PRODUCT INFORMATION

OTT JAKOB Spanntechnik

Pull-Force Display Device

POWER-MONITOR

95.800.001.1.0

LONG-LIFE CLAMPING TECHNOLOGY INSIDE

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JAKOB GRUPPE

PRODUCT INFORMATION

Pull-Force Display Device POWER-MONITOR

TABLE OF CONTENTS

symbol explanation:

keep attention - dangerous!

keep attention - malfunction!

Approvals

We hereby declare that the device, both in its basic design and construction and in the version marked by us, conforms to the relevant requirements of the RED directive 2014/53/EU and of the ARIB-STD-T66 directive (Japan)

Norms applied:

DIN EN 61000-6-2
DIN EN 61000-6-4
ETSI EN 301 489-3
ETSI EN 300 440-2
DIN EN 60950-1
ARIB-STD-T66

WEEE Notice

The Directive on Waste Electrical and Electronic Equipment (WEEE), which entered into force as European law on 13th February 2003, resulted in a major change in the treatment of electrical equipment at end-of-life.

To dispose the device, please return to OTT-JAKOB Spanntechnik GmbH. The OTT-JAKOB company will dispose of the device professionally with regard to all laws and conditions (ElektroG § 10.2). The user is NOT allowed to dispose of the POWER-CHECK II himself or to put it into normal dustbins or collection points.

WEEE-Reg.-Nr. DE 93666638

RoHS Compliance

This product is in compliance with Directive 2011/65/EU of the European Parliament and of the Council of 08. June 2011, on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS) and its amendments.

4,5V DC 100mA
Made in Germany

204-260008

1 SAFETY NOTES

Always consider the following points:

- Follow the operating instructions
- Avoid impacts and vibrations to the system
- The system may be operated only within the specified technical values and limits
- Commissioning, adjustments and operation is allowed only by qualified personnel
- In the cases of improper system adjustment or use, the OTT-JAKOB company will not accept any liability

1.1 INTENDED USE

The display unit was designed for use in industrial areas.

The **POWER-MONITOR** is used as a receiver, to display and to store the measuring values received from the pull-force measurement systems from OTT-JAKOB.

The measuring values can be graphically displayed, logged and exported by the PC software (via a USB interface).

2 PRODUCT DESCRIPTION

2.1 TECHNICAL DATA

Voltage supply	3 batteries / rechargeable batteries (AA) or USB power adapter
Frequency band	2407 MHz - 2458 MHz
Channels	256 (adjustable), see list of channels on CD
Channel width	200 kHz
Type of modulation	GFSK (Gaussian Frequency Shift Keying)
Transmission power	1.0 mW
Reach	up to 30 m (strongly depends on the environment)
Temperature range	-10 °C to + 50 °C

