

Firma / Company :
Distribution

Gerätetyp / Type :

FW7598M/EU/12

Artikelnr. / Part-No. :

6041-FW7598M/EU/12

Zeichnungsnr. / Drawing-No. :

15.3922.511-01

Datum / Date :

03.12.2013

Sachbearbeiter Verkauf / Contact Sales :

Leifken

Sachbearbeiter Mechanik / Contact Mech. Eng. :

Kuhn

Sachbearbeiter Elektronik / Contact Elec. Eng. :

KSTVT

Freigabe App. / Approved App.

PRFFR

Freigabe / Approved

KSTWEG

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
Ⓐ	2015/09/22	Brokhage	MR2015-0-4115: Bottom labelling changed.www.friwo.com added.Botto...
Ⓑ	2015/09/28	Brokhage	MR2015-0-4132: Alternative printing added, see point 2.1.1. Added...
Ⓒ	2016/08/23	Brokhage	MR2016-0-5247:Bottom inscription changed to 15.3922.501-06XX,see point 2.1.1.Declaration of Conformity

Geschäftssitz / Headquarter

FRIWO Gerätebau GmbH
 Von-Liebig-Straße 11
 D-48346 Ostbevern
 Tel +49 2532/ 81-0
 Fax +49 2532/ 81-112
 www.friwo.de
 WEEE-Reg.-Nr. DE 70846847

Geschäftsführung / Management Board

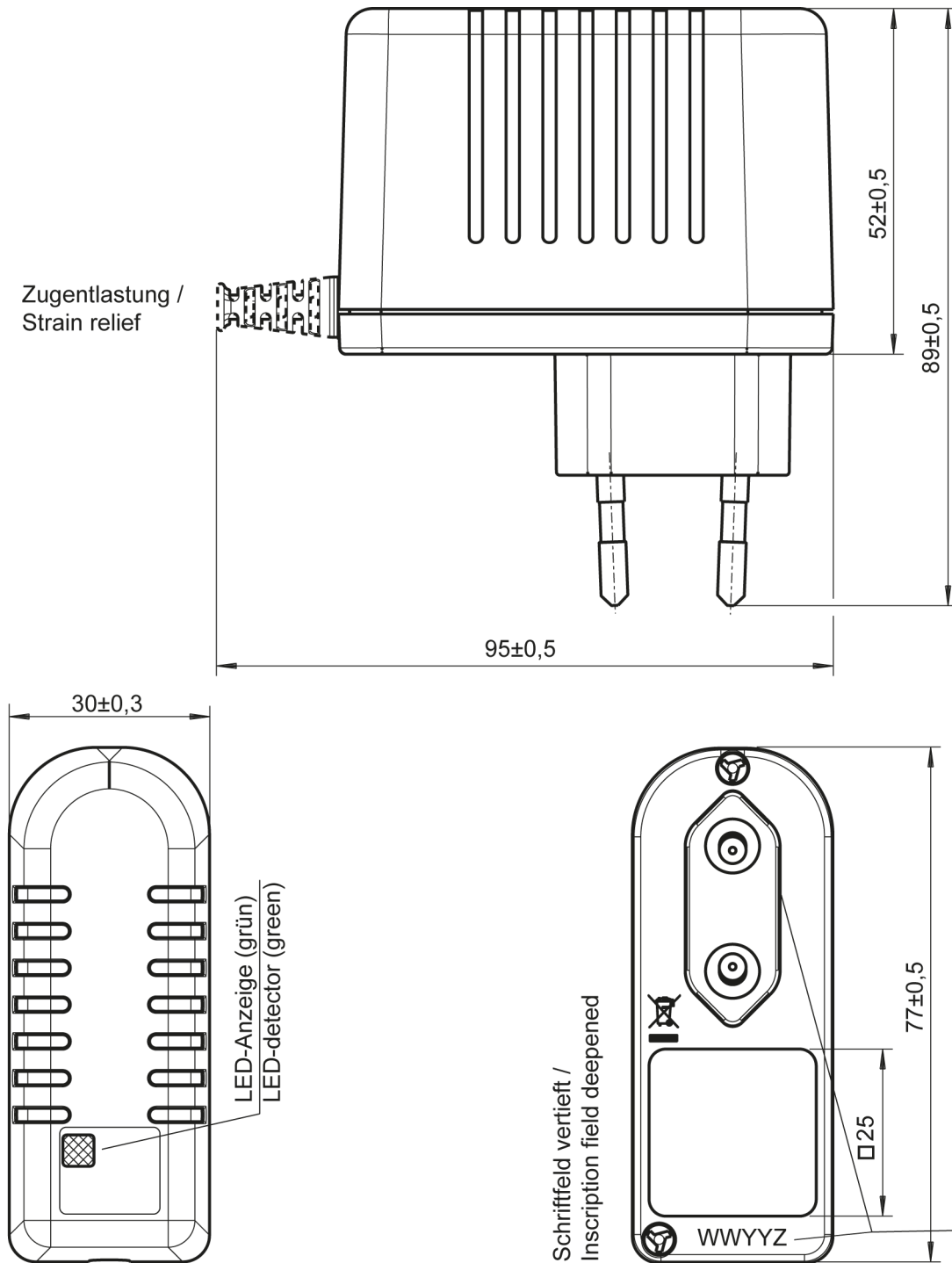
Martin Schimmelpfennig
 Lothar Schwemm
 St.-Nr. 346/5840/0923
 Finanzamt Warendorf
 USt.-Ident.-Nr. DE811114890
 Amtsgericht Münster
 HRB 9325

