



Firma / Company :

Distribution

Gerätetyp / Type : FW7710/US/0.7
 Artikelnr. / Part-No. : 1832641
 Zeichnungsnr. / Drawing-No. : 15.3205.500-00
 Datum / Date : AUG.18.2009

Sachbearbeiter Verkauf / Contact Sales : Werk
 Sachbearbeiter Mechanik / Contact Mech. Eng. : FEWHJG
 Sachbearbeiter Elektronik / Contact Elec. Eng. : FEKVZU
 Freigabe App. / Approved App. : FEWMZH
 Freigabe / Approved : FELCCH

Wir bitten Sie, ein Exemplar mit Freigabevermerk an uns zurückzusenden. Sollten Sie dieser Spezifikation nicht unverzüglich widersprechen, gilt die Zustimmung und Fertigungsfreigabe auf Grundlage dieser Spezifikation als erteilt.

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
Ⓐ	2009/03/30	Kuhn	Bottom inscription 15.3205.501-03 added, see point 2.1.2.
Ⓑ	2009/07/31	Norman werk	MR2009-0-2028:add date code;add efficiency marking'V';change weig...
Ⓒ	2010/11/22	Kuhn	ECO Design added, see point 7.
Ⓓ	2010/11/23	Kevin Zhou	MR2010-1-2368:1,add efficiency level ;2,add MTBF(200,000 hours min) information;3,change the storage temperature and humidity;4,add packaging instruction.

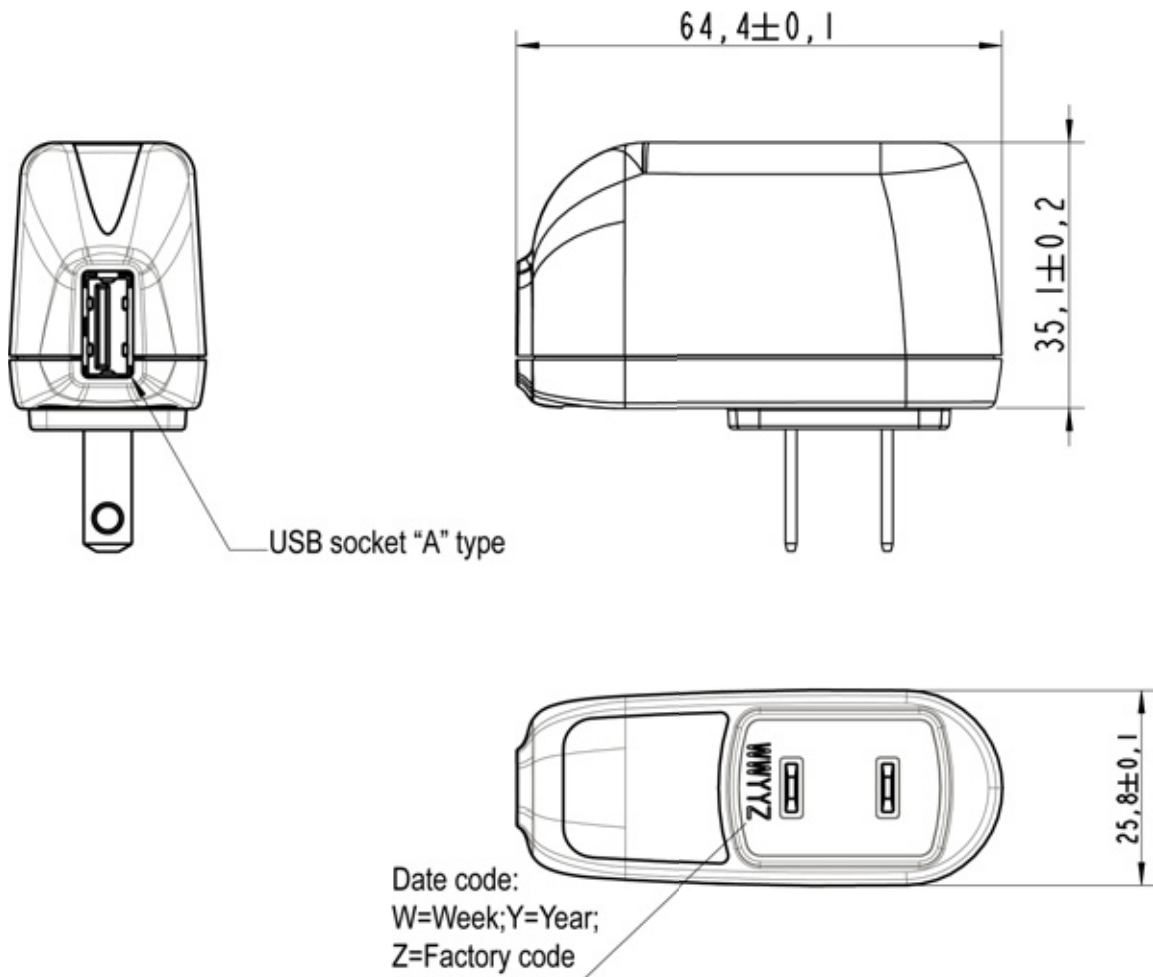
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 Amtsgericht Münster
 HRB 9325

