GRIPPING FORCE TESTER

Type GFT-X 4.0





Overview



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INSTRUCTION MANUAL Gripping Force Tester Type GFT-X 4.0

Thank you for purchasing an Original-SMW-AUTOBLOK Gripping Force Tester type GFT-X 4.0.

This **instruction manual** contains the installation, the use and the maintenance instructions of the gripping force tester **"GFT-X 4.0"**.

SMW-AUTOBLOK reserves the right to make **changes without notice**.

This **instruction manual is a part of the GFT-X 4.0** and must be passed to the new owner in case of sale.

This **instruction manual may not be** -in whole or in part- **copied** without our written agreement.



Please read the instruction manual carefully before installation and use and always follow the regulations.

Please note especially the sections which are marked with the following signs:



Danger of injury or danger to life if instructions are not followed.
Danger of damage to the gripping force tester.

SMW-AUTOBLOK 3

General safety instructions







General precept sign!



Danger to the environment!





Insufficient or improper maintenance makes any warranty from SMW-AUTOBLOK void.



1. Bestimmungsgemäße Verwendung

The Gripping Force Tester GFT-X is constructed according to DIN EN 61010-1; VDE 0411-1:2009-06. There is a port on the lefthand front side of the tablet. It is used to connect it to a PC, as well as for power and for charging the battery. The Power Supply Plug operates in the range of 100V~- 240V~ alternating current and complies with EN60950-1 and UL60950-1.



2. Bluetooth

This product is classified as a "wireless equipment for stations with low sendig power" according to the "Wireless Telegraphy Act". It needs no Radio licence. Tampering or modifying is prohibited by law.

2.1 Health affects of blue tooth

Bluetooth units emit, alike alle sending devices, electromagnetic rays. The energy content of bluetooth however, is much less than emitted by other wireless comunication devices like mobilephones. As bluetooth units fulfill all current safety regulations and standards, we consider the use of such units as safe for the user. These standards and references show the common opinion of the scientific comuninity and are based on counseling and discussions of scientific commitees considering the latest research findings.

In some situations however, the use of bluetooth can be restricted by the responsible personal of a organisation.

These situations can be:

- Use of bluetooth on board of an airplane
- In environments where the risk of interefernce with other devices is considered to be hazardous.

In case you are not sure, if it is permitted to use a wireless device wihin a certain organisation or environment (for eaxample Airportbuilding) ask the personell in charge before using it.



2.2 Safety instructions for wireless devices

Please read all safety instructions carefully, prior to using our wireless devices. This manual contains safety instructions that have to be followed, in order to avoid any health hazzards or damage of the unit.



General warning sign!



Warning of risk of crushing!



Warning of suspended load!

Users of cardiac pacemakers must keep at least a distance of 22 cm form this product. Radio signals are potentially capable to affect the function of cardiac pacemakers. Never use this product within medicak institutes or close by medical equipment.

Radio signals are potentially capable to affect the function of medical equipment, and cause malfunction.

Never use this product close by automatic equipment like automatic doors or alarm systems..

Radio signals are potentially capable to affect the function of such equipment, and cause malfunction. Always check, if the radio signals of this product are affecting the function of other equipment. Never use this product if such affects occure.

Otherwise the equipment can have malfunctions or can get damaged.

In case you are using Bluetooth and WIFI equipment at the same time, the full sending power may not be reached, or the connection can be lost. The name Bluetooth and the Logo are proprietary to Bluetooth SIG.Inc.



3. Visual inspection

Please check the product for visible damage prior to use!

4. Safety requirements

In order to protect the unit against fire, electric shock or potential destruction of the electronic components, it must never be exposed to rain or extreme humidity. Direct sun or heat are to be avoided as well.

5. Opening parts

Please do not try to open the handheld unit or the measuring device. There are no parts inside which you could maintain.

6. Maintenance

Keep your Gripping Force Tester GFT-X 4.0 in the transport case where it has optimum protection.