2.2 FEATURES

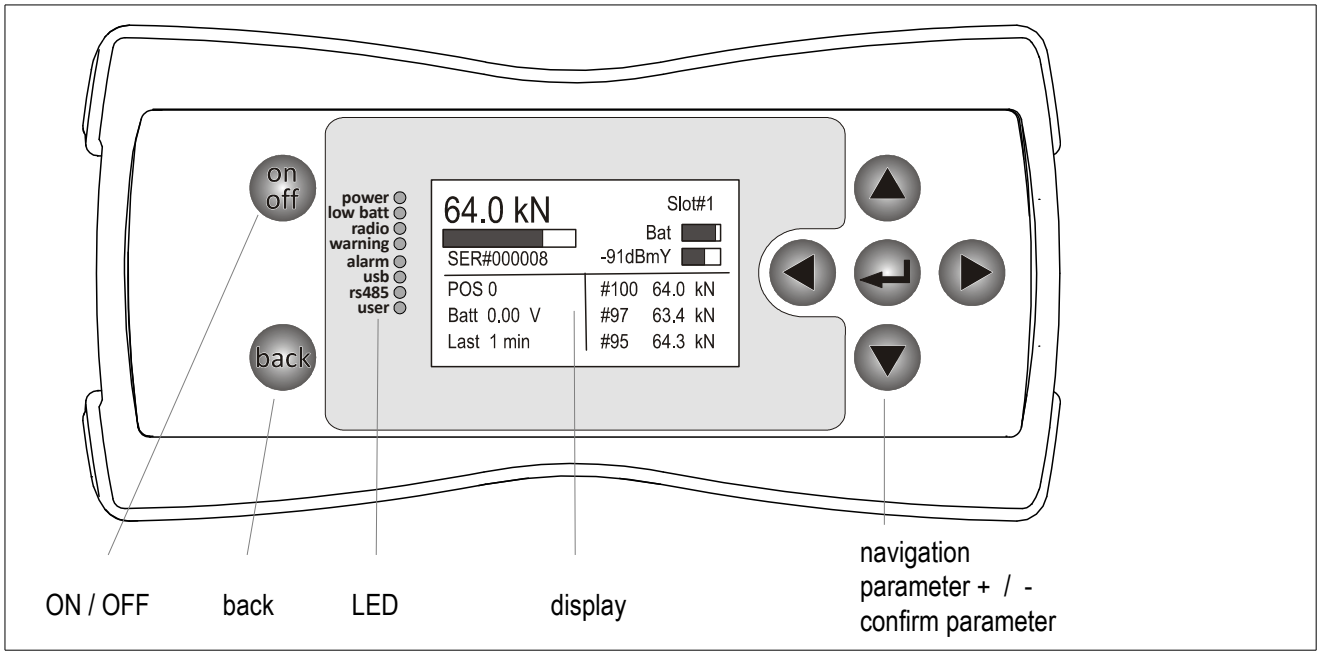
- Convenient, regular monitoring of the clamping force
- data storage (max. 4000 data)
- read out of the data (USB interface)
- live data transmission to PC via USB interface
- location-independent due to battery power (3x AA)
- battery-change warning on display
- Permanent operation possible with power adapter

