

Firma / Company :

Distribution

Gerätetyp / Type : OF100-12
 Artikelnr. / Part-No. : 1893590
 Zeichnungsnr. / Drawing-No. : 15.3803.500-00
 Datum / Date : 2011-11-02

Sachbearbeiter Verkauf / Contact Sales : Bernsmann
 Sachbearbeiter Mechanik / Contact Mech. Eng. : FEHVNL
 Sachbearbeiter Elektronik / Contact Elec. Eng. : FERYZH
 Freigabe App. / Approved App. : FEPAZH
 Freigabe / Approved : FELCCH

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We may ask you to return one signed copy of this specification for our records as having your approval. Unless you do not enter your objection to the latest specification issue without delay, your acceptance and release for production on the basis of this specification is deemed to be given.

Kundenfreigabe / Customer Release:

Datum / Date:

Unterschrift / Signature:

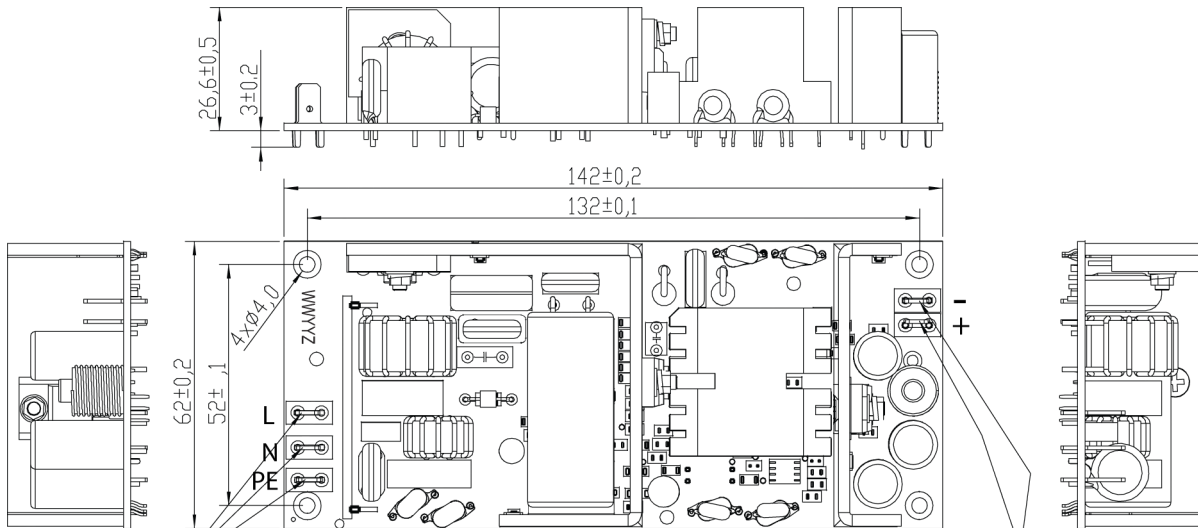
Index / Rev.	Datum / Date	Name	Einzelheit / Detail
Ⓐ	2012/01/18	Kuhn	Add label for ESD-Bag, see point 2.1.
Ⓑ	2012/08/29	Ryan.Zhang	Add label for UL mark,SIQ-ENEC mark etc.housing label changed.

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 Finanzamt Warendorf
 USt.-Ident.-Nr. DE811114890
 Amtsgericht Münster
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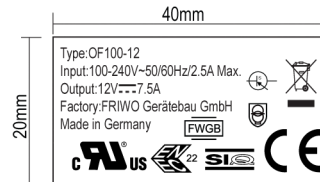
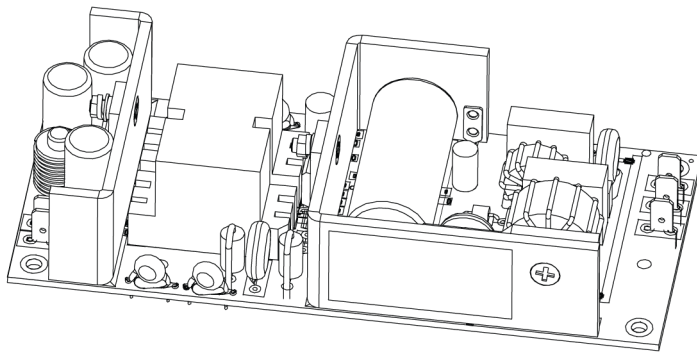
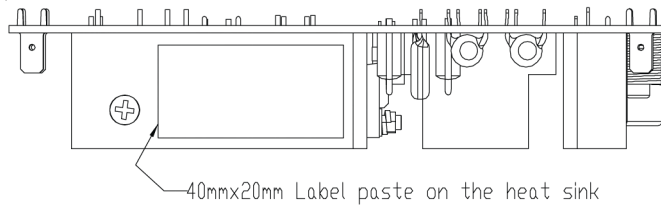
Bankverbindung / Bank Details
Sparkasse Münsterland-Ost
 BLZ 400 501 50 (EUR) Kto. 5 000 526
 IBAN DE42 4005 0150 0005 0005 26
 BLZ 400 501 50 (USD) Kto. 86 0000 23
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1 Gehäuse / Housing:
 Gehäusetyp / housing-typ: open frame



