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PRODUCTS CATALOGUE

NEXTYS











SWITZERLAND

ELETRAS S.R.L. - VIA PIETRO CAMPANINI 7/A - 43122 PARMA (PR) - TEL. 0521-273154 FAX 0521-270509 - E-MAIL COMMERCIALE@ELETRAS.IT - WWW.ELETRAS.IT

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NOTES:
1) All shown parameters are typical. Unless otherwise specified they are measured at 25°C ambient temperature, nominal output voltage/current and one of the nominal input voltages.
2) Performance of the products may vary outside the nominal conditions, therefore it is guaranteed only within the specified nominal parameters.
3) In order to continuously improve our products we reserve the right to change the specifications without notice. For the last data sheets updates please consult **www.nextys.com**.
4) GLOSSARY: for various specific abbreviations please check the GLOSSARY at page 82 of this catalogue.

(*) End of life product (see details on related page)

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We have extended our concept of flexibility and multiple integrated features by launching some new “ME FIRST” DIN rail products.

Within this catalogue you will find the market first **standard power supply with 10kV PRI/SEC isolation (PSH150)**, a **combined DC-UPS / DC-DC converter with programmable output (DCW20)**, a **DC Isolation Module (NISO20)**, a **programmable DC/DC converter (NDW240)**.

Most of the new products have a digital implementation and communication features that allow their easy integration within the system they are operated.

By continuing our path through innovation we are pleased to introduce the following products:

NPSM30S (30W) - SLIM 1 PHASE POWER SUPPLY.....Pag.13

NPSM121IP (120W) / ***NPSM241IP*** (240W) - IP65 1 PHASE POWER SUPPLY.....Pag.23

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POWERMASTER

Products bearing this logo are compliant to our free application **POWERMASTER®** dedicated to remote monitoring, setup and firmware update for Windows and Android OS.

DIGITAL POWER

Products bearing this logo embed a CPU and related circuitry for power management and communication.

THE INTERNATIONAL CERTIFICATION NETWORK

CERTIFICATE

IQNet and
DQS GmbH Deutsche Gesellschaft zur Zertifizierung von Managementsystemen
hereby certify that the company

NEXTYS SA

Via Luserte Sud, 6
6572 Quartino (Svizzera)
Switzerland

has implemented and maintains a **Quality Management System**.

Scope:
Design and sales of electronic systems (Hardware and Software).

Through an audit, documented in a report, it was verified that the management system fulfills the requirements of the following standard:

ISO 9001 : 2015

Date of certification 2018-02-12
Valid until 2021-02-11

Registration number: DE-398308 QM15

Alex Stoichitoiu
President of IQNet

Stefan Heinloth
Managing Director of DQS GmbH

IQNet Partners**:
AENOR *Spain* AFNOR Certification *France* APCER *Portugal* CCC *Cyprus* CISQ *Italy* CQC *China* CQM *China* CQS *Czech Republic* Cro Cert *Croatia* DQS Holding GmbH *Germany* FCAV *Brazil* FONDONORMA *Venezuela* ICONTEC *Colombia* Inspecta Certification *Finland* INTECO *Costa Rica* IRAM *Argentina* JQA *Japan* KFQ *Korea* MIRTEC *Greece* MSZT *Hungary* Nemko AS *Norway* NSAI *Ireland* PCBC *Poland* Quality Austria *Austria* RR *Russia* SIGE *México* SII *Israel* SIQ *Slovenia* SIRIM QAS International *Malaysia* SQS *Switzerland* SRAC *Romania* TEST St Petersburg *Russia* TSE *Turkey* Vinçotte *Belgium* YUQS *Serbia*
IQNet is represented in the USA by: AFNOR Certification, CISQ, DQS Holding GmbH and NSAI Inc.

* This attestation is directly linked to the IQNet Partner's original certificate and shall not be used as a stand-alone document
** The list of IQNet partners is valid at the time of issue of this certificate. Updated information is available under www.iqnet-certification.com

CERTIFICATE

This is to certify that

NEXTYS

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DQS GmbH

Stefan Heinloth
Managing Director

Accredited Body: DQS GmbH, August-Schanz-Straße 21, 60433 Frankfurt am Main, Germany
Administrative Office: DQS Italia S.r.l., via Venezia, 31/B - 00065 Fiano Romano - Italy

NEXTYS products are compliant to EU applicable standards that allow the CE marking.
All our products are CE marked.

Worldwide known safety standards are applied to most of our products.

RoHS 2011/65/EU

lead-free

Environmental compliance is assured by the compliance to the 2011/65/UE Directive, known as RoHS, which limits the use of specific dangerous materials in electric and electronics devices.

ALL COMPONENT REACH COMPLIANT

Registration, Evaluation and Authorisation of Chemicals

DISCLAIMER: the products included in this catalogue are not designed, intended or authorized for use as components in systems intended for surgical implant into the body, or other applications intended to support or sustain life, or for any other application in which the failure of the product could create a situation where personal injury, death or critical damages may occur.

NEXT GENERATION POWER SUPPLIES

Power supplies are the heart of every electrical system application. Unsuitable devices can cause system breakdown and important subsequent costs. Modern power supplies must offer maximum efficiency, compact sizes and supply constant power under stressful conditions. Back-up and redundancy solutions will safeguard all power critical systems.



By deploying the latest technology, including digital solutions, our products reached top performance by:

✓COMPACTNESS

50% volume savings vs. market average, small size without compromising in quality or reliability.

✓EFFICIENCY

Decreased power consumption and reduced energy cost, achieving significant saving.

✓FLEXIBILITY

Most of our products offer wide input voltage and extended output voltage range (5 to 205Vdc, within several models), to meet different requirements in one unit. We include multiple functions in one product, thus covering more needs and reducing the user's stock management costs.

✓RELIABILITY

By implementing simple topologies and digital solutions we can guarantee the maximum safety for the system. Thanks to power boost by >50%, remote control, monitoring software, diagnosis tools and various protection circuitry, most of the critical operating conditions are well covered.

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DIN Rail Power Supplies at a Glance ...



20...80W, 1 PHASE, CLASS II INSULATION, GENERAL PURPOSE

SMPS with 1 phase input (90...264V) aimed on cost saving (2 wires connection, compact, rugged plastic housing compliant with installation in standard cabinets). Output voltages range from 5 to 24Vdc (model dependent).

Applications: building automation and industrial



85...480W, 1 PHASE, GENERAL PURPOSE

SMPS with 1 phase input (90...264V) with output voltages range from 5 to 72Vdc (model dependent) are available in a compact size, with important overload capability.

Applications: industrial, energy management, telecom, harsh environments



120...960W, 1 PHASE, HIGH PERFORMANCE, ULTRACOMPACT

SMPS with 1 phase input (90...264V) with output voltages range from 12 to 72Vdc (model dependent). They have unrivalled performance.

Applications: demanding industrial, energy management, telecom, transportation



480...2400W, 3 PHASES, COMPACT

SMPS with 3 phases input (340...550Vac), with output voltages range from 12 to 170V (model dependent).

Applications: industrial, where compactness and high power are critical



5...480W, 1/2/3 PHASES, WIDE INPUT RANGE, COMPACT

SMPS with universal input (185...550Vac) with 1/2/3 phases wiring or DC (350...725Vdc) without any derating related to the input connection, with output voltages range from 12 to 72V (model dependent).
They can decrease considerably the material management costs.

Applications: industrial, renewable energy, elevators, harsh environments

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... and More ...



3...240W, DC/DC CONVERTERS

DC/DC converters with wide range of input and output voltages. They fit those applications where the DC voltage conversion needs a compact and flexible solution.

Applications: industrial, transportation, telecom



PROTECTION, BACK-UP AND REDUNDANCY SOLUTIONS

They include versatile DC-UPS, battery chargers, battery packs and redundancy modules (ORing).

Applications: where power loss is critical



ELECTRICAL VEHICLE DIGITAL CHARGER

EVCT 15-750 is a versatile electrical vehicles charger based on state of the art technology providing high compactness, digital communication and optimization of the battery charging process.

Applications: charging stations for bus fleets, forklifts, delivery vans, etc.



BATTERY MONITORING SYSTEM (BMS)

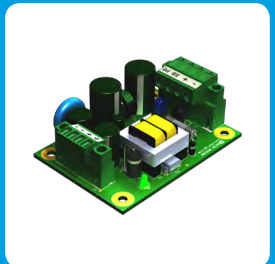
BATTMASTER® is an innovative high tech, compact battery monitoring system, based on wireless communication. Easy to install and operate, it is the first wireless BMS on the market.

Applications: UPS, energy management, telecom, industry



MOUNTING BRACKETS

These accessories are offered as complementary parts for various applications.



OTHER PRODUCTS

These products are of specific design and they cover various applications.

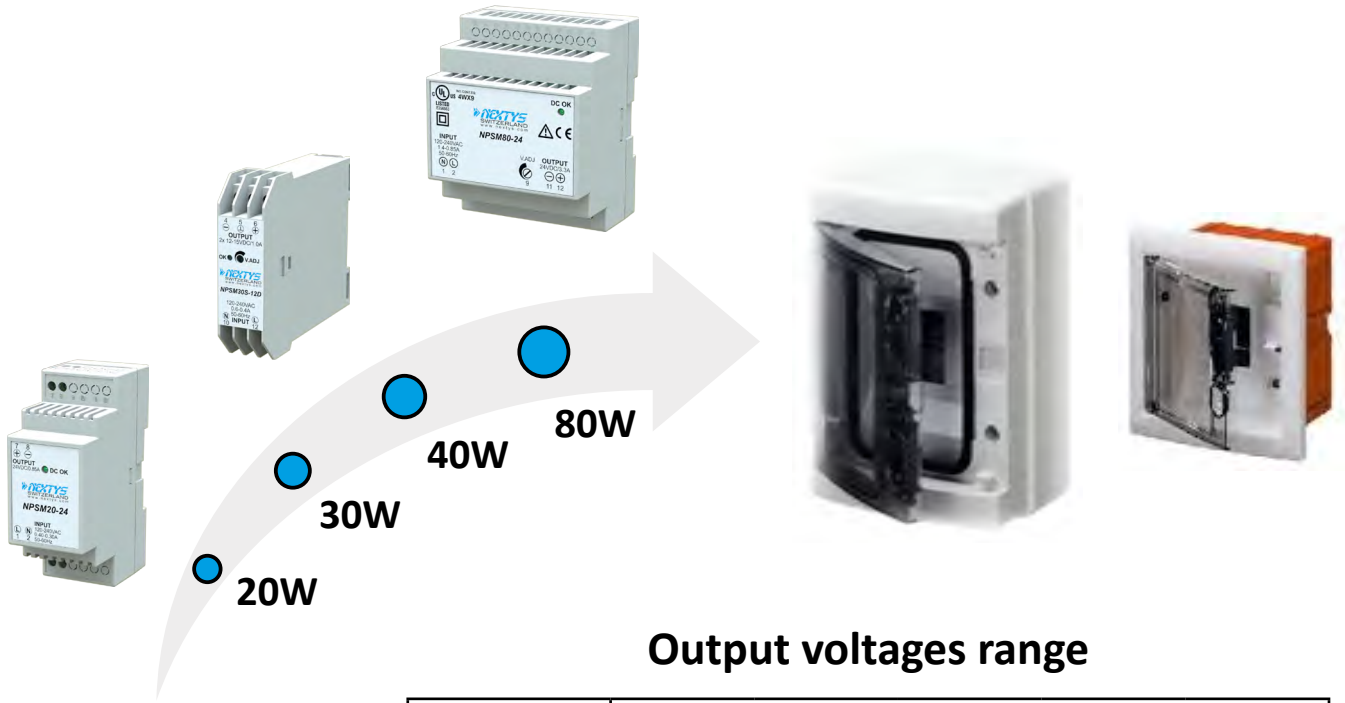
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THE IDEAL POWER SUPPLY FOR SMALL CABINETS

- ✓Class II insulation. No grounding connection is needed (time and cost saving)
- ✓Short circuit, overload and over temperature protection
- ✓Suitable for application in SELV and PELV circuits
- ✓High reliability
- ✓Low standby power
- ✓High overload capability
- ✓Compact (slim - 22.5mm, 2 and 4 DIN modules with circuit breaker shape)

Applications:

- ✓Industrial automation (e.g.: small loads, displays, PLCs)
- ✓Residential & building automation
- ✓Systems that fit into small remote panels



Output voltages range

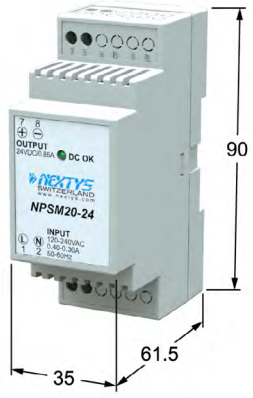
	Vdc (Out)				
Power (W)	5...15	12	12...15	2x12...15	24
20		■			■
30			■	■	■
40	■		■	■	■
80		■			■

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NPSM20 - 20W, 1 Phase, Class II Insulation DIN Rail Power Supply

C

- High efficiency and compact size
- Plastic enclosure, circuit breaker shape
- Simplified wiring (no PE connection)
- Overload up to 170%
- High operating temperature with no derating



For reference only

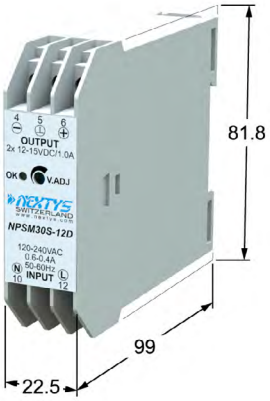
TECHNICAL DATA

	NPSM20-5	NPSM20-12	NPSM20-24
OUTPUT DATA			
Rated voltage	5Vdc	12Vdc	24Vdc
Adj. output voltage range	5Vdc Fixed	12Vdc Fixed	24Vdc Fixed
Continuous current	4A	1.65A	0.85A
Overload limit Vin = 120Vac Vin = 240Vac	 5A 5.5A	 2.6A 3.25A	 1.3A 1.7A
Load regulation	≤ 1%		
Ripple and noise	≤ 50mVpp	≤ 100mVpp	
Hold up time	≥ 40ms	≥ 5ms	
Protections	• Overload/short circuit: hiccup mode • Thermal protection • Output overvoltage		
Status signals	**DC OK** - green LED		
Parallel connection	Possible for redundancy (with external ORing module)		
INPUT DATA			
Input AC rated voltage Frequency	Nominal: 120...240Vac (range 90...264Vac) 47...63Hz		
Input DC rated voltage	110...345Vdc		
Input AC rated current Vin = 120Vac Vin = 240Vac	 400mA 300mA		
Input DC rated current Vin = 110Vdc Vin = 345Vdc	 300mA < 100mA		
Inrush peak current / I^2t	≤ 27A / 0.32A^2s		
Touch (leakage) current	≤ 0.2mA		
Internal protection fuse	Fuse 2AT (not user replaceable)	Fuse 1AT (not user replaceable)	
Recommended external protection	MCB 6A C curve / Cartridge fuse Class CC 4AT 250Vac (UL) / SPD		
GENERAL DATA			
Efficiency	> 81%	> 80%	
Dissipated power	< 5W	< 6W	
Operating temperature	- 40°C...+ 70°C		
	(UL certified up to 70°C)	(UL certified up to 50°C)	
Derating	No derating	- 0.5W/°C over 50°C	
Lifetime expectancy / MTBF	58'629h (6.6 years) at 25°C ambient full load / (MIL-HDBK-217F) 500'000h at 25°C ambient full load		
Overvoltage category Pollution degree	III 2 (IEC60664-1)		
Input / output isolation	4.2kVdc		
Standards & Approvals	UL508 (certified), EN60950 (reference), CE marking		
EMC Standards	EN61000-6-2, EN61000-6-4		
Protection degree	IP20 (EN60529)		
Connection terminals	2.5mm^2, screw type header (24...12AWG)		
Case material	Plastic, Flame retardant UL94 V-0		
Weight	0.1kg		
Size (W x H x D)	35 x 90 x 61.5mm		

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NPSM30S - 30W, 1 Phase, Class II Insulation DIN Rail Power Supply

- High efficiency and extremely compact size
- Ultra-slim plastic enclosure only 22.5mm
- Simplified wiring (no PE connection)
- Overload 130%
- High operating temperature with no derating



For reference only

NEW

C

TECHNICAL DATA

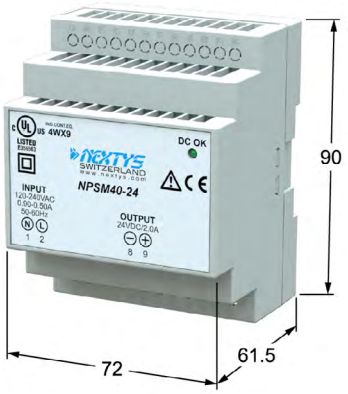
	NPSM30S-12	NPSM30S-12D	NPSM30S-24
OUTPUT DATA			
Rated voltage	12Vdc	2 x 12...15Vdc	24Vdc
Adj. output voltage range	10...15Vdc	2 x 12...15Vdc	22...28Vdc
Continuous current	1.5A @ 10Vdc 1A @ 15Vdc	1A	1.2A
Overload limit	2A @ 10Vdc 1.3A @ 15Vdc	1.5A @ 12Vdc 1.2A @ 15Vdc	1.5A
Load regulation	≤ 0.5%		
Ripple and noise	≤ 100mVpp		
Hold up time Vin = 120Vac Vin = 240Vac	 ≥ 5ms ≥ 25ms		
Protections	• Overload/short circuit: hiccup mode • Thermal protection • Output overvoltage		
Status signals	**DC OK** - green LED		
Parallel connection	Possible for redundancy (with external ORing module)		
INPUT DATA			
Input AC rated voltage Frequency	Nominal: 120...240Vac (range 90...264Vac) 47...63Hz		
Input DC rated voltage	110...345Vdc		
Input AC rated current Vin = 120Vac Vin = 240Vac	 600mA 400mA		
Input DC rated current Vin = 110Vdc Vin = 345Vdc	 400mA 150mA		
Inrush peak current / I^2t	≤ 15A / 0.19A^2s		
Touch (leakage) current	≤ 0.3mA		
Internal protection fuse	Fuse 2AT (not user replaceable)		
Recommended external protection	Fuse 6AT or MCB 6A C curve / SPD		
GENERAL DATA			
Efficiency	> 82.5%	> 83%	> 87%
Dissipated power	< 3.1W	< 5W	< 4.5W
Operating temperature	- 40°C...+ 70°C		
Derating	No Derating		
Lifetime expectancy / MTBF	121'731h (13.9 years) at 25°C ambient full load / (MIL-HDBK-217F) 500'000h at 25°C ambient full load		
Overvoltage category	III		
Pollution degree	2 (IEC60664-1)		
Input / output isolation	4.2kVdc		
Standards & Approvals	UL508 (reference), EN60950 (reference), CE marking		
EMC Standards	EN61000-6-2, EN61000-6-3		
Protection degree	IP20 (EN60529)		
Connection terminals	2.5mm^2, screw type header (24...12AWG)		
Case material	Plastic, Flame retardant UL94 V-0		
Weight	0.14kg		
Size (W x H x D)	22.5 x 99 x 81.8mm		

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NPSM40 - 40W, 1 Phase, Class II Insulation DIN Rail Power Supply

C

- High efficiency and compact size
- Plastic enclosure, circuit breaker shape
- Simplified wiring (no PE connection)
- Overload 150%
- Includes (5…15V) and (2 x 12…16V) models
- High operating temperature with no derating



For reference only

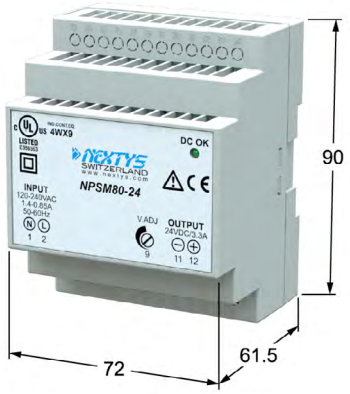
TECHNICAL DATA

	NPSM40-515	NPSM40-12D	NPSM40-12	NPSM40-24
OUTPUT DATA				
Rated voltage	5…15Vdc	2 x 12…16Vdc	12…15Vdc	24Vdc
Adj. output voltage range	5…15Vdc	2 x 12…16Vdc	12…15Vdc	24Vdc Fixed
Continuous current	4A @ 5Vdc 2A @ 15Vdc	1A	3.5A @ 12Vdc 3A @ 15Vdc	2A
Overload limit	6.5A @ 5Vdc 4A @ 15Vdc	2.7…2.4A	6.5A @ 12Vdc 4.1A @ 15Vdc	3.5A
Load regulation	≤ 1%			
Ripple and noise	≤ 100mVpp			
Hold up time Vin = 120Vac Vin = 240Vac	 ≥ 10ms ≥ 50ms			
Protections	• Overload/short circuit: hiccup mode • Thermal protection • Output overvoltage			
Status signals	**DC OK** - green LED			
Parallel connection	Possible for redundancy (with external ORing module)			
INPUT DATA				
Input AC rated voltage Frequency	Nominal: 120…240Vac (range 90…264Vac) 47…63Hz			
Input DC rated voltage	110…345Vdc			
Input AC rated current Vin = 120Vac Vin = 240Vac	 700mA 400mA		 900mA 500mA	
Input DC rated current Vin = 110Vdc Vin = 345Vdc	 500mA 200mA		 600mA 300mA	
Inrush peak current / I^2t	≤ 50A / 1.15A^2s			
Touch (leakage) current	≤ 0.25mA			
Internal protection fuse	Fuse 2AT (not user replaceable)			
Recommended external protection	MCB 6A C curve / SPD			
GENERAL DATA				
Efficiency	> 80%	> 83%	> 86%	> 85%
Dissipated power	< 8W	< 7W	< 8W	< 9W
Operating temperature	- 40°C…+ 70°C (UL certified up to 50°C)			
Derating	- 0.25W/°C over 50°C		- 0.35W/°C over 50°C	
Lifetime expectancy / MTBF	62'251h (7.1 years) at 25°C ambient full load / (MIL-HDBK-217F) 500'000h at 25°C ambient full load			
Overvoltage category Pollution degree	III 2 (IEC60664-1)			
Input / output isolation	4.2kVdc			
Standards & Approvals	UL508 (certified), EN60950 (reference), CE marking			
EMC Standards	EN61000-6-2, EN61000-6-4			
Protection degree	IP20 (EN60529)			
Connection terminals	2.5mm^2, screw type header (24…12AWG)			
Case material	Plastic, Flame retardant UL94 V-0			
Weight	0.19kg			
Size (W x H x D)	72 x 90 x 61.5mm			

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NPSM80 - 80W, 1 Phase, Class II Insulation DIN Rail Power Supply

- High efficiency and compact size
- Plastic enclosure, circuit breaker shape
- Simplified wiring (no PE connection)
- Overload 150%
- High operating temperature with no derating



For reference only

C

TECHNICAL DATA

	NPSM80-12	NPSM80-24
OUTPUT DATA		
Rated voltage	12...15Vdc	24Vdc
Adj. output voltage range	12...15Vdc	23...28Vdc
Continuous current	6...5A	3.3A
Overload limit	7.5A @ 12Vdc 6.5A @ 15Vdc	4A
Load regulation	≤ 0.5%	≤ 1%
Ripple and noise	≤ 100mVpp	≤ 50mVpp
Hold up time		
Vin = 120Vac	≥ 10ms	
Vin = 240Vac	≥ 30ms	
Protections	• Overload/short circuit: hiccup mode • Thermal protection • Output overvoltage	
Status signals	**DC OK** - green LED	
Parallel connection	Possible for redundancy (with external ORing module)	
INPUT DATA		
Input AC rated voltage	Nominal: 120...240Vac (range 90...264Vac)	
Frequency	47...63Hz	
Input DC rated voltage	110...345Vdc	
Input AC rated current		
Vin = 120Vac	1.5A	1.4A
Vin = 240Vac	0.85A	0.85A
Input DC rated current		
Vin = 110Vdc	1A	
Vin = 345Vdc	0.4A	
Inrush peak current / I^2t	≤ 54A / 1.28A^2s	
Touch (leakage) current	≤ 0.25mA	
Internal protection fuse	Fuse 2AT (not user replaceable)	
Recommended external protection	MCB 6A C curve / SPD	
GENERAL DATA		
Efficiency	> 86%	> 87%
Dissipated power	< 12.5W	< 12W
Operating temperature	- 40°C...+ 70°C (UL certified up to 50°C for NPSM80-12 and up 55°C for NPSM80-24)	
Derating	- 1.2W/°C over 50°C	- 0.9W/°C over 55°C
Lifetime expectancy / MTBF	51'136h (5.8 years) at 25°C ambient full load / (MIL-HDBK-217F) 500'000h at 25°C ambient full load	
Overvoltage category	III	
Pollution degree	2 (IEC60664-1)	
Input / output isolation	4.2kVdc	
Standards & Approvals	UL508 (certified), EN60950 (reference), CE marking	
EMC Standards	EN61000-6-2, EN61000-6-4	
Protection degree	IP20 (EN60529)	
Connection terminals	2.5mm^2, screw type header (24...12AWG)	
Case material	Plastic, Flame retardant UL94 V-0	
Weight	0.23kg	
Size (W x H x D)	72 x 90 x 61.5mm	