2.3 ORDER NUMBERS

designation	Order number
POWER-MONITOR	95.800.001.1.0

3 POWER-MONITOR

3.1 OPERATING AND DISPLAY ELEMENTS

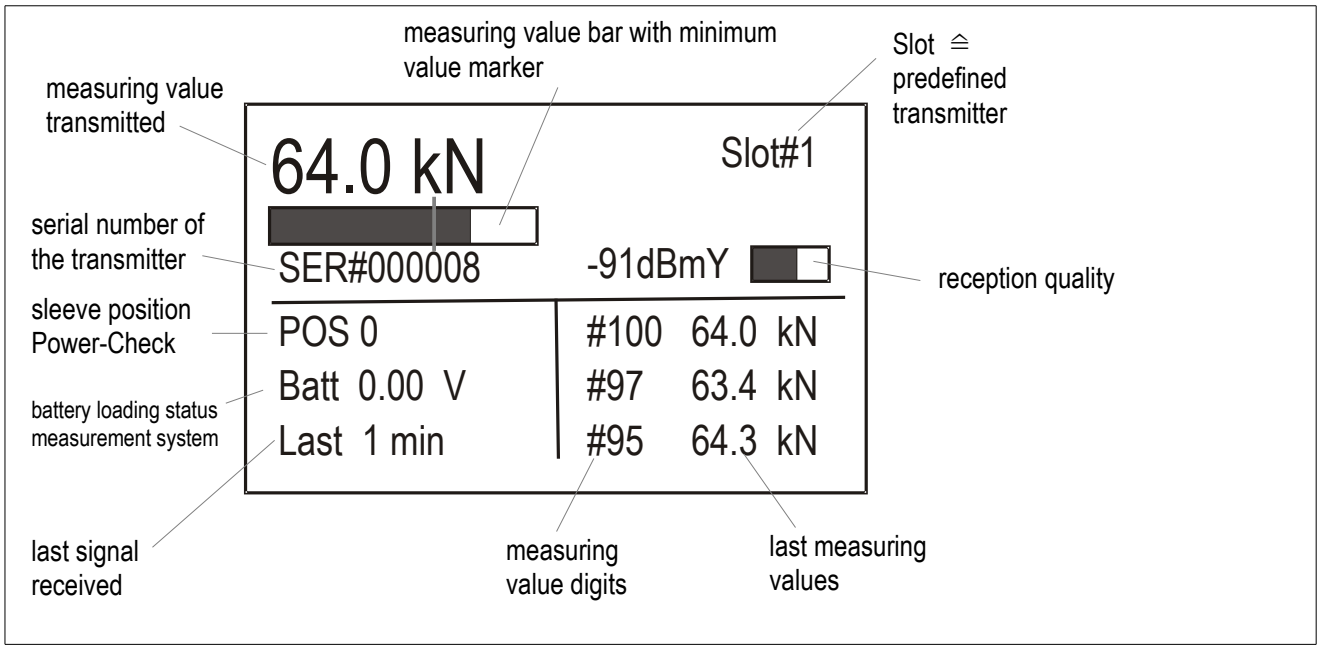


POWER-MONITOR

3.1.1 LED

LED	*description*
power	POWER-MONITOR in operation
low batt	Battery in the POWER-MONITOR weak → exchange
radio	Radio signals are received
warning	-
alarm	Value falls short of threshold
usb	PC communication
rs485	-
user	-

3.1.2 Display



Display

3.2 OPERATION

The receiver is not splash-water-proof! Nur in trockener Umgebeung einsetzen!

3.2.1 Switch on the POWER-MONITOR

◢ Press ON for 1 second

- The POWER-MONITOR starts;
- the measuring value from the pull-force measurement system is displayed

3.2.2 Input

The Back button leads to the main menu
(See next chapter for menu structure)

The navigation buttons Right, Left, Top and Bottom are used to navigate within the menu;
during the input of values, the Top and Bottom buttons are used to increase or decrease the value;
during the selection of parameters, the Right and Left button are used to select the parameters.

The Enter button is used to chose a selected point;
or to confirm a value that was entered.

The Back button leads to the higher menu level.

3.2.3 Menu structure

Menu level 1
Menu level 2
Menu level 3
Menu level 4
Menu level 5

FORCE MONITOR
Display slot 1 ← → *4*

MEMORY VIEW
Display

RADIO LOG
Display

MONITOR CONFIG
SLOT CONFIG
SLOT 1
SET MODE
Display mode:
Power-Check / Pull-Out force check /
History graph / Combiview slot 1-4 / Disabled / ThreePointChuck
SERIAL FILTER
Enter serial number *0 - 9*
MAX FORCE
Enter max. force N: *0 - 9*
ALARM THRESHOLD
Enter threshold N: *0 – 9*
SAVE RESULTS
Save mode:
Enabled ← → Disabled
Slot2 to Slot4 according as Slot 1

RADIO CHANNEL
Radio channel 0.255 *0 - 9*
SET TIME
HHMMSS
SET DATE
YYYYMMDD
DISPLAY BRIGHTNESS
Brightness 0-.255 *0 – 9*
CLEAR MEMORY
Clear external memory? *no* ← → *yes*

3.2.4 Parameter

FORCE MONITOR *(Menu level1)*

The measuring values received are shown here.
Overview → Display # 3.1.2 // 6

MEMORY VIEW *(Menu level 1)*:

display the stored measurements in the POWER-MONITOR

```
>>> PAGE 115 OF 115  PERCENT:23

632221  2014:06:30  11:38:09  09.9KN
632221  2014:06:30  11:37:38  11.6KN
632221  2014:06:30  11:37:24  07.2KN
632221  2014:06:30  11:37:00  09.3KN
632221  2014:06:30  11:36:51  06.8KN
632219  2014:06:30  11:34:25  11.7KN
632220  2014:06:30  11:34:01  09.7KN
632218  2014:06:30  11:32:00  10.9KN
```

Radio log *(Menu level 1)*:
lists all data received in a table

MONITOR CONFIG *(Menu level1)*
Setting the indicating device parameters

Slot config *(Menu level 2)*
Setting the single slots (transmitter)

Slots *(Menu level 3)*

Set mode *(Menu level 4)*
Display mode:
Power-Check / Pull-Out force check / History graph /
Combiview slot 1-4 / Disabled / ThreePointChuck

Serial filter *(Menu level 4)*
The serial number attached to the pull-force measurement system must be entered here.
Information: Each signal sent by the transmitter includes the serial number in addition to the measuring value (Radio log / Memory view).

