

USER GUIDE

ID PM ECCO+

Compact and Robust RFID-/Barcode Scanner



Note

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1 Safety Instructions

- ▶ Please read this user guide carefully and follow the given instructions and safety instructions before using the device.
- ▶ The device may only be used for the intended purpose designed by the manufacturer.
- ▶ This user guide should be conveniently kept available at all times for each user.
- ▶ Unauthorized changes and the use of spare parts and additional devices which have not been sