



Firma / Company **FRIWO**

Gerätetyp / Type: FW8005/EU/05
 Artikelnr. / Part-No.: 1897974
 Zeichnungsnr. / Drawing-No.: 15.4568.511-00
 Datum / Date: 20.04.2016

Sachbearbeiter Verkauf / Contact Sales: Moellers
 Sachbearbeiter Mechanik / Contact Mech. Eng.: FESTSH
 Sachbearbeiter Elektronik / Contact Elec. Eng.: FEBENL
 Freigabe App. / Approved App. FEPAZH
 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 the 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:

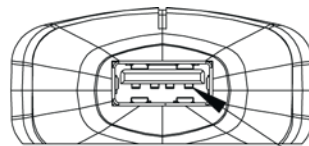
Datum / Date:

Unterschrift / Signature:

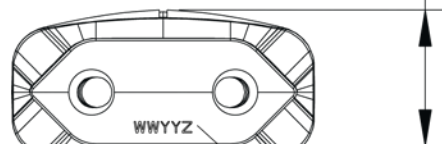
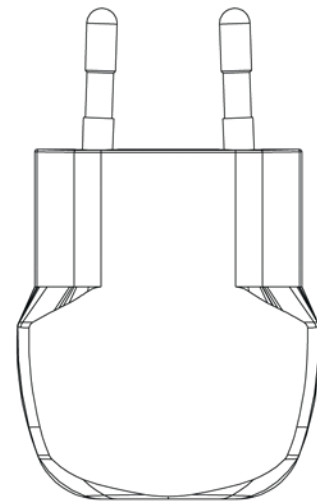
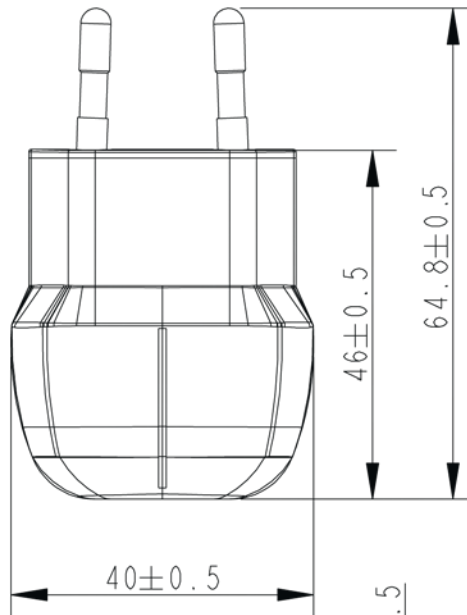
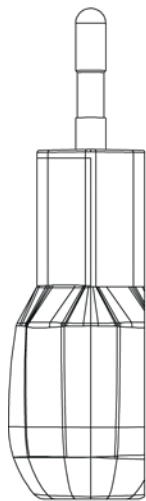
Index / Rev.	Datum / Date	Name	Einzelheit / Detail
⑥	2017/2/7	ARVBA	MR2017-0-5709: Bottom inscription changed, see point 2.1.1...

1 Gehäuse / Housing:

Gehäusotyp / housing type: PP-USB-MINI
 Material: PC / ABS V0 125°C
 Farbe Boden / bottom colour: schwarz / black
 Farbe Deckel / cover colour: schwarz / black



USB Socket "A" type



"WYYZ"

W=Week Y=Year Z=Factory Code

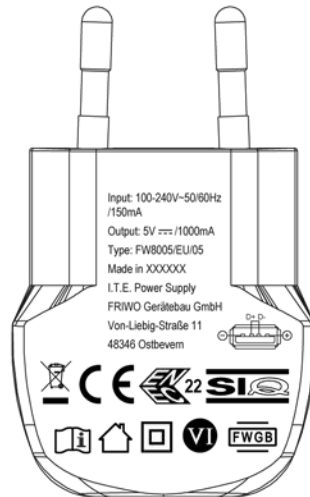
Note: without/ohne mark = FRIWO Gerätebau GmbH Germany

2 Gehäuseaufschriften / Housing labelling:

2.1 Bodenbeschriftung / Bottom labelling

2.1.1

15.4568.501-03XX



15.4568.501-03DE/ XXXXXX = Germany

15.4568.501-03CN/ XXXXXX = China

15.4568.501-03VN/ XXXXXX = Vietnam

15.4568.501-03PL/ XXXXXX = Poland



3 Verpackung / Packaging

3.1 Einzelverpackung / Individual packaging: 15.3693.056-10
mit Beschriftung * / with printing *

AC/DC ADAPTER
SPEC.-NO.:15.4568
PART-NO.:1897974
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