Max force *(Menu level 4)*
The maximum expected measuring value must be entered here. It corresponds to 100% on the measuring value bar.

Alarm threshold *(Menu level 4)*
The lower threshold must be entered here. This is indicated by a line on the measuring value bar.

Save results *(Menu level 4)*
store a measurement: *Enabled* ← → *Disabled*
Information: a maximum of 4000 values can stored in the ring buffer;
additionally values will be overwritten

Radio channel *(Menu level 2)*
Channel selection at the receiver (POWER-MONITOR): Enter 0 – 255;
Factory setting: Channel 32;
it may be necessary to change the basic setting of the channel selection when this channel is already being used by another sender/receiver.

Set Time *(Menu level 2)*
format: *HHMMSS*

Set Date *(Menu level 2)*
format: *YYYYMMDD*

Display brighness *(Menu level 2)*
The brightness of the display is selected here:
0 = Display off
255: maximum brightness, high power consumption - shorter battery life)

Clear memory *(Menu level 2)*
delete the stored values

3.2.5 Switch off the POWER-MONITOR

◢ Press ON/OFF for approx. 2 seconds

3.3 BATTERY EXCHANGE

The battery should be exchanged as soon as possible when the *low-battery* LED lights up. Remove the two screws on the reverse side for this purpose and exchange
the 3 batteries (AA).
Standard batteries or rechargeable batteries can be used. The old batteries have to be disposed of according to the local regulations.
Settings and stored values are retained.

4 PC SOFTWARE

The included software consists of two programs:
- *Force logger*; live measured value acquisition
- *POWER-MONITOR*; read out software

4.1 INSTALLATION

System requirements:
- USB interface
- Windows operating system
  (tested with Windows XP and Windows 7 32 bit and 64 bit version)
- CD drive for installation

The receiver may not be connected during the installation!
◢ Insert the CD
◢ Start the exe-file

The installation starts; the location for storing the program will be requested:
After accepting the licensing agreement, the installation will be completed.
Instruction for de-installation: The program can be de-installed by running
the *uninstaller* which is part of the package.

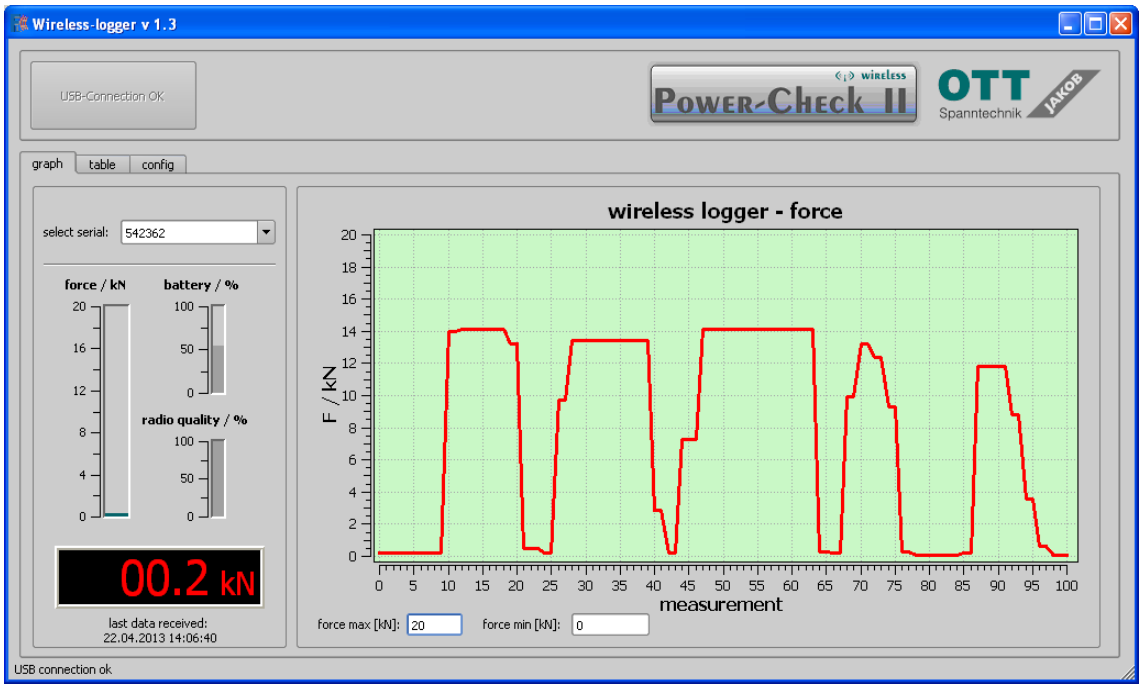
◢ Connect the receiver to the running PC with a USB interface.
  Device recognition by Windows takes place when the receiver and the Windows PC are connected for the first time.