When the device is dispatched for maintenance or repair, it must also be sent in the transport case so that the sensitive parts are protected in an optimum way during transportation.

In case of problems or questions please contact SMW-AUTOBLOK directly or one of our authorized offices.

Technical data Tablet PC GFT-X 4.0

	Tablet PC GFT-X 4.0
Power supply	USB, 5 V _{DC} (2A max.)
Measurement range/ gripping force F	Indication in kN or lbf (selective by user)
Measurement range/ speed (rpm)	Indication in 1/min
Dimensions	228x145x16.5 mm
Weight	630 g
Operating temperature	-20 - +60 °C
Protection class	IP67
Interface PC/ Laptop	USB 3.0
Charging cable	approx. 1,8 m length
Receiving frequency	2,45 GHz-ISM-frequency band
Distance handheld unit/measering head	up to 10 m
Further technical specifications	see page 24

Technical data measuring heads for collets

	Measuring head M1	Measuring head M2	
Power supply	Internal energy storage		
Energy storage capacity	ca. 1,5 h@50 % duty	v cycle (at full charge)	
Measurement range/ gripping force F	0 - 75 kN	0 - 120 kN	
Measurement range/ speed of rotation	>ca. 200 ¹⁾ - <10.000 rpm	>ca. 200 ¹⁾ - <8.000 rpm	
Accuracy (F/ rpm)	<5%/<1% fsr		
Clamping diameter	18 mm	42 mm	
Number of jaws	3	3	
Dimensions	Ø 18/ 57x56 mm	Ø 42/ 57x63 mm	
Weight	400 g	700 g	
Operating temperature	0 - 40° C		
Protection class	IP65		
Transmitting frequency	2,45-GHz-ISM-frequency band		
Charging time	<3 minutes		
Distance handheld unit/measering head	up to 10 m straight line (value may vary depending on the ambient conditions)		

¹⁾ Measurement possible only from <200rpm on, if the distance between the magnet and the measuring head is reduced from 3 mm to 2 mm.

Technical data measuring heads for chucks

	Measuring head M3	Measuring head M4	
Power supply	Internal er	nergy storage	
Energy storage capacity	ca. 1,5 h@50 % du	ty cycle (at full charge)	
Measurement range/ gripping force F	0 - 180 kN (2 jaws) 0 - 270 kN (3 jaws)	0 - 30 kN (2 jaws) 0 - 45 kN (3 jaws)	
Measurement range/ speed of rotation	>ca. 200 ¹⁾	- <6.000 rpm	
Accuracy (F/ rpm)	<3%/<1% fsr	<1,5%/<1% fsr	
Clamping diameter	72 - 108 mm		
Number of jaws	2 or 3, adjustable		
Dimensions	Ø 68/ 57x63 mm		
Weight	700 g without extension		
Operating temperature	0 - 40° C		
Protection class	IP65		
Transmitting frequency	2,45-GHz-ISM-frequency band		
Charging time	<3 minutes		
Distance handheld unit/measering head	up to 10 m straight line (value may vary depending on the ambient conditions)		

¹⁾ Measurement possible only from <200rpm on, if the distance between the magnet and the measuring head is reduced from 3 mm to 2 mm.



Technical data measuring heads for chucks

	Measuring head M3-6 (IdNr. 202115)	Measuring head M4-6 (IdNr. 202116)	
Power supply	Internal ene	ergy storage	
Energy storage capacity	ca. 1,5 h@50 % duty	y cycle (at full charge)	
Measurement range/ gripping force F	0 - 180 kN (2 jaws) 0 - 270 kN (3 jaws) 0 - 540 kN (6 jaws) ²⁾	0 - 30 kN (2 jaws) 0 - 45 kN (3 jaws) 0 - 90 kN (6 jaws) ³⁾	
Measurement range/ speed of rotation	>ca. 200 ¹⁾ - <6.000 rpm		
Accuracy (F/ rpm)	<3%/<1% fsr	<1,5%/<1% fsr	
Clamping diameter	72 - 108 mm		
Number of jaws	2 or 3 adjustable via software; 6 jaws only mechanically		
Dimensions	Ø 68/ 57x63 mm		
Weight	1100 g without extension		
Operating temperature	0 - 40° C		
Protection class	IP65		
Transmitting frequency	2,45-GHz-ISM-frequency band		
Charging time	<3 minutes		
Distance handheld unit/measering head	up to 10 m straight line (value may vary depending on the ambient conditions)		