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:

Gehäusetypp / housing-typ: PP8-LED/45/SCREW
 Material: PC / ABS V0 125°C
 Farbe Boden/ bottom colour: schwarz / black
 Farbe Deckel/ cover colour: schwarz / black



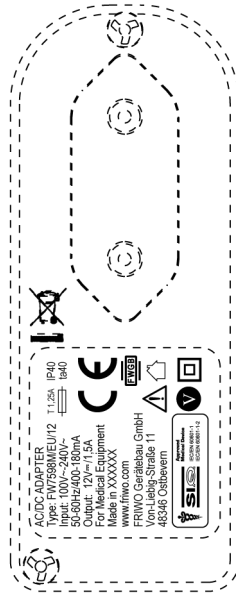
Datumscode nur an einer Position/ date-code only at one position "WWYYZ"
 W=Woche/ week Y=Jahr/ year Z=Fertigungsstätte/ Factory code
 Note: with out/ ohne mark = FRIWO Gerätebau GmbH Germany

2 Gehäuseaufschriften / Housing labelling:

2.1 Bodenbeschriftung / Bottom labelling

2.1.1

15.3922.501-06XX

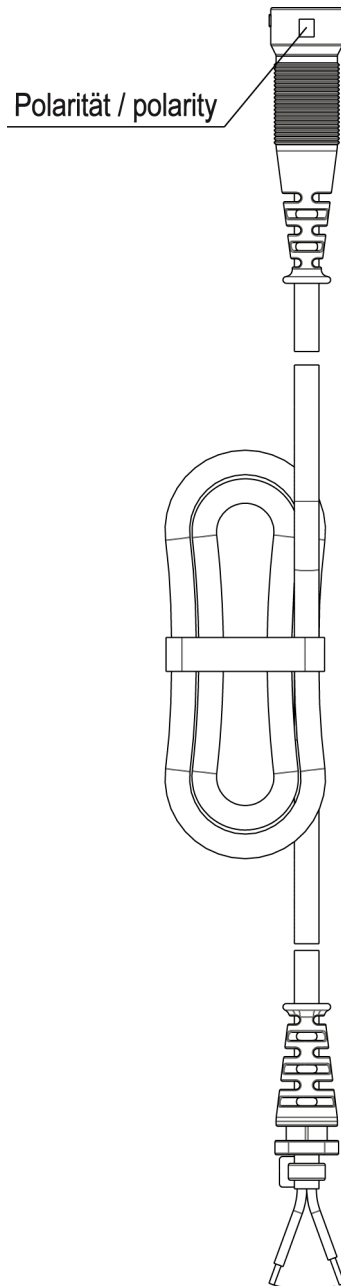


- 15.3922.501-06DE/ XXXXXX = Germany
- 15.3922.501-06CN/ XXXXXX = China
- 15.3922.501-06VN/ XXXXXX = Vietnam

3 Leitungen / Leads:

- 3.1 Ausgangsleitung / output lead: 10.5567.303-55
Länge / length: 1830 mm
Querschnitt / cross section: 2XAWG20
Farbe / colour: schwarz / black

