



Quick Reference Manual

PPC-PAD-plus



Quick Reference Manual
STAUFF PPC-PAD-plus



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1. About This Manual



This quick reference manual is a component part of the STAUFF PPC-PAD-plus and contains important information on the intended use, safety, operation and maintenance of the device described.

Subject to change without prior notice.

- Before each step, read the corresponding information carefully and adhere to the sequence of steps described.
- Pay particular attention to Chapter **"Safety Information"** on **Page 20** and follow the instructions.



INFORMATION

The detailed user manual is available online at **www.stauff.com** or in the device itself in **Menu > Settings > Information > UserManual**.

2. Product Description

The STAUFF PPC-PAD-plus is intended for recording the measured values of the sensors connected. It is operated basically by using the touch-sensitive touchscreen. Alternatively, the main functions can be selected via the six hardware keys. The USB and LAN connections or WLAN interface can be used to connect STAUFF PPC-PAD-plus with a PC or local network to analyze the measured values.

STAUFF PPC-PAD-plus can process data from sensors with automatic sensor detection (STAUFF-CAN) as well as sensors which must be adjusted manually (external-CAN).

STAUFF PPC-PAD-plus can be extended by up to two input modules providing additional connections and functions.

2.1 Intended Use

STAUFF PPC-PAD-plus, subsequently referred to as "device", enables access to sensors used in hydraulic applications in machines and vehicles. The various connections can be used to compile, store, monitor and evaluate CAN bus data, digital or analog sensor signals for pressure, temperature, volume flows, frequencies, speeds, particles, water in oil, volumes and output, for example.

The device is exclusively designed for commercial use in mobile and stationary systems.

2.2 Improper Use

All usage and conditions of use which are contrary to those described in Section "Intended Use" are deemed to be unintended use and lead to loss of all rights to claims under the terms of guarantee, warranty and liability in respect of the manufacturer.


- The device does not comply with Directive 94/9/EC and, therefore, must not be used in potentially explosive atmospheres.

2.3 Conformity

The device fulfills the requirements of the following standards and legal regulations:



CE conformity

The device complies with the directives, standards and standard-bound documents specified in the detailed operating manual in Chapter  "Zertifikate" on Page 127.

2.4 Equipment Supplied

Check the parts included in the supply package prior to starting up the device. If anything is missing, please contact your sales outlet.

- STAUFF PPC-PAD-plus
- Power adapter (110/240 V_{AC} – 24 V_{DC} / 3.750 mA)
- Country adapters (EN, US, UK, AUS)
- USB cable (2.0)
- Shoulder strap
- Quick reference manual

3. Safety Information

Before starting to work with the device, read and observe the information contained in this quick reference manual and the detailed operating manual. Failure to observe the instructions provided, particularly those related to safety, can lead to risks to human beings, the environment, equipment and systems.

The device has been produced according to state-of-the-art technology with regard to accuracy, principles of operation and safe operation of the equipment.

3.1 Basic Warnings



DANGER

Risk of explosion through operating electronic devices in potentially explosive atmospheres.

Risk of fatal or severe personal injury.

- ▶ Observe the provisions and precautionary measures applicable for potentially explosive atmospheres.



DANGER

Risk of breakdown of communication equipment in planes through radio frequency energy.

Risk of fatal or severe personal injury.

- ▶ Switch the device off before boarding a plane.
- ▶ Ensure that the device cannot be switched on while on board the plane.



WARNING

Risk of interference to electronic devices through radio frequency energy.

Risk of fatal or severe personal injury.

Electronic devices are sensitive to radio frequency energy.

- ▶ Do not use the device in connection with defective cables and plugs. Cables and plugs must always be shielded.
- ▶ Follow all special rules and switch the device off when its use is forbidden or you are in doubt as to whether interference or risks could result from its use.



WARNING

Risk of interference to medical devices through radio frequency energy.

Risk of fatal or severe personal injury.

Medical devices are sensitive to radio frequency energy.

The functionality of pacemakers, other medical implants and hearing aids can be impaired if the device is operated too close to medical equipment.

- ▶ If you have a pacemaker or another medical implant, do not move into the vicinity of the device when switched on.
- ▶ Observe local regulations regarding the use of devices with radio frequency energy in hospitals or other medical institutions. Cut off the power supply to the device if local regulations require you to do so in sensitive areas.
- ▶ If you are in doubt as to any possible risks, contact a doctor or the manufacturer of the medical device to check if the screening provided is adequate.



IMPORTANT

Risk of property damage.

- ▶ The device must be connected and put into operation by properly trained technical personnel.
- ▶ Avoid using any forms of force on the device.
- ▶ Never expose the device to direct sunlight over an extended period of time.
- ▶ Never immerse the device in water or other liquids.
- ▶ Never attempt to repair the device yourself. The device may only be repaired by STAUFF.
- ▶ Never clean the device with substances containing solvents. The device may only be cleaned in the way described in Section "**Cleaning**".