1)

Measurement possible only from <200rpm on, if the distance between the magnet and the measuring head is reduced from 3 mm to 2 mm. 2)

Theoretical value 540 kN at 6 jaw chucks, the real maximum mechanical permitted load is 270 kN for measuring head M3. 3)

Theoretical value of 90 kN at 6 jaw chucks, the real maximum mechanical permitted load is 45 kN for measuring head M4.

Mains / Battery operation

The Tablet for the GFT-X 4.0 is supplied by 5V_{DC} (max. 2000 mA) via a power supply plug with an input voltage range from 100V_{AC} to 240V_{AC}.

Different plug adapters for North America, UK, Australia and Europe are in the supply range. The instruction on how to change these are shown on page 21 of this manual.

The tablet has a powerfull battery intergarted (Li.ion). One full charge are good for approx 9 hours of operating time. (see page 24)



GFT-X 4.0 - Pack list

Pack list

- **1** Tablet PC for GFT-X-4.0 incl. Protection (display software and manual are pre installed)
- 2 Power supply plug with USB master connector
- 3 Adapter for North Amerika, United Kingdom, Australia and Europe
- **4** Mini USB charging cable for the measuring head, appr. 1,8 m long.
- **5** Micro USB charging cable to charge the tablet (appr. 1,8 m)
- 6 Measuring head for jaw chucks with rotating electronics and 3 each of extension cylinder for jaw diameter ø72 mm
- 7 3 extension cylinders to match the different clamping diameters 88 mm and 108 mm.
- **8** Torx-key T15 inclusive spare screws
- 9 Stand with magnetic mounting for rpm measurement
- **10** Installation help for measuring head

The packing list may vary depending on the measuring head supplied.

The **GFT-X-4.0** can only communicate with the measuring heads with the **blue cover**. For the use of measuring heads with the **black cover**, please use the GFT / GFT-X.

Tablet PC for GFT-X 4.0 - Device view





GFT-X 4.0 App



Gripping Force Tester		NC	OT CONNECTED	i
>> FORCE	k	N		
>> RPM	R	PM		
max. Force:kN (Description of max. for	e)		Capture Da	ta
4	0			

Spannkraftme Choose Measuring Head GFT 0656-3 → KRAFT → RPM max. Kraft: ----(Erklärung zu m

Cancel

When staring the App, is either the display software for the GFT-X-4.0 or the expert wprkholding App can be selected.

The display software shows the measured force and the actual speed of the chuck.

Adjustments can be done via \blacksquare the pull down menu.

The right hand lcons (a) adjust the measuring heads. The connection / disconnections is done by tapping the text in the right hand upper corner.

All active measuring heads are displayed in the list. The measuring head needed, can be selected by tapping onto the corersponding number.

The bluetooth connection to the measuring head is disconnected by tapping onto the text in the right hand upper corner. Otherwise this measuring head is automatically connected next time the software is started.

Operation

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As soon as the measuring haed is connected to the tablet PC, is is Ô i shown in the righthand upper corner. Power and speed are also activated.

> This sympol 🛞 allows to choose the number of jaws of the chuck. For the moment 2.3 and 6 jaw chucks can be measured.

> Also the battery charging condition of the measuring head is displayed. It is displayed when pressing the button () with the battery symbol.

> Pressing the info symbol • will display all important information of the measuring head.



