



**Firma / Company :** FRIWO

**Gerätetyp / Type :** FW8005/US/05

**Artikelnr. / Part-No. :** 1898333

**Zeichnungsnr. / Drawing-No. :** 15.4624.511-00

**Datum / Date :** 22.07.2015

**Sachbearbeiter Verkauf / Contact Sales :** Werk

**Sachbearbeiter Mechanik / Contact Mech. Eng. :** FESTSH

**Sachbearbeiter Elektronik / Contact Elec. Eng. :** FEJAJN

**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:

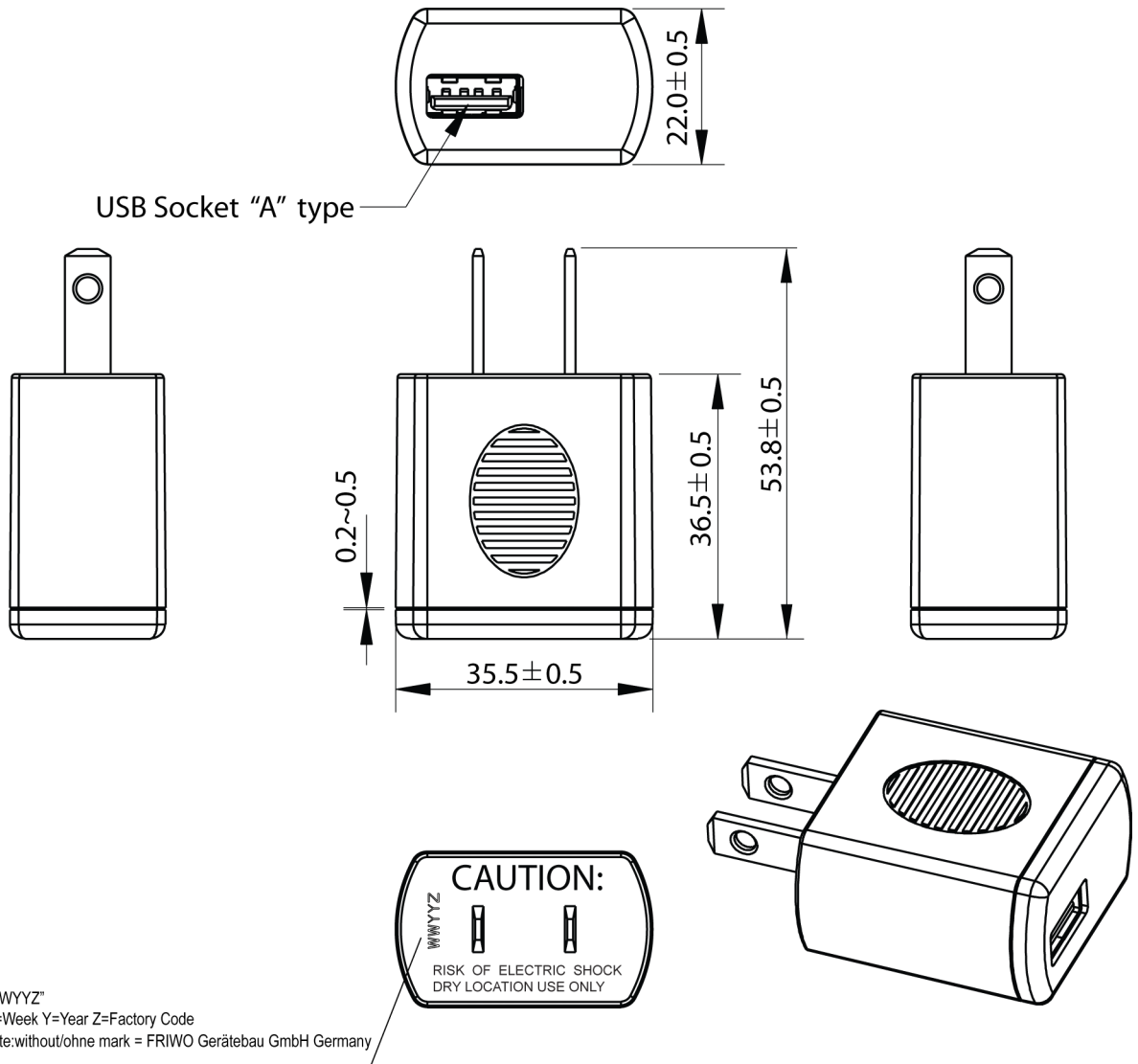
Index / Rev.	Datum / Date	Name	Einzelheit / Detail
Ⓐ	2015/10/16	Kuhn	MR2015-0-4206: Alternative top inscription 15.4624.502-01VN added...
Ⓑ	2016/02/29	Stone	MR2016-1-4690:For printing use same number with CN = China and V...
Ⓒ	2016/04/25	Brokhage	MR2016-0-4921:Top inscription 15.4624.502-03XX and 15.2422.502-20...
Ⓓ	2016/10/11	Brokhage	MR2016-0-5394:Top inscription changed to 15.4624.502-04XX,see point 2.1.1.

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**Bankverbindung / Bank Details**  
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 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:**  
 Gehäusetyp / housing-typ: USB  
 Material: PC/ABS V1 125°C  
 Farbe Boden/ bottom colour: black  
 Farbe Deckel/ cover colour: black

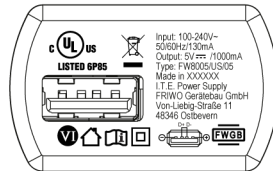


## 2 Gehäuseaufschriften / Housing labelling:

### 2.1 Deckelbeschriftung / cover labelling

#### 2.1.1

15.4624.502-04XX



15.4624.502-04DE/ XXXXXX = Germany

15.4624.502-04CN/ XXXXXX = China

15.4624.502-04VN/ XXXXXX = Vietnam

#### 2.1.2

15.2422.502-20



### **3 Verpackung / packaging:**

#### **3.1 Einzelverpackung / individual packaging: 15.3693.056-10**

mit Beschriftung \* / with printing \*

\* AC/DC ADAPTER  
SPEC.-NO.:15.4624  
PART-NO.:1898333  
OUTPUT:5V DC/1,0A  
INPUT:100-240V AC

#### **3.1.1 Aussenabmessungen / Outer dimensions: 65mm x 25mm x 43mm**

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

#### **3.2.1 Aussenabmessungen / Outer dimensions: 433mm x 338mm x 196mm**

#### **3.3 Anzahl der Geräte pro Umkarton / amount of units per master carton: 288 72 units per Layer/4layer per carton**

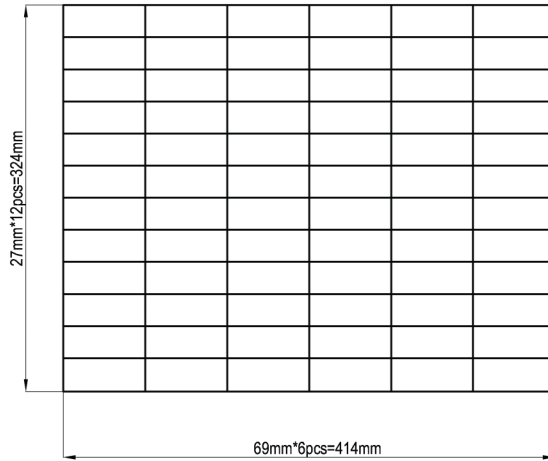
#### **3.4 Gewicht pro Stück / weight per unit: 25 g**