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HIGH EFFICIENCY IN MINIMUM SIZE

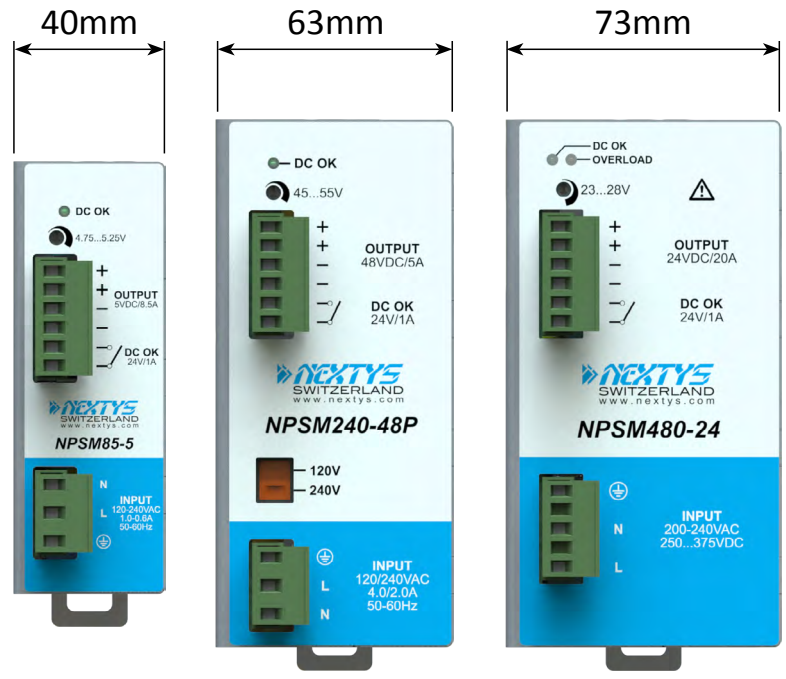
- ✓Suitable for worldwide applications: 90…264Vac and 110…345Vdc input
- ✓High efficiency
- ✓Multiple protections
- ✓Pluggable terminals up to 240W
- ✓Status LED
- ✓Dry contacts for remote signalling
- ✓Output voltage adjustment
- ✓72V output models available
- ✓IP65 versions for harsh environments

Applications:

- ✓Industrial automation
- ✓Process control
- ✓Heavy duty applications
- ✓Building automation and general purpose

Output voltages range

	Vdc (Out)				
Power (W)	5	12	24	48	72
85	■		■		
120		■	■	■	
240		■	■	■	■
480			■	■	■



85W/120W ***240W*** ***480W***

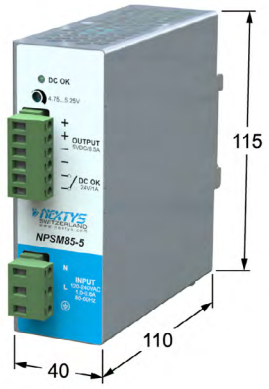
- ✓Easy monitoring by “DC OK” LED and dry contact
- ✓Pluggable connectors speed up system maintenance
- ✓Wide output voltage range

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NPSM85 - 85W, 1 Phase DIN Rail Power Supply

- High efficiency and compact size
- Overload 150%
- Only 40mm width aluminum enclosure
- Up to 70°C operating temperature with no derating

Product available by request



For reference only

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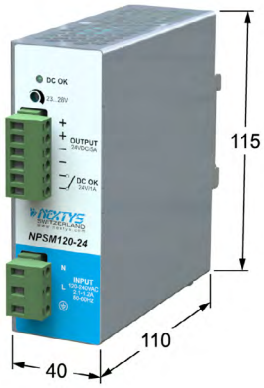
TECHNICAL DATA

	NPSM85-5	NPSM85-24	NPSM85-24P
OUTPUT DATA			
Rated voltage	5Vdc	24Vdc	
Adj. output voltage range	4.75...5.25Vdc	23...28Vdc	
Continuous current	8.5A	3.5A	
Overload limit	11A	5A	
Load regulation	≤ 3.5%	≤ 1%	≤ 2.5%
Ripple and noise	≤ 130mVpp	≤ 50mVpp	
Hold up time Vin = 120Vac Vin = 240Vac		≥ 15ms ≥ 50ms	
Protections	• Overload/short circuit: hiccup mode • Thermal protection • Output overvoltage		
Status signals	• **DC OK** - green LED • **DC OK** - dry contact (NO, 24Vdc / 1A)		
Parallel connection	• Possible for redundancy (with external ORing module) • **P** (models) - include internal ORing circuit		
INPUT DATA			
Input AC rated voltage Frequency		Nominal: 120...240Vac (range 90...264Vac) 47...63Hz	
Input DC rated voltage		110...345Vdc	
Input AC rated current Vin = 120Vac Vin = 240Vac	 1A 0.6A	 1.5A 0.9A	
Input DC rated current Vin = 110Vdc Vin = 345Vdc	 0.7A 0.3A	 1.0A 0.4A	
Inrush peak current / I^2t		≤ 30A / 0.57A^2s	
Touch (leakage) current		≤ 0.45mA	
Internal protection fuse		Fuse 2AT (not user replaceable)	
Recommended external protection		Fuse 6AT or MCB 6A C curve / SPD	
GENERAL DATA			
Efficiency	> 75%	> 88%	> 87%
Dissipated power	< 14.5W	< 11.5W	< 12.5W
Operating temperature		- 40°C...+ 70°C (UL certified up to 60°C)	
Derating		No derating up to 70°C	
Lifetime expectancy / MTBF	138'640h (15.8 years) at 25°C ambient full load / (MIL-HDBK-217F) 600'000h at 25°C ambient full load		
Overvoltage category Pollution degree		III 2 (IEC60664-1)	
Input / output isolation		4.2kVdc	
Input / ground isolation		2.2kVdc	
Output / ground isolation		0.75kVdc	
Standards & Approvals		UL508 (certified), EN60950 (reference), CE marking	
EMC Standards		EN61000-6-2, EN61000-6-4	
Protection degree		IP20 (EN60529)	
Connection terminals		2.5mm², screw type pluggable (24...12AWG)	
Case material		Aluminum	
Weight		0.45kg	
Size (W x H x D)		40 x 115 x 110mm	

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NPSM120 - 120W, 1 Phase DIN Rail Power Supply

- High efficiency and compact size
- Overload 150%
- Only 40mm width aluminum enclosure
- Up to 60°C operating temperature with no derating
- Excellent field reliability record



For reference only

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TECHNICAL DATA

	NPSM120-12	NPSM120-24	NPSM120-24P	NPSM120-48P
OUTPUT DATA				
Rated voltage	12Vdc	24Vdc		48Vdc
Adj. output voltage range	12...15Vdc	23...28Vdc		45...55Vdc
Continuous current	7A	5A		2.5A
Overload limit	11...9.5A	7A		3.7A
Load regulation	≤ 2%	≤ 1%	≤ 2.5%	≤ 1.5%
Ripple and noise	≤ 120mVpp	≤ 60mVpp		
Hold up time Vin = 120Vac Vin = 240Vac	 ≥ 10ms ≥ 60ms	 ≥ 20ms ≥ 50ms	 ≥ 10ms ≥ 50ms	 ≥ 10ms ≥ 50ms
Protections	• Overload/short circuit: hiccup mode • Thermal protection • Output overvoltage			
Status signals	• **DC OK** - green LED • **DC OK** - dry contact (NO, 24Vdc / 1A)			
Parallel connection	• Possible for redundancy (with external ORing module) • **P** (models) - include internal ORing circuit			
INPUT DATA				
Input AC rated voltage Frequency	Nominal: 120...240Vac (range 90...264Vac) 47...63Hz			
Input DC rated voltage	110...345Vdc			
Input AC rated current Vin = 120Vac Vin = 240Vac	 1.9A 1.1A	 2.1A 1.2A		
Input DC rated current Vin = 110Vac Vin = 345Vac	 1.3A 0.5A	 1.4A 0.6A		
Inrush peak current / I^2t	≤ 30A / 0.72A^2s			
Touch (leakage) current	≤ 0.45mA			
Internal protection fuse	Fuse 3.15AT (not user replaceable)			
Recommended external protection	Fuse 6AT or MCB 6A C curve / SPD			
GENERAL DATA				
Efficiency	> 84%	> 87%	> 85%	> 86%
Dissipated power	< 20W	< 18W	< 21W	< 19W
Operating temperature	-40°C...+ 70°C (UL certified up to 60°C)			
Derating	- 2.4W/°C over 60°C			
Lifetime expectancy / MTBF	106'880h (12.2 years) at 25°C ambient full load / (MIL-HDBK-217F) 600'000h at 25°C ambient full load			
Overvoltage category Pollution degree	III 2 (IEC60664-1)			
Input / output isolation	4.2kVdc			
Input / ground isolation	2.2kVdc			
Output / ground isolation	0.75kVdc			
Standards & Approvals	UL508 (certified), EN60950 (reference), CE marking			
EMC Standards	EN61000-6-2, EN61000-6-4			
Protection degree	IP20 (EN60529)			
Connection terminals	2.5mm^2, screw type pluggable (24...12AWG)			
Case material	Aluminum			
Weight	0.45kg			
Size (W x H x D)	40 x 115 x 110mm			

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NPSM240 - 240W, 1 Phase DIN Rail Power Supply

- High efficiency and compact size
- Overload 130%
- Only 63mm width aluminum enclosure
- Excellent field reliability record



For reference only

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TECHNICAL DATA

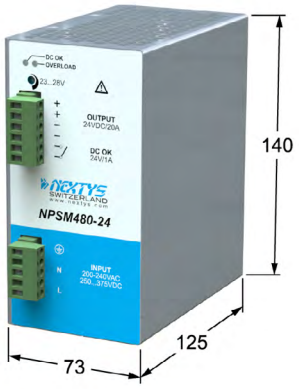
	NPSM240-12	NPSM240-24	NPSM240-24P	NPSM240-48P	NPSM240-72P
OUTPUT DATA					
Rated voltage	12Vdc	24Vdc		48Vdc	72Vdc
Adj. output voltage range	12...15Vdc	23...28Vdc		45...55Vdc	72...85Vdc
Continuous current	16...14A	10A		5A	3.5A
Overload limit	19...16A	13.5A		6.8A	4.6A
Load regulation	≤ 1.5%	≤ 1%	≤ 2.5%	≤ 1.5%	
Ripple and noise	≤ 150mVpp	≤ 100mVpp			
Hold up time	≥ 70ms				
Protections	• Overload/short circuit: hiccup mode • Thermal protection • Output overvoltage				
Status signals	• **DC OK** - green LED • **DC OK** - dry contact (NO, 24Vdc / 1A)				
Parallel connection	• Possible for redundancy (with external ORing module) • **P** (models) - include internal ORing circuit				
INPUT DATA					
Input AC rated voltage Frequency	Nominal: 120 / 240Vac (range 90...132 / 187...264Vac) Settable with voltage input selector 47...63Hz				
Input DC rated voltage	270...345Vdc (only with 240V selected)				
Input AC rated current Vin = 120Vac Vin = 240Vac	 4A 2A				
Input DC rated current Vin = 270Vdc Vin = 345Vdc	 1.3A 1A				
Inrush peak current / I^2t	≤ 32A / 1.18A^2s				
Touch (leakage) current	≤ 0.8mA				
Internal protection fuse	Fuse 6.3AT (not user replaceable)				
Recommended external protection	Fuse 10AT or MCB 10A C curve / SPD				
GENERAL DATA					
Efficiency	> 84% ... > 86%	> 88%	> 86%	> 88%	
Dissipated power	< 36.5W ... < 34.5W	< 33W	< 39W	< 33W	< 34.5W
Operating temperature	- 40°C...+ 70°C (UL certified up to 50°C)				
Derating	- 5W/°C over 50°C				
Lifetime expectancy / MTBF	77'894h (8.8 years) at 25°C ambient full load / (MIL-HDBK-217F) 500'000h at 25°C ambient full load				
Overvoltage category Pollution degree	III 2 (IEC60664-1)				
Input / output isolation	4.2kVdc				
Input / ground isolation	2.2kVdc				
Output / ground isolation	0.75kVdc				
Standards & Approvals	UL508 (certified), EN60950 (reference), CE marking				
EMC Standards	EN61000-6-2, EN61000-6-4				
Protection degree	IP20 (EN60529)				
Connection terminals	2.5mm^2, screw type pluggable (24...12AWG)				
Case material	Aluminum				
Weight	0.75kg				
Size (W x H x D)	63 x 140 x 117mm				

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NPSM480 - 480W, 1 Phase DIN Rail Power Supply

- High efficiency and compact size
- Active PFC
- Excellent long lasting overvoltage withstand (up to 550Vac)
- Usable for broad range of industrial, telecom and renewable energy applications

Product available until end of stock
(to be replaced by NPSM481-24 or NPSW480-24)



For reference only

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TECHNICAL DATA

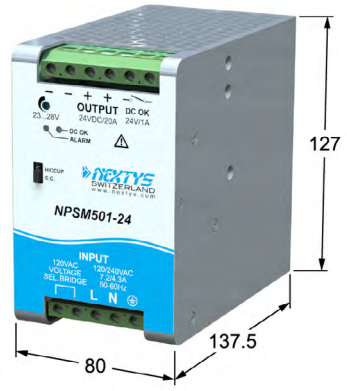
	NPSM480-24
OUTPUT DATA	
Rated voltage	24Vdc
Adj. output voltage range	23...28Vdc
Continuous current	20A
Overload limit	28A
Load regulation	≤ 1 %
Ripple and noise	≤ 50mVpp
Hold up time	≥ 50ms
Protections	• Overload/short circuit: hiccup mode • Thermal protection • Output overvoltage
Status signals	• **DC OK** - green LED • **OVERLOAD** - red LED • **DC OK** - dry contact (NO, 24Vdc / 1A)
Parallel connection	Possible for redundancy (with external ORing module)
INPUT DATA	
Input AC rated voltage	Nominal: 200...240Vac (range 187...264Vac)
Frequency	47...63Hz; 400Hz
Input DC rated voltage	250...375Vdc
Input AC rated current	
Vin = 200Vac	2.9A
Vin = 240Vac	2.5A
Input DC rated current	
Vin = 250Vdc	2.2A
Vin = 375Vdc	1.5A
Power factor correction	Active / > 0.9
Inrush peak current / I^2t	≤ 29A / 0.61A^2s
Touch (leakage) current	≤ 0.5mA
Internal protection fuse	None, external fuse must be provided
Recommended external protection	Fuse 6.3AT or MCB 6A C curve or 4A D curve / SPD
GENERAL DATA	
Efficiency	> 91%
Dissipated power	< 48W
Operating temperature	- 40°C...+ 70°C (UL certified up to 45°C)
Derating	- 10W/°C over 45°C
Lifetime expectancy / MTBF	65'496h (7.4 years) at 25°C ambient full load / (MIL-HDBK-217F) 500'000h at 25°C ambient full load
Overvoltage category	III
Pollution degree	2 (IEC60664-1)
Input / output isolation	4.2kVdc
Input / ground isolation	2.2kVdc
Output / ground isolation	0.75kVdc
Standards & Approvals	UL508 (certified), EN60950 (reference), CE marking
EMC Standards	EN61000-3-2, EN61000-6-2, EN61000-6-4
Protection degree	IP20 (EN60529)
Connection terminals	2.5mm^2, screw type pluggable (24...12AWG)
Case material	Aluminum
Weight	1kg
Size (W x H x D)	73 x 140 x 125mm

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NPSM501 - 480W, 1 Phase DIN Rail Power Supply

- High efficiency and compact size
- Overload 150%
- Constant current or hiccup mode limitation, user settable
- Easy parallelable for power increase
- Natural convection cooling

Product available until end of stock
(to be replaced by NPSM481)



For reference only

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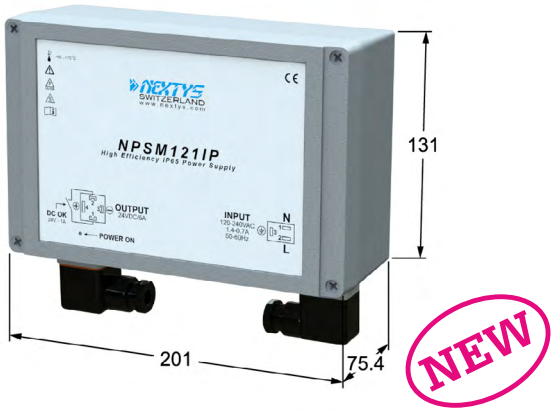
TECHNICAL DATA

	NPSM501-24	NPSM501-48	NPSM501-72
OUTPUT DATA			
Rated voltage	24Vdc	48Vdc	72Vdc
Adj. output voltage range	23...28Vdc	45...55Vdc	72...85Vdc
Continuous current	20A	10A	6.7A
Overload limit in constant current	22A	11A	7.5A
Overload limit in hiccup (max. 5s)	30A	15A	10A
Load regulation	≤ 1%	≤ 0.5%	
Ripple and noise	≤ 100mVpp		≤ 200mVpp
Hold up time	≥ 35ms		
Protections	• Overload/short circuit: with constant current or hiccup mode (user settable) • Thermal protection • Output overvoltage		
Status signals	• **DC OK** - green LED • **ALARM** - red LED • **DC OK** - dry contact (NO, 24Vdc / 1A)		
Parallel connection	Possible for power or redundancy (with external ORing module)		
INPUT DATA			
Input AC rated voltage Frequency	Nominal: 120 / 240Vac (range 90...132 / 187...264Vac) Settable with external voltage selector bridge 47...63Hz		
Input DC rated voltage	270...345Vdc (without external voltage selector bridge)		
Input AC rated current Vin = 120Vac Vin = 240Vac	 7.2A 4.3A		
Input DC rated current Vin = 270Vdc Vin = 345Vdc	 2.2A 1.9A		
Inrush peak current / I^2t	≤ 25A / 0.75A^2s		
Touch (leakage) current	≤ 1mA		
Internal protection fuse	None, external fuse must be provided		
Recommended external protection	Fuse 16AT or MCB 16A C curve / SPD		
GENERAL DATA			
Efficiency	> 91%	> 91.5%	> 92%
Dissipated power	< 48W	< 45W	< 42W
Operating temperature	- 40°C...+ 70°C (UL certified up to 45°C)		
Derating	- 7.2W/°C over 45°C		
Lifetime expectancy / MTBF	64'000h (7.3 years) at 25°C ambient full load / (MIL-HDBK-217F) 500'000h at 25°C ambient full load		
Overvoltage category Pollution degree	III 2 (IEC60664-1)		
Input / output isolation	4.2kVdc		
Input / ground isolation	2.2kVdc		
Output / ground isolation	0.75kVdc		
Standards & Approvals	UL508 (certified), EN60950 (reference), CE marking		
EMC Standards	EN61000-6-2, EN61000-6-4		
Protection degree	IP20 (EN60529)		
Connection terminals	1.5...6mm^2, screw type header (16...10AWG)		
Case material	Aluminum		
Weight	1.3kg		
Size (W x H x D)	80 x 127 x 137.5mm		

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NPSM121IP / NPSM241IP - 120 / 240W, 1 Phase, IP65 DIN Rail Power Supply

- IP65 design
- Suitable for harsh environments
- High efficiency and compact size
- Active PFC
- Overload 150%
- High operating temperature with no derating



IP65

CE

For reference only

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TECHNICAL DATA

	NPSM121IP	NPSM241IP
OUTPUT DATA		
Rated voltage	24Vdc	
Adj. output voltage range	24Vdc fixed	
Continuous current	5A	10A
Overload limit	7.5A	11.5A
Load regulation	≤ 1.5%	≤ 2%
Ripple and noise	≤ 60mVpp	≤ 260mVpp
Hold up time	≥ 20ms	
Protections	• Overload/short circuit: hiccup mode • Thermal protection • Input undervoltage lockout • Output overvoltage	
Status signals	• **DC OK** - green LED • **DC OK** - dry contact (NO, 24Vdc / 1A)	
Parallel connection	Possible for redundancy (with external ORing module)	• Possible for redundancy • Includes internal ORing circuit
INPUT DATA		
Input AC rated voltage	Nominal: 120...240Vac (range 90...264Vac)	
Frequency	47...63Hz	
Input DC rated voltage	110...345Vdc	
Input AC rated current Vin = 120Vac Vin = 240Vac	 1.4A 0.7A	 2.4A 1.2A
Input DC rated current Vin = 110Vdc Vin = 345Vdc	 1.4A 0.5A	 2.6A 0.9A
Power factor correction	Active / > 0.9	
Inrush peak current	≤ 45A	≤ 50A
Touch (leakage) current	≤ 0.5mA	≤ 0.6mA
Internal protection fuse (not user replaceable)	Fuse 3.15AT (not user replaceable)	Fuse 6.3AT (not user replaceable)
Recommended external protection	Fuse 4AT or MCB 4A C curve / SPD	Fuse 10AT or MCB 10A C curve / SPD
GENERAL DATA		
Efficiency	> 90%	> 92.5%
Dissipated power	< 13.5W	< 19.5W
Operating temperature	- 35°C...+ 70°C	- 40°C...+ 70°C
Derating	No derating	-2.4W/°C over 50°C at 120Vac -2.4W/°C over 60°C at 240Vac
Lifetime expectancy MTBF	74'640h (8.5 years) at 25°C ambient full load (MIL-HDBK-217F) 500'000h at 25°C ambient full load	221'288h (25.2 years) at 25°C ambient full load (MIL-HDBK-217F) 600'000h at 25°C ambient full load
Overvoltage category	III	
Pollution degree	3 (IEC60664-1)	
Input / output isolation	4.2kVdc	
Input / ground isolation	2.2kVdc	
Output / ground isolation	0.75kVdc	
Standards & Approvals	UL508 (reference), EN60950 (reference), CE marking	
EMC Standards	EN61000-3-2, EN61000-6-2, EN61000-6-3	
Protection degree	IP65	
Connection terminals	1.5mm², screw type pluggable (22...16AWG)	
Case material	Aluminum	
Weight	1.45kg	1.75kg
Size (W x H x D)	201 x 131 x 75.4mm	

HIGH FLEXIBILITY FOR DEMANDING APPLICATIONS

- ✓Smallest size in the market
- ✓High power density
- ✓High efficiency (up to 94%)
- ✓PFC
- ✓Wide output voltage adjust range: 11.5...28.5Vdc and 22...55Vdc (NPSM121 family)
- ✓User settable current limitation algorithm (constant current or hiccup)
- ✓Optimal "parallel for power" capability
- ✓150% overload
- ✓Special model with 10kV isolation for energy management sector (PSH150)

Applications:

- ✓Industrial machine control
- ✓Process control
- ✓Telecom
- ✓Renewable energy
- ✓High reliability applications

Output voltages range

	Vdc (Out)					
Power (W)	**5...55**	**12**	**24**	**36**	**48**	**72**
120			■	■	■	
150	■		■			
240		■	■	■	■	■
480			■	■	■	■
960		■	■		■	■



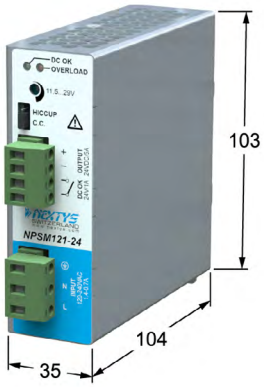
120W ***240W*** ***480W***

- ✓First SMPS with versatile output configuration
- ✓Maximum flexibility
- ✓Low management cost
- ✓Small Size

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NPSM121 - 120W, 1 Phase, High Performance, Ultracompact DIN Rail Power Supply

- High efficiency and extremely compact size
- Only 35mm width aluminum enclosure
- Active PFC
- Overload 150%
- Constant current or hiccup mode limitation, user settable
- Wide range of output voltage
- Up to 60°C operating temperature with no derating
- Easy parallelable for power increase
- Codes ended with **"H"**: include enhanced transient overvoltage protection (> 6kV)