AC Input:
 4,8 x 0,8 mm connector blades,
 straight / vertical type

DC Output:
 4,8 x 0,8 mm connector blades,
 straight / vertical type



Printing:Black letter on white base
 Material:copperplate paper with bright/shining surface(UL,CSA approval)
 Coating:Acrylic adhesive backing
 To be manufactured by UL/CSA qualified vendor
 Storage temperature -20 degC~+70 degC
 The thickness of label is 0.12+/-0.02mm
 Datuscode/date-code see mark on PCB "WYYZ"
 W=Woche/week Y=Jahr/year Z=Fertigungsstätte/Factory code
 (Note:without mark = FRIWO Gerätebau GmbH)

2 Verpackung / packaging:

2.1 Einzelverpackung / individual packaging:

Put the PCB/A into the ESD-Bag 152x254mm

Divider : P/N 1837738 (15.3699.556-xx)

Paste label 1834442(40x20mm) on ESD bag to close the ESD bag

OF100/1893590
12V \equiv /7.5A

2.2 Sammelverpackung / bulk packaging:

28 er UMKARTON / Carton 28

2.2.1 Aussenabmessungen / Outer dimensions: 433mm x 338mm x 196mm

2.3 Anzahl der Geräte pro Umkarton / amount of units per master carton: 35

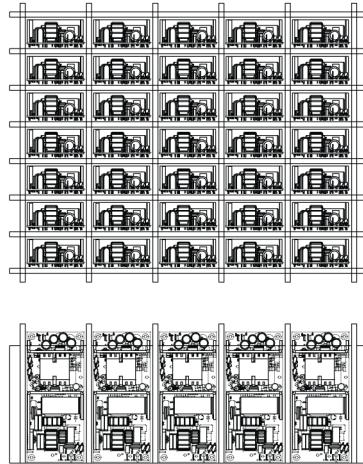
2.4 Gewicht pro Stück / weight per unit: 230 g

2.5 Lagertemperatur / storage temperature: -20°C - +70°C / 10 to 95 rel. hum.

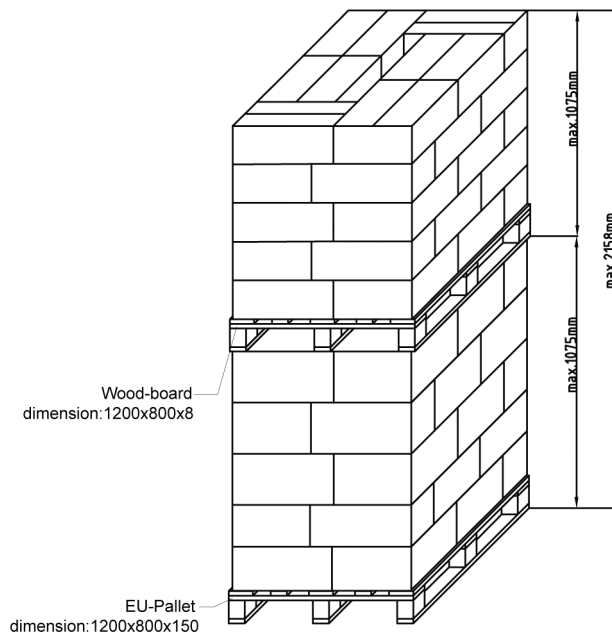
2.6 Verpackungsvorschriften / packaging specification:

- 1, 8001788 white label 101x158mm: for printing Model Number, Part Number etc.
- 2, One label on each master carton, labels must face out on a loaded pallet.