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

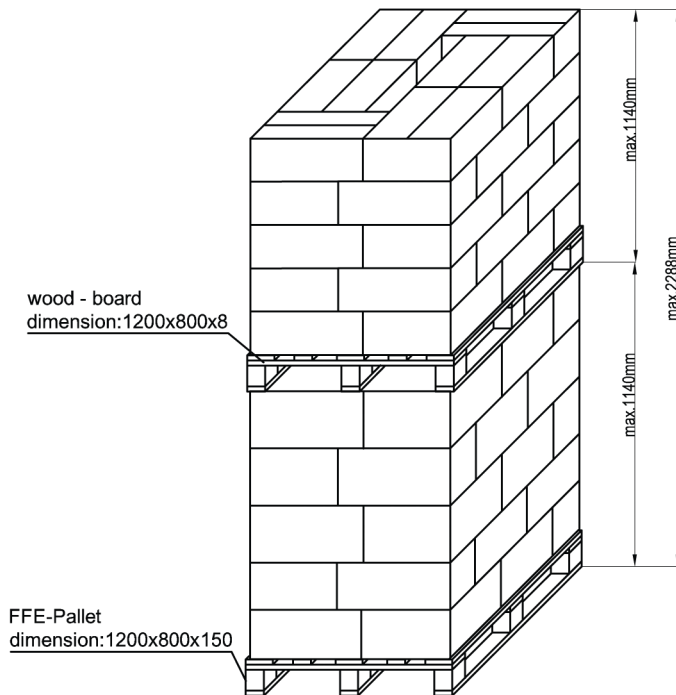
**3.6** Verpackungsvorschriften / packaging specification:

- 1, 1821105 white label 152x102mm: 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) 288 pcs per carton
- 2) 6 carton per layer
- 3) 5 layer per pallet
- 4) total 8640 pcs per 5-layer-pallet

Notes:

- 1) 288 pcs per carton
- 2) 6 carton per layer
- 3) 5 layer per pallet
- 4) total 8640 pcs per 5-layer-pallet

1 stack ( 5-layer-pallet and 5-layer-pallet)  
 = ( 8640pcs. + 8640 pcs. )  
 = 17280 pcs per stack

22 pallets ( 11 stacks of each type)  
 = 190080 pcs. per 20ft container

48 pallets ( 24 stacks of each type)  
 = 414720 pcs. per 40ft container

#### **4 Allgemeine Prüfbedingungen / General test conditions:**

**4.1** In einem Bereich der Umgebungstemperatur von 0°C bis +45°C bei 90% relativer Luftfeuchte, keine Betauung, muss die einwandfreie Funktion des Gerätes gewährleistet sein.

Within an ambient temperature range from 0°C to +45°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 +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.

### 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 Nenneingangsstrom : 0.13Arms @ bei Maxlast  
 Nominal input current : 0.13Arms @ max load

5.2.4 Leerlaufleistungsaufnahme bei  $U_E$  : 230V AC :  $\leq 0.1W$   
 Stand-by power consumption at  $U_{In}$  : 230V AC :  $\leq 0.1W$

### 5.3 Ausgangsdaten / Output data

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

5.3.1 Ausgangsspannung:  $U_A$  : 5V DC +5% / -5%  $U_{Br}$  :  $\leq 80mV_{ss}$   
 Nominal output voltage:  $U_{out}$  : 5V DC +5% / -5%  $U_{Br}$  :  $\leq 80mV_{pp}$