0656

75%

270 kN

Calibrated until: 12.2018 Softwareversion: 1.1

Signal strength: -70 dbh

Serial No.:

Battery:

Max. force:

🖹 🖬 13:5 E Gripping Force Tester Connected to GFT 0656-3 0,0 kN >> FORCE >> RPM O RPM max. Force: 270 kN (Description of max. force)

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Operation









On the left hand side of the display, the configuration menu can be found. Pressing the home button \blacksquare will show the home screen.

Also the scale unit of the force display can be selected.

The display languages are currently German, English and Spanish.



When pressing the record button test series can be recorded and stored. They can be reviewed in the folder Download as files with the ending *.gft

Therefor every value of a test series needs to be confirmed by pressing the record button.

The test series can be analysed on a Laptop/ PC by using the chuck exlporer software. It can be downloaded at www.smw-autoblok.de in the Tutor section free of charge.



Measuring head

There are four different measuring head available for the GFT-X. Two for collets (M1 and M2) and four for chucks (M3 and M4 for 2, 3 and 6 jaws).

The measuring head works according to the following principle:

Via a dedicated arrangement of strain gauges inside the measuring head, the mechanical forces are converted into an electrical signal which is amplified by the integrated electronics, transformed into a digital radio signal via a micro-controller and sent to the Tablet PC. There the data signal is encoded and displayed.



Factory provided the measuring heads are calibrated. After respectively 12 months a check-up and a recalibration should take place by the manufacturer. The date for the next calibration is shown under the Info-Icon Measering (see page 13).



The maximum load is mentioned on each measuring head. Please make sure that this value will not exceed, because this can lead to non valid measurements or even to the destruction of the measuring head.



Please be assured, that prior to measuring procedure the measuring head is tight and plane-parallel clamped to the rotational axis.

Measuring head M1 and M2 for collets

Via the 3 contact surfaces (support) on the measuring head the force is transmitted to the measuring elements inside the housing. It is recommended to use special collets with smooth finish in order to avoid damage to these contact surfaces. Furthermore, care must be taken to insert the measuring head in such a way that it does not get tilted. The "jaw centre" inscription must correspond to the centre of one of the three collet jaws. Please note, that compliance with the above instructions will be decisive for the quality of the measuring values.



Measuring head



Measuring head M3 and M4 for jaw chuck

The measuring head M3 and M4 are provided for the measurement of tension or force in jaw chucks. The measuring head M3 is designed for forces up to 90kN per jaw), the measuring head M4 offers higher resolution up to a maximum clamping force of 15kN per jaw). Different extension cylinders making the measurement head M3 and M4 applicable for nearly all kinds of jaws. Extensions are available with 8 mm, 15 mm und 25 mm length.







Measuring head M3 and M4 for jaw 6 jaw chuck

A special version of the measuring heads M3 and M4 are used for clamping force measurement in 6 jaw chucks. The measuring head M3 is designed for forces up to 90kN per jaw / 45kN with 6-jaw-chuck, the measuring head M4 offers higher resolution up to a maximum clamping force of 15kN per jaw / 7.5kN with 6-jaw-chuck)





Measuring head



By operating M3 or M4 following hints have to be considerd:



Operation with 2-jaw chuck:

If operated with 15 or 25mm extension, the 8mm extension must always be mounted to the unused jaws (at 120° and 240°). Always fit the extension symmetrically (0° and 180°). Always mount the extension cylinder firmly (screw the Torx screw down tightly).



Operation with 3-jaw chuck:

If operated with 15 or 25mm extension, the 8mm extension must always be mounted to the unused jaws (180°). Always fit the extension symmetrically (0°, 120° and 180°). Always mount the extension cylinder firmly (screw the Torx screw down tightly).



Only with original accessories correct measured values are ensured.

Measuring head extension cylinder for M3 and M4

The measuring head extension cylinder transmits the tension forces to a load cell located inside the measuring head. For different chuck diameters Extension Cylinders are supplied which can be easily exchanged to suit. A T15 Torx key is included for loosening and tightening the screws.

