- Suited for high temperatures (>80 °C without derating)
- No fan necessary, free convection
- Extra high hold up time (>40ms)
- Low leakage current (<0.5 mA)
- Efficiency 91%
- Power Factor >0,99 and world wide usable due to PFC
- Integrated µC to control switch-on behaviour and failure management

Short description

At the input the power supply unit (PSU) HT150 has a power-factor-correction circuit to meet the standard EN61000 part 3-2. The primary-secondary conversion in modern resonant LLC-technology works highly efficient and allows efficiencies up to 91 %. A primary µC controls the switch-on behaviour and provides failure management and the LED.
The PSU has a large hold-up time (>40ms) and a low leakage current (<0.5 mA).

Variations

Further variations are possible within following borders:

max. 150 W at 80°C
max. 10 A
max. 150 V

Various mechanical variations are possible with reduced power or ambient temperature also without case or cooling surface (Open Frame)

At lower maximum temperatures a significant power increase is possible.

Variant	Voltage	Current	Power	Ambient	Application
13,8/10	13,8 V	10 A	140 W	-40°C...35°C	Box
12/10	12 V	10 A	120 W	-40°C...35°C	Box
12/8	12 V	8 A	100 W	-40°C...35°C	Box f. Hutschiene
V597	27,5 V	5 A	140 W	-40°C...35°C	Box
V598	24 V	6 A	145 W	-40°C...35°C	Box
V598A	24 V	4 A	100 W	-40°C...35°C	Box f. Hutschiene

Input

Input voltage nom.	110 V_{AC} / 230 V_{AC} 110 V_{DC} / 220 V_{DC}
Input voltage range	90 - 265 V_{AC} , 90 V_{AC}: power derating of 40% 100 – 375 V_{DC}, 110 V_{DC}: power derating of 40%
Input current	<1.8 A
Inrush current	<16 A_{pk} limited by thermistor
Input power	Max. output power +10%
Input frequency	47 - 63 Hz or DC
Power factor	0.99 at full load

Output

Output voltage	Max. 150 V (see table)
Output current	Max. 10 A (see table)
Ripple	<0.2% rms; <1% pp (range 30 Mhz)
Dyn. Regulation	±1% load changing 40% / 60%
Line regulation	0.02%
Load regulation	1%
Temperature coefficient	0.2%/°K
Hold up time	>40 ms at nominal voltage and load
Efficiency	typ. 91%

Ambient conditions

Temperature range	0°C to 35°C
	0°C to 45°C (U_{in} = 230 V_{ac})
Storage temperature range	-20°C to +85°C
Humidity	0 - 90% non condensing

Standards

Safety	EN 60950, EN 61010
High-voltage test	EN 60950
Clearance- and creeping distances	6.4 mm input - output / 3.2 mm input - chassis / 2 mm output - chassis
Leakage current	< 0.5 mA at 50 Hz and 265 V_{AC}
PFC	EN 61000-3-2
EMC	2004/108/EG
ESD	EN 61000-4-2: 4/8 kV
Burst	EN 61000-4-4: 2 kV
Surge	EN 61000-4-5
RFI	EN 55011 class B
Appliance class	I
Ingress protection rating	IP50
Low voltage directive	2006/95/EG

Protection

Current limiting	Constant current > 105%	
Over voltage protection	105 – 117%, depending on variant	resettable by mains separation Limited hickups by µController
Over temperature protection	>80°C internally limited	resettable by cooling

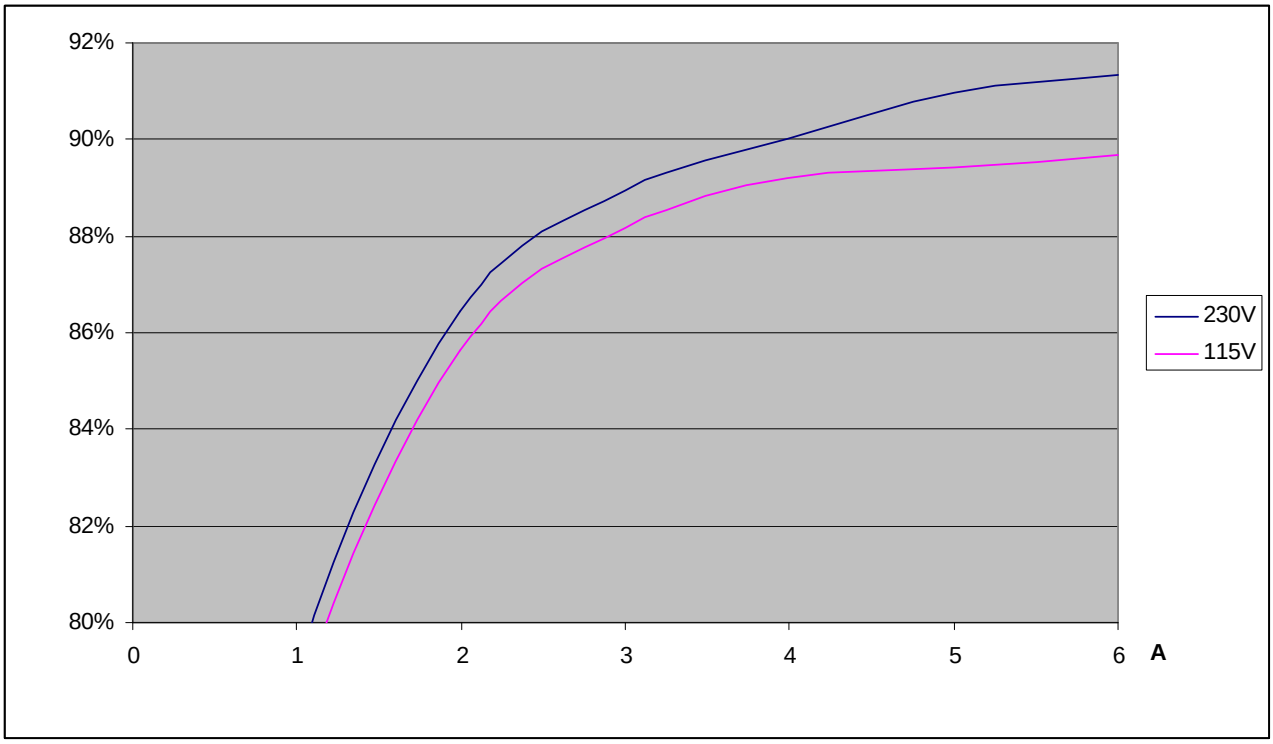
Interfaces and signals

LED green	PSU in normal operating mode
LED flashing	Status- and failure information by µC

Mechanics / mounting

Cooling	Free convection
Housing	Closed aluminium profile
Measurements	45 mm x 122 mm x 163 mm
Mounting	With flaps (L=190mm) or clips for DIN Rail Customised design on request
Weight	0.8 kg

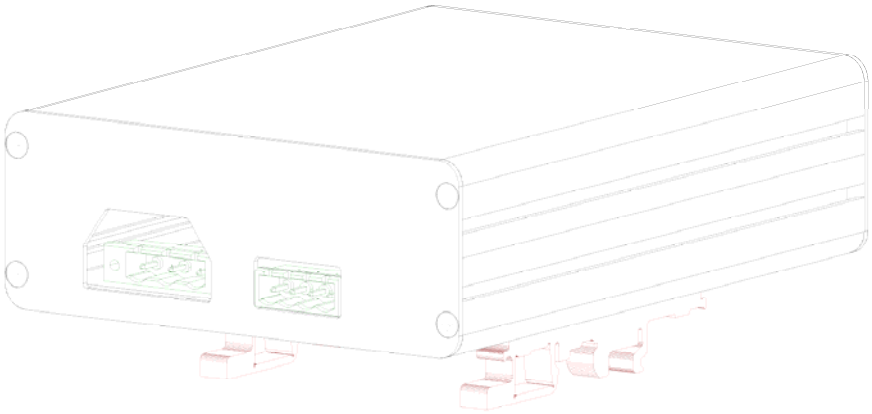
Efficiency (Uout=24V)

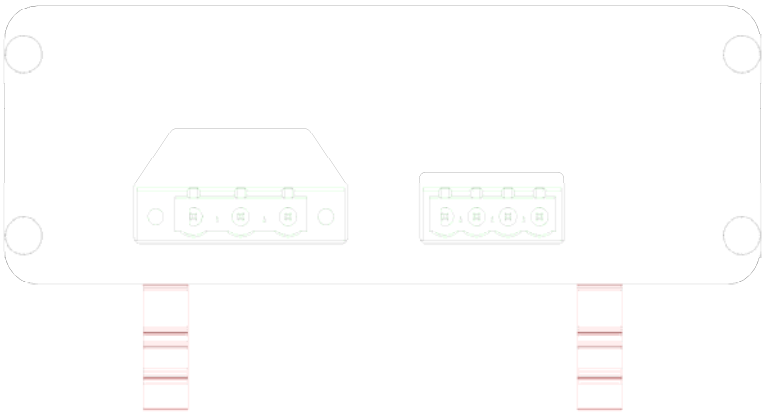


Interfaces V597

Input	C14 coupler
Ausgang	Free cables, 2 x 1.5mm², L=50cm, black=minus

Mechanics V597B





Infaces V597B

Input	Phoenix Combicon, 3pole, pitch 7,62mm GMSTB2,5/ 3-GF-7,62 Mating connector: GMSTB 2,5/3-STF-7,62
Output	Phoenix Combicon, 4pole, pitch 5,08mm MSTBA 2,5/4-G-5,08 Mating connector: MSTB 2.5/4-ST-5.08

QUEL Produktions- und Vertriebs-GmbH
Hans-Sachs-Str. 2, 63755 Alzenau

Telephone +499 (6023) 9798-0, Fax: +49 (6023) 9798-18
Email: info@quel.de, Internet: www.quel.de

Subject to change. Datasheet **HT150**. Version 2 of 24.07.2019
DS_HT150-V597.doc
Author: JL

Operation guide

Connection

1) Connect the cable (right hand side of the picture) with the battery to be loaded. Blue cable (with black marking) to minus, brown cable to plus
2) Connect the C14 coupler (left hand side of the picture) with a C13-coupler (according to IEC60320-1 type C13) to mains.

The unit comes without mains switch and goes directly into operation

Operation

3) Proper operation is indicated by continuous glow of the LED on the front