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
 SWIFT WELADED1MST
 Commerzbank AG, Frankfurt a. M.
 BLZ 500 400 00 Kto. 5 811 419
 IBAN DE05 5004 0000 0581 1419 00

1 Gehäuse / Housing:

Gehäusotyp / housing-typ: PP-USBA
Material: PC / ABS V0 125 C
Farbe Boden/ bottom colour: schwarz / black
Farbe Deckel/ cover colour: schwarz / black



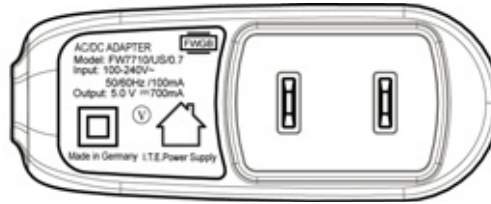
2 Gehäuseaufschriften / Housing labelling:

2.1 Bodenbeschriftung / Bottom labelling

2.1.1

Tampoprint inscription

15.3205.501-04



2.1.2

Tampoprint inscription

15.3205.501-03



3 Verpackung / packaging:

3.1 Einzelverpackung / individual packaging:
15.2990.556-01

mit Beschriftung * / with printing *

* AC/DC ADAPTER
SPEC.-NO.:15.3205
PART-NO.:1832641
OUTPUT:5V DC/0,7A
INPUT:100-240V AC

3.2 Sammelverpackung / bulk packaging:
28 er UMKARTON / Carton 28

3.3 Anzahl der Geräte pro Umkarton / amount of units per master carton :156

3.4 Gewicht pro Stück / weight per unit: 33 g

3.5 Lagertemperatur / storage temperature: -20°C - +70°C / 5 to 95 rel. hum.

4 Allgemeine Prüfbedingungen / General test conditions:

4.1 In einem Bereich der Umgebungstemperatur von 0°C bis +40°C bei 90% relativer Luftfeuchte, keine Betauung, muss die einwandfreie Funktion des Gerätes gewährleistet sein.

Within an ambient temperature range from 0°C to +40°C at 90% relative humidity, no condensation, the faultless function of the unit must be guaranteed.

5 Elektrische Prüfbedingungen / electrical tests:

5.1 Alle nachstehend aufgeführten Werte werden bei +25°C Raumtemperatur und nach 15 Minuten Einschaltdauer gemessen.

All values listed below are measured at an ambient temperature of +25°C and after 15 minutes of operation.