ULTRA COMPACT

For reference only

E

TECHNICAL DATA

	NPSM121-24 (H)	NPSM121-24P	NPSM121-48 (H)	NPSM121-48P
OUTPUT DATA				
Rated voltage	24Vdc		48Vdc	
Adj. output voltage range	11.5…29Vdc		23…56Vdc	
Continuous current	5A		2.5A	
Overload limit in constant current	7.5A		3.75A	
Overload limit in hiccup (max. 5s)	7.5A		3.75A	
Load regulation	≤ 1%	≤ 3%	≤ 0.5%	≤ 1.5%
Ripple and noise	≤ 60mVpp			
Hold up time Vin = 120Vac Vin = 240Vac	 ≥ 20ms ≥ 30ms			
Protections	• Overload/short circuit: with constant current or hiccup mode (user settable) • Thermal protection • Input undervoltage lockout • Output overvoltage			
Status signals	• **DC OK** - green LED • **OVERLOAD** - red LED • **DC OK** - dry contact (NO, 24Vdc / 1A)			
Parallel connection	• Possible for power or redundancy (with external ORing module) • **P** (models) - include internal ORing circuit			
INPUT DATA				
Input AC rated voltage	Nominal: 120…240Vac (range 90…264Vac)			
Frequency	47…63Hz			
Input DC rated voltage	110…345Vdc			
Input AC rated current Vin = 120Vac Vin = 240Vac	 1.4A 0.7A			
Input DC rated current Vin = 110Vdc Vin = 345Vdc	 1.4A 0.5A			
Power factor correction	Active / > 0.9			
Inrush peak current / I^2t	≤ 32A / 0.49A^2s			
Touch (leakage) current	≤ 0.5mA			
Internal protection fuse	Fuse 3.15AT (not user replaceable)			
Recommended external protection	Fuse 4AT or MCB 4A C curve / SPD			
GENERAL DATA				
Efficiency	> 90%	> 89%	> 90%	> 89%
Dissipated power	< 13.5W	< 15W	< 13.5W	< 15W
Operating temperature	- 35°C…+ 70°C (UL certified up to 60°C)			
Derating	-1.2W/°C over 60°C			
Lifetime expectancy / MTBF	74'640h (8.5 years) at 25°C ambient full load / (MIL-HDBK-217F) 500'000h at 25°C ambient full load			
Overvoltage category	III			
Pollution degree	2 (IEC60664-1)			
Input / output isolation	4.2kVdc			
Input / ground isolation	2.2kVdc			
Output / ground isolation	0.75kVdc			
Standards & Approvals	UL508 (certified, not applicable for "H" models), EN60950 (reference), CE marking			
EMC Standards	EN61000-3-2, EN61000-6-2, EN61000-6-3			
Protection degree	IP20 (EN60529)			
Connection terminals	2.5mm^2, screw type pluggable (24...12AWG)			
Case material	Aluminum			
Weight	0.45kg			
Size (W x H x D)	35 x 103 x 104mm			

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MEPS150 - 150W, 1 Phase, High Performance, Ultracompact DIN Rail Power Supply

- High efficiency and extremely compact size
- Only 35mm width aluminum enclosure
- Active PFC
- Overload 125%
- High operating temperature with no derating



ULTRA COMPACT

NEW

For reference only

E

TECHNICAL DATA

	MEPS150-24
OUTPUT DATA	
Rated voltage	24Vdc
Adj. output voltage range	24Vdc Fixed
Continuous current	6A
Overload limit	7.5A
Load regulation	≤ 1%
Ripple and noise	≤ 50mVpp
Hold up time Vin = 120Vac Vin = 240Vac	 ≥ 20ms ≥ 30ms
Protections	• Overload/short circuit: with constant current • Thermal protection • Input undervoltage lockout • Output overvoltage
Status signals	• **DC OK** - green LED • **OVERLOAD** - red LED
Parallel connection	Possible for power or redundancy (with external ORing module)
INPUT DATA	
Input AC rated voltage Frequency	Nominal: 120...240Vac (range 90...264Vac) 47...63Hz
Input DC rated voltage	110...345Vdc
Input AC rated current Vin = 120Vac Vin = 240Vac	 1.5A 0.8A
Input DC rated current Vin = 110Vdc Vin = 345Vdc	 1.5A 0.6A
Power factor correction	Active / > 0.9
Inrush peak current / I^2t	≤ 32A / 0.45A^2s"
Touch (leakage) current	≤ 0.5mA
Internal protection fuse	Fuse 3.15AT (not user replaceable)
Recommended external protection	Fuse 4AT or MCB 4A C curve / SPD
GENERAL DATA	
Efficiency	> 90.7%
Dissipated power	< 15W
Operating temperature	- 20°C...+ 70°C
Derating	- 4.5W/°C over 50°C
Lifetime expectancy	69'000h (7.9 years) at 25°C ambient full load
Overvoltage category Pollution degree	III 2 (IEC60664-1)
Input / output isolation	4.2kVdc
Input / ground isolation	2.2kVdc
Output / ground isolation	0.75kVdc
Standards & Approvals	UL508 (pending), EN60950 (reference), CE marking
EMC Standards	EN61000-3-2, EN61000-6-2, EN61000-6-3
Protection degree	IP20 (EN60529)
Connection terminals	2.5mm^2, screw type pluggable (24...12AWG)
Case material	Aluminum
Weight	0.45kg
Size (W x H x D)	35 x 103 x 104mm

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PSH150 - 150W, 10kV Isolation Programmable DIN Rail Power Supply

- Class II insulation (PE connection not required)
- 10kVac primary to secondary isolation (suitable for energy management applications)
- Wide output voltage range 5...55Vdc
- High efficiency and compact size
- Digital Power regulation
- User settable current limitation mode and thresholds
- Remote ON/OFF possible through INHIBIT input
- Modbus over USB and RS-485 interfaces for control and monitoring
- Can be paralleled for power or redundancy (integrated ORing circuitry)
- High operating temperature with derating
- Suitable for **POWERMASTER**® software



WORLD FIRST!

For reference only

NEW

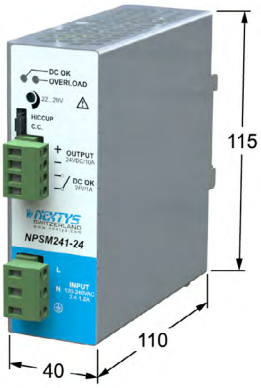
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TECHNICAL DATA

	PSH150		
OUTPUT DATA			
Rated voltage	5...55Vdc (1V resolution programmable)		
Continuous current	12.0A @ 5...12Vdc - 6.0A @ 24Vdc - 3.0A @ 48Vdc - Vout x Iout = Max 150W for Vout > 48Vdc		
Overload limit	12.5A to 3.0A (depending on Vout)		
Load regulation	≤ 2% @ 5Vdc - ≤ 1% @ 12Vdc - ≤ 0.5% @ ≥ 24Vdc		
Ripple and noise	≤ 120mVpp		
Hold up time	≥ 30ms		
Battery charger function	C.C./C.V. (setup via front panel or **POWERMASTER**® application)		
User interface	• 7 segment, 3 digits display • 3 programming keys • **INHIBIT** - isolated remote ON/OFF input, active for 5...30Vdc • **12V AUX** - auxiliary 12Vdc / 100mA • **Modbus** over **USB** and **RS-485** interfaces		
Protections	• Overload and short circuit protections • Thermal protection • Input undervoltage lockout (UVLO), overvoltage protection (VDR) • Output overvoltage protection (> 62Vdc)		
Status signals	• 3 status LEDs • **DC OK** - dry contact (SPDT, 24Vdc / 1A)		
Parallel connection	Possible for power or redundancy (includes internal ORing circuit)		
INPUT DATA			
Input AC rated voltage	Nominal: 120...240Vac (range 90...277Vac)		
Frequency	47...63Hz		
Input DC rated voltage	110...400Vdc		
Input AC rated current Vin = 120Vac Vin = 240Vac	 2.2A 1A		
Input DC rated current Vin = 110Vdc Vin = 400Vdc	 1.1A 0.6A		
Power factor correction	Active / > 0.9		
Inrush peak current / I^2t	≤ 34A / 0.88A^2s		
Touch (leakage) current	≤ 0.1mA		
Internal protection fuse	Fuse 8AT (not user replaceable)		
Recommended external protection	Fuse MCB 6A C curve / SPD		
GENERAL DATA			
Efficiency	> 78% ... > 86% (depending on Vout and Vin)		
Dissipated power	< 16W ... < 24W (depending on Vout and Vin)		
Operating temperature	- 40°C...+ 70°C		
Derating	Depending on Vout and Vin over 50°C (see the online datasheet)		
Lifetime expectancy / MTBF	351'777h (40.1 years) at 25°C ambient full load / (MIL-HDBK-217F) 700'000h at 25°C ambient full load		
Overvoltage category	IV		
Pollution degree	2 (IEC60664-1)		
Input / output isolation	10kVac		
Standards & Approvals	UL508 (reference), EN60255-27 (reference), CE marking		
EMC Standards	EN61000-3-2, EN61000-6-2, EN61000-6-4		
Protection degree	IP20 (EN60529)		
Connection terminals	**IN/OUT** 2.5mm², screw type pluggable (24...12AWG)	**AUX** Up to 0.5mm², Fast Pluggable type (20AWG)	**Interface** • RS-485 through RJ45 Female • USB-B Type (virtual Com Port)
Case material	Plastic, Flame retardant UL94 V-0		
Weight	0.75kg		
Size (W x H x D)	179 x 100 x 64.5mm		

NPSM241 - 240W, 1 Phase, High Performance, Ultracompact DIN Rail Power Supply

- High efficiency and extremely compact size
- Only 40mm width aluminum enclosure
- Active PFC
- Overload 150%
- Constant current or hiccup mode limitation, user settable
- Up to 70°C operating temperature with no derating
- Wide range of output voltage
- Easy parallelable for power increase
- Codes ended with **"H"**: include enhanced transient overvoltage protection (> 6kV)
- All models available as version "**PH**"



ULTRA COMPACT

For reference only

E

TECHNICAL DATA

	NPSM241-12 (P, H)	NPSM241-24 (P, H)	NPSM241-36 (P, H)	NPSM241-48P (H)	NPSM241-72P (H)
OUTPUT DATA					
Rated voltage	12Vdc	24Vdc	36Vdc	48Vdc	72Vdc
Adj. output voltage range	12...15Vdc	22...29Vdc	32...40Vdc	45...55Vdc	70...85Vdc
Continuous current	15A	10A	7A	5A	3.3A
Overload limit in constant current	17A	11A	7.5A	7A	4A
Overload limit in hiccup (max. 5s)	20A	15A	10A	8.5A	5.5A
Load regulation	≤ 2%	≤ 1%			
Ripple and noise	≤ 160mVpp	≤ 260mVpp	≤ 300mVpp	≤ 400mVpp	≤ 550mVpp
Hold up time	≥ 25ms	≥ 20ms	≥ 15ms	≥ 20ms	≥ 15ms
Protections	• Overload/short circuit: with constant current or hiccup mode (user settable) • Thermal protection • Input undervoltage lockout • Output overvoltage				
Status signals	• **DC OK** - green LED • **OVERLOAD** - red LED • **DC OK** - dry contact (NO, 24Vdc / 1A)				
Parallel connection	• Possible for power or redundancy (with external ORing module) • **P** (models) - include internal ORing circuit				
INPUT DATA					
Input AC rated voltage	Nominal: 120...240Vac (range 90...264Vac)				
Frequency	47...63Hz				
Input DC rated voltage	110...345Vdc				
Input AC rated current					
Vin = 120Vac	2.4A		3.0A	2.4A	
Vin = 240Vac	1.2A		1.5A	1.2A	
Input DC rated current					
Vin = 110Vdc	2.5A	2.6A	2.5A	2.6A	
Vin = 345Vdc	1.2A	0.9A	1.2A	0.9A	
Power factor correction	Active / > 0.9				
Inrush peak current / I^2t	≤ 34A / 0.66A^2s				
Touch (leakage) current	≤ 0.6mA				
Internal protection fuse	Fuse 6.3AT (not user replaceable)				
Recommended external protection	Fuse 10AT or MCB 10A C curve / SPD				
GENERAL DATA					
Efficiency	> 90%	> 93%		> 93.5%	
Dissipated power	< 25W	< 19W		< 17W	
Operating temperature	- 40°C...+ 70°C (UL certified up to 70°C)				
Derating	No Derating				
Lifetime expectancy / MTBF	221'288h (25.2 years) at 25°C ambient full load / (MIL-HDBK-217F) 600'000h at 25°C ambient full load				
Overvoltage category	III				
Pollution degree	2 (IEC60664-1)				
Input / output isolation	4.2kVdc				
Input / ground isolation	2.2kVdc				
Output / ground isolation	0.75kVdc				
Standards & Approvals	UL508 (certified, not applicable for "-36", "H" and "PH" models), EN60950 (reference), CE marking				
EMC Standards	EN61000-3-2, EN61000-6-2, EN61000-6-3				
Protection degree	IP20 (EN60529)				
Connection terminals	2.5mm², screw type pluggable (24...12AWG)				
Case material	Aluminum				
Weight	0.6kg				
Size (W x H x D)	40 x 115 x 110mm				

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NPSM481 - 480W, 1 Phase, High Performance, Ultracompact DIN Rail Power Supply

- High efficiency and extremely compact size
- Only 56mm width aluminum enclosure
- Active PFC
- Overload 150%
- Constant current or hiccup mode limitation, user settable
- Up to 60°C operating temperature with no derating
- Wide range of output voltage
- Easy parallelable for power increase
- Codes ended with **"H"**: include enhanced transient overvoltage protection (> 6kV)
- All models available as version "**PH**"



ULTRA COMPACT

For reference only

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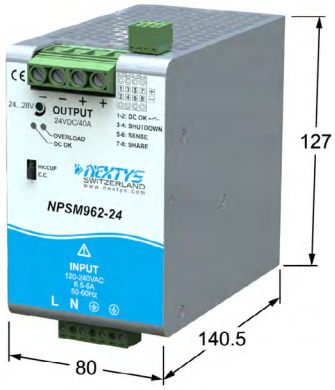
TECHNICAL DATA

	NPSM481-24 (P, H)	NPSM481-36 (P, H)	NPSM481-48 (P, H)	NPSM481-72 (P, H)
OUTPUT DATA				
Rated voltage	24Vdc	36Vdc	48Vdc	72Vdc
Adj. output voltage range	22...29Vdc	32...40Vdc	45...55Vdc	70...85Vdc
Continuous current	20A	14A	10A	6.7A
Overload limit in constant current	21A	16A	12A	7A
Overload limit in hiccup (max. 5s)	30A	20A	17A	12A
Load regulation	≤ 1.5%	≤ 1%	≤ 0.5%	
Ripple and noise	≤ 150mVpp	≤ 200mVpp		≤ 350mVpp
Hold up time	≥ 25ms	≥ 20ms	≥ 25ms	
Protections	• Overload/short circuit: with constant current or hiccup mode (user settable) • Thermal protection • Input undervoltage lockout • Output overvoltage			
Status signals	• **DC OK** - green LED • **OVERLOAD** - red LED • **DC OK** - dry contact (NO, 24Vdc / 1A)			
Parallel connection	• Possible for power or redundancy (with external ORing module) • **P** (models) - include internal ORing circuit			
INPUT DATA				
Input AC rated voltage	Nominal: 120...240Vac (range 90...264Vac)			
Frequency	47...63Hz			
Input DC rated voltage	110...345Vdc			
Input AC rated current Vin = 120Vac Vin = 240Vac	 4.8A 2.4A	 5.5A 2.8A	 4.8A 2.4A	
Input DC rated current Vin = 110Vdc Vin = 345Vdc	 4.9A 1.7A	 5.3A 1.9A	 4.9A 1.7A	
Power factor correction	Active / > 0.9			
Inrush peak current / I^2t	≤ 23A / 0.56A^2s			
Touch (leakage) current	≤ 0.9mA			
Internal protection fuse	Fuse 8AT (not user replaceable)			
Recommended external protection	Fuse 10AT or MCB 10A C curve / SPD			
GENERAL DATA				
Efficiency	> 93%	> 94%		
Dissipated power	< 36.5W	< 32.5W	< 31W	
Operating temperature	- 40°C...+ 70°C (UL certified up to 50°C at 120Vac or up to 60°C at 240Vac)			
Derating	- 7.6W/°C over 50°C at 120Vac - 7.2W/°C over 60°C at 240Vac			
Lifetime expectancy / MTBF	167'953h (19.1 years) at 25°C ambient full load / (MIL-HDBK-217F) 600'000h at 25°C ambient full load			
Overvoltage category	III			
Pollution degree	2 (IEC60664-1)			
Input / output isolation	4.2kVdc			
Input / ground isolation	2.2kVdc			
Output / ground isolation	0.75kVdc			
Standards & Approvals	UL508 (certified, not applicable for "-36", "H" and "PH" models), EN60950 (reference), CE marking			
EMC Standards	EN61000-3-2, EN61000-6-2, EN61000-6-3			
Protection degree	IP20 (EN60529)			
Connection terminals	2.5mm², screw type pluggable (24...12AWG)			
Case material	Aluminum			
Weight	1.1kg			
Size (W x H x D)	56 x 140 x 117mm			

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NPSM962 - 960W, 1 Phase, High Performance, Ultracompact DIN Rail Power Supply

- High efficiency and compact size
- Only 80mm width aluminum enclosure
- Active PFC
- Overload 150%
- Enhanced input transient overvoltage protection
- Automatic power derating in low-line applications
- Constant current or hiccup mode limitation, user settable
- Isolated enable input for remote on/off control
- Easy parallelable for power increase with load share bus
- Natural convection cooling



ULTRA COMPACT

NEW

CE

For reference only

E

TECHNICAL DATA

	NPSM962-12	NPSM962-24	NPSM962-48	NPSM962-72
OUTPUT DATA				
Rated voltage	12Vdc	24Vdc	48Vdc	72Vdc
Adj. output voltage range	12...15Vdc	22...29Vdc	45...55Vdc	70...85Vdc
Continuous current (@240Vac)	50A	40A	20A	13.3A
Continuous current (@120Vac)	40A	30A	15A	10A
Overload limit in hiccup (@240Vac)	75A	60A	30A	20A
Overload limit in hiccup (@120Vac)	55A	35A	18A	12A
Load regulation	≤ 1%			
Ripple and noise	≤ 100mVpp			
Hold up time	≥ 20ms			
Protections	• Overload/short circuit: with constant current or hiccup mode (user settable) • Thermal protection • Output overvoltage			
Status signals	• **DC OK** - green LED • **ALARM** - red LED • **DC OK** - dry contact (NO, 24Vdc / 1A)			
User interface	• Optoisolated remote shut down input • Remote load voltage sense • Load share bus for current balancing • Remote output current measurement			
Parallel connection	Possible for power (load share) or redundancy (with external ORing module)			
INPUT DATA				
Input AC rated voltage	Nominal: 120...240Vac (range 90...264Vac)			
Frequency	47...63Hz			
Input DC rated voltage	110...345Vdc			
Input AC rated current Vin = 120Vac Vin = 240Vac	 5A 4A	 7A 5A		
Input DC rated current Vin = 300Vdc	 3.5A	 4A		
Inrush peak current	≤ 35A			
Touch (leakage) current	≤ 3mA			
Internal protection fuse	Fuse 16AT (not user replaceable)			
Recommended external protection	Fuse 10AT or MCB 10A C curve / SPD			
GENERAL DATA				
Efficiency	> 92%	> 94%	> 95%	
Dissipated power	< 52W	< 60W	< 50W	
Operating temperature	- 40°C...+ 70°C			
Derating	Automatic power derating for Vin < 180Vac			
Lifetime expectancy	70'080h (8 years) at 25°C ambient full load			
Overvoltage category	III			
Pollution degree	2 (IEC60664-1)			
Input / output isolation	4.2kVdc			
Input / ground isolation	2.2kVdc			
Output / ground isolation	0.75kVdc			
Standards & Approvals	UL508 (reference), EN60950 (reference), CE marking			
EMC Standards	EN61000-3-2, EN61000-6-2, EN61000-6-3			
Protection degree	IP20 (EN60529)			
Connection terminals	2.5mm², screw type pluggable (24...12AWG) for input 6...16mm², screw type (10...6AWG) for output Up to 0.75mm², spring type pluggable (18AWG) for auxiliary			
Case material	Aluminum			
Weight	1.3kg			
Size (W x H x D)	80 x 127 x 140.5mm			

NPSM1500-36 - 1500W, High Performance 24/36V, DIN Rail Power Supply

- High efficiency and compact size
- Output voltage programmable at 24Vdc or 36Vdc
- 250mm width aluminum enclosure
- Active PFC
- Hiccup mode current limitation
- Temperature controlled fan cooling (high reliability)
- Remote Enable signal
- Enhanced input transient overvoltage immunity
- Wall mount fixing possible



For reference only

NEW

E

TECHNICAL DATA

	NPSM1500-36	
OUTPUT DATA		
Rated voltage	24Vdc or 36Vdc user programmable	
Continuous current	40A	
Overload limit in hiccup	> 41A	
Load regulation	≤ 1.5%	
Ripple and noise	≤ 500mVpp (@ 36Vdc out)	
Hold up time	≥ 25ms	
Protections	• Overload • Short circuit • Thermal protection	• Input undervoltage lockout • Output overvoltage
Status signals	• **DC OK** - green LED • **AC OK** - green LED • **OUTPUT DISABLED** - yellow LED • **FAULT** - red LED	• **24V/36V selection** - 2 yellow LEDs • **24V/36V selection switch** • **RJ-45 connector** for remote status signalling
Parallel connection	Possible for power or redundancy (with external ORing module)	
INPUT DATA		
Input AC rated voltage	Nominal: 120...240Vac (range 90...264Vac)	
Frequency	47...63Hz	
Input DC rated voltage	110...345Vdc	
Input AC rated current Vin = 120Vac Vin = 240Vac	 15A 7A	
Input DC rated current Vin = 110Vdc Vin = 345Vdc	 15A 5A	
Power factor correction	Active / > 0.9	
Inrush peak current / I^2t	≤ 25A / 0.09A^2s	
Overvoltage protection	• Differential overvoltage (L to N) with 275Vac varistor (VDR) • Common mode overvoltage (L/N to PE) with 1.6kV Gas Discharge Tube (GDT), surge immunity up to 6kV guaranteed	
Touch (leakage) current	≤ 3mA	
Recommended external protection	Fuse 20AT or MCB 16A C curve / SPD	
GENERAL DATA		
Efficiency	> 91.5%	
Dissipated power	< 133W	
Operating temperature	- 40°C...+ 70°C	
Derating	0.75A/°C over 50°C	
Lifetime expectancy / MTBF	174'631h (19.94 years) at 25°C ambient full load / (MIL-HDBK-217F) >600'000h at 25°C ambient full load	
Overvoltage category	III	
Pollution degree	2 (IEC60664-1)	
Input / output isolation	4.2kVdc	
Input / ground isolation	2.2kVdc	
Output / ground isolation	0.75kVdc	
Standards & Approvals	UL508 (reference), EN60950 (reference), CE marking	
EMC Standards	EN61000-3-2, EN61000-6-2, EN61000-6-4, FCC Part15	
Protection degree	IP20 (EN60529)	
Connection terminals input	1.5...6mm^2, screw type header (16...10AWG)	
Connection terminals output	6...16mm^2, screw type header (10...6AWG)	
Connection terminals enable	2.5mm^2, screw type header (24...12AWG)	
Case material	Aluminum	
Weight	3.5kg	
Size (W x H x D)	250 x 170 x 132mm	

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HIGH POWER IN MINIMUM SIZE

- ✓High efficiency
- ✓Compactness
- ✓Reliable starting of dynamic loads by POWER BOOST (+50% for 5s)
- ✓Continuity of operation if one phase is lost (model dependent)
- ✓User settable current limitation algorithm (constant current or hiccup)
- ✓Optimal "parallel for power" capability
- ✓Designed according to Machinery Directive 2006/42/EC
- ✓Multiple protections
- ✓Wide choice of output voltages

Applications:

- ✓Industrial machine control
- ✓Process control
- ✓Conveyors
- ✓DC back-up, battery charging
- ✓Packing equipment
- ✓Semiconductor manufacturing
- ✓Renewable energy



Output voltages range

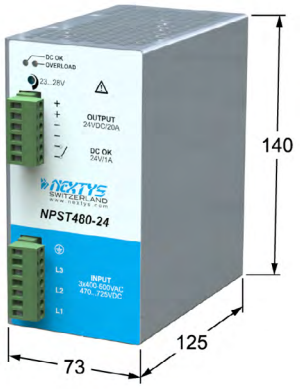
	Vdc (Out)			
Power (W)	12	24	48	72
480	■	■	■	■
720		■	■	
960	■	■	■	■

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NPST480 - 480W, 3 Phases, Compact DIN Rail Power Supply

- High efficiency and compact size
- Active PFC
- Usable for applications where low line voltage is often present

Product available until end of stock
(to be replaced by NPSW480-24)