Polarität / polarity: siehe Zeichnung/ see drawing



4 Verpackung / packaging:

4.1 Einzelverpackung / individual packaging: 11.2688.056-20

mit Beschriftung * / with printing *

* AC/DC ADAPTER
SPEC.-NO.: 15.3922.
PART.-NO.: 6041-FW7598M/EU/12
OUTPUT: 12V DC/ 1,5A
INPUT: 100-240V AC

4.1.1 Aussenabmessungen / Outer dimensions: 108mm x 90mm x 51mm

4.2 Sammelverpackung / bulk packaging: 56 er UMKARTON / Carton 56

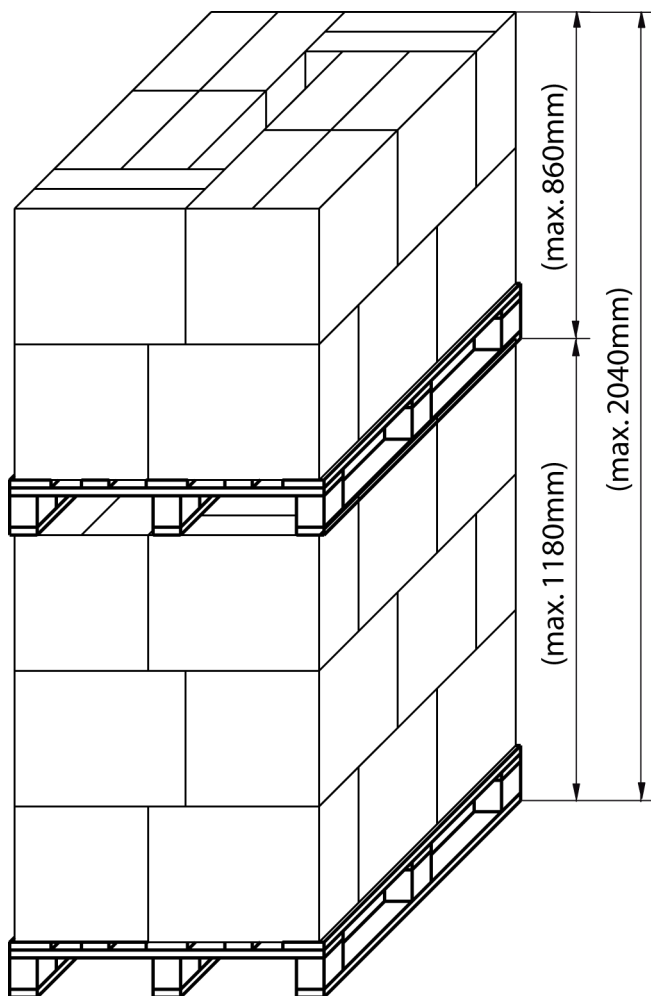
4.2.1 Aussenabmessungen / Outer dimensions: 433mm x 338mm x 344mm

4.3 Anzahl der Geräte pro Umkarton / amount of units per master carton: 84

4.4 Gewicht pro Stück / weight per unit: 125 g

4.5 Lagertemperatur / storage temperature: -40°C - +70°C / 10 to 95 rel. hum.

4.6 Verpackungsvorschriften / packaging specification:



Master Packing

Notes:

- 1) 84 pcs per carton
- 2) 6 cartons per layer
- 3) 3 layers on 1st pallet + 2 layers on 2nd pallet
- 4) 2 pallets stacked one over another
- 5) total 2520 pcs per stack

22 pallets (11 stacks)
= 27720 pcs
= 1 20 foot container

48 pallets (24 stacks)
= 60480 pcs
= 1 40 foot container

Weight per stack ca. 485kg

5 Allgemeine Prüfbedingungen / General test conditions:

- 5.1** 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.

6 Elektrische Prüfbedingungen / electrical tests:

6.1 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.