5.2 Eingangsdaten / Input data:

5.2.1 Nenneingangsspannung : 100-240V AC +10/-10%
 Nominal input voltage : 100-240V AC +10/-10%

5.2.2 Nenneingangsfrequenz : 50-60Hz
 Nominal input frequency : 50-60Hz

5.2.3 Leerlaufleistungsaufnahme bei U_E : 230V AC : $\leq 0.3W$
 Stand-by power consumption at U_{in} : 230V AC : $\leq 0.3W$

5.3 Ausgangsdaten / Output data

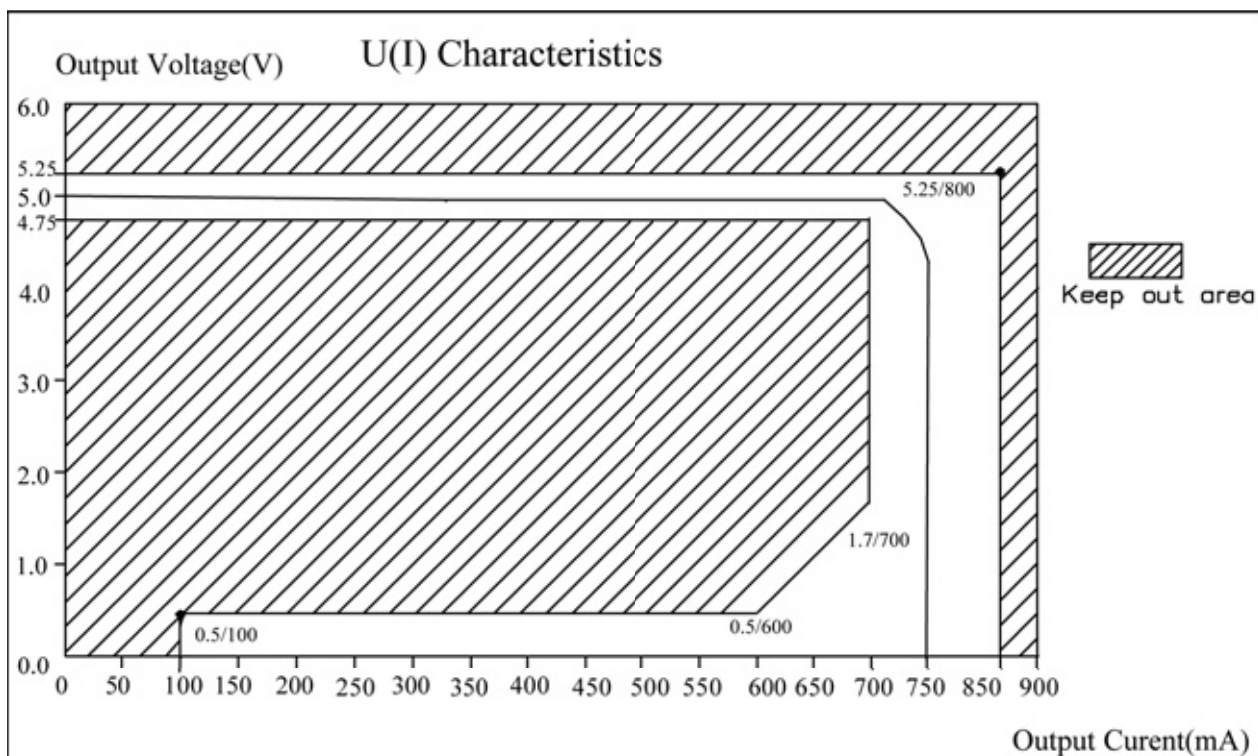
Messaufbau siehe / Measuring setup see <http://www.friwo.de>

5.3.1 Ausgangsspannung: U_A : 5V DC +5% / -5% U_{Br} : $\leq 300mV_{ss}$
 Nominal output voltage: U_{out} : 5V DC +5% / -5% U_{Br} : $\leq 300mV_{pp}$

Ripple&Noise Test: Add 0.1uF/50V ceramic capacitor in parallel with a 10uF/16V E-Cap across the output terminal. Measured with 20MHz Bandwidth Oscilloscope. Ripple&Noise should be less than 300mV_{p-p}.