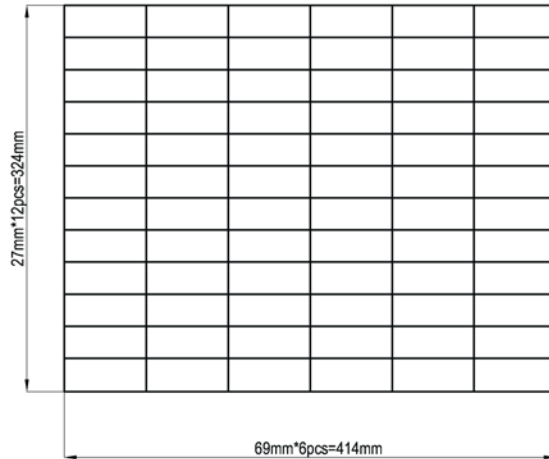
3.4 Gewicht pro Stück / weight per unit: 25 g

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

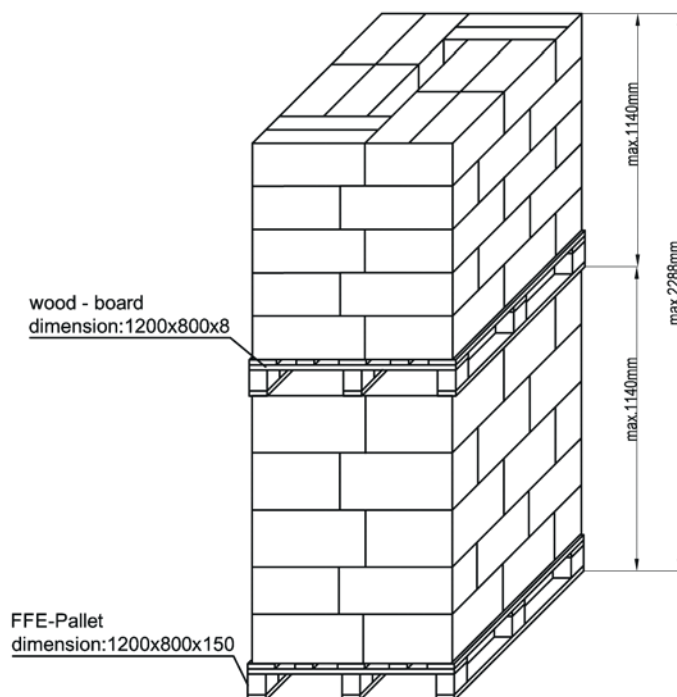
3.6 Verpackungsanweisungen / packaging specification:

- 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



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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 +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 / 0.15Arms @ bei Maxlast
 Nominal input current: 0.15Arms @ max load

5.2.4 Leerlaufleistungsaufnahme bei UE / 230V AC : ≤ 0.1W
 Stand-by power consumption at UIn: 230V AC : ≤ 0.1W

5.3 Ausgangsdaten / Output data:

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

5.3.1 Ausgangsspannung / UA: 5V DC +5% / -5% UBr : ≤ 80mVss
 Nominal output voltage: Uout: 5V DC +5% / -5% UBr : ≤ 80mVpp

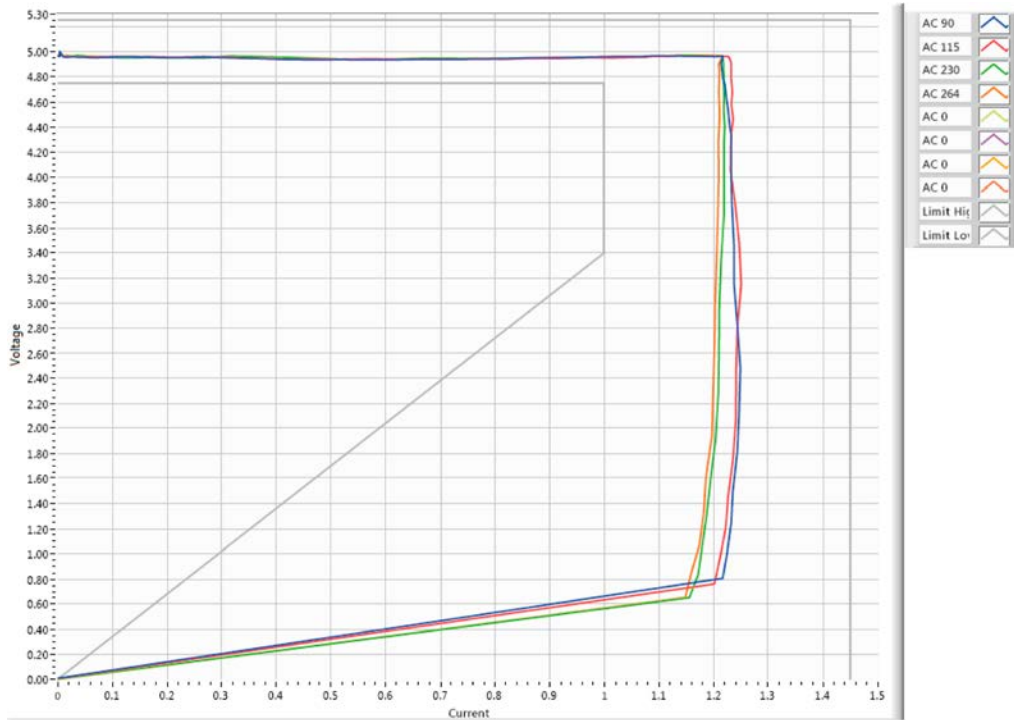
Add 0.1uF/50V ceramic capacitor in parallel with a 10uF/50V E-Cap across the output terminal.
 Measured with 20MHz Bandwidth Oscilloscope.