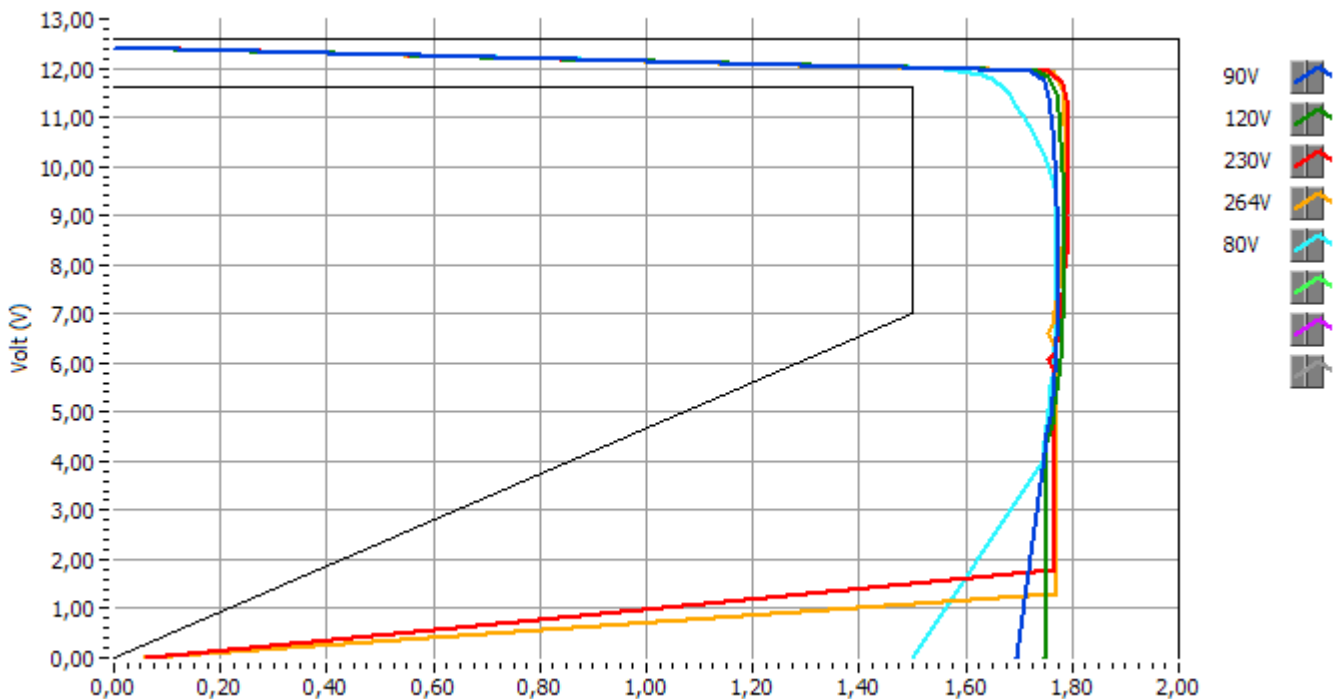
6.2 Eingangsdaten / Input data:

- 6.2.1 Nenneingangsspannung : 100-240V AC ±10%
Nominal input voltage : 100-240V AC ±10%
- 6.2.2 Nenneingangsfrequenz : 50 - 60Hz
Nominal input frequency : 50 - 60Hz
- 6.2.3 Nenneingangsstrom : 0,400-0,180Arms @ bei Maxlast
Nominal input current : 0,400-0,180Arms @ max load
- 6.2.4 Leerlaufleistungsaufnahme bei U_E : 230V AC : ≤ 0,3W
Stand-by power consumption at U_{In} : 230V AC : ≤ 0,3W

6.3 Ausgangsdaten / Output data

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

- 6.3.1 Ausgangsspannung: U_A : 12V DC U_{BR} : ≤200mVss
Nominal output voltage: U_{out} : 12V DC U_{BR} : ≤200mVpp
- 6.3.2 Ausgangsspannungsbereich: U_A : 11,6V - 12,6V
Output voltage range: U_{out} : 11,6V - 12,6V
- 6.3.3 Nennausgangsstrom : I_A : 0 - 1500mA
Nominal output current : I_{out} : 0 - 1500mA
- 6.3.4 Ausgangskennlinie / Output characteristic:



7 Sicherheitsanleitung / Safety details:

Sicherheitsaufbau nach / Safety-standard: IEC60601-1, ES60601-1
acc. to

Schutzklasse / Protection class : II

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

Separation (prim.-sec.) : Galvanic by transformer and opto-coupler

Kriech- und Luftstrecken / Creepage distance and clearance : \geq Kr : 8mm, Lu : 5mm ; Cr : 8mm, Cl : 5mm