The extension cylinders are to be used as follows:

Jaw chuck [diameter]	72 mm	88 mm	108 mm
Extention	8 mm	15 mm	25mm

Assembly instructions see page 15/16.

Mounting M3 und M4 measuring head



From the safety point of view and to prevent any injury, the loading bracket must be used to put the measuring head M3 or M4 into the chuck.



Take the loading bracket like shown in the picture and put the measuring head M3 or M4 into it. After this, the measuring head can be insert into the chuck until the loading bracket fit tighly in the chuck. Now the chuck must be tensioned.

Because of that it is guaranteed, that the measuring head is not tilt and it is in the optimum measuring position.



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Put the measuring head like shown into the chuck.

Is the chuck tensioned, the loading bracket have to be removed.

Please be assured, that prior to measuring procedure the measuring head is tight and plane-parallel clamped to the rotational axis. In addition, the mounting bracket must be removed before commissioning.

Measuring procedere



Measuring procedere

Starting with the first measurement make shure that the measuring head is fully charged. The measuring head in turned off condition has to be conencted to the charging adapter using the Mini-USB / USB cable.

During charging the LED is flashing red. As soon as the measuring head is fully charged the LED turns to green. The cable can be disconnected now and the measuring head can be switched on for measuring.



To switch on the measuring head the ON /OFF button has to be pressed for 2 seconds. The LED is flashing green. When the measuring head is turned on, the LED is flashing white.

Static Measuring

For static measuring the measuring head is clamped and switched on. After the handheld unit has been switched on, the immediate tension is recorded and shown on the display. A magnetic bracket is not needed, as no speed measuring is done.

Dynamic Measuring



Make sure that the measuring head is clamped exactly parallel to the rotaion axis. (See page 15/16).

After the measuring head has been clamped in a parallel plane the stand with the magnetic base must be fastened to the support of the processing machine and positioned in such a way that the lateral distance between the flattened end of the stand and the measuring head is approximately 3 mm. The distance between the top of the cover and the edge of the flattened part of the stand should be 1-2 mm approximately. The stand should end with the yellow cover of the measuring head before the steel part begins.

The current grip force is measured, and show on the display. When the chuck is rotating at the same time, the display shows besides the gripping force the corresponding actual number of revolutions.



Calibration, Recalibration

The GFT-X 4.0 is carefully tested and calibrated on a test bench at the factory. A calibration certificate is enclosed. This calibration certificate documents the traceability to national standards, which realize the units of measurement according to the International System of Units (SI).

The zero point of the measuring head could change due to stress (material fatigue) and due to temperature variation. If this offset becomes too large, recalibration is required.

The GFT-X 4.0 is a calibrated measuring equipment, a recalibration should be performed by the manufacturer after 12 months of operation.

Maintenance, Service



Maintenance, Service

The GFT-X 4.0 is a measuring device and should therefore be treated very carefully.



Special care must be taken with respect to the measuring head extension with its crowned surface. Due to the gripping forces, this surface might be subject to wear and tear in the course of time. A replacement is advisable at the latest when a ridge becomes visible on the disk (spare part numbers see page 23).

If problems occur which cannot be solved as described on page 20, the complete GFT-X 4.0 must be returned to the supplier. A detailed description of the problem will shorten the time to repair and save costs.





Error messages / Troubleshooting / FAQ's

Display will not be illuminated / start after pressing the power button:

- Check power supply, recharge Tablet PC unit battery
- Press power button again (approx. 3 sec.).

Icon radio communications in Status Line is not active (connected):

- White LED indicator at measuring head front face must flash, if not try to recharge measuring head battery
- Radio interferences, e.g through shielding or (metal) absorption, relocate

During the measurement dashes appered in the display of the handheld unit:

- Battery in measuring head empty/discharged
- Radio interferences

Change the power plug



How to change the power plug at mains adaptor

The GFT-X handheld unit is powered with a power supply plug at $5V_{DC}$ (500mA), the input voltage range is $100V_{AC}$ - $240V_{AC}$. Different interchangeable blade assemblies of North America, United Kingdom, Australia and Europe are included. The blade assembly of Europe is already mounted.