5.3.2 Nennausgangsstrom : I_A : 700mA
 Nominal output current : I_{out} : 700mA

5.3.3 Ausgangskennlinie / Output characteristic:

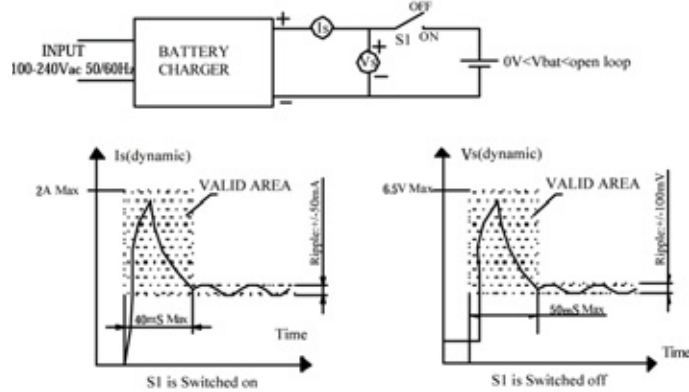


5.4 Efficiency

The efficiency should meet energy star level "V".

5.5 Dynamic output Template

The output current and voltage during transients shall meet as following figure:



5.6 Startup and Turn-on Delay

Power supply shall be able to start up into a resistive load up to the maximum rated current. The elapsed time between the application of input power and the attainment of output voltage to the nominal value shall not exceed 1 second.

5.7 Short-Circuit Protection

The power supply shall withstand a continuous output without damage. The short may be applied before power-up, or after power-up. The power supply shall resume normal operation after the short is removed.

5.8 MTBF

The mean time between failure should not be less than 200,000 hours.

6 Sicherheitsanleitung / Safety details:

Sicherheitsaufbau nach / Safety-standard: UL60950-1
 acc. to

Schutzklasse / Protection class : II

Trennung (prim.-sek.) : Galvanisch durch Wandler

Separation (prim.-sec.) : Galvanic by transformer

Kriech- und Luftstrecken / Creepage distance and clearance : \geq Kr : 6.4mm, Lu : 4mm ; Cr : 6.4mm, Cl : 4mm

Ableitstrom : I Ableit \leq 250 μ A
 Gemessen nach IEC60950-1 siehe www.friwo.de

Leakage current : I leak \leq 250 μ A
 According to IEC60950-1 see www.friwo.de

Hochspannungstest / High-voltage test : \geq 3kVac

Anwendungsbereich : Einrichtungen der Informationstechnik, einschließlich elektrische Büromaschinen

Range of application : Information Technology Equipment including electrical office equipment

Umgebungstemperatur / Ambient temperature range : 0°C bis / to +40°C

7 CE-Konformitätserklärung / Declaration of Conformity

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

Gerätetyp / Type: FW7710/US/0.7

Artikel-Nr. / Part-No.: 1832641

Zeichnungs-Nr. / Drawing-No.: 15.3205.500-00

weitere Merkmale /
additional information:

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

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

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

a) Niederspannungsrichtlinie /
Low Voltage Directive

EN 60950-1 11/2006

b) EMV-Richtlinie /
EMC Directive

EN 55022 05/2008
 EN 55024 10/2003

c) Öko Design /
ECO Design

Step 2

Ausstelldatum / *Date of issue:* 22.11.2010



Quality Manager

i. A. Klaus Dieter Bischoff



Firmenstempel / Company stamp



Manager Product Design FPS

i. V. Armin Wegener

8 Links & Miscellaneous

EMC-specification

8.1 Noise-suppressed: acc. to EN55024 ,55022/B and FCC part 15 B

8.2 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

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

Test level	Assessment criteria
3V/m	A

8.4 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	B	B
DC-output (capacitive coupling clamp)	2KV	B	B

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

Surge voltage	assessment criteria U _{in} 120Vac	assessment criteria U _{in} 230Vac
1KV	B	B

8.6 Immunity to conducted disturbances, induced by radio frequency fields: acc. to EN 61000-4-6

Test level	Assessment criteria
3V	A

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

Test acc. to EN 61000-4-11

Test performed at U_{in} = 120Vac/230VAC

Voltage dips

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

8.8 Assessment criteria

a. Agreed operational behaviour within the specified limits.



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

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