PSH150 is an advanced DIN rail 1-phase input, 150W SMPS (Switched Mode Power Supply) with a distinctive feature: **10kV isolation between primary and secondary**.
This allows it to be used in energy management, telecom, renewable energy and other demanding applications.

■ *Main Features*

- Class II wiring (PE connection not required)
- 10kVac primary to secondary isolation (suitable for energy management applications)
- Wide output voltage range 5…55Vdc, user settable
- Auxiliary 12V/100mA power supply
- High efficiency and compact size
- Digital Power regulation
- User settable current limitation threshold
- Remote ON/OFF or other remote control functions possible through INHIBIT input
- Modbus over USB and RS-485 interfaces for control and monitoring
- Multiple protections
- Can be paralleled for power or redundancy (integrated ORing circuitry)
- Up to 50°C operating temperature with no derating
- Wall mount fixing possible
- Suitable for **POWERMASTER** software (available for Windows and Android OS)

TECHNICAL DATA

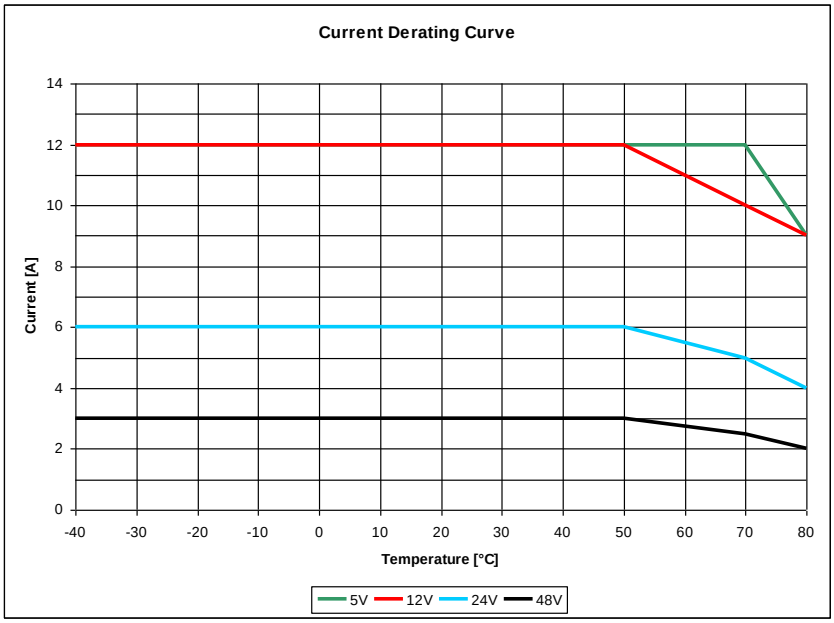
Model type	PSH150
OUTPUT DATA	
Rated voltage	5…55Vdc
Adj. output voltage range	5…55Vdc (1V resolution programmable)
Continuous current	12.0A @ 5…12Vdc, 6.0A @ 24Vdc, 3.0A @ 48Vdc or Vout x Iout= 150W Max. for Vout > 48Vdc
Overload limit	12.5A to 3.0A (depending on Vout)
Short circuit peak current	12.5A to 3.1A (depending on Vout)
Load regulation	≤ 2% @ 5Vdc, ≤ 1% @ 12Vdc, ≤ 0.5% @ ≥24Vdc
Ripple & Noise[1]	≤ 120mVpp
Hold up time	≥ 30ms
Battery charger function	C.C. / C.V. (setup via front panel or **POWERMASTER** application)
Battery chemistries	▪ Lead Acid ▪ Lithium
Protections	▪ Overload and short circuit protection ▪ Thermal protection ▪ Input undervoltage lockout (UVLO) ▪ Input overvoltage protection (VDR)
Output overvoltage protection	≥ 62Vdc
Status Signals User Interface	▪ 7 segment, 3 digits display ▪ 3 Status LEDs ▪ 3 programming keys ▪ **INHIBIT** - Isolated remote ON/OFF input, active for 5…30Vdc ▪ **12V AUX** - Auxiliary 12Vdc / 100mA ▪ **DC OK** - dry contact (SPDT, 24Vdc / 1A) ▪ **Modbus** over **USB** and **RS-485** interfaces
Parallel connection	Possible for power and redundancy (integrated ORing circuitry)
INPUT DATA	
Input AC rated voltage Frequency	Nominal: 120…240Vac Range: 90…277Vac 47…63Hz
Input DC rated voltage	110…400Vdc
Input AC rated current Vin = 120Vac Vin = 240Vac	 2.2A 1.0A
Input DC rated current Vin = 110Vdc Vin = 400Vdc	 1.1A 0.6A
Standby power	< 4W
Power Factor Correction	Active > 0.9
Inrush peak current[2] / I^2t	≤ 34A / 0.88A^2s
Touch (leakage) current	≤ 0.1mA
Internal Protection fuse	Fuse 8AT (not user replaceable)
Recommended external protection	MCB 6A C curve It is strongly recommended to provide external surge arresters (SPD) according to local regulations.
GENERAL DATA	
Efficiency	> 78% … > 86% (depending Vout and Vin)
Dissipated power	< 16W … < 24W (depending Vout and Vin)
Operating temperature[3]	- 40°C…+ 70°C
Derating	Depending on Vout and Vin over 50°C See charts on Fig.1
Storage temperature	- 40°C…+ 80°C
Humidity	5…95% r.H. non condensing
Life time expectation	351'777h (40.1 years) at 25°C ambient full load
MTBF	▪ MIL-HDBK-217F > 700'000h at 25°C ambient full load
Overvoltage category Pollution degree	▪ EN60255-27 IV ▪ IEC60664-1 2
Input / output isolation	10kVac
Safety Standards	▪ UL508 (reference) ▪ EN60255-27 (reference)
EMC Emission	▪ EN55011 (CISPR11) Class A ▪ EN55022 (CISPR22) Class A ▪ EN61000-3-2 Class A
EMC Immunity	▪ EN61000-4-2 Level 3 ▪ EN61000-4-3 Level 4 ▪ EN61000-4-4 Level 4 ▪ EN61000-4-5 Level 4 Tested up to 6kV ▪ EN61000-4-11 Level 2
Protection degree	▪ EN60529 IP20
Vibration sinuosoidal	▪ IEC60068-2-6 (5-17.8Hz: ±1.6mm; 17.8-500Hz: 2g 2hours / axis (X,Y,Z)
Shock	▪ IEC60068-2-27 (30g 6ms, 20g 11ms; 3 bumps / direction, 18 bumps total)
IN/OUT Connection terminals	2.5mm^2, screw type pluggable (24...12AWG)
Auxiliary connection terminals	Up to 0.5mm^2, Fast pluggable type (20AWG)
Communication interface connector	RS-485 through RJ45 Female USB-B Type (virtual Com Port)

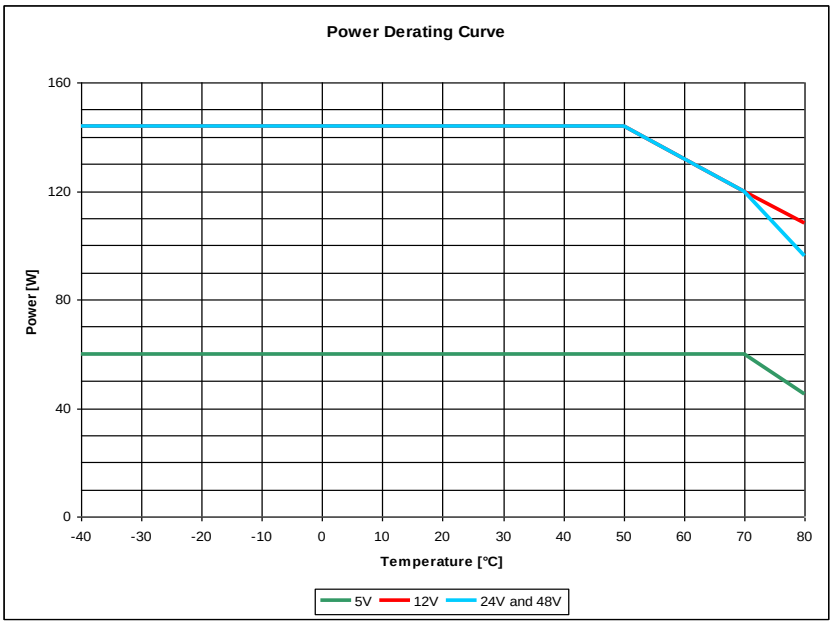
Case material	Plastic, Flame retardant UL94 V-0
Weight	0.75kg
Size (W x H x D)	179.5 x 100.3 x 64.5mm