For reference only

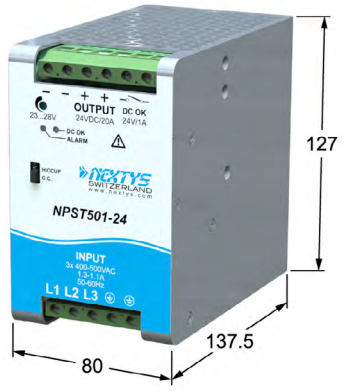
TECHNICAL DATA

	NPST480-24
OUTPUT DATA	
Rated voltage	24Vdc
Adj. output voltage range	23...28Vdc
Continuous current	20A
Overload limit	28A
Load regulation	≤ 1 %
Ripple and noise	≤ 50mVpp
Hold up time	≥ 20ms
Protections	• Overload/short circuit: hiccup mode • Thermal protection • Output overvoltage
Status signals	• **DC OK** - green LED • **OVERLOAD** - red LED • **DC OK** - dry contact (NO, 24Vdc / 1A)
Parallel connection	Possible for redundancy (with external ORing module)
INPUT DATA	
Input AC rated voltage	Nominal: 3 phases 400...500Vac (range 340...550Vac)
Frequency	47...63Hz
Input DC rated voltage	470...725Vdc
Input AC rated current	
Vin = 400Vac	1.3A
Vin = 500Vac	1.1A
Input DC rated current	
Vin = 470Vdc	1.2A
Vin = 725Vdc	0.8A
Power factor correction	Active / > 0.9
Inrush peak current / I^2t	≤ 55A / 2.16A^2s
Touch (leakage) current	≤ 0.5mA
Recommended external protection	Fuse 3 x 6.3AT or 3 x MCB 6A C curve or 3 x 4A D curve / SPD
GENERAL DATA	
Efficiency	> 92%
Dissipated power	< 42W
Operating temperature	- 40°C...+ 70°C (UL certified up to 45°C)
Derating	- 10W/°C over 45°C
Lifetime expectancy / MTBF	65'496h (7.4 years) at 25°C ambient full load / (MIL-HDBK-217F) 500'000h at 25°C ambient full load
Overvoltage category	III
Pollution degree	2 (IEC60664-1)
Input / output isolation	4.2kVdc
Input / ground isolation	2.2kVdc
Output / ground isolation	0.75kVdc
Standards & Approvals	UL508 (certified), EN60950 (reference), CE marking
EMC Standards	EN61000-3-2, EN61000-6-2, EN61000-6-4
Protection degree	IP20 (EN60529)
Connection terminals	2.5mm^2, screw type pluggable (24...12AWG)
Case material	Aluminum
Weight	1kg
Size (W x H x D)	73 x 140 x 125mm

NPST501 - 480W, 3 Phases, Compact DIN Rail Power Supply

- High efficiency and compact size
- Overload 150%
- Constant current or hiccup mode limitation, user settable
- Easy parallelable for power increase
- Natural convection cooling
- 72V output model as standard

Product available until end of stock
(to be replaced by NPSW480)



For reference only

TECHNICAL DATA

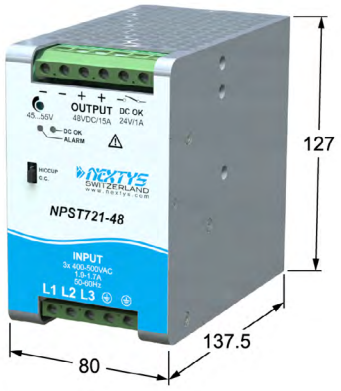
	NPST501-12	NPST501-24	NPST501-48	NPST501-72
OUTPUT DATA				
Rated voltage	12Vdc	24Vdc	48Vdc	72Vdc
Adj. output voltage range	12…15Vdc	23…28Vdc	45…55Vdc	72…85Vdc
Continuous current	40A	20A	10A	6.7A
Overload limit in constant current	44A	22A	11A	7.5A
Overload limit in hiccup (max. 5s)	60A	30A	15A	10A
Load regulation	≤ 2.5%	≤ 1%	≤ 0.5%	
Ripple and noise	≤ 150mVpp	≤ 100mVpp		
Hold up time	≥ 20ms			
Protections	• Overload/short circuit: with constant current or hiccup mode (user settable) • Thermal protection • Output overvoltage			
Status signals	• **DC OK** - green LED • **OVERLOAD** - red LED • **DC OK** - dry contact (NO, 24Vdc / 1A)			
Parallel connection	Possible for power or redundancy (with external ORing module)			
INPUT DATA				
Input AC rated voltage	Nominal: 3 phases, 400…500Vac (range 340…550Vac)			
Frequency	47…63Hz			
Input DC rated voltage	520…725Vdc			
Input AC rated current				
Vin = 400Vac	1.3A			
Vin = 500Vac	1.1A			
Input DC rated current				
Vin = 520Vdc	1.2A			
Vin = 725Vdc	0.9A			
Inrush peak current / I^2t	≤ 42A / 1.16A^2s			
Touch (leakage) current	≤ 0.15mA			
Internal protection fuse	None, external fuse must be provided			
Recommended external protection	Fuse 3 x 10AT or 3 x MCB 10A C curve / SPD			
GENERAL DATA				
Efficiency	> 89%	> 93.5%		> 94%
Dissipated power	< 59W	< 34W		< 31W
Operating temperature	- 40°C…+ 70°C (UL certified up to 50°C)			
Derating	- 4.5W/°C over 50°C			
Lifetime expectancy / MTBF	63’200h (7.2 years) at 25°C ambient 75% load / (MIL-HDBK-217F) 500’000h at 25°C ambient full load			
Overvoltage category	III			
Pollution degree	2 (IEC60664-1)			
Input / output isolation	4.2kVdc			
Input / ground isolation	2.2kVdc			
Output / ground isolation	0.75kVdc			
Standards & Approvals	UL508 (certified), EN60950 (reference), CE marking			
EMC Standards	EN61000-6-2, EN61000-6-4			
Protection degree	IP20 (EN60529)			
Connection terminals	1.5…6mm^2, screw type header (16...10AWG) 6…16mm^2, screw type header (10...6 AWG) for output on 12V model			
Case material	Aluminum			
Weight	1.3kg			
Size (W x H x D)	80 x 127 x 137.5mm			

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NPST721 - 720W, 3 Phases, Compact DIN Rail Power Supply

- High efficiency and compact size
- Overload 150%
- Constant current or hiccup mode limitation, user settable
- Easy parallelable for power increase
- Up to 60°C operating temperature with no derating
- Low noise thermally regulated "long life" fan

Product available by request



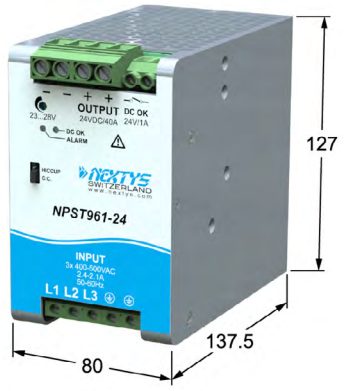
For reference only

TECHNICAL DATA

	NPST721-24	NPST721-48
OUTPUT DATA		
Rated voltage	24Vdc	48Vdc
Adj. output voltage range	23...28Vdc	45...55Vdc
Continuous current	30A	15A
Overload limit in constant current	33A	16.5A
Overload limit in hiccup (max. 5s)	45A	22.5A
Load regulation	≤ 1%	≤ 0.5%
Ripple and noise	≤ 150mVpp	≤ 100mVpp
Hold up time	≥ 20ms	
Protections	• Overload/short circuit: with constant current or hiccup mode (user settable) • Thermal protection • Output overvoltage	
Status signals	• **DC OK** - green LED • **ALARM** - red LED • **DC OK** - dry contact (NO, 24Vdc / 1A)	
Parallel connection	Possible for power or redundancy (with external ORing module)	
INPUT DATA		
Input AC rated voltage	Nominal: 3 phases, 400...500Vac (range 340...550Vac)	
Frequency	47...63Hz	
Input DC rated voltage	520...725Vdc	
Input AC rated current		
Vin = 400Vac	1.9A	
Vin = 500Vac	1.7A	
Input DC rated current		
Vin = 520Vdc	1.7A	
Vin = 725Vdc	1.3A	
Inrush peak current / I^2t	≤ 50A / 1.86A^2s	
Touch (leakage) current	≤ 0.1mA	
Internal protection fuse	None, external fuse must be provided	
Recommended external protection	Fuse 3 x 10AT or 3 x MCB 10A C curve / SPD	
GENERAL DATA		
Efficiency	> 91.5%	> 93%
Dissipated power	< 62W	< 55W
Operating temperature	- 40°C...+ 70°C (UL certified up to 60°C)	
Derating	- 16W/°C over 60°C	
Lifetime expectancy / MTBF	63'200h (7.2 years) at 25°C ambient 75% load / (MIL-HDBK-217F) 500'000h at 25°C ambient full load	
Overvoltage category	III	
Pollution degree	2 (IEC60664-1)	
Input / output isolation	4.2kVdc	
Input / ground isolation	2.2kVdc	
Output / ground isolation	0.75kVdc	
Standards & Approvals	UL508 (certified), EN60950 (reference), CE marking	
EMC Standards	EN61000-6-2, EN61000-6-4	
Protection degree	IP20 (EN60529)	
Connection terminals	1.5...6mm^2, screw type (16...10AWG)	
Case material	Aluminum	
Weight	1.3kg	
Size (W x H x D)	80 x 127 x 137.5mm	

NPST961 - 960W, 3 Phases, Compact DIN Rail Power Supply

- High efficiency and compact size
- Overload 150%
- Constant current or hiccup mode limitation, user settable
- Easy parallelable for power increase
- High operating temperature with no derating
- Low noise thermally regulated "long life" fan
- 72V output model as standard



For reference only

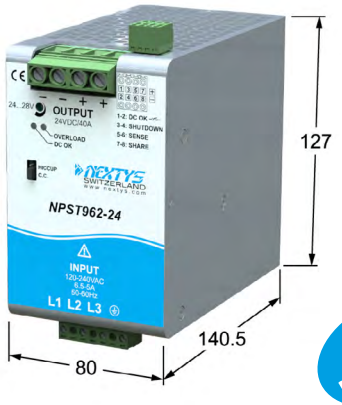
TECHNICAL DATA

	NPST961-24	NPST961-48	NPST961-72
OUTPUT DATA			
Rated voltage	24Vdc	48Vdc	72Vdc
Adj. output voltage range	23...28Vdc	45...55Vdc	72...85Vdc
Continuous current	40A	20A	13.3A
Overload limit in constant current	44A	22A	15A
Overload limit in hiccup (max. 5s)	60A	30A	20A
Load regulation	≤ 1%	≤ 0.5%	
Ripple and noise	≤ 150mVpp		
Hold up time	≥ 15ms		
Protections	• Overload/short circuit: with constant current or hiccup mode (user settable) • Thermal protection • Output overvoltage		
Status signals	• **DC OK** - green LED • **ALARM** - red LED • **DC OK** - dry contact (NO, 24Vdc / 1A)		
Parallel connection	Possible for power or redundancy (with external ORing module)		
INPUT DATA			
Input AC rated voltage	Nominal: 3 phases, 400...500Vac (range 340...550Vac)		
Frequency	47...63Hz		
Input DC rated voltage	520...725Vdc		
Input AC rated current			
Vin = 400Vac	2.4A		
Vin = 500Vac	2.1A		
Input DC rated current			
Vin = 520Vdc	2.2A		
Vin = 725Vdc	1.7A		
Inrush peak current / I^2t	≤ 50A / 1.86A^2s		
Touch (leakage) current	≤ 0.1mA		
Internal protection fuse	None, external fuse must be provided		
Recommended external protection	Fuse 3 x 10AT or 3 x MCB 10A C curve / SPD		
GENERAL DATA			
Efficiency	> 92.5%	> 92.5%	> 93%
Dissipated power	< 78W	< 78W	< 73W
Operating temperature	- 40°C...+ 70°C (UL certified up to 45°C)		
Derating	- 15W/°C over 45°C		
Lifetime expectancy / MTBF	63'200h (7.2 years) at 25°C ambient 75% load / (MIL-HDBK-217F) 500'000h at 25°C ambient full load		
Overvoltage category	III		
Pollution degree	2 (IEC60664-1)		
Input / output isolation	4.2kVdc		
Input / ground isolation	2.2kVdc		
Output / ground isolation	0.75kVdc		
Standards & Approvals	UL508 (certified), EN60950 (reference), CE marking		
EMC Standards	EN61000-6-2, EN61000-6-4		
Protection degree	IP20 (EN60529)		
Connection terminals	1.5...6mm^2, screw type (16...10AWG) 6...16mm^2, screw type (10...6 AWG) for output on 24V model		
Case material	Aluminum		
Weight	1.3kg		
Size (W x H x D)	80 x 127 x 137.5mm		

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NPST962 - 960W, 3 Phases, Compact DIN Rail Power Supply

- High efficiency and compact size
- Only 80mm width aluminum enclosure
- Active PFC
- Overload 150%
- Enhanced input transient overvoltage protection
- Constant current or hiccup mode limitation, user settable
- Isolated enable input for remote on/off control
- Easy parallelable for power increase with load share bus
- Natural convection cooling



UNDER DEVELOPMENT

For reference only

CE

TECHNICAL DATA *(preliminary)*

	NPST962-12	NPST962-24	NPST962-48	NPST962-72
OUTPUT DATA				
Rated voltage	12Vdc	24Vdc	48Vdc	72Vdc
Adj. output voltage range	12...15Vdc	22...29Vdc	45...55Vdc	70...85Vdc
Continuous current	50A	40A	20A	13.3A
Overload limit in hiccup	75A	60A	30A	20A
Load regulation	≤ 1%			
Ripple and noise	≤ 100mVpp			
Hold up time	≥ 20ms			
Protections	• Overload/short circuit: with constant current or hiccup mode (user settable) • Thermal protection • Output overvoltage			
Status signals	• **DC OK** - green LED • **ALARM** - red LED • **DC OK** - dry contact (NO, 24Vdc / 1A)			
User interface	• Optoisolated remote shut down input • Remote load voltage sense • Load share bus for current balancing • Remote output current measurement			
Parallel connection	Possible for power (load share) or redundancy (with external ORing module)			
INPUT DATA				
Input AC rated voltage	Nominal: 3 phases, 400...500Vac (range 340...550Vac)			
Frequency	47...63Hz			
Input DC rated voltage	520...725Vdc			
Input AC rated current Vin = 400Vac Vin = 500Vac	 1.5A 1.2A	 1.7A 1.3A		
Input DC rated current Vin = 600Vdc	 1.5A	 1.8A		
Inrush peak current	≤ 35A			
Touch (leakage) current	≤ 3mA			
Internal protection fuse	None, external fuse must be provided			
Recommended external protection	Fuse 3x 10AT or 3 x MCB 10A C curve / SPD			
GENERAL DATA				
Efficiency	> 92%	> 94%	> 95%	
Dissipated power	< 52W	< 60W	< 50W	
Operating temperature	- 40°C...+ 70°C			
Derating	Automatic power derating for Vin < 180Vac			
Lifetime expectancy	70'080h (8 years) at 25°C ambient full load			
Overvoltage category Pollution degree	III 2 (IEC60664-1)			
Input / output isolation	4.2kVdc			
Input / ground isolation	2.2kVdc			
Output / ground isolation	0.75kVdc			
Standards & Approvals	UL508 (reference), EN60950 (reference), CE marking			
EMC Standards	EN61000-3-2, EN61000-6-2, EN61000-6-3			
Protection degree	IP20 (EN60529)			
Connection terminals	2.5mm², screw type pluggable (24...12AWG) for input 6...16mm², screw type (10...6AWG) for output Up to 0.75mm², spring type pluggable (18AWG) for auxiliary			
Case material	Aluminum			
Weight	1.3kg			
Size (W x H x D)	80 x 127 x 140.5mm			

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MORE THAN A POWER SUPPLY

- ✓World first 3 phases 2400W DIN rail SMPS
- ✓Active PFC
- ✓CPU control, LCD display, user friendly interface
- ✓Maximum flexibility: can be used as battery charger for all chemistries, can be paralleled, can be set with various output limiting algorithms
- ✓Remote measuring and control through USB (communication module included)
- ✓Remote maintenance and diagnosis tools (**POWERMASTER**® software)

Applications:

- ✓Industrial machine control
- ✓Process control
- ✓Conveyors, material handling
- ✓DC motor supply
- ✓Semiconductor manufacturing
- ✓Renewable energy
- ✓Battery charger
- ✓Back-up applications



- ✓Wide output voltage range: 12…175V (model dependent)
- ✓User friendly interface
- ✓Saves management cost
- ✓Can be integrated in complex automated systems

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NPS2400 - 2400W, 3 Phases, Multipurpose, Digital DIN Rail Power Supply

- High efficiency and compact size
- Active PFC
- Overload 150% (3600W peak!)
- Active input surge suppression circuit for improved reliability
- CPU control allows flexibility and multiple programmable features
- Battery charger function included
- Thermally regulated "long life" fan for optimal cooling in harsh operating conditions
- Wide output voltages range
- Operation on 2 phases possible with power derating
- Suitable for **POWERMASTER**® software



For reference only

WORLD FIRST!

TECHNICAL DATA

	NPS2400-24	NPS2400-48	NPS2400-72	NPS2400-170
OUTPUT DATA				
Rated voltage	24Vdc	48Vdc	72Vdc	170Vdc
Adj. output voltage range	11.9…29Vdc	23…56Vdc	50…87Vdc	85…175Vdc
Continuous current	100A	50A	33A	14A
Overload limit in constant current	100A	50A	33A	14A
Overload limit in hiccup (max. 5s)	150A	75A	50A	21A
Load regulation	≤ 1% with Remote Sense active and at Vout nom.			
Ripple and noise	≤ 400mVpp			
Hold up time	≥ 10ms			
Protections	• Overload (with user settable threshold) • Short circuit		• Thermal protection • Output overvoltage	
Status signals	• **DC OK / CHARGE** - green LED • **ALARM** - red LED		• Alphanumeric LCD display • Dry contact (SPDT, 24Vdc / 1A)	
User interface	• LCD with 4 keys • 0…10V voltage and 4…20mA current output for output current 0…100% In • Auxiliary 12V / 100mA isolated power supply • Load voltage sense		• Optoisolated remote shut down input • USB communication interface via communication module (COMM-BOX) • Optional: remote temperature sensor for battery charging (WNTC-2MT)	
Operating modes	• Overboost: allows 150% output power for 5sec, then off for 10sec. • Constant current: adjustable 10…100% load • Battery charger: for lead acid, nickel and lithium batteries			
Parallel connection	Possible for power or redundancy (includes internal ORing circuit)			
INPUT DATA				
Input AC rated voltage	Nominal: 2/3 phases, 400…500Vac (range 340…550Vac)			
Frequency	47…63Hz			
Input DC rated voltage	520…725Vdc			
Input AC rated current Vin = 400Vac Vin = 500Vac	 4.5A 3.5A			
Input DC rated current Vin = 520Vdc Vin = 725Vdc	 5.2A 3.8A			
Power factor correction	Active / > 0.9			
Inrush peak current / I^2t	≤ 12.5A active Inrush current limiter / 0.63A^2s			
Touch (leakage) current	≤ 0.6mA			
Recommended external protection	Fuse 3 x 10AT or 3 x MCB 10A C curve / SPD			
GENERAL DATA				
Efficiency	> 92%		> 93%	> 92%
Dissipated power	< 200W		< 180W	< 200W
Operating temperature	- 40°C…+ 70°C (UL certified up to 50°C)			
Derating	- 60W/°C over 50°C Automatic power derating (1200W) for 2 phases operation			
Lifetime expectancy / MTBF	458'253h (52.3 years) at 25°C ambient full load / (MIL-HDBK-217F) 700'000h at 25°C ambient full load			
Overvoltage category	III			
Pollution degree	2 (IEC60664-1)			
Isolation	Input / output: 4.2kVdc - Input / ground: 2.2kVdc - Output / ground: 0.75kVdc			
Standards & Approvals	UL508 (certified), EN60950 (reference), CE marking			
EMC Standards	EN61000-3-2, EN61000-6-2, EN61000-6-4			
Protection degree	IP20 (EN60529)			
Connection terminals input	1.5…6mm^2, screw type header (16…10AWG)			
Connection terminals output	Up to 35mm^2, screw type header (2AWG)			
Connection terminals auxiliary	1.5mm^2, screw type pluggable 16 pin (16AWG)			
Case material	Aluminum			
Weight	2.8kg			
Size (W x H x D)	233 x 160 x 101mm			

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TOP FLEXIBILITY IN PREMIUM SIZE

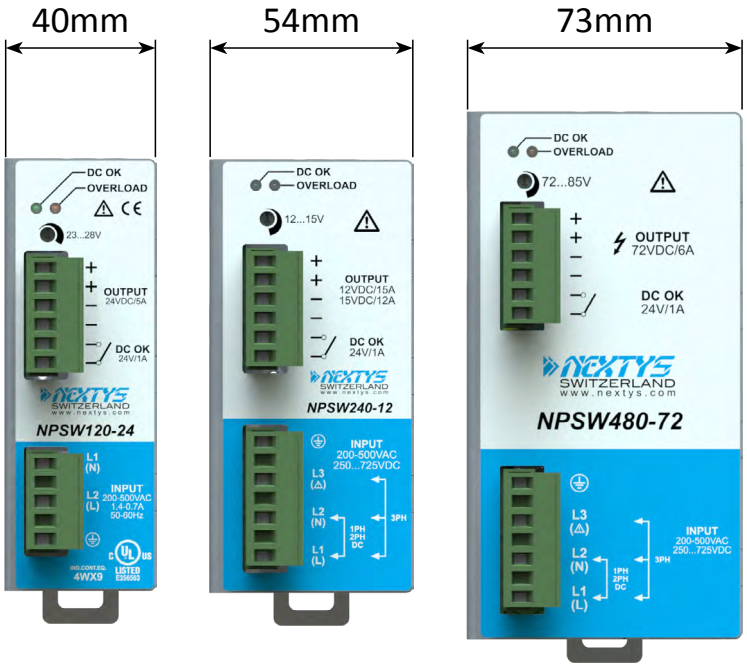
- ✓Allow any input feed by 1, 2 or 3 phases wiring, without any derating
- ✓Wide DC input voltage possible
- ✓High efficiency
- ✓Compact size
- ✓Boost power (+ 50%) available for 5 seconds ensuring load safety and reliability
- ✓Adjustable output voltage
- ✓Robust input circuitry for withstanding harsh mains conditions
- ✓Short circuit, overload, over temperature, input and output overvoltage protections

Applications:

- ✓Industrial machine control
- ✓Process control
- ✓Conveyors, material handling
- ✓Renewable energy
- ✓Back-up applications

Output voltages range

	Vdc (Out)							
Power (W)	5	12	24	26	48	72	24...120	36...205
5	■							
25			■					
120		■	■		■			
160				■				
200							■	■
240		■	■		■	■		
480			■		■	■		



120W ***240W*** ***480W***

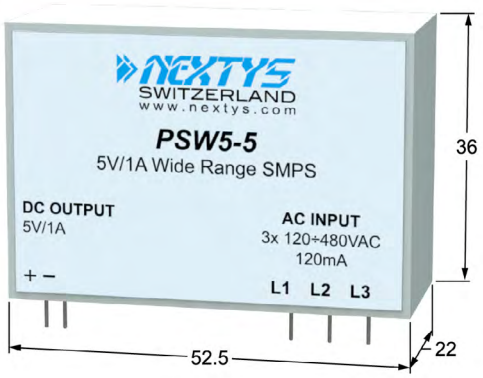
- ✓1, 2 & 3 phases input for TOP flexibility
- ✓Easy stock management
- ✓Easy maintenance planning
- ✓Compact size allow minimal size of the control cabinets

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PSW5-5 - 5W, 1/2/3 Phases, PCB Mountable, Miniature Power Module

- Miniature SMPS module for PCB
- 1, 2 or 3 phases input AC 110...500Vac
- Wide DC input range 150...700Vdc
- Aimed to be used as a unique module for powering various systems with different primary supply needs
- Potted
- Low cost

Product available by request



For reference only

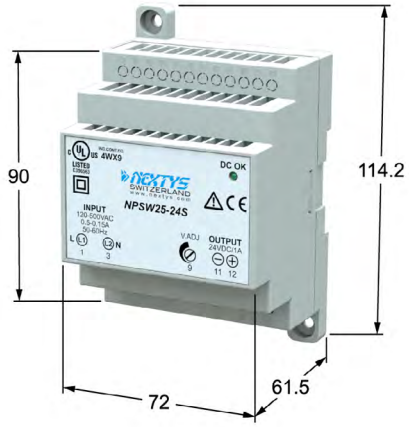
TECHNICAL DATA

	PSW5-5
OUTPUT DATA	
Rated voltage	5Vdc
Adj. output voltage range	5Vdc Fixed
Continuous current	1A
Overload limit	1.25A
Load regulation	≤ 1%
Ripple and noise	≤ 100mVpp
Hold up time	≥ 20ms
Protections	• Hiccup at the overload limit with auto reset • Thermal protection
INPUT DATA	
Input AC rated voltage	Nominal: 1/2/3 phases, 120...480Vac (range 110...500Vac)
Frequency	47...63Hz
Input DC rated voltage	150...700Vdc
Input AC rated current	≤ 120mA
Input DC rated current Vin = 150Vdc Vin = 700Vdc	 ≤ 60mA ≤ 20mA
Inrush peak current / I^2t	≤ 5A / 0.04A^2s
Touch (leakage) current	≤ 250µA
Internal protection fuse	Fuse Resistor on each line (not user replaceable)
Recommended external protection	3 x 0.315AT / 500V or other suitable rated devices / SPD
GENERAL DATA	
Efficiency	> 70%
Dissipated power	< 300mW
Operating temperature	- 25°C...+ 70°C
Derating	- 0.03W/°C over 65°C
Overvoltage category	III
Pollution degree	2 (IEC60664-1)
Input / output isolation	4.2kVdc
Standards & Approvals	UL508 (reference), EN60950 (reference), CE marking
EMC Standards	EN61000-6-2, EN61000-6-4
Protection degree	IP20 (EN60529)
Connection terminals	In line pins 3 x raster 5.08mm for input In line pins 2 x raster 2.54mm for output
Case material	Plastic, Potted
Weight	60g
Size (W x H x D)	52.5 x 36 x 22mm