Insert the blade assembly (as shown in following figures):

- Hold the power supply in one hand using thumb or finger, slide the spring loaded locking key downwards (it is marked with an arrow, figure 1).
- Hold the locking pin down pull upward on the blade to remove (figure 2).





Fig. 1

• Insert now the required blade assembly.











Fig. 6

- Insert the tip of the blade assembly into the power supply at a 45 degree angle (figure 3) The top edge of the blade assembly is flat and the bottom edge is U-shaped. The power supply has the corresponding shapes
- Push the blade assembly into the power supply in a downward motion (figure 4)
- Push the blade assembly down until the blade assembly locks in place. A clicking sound will occure (figure 5)
- Checking the blade assembly for correct insertion: Hold the power supply in one hand. Using another hand pull up on the blade (figure 6)



Note: The blade assembly is "finger proof" which meets UL requirements against all shock hazards (see page 27).





Charging the Tablet PC's

At the left end of the tablet is in the middle of the cover for the charging socket.





For charging, the supplied micro USB cable is plugged into the left part of the USB socket (marked in yellow).



Confusion!

The tablet is being charged with the micro USB cable. To charge the measuring head, the included mini-USB cable is required.



Accessories / spare parts list



Pos.	SMW Id. No.	Description
	206844	GFT-X complete incl. case, Measuring Head M3 and handheld unit
1		GFT-X case (case only)
2		GFT-X 4.0 Tablet PC
3	207257	GFT-X 4.0 measuring head M1 (optional)
4	207258	GFT-X 4.0 measuring head M2 (optional)
5	207074	GFT-X 4.0 measuring head M3 (standard)
	207259	GFT-X 4.0 measuring head M4 (optional)
	207586	GFT-X 4.0 measuring head M3, 6 jaw (optional)
		GFT-X 4.0 measuring head M4, 6 jaw (optional)
6	201764	Power Supply Plug USB for GFT-X 4.0 incl. interchangeable blade assemblies
7	196839	Loading Bracket for GFT / GFT-X 4.0
8		Mini USB charging cable for GFT-X 4.0 measuring head approx. 1.8m
9		Micro-USB charging cable for GFT-X Tablet, approx. 1.8m
10	036201	Extension Cylinders 8mm for GFT / GFT-X
11	036203	Extension Cylinders 15mm for GFT / GFT-X
12	036205	Extension Cylinders 25mm for GFT / GFT-X
13	201766	Stand with magnetic mounting for GFT / GFT-X
14	085961	Torx-key for GFT / GFT-X M3 and M4
15	033010	Spare screws

For current prices and delivery times please contact your supplier.



	Technical specifications Tablet PC
Operating system	Android 5.1 (Lollipop)
Processor & graphics card	 Intel® Atom[™] x5-Z8350, Cherry Trail Quad-Core CPU with up to 1.84 GHz Intel HD Graphic (Gen7)
Resolution & Touchscreen	 IPS 1280×800 320 cd/m² 10 point capacitive
RAM & Flash	 4GB DDR3L RAM 64GB
Connectors & Slots	 1x USB 2.0 type A (host), 1x USB 2.0 micro-B (host) 1x audio, 1x Micro HDMI 1.4a, 1x micro SD (SDHC/SDXC) 1x Micro SIM, 1x DC-In , 1x Docking connector
Others	 2MP Camera on the front 5MP Camera on the back (LED Flash) WiFi b/g/n Bluetooth 4.0 uBlox GPS 4G - Built in FDD-LTE support B3/7/20 RFID NFC Temperature operation -20°C ~ 60°C Width / height / depth 220 x 143 x 14 mm weight: 0.6kg
Power Supply	 AC 100V ~ 240V, 50~60Hz Input 19V_{DC}@3.42A, 65W, Battery: 7.500mAh 8+ hours runtime
Protection class	 IP67, Crash resistant 1.2 meters according to MIL-STD 810G Method 502.5 and 501.5 Procedure II Operating Temperature -10 to +60°C Method 501.5, 502.5 Procedure I Storage Temperature -30 to +70°C Method 507.5 Procedure II Operating Humidity 95%, 30°C to 60°C Method 514.6 Procedure I : Vibration Category 24, Fig 514.6E-1 Method 516.6 Procedure I : Shock 40g, 11ms, 3 times per face Method 516.6 Procedure IV : Drop 1,22m, 26 drops total

