> 500000 h
Mounting position	On horizontal DIN rail NS 35 in acc. with EN 60715
Assembly instructions	Can be aligned: vertical with spacing = 5 cm

Connection data, input

Connection method	Spring-cage connection
Conductor cross section solid min.	0.2 mm²
Conductor cross section solid max.	2.5 mm²
Conductor cross section flexible min.	0.2 mm²
Conductor cross section flexible max.	2.5 mm²
Conductor cross section AWG min.	24
Conductor cross section AWG max.	12
Stripping length	9 mm

Connection data, output

Connection method	Spring-cage connection
Conductor cross section solid min.	0.2 mm²
Conductor cross section solid max.	2.5 mm²
Conductor cross section flexible min.	0.2 mm²
Conductor cross section flexible max.	2.5 mm²
Conductor cross section AWG min.	24
Conductor cross section AWG max.	12
Stripping length	9 mm

Standards and Regulations

Electromagnetic compatibility	Conformance with EMC directive 89/336/EC
Noise emission	EN 50081-2
Noise immunity	EN 61000-6-2:2005
Connection in acc. with standard	CUL
Standard - Electrical safety	EN 60950/VDE 0805
	DIN EN 50178/VDE 0160:1998-04
	UL 508C
	CSA C22.2-14
	UL 1950

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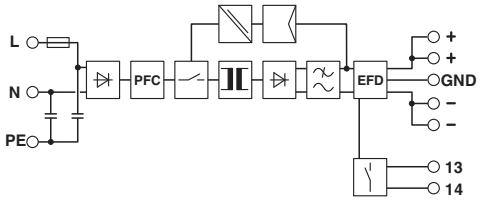
Standards and Regulations

	CSA C22.2-950
Standard - Safe isolation	DIN VDE 0100-410
	DIN VDE 0106-101

Drawings

Block diagram



Classifications

eCl@ss

eCl@ss 4.0	27250202
eCl@ss 4.1	27250202
eCl@ss 5.0	27259205
eCl@ss 5.1	27242692
eCl@ss 6.0	27242692

ETIM

ETIM 2.0	EC001039
ETIM 3.0	EC001039
ETIM 4.0	EC000599
ETIM 5.0	EC002540

UNSPSC

UNSPSC 6.01	43172015
UNSPSC 7.0901	43201404
UNSPSC 11	39121004
UNSPSC 13.2	39121004

Accessories

Accessories

PCB plug

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Accessories

Printed-circuit board connector - FKC 2,5/ 3-ST-5,08 - 1873061

Plug component, Nominal current: 12 A, Rated voltage (III/2): 320 V, Number of positions: 3, Pitch: 5.08 mm, Connection method: Push-in spring connection, Color: green, Contact surface: Tin

Printed-circuit board connector - FKC 2,5/ 5-ST-5,08 - 1873087

Plug component, Nominal current: 12 A, Rated voltage (III/2): 320 V, Number of positions: 5, Pitch: 5.08 mm, Connection method: Push-in spring connection, Color: green, Contact surface: Tin

Printed-circuit board connector - TMSTBP 2,5/ 3-ST-5,08 - 1853023

Plug component, Nominal current: 12 A, Rated voltage (III/2): 320 V, Number of positions: 3, Pitch: 5.08 mm, Connection method: Screw connection with tension sleeve, Color: green, Contact surface: Tin, The plug allows conductors to be looped through from module to module.

Printed-circuit board connector - TMSTBP 2,5/ 5-ST-5,08 - 1853049

Plug component, Nominal current: 12 A, Rated voltage (III/2): 320 V, Number of positions: 5, Pitch: 5.08 mm, Connection method: Screw connection with tension sleeve, Color: green, Contact surface: Tin, The plug allows conductors to be looped through from module to module.