H

NPSW25 - 25W, 1/2 Phases, Wide Input Range, Compact DIN Rail Power Supply

- High efficiency and extremely compact size
- 1 or 2 phases AC (90…550Vac) or DC (150…725Vdc) input
- Plastic enclosure, circuit breaker shape
- Class II insulation (simplified wiring)
- Overload 130%
- Up to 70°C operating temperature with derating
- Ideal for applications with harsh mains conditions
- Compliant to renewable energy systems and high voltage DC BUS
- Conformal coated PC-Board



For reference only

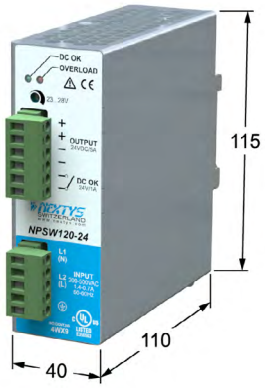
TECHNICAL DATA

	NPSW25-12S	NPSW25-24S	NPSW25-48S
OUTPUT DATA			
Rated voltage	12Vdc	24Vdc	48Vdc
Adj. output voltage range	12…15Vdc	23…28Vdc	45…55Vdc
Continuous current	2…1.6A	1A	0.5A
Overload limit			
Vin = 120Vac	2.65A	1.45A	0.75A
Vin = 240Vac	2.9A	1.7A	0.9A
Vin = 400Vac	2.9A	1.7A	0.9A
Vin = 500Vac	2.9A	1.7A	0.9A
Load regulation	≤ 0.5%		
Ripple and noise	≤ 50mVpp		
Hold up time			
Vin = 240Vac	≥ 35ms		
Vin = 500Vac	≥ 180ms		
Protections	• Overload/short circuit: hiccup mode • Thermal protection • Output overvoltage		
Status signals	**DC OK** - green LED		
Parallel connection	Possible for redundancy (with external ORing module)		
INPUT DATA			
Input AC rated voltage	Nominal: 1/2 phases, 120…500Vac (range 90…550Vac)		
Frequency	47…63Hz		
Input DC rated voltage	150…725Vdc		
Input AC rated current			
Vin = 120Vac	0.5A		
Vin = 500Vac	0.15A		
Input DC rated current			
Vin = 150Vdc	0.3A		
Vin = 725Vdc	< 0.1A		
Inrush peak current / I^2t	≤ 17A / 0.1A^2s		
Touch (leakage) current	≤ 0.2mA		
Internal protection fuse	None, external fuse must be provided		
Recommended external protection	MBC 2A C curve / Cartridge fuse Class CC 2AT 600Vac (UL) / SPD		
GENERAL DATA			
Efficiency	> 81.5%	> 84.5%	> 84%
Dissipated power	< 5.5W	< 4.5W	< 4.6W
Operating temperature	- 40°C…+ 70°C		
Derating	Depending on load current and input voltage (see the online datasheet)		
Lifetime expectancy / MTBF	179'477h (20.4 years) at 25°C ambient full load / (MIL-HDBK-217F) 600'000h at 25°C ambient full load		
Overvoltage category	III		
Pollution degree	2 (IEC60664-1)		
Input / output isolation	4.2kVdc		
Standards & Approvals	UL508 (certified), EN60950 (reference), CE marking		
EMC Standards	EN61000-6-2, EN61000-6-3		
Protection degree	IP20 (EN60529)		
Connection terminals	2.5mm^2, screw type header (24…12AWG)		
Case material	Plastic, Flame retardant UL94 V-0		
Weight	0.17kg		
Size (W x H x D)	72 x 114.2 x 61.5mm		

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NPSW120 - 120W, 1/2 Phases, Wide Input Range, Compact DIN Rail Power Supply

- High efficiency and compact size, only 40mm width
- 1 or 2 phases input AC 187…550Vac
- Wide DC input range 250…725Vdc
- Overload 150%
- Excellent field reliability record
- Usable for broad range of industrial, telecom and renewable energy applications

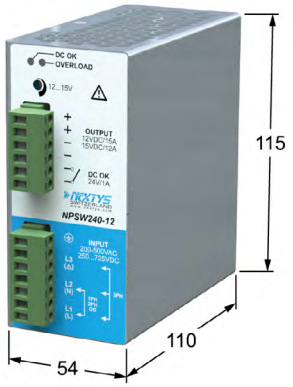


TECHNICAL DATA

	NPSW120-12	NPSW120-24	NPSW120-48P
OUTPUT DATA			
Rated voltage	12…15Vdc	24Vdc	48Vdc
Adj. output voltage range	12…15Vdc	23…28Vdc	45…55Vdc
Continuous current	8...7A	5A	2.5A
Overload limit (30s)	10A	7.5A	3.75A
Load regulation	≤ 1 %		
Ripple and noise	≤ 110mVpp		
Hold up time Vin = 240Vac Vin = 400Vac	 ≥ 17ms ≥ 60ms		
Protections	• Overload/short circuit: hiccup • Thermal protection • Output overvoltage		
Status signals	• **DC OK** - green LED • **OVERLOAD** - red LED • **DC OK** - dry contact (NO, 24Vdc / 1A)		
Parallel connection	• Possible for redundancy (with external ORing module) • **P** (models) - include internal ORing circuit		
INPUT DATA			
Input AC rated voltage Frequency	Nominal: 1/2 phases, 200…500Vac (range 187…550Vac) 47...63Hz		
Input DC rated voltage	250...725Vdc		
Input AC rated current Vin = 200Vac Vin = 500Vac	 1.4A 0.7A		
Input DC rated current Vin = 250Vdc Vin = 725Vdc	 0.8A 0.3A		
Inrush peak current / I^2t	≤ 21A / 0.28A^2s		
Touch (leakage) current	≤ 1mA		
Internal protection fuse	None, external fuse must be provided		
Recommended external protection	Fuse MCB 6A C or 6A D curve / SPD		
GENERAL DATA			
Efficiency	> 81% ... > 84%	> 88%	> 86%
Dissipated power	< 25W ... < 20W	< 17W	< 19.5W
Operating temperature	- 40°C...+ 70°C (UL certified up to 45°C)		
Derating	No derating up to 60°C, derating - 1.2W/°C over 60°C		
Lifetime expectancy / MTBF	84'914h (9.6 years) at 25°C ambient full load / (MIL-HDBK-217F) 500'000h at 25°C ambient full load		
Overvoltage category Pollution degree	III 2 (IEC60664-1)		
Input / output isolation	4.2kVdc		
Input / ground isolation	2.2kVdc		
Output / ground isolation	0.75kVdc		
Standards & Approvals	UL508 (certified), UL60950 (certified for NPSW120-24 model and for reference), CE marking		
EMC Standards	EN61000-6-2, EN61000-6-4		
Protection degree	IP20 (EN60529)		
Connection terminals	2.5mm², screw type pluggable (24...12AWG)		
Case material	Aluminum		
Weight	0.5kg		
Size (W x H x D)	40 x 115 x 110mm		

NPSW240 - 240W, 1/2/3 Phases, Wide Input Range, Compact DIN Rail Power Supply

- High efficiency and compact size, only 54mm width
- 1, 2 or 3 phases input AC 187…550Vac
- Wide DC input range 250…725Vdc
- Overload 150%
- Excellent field reliability record
- Usable for broad range of industrial, telecom and renewable energy applications



For reference only

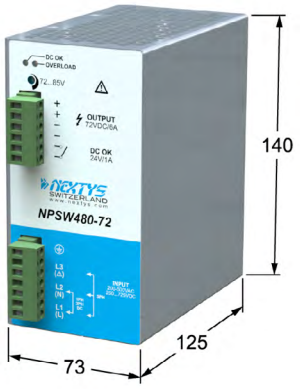
TECHNICAL DATA

	NPSW240-12	NPSW240-24	NPSW240-48P	NPSW240-72P
OUTPUT DATA				
Rated voltage	12...15Vdc	24Vdc	48Vdc	72Vdc
Adj. output voltage range	12...15Vdc	23...28Vdc	45...55Vdc	72...85Vdc
Continuous current	15...12A	10A	5A	3.5A
Overload limit (max. 6s)	20A	15A	7.5A	5A
Load regulation	≤ 1%		≤ 1.5%	
Ripple and noise	≤ 100mVpp			
Hold up time Vin = 240Vac Vin = 500Vac	 ≥ 15ms ≥ 100ms			
Protections	• Overload/short circuit: hiccup • Thermal protection • Output overvoltage			
Status signals	• **DC OK** - green LED • **OVERLOAD** - red LED • **DC OK** - dry contact (NO, 24Vdc / 1A)			
Parallel connection	• Possible for redundancy (with external ORing module) • **P** (models) - include internal ORing circuit			
INPUT DATA				
Input AC rated voltage	Nominal: 1/2/3 phases, 200...500Vac (range 187...550Vac)			
Frequency	47...63Hz			
Input DC rated voltage	250...725Vdc			
Input AC rated current Vin = 200Vac 1/2Ph Vin = 500Vac 1/2Ph Vin = 200Vac 3Ph Vin = 500Vac 3Ph	 2.2A 1.1A 1.5A 0.8A			
Input DC rated current Vin = 250Vdc Vin = 725Vdc	 0.9A 0.4A	 1.4A 0.5A		
Inrush peak current / I^2t	≤ 45A / 1.31A^2s			
Touch (leakage) current	≤ 1.3mA			
Internal protection fuse	None, external fuse must be provided			
Recommended external protection	Fuse 6.3AT or MCB 6A C or 4A D curve / SPD			
GENERAL DATA				
Efficiency	> 89%	> 93%	> 91%	> 92%
Dissipated power	< 22.5W	< 18W	< 23.5W	< 22W
Operating temperature	- 40°C...+ 70°C (UL certified up to 50°C)			
Derating	- 4.2W/°C over 50°C			
Lifetime expectancy / MTBF	81'648h (9.3 years) at 25°C ambient full load / (MIL-HDBK-217F) 500'000h at 25°C ambient full load			
Overvoltage category	III			
Pollution degree	2 (IEC60664-1)			
Input / output isolation	4.2kVdc			
Input / ground isolation	2.2kVdc			
Output / ground isolation	0.75kVdc			
Standards & Approvals	UL508 (certified), UL60950 (certified for NPSW120-24 model and for reference), CE marking			
EMC Standards	EN61000-6-2, EN61000-6-4			
Protection degree	IP20 (EN60529)			
Connection terminals	2.5mm^2, screw type pluggable (24...12AWG)			
Case material	Aluminum			
Weight	0.65kg			
Size (W x H x D)	54 x 115 x 110mm			

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NPSW480 - 480W, 1/2/3 Phases, Wide Input Range, Compact DIN Rail Power Supply

- High efficiency and compact size, only 73mm width
- 1, 2 or 3 phases input AC 187…550Vac
- Wide DC input range 250…725Vdc
- Active PFC
- Excellent field reliability record
- Usable for broad range of industrial, telecom and renewable energy applications
- Codes ended with **"H"**: include enhanced transient overvoltage protection (> 6kV)



For reference only

TECHNICAL DATA

	NPSW480-24 (H)	NPSW480-48 (H)	NPSW480-72 (H)
OUTPUT DATA			
Rated voltage	24Vdc	48Vdc	72Vdc
Adj. output voltage range	23…28Vdc	45…55Vdc	72…85Vdc
Continuous current	20A	10A	6A
Overload limit	28A	14A	9A
Load regulation	≤ 1 %		
Ripple and noise	≤ 50mVpp		≤ 100mVpp
Hold up time	≥ 50ms		
Protections	• Overload/short circuit: hiccup mode • Thermal protection • Output overvoltage		
Status signals	• **DC OK** - green LED • **OVERLOAD** - red LED • **DC OK** - dry contact (NO, 24Vdc / 1A)		
Parallel connection	Possible for redundancy (with external ORing module)		
INPUT DATA			
Input AC rated voltage Frequency	Nominal: 1/2/3 phases, 200…500Vac (range 187…550Vac) 47…63Hz with 1/2/3 phases; 400Hz with 1/2 phases input only		
Input DC rated voltage	250...725Vdc		
Input AC rated current Vin = 200Vac 1/2Ph Vin = 500Vac 1/2Ph Vin = 200Vac 3Ph Vin = 500Vac 3Ph	 2.9A 1.3A 1.8A 0.8A		
Input DC rated current Vin = 250Vdc Vin = 725Vdc	 2.1A 0.8A		
Power factor correction	Active / > 0.9		
Inrush peak current / I^2t	≤ 55A / 2.16A^2s		
Touch (leakage) current	≤ 0.6mA		
Internal protection fuse	None, external fuse must be provided		
Recommended external protection	Fuse 6.3AT or MCB 6A C or 4A D curve / SPD		
GENERAL DATA			
Efficiency	> 92%		> 91%
Dissipated power	< 42W		< 42.5W
Operating temperature	- 40°C...+ 70°C (UL certified up to 45°C)		
Derating	- 10W/°C over 45°C		
Lifetime expectancy / MTBF	65'496h (7.4 years) at 25°C ambient full load / (MIL-HDBK-217F) 500'000h at 25°C ambient full load		
Overvoltage category Pollution degree	III 2 (IEC60664-1)		
Input / output isolation	4.2kVdc		
Input / ground isolation	2.2kVdc		
Output / ground isolation	0.75kVdc		
Standards & Approvals	UL508 (certified, not applicable for "H" models), EN60950 (reference), CE marking		
EMC Standards	EN61000-3-2, EN61000-6-2, EN61000-6-4		
Protection degree	IP20 (EN60529)		
Connection terminals	2.5mm², screw type pluggable (24...12AWG)		
Case material	Aluminum		
Weight	1kg		
Size (W x H x D)	73 x 140 x 125mm		

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WEPS160-26 - 160W, 1/2 Phases, Wide Input Range, Compact DIN Rail Power Supply for Elevators

- High efficiency
- 1 or 2 phases input AC 187…528Vac
- Latched overload and short-circuit protection
- Excellent field reliability record
- Designed in according to EN12015, EN12016 for elevators use



For reference only

TECHNICAL DATA

	WEPS160-26
OUTPUT DATA	
Output voltage	26Vdc
Adj. output voltage range	26Vdc Fixed
Continuous current	6A
Overload limit	Up to 10A for 5s, latched protection
Load regulation	≤ 1%
Ripple and noise	≤ 150mVpp
Hold up time Vin = 240Vac Vin = 480Vac	 ≥ 20ms ≥ 110ms
Protections	• Overload and overvoltage latched off • Thermal protection • Output overvoltage
Status signals	• **DC OK** - green LED • **ALARM** - red LED
Parallel connection	Possible for redundancy (with external ORing module)
INPUT DATA	
Input AC rated voltage Frequency	Nominal: 1/2 phases, 380Vac (range 187…528Vac) 47…63Hz
Input AC rated current Vin = 187Vac Vin = 380Vac Vin = 528Vac	 1.8A 1A 0.8A
Inrush peak current / I^2t	≤ 29A / 0.53A^2s
Touch (leakage) current	≤ 0.8mA
Internal protection fuse	None, external fuse must be provided
Recommended external protection	Fuse 4AT or MCB 6A C curve / SPD
GENERAL DATA	
Efficiency	> 88%
Dissipated power	< 25W
Operating temperature	- 40°C…+ 50°C
Derating	- 15W/°C over 45°C
Lifetime expectancy / MTBF	77'726h (8.8 years) at 25°C ambient full load / (MIL-HDBK-217F) 500'000h at 25°C ambient full load
Overvoltage category Pollution degree	III 2 (IEC60664-1)
Input / output isolation	4.2kVdc
Input / ground isolation	2.2kVdc
Output / ground isolation	0.75kVdc
Standards & Approvals	UL508 (reference), EN60950 (reference), CE marking
EMC Standards	EN12015, EN12016, EN61000-6-2, EN61000-6-4
Protection degree	IP20 (EN60529)
Connection terminals	2.5mm^2, screw type header (24...12AWG)
Case material	Aluminum
Weight	0.5kg
Size (W x H x D)	108.5 x 110 x 74.5mm

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SBP200 - 200W, 36...205Vdc DIN Rail Programmable Output Voltage Power Supply

- High efficiency and compact size
- Active PFC
- Digital Power regulation
- Wide input voltage range 170...550Vac
- Wide output voltage range 36...205Vdc
- 2 user programmable voltage steps with settable duration
- Remote ON/OFF input
- Multiple protections
- Ideal for elevator applications
- Excellent versatility, allowing parts stock savings



WORLD FIRST!

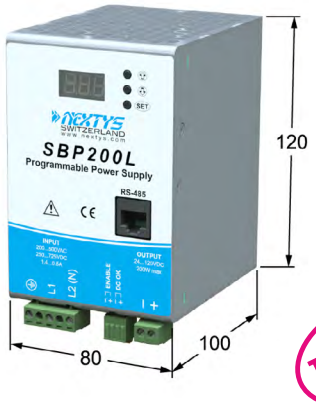
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TECHNICAL DATA

	SBP200
OUTPUT DATA	
Rated voltage	36...205Vdc (1V resolution programmable)
Continuous current	2.3A or Vout x Iout = 187W max. for Vout > 80V
Overload limit	2.4A
Load regulation	≤ 1%
Ripple and noise	≤ 600mVpp
Hold up time Vin = 240Vac	 ≥ 30ms
Protections	• Overload and short circuit with constant current (3s) and one shot (no auto recovery) • Thermal protection • Input undervoltage lockout (UVLO) • Input overvoltage protection (VDR)
User interface	• 7 segment, 3 digits display • 3 programming keys • **ENABLE** - isolated remote ON/OFF input, active for 12...230Vac/dc
Parallel connection	Possible for power or redundancy (with external ORing module)
INPUT DATA	
Input AC rated voltage Frequency	Nominal: 1/2 phases, 200...500Vac (range 170...550Vac) 47...63Hz
Input DC rated voltage	250...725Vdc
Input AC rated current Vin = 200Vac Vin = 500Vac	 1.4A 0.5A
Input DC rated current Vin = 250Vdc Vin = 725Vdc	 1.4A 0.7A
Power factor correction	Active / > 0.9
Inrush peak current / I^2t	≤ 40A / 0.69A^2s
Touch (leakage) current	≤ 0.3mA
Internal protection fuse	None, external fuse must be provided
Recommended external protection	MCB 6A C or 4A D curve / SPD
GENERAL DATA	
Efficiency	> 87%
Dissipated power	< 28W
Operating temperature	- 40°C...+ 70°C
Derating	- 4.2W/°C over 50°C (do not exceed Vout x Iout = 100W max. at 70°C)
Lifetime expectancy / MTBF	71'686h (8.1 years) at 25°C ambient full load / (MIL-HDBK-217F) 500'000h at 25°C ambient full load
Overvoltage category Pollution degree	III 2 (IEC60664-1)
Input / output isolation	4.2kVdc
Input / ground isolation	3.4kVdc
Input / enable isolation	4.2kVdc
Output / ground isolation	1.65kVdc
Output / enable isolation	4.2kVdc
Enable / ground isolation	4.2kVdc
Standards & Approvals	UL508 (reference), EN50178 (reference), EN60950 (certified), CE marking
EMC Standards	EN12015, EN12016, EN61000-3-2, EN61000-6-2, EN61000-6-4
Protection degree	IP20 (EN60529)
Connection terminals	2.5mm^2, screw type pluggable (24...12AWG)
Case material	Aluminum
Weight	0.75kg
Size (W x H x D)	80 x 120 x 100mm

SBP200L - 200W, 24...120Vdc DIN Rail Programmable Output Voltage Power Supply

- High efficiency and compact size
- Active PFC
- Digital Power regulation
- Wide input voltage range 170...550Vac
- Wide output voltage range 24...120Vdc, user settable
- User settable current limitation threshold
- Remote ON/OFF or other remote control functions
- Modbus over RS-485 interface for control and monitoring
- Can be used as battery charger and for LED lighting
- 2 user programmable voltage steps with settable duration
- High operating temperature with no derating
- Suitable for **POWERMASTER**® software
- Excellent versatility, allowing parts stock savings



NEW

For reference only

TECHNICAL DATA

	SBP200L
OUTPUT DATA	
Rated voltage	24...120Vdc (1V resolution programmable)
Continuous current	4.0A@24Vdc, 3.0A@48Vdc or Vout x Iout = 200W max. for Vout > 48Vdc
Overload limit	4.4A to 1.9A (depending on Vout)
Load regulation	≤ 1%
Ripple and noise	≤ 200mVpp
Hold up time Vin = 400Vac	 ≥ 25ms
Battery charger function	C.C./C.V. (setup via front panel or **POWERMASTER**® application)
Protections	• Overload and short circuit protections • Thermal protection • Input undervoltage lockout (UVLO) • Input overvoltage protection (VDR)
User interface	• 7 segment, 3 digits display • 3 programming keys • **ENABLE** - isolated remote ON/OFF input, active for 5...30Vdc • **DC OK** - dry contact (NO, 24Vdc / 1A) • **Modbus** over **RS-485** interface - possible by **USB** to **RS-485** converter (P/N: **MODUS**)
Parallel connection	Possible for power or redundancy (with external ORing module)
INPUT DATA	
Input AC rated voltage Frequency	Nominal: 1/2 phases, 200...500Vac (range 170...550Vac) 47...63Hz
Input DC rated voltage	250...725Vdc
Input AC rated current Vin = 200Vac Vin = 500Vac	 1.4A 0.5A
Input DC rated current Vin = 250Vdc Vin = 725Vdc	 1A 0.4A
Power factor correction	Active / > 0.9
Inrush peak current / I^2t	≤ 40A / 0.69A^2s
Touch (leakage) current	≤ 0.4mA
Internal protection fuse	None, external fuse must be provided
Recommended external protection	MCB 10A C curve / SPD
GENERAL DATA	
Efficiency	> 82% ... > 90% (depending on Vout)
Dissipated power	< 21W
Operating temperature	- 40°C...+ 70°C
Derating	Over 60Vdc 1.5W/°C over 50°C Under 60Vdc 3.0W/°C over 50°C
Lifetime expectancy / MTBF	71'686h (8.1 years) at 25°C ambient full load / (MIL-HDBK-217F) 500'000h at 25°C ambient full load
Overvoltage category Pollution degree	III 2 (IEC60664-1)
Input / output isolation	4.2kVdc
Input / ground isolation	2.2kVdc
Output / ground isolation	0.75kVdc
Standards & Approvals	UL508 (reference), EN50178 (reference), EN60950 (reference), CE marking
EMC Standards	EN61000-3-2, EN61000-6-2, EN61000-6-4
Protection degree	IP20 (EN60529)
Connection terminals IN/OUT	2.5mm^2, screw type pluggable (24...12AWG)
Auxiliary contacts connectors	Up to 0.5mm^2, Fast Pluggable type (20AWG) 4pins, 2.5mm pitch
Communication interface connector	RS-485 through RJ45 Female
Case material	Aluminum
Weight	0.75kg
Size (W x H x D)	80 x 120 x 100mm

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WIDE CHOICE FOR VOLTAGE ADAPTING

- ✓Compact design
- ✓Wide input voltage range
- ✓2.2kV isolated I/O suitable for industrial automation
- ✓High reliability
- ✓High overload capacity
- ✓LED and dry contact signalling
- ✓Pluggable terminals
- ✓Short circuit, overload, over temperature protection
- ✓Unique universal programmable IN/OUT model (NDW240)

Applications:

- ✓Industrial machine control
- ✓Process control
- ✓Energy management
- ✓Remote control systems
- ✓Railway



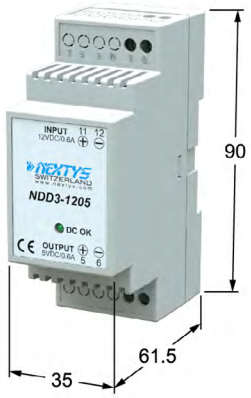
Power	Model	Vdc IN	Vdc OUT	A
3W	NDD3-1205	9...18	5	0.6
120W	NDD120-1212*	10.5...18	12...15	7
	NDD120-1224*	10.5...18	24	5
	NDD120-2412*	18...36	12...15	7
	NDD120-2424*	18...36	24	5
	NDD120-4812*	36...72	12...18	8
	NDD120-4824*	36...72	24	5
240W	NDD241-110XXP (XX = 24/36/48/72)	90...345	Model dependent	
	NDW240	11...55	5...55	10

(*) to be replaced by NDW240

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NDD3-1205 - 3W DIN Rail DC/DC Converter

- High efficiency and compact size
- Plastic enclosure, circuit breaker shape
- Overload 140%
- Up to 70°C operating temperature