Ν	otes





Bluetooth Module is compliant to the following specifications:

BLUETOOTH

Bluetooth Module is BT qualified as a controller subsystem. As a controller subsystem the module can be used as such with a Host Subsystem to make a Bluetooth end product without additional qualification or QDID. The Bluetooth QDID of BLE13 is B021015. The Bluetooth listing can be vied from the link below:

https://www.bluetooth.org/tpg/QLI_viewQDL.cfm?gid=21015

FCC and IC

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) this device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

Any changes or modifications not expressly approved by Bluegiga Technologies could void the user's authority to operate the equipment.

FCC RF Radiation Exposure Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. End users must follow the specific operating instructions for satisfying RF exposure compliance. This transmitter meets both portable and mobile limits as demonstrated in the RF Exposure Analysis. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter except in accordance with FCC multi-transmitter product procedures.

IC Statements

This device complies with Industry Canada licence-exempt RSS standard(s).

Operation is subject to the following two conditions:

(1) this device may not cause interference, and

(2) this device must accept any interference, including interference that may cause undesired operation of the device.

Under Industry Canada regulations, this radio transmitter may only operate using an antenna of a type and maximum (or lesser) gain approved for the transmitter by Industry Canada. To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that necessary for successful communication.

CE

Bluetooth Modul is conformity with the following standards:

SAFETY

EN 60950-1:2006+A11:2009+A1:2010+A12:2011

EMC (Art. 3(1)(a)):

EN 301 489-1 v.1.9.2

EN 301 489-17:V2.2.1 Radiated electric field immunity, EN 61000-4-3:2006

SPECTRUM (Art. 3(2)):

EN 300 328 v1.7.1

Equivalent isotropic radiated power Maximum spectral power density EN 300 328 V1.8.1 Occupied channel bandwidth Transmitter unwanted spurious emissions in the out-of-band domain Transmitter unwanted spurious emissions in the spurious domain Receiver spurious emissions

MIC Japan

Bluetooth Module is certified as a module with type certification number 007-AB0103. As a certified module BLE113 can be integrated to an end product without a need for additional MIC Japan certification of the end product.

KCC (Korea)

Bluetooth Module has type certification in Korea with certification number KCC-CRM-BGTBLE113.



DESCRIPTION / FEATURES:

Series of enclosed power supplies are housed in Impact resistant non-vented Polycarbonate Thermal Conduction-Cooled Cases and feature regulated outputs with very low ripple, built-in overcurrent, short circuit, overvoltage and thermal protection, as well as low leakage, low ripple, and high efficiency.