1) Ripple and Noise are measured with 20MHz bandwidth, probe terminated with a 0.1µF MKP parallel capacitor.
2) Peak current measured after 0.2ms from main connection; 240Vac/50Hz; Ambient temperature at 25°C; Cold Start.
3) Start-up type tested: - 40°C, possible at nominal voltage with load deration.

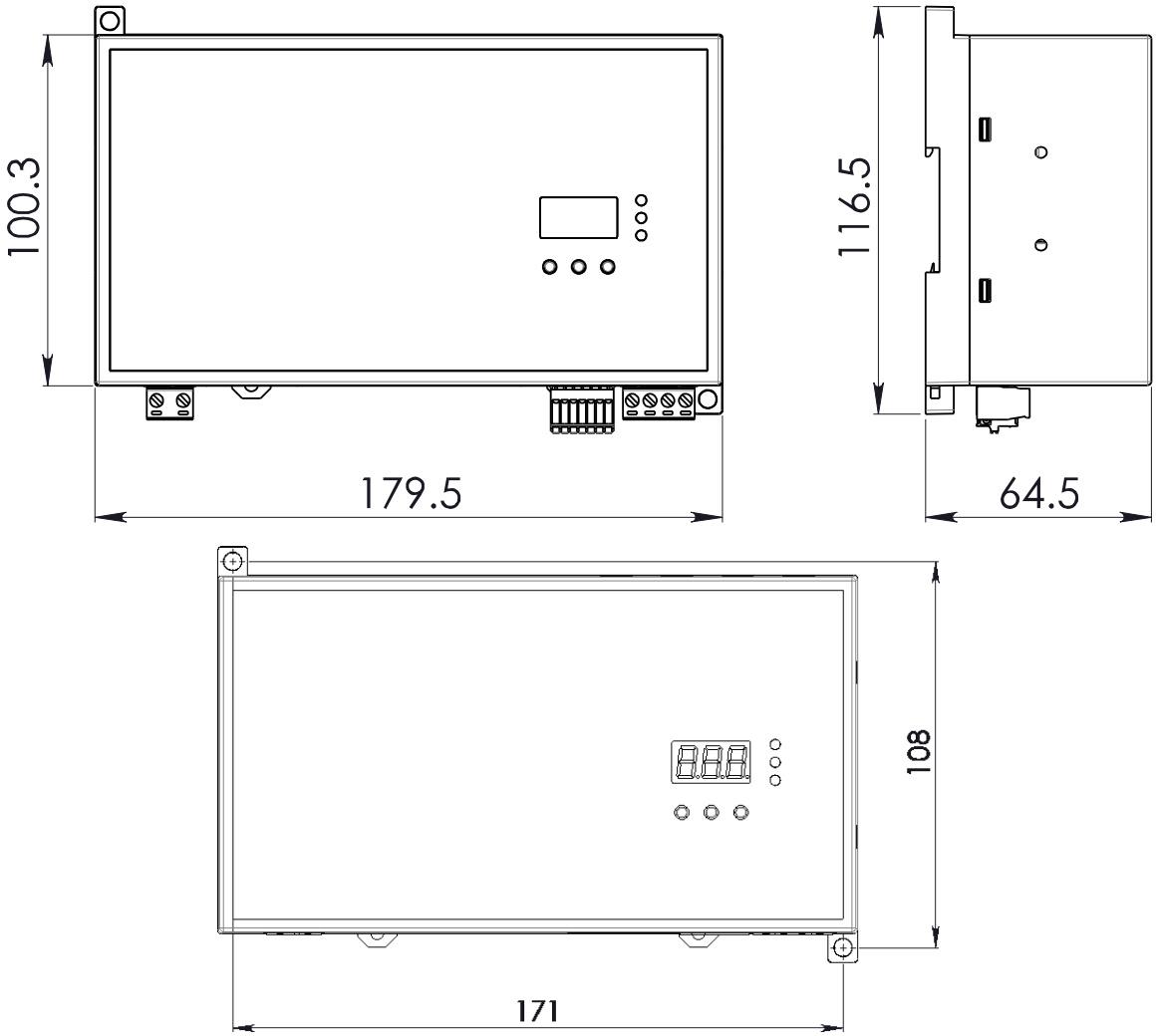
Notes:
- For more details, performance and descriptions regarding all parameters not indicated in the above table, please refer to the user manual downloadable from www.nextys.com
- Technical parameters are typical, measured in laboratory environment at 25°C and 240Vac / 50Hz, at nominal values, after minimum 5 minutes of operation.
- Power rating, losses, efficiency, ripple, thermal behaviour and start-up may change outside of the nominal rated input range. Contact factory for details.
- Data may change without prior notice in order to improve the product.