NEW

For reference only

TECHNICAL DATA

	NDD3-1205
OUTPUT DATA	
Rated voltage	5Vdc ± 3% max.
Continuous current	0.6A
Overload limit	0.85A
Load regulation	≤ 1%
Ripple and noise	≤ 30mVpp
Hold up time	≥ 10ms
Protections	Overload/short circuit: hiccup mode
Status signals	**DC OK** - green LED
Parallel connection	Possible for redundancy (with external ORing module)
INPUT DATA	
Input DC rated voltage	Nominal: 12Vdc (range 9...18Vdc)
Input DC current	0.6A
Internal protection fuse	Fuse 1.25AT (not user replaceable)
GENERAL DATA	
Efficiency	> 68%
Dissipated power	< 1.4W
Operating temperature	- 40°C...+ 70°C
Derating	0.08W/°C over 60°C
Lifetime expectancy / MTBF	211'118h (24.1 years) at 25°C ambient full load / (MIL-HDBK-217F) 600'000h at 25°C ambient full load
Overvoltage category	I
Pollution degree	2 (IEC60664-1)
Input / output isolation	1.5kVdc
Standards & Approvals	UL508 (reference), EN60950 (reference), CE marking
EMC Standards	EN61000-6-2, EN61000-6-3
Protection degree	IP20 (EN60529)
Connection terminals	2.5mm², screw type header (24...12AWG)
Case material	Plastic, Flame retardant UL94 V-0
Weight	0.1kg
Size (W x H x D)	35 x 90 x 61.5mm

I

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NDD120 - 120W DIN Rail DC/DC Converter

- High efficiency and compact size
- Isolated topology
- Wide input voltage range
- Overload 125%
- Excellent field reliability record

Product available until end of stock
(to be replaced by NDW240)



For reference only

TECHNICAL DATA

	NDD120-1212	NDD120-1224	NDD120-1248	NDD120-2412	NDD120-2424	NDD120-4812	NDD120-4824
OUTPUT DATA							
Rated voltage	12Vdc	24Vdc	48Vdc	12Vdc	24Vdc	12Vdc	24Vdc
Adj. output voltage range	12...15Vdc	23...27.5Vdc	45...55Vdc	12...15Vdc	23...27.5Vdc	12...15Vdc	23...27.5Vdc
Continuous current	7A	5A	2.5A	7A	5A	8A	5A
Overload limit	9A	7A	3.3A	9A	6.5A	12A	6.5A
Load regulation	≤ 0.5%						≤ 1.5%
Ripple and noise	≤ 20mVpp			≤ 50mVpp	≤ 20mVpp		≤ 30mVpp
Hold up time	≥ 4ms	≥ 3ms				≥ 5ms	≥ 6ms
Protections	• Overload/short circuit: hiccup mode • Thermal protection • Active output overvoltage						
Status signals	**DC OK** - green LED					**ALARM** - red LED **DC OK** - Dry contact (NO, 24Vdc / 1A)	
Parallel connection	Possible for redundancy (with external ORing module)						
INPUT DATA							
Input DC rated voltage	Nominal: 12Vdc (range 10.5...18Vdc)			Nominal: 24Vdc (range 18...36Vdc)		Nominal: 48Vdc (range 36...72Vdc)	
Input DC rated current							
Vin min.	14A	15.5A		7.5A	8.5A	4.5A	4.3A
Vin max.	8A	9A		3.8A	4.3A	2.5A	2.2A
Input overvoltage protection	19Vdc active shutdown			38Vdc active shutdown		76Vdc active shutdown	
Internal protection fuse (not user replaceable)	Fuse 20AT			Fuse 10AT		Fuse 8AT	Fuse 5AT
External protection on DC line (use DC rated devices)	MCB 25A C curve			MCB 13A C curve		MCB 6A C curve	
GENERAL DATA							
Efficiency	> 81%	> 82%	> 83%	> 86%		> 89%	
Dissipated power	< 20W	< 25W	< 24W	< 14W	< 20W	< 15W	< 16W
Operating temperature	- 40°C...+ 70°C						
Derating	- 3W/°C over 50°C						
Lifetime expectancy / MTBF	64'000h (7.3 years) at 25°C ambient full load / (MIL-HDBK-217F) 500'000h at 25°C ambient full load						
Overvoltage category	I						
Pollution degree	2 (IEC60664-1)						
Input / output isolation	2.1kVdc						
Input / ground isolation	1.41kVdc						
Output / ground isolation	0.75kVdc						
Standards & Approvals	UL508 (reference), EN60950 (reference), CE marking						
EMC Standards	EN61000-6-2, EN61000-6-4						
Protection degree	IP20 (EN60529)						
Connection terminals	2.5mm², screw type pluggable (24...12AWG)						
Case material	Aluminum						
Weight	0.5kg						
Size (W x H x D)	54 x 115 x 110mm						

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NDD241 - 240W, High Performance DIN Rail DC/DC Converter

- High efficiency and compact size
- Only 56mm width aluminum enclosure
- Isolated topology (4.2kVdc)
- Wide input voltage range
- Overload 150%
- Constant current or hiccup mode limitation, user settable
- Easy parallelable for power or redundancy (integrated ORing circuitry)
- Up to 70°C operating temperature with no derating



NEW

For reference only

TECHNICAL DATA

	NDD241-11024P	NDD241-11036P	NDD241-11048P	NDD241-11072P
OUTPUT DATA				
Rated voltage	24Vdc	36Vdc	48Vdc	72Vdc
Adj. output voltage range	22.5...29Vdc	32...40Vdc	45...55Vdc	70...85Vdc
Continuous current	10A	7A	5A	3.3A
Overload limit in constant current	11.5A	8.5A	6A	3.7A
Overload limit in hiccup (max. 5s)	16A	11A	8.5A	6A
Load regulation	≤ 1%		≤ 0.5%	
Ripple and noise	≤ 100mVpp	≤ 150mVpp		≤ 350mVpp
Hold up time	≥ 50ms	≥ 40ms	≥ 50ms	
Protections	• Overload/short circuit: with constant current or hiccup mode (user settable) • Thermal protection • Input undervoltage lockout • Output overvoltage			
Status signals	• **DC OK** - green LED • **OVERLOAD** - red LED • **DC OK** - dry contact (NO, 24Vdc / 1A)			
Parallel connection	Possible for power or redundancy (with integrated ORing circuitry)			
INPUT DATA				
Input DC rated voltage	90...345Vdc			
Input DC rated current Vin = 110Vdc Vin = 345Vdc	 3.2A 0.9A	 3.5A 1.2A	 3.3A 1A	
Internal protection fuse	Fuse 8AT (not user replaceable)			
Recommended external protection (use DC rated devices)	Fuse 10AT or MCB 10A C curve / SPD			
GENERAL DATA				
Efficiency (depending on Vin)	88.5%...91.5%	89%...92%		
Dissipated power (depending on Vin)	31.5W...22.5W	30W...21W		
Operating temperature	- 40°C...+ 70°C			
Derating	No derating up to 70°C			
Lifetime expectancy / MTBF	167'953h (19.1 years) at 25°C ambient full load / (MIL-HDBK-217F) > 600'000h at 25°C ambient full load			
Overvoltage category	II			
Pollution degree	2 (IEC60664-1)			
Input / output isolation	4.2kVdc			
Input / ground isolation	2.2kVdc			
Output / ground isolation	0.75kVdc			
Standards & Approvals	UL508 (reference), EN60950 (reference), CE marking			
EMC Standards	EN61000-6-2, EN61000-6-3			
Protection degree	IP20 (EN60529)			
Connection terminals	2.5mm², screw type pluggable (24...12AWG)			
Case material	Aluminum			
Weight	1.1kg			
Size (W x H x D)	56 x 140 x 117mm			

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NDW240 - 240W DIN Rail Programmable Output DC/DC Converter

- Up to 240W output power (voltage dependent)
- Converts any voltage between 11V and 55V to any voltage between 5V and 55V
- High efficiency and compact size
- Constant current or hiccup mode limitation, user settable
- Digital Power regulation
- Isolated topology (4.2kVdc)
- Modbus over USB interface for control and monitoring
- Multiple integrated protections
- Parallelable for power or redundancy (integrated ORing circuitry)
- Suitable for POWERMASTER® software



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TECHNICAL DATA

	NDW240
OUTPUT DATA	
Rated voltage	5...55Vdc
Adj. output voltage range	5...55Vdc
Continuous current / power	10A / 240W
Overload limit in constant current	11A / 264W
Overload limit in hiccup (max. 5s)	15A / 360W
Short circuit peak current	18A
Load regulation	≤ 4% @ 5Vdc, ≤ 2% @ 12Vdc, ≤ 1.5% @ ≥ 24Vdc
Ripple and noise	≤ 200mVpp
Hold up time	≥ 5ms
Protections	• Overload/short circuit: with constant current or hiccup mode (user settable) • Thermal protection • Output overvoltage
Output overvoltage protection	120% of Vout active self tracking
User interface	• 7 segment, 2 digits display • 3 programming keys • **DC OK** - dry contact (NO, 24Vdc / 1A) • **Modbus** over **USB** interface
Parallel connection	Possible for power or redundancy (with integrated ORing circuitry)
INPUT DATA	
Input DC rated voltage	Nominal: 12...48Vdc (range 11...55Vdc)
Input DC rated current	12A
Protections	• Input Overvoltage > 60V active shutdown • Reverse polarity • Fuse 20A mini ATO blade (not user replaceable)
External protection on DC line (use DC rated devices)	20A Fuse or MCB 20A C curve
GENERAL DATA	
Efficiency	77% ... 92% (depending on Vin/Vout)
Dissipated power	< 28W (depending on Vin/Vout)
Operating temperature	- 40°C...+ 70°C
Derating	Depending on Vin and Vout over 60°C (see the online datasheet)
Lifetime expectancy / MTBF	180'542h (20.61 years) at 25°C ambient full load / (MIL-HDBK-217F) 600'000h at 25°C ambient full load
Overvoltage category	I
Pollution degree	2 (IEC60664-1)
Input / output isolation	4.2kVdc
Input / ground isolation	2.2kVdc
Output / ground isolation	0.75kVdc
Standards & Approvals	UL508 (reference), EN60950 (reference), CE marking
EMC Standards	EN61000-6-2, EN61000-6-3
Protection degree	IP20 (EN60529)
Connection terminals	2.5mm², screw type pluggable (24...12AWG)
Case material	Aluminum
Weight	0.4kg
Size (W x H x D)	40 x 115 x 110mm

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SMART SOLUTIONS FOR MAXIMUM SYSTEM AVAILABILITY

Suitable for:

- ✓Generator sets, engine starting
- ✓Industrial, water pumping, fire protection systems
- ✓Portable equipment, automatic doors, access control, CCTV, alarms
- ✓Emergency backup
- ✓Telecom systems, base transceiver stations
- ✓Power supply continuity
- ✓Energy plants and distribution systems user
- ✓Load selectivity

High performance Battery Charger/DC-UPS



Integrated SMPS Battery Charger/DC-UPS



Buffer Module



Redundancy Module

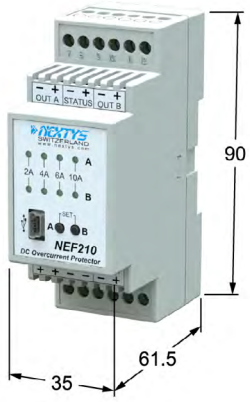


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NEF210 - DC Overcurrent Protector / Static Switch

- Ultra-compact DC Overcurrent Protector with 2 independent channels
- Classic circuit breaker shape
- Input: 10…31Vdc / 20A max.
- Output: 10A max. / channel (user settable, independently)
- Digital Power regulation
- Programmable Static Switch function
- Advanced CPU control - allows set-up of various tripping curves
- Modbus over USB interface for control and monitoring
- Suitable for POWERMASTER® software



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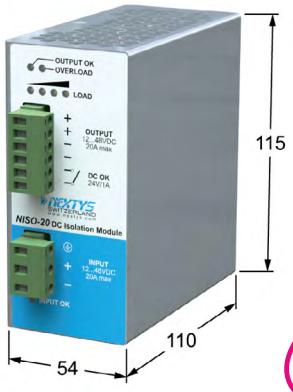
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TECHNICAL DATA

	NEF210
GENERAL DATA	
Rated surge voltage	0.5kVdc
Rated DC input voltage	10...31Vdc
Maximum input current	20A
Maximum capacitive load circuit	> 40000µF (per channel at 24Vdc)
Active current limitation	1.5 x I_N (2A / 4A / 6A), 1.2 x I_N (10A)
Tripping thresholds	2A / 4A / 6A / 10A per channel, user settable via front keys or USB
Time - current characteristic	Very Quick Acting / Fast Acting / Medium Acting / Time Lag - user settable via USB
Waiting time after switch off of a channel	20s (overload / short circuit)
Conduction resistance	< 25mΩ
Efficiency	> 98.5%
Dissipated power	< 5.5W
Standby power	< 1W
Required backup fuse	Not required, integrated failsafe element
Internal output fuse	15Adc (per output channel)
Protections	• Overvoltage > 33V
Status signals & user interface	• **OUT A/B** OK: one LED of the channel is ON • **OUT A/B** TRIPPED: all the LEDs of the channel are blinking • Remote fault indicator (at least 1 channel tripped) by optoisolator (30Vdc / 50mA / open collector) • Remote reset INPUT by optoisolator (5…30Vdc / 20mA) • 1 key / channel for arming / rearming • **Modbus** over **USB** interface
Operating temperature	- 40°C…+ 70°C
Derating	No Derating
Overvoltage category	I
Pollution degree	2 (IEC60664-1)
Standards & Approvals	EN60950 (reference), CE marking
EMC Standards	EN61000-6-2, EN61000-6-3
Protection degree	IP20 (EN60529)
Connection terminals	2.5mm², screw type header (24...12AWG)
Contact type	Without electrical isolation
USB Connector	Mini USB connector
Case material	Plastic, Flame retardant UL94 V-0
Weight	0.1kg
Size (W x H x D)	35 x 90 x 61.5mm

NISO-20 - 800W DC/DC Isolation Module

- High efficiency and compact size
- Provides 3kVAC isolation for DC/DC applications
- Provides more than 800W output power
- Wide voltage range 10...55Vdc
- Output tracks the input voltage as in a standard AC transformer
- Easy parallellable for power increase with natural current sharing (external ORing module needed)
- Hiccup mode current limitation with auto restart
- Up to 70°C operating temperature (with power derating)





For reference only

TECHNICAL DATA

	NISO-20
OUTPUT DATA	
Rated voltage	10...55Vdc
Continuous current	20A @ 12...24Vdc 17A @ 48Vdc
Overload limit	21A
Load regulation	Not regulated (see the online datasheet)
Output equivalent resistance	125mΩ
Ripple and noise	≤ 80mVpp
Protections	• Overload and short circuit protections • Thermal protection • Input undervoltage lockout (UVLO) • Input overvoltage protection (OVLO) • Input transient overvoltage protection (VDR)
User interface	• **INPUT OK** - green LED • **OUTPUT OK** - green LED • **OVERLOAD** - red LED • **LOAD** - bargraph indicating the load current by 4 amber LEDs • **DC OK** - dry contact (NO, 24Vdc / 1A)
Output overvoltage protection	> 62Vdc
Parallel connection	Possible for power or redundancy (with external ORing module)
INPUT DATA	
Input DC rated voltage	Nominal: 12...48Vdc (range 10...55Vdc)
Input DC rated current	20A
Standby power	< 6W
Internal protection fuse	30A ATO blade (not user replaceable)
Recommended external protection (use DC rated devices)	30A Fuse or MCB 25A C curve
GENERAL DATA	
Efficiency	> 85% ... > 96% (depending on Vout and Vin)
Dissipated power	< 35W
Operating temperature	- 40°C...+ 70°C
Derating	(see the online datasheet)
Lifetime expectancy / MTBF	123'361h (14.1 years) at 25°C ambient full load / (MIL-HDBK-217F) 600'000h at 25°C ambient full load
Overvoltage category	I
Pollution degree	2 (IEC60664-1)
Input / output isolation	4.2kVdc
Input / ground isolation	2.2kVdc
Output / ground isolation	0.75kVdc
Standards & Approvals	UL508 (reference), EN60950 (reference), CE marking
EMC Standards	EN61000-6-2, EN61000-6-4
Protection degree	IP20 (EN60529)
Connection terminals	2.5mm², screw type pluggable (24...12AWG)
Case material	Aluminum
Weight	0.5kg
Size (W x H x D)	54 x 115 x 110mm

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DCU20 - 20A DIN Rail High Performance DC-UPS

- Digital Power regulation, LCD interface
- Multiple user settable parameters
- BI VOLTAGE: 12 or 24Vdc (intermediate voltages possible)
- Battery chemistry: lead acid, nickel and lithium
- Maximum battery capacity 150Ah
- Load current: 20A max.
- Multiple protections, battery health monitoring
- Remote shut down by signal or PC
- Cold start
- Suitable for **POWERMASTER**® software



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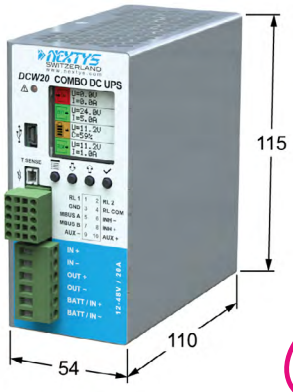
TECHNICAL DATA

	DCU20
INPUT DATA	
Input DC rated voltage	Nominal: 11…28Vdc (UL certified) (range 10…29Vdc)
Input DC rated current	20A
Standby power	< 3W
BATTERY SECTION	
Rated battery voltage	• 12 or 24Vdc • Other voltages possible by request
Battery chemistries	• Lead acid • Nickel • Lithium
Maximum battery charge current	5A
Allowed battery capacity	up to 150Ah
Maximum battery current	20A (up to 35A for 5s)
"Load to Battery" switch time	< 5µs
Battery protections	• Overcurrent • Deep discharge • Reverse polarity
BATTERY HEALTH MONITOR	
Battery internal resistance range	1mΩ…300mΩ (using Kelvin connection)
Additional monitoring functions	• Coulomb counter • Battery temperature through optional sensor WNTC-2MT • Battery operating time since installation • Number of cycles
USER INTERFACE	
1.5 inch color graphic LCD	Used to display the unit's status and to access the configuration menus
4 keys	Used to program the unit and to access various menus
Red LED	• **Constantly ON**: generic failure on the system, details on the LCD • **Blinking**: battery backup function active
2 dry contacts (relays) rated 24Vdc / 1A	• May indicate unit status (**READY** or on **BACKUP** mode), battery failure (by toggling at 1Hz) • Configurable for remote PC shutdown
Other interfaces	• **INHIBIT** - remote ON/OFF input • Mini **USB** connector • **T SENSE** - optional, remote temperature sensor for battery charging (WNTC-2MT)
GENERAL DATA	
Efficiency / Power loss at full load (on power supply)	> 97.5% / < 13W
Efficiency / Power loss at full load (on battery)	> 96.5% / < 18W
Battery charger efficiency / power loss	> 90% / < 16W
Maximum backup time	User programmable, up to battery deep discharge threshold
Operating temperature	- 40°C…+ 60°C (UL certified up to 60°C) (for T < - 20°C the LCD is not operating, but the unit will operate correctly)
Lifetime expectancy / MTBF	253'142h (28.9 years) at 25°C ambient full load / (MIL-HDBK-217F) 600'000h at 25°C ambient full load
Isolation against enclosure	0.75kVdc
Standards & Approvals	UL508 (certified), EN60950 (reference), CE marking
EMC Standards	EN61000-6-2, EN61000-6-4
Protection degree	IP20 (EN60529)
IN / Battery / OUT Connectors	2.5mm², screw type pluggable (24...12AWG)
Auxiliary contacts connectors	Up to 0.5mm², fast pluggable type (20AWG)
Temperature sensor connectors	Friction lock connector
USB Connector	Mini USB-B type
Case material	Aluminum
Weight	0.5kg
Size (W x H x D)	54 x 115 x 110mm

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DCW20 - 960W DIN Rail Combo DC-UPS / DC-DC Converter

- Integrated battery charger and battery health monitoring for 12…48V multi-chemistries batteries (up to 400Ah)
- Can operate on super capacitors modules
- Battery voltage independent of input and output voltage
- 20A or 960W rated load
- Remote input with programmable functions
- Modbus over USB and RS-485 interfaces for control and monitoring
- 4 keys and 1 color graphic LCD display for status and alarms
- 2 dry contacts for programmable status signals
- Auxiliary output with same voltage as battery voltage (5A max.), protected against overcurrent/shortcircuit
- Suitable for **POWERMASTER**® software



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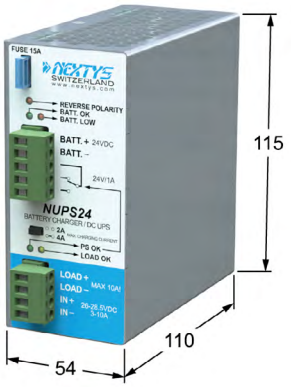
TECHNICAL DATA

	DCW20
INPUT DATA	
Input DC rated voltage	Nominal: 12…48Vdc (range 10…60Vdc)
Input DC rated current	20A
Standby power	< 4W
MAIN OUTPUT SECTION	
Voltage	Nominal: 12…48Vdc (= Vin for use as UPS; according to set-up for use as DC/DC converter)
Maximum current / Power	20A / 960W
Load regulation	± 1%
AUXILIARY OUTPUT SECTION	
Voltage	Nominal: 12…48Vdc (= U battery - non regulated)
Continuous current	5A
Overload limit	6A
BATTERY SECTION	
Battery rated voltage (or to be used as input for DC/DC conversion)	Nominal: 12…48Vdc (range 10…60Vdc)
Battery chemistries	Lead acid / Nickel / Lithium / Supercap capacitors
Maximum battery charge current	20A
Maximum battery discharge current	20A
Allowed battery capacity	up to 400Ah
Battery protection	Overcurrent / Deep discharge / Reverse polarity
BATTERY HEALTH MONITOR	
Battery internal resistance range	1mΩ…300mΩ (using Kelvin connection)
Additional monitoring functions	• Coulomb counter • Battery temperature through optional sensor (WNTC-2MT) • Battery operating time since installation • Number of discharge cycles
USER INTERFACE	
1.5 inch color graphic LCD	Used to display the unit's status and to access the configuration menus
4 keys	Used to program the unit and to access various menus
Red LED	• **Constantly ON**: generic failure on the system, details on the LCD • **Blinking**: battery backup function active
Other interfaces	• **Modbus** over **USB** and **RS-485** interfaces • 2 dry contacts (relays) 24Vdc / 1A, user settable for various functions (see user's manual) • **INH** (INHIBIT) - Remote ON/OFF input • **T SENSE** - optional, remote temperature sensor for battery charging (WNTC-2MT)
GENERAL DATA	
Efficiency at full load	> 97%
Power loss (in UPS mode)	< 15W
Efficiency at full load	> 97%
Power loss (DC-DC mode)	< 15W
Battery charger efficiency	> 96%
Power loss	< 20W
Maximum backup time	User programmable, up to battery deep discharge threshold
Operating temperature	- 40°C…+ 70°C (see the online datasheet)
Lifetime expectancy / MTBF	281'904h (32.2 years) at 25°C ambient full load / (MIL-HDBK-217F) 600'000h at 25°C ambient full load
Isolation against enclosure	0.75kVdc
Standards & Approvals	UL508 (reference), EN60950 (reference), CE marking
EMC Standards	EN61000-6-2, EN61000-6-3
Protection degree	IP20 (EN60529)
IN / Battery / OUT Connectors	2.5mm², screw type pluggable (24...12AWG)
Auxiliary contacts connectors	Up to 0.75mm², fast pluggable type (18AWG)
Temperature sensor connector	Friction lock connector
Communication interface connectors	• Mini USB-B type (virtual Com Port) • RS-485 through auxiliary connector
Case material	Aluminum
Weight	0.5kg
Size (W x H x D)	54 x 115 x 110mm

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NUPS12/24 - Basic Battery Charger and DC-UPS Module

- Low cost DC-UPS with charging function of a 12 or 24Vdc battery
- Suitable for power supplies with adjustable output
- Allows to feed the load and to charge the battery simultaneously
- Built-in battery overcurrent protection fuse
- Battery deep discharge protection
- To be used with lead acid and lithium batteries (compatible with lead acid batteries)
- Instantaneous LOAD switch to BACKUP mode



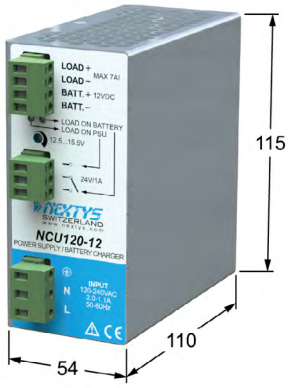
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TECHNICAL DATA