Inner package:



Pallet package:



- Notes:
- 1) 35 pcs per carton
 - 2) 6 carton per layer
 - 3) 5 layer per pallet
 - 4) total 1050 pcs per 5-layer-pallet

- Notes:
- 1) 35 pcs per carton
 - 2) 6 carton per layer
 - 3) 5 layer per pallet
 - 4) total 1050 pcs per 5-layer-pallet

1 stack (5-layer-pallet and 5-layer-pallet)
 = (1050pcs. + 1050 pcs.)
 = 2100 pcs per stack

22 pallets (11 stacks of each type)
 =23100 pcs. per 20ft container

48 pallets (24 stacks of each type)
 =50400 pcs. per 40ft container

3 Elektrische Prüfbedingungen / electrical tests:

3.1 Alle nachstehend aufgeführten Werte werden bei +20°C Raumtemperatur und nach 15 Minuten Einschaltdauer gemessen.

All values listed below are measured at an ambient temperature of +20°C and after 15 minutes of operation.

3.2 Eingangsdaten / Input data:

- 3.2.1 Nenneingangsspannung : 100-240V AC -10/+10%
 Nominal input voltage : 100-240V AC -10/+10%
- 3.2.2 Nenneingangsfrequenz : 50-60Hz
 Nominal input frequency : 50-60Hz
- 3.2.3 Leerlaufleistungsaufnahme bei U_E : 115V AC;230V AC : $\leq 0.5W$
 Stand-by power consumption at U_{in} : 115V AC;230V AC : $\leq 0.5W$

3.3 Ausgangsdaten / Output data

Messaufbau siehe / Measuring setup see <http://www.friwo.de>

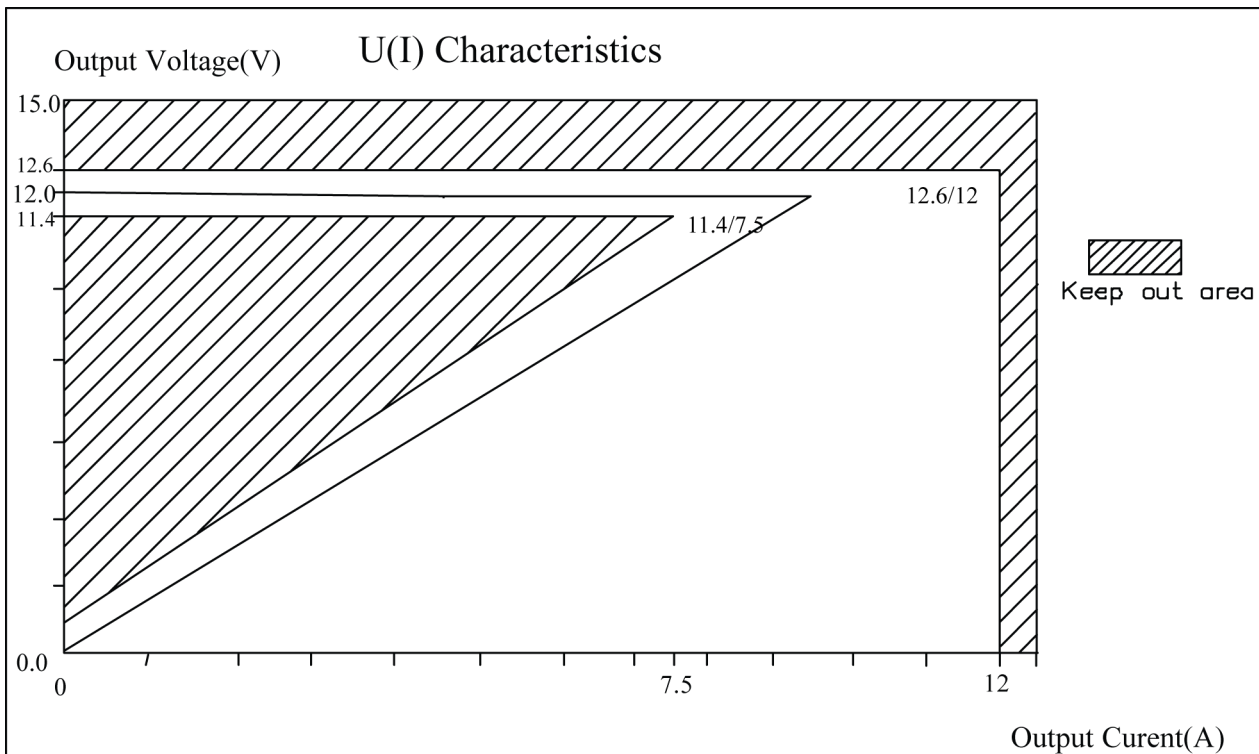
- 3.3.1 Ausgangsspannung: U_A : 12V DC +5% / -5% $U_{Br} : \leq 150mV_{ss}$
 Nominal output voltage: U_{out} : 12V DC +5% / -5% $U_{Br} : \leq 150mV_{pp}$

Ripple&Noise Test: Add 0.1uF/50V ceramic capacitor in parallel with a 10uF/50V E-Cap across the output terminal. Measured with 20MHz Bandwidth Oscilloscope. Ripple&Noise should be less than 150mV_{p-p}.