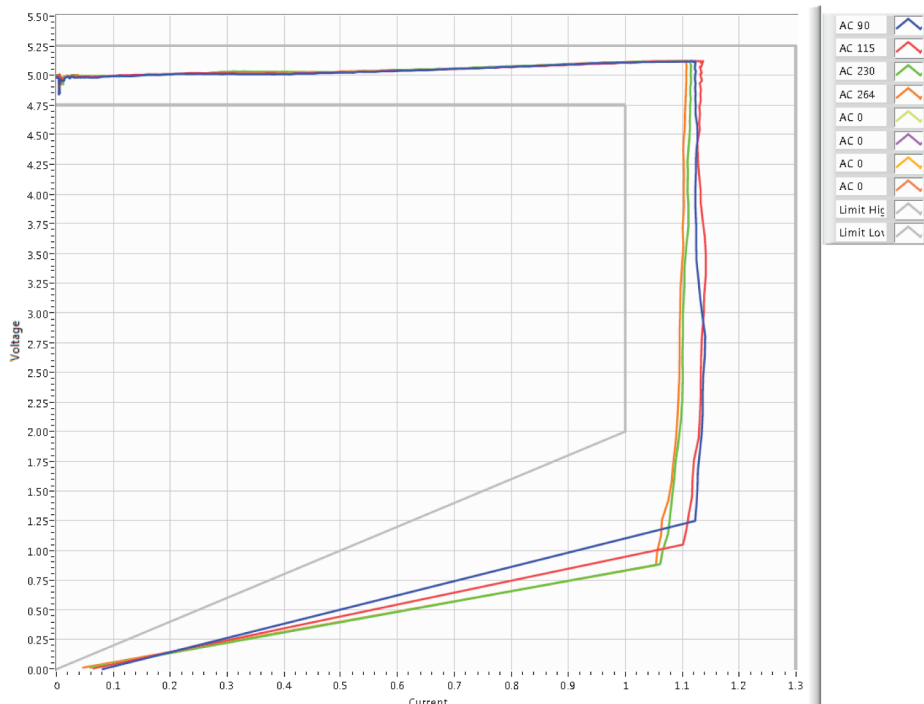
Ripple&Noise Test: Add 0.1uF/50V ceramic capacitor in parallel with a 10uF/50V E-Cap across the output terminal. Measured with 20MHz Bandwidth Oscilloscope. Ripple&Noise should be less than 80mV<sub>p-p</sub>.

5.3.2 Nennausgangsstrom :  $I_A$  : 1000mA  
 Nominal output current :  $I_{out}$  : 1000mA

5.3.3 Efficiency  
 Efficiency can meet Energy Star Level " VI " ( $\geq 73.63\%$  measured at USB socket )

5.3.4 Over voltage protection :  $\leq 7.5V$

5.3.5 Ausgangskennlinie / Output characteristic:



## 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 : 5mm, Lu : 4,4mm ; Cr : 5mm, Cl : 4,4mm

Ableitstrom : I Ableit  $\leq$  90 $\mu$ A  
 Gemessen nach UL60950-1 siehe [www.friwo.de](http://www.friwo.de)

Leakage current : I leak  $\leq$  90 $\mu$ A  
 According to UL60950-1 see [www.friwo.de](http://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 +45°C

\*This product complies with data-enabled mobile telephones specifications EN62684.



## 7 Links & Miscellaneous

EMC-specification

7.1 Noise-suppressed: acc. to EN55024 ,EN55022/B and FCC Part 15/B

7.2 Immunity to electrostatic discharge (ESD): acc. to IEC 61000-4-2

Discharge characteristic	Test level	Assessment criteria U <sub>in</sub> 120Vac	Assessment criteria U <sub>in</sub> 230Vac
Air discharge	±8KV	B	B
Contact discharge	±6KV	B	B
Indirect discharge	±8KV	B	B

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

Test level	Assessment criteria
3V/m	A

7.4 Immunity to fast electric transients (burst): acc. to IEC 61000-4-4

Coupling	Test level	assessment criteria U <sub>in</sub> 120Vac	assessment criteria U <sub>in</sub> 230Vac
AC-input	2KV	B	B

7.5 Surge capability: acc. to IEC 61000-4-5

Surge voltage	assessment criteria U <sub>in</sub> 120Vac	assessment criteria U <sub>in</sub> 230Vac
1KV	B	B

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

Test level	Assessment criteria
3V	A

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

Test acc. to IEC 61000-4-11

Test performed at U<sub>in</sub> = 120Vac/230VAC

Voltage dips

Test level % U <sub>N</sub>	Voltage dips and short interruptions	duration time of voltage dips (in halfsine)	Test result U <sub>in</sub> 120Vac	Test result U <sub>in</sub> 230Vac
0	100	0.5	A	A
40	60	1	B	A
		5	B	B
		10	B	B
		25	B	B
		50	B	B

7.8 Assessment criteria

- Agreed operational behaviour within the specified limits.
- Time limited functional diminishment of malfunction during the tests is permitted. The function is self-reactivated by the unit following completion of the tests.
- Malfunction is permitted. The function can be reactivated either by reconnection to the mains or by operator intervention.