Fig.1

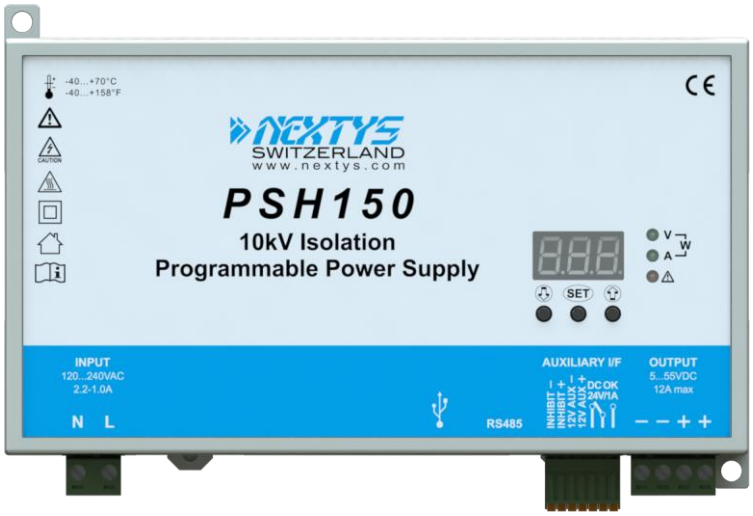




DIMENSIONS



CONNECTION



Input Connection:

Single phase:
- L = Line
- N = Neutral

DC:
- L = + Positive DC
- N = - Negative DC

Output Connection:

- + = Positive DC
- - = Negative DC

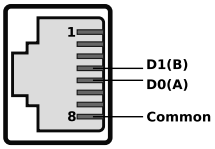
Auxiliary Connections:

INHIBIT: (5…30Vdc)
- + = Positive DC
- - = Negative DC

12V AUX: (12Vdc / 100mA)
- 12V+ = Positive DC
- 12V- = Negative DC

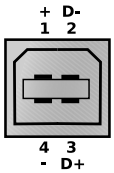
DC OK:
- NO
- NC
- COM

RS-485



- PIN4 = TX/RX D1
- PIN5 = TX/RX D0
- PIN8 = GND

USB-B Type



- 1 = VBUS (+5V)
- 2 = Data (D-)
- 3 = Data (D+)
- 4 = GND