	NUPS12	NUPS24
OUTPUT DATA		
Load rated voltage	12Vdc	24Vdc
Load voltage range	10...15Vdc	20...28Vdc
Charging current Limit (Settable)	2A or 4A	
Load maximal current	10A	
Battery fuse	15A / 32V - Mini blade type, user replaceable	
Battery float voltage	[Vin - 0.4V], 11Vdc min.	[Vin - 0.4V], 26Vdc min.
Deep discharge cut-off voltage	9.2Vdc ± 0.5V	18Vdc ± 0.5V
Chargeable capacity of the battery vs power supply voltage	75% @ 13Vdc 85% @ 13.5Vdc 100% @ 14Vdc	75% @ 26Vdc 85% @ 27Vdc 100% @ 28Vdc
"Batt. OK" LED	ON for U Batt. > 11.6Vdc ± 0.2V	ON for U Batt. > 23.5Vdc ± 0.2V
"Batt. LOW" LED	ON for U Batt. < 11.6Vdc ± 0.2V	ON for U Batt. < 23.5Vdc ± 0.2V
Protections	• Battery reverse connection • Battery short-circuit/overload • Battery deep discharge	
Status signals	• **PS OK** - green LED • **LOAD OK** - yellow LED • **BATT. OK** - green LED • **BATT. LOW** - red LED • **REVERSE POLARITY** - red LED • Dry contact 24Vdc / 1A	
INPUT DATA		
Input DC rated voltage from Power Supply	13...14.5Vdc (UL certified)	26...28.5Vdc (UL certified)
Input DC rated current	3...10A	
GENERAL DATA		
Operating temperature	- 40°C...+ 70°C (UL certified up to 60°C)	
Derating	- 0.25A/°C over 45°C	
Lifetime expectancy / MTBF	64'000h (7.3 years) at 25°C ambient full load / (MIL-HDBK-217F) 500'000h at 25°C ambient full load	
Overvoltage category	I	
Pollution degree	2 (IEC60664-1)	
Isolation against enclosure	0.75kVdc	
Standards & Approvals	UL508 (certified), EN60950 (reference), CE marking	
EMC Standards	EN61000-6-2, EN61000-6-4	
Protection degree	IP20 (EN60529)	
Connection terminals	2.5mm², screw type pluggable (24...12AWG)	
Case material	Aluminum	
Weight	0.3kg	
Size (W x H x D)	54 x 115 x 110mm	

NCU120 - 120W Basic DIN Rail Power Supply, Battery Charger and DC-UPS Module

- "All-in-one" economic solution for general purpose applications
- Input: 120-240Vac
- Output: 12 or 24Vdc - model dependent
- To be used with lead acid and lithium batteries (compatible with lead acid batteries)
- Instantaneous LOAD switch to BACKUP mode



For reference only

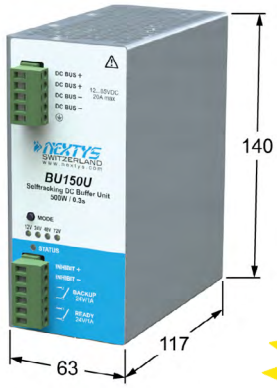
TECHNICAL DATA

	NCU120-12	NCU120-24
OUTPUT DATA		
Rated voltage	12Vdc	24Vdc
Adj. output voltage range	12.5...15.5Vdc (to be set at 14Vdc for correct battery charging)	23...27.5Vdc (to be set at 27Vdc for correct battery charging)
Continuous current	7A	5A
Overload limit	11.5A	6.5A
Load regulation	≤ 1%	
Ripple and noise	≤ 100mVpp	
Hold up time Vin = 120Vac Vin = 240Vac	 ≥ 10ms ≥ 80ms	 ≥ 10ms ≥ 55ms
Protections	• Overload/short circuit: hiccup • Thermal protection • Output overvoltage	
Battery Protection	• Against short-circuit with resettable fuse (9A) • Against reverse polarity connection • Against deep discharge (9V for NCU120-12 and 18V for NCU120-24 model)	
Status signals	• **LOAD ON PSU** - green LED • **LOAD ON BATTERY** - amber LED • Dry contact 24Vdc / 1A	
BATTERY INFO		
Rated voltage	12...14.4Vdc	24...28.8Vdc
Charging current	0.8A max.	
INPUT DATA		
Input AC rated voltage	Nominal: 120...240Vac (range 100...264Vac)	
Frequency	47...63Hz	
Input DC rated voltage	140...345Vdc	
Input AC rated current Vin = 120Vac Vin = 240Vac	 2A 1.1A	
Input DC rated current Vin = 140Vdc Vin = 345Vdc	 1A 0.5A	
Inrush peak current / I^2t	≤ 24A / 0.5A^2s	
Touch (leakage) current	≤ 0.6mA	
Internal protection fuse	Fuse 3.15AT (not user replaceable)	
Recommended external protection	Fuse 4AT or MCB 4A C curve / SPD	
GENERAL DATA		
Efficiency	> 83.5%	> 86%
Dissipated power	< 21W	< 20W
Operating temperature	- 40°C...+ 70°C	
Derating	- 0.75W/°C over 50°C	- 1.2W/°C over 50°C
Lifetime expectancy / MTBF	167'953h (19.1 years) at 25°C ambient full load / (MIL-HDBK-217F) 600'000h at 25°C ambient full load	
Overvoltage category	III	
Pollution degree	2 (IEC60664-1)	
Input / output isolation	4.2kVdc	
Input / ground isolation	2.2kVdc	
Output / ground isolation	0.75kVdc	
Standards & Approvals	UL508 (certified), EN60950 (reference), CE marking	
EMC Standards	EN61000-6-2, EN61000-6-4	
Protection degree	IP20 (EN60529)	
Connection terminals	2.5mm², screw type pluggable (24...12AWG)	
Case material	Aluminum	
Weight	0.5kg	
Size (W x H x D)	54 x 115 x 110mm	

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BU150U - 500W / 0.3s Universal Input Range, 150J Buffer Module

- Wide voltage range: 12...85Vdc
- Self tracking DC BUS voltage
- > 150 Joules energy storage
- Compact size
- Reliable topology, based on standard electrolytic capacitors
- Dry contacts for status signalling and opto-isolated input for INHIBIT
- Digital Power regulation
- Multiple protections, integrated safety circuit that disconnects the capacitor bank in case of internal failure
- Can boost the peak power of the DC supply
- Parallelable for power and backup time increase



WORLD FIRST!

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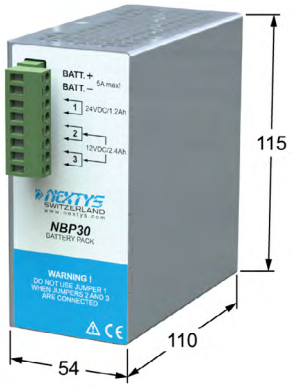
TECHNICAL DATA

	BU150U
OUTPUT DATA	
Unom Voltage	Vin - 1V (12/24/48/72Vdc - 1V)
Continuous output current	• 20A@ <48V • 16A @>48V
Backup duration	• 600ms / 12V @20A • 300ms / 24V @20A • 130ms / 48V @20A • 140ms / 72V @16A
Ripple and noise @ I max.	< 250mVpp / 24Vdc
Protection	• Overload - active • Short circuit - one shot • Overvoltage - active
Status signals	• Voltage level by amber LEDs • **STATUS** - CHARGING / READY by Bi-color LED • **BACKUP** - dry contact 24Vdc / 1A • **READY** - dry contact 24Vdc / 1A • **INHIBIT** - remote ON/OFF input
INPUT DATA	
Input DC rated voltage	Nominal: 12/24/48/72Vdc (UL certified) - Auto detection (12...85Vdc)
Input DC rated current	• 20A max. @ < 48Vdc • 16A max. @> 48Vdc
Charging time	< 40s, voltage dependent (see the online datasheet)
GENERAL DATA	
Operating modes	• AUTO: senses the input voltage and supplies the load when the voltage drops • MANUAL: fixed output voltage (12/24/48/72Vdc), user settable by front key
Control	Digital by CPU
Operating temperature	- 40°C...+ 70°C (UL certified up to 70°C)
Storage temperature	- 20°C...+ 80°C
Lifetime expectancy / MTBF	191'936h (21.9 years) at 25°C ambient full load / (MIL-HDBK-217F) 600'000h at 25°C ambient full load
Cooling	Natural convection
DC BUS / ground isolation	0.75kVdc
Safety standards	UL508 (certified), EN60950 (reference), CE marking
EMC Standards	EN61000-6-2, EN61000-6-4
Protection degree	IP20 (EN60529)
Connection terminals	2.5mm², screw type pluggable (24...12AWG)
Case material	Aluminum
Weight	0.9kg
Size (W x H x D)	63 x 140 x 117mm

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NBP30 - Dual Voltage Battery Housing

- Designed for hosting 2 standard sealed lead acid batteries 12Vdc / 1.2Ah (not provided)
- Settable output voltage: 12-24Vdc / 2.4-1.2Ah
- Integrated self resettable overcurrent protection



For reference only

TECHNICAL DATA

		NBP30
BATTERY PACK INFO		
Voltage / Capacity		2 x lead acid sealed batteries 12Vdc / 1.2Ah
Battery Size (W x H x D)		48.5 x 54.5 x 97.5mm max.
Internal protection fuse		9A self resettable
Max. Charging Current	• 12Vdc Configuration: **0.6A** • 24Vdc Configuration: **0.3A**	
Max. Discharge Current	• 12Vdc Configuration: **5A** • 24Vdc Configuration: **3A**	
CONFIGURATION		
Voltage / Capacity (Settable by external jumper)	• 12Vdc / 2.4Ah • 24Vdc / 1.2Ah	
GENERAL DATA		
Operating temperature		- 20°C...+ 40°C (or according to battery limits)
Protection degree		IP20 (EN60529)
Battery Connectors		2.5mm², screw type pluggable (24...12AWG)
Selection Mode Connectors		2.5mm², screw type pluggable (24...12AWG)
Case material		Aluminum
Weight		1.2kg (with 2 batteries included)
Size (W x H x D)		54 x 115 x 110mm

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NCP12 - 12V Super Capacitors Module

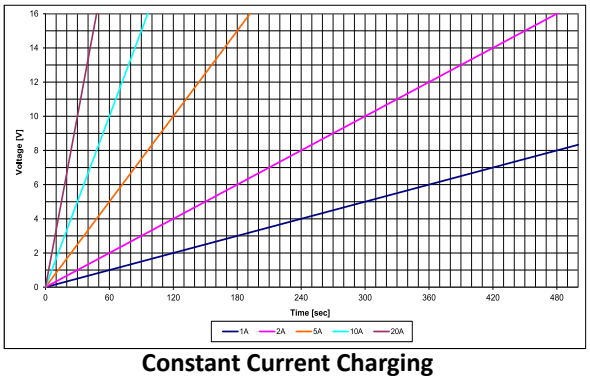
- Compact size, standard enclosure shape
- Reliable topology, based on new technology of Electric Double Layer Capacitors
- > 7.6kJ (2.1Wh) energy storage
- Replaces 12V batteries for short term backup applications
- Extended operating temperature for high reliability
- Multiple parallel and series connection possibilities for voltage and/or current increase
- Reverse polarity and overcurrent protections
- Pluggable connectors
- Up to 85°C operating temperature



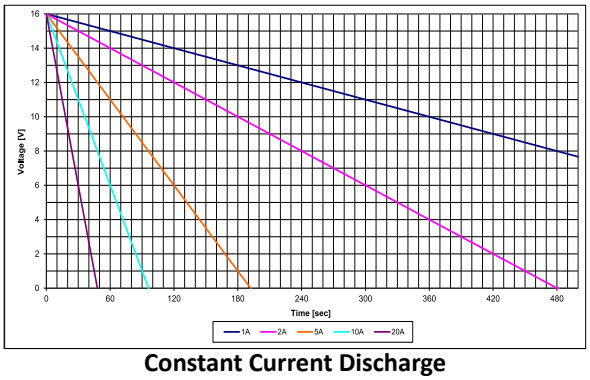
For reference only

TECHNICAL DATA

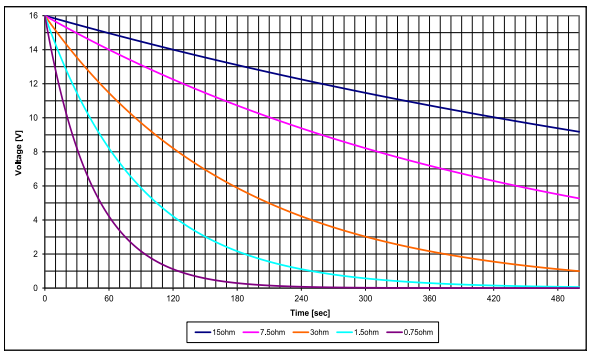
	NCP12
GENERAL DATA	
Input DC rated voltage	Nominal: 12Vdc (range 0...16Vdc) **ABSOLUTE MAXIMUM VOLTAGE: 16Vdc**
Energy storage capacity	7.6kJ (2.1Wh)
Input current for capacitor charging	20A max.
Output current for capacitor discharging	20A / 30A for 5sec (see below discharging typical charts)
Charging time	(see below typical chart)
Protections	• Reverse polarity connection • Short circuit through 30A ATO blade, user replaceable
Operating temperature	- 40°C...+ 85°C
Voltage derating	- 120mV/°C over 65°C
Humidity	5...95% r.H. non condensing
Cooling	Natural convection
Charging/Discharging Cycles	500'000 @ 25°C
DC lifetime / MTBF	10 years @ 25°C / (MIL-HDBK-217F) 500'000h at 25°C ambient full load
DC BUS / ground isolation	0.75kVdc
Safety standards	UL508 (reference), EN60950 (reference), CE marking
EMC Standards	EN61000-6-2, EN61000-6-3
Protection degree	IP20 (EN60529)
Connection terminals	2.5mm², screw type pluggable (24...12AWG)
Case material	Aluminum
Weight	0.75kg
Size (W x H x D)	80 x 120 x 100mm



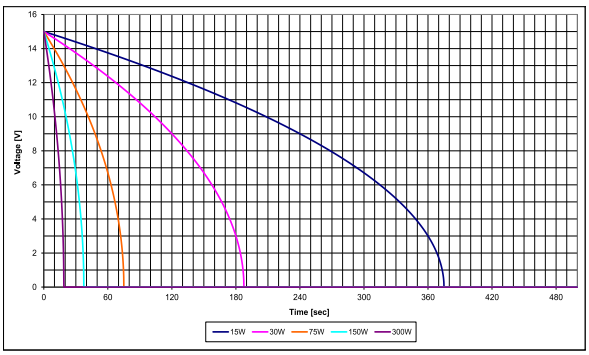
Constant Current Charging



Constant Current Discharge



Constant Resistance Discharge



Constant Power Discharge

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OR20 - 20A DIN Rail Active Redundancy (ORing) Module

- Wide input voltage range: 12…85Vdc
- Extremely low loss - up to 99% efficiency
- Ultra Compact
- Output 20A
- Pluggable connectors
- Up to 70°C operating temperature with no derating



For reference only

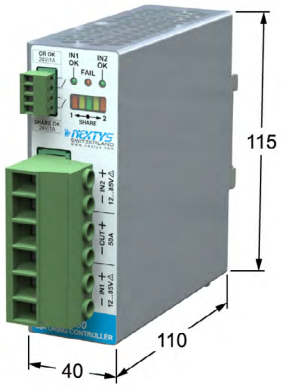
TECHNICAL DATA

	OR20
OUTPUT DATA	
Rated voltage	12…85Vdc
Continuous current	20A
Peak output current	> 100A
Conduction resistance	< 9mΩ
INPUT DATA	
Input DC rated voltage	12…85Vdc
Input current	20A
Standby power	< 0.2W
Input protection	• Overvoltage ≥ 100V • Reverse polarity connection
USER INTERFACE	
Status signals	• **IN1 OK** - green LED • **IN2 OK** - green LED • Redundancy available when **IN1 OK** & **IN2 OK** simultaneously • **OR OK** - dry contact (NO, 24Vdc / 1A)
GENERAL DATA	
Dissipated power	< 4W
Operating temperature	- 40°C…+ 70°C
Derating	No derating
Lifetime expectancy	354'655h (40.5 years) at 25°C ambient full load
Humidity	5…95% r.H. non condensing
Cooling	Natural convection
Overvoltage category	I
Pollution degree	2 (IEC60664-1)
Insulation enclosure to live parts	0.75 kVdc
Standards & Approvals	UL508 (reference), EN60950 (reference), CE marking
EMC Standards	EN61000-6-2, EN61000-6-4
Protection degree	IP20 (EN60529)
Connection terminals input/output	2.5mm², screw type pluggable (24...12AWG)
Connection dry contact signal	2.5mm², screw type pluggable (24...12AWG)
Case material	Aluminum
Weight	0.25kg
Size (W x H x D)	35 x 103 x 104mm

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OR50 - 50A DIN Rail Active Redundancy (ORing) Module

- Wide input voltage range: 12...85Vdc
- Extremely low loss - up to 99% efficiency
- Ultra Compact
- CPU controlled
- Output 50A
- Pluggable connectors
- Easy acknowledgment of the power supplies availability
- Current share status display eases sources balancing
- Up to 75°C operating temperature with no derating



For reference only

TECHNICAL DATA

	OR50
OUTPUT DATA	
Rated voltage	12...85Vdc
Continuous current	50A
Peak output current	> 300A
Conduction resistance	< 4mΩ
INPUT DATA	
Input rated voltage	12...85Vdc
Input current	50A
Standby power	< 1.5W
Input protection	• Overvoltage ≥ 100V • Reverse polarity connection
USER INTERFACE	
Status signals	• **IN1 OK** - green LED • **IN2 OK** - green LED • **FAIL** - red LED (redundancy fail) • **SHARE** - bargraph current share • **OR OK** - dry contact 24Vdc / 1A • **SHARE OK** - dry contact 24Vdc / 1A
GENERAL DATA	
Dissipated power	< 10W
Operating temperature	- 40°C...+ 75°C (UL certified up to 75°C)
Derating	No derating
Lifetime expectancy / MTBF	291'894h (33.3 years) at 25°C ambient full load / (MIL-HDBK-217F) 600'000h at 25°C ambient full load
Humidity	5...95% r.H. non condensing
Cooling	Natural convection
Overvoltage category	I
Pollution degree	2 (IEC60664-1)
Insulation enclosure to live parts	0.75 kVdc
Standards & Approvals	UL508 (certified), EN60950 (reference), CE marking
EMC Standards	EN61000-6-2, EN61000-6-4
Protection degree	IP20 (EN60529)
Connection terminals input/output	Up to 16mm², screw type pluggable (20...6AWG)
Connection terminals signals	1.5mm², screw type pluggable (24...16AWG)
Case material	Aluminum
Weight	0.35kg
Size (W x H x D)	40 x 115 x 110mm

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EVCT 15-750

EVCT 15-750 addresses the growing presence of electrical vehicles used for public transportation, services (as delivery vans) and in house operations (fork lifts, in-factory small trucks, airport assistance vehicles, etc.).

Modern technology based on digital regulation and innovative power topology allows excellent compactness, low weight, reliability and versatility.

On board CAN communication and wide range of the output voltage offer the compatibility with many battery models used in the EVs.

The unit can be paralleled for power increase, providing an elegant and convenient solution for fleet charging stations.

Simple commands set makes EVCT 15-750 a good candidate for integration in complex charging systems.









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EVCT 15-750 - 15kW Digital Control Charger

- Wide AC input range 3 phases 156…502Vac
- Wide DC output range 200…750Vdc
- Active PFC
- 15kW Power rated
- Multiple IO protections
- CAN bus communication interface
- Usable for broad range of batteries
- Parallelable for power increase
- Forced air cooling
- Ultracompact

Product available by request



For reference only

TECHNICAL DATA

		EVCT 15-750
OUTPUT DATA		
Rated voltage		750Vdc
Adj. output voltage range		200…750Vdc
Output rated power		15kW
Continuous current		25A
Efficiency		≥ 95%
Line regulation		≤ ±0.1%
Load regulation		≤ ±0.5%
Current sharing imbalance		≤ ±5%
Ripple and noise		≤ ±0.5%Vout mVp-p
Dynamic response	Overshoot range	ΔV ≤ ±5%
	Recovery time	Δt ≤ 200µs
INPUT DATA		
Input rated voltage		200…450Vac (typical value 380Vac)
AC input voltage range		156…502Vac
AC input grid frequency range		45…65Hz
Power factor		≥ 0.99
Max. input current		30A
Inrush current		< 45A
PROTECTION CHARACTERISTICS		
Protections (auto-recovery)	• Input under voltage protection • Input over voltage protection • Output over current protection	• Output overvoltage • Short circuit protection • Over temperature protection
Internal protection fuse		None, external fuse must be provided
Recommended external protection		Fuse 3x 30AT or 3x MCB 32A C curve It is strongly recommended to provide external surge arresters (SPD) according to local regulations
Output over voltage protection point		Vout + 50Vdc
USER INTERFACE		
Status LEDs	• LED for AC OK and unit ON • LED for general alarm (e.g. temperature, overload, short-circuit) • LED for unrecoverable internal failure • LEDs for U/I function on the 7 segment display, function switched by front key • 3 digits/7 segment display for U/I out values	
SAFETY & EMC		
Input / output isolation		3535Vdc/10mA/ 1min
Input / ground isolation		3535Vac/10mA/ 1min
Output / ground isolation		2121Vdc/10mA/ 1min
Touch (leakage) current		≤ 3.5mA
EMC Standards		EN61000-3-2, EN61000-6-2, EN61000-6-4
Safety		EN61851-1 (reference), CE marking
ENVIRONMENTAL CONDITIONS		
Operating Temperature		- 40°C...+ 60°C
Derating		- 300W/°C over 50°C
Cooling		Forced air cooling, front to back with regulated fans
GENERAL DATA		
Acoustic noise		≤ 55dB(A)
Hot swap capability		Yes
Environmental requirement		Meets 2002/95/EC
Placement		Vertical
Connection to ground		Through mechanical case, front plane, fixing screw and rack
Weight		11kg
Size (W x H x D)		84 x 276 (306 max.) x 427.7mm

M

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BATTMASTER®

We propose a high tech, low cost, compact battery monitoring system, easy to install and operate - first wireless on the market, aimed to replace legacy systems.

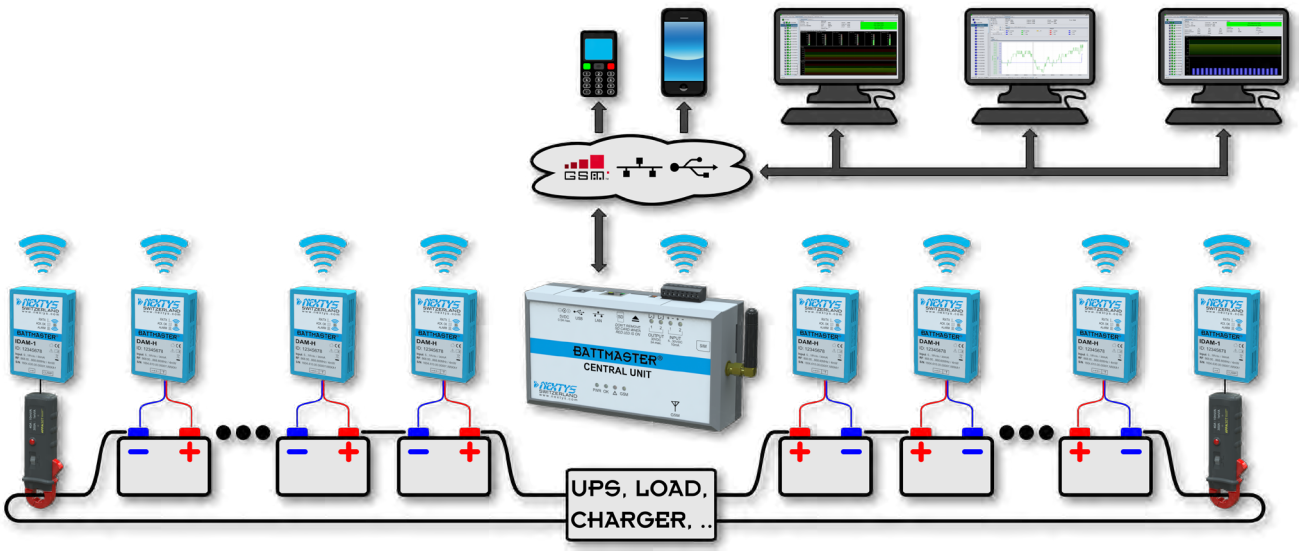
It is recommended for all applications where the operating costs are high and the failure of a battery can cause a critical damage.

For each monitored block or cell it measures and stores the battery voltage, temperature, current, internal resistance and discharging cycles for up to 1024 batteries/system.

The installation is a “Plug and Play” process, demanding no high level skills.

It can be integrated with any remote supervising system based on GSM, Internet or other communication means (e.g. Modbus).
It includes an integrated database, data backup and restore functionalities.

It presents an open structure designed to allow future extensions or customisations.