4.2 OPERATION Force logger

4.2.1 Start

- Connect the receiver to the running PC via a USB interface.
- Start the receiver PC software

4.2.2 "Graph" register



USB connection

The program checks whether it can establish contact with the receiver at the USB interface. When the attempt is successful, the status bar shows "USB connection ok"; the button with the same text is inactive.

When the receiver is not or not correctly connected to the USB interface, the status bar "USB disconnected - Press the "search Power-Check II wireless Stick" button"; the button with the respective text is active:

- Connect the receiver to the running PC via a USB interface.
- Press the button

Clamping Force [kN]

The clamping force is shown in three ways:
- In the graphic display
- as a numerical value with the relevant date and time below (Windows system time)
- as a diagram; the last 100 measuring values are shown

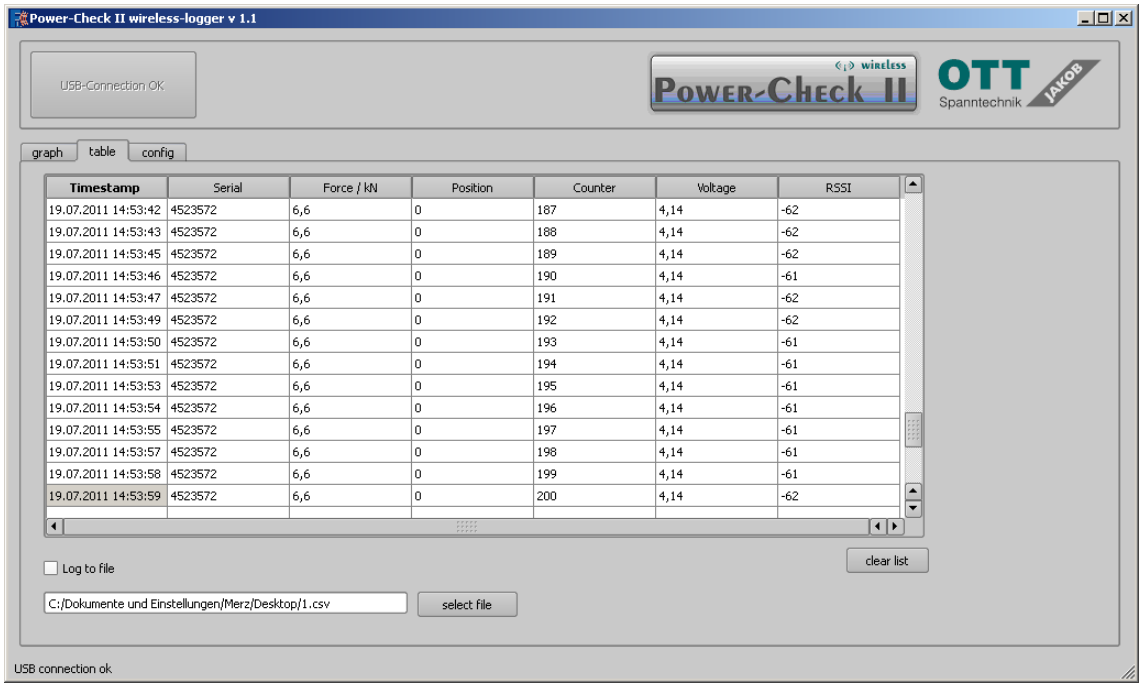
The graphic display also includes the
- **battery charge status *** and the
- **strength of the signal received**