3.2 Technical Personnel

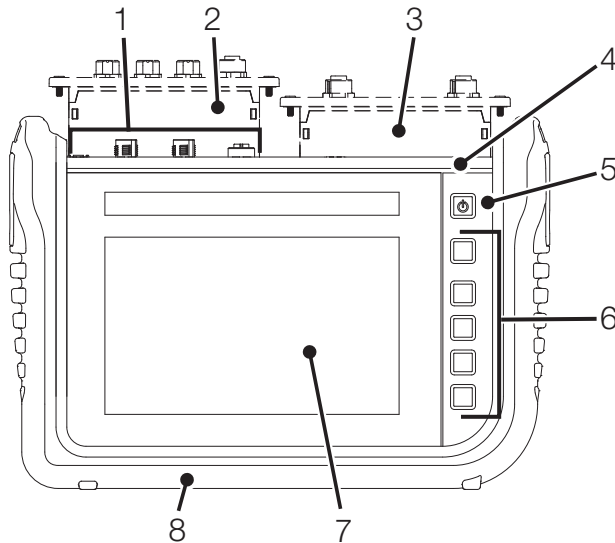
This quick reference manual is intended for properly trained technical personnel who are familiar with the applicable regulations and standards regarding the area of use.

Technical personnel entrusted with starting up and operating the device must produce evidence of the necessary qualification. Qualification can be obtained through participation in a relevant training course or receiving applicable instruction.

Technical personnel must have read and understood the detailed operating manual. Technical personnel must have access to the content of the operating manual at all times.

4. Design and Function

4.1 Overview



Pos.	Description
1	Inputs and outputs (power connection, CAN-Y, CAN-X, D-IN/OUT F1/F2)
2	Input module A (option)
3	Input module B (option)
4	Communication ports (USB Host, 2x USB Device, LAN) and SIM card slot
5	On/Off key
6	Context-sensitive function keys
7	Screen (touchscreen)
8	Shock protection



INFORMATION

Further information on the connections and input modules is provided in the detailed operating manual available online at **www.stauff.com** or in the device itself in **Menu > Settings > Information > UserManual**.

4.2 Functions and Features

The device is equipped with the following functions:

- Inputs and outputs to connect sensors
- Measurements, e.g. of pressure, temperature, volume flows, frequencies, speeds, particles, water in oil, etc.
- For recording, saving and analyzing measured data
- Various types of measurement and their representation
- Module slots to extend system with input modules
- LAN connection port
- Wireless interfaces (option):
Bluetooth LE, WLAN, LTE, GPS
- Fold-out stand
- VESA standard for wall installation

5. Starting Up

5.1 Charging the Battery

Before you can put the device into operation, you must charge the battery fully using the power adapter supplied.



IMPORTANT

Only use the power adapter supplied to charge the battery.



INFORMATION

Observe the following information regarding use of the integrated battery:

- ▶ Do not store the device with a low charge status in order to prevent a total discharge.
- ▶ If the charge status of the integrated battery drops below a specific value, the measurement in progress is stopped. The measured values and user parameters are automatically saved. The device switches off automatically.
- ▶ Only use the device within the temperature range permitted, from -20 to +60 °C.

5.2 Switching the Device On

- 1 Press the On/Off key.
↳ The device starts up.

6. Operation



INFORMATION

The detailed user manual is available online at **www.stauff.com** or in the device itself in **Menu > Settings > Information > UserManual**.

6.1 Basic Factors


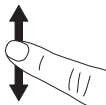
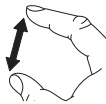

The device is immediately ready for use after being started up.

6.1.1 Operating the Device

The device is mainly operated by using the buttons provided on the touchscreen. You can use your fingers or an appropriate input tool.

Alternatively, the main functions can be selected using the context-sensitive function keys.

The following overview illustrates the possible finger movements and their functions:

	Function
	Tap your finger on the respective button or element to initiate a function.
	Swipe your finger through lists and views to scroll.
	Draw two fingers apart on an element or view to zoom in. This function is not available for all views.
	Draw two fingers towards each other on an element or view to zoom out. This function is not available for all views.






INFORMATION

It is also possible to use the touchscreen when wearing gloves.

Function Keys

The device is equipped with six function keys positioned beside the touchscreen. One function key is used to switch the device on and off, one function key is used to start and stop measurements and four function keys are assigned context-sensitive functions.

The four context-sensitive function keys are used to initiate the functions according to the corresponding button in the menu area of the touchscreen.

Key	Function
	On/Off key
	Function key (yellow) to start and stop measurements
	Four context-sensitive function keys

7. Packaging and Transporting

This chapter contains information on packaging and transporting.



IMPORTANT

Risk of property damage through improper storage and transportation.

- ▶ Only store and transport the device within the temperature range permitted, from -20 to +60 °C.
- ▶ Do not store the device with a low charge status in order to prevent a total discharge.