- Input Voltage: Specified 90-264 Vac, Nameplate rated 100-240 Vac
- Input Frequency: Specified 47-63 Hz, Nameplate rated 50-60 Hz
- Output Power (Rated): 10 Watts maximum
- Output Voltage: 5 to 6Vo with 0.1V increments
- Output Regulation: +/- 5% measured at the output connector
- Line Voltage Regulation: +/- 1% typical measured at the output connector
- Output Ripple (Vp-p): +/-1% or 150 mV whichever is greater at nominal output voltage; Measured at 20 MHz bandwidth with 0.1 uf ceramic capacitor in parallel with 10 uf electrolytic capacitor connected at the end of the output connector.
- Turn-On/Turn-Off Overshoot: 5% maximum, 500 us maximum recovery time for 25% step load
- Turn-On Delay: 3000 mSEC maximum
- Hold-Up Time: 8mSec maximum at nominal input and full load
- Inrush Current: 30A typical @ 115Vac input ; 60A typical @ 230Vac input
- Switching Frequency: 66.5 KHz typical

PROTECTION:

- Over-Voltage: Protected unit will recover upon removal of fault
- Short Circuit: Electronically Protected, unit will recover upon removal of fault
- Input Protection: Input line fusing
- ESD: 8 kV Contact/20 kV Air Discharge

OTHER:

- Operating Temperature: 0°C to 40°C ambient temperature
- Humidity: 0% to 95% relative humidity
- Storage Temperature: -40°C to 80°C

ENCLOSURE:

- Housing: High impact plastic, 94V0 polycarbonate, non-vented
- Size: 41.0 x 71.0 x 31.5 mm +/-1.0 mm

CERTIFICATIONS / APPROVALS / SAFETY COMPLIANCE

- MTBF: 200,000 Hours @ 25°C ambient temperature
- RoHS 2: Complies with EU 2011/65/EU China SJ/T 11364-2014
- Dielectric Withstand Voltage: 5656Vdc from primary to secondary
- Earth Leakage Current: N/A for Class II units, there is no PE Ground pin, so Earth Leakage current is not measured
- Touch Current: Maximum allowed values: 100uA NC(Normal condition) 500uA SFC(single fault condition)
- Means of Protection: 2 x MOPP
- GOST-R mark for Russia
- IP20 Ingress Protection: IP20 to IEC60529:2001 Protected against solids objects over 12mm and No Protection
- Efficiency: complies to section 301 of Energy Independence and Security Act (EISA) complies with Energy Star tier 2 (North America), ECP tier 2 (China), MEPS tier 2 (Australia), Code of Conduct (Europe)
- JAPAN PSE CQC Globtek Inc to J60950 AND J55022.
- RoHS 2: Complies with EU 2011/65/EU and CHINA SJ/T 11363-2006
- Semko S-Mark-Cert-EN60601-1 3rd Edition (http://www.intertek.com/marks/s/)
- S-Mark Certificate EN 60950-1:2006 + A11:2009 + A1:2010 + A12:2011 +A2:2013
- Ukraine UKRSepro
- WEEE: Complies with EU 2012/19/EU

The certification is accepted by the OSHA Nationally Recognized Testing Laboratory (NRTL) Program which is required for demonstrating compliance to UL standards for switching power supplies. The units are certified 2xMOPP (means of patient protection), which refers to two independent systems of insulation protecting the patient from dangerous voltages. A single insulating component can get this rating based on extensive testing. 2xMOPP certifications exceeds the requirements of 2xMOOP and these power supplies may be used for either application. In addition the series complies with 60601-1-11 Home health care standards.

Empfangsbestätigung für die Betriebsanleitung Confirmation of receipt of the instruction manual



Person

Hiermit bestätigt die vom Betreiber/ Anwender beauftragte This certifies the operator assigned by the operating company

Herr / Frau

Mr. / Mrs.

den Erhalt der Betriebsanleitung sowie deren Inhalte, insbesondere das Kapitel Sicherheit gelesen und verstanden zu haben.

hereby confirms to have received the instruction manual and to have read and understood the content, especially the chapters concerning safety.

Bediener	Datum	Operator	Date
Betreiber / Sachbeauftragter	Datum	Operating Company / Authorised person	Date
ld.Nr. / ld. No.	:		
Artikelbez. / Item	:		
Gewicht / Weight	:		
Seriennr. / Serialno.	:		

Bitte ausgefüllt zurückschicken an:

Please send the filled in form back to:

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Germany

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