in percent.

* only POWER-CHECK 2;
with POWER-CHECK MAGAZINE: display 0%

Scaling
Scaling of the pull-force-diagram is possible by input *force max.* and *force min.*

4.2.3 "table" register



The "table" register lists the measuring values received

Timestamp
Date and time at which the measuring value was received (Windows system time)

Serial
Serial number of the respective Power Check;
important when several Power Check units are sending.

Force / kN
Clamping force

Position
Sleeve position

Counter
The values sent by the Power Check are continuously numbered; gaps in the numbering indicates reception faults; some measuring values were not received!
The counter number is not identical with the power check stack number!

Voltage
Battery status
POWER-CHECK 2: Battery full corresponds to 4.2 Volt / battery empty corresponds to < 3.6 Volt
POWER-CHECK MAGAZINE: the displayed values are not meaningful

RSSI
Reception quality

good reception:	>	-70 dBm
bad reception:	<	-70 dBm
no reception:	<	-92 dBm

The table shown displays a maximum of 200 measuring values; the list is deleted once 200 values have been received!

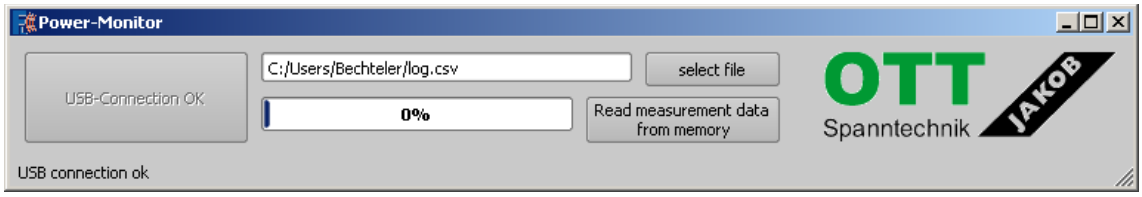
When the **log to file** is activated, the data series are continuously written into a csv document in a directory to be specified.

The data series are sorted in ascending/descending order by activating the button in the header line.

4.3 OPERATION POWER-MONITOR

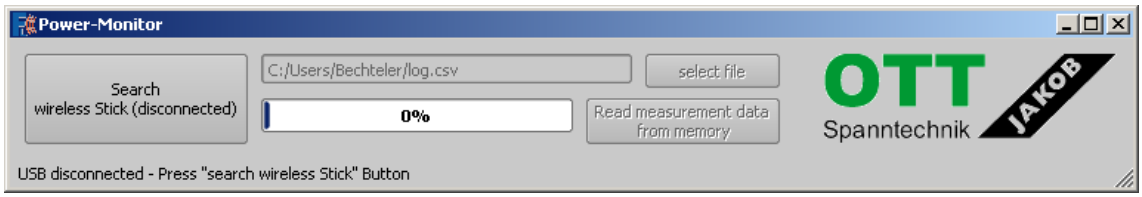
4.3.1 Start

- Connect the receiver to the running PC via a USB interface.
- Start POWER-MONITOR



If *USB connection* appears the connection is correct

If the program already open and the POWER-MONITOR was connected subsequently, it is necessary to activate the connection manualy by push the *Search* button.



4.3.2 Function

select file
select location and name of the file

Read measurement data
start read out; the file will be created
if the file already exists the data appended at the end