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NEW

For reference only

CU PLUS



For reference only

DAM



For reference only

IDAM with Current Clamp

TECHNICAL DATA

CU PLUS		Full version	Lite version
Supply input voltage range		4.5…5.5Vdc by external power supply or by USB	
Current consumption		0.5A	
Backup power		2X AAA NiMh rechargeable batteries (about 1.5h of backup)	
Digital inputs		• 2 x opto isolated, 5…30Vdc, 10mA • Input 1: when active, Real Time Logging enables • Input 2: available for future use	
Digital outputs		• 2 x relays, 30Vdc / 3A • Output 1: is closed if no alarm is ongoing, open otherwise • Output 2: available for future expansion	
Data storage		FAT32 custom formatted microSD card, up to 4GB (> 2 years for 1000 batteries at refresh rate 0.5h)	
Maximum number of supported devices		64 IDAM, 1024 DAM	64 IDAM, 50 DAM
Connectivity	Ethernet	• 10/100Mb • Used for remote configuration and monitoring • HTTP server and SMTP client	
	Modbus/TCP	• Remote monitoring • Real Time Logging enable	
	USB2	• Full speed 12Mbit/s • Used for remote configuration and monitoring	
	GSM	• Quad-Band 850/900/1800/1900MHz • SMS alarms	
	RF	• 868.00/868.60MHz, Max EIRP 4mW, 3 channels user settable • Up to 120 meters outdoor, up to 40 meters indoor	
Weight		0.25Kg	
Size (W x H x D)		150 x 46 x 82mm	

DAM		L type (2V batteries)	H type (6/12V batteries)
Battery voltage range		1.5…5.5Vdc	5…18Vdc
Current consumption (typical)		80mA @ 2V (Sleep Mode: 9mA)	30mA @ 12V (Sleep Mode: 4mA)
RF		• 868.00/868.60MHz, Max EIRP 4mW, 3 channels user settable • Up to 120 meters outdoor, up to 40 meters indoor	
Battery Measurements	Voltage	1.5…5.5Vdc, ± 1.5%	5…18V, ± 1.5%
	Ri	1…300mΩ, ± 10% or ± 1mΩ	
	Temperature	- 20°C…+ 80°C, ± 2°C	
Temperature sensor		Internal (default) or using optional external sensor (P/N: 6040)	
Protections		• Reverse polarity (active) • Overvoltage (passive)	
Battery connection		Blade connector (Faston), ring or alligator clip (others possible on demand)	
Weight		37g	
Size (W x H x D)		56 x 21 x 81mm	

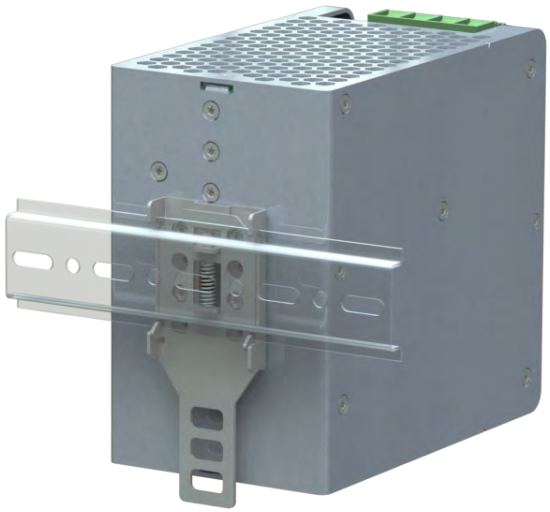
IDAM		Type 1 (300A)	Type 2 (600A)
Supply input range		9…18Vdc (from external power supply or battery)	
Current consumption (typical)		50mA @ 12V (Sleep Mode 15mA)	
RF		• 868.00/868.60MHz, Max EIRP 4mW, 3 channels user settable • Up to 120 meters outdoor, up to 40 meters indoor	
Current range		• 40A range: 0…40A, ± 1.5% or ± 0.4A • 300A range: 0…200A, ± 1.5% or ± 2A • 300A range: 200…300A, ± 2.4% or ± 3A	• 100A range: 0…100A, ± 3% or ± 3A • 600A range: 0…400A, ± 3% or ± 4A • 600A range: 400…600A, ± 4% or ± 4A
Protections		• Reverse polarity (active) • Overvoltage (passive)	
Weight		40g - (current clamp: 200g)	40g - (current clamp: 250g)
Size (W x H x D)		56 x 21 x 81mm - (current clamp: 47 x 185 x 31.5mm)	56 x 21 x 81mm - (current clamp: 60 x 202.6 x 27mm)

MOUNTING BRACKETS

We offer various DIN rail mechanical accessories as DIN rail fixing clamps and mounting adapters.

They can be used in conjunction with NEXTYS or other market products, according to various application needs.

DIN Rail Clamp



DIN-M



DIN-MS

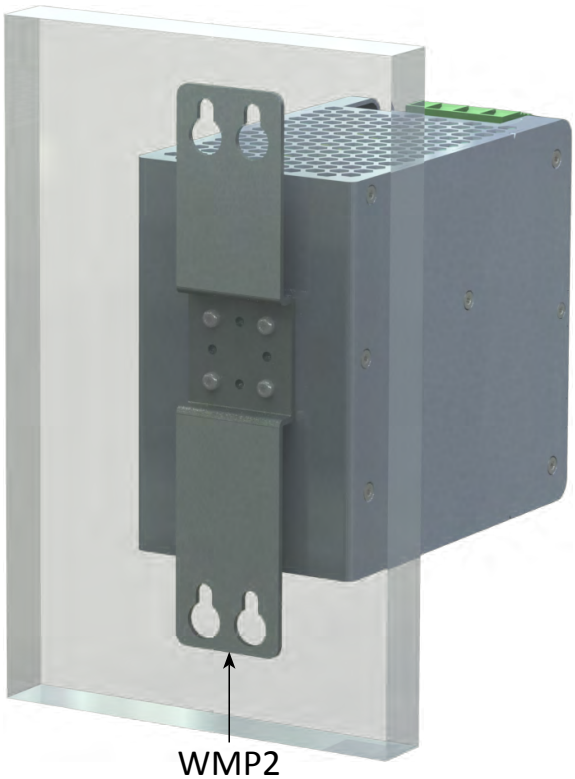


DINC2



DINC35

Wall Mount Adapter



WMP2

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MOUNTING BRACKETS



For reference only

DIN-M



For reference only

DIN-MS



For reference only

DINC2



For reference only

DINC35



For reference only

WMP2

TECHNICAL DATA

DIN-M *(DIN Rail Clamp)*	
Weight	20g
Size (W x H x D)	38 x 95.2 x 10.5mm

DIN-MS *(DIN Rail Clamp)*	
Weight	15g
Size (W x H x D)	27 x 82 x 10.5mm

DINC2 *(DIN Rail Clamp)*	
Weight	4g
Size (W x H x D)	22 x 45 x 8.3mm

DINC35 *(DIN Rail Clamp)*	
Weight	10g
Size (W x H x D)	35 x 47.9 x 8.5mm

WMP2 *(Wall Mount Adapter)*	
Weight	100g
Size (W x H x D)	38 x 180 x 9mm

Note: you can dowload the files with overall dimensions from "http://www.nextys.com/mounting-brackets.html".

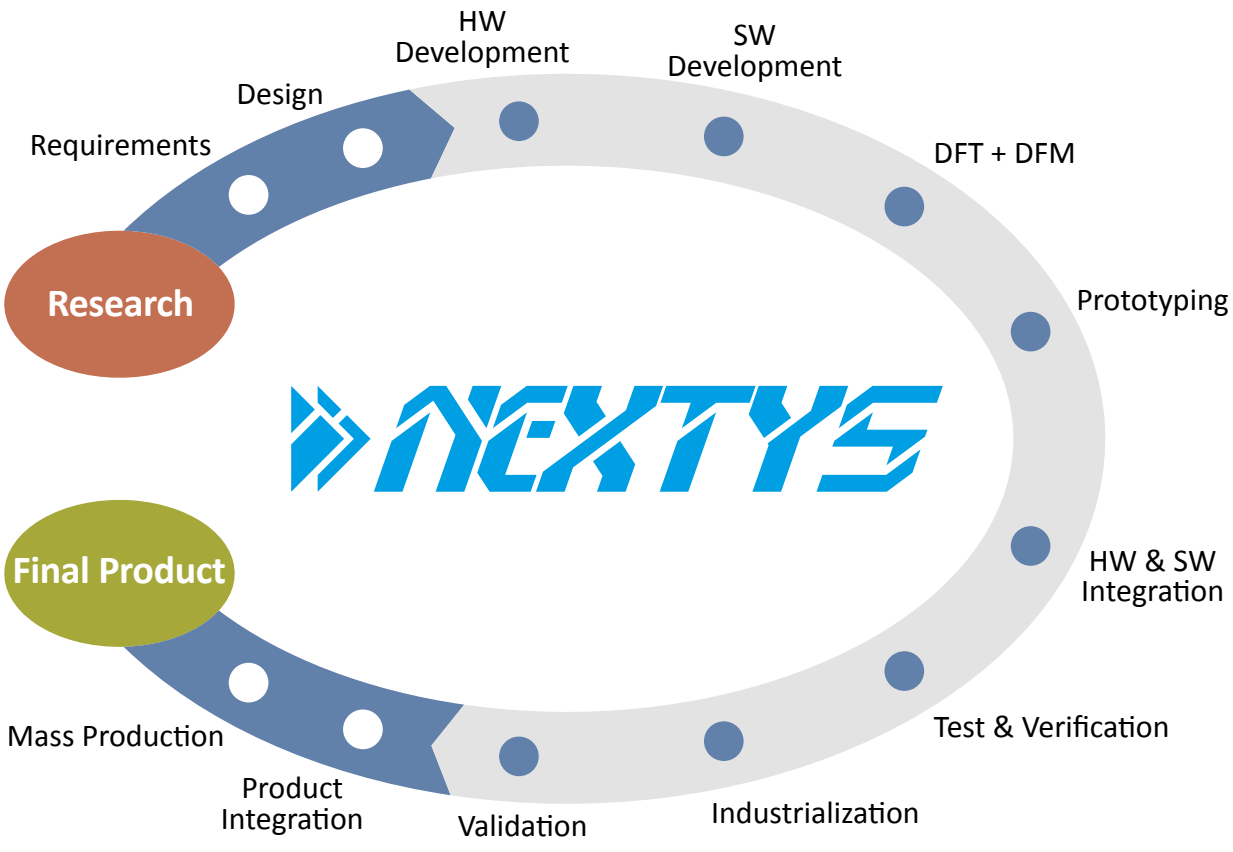
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FROM THE IDEA TO THE PRODUCT

We offer complete services for the **design, manufacturing** and **qualification** of various electronic products, including **EMC pre-compliance testing** in our EMC lab and **assistance for UL approval** process.

We can provide competitive power and control solutions for various applications related, but not limited to:

- ✓Industrial automation
- ✓Railway
- ✓Elevator
- ✓Energy (low and medium voltage)
- ✓Energy storage (battery management)
- ✓Motor control
- ✓Telecom
- ✓Medical
- ✓Residential and commercial marketgp



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MODUS - USB to RS-485 Industrial Isolated Converter

- Compact size
- 1.5kV isolation barrier
- Extreme versatility by pluggable connections
- Compliant to Modbus communication protocol
- Usable with common USB and RJ45 Ethernet Cables
- Compatible with products provided with RS-485
- Windows XP, Vista, Win-7, Win-8, Win-10 Compatible
- Suitable for **POWERMASTER**® software



POWERMASTER

For reference only

TECHNICAL DATA

	MODUS
GENERAL DATA	
Power	Powered from PCs USB port
Operating temperature	- 40°C...+ 70°C
Storage temperature	- 40°C...+ 80°C
Humidity	5...95% r.H. non condensing
Overvoltage category	I
Pollution degree	2 (IEC60664-1)
Isolation voltage	1.5kVdc
Standards & Approvals	EN60950 (reference), CE marking
EMC Standards	EN61000-6-2, EN61000-6-3
Protection degree	IP20 (EN60529)
USB Connection	USB type B
RS-485 Connection	RJ45 Female
RS-485 Specification Parameters	• 2 wires Half Duplex interface • Baudrates: 300, 600, 1200, 1800, 2400, 4800, 7200, 9600, 14400, 19200, 38400, 57600, 115200 Bps • Start bits: 1 • Data bits: 7, 8 • Parity: None, even, odd, mark, space • Stop bits: 1, 2 • Flow control: Auto switching
Modbus Connections	• According to Modbus specification protocol over serial line • 2W-Modbus RJ45 Pin outs (Half duplex) • PIN4: D1 (B) • PIN5: D0 (A) • PIN8: GND
Case material	Plastic, Flame retardant UL94 HB
Weight	45g
Size (W x H x D)	31.8 x 25.4 x 76.2mm



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MBC2K - 2000W DIN Rail Motor Brake Controller

- Universal input DC BUS 24…110Vdc
- Braking current 50A
- CPU controlled
- Digital display interface
- User settable braking threshold and hysteresis
- Various integrated protections
- Parallelable up to 4 units (8kW)



For reference only

TECHNICAL DATA

	MBC2K
GENERAL DATA	
DC BUS Voltage range	24…110Vdc
Maximum Braking current	50A for 1s
Brake activation voltage	27…106Vdc, threshold adjustable in 20 steps
Brake voltage hysteresis	3Vdc or 6Vdc settable
Protections	• Undervoltage on DC BUS ≤ 22Vdc • Overvoltage on DC BUS ≥ 110Vdc • Brake resistor overtemperature (if the temperature sensor is present) • Module internal overtemperature > 90°C (194°F) • Brake resistor interrupted or not connected • Short circuit: braking current > 80A • Overload: braking time > 1s
User interface	• 2 x 7 segment LED displays • **ALARM** - red LED • **SET/RESET** and **MENU** - 2 programming keys • Dry contact 24Vdc / 1A
Parallel connection	Up to 4 units for increase a total braking power 8kW through synchronization bus (4 x 2kW braking resistors are needed)
Dissipated power	< 20W
Operating temperature	- 40°C…+ 70°C
Derating	No derating
Lifetime expectancy / MTBF	291’894h (33.3 years) at 25°C ambient full load / (MIL-HDBK-217F) 600’000h at 25°C ambient full load
Overvoltage category	I
Pollution degree	2 (IEC60664-1)
Input / ground isolation	0.75kVdc
Standards & Approvals	• UL508 (reference) • EN60950 for SELV use up to 60Vdc • Using the MBC2K at voltages > 60Vdc is not classifiable as SELV, CE marking
EMC Standards	EN61000-6-2, EN61000-6-3
Protection degree	IP20 (EN60529)
Connection input DC BUS + PE	2.5mm², screw type pluggable (24…12AWG)
Connection output brake resistor	2.5mm², screw type pluggable (24…12AWG)
Connection signals	1.5mm², screw type pluggable (24…16AWG)
Case material	Aluminum
Weight	0.35kg
Size (W x H x D)	40 x 115 x 110mm

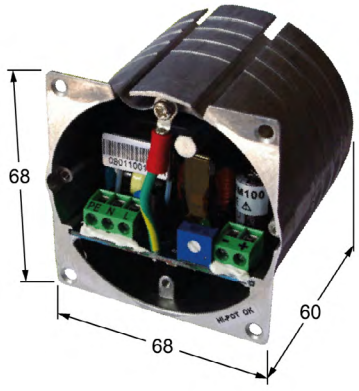
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WM100-24 - 100W Peak Flush Mount Power Supply

- Compact solution for in-wall mounting for building automation
- Standard diameter Ø68mm
- Very high overload capability - 400%

Product available by request



For reference only

CE

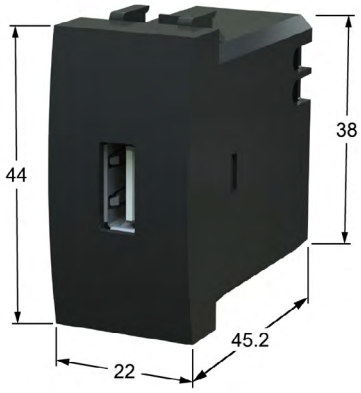
TECHNICAL DATA

	WM100-24
OUTPUT DATA	
Rated voltage	24Vdc
Adj. output voltage range	23.5...27.5Vdc
Continuous current	1A
Overload limit	4A / 30s
Load regulation	≤ 0.5%
Ripple and noise	≤ 50mVpp
Hold up time	≥ 40ms
Protections	• Overload/short circuit: hiccup mode • Thermal protection • Output overvoltage
INPUT DATA	
Input AC rated voltage	Nominal: 240Vac (range 187...264Vac)
Frequency	47...63Hz
Input DC rated voltage	270...345Vdc
Input AC rated current	0.3A
Inrush peak current	≤ 35A
Internal protection fuse	Fuse 2AT (not user replaceable)
Recommended external protection	MCB 4A C curve / SPD
GENERAL DATA	
Efficiency	> 84%
Dissipated power	< 5W
Operating temperature	- 20°C...+ 45°C
Derating	No derating
Overvoltage category	III
Pollution degree	2 (IEC60664-1)
Input / output isolation	4.2kVdc
Input / ground isolation	2.2kVdc
Output / ground isolation	0.75kVdc
Standards & Approvals	EN60950 (certified), CE marking
EMC Standards	EN61000-6-1, EN61000-6-3
Protection degree	IP20 (EN60529 when mounted in wall)
Connection terminals	1.5mm², screw type header (24...12AWG)
Case material	Die cast aluminum
Weight	0.225kg
Size (W x H x D)	68 x 68 x 60mm

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USW2A - 5W Ultracompact In Wall USB Charger

- Ultra compact in-wall USB Power Supply (< 22mm width)
- Developed according to USB standard
- Modular PCB can be assembled in various custom made enclosures



For reference only

CE

TECHNICAL DATA

	USW2A
OUTPUT DATA	
Output voltage	5Vdc ±10%
Continuous current	1A
Overload limit	1.25A
Load regulation	≤ 2%
Ripple and noise	≤ 100mVpp
Hold up time	
Vin = 120Vac	≥ 25ms
Vin = 230Vac	≥ 80ms
Protections	Constant current at the overload limit with auto reset
INPUT DATA	
Input AC rated voltage	Nominal: 120…240Vac (range 90…264Vac)
Frequency	47...63Hz
Input DC rated voltage	110...345Vdc
Input AC rated current	
Vin = 120Vac	120mA
Vin = 230Vac	70mA
Input DC rated current	
Vin = 110Vdc	80mA
Vin = 345Vdc	40mA
Internal protection fuse	Fuse Resistor 10Ω (not user replaceable)
GENERAL DATA	
Efficiency	> 73%
Dissipated power	< 60mW
Operating temperature	- 20°C…+ 60°C
Storage Temperature	- 20°C…+ 85°C
Overvoltage category	II
Pollution degree	2 (IEC60664-1)
Input / output isolation	4.2kVdc
Standards & Approvals	UL508 (reference), EN60950 (reference), CE marking
EMC Standards	EN61000-6-1, EN61000-6-3
Protection degree	IP20 (EN60529)
Connection terminals	1.5mm², screw type header (24...12AWG)
Connection terminals output	USB-A female connector
Case material	Plastic, Flame retardant UL94 V-0
Weight	25g
Size (W x H x D)	16.7 x 35.5 x 42mm (PCB dimension) To be hosted in a standard 22mm switch type housing

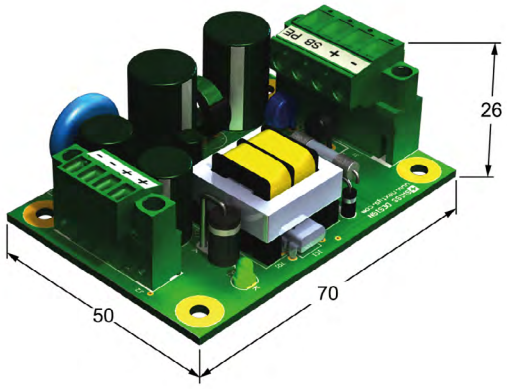
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NPSR10-5 - 10W Railway DC/DC Converter

- High efficiency and compact size
- Wide input voltage range
- High operating temperature (up to 70°C)
- Designed according to EN50121 for railway application

Product available by request



For reference only

TECHNICAL DATA

	NPSR10-5
OUTPUT DATA	
Rated voltage	5.1Vdc
Adj. output voltage range	5.1Vdc Fixed
Continuous current	2A
Overload limit	2.5A
Load regulation	≤ 0.5%
Ripple and noise	≤ 100mVpp
Hold up time	≥ 50ms
Protections	• Overload/short circuit: hiccup mode • Thermal protection • Output overvoltage • Input undervoltage lockout (UVLO 64Vdc ±2V)
Status signals	DC OK - green LED
Parallel connection	Possible for redundancy (with external ORing module)
INPUT DATA	
Input DC rated voltage	Nominal: 110Vdc (range 66...154Vdc)
Input DC rated current	0.3A
Inrush peak current	≤ 5A
Internal protection fuse	Fuse 0.8AT (not user replaceable)
GENERAL DATA	
Efficiency	> 78%
Dissipated power	< 3W
Operating temperature	- 40°C...+ 85°C (+ 85°C at full load for 10min max.)
Derating	- 0.13W/°C over 70°C
Humidity	5...95% r.H. non condensing
Overvoltage category	I
Pollution degree	2 (IEC60664-1)
Input / output isolation	2.2kVdc
Input / ground isolation	1.5kVdc
Output / ground isolation	0.71kVdc
Standards & Approvals	EN50121 (certified), CE marking
EMC Standards	EN50121-3-2
Connection terminals input	2.5mm², screw type pluggable (24...14AWG)
Connection terminals output	1.5mm², screw type pluggable (26...16AWG)
Weight	65g
Size (W x H x D)	50 x 26 (28) x 70mm (PCB dimension)

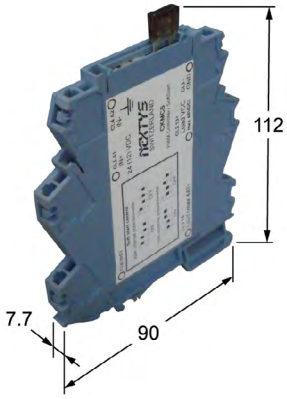
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CKMC5 - DIN Rail Ultracompact Motor Soft-start

- High efficiency and compact size - 7.7mm width
- Plastic enclosure
- Class II insulation (simplified wiring)
- Optimal for cost saving rating of power supply with dynamic loads
- Allows to operate high inrush current loads
- Suitable for loads where a power regulation is necessary (e.g. motors)
- Power level and soft-start duration are adjustable through 2 user settable potentiometers
- PWM (Pulse Width Modulation) technique

Product available by request

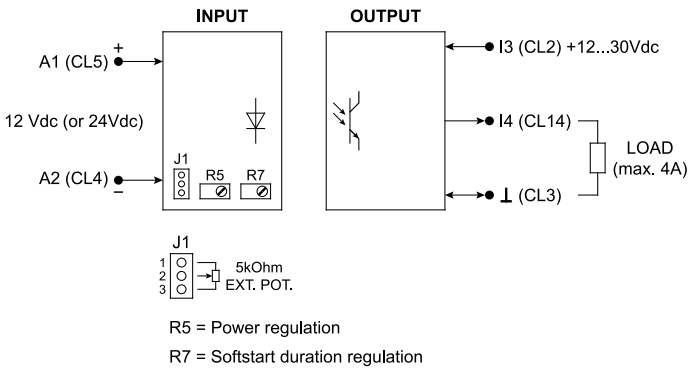


ULTRA COMPACT

For reference only

TECHNICAL DATA

	CKMC5
OUTPUT DATA	
Output voltage	12...30Vdc
Continuous current	4A
Overload limit	6A max. for 30s
Soft-start duration	• Adjustable 0.5...5s with potentiometer • Adjustable with external potentiometer (5kΩ)
Power level range	Adjustable 0 - 100% with potentiometers
Protections (load side)	• Short circuit (ATO fuse) • Reverse polarity • Transient overvoltage
INPUT DATA	
Input voltage for control side	12Vdc (factory set) or 24Vdc
GENERAL DATA	
Operating temperature	- 20°C...+ 45°C
Overvoltage category	I
Pollution degree	2 (IEC60664-1)
Input / output protection	0.75kVdc
Standards & Approvals	CE marking
Protection degree	IP20 (EN60529)
Connection terminals	2.5mm², spring clamp terminal (26...14AWG)
Case material	PA, Flame retardant UL94 V-0
Weight	0.1kg
Size (W x H x D)	7.7 x 112 x 90mm
BLOCK DIAGRAM	



R5 = Power regulation

R7 = Softstart duration regulation

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GLOSSARY

- **AC** : Alternate Current
- **BMS** : Battery Monitoring System
- **C.C.** : Constant Current
- **C.V.** : Constant Voltage
- **CPU** : Central Processing Unit (microprocessor)
- **DC** : Direct Current
- **DFM** : Design For Manufacturing
- **DFT** : Design For Testing
- **EMC** : Electro Magnetic Compatibility
- **HW** : Hardware
- **MCB (Fuse)** : Miniature Circuit Breaker
- **OVLO** : Over Voltage Lock-Out
- **PFC** : Power Factor Corrector
- **PWM** : Pulse Width Modulation
- **SMPS** : Switched Mode Power Supply
- **SPD** : Surge Protective Device
- **SW** : Software
- **UPS** : Uninterruptible Power Supply
- **UVLO** : Under Voltage Lock-Out
- **VDR** : Voltage Dependent Resistor (Varistor)