- 3.3.2 Nennausgangsstrom : I_A : 7500mA
 Nominal output current : I_{out} : 7500mA

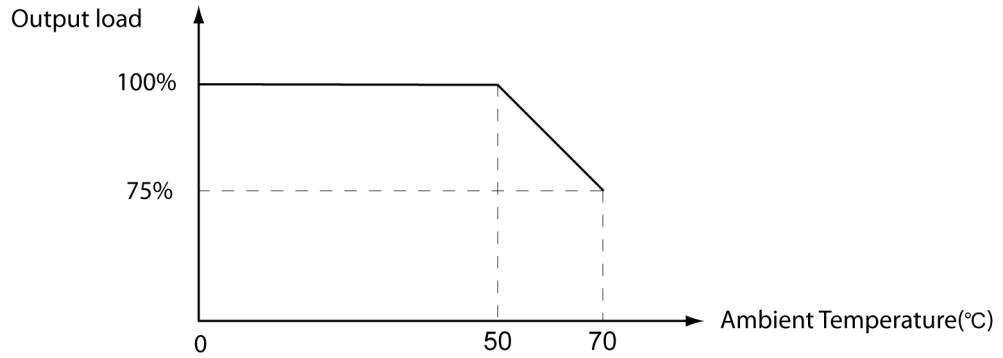
3.4 Efficiency : $\geq 87\%$

3.4.1 Ausgangskennlinie / Output characteristic:

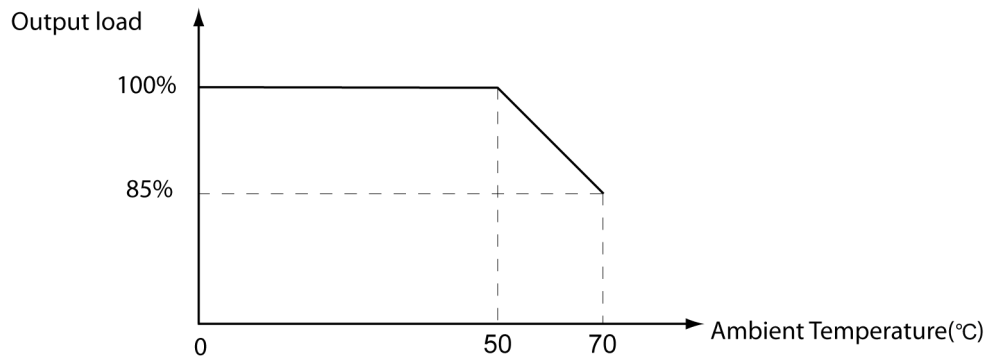


3.5 Temperature derating

Output derating



90Vac-120Vac/60Hz



200Vac-264Vac/50Hz

4 Safety details:

Sicherheitsstandards entsprechend EN60335-1,EN61558-1 und EN60950-1
 Safety-standard acc. to : EN60335-1,EN61558-1 and EN60950-1

Schutzklasse: I
 Protection class : I

Trennung (primär / sekundär): Galvanisch über Wandler
 Separation (prim.-sec.) :Galvanic by transformer

Luft- und Kriechwege: \geq Kr: 6.4 mm, Lu: 4 mm; Cr: 6.4mm,Cl: 4mm
 Creepage distance and clearance : \geq Kr: 6.4 mm, Lu: 4 mm; Cr: 6.4mm,Cl: 4mm

Ableitstrom:	I Ableit \leq 250 μ A
	Gemessen nach EN60950-1
Leakage current :	I leak \leq 250 μ A
	According to EN60950-1

Hochspannungstest: \geq 3 KV AC;
 High-voltage test : \geq 3 KV AC;

Anwendungsbereich: Allgemeine Haushaltsanwendungen
 Range of application : Household appliances

Umgebungstemperaturbereich: 0°C bis +50°C, bis zu +70°C Leistungsreduzierung nach Punkt 3,5.
 Ambient temperature range : 0°C to +50°C ,derating according to item 3.5 at 70°C.