Ableitstrom : I Ableit \leq 100 μ A
Gemessen nach EN60601-1 siehe www.friwo.de

Leakage current : I leak \leq 100 μ A
According to EN60601-1 see www.friwo.de

Hochspannungstest / High-voltage test : \geq 4kVac

Anwendungsbereich : Medizinische Anwendungen

Range of application : Medical applications

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

Sicherung / Fuse : T1,25A / 250V

8 CE-Konformitätserklärung / Declaration of Conformity ©

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

Gerätetyp / Type:	FW7598M/EU/12
Artikel-Nr. / Part-No.:	6041-FW7598M/EU/12
Zeichnungs-Nr. / Drawing-No.:	15.3922.511-01

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.

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, RoHS compliant and fulfill the directive 2011/65/EU.

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

- | | | |
|--|--|---|
| <p>a) Niederspannungsrichtlinie /
<i>Low Voltage Directive</i></p> <p><input type="checkbox"/> EN60601-1 Ed.3 07/2007</p> <p><input type="checkbox"/> EN60601-1-11 03/2011</p> | <p>b) EMV-Richtlinie /
<i>EMC Directive</i></p> <p><input type="checkbox"/> EN 60601-1-2 12/2007</p> | <p>c) Öko Design /
<i>ECO Design</i></p> <p><input type="checkbox"/> Not applicable</p> |
|--|--|---|

Ausstelldatum / *Date of issue:* 23.08.2016




 Firmenstempel / Company stamp

 Armin Wegener
 Vice President Research & Development

9 Links & Miscellaneous

EMC-Tables

The "FW7598M/EU/12" is intended for use in the electromagnetic environment specified below. The customer or the user of the "FW7598M/EU/12" should assure that it is used in such an environment.

Emissions test	Compliance	Electromagnetic environment - guidance
RF emissions CISPR 11	Group 1	The "FW7598M/EU/12" uses RF energy only for its internal function. Therefore, its RF emissions are very low and are not likely to cause any interference in nearby electronic equipment. The "FW7598M/EU/12" is suitable for use in all establishments, including domestic establishments and those directly connected to the public low-voltage power supply network that supplies buildings used for domestic purposes.
RF emissions CISPR 11	Class B	
Harmonic emissions IEC 61000-3-2	Class A	
Voltage fluctuations / flicker emissions IEC 61000-3-3	Complies	


The "FW7598M/EU/12" is intended for use in the electromagnetic environment specified below. The customer or the user of the "FW7598M/EU/12" should assure that it is used in such an environment.

Immunity test	IEC 60601 test level	Compliance level	Electromagnetic environment - guidance
Electrostatic discharge (ESD) IEC 61000-4-2	± 6 kV contact ± 8 kV air	± 6 kV contact ± 8 kV air	Floors should be wood, concrete or ceramic tile. If floors are covered with synthetic material, the relative humidity should be at least 30%.
Electrical fast transient/burst IEC 61000-4-4	± 2 kV for power supply lines ± 1 kV for input/output lines	± 2 kV for power supply lines	Mains power quality should be that of a typical commercial or hospital environment.
Surge IEC 61000-4-5	± 1 kV line(s) to line(s) ± 2 kV line(s) to earth	± 1 kV differential mode	Mains power quality should be that of a typical commercial or hospital environment.
Voltage dips, short interruptions and voltage variations on power supply input lines IEC 61000-4-11	<5 % UT (>95 % dip in UT) for 0.5 cycle 40 % UT (60 % dip in UT) for 5 cycles 70 % UT (30 % dip in UT) for 25 cycles <5 % UT (>95 % dip in UT) for 5 sec	<5 % UT (>95 % dip in UT) for 0.5 cycle 40 % UT (60 % dip in UT) for 5 cycles 70 % UT (30 % dip in UT) for 25 cycles <5 % UT (>95 % dip in UT) for 5 sec	Mains power quality should be that of a typical commercial or hospital environment. If the user of the "FW7598M/EU/12" requires continued operation during power mains interruptions, it is recommended that the "FW7598M/EU/12" is powered from an uninterruptible power supply or battery.
Power frequency (50/60 Hz) magnetic field IEC 61000-4-8	3 A/m	3 A/m	Power frequency magnetic fields should be at levels characteristic of a typical location in a typical commercial or hospital environment.