IMPORTANT

Risk of property damage.

- ▶ Fit all the screw-in connections on the device with sensors or protective caps provided in order to ensure type of protection IP65.
- ▶ Never expose the device to direct sunlight over an extended period of time.



IMPORTANT

Risk of environmental pollution through lithium-ion battery. According to the currently applicable transport regulations regarding lithium-ion batteries, the respective devices or their packaging must be specially identified for transport.

- ▶ Contact your sales outlet prior to dispatch.
- ▶ Only dispatch the device in packaging which has been appropriately identified on the outside.

8. Cleaning and Maintenance

This chapter contains information on cleaning and servicing the device.

8.1 Cleaning

Clean the touchscreen and surfaces of the device with a dry or slightly dampened, lint-free cloth.



IMPORTANT

Risk of material damage through aggressive and corrosive substances.

- ▶ Never use abrasives or volatile cleaners!
- ▶ Never use any aggressive or corrosive cleaning agents!

8.2 Maintenance

The device is maintenance-free for the user and must not be repaired by the user.

Maintenance work is not necessary on the device within the scope of the intended use.



IMPORTANT

Risk of material damage through improperly performed repair work.

- ▶ Never open the device!
- ▶ Never attempt to perform repair work yourself.
- ▶ In the event of defects, return the device to STAUFF!

9. Disposal

The device is composed of various materials and must not be disposed of with normal household waste. The device contains



a lithium-ion battery, which can contain toxic, environmentally harmful heavy metals.

The packaging material must be disposed of according to local regulations.

What can we do for you?



We can provide you with the option of returning your old device to us for disposal at no extra cost. We then initiate recycling and disposal according to the applicable legal framework.

What do you have to do?

After your device has reached the end of its service life, simply send it (packed in a box) via a parcel service to the sales outlet which provides your support. We then carry out any recycling and disposal measures required. This is easy and free of charge for you.



IMPORTANT

Risk of environmental pollution through lithium-ion battery. According to the currently applicable transport regulations regarding lithium-ion batteries, the respective devices or their packaging must be specially identified for transport.

- ▶ Only dispatch the device in packaging which has been appropriately identified on the outside.
- ▶ Contact your sales outlet prior to dispatch.

Any further questions?

If you have any further questions, please contact your sales outlet.

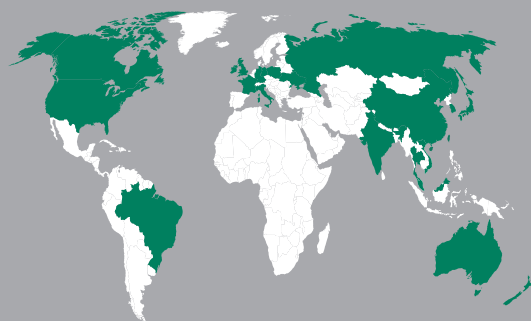
10. Technical Data

Device

Designation	Property
Dimensions	282 × 195 × 85 mm
Weight	1.880 g
Type of protection	IP65, all screw-in connections must be fitted with sensors or protective caps
Ambient conditions	-10 – +50 °C at 0 – 80% rel. humidity
Storage conditions	-20 – +60 °C at 0 – 80% rel. humidity
Housing	ABS/PC, thermoplastic
Protective casing	TPE, thermoplastic elastomer
Slot	2× for input module
Plug	3-pin, female, from Binder, 719 series
Screen	7" P Cap multi-touchscreen (800 × 480 pixel)
Rechargeable battery	Lithium-ion battery, capacity: 3350 mAh
Battery voltage	+14.4 V _{DC}
Battery power duration	>6 h (with 24 sensors, 20 mA per sensor)
Connections	2× CAN bus, 5-pin, M12×1 2× D-IN/D-OUT F1/F2, 5-pin, M12×1 2× USB Type A 1× USB Type B 1× LAN RJ45
WLAN frequency range (WLAN optional)	2.400 – 2.4835 GHz (IEEE 802.11 b/g/n) in 13 channels 5.150 – 5.725 GHz (IEEE 802.11 a/n) in 24 channels
WLAN transmission rate (WLAN optional)	IEEE 802.11a: to 54 MBit/s IEEE 802.11b: to 11 MBit/s IEEE 802.11g: to 54 MBit/s
WLAN transmission power (WLAN optional)	20 mW at 2.400 – 2.4835 GHz 20 mW at 5.150 – 5.350 GHz 20 mW at 5.470 – 5.725 GHz
WLAN encryption (WLAN optional)	WPA, WPA2, WEP64/128, PEAP

Power Adapter

Designation	Property
Model label	Power-Supply-PPC-PAD-PLUS-MULTI
Input voltage	100-240 V
Input AC frequency	50-60 Hz
Output voltage	24 V
Output current	3.75 A
Output power	90 W



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