5 CE-Konformitätserklärung / Declaration of Conformity

Wir, der Hersteller, erklären hiermit, dass das Produkt: /
We, the manufacturer, hereby confirm, that the product:

Gerätetyp / Type: OF100-12
 Artikel-Nr. / Part-No.: 1893590
 Zeichnungs-Nr. / Drawing-No.: 15.3803.500-00

weitere Merkmale /
additional information:

mit der beiliegenden Beschreibung die Anforderungen der Niederspannungsrichtlinie 2006/95/EG, der EMV-Richtlinie 2004/108/EG und Öko-Design Richtlinie 2009/125/EG erfüllt.

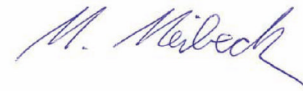
Hiermit bestätigen und garantieren wir, dass unsere Produkte, unabhängig von der Produktionsstätte, RoHS-konform produziert werden und die Anforderungen der EU Richtlinie 2002/95/EC (Neufassung der Richtlinie 2011/65/EU) erfüllen.

with the enclosed description fulfils the requirements of the Low Voltage Directive 2006/95/EC, the regulations of the EMC Directive 2004/108/EC and the eco design Directive 2009/125/EC.

Hereby, we certify and guarantee that our products, regardless of the production location, RoHS compliant and fulfill the directive 2002/95/EC (revised version: directive 2011/65/EU).

Das Gerät entspricht der / *The unit corresponds to:*

a) Niederspannungsrichtlinie / <i>Low Voltage Directive</i>	b) EMV-Richtlinie / <i>EMC Directive</i>	c) Öko Design / <i>ECO Design</i>
<input type="checkbox"/> EN 60950-1 01/2011	<input type="checkbox"/> EN 55022 05/2008	<input type="checkbox"/> Not applicable
<input type="checkbox"/> EN 60335-1 11/2010	<input type="checkbox"/> EN 55024 10/2003	
<input type="checkbox"/> EN 61558-1 07/2006	<input type="checkbox"/> EN 55014-1 06/2007	
	<input type="checkbox"/> EN 55014-2 06/2009	



Quality Manager

i. V. Michael Meibeck

Ausstelldatum / *Date of issue*: 2011-11-02




Firmenstempel / Company stamp

Manager Product Design FPS i. V. Armin Wegener

6 Links & Miscellaneous

EMC-specification

6.1 Noise-suppressed: acc. to EN55014-1 ,EN55014-2 and EN55022.

6.2 Harmonic current emissions acc. to EN 61000-3-2

6.3 Immunity to electrostatic discharge (ESD): acc. to EN 61000-4-2

Discharge characteristic	Test level	Assessment criteria U _{in} 120Vac	Assessment criteria U _{in} 230Vac
Air discharge	±8KV	B	B
Contact discharge	±4KV	B	B
Indirect discharge	±8KV	B	B

6.4 Immunity to radiated electromagnetic field: acc. to EN 61000-4-3 Test characteristic: 80 - 1000 MHz; 80% AM (1 kHz)

6.5 Immunity to fast electric transients (burst): acc. to EN 61000-4-4

Coupling	Test level	Assessment criteria U _{in} 120Vac	Assessment criteria U _{in} 230Vac
AC-input	2KV	A	A
DC-output (capacitive clamp)	1KV	A	A

6.6 Surge capability: acc. to EN 61000-4-5

Surge voltage	assessment criteria U _{in} 120Vac	assessment criteria U _{in} 230Vac
±1KV(Line to Line)	B	B
±2KV(Line to earth)	B	B

6.7 Immunity to conducted disturbances, induced by radio frequency fields: acc. to EN 61000-4-6 Test characteristic: 0.15 – 80MHz; 80% AM (1 kHz)

Test level	Assessment criteria
3V	A

6.8 Immunity to voltage dips, short interruptions and voltage variations.

6.8.1 Test acc. to EN 61000-4-11 Test performed at U_{in} = 230VAC /120VAC Voltage dips

Test level %U _N	Voltage dips and short interruptions %U _N	Duration time of voltage Dips (in half sine)	Test result U _{in}	Test result U _{in}
			120Vac	230Vac
0	100	0.5	A	A
40	60	1	A	A
		5	B	A
		10	B	A
		25	B	A

6.9 Assessment criteria

a. Agreed operational behaviour within the specified limits.

b. Time limited functional diminishment of malfunction during the tests is permitted. The function is self-reactivated by the unit following completion of the tests.

c. Malfunction is permitted. The function can be reactivated either by reconnection to the mains or by operator intervention.