NOTE UT is the a.c. mains voltage prior to application of the test level.

Guidance and manufacturer's declaration - electromagnetic immunity

The "FW7598M/EU/12" is intended for use in the electromagnetic environment specified below. The customer or the user of the "FW7598M/EU/12" should assure that it is used in such an environment.

Immunity test	IEC 60601 test level	Compliance level	Electromagnetic environment - guidance
Conducted RF IEC 61000-4-6	3 Vrms 150 kHz to 80 MHz	3 Vrms	Portable and mobile RF communications equipment should not be used no closer to any part of the "FW7598M/EU/12", including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter. Recommended separation distance $d = 1.2\sqrt{P}$
Radiated RF IEC 61000-4-3	3 V/m 80 MHz to 2.5 GHz	3 V/m	$d = 1.2\sqrt{P}$ 80 MHz to 800 MHz $d = 2.3\sqrt{P}$ 800 MHz to 2.5 GHz where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer and d is the recommended separation distance in meters (m). Field strengths from fixed RF transmitters, as determined by an electromagnetic site survey a should be less than the compliance level in each frequency range.b Interference may occur in the vicinity of equipment marked with the following symbol: 

NOTE 1 At 80 MHz and 800 MHz, the higher frequency range applies.

NOTE 2 These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.

^a Field strengths from fixed transmitters such as base stations for radio (cellular/cordless) telephones, land mobile radios, amateur radio, AM and FM radio broadcast and TV broadcast, cannot be predicted theoretically with accuracy. To assess the electromagnetic environment due to fixed RF transmitters an electromagnetic site survey should be considered. If the measured field strength in the location in which the "FW7598M/EU/12" is used, exceeds the applicable RF compliance level above, the "FW7598M/EU/12" should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as reorienting or relocating the "FW7598M/EU/12".

^b Over the frequency range 150 kHz to 80 MHz, field strength should be less than 3 V/m.

Recommended separation distances between portable and mobile RF communications equipment and the "FW7598M/EU/12"

The "FW7598M/EU/12" is intended for use in the electromagnetic environment in which radiated RF disturbances are controlled. The customer or the user of the "FW7598M/EU/12" can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and the "FW7598M/EU/12" as recommended below, according to the maximum output power of the communication equipment.

Rated maximum output power of transmitter W	Separation distance according to frequency of transmitter m		
	150 kHz to 80 MHz $d = 1.2\sqrt{P}$	80 MHz to 800 MHz $d = 1.2\sqrt{P}$	800 MHz to 2.5 GHz $d = 2.3\sqrt{P}$
0.01	0.12	0.12	0.23
0.1	0.38	0.38	0.73
1	1.2	1.2	2.3
10	3.8	3.8	7.3
100	12	12	23

For transmitters rated at a maximum output power not listed above, the recommended separation distance d in metres (m) can be determined using the equation applicable to the frequency of the transmitter, where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer.

NOTE 1 At 80 MHz and 800 MHz, the separation distance for the higher frequency range applies.

NOTE 4 These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.

Warnhinweise / warnings

Medizinische elektrische Geräte unterliegen besonderen Vorsichtsmaßnahmen hinsichtlich der EMV, und der Aufbau und Betrieb muss nach den EMV-Informationen aus den Begleitpapieren durchgeführt werden.

Tragbare und mobile HF-Kommunikationsgeräte können medizinische elektrische Geräte beeinflussen.

Das ME-Gerät oder ME-System sollte nicht unmittelbar neben oder mit anderen Geräten zusammen betrieben werden. Wenn eine solche Anordnung erforderlich ist, sollte das ME-Gerät oder ME-System überwacht werden, ob es nach der vorgegebenen Konfiguration funktioniert für die es genutzt werden soll. /

MEDICAL ELECTRICAL EQUIPMENT needs special precautions regarding EMC and needs to be installed and put into service according to the EMC information provided in the ACCOMPANYING DOCUMENTS.

Portable and mobile RF communications equipment can affect MEDICAL ELECTRICAL EQUIPMENT.

The ME EQUIPMENT or ME SYSTEM should not be used adjacent to or stacked with other equipment and that if adjacent or stacked use is necessary, the ME EQUIPMENT or ME SYSTEM should be observed to verify normal operation in the configuration in which it will be used.