5.3.2 Nennausgangsstrom / IA : 1000mA
 Nominal output current: Iout : 1000mA

5.3.3 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 / EN60950-1
Safety-standard acc. to :

Schutzklasse / II
Protection class :

Trennung (prim.-sek.) / Galvanisch durch Wandler
Separation (prim.-sec.) : Galvanic by transformer

Kriech- und Luftstrecken / \geq Kr : 5mm, Lu : 4,4mm ; Cr : 5mm, Cl : 4,4mm
Creepage distance and clearance :

Ableitstrom / I Ableit \leq 10 μ A
Leakage current : I leak \leq 10 μ A

Gemessen nach / According to : EN60950-1
siehe / see www.friwo.de

Hochspannungstest / \geq 3kVac
High-voltage test :

Anwendungsbereich / Einrichtungen der Informationstechnik, einschließlich elekt-
rische Büromaschinen
Range of application : Information Technology Equipment including electrical
office equipment

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

*This product complies with USB-IF Battery Charging Specifications Version 1.2.

CE-Konformitätserklärung / Declaration of Conformity

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

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weitere Merkmale / additional information:

mit der beiliegenden Beschreibung die Anforderungen der Niederspannungsrichtlinie 2014/35/EU, der EMV-Richtlinie 2014/30/EU und Öko-Design Richtlinie 2009/125/EG erfüllt.

Hiermit bestätigen wir, dass unsere Produkte, unabhängig von der Produktionsstätte, RoHS- konform produziert werden und die Anforderungen der EU Richtlinie 2011/65/EU erfüllen.

Der Kunde verpflichtet sich, mit der Anerkennung dieses Dokumentes, FRIWO im Falle eines Produktfehlers umgehend zu informieren.

with the enclosed description fulfils the requirements of the Low Voltage Directive 2014/35/EU, the regulations of the EMC Directive 2014/30/EU and the eco design Directive 2009/125/EC.

Hereby, we certify that our products, regardless of the production location, are manufactured RoHS compliant and fulfill the directive 2011/65/EU.

By signing this document customer confirms and warrants that in the event the product described herein shows any flaws or malfunction, customer shall inform FRIWO immediately of such flaw or malfunction.

Das Gerät entspricht der / The unit corresponds to:

- 7**
- a) Niederspannungsrichtlinie / Low Voltage Directive :
EN 60950-1:2006/A2:2013
 - b) EMV-Richtlinie / EMC Directive :
EN 55024:2010/A1:2015, EN 55032:2012
 - c) Öko Design / ECO Design :
Step 2

Ausstelldatum / Date of issue: 07.02.2017



Firmenstempel / Company stamp

ppa. Armin Wegener
Vice President Research & Development

8 EMC-specification

8.1 Noise-suppressed: acc. to EN55024, EN55032 and FCC Part 15/B

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

Discharge characteristic	Test level	Assessment criteria Uin 120Vac	Assessment criteria Uin 230Vac
Air discharge	±8KV	B	B
Contact discharge	±6KV	B	B
Indirect discharge	±8KV	B	B

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

Test level	Assessment criteria
3V/m	A

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

Coupling	Test level	assessment criteria Uin 120Vac	assessment criteria Uin 230Vac
AC-input	2KV	B	B

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

Surge voltage	assessment criteria Uin 120Vac	assessment criteria Uin 230Vac
1KV	B	B

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

Test level	Assessment criteria
3V	A

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

Test acc. to IEC 61000-4-11

Test performed at U in = 120Vac/230Vac

Voltage dips

Test level % UN	Voltage dips and short interruptions	duration time of voltage dips (in halfsine)	Test result Uin 120Vac	Test result Uin 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.
- b. Time limited functional diminishment of malfunction during the tests is permitted. The function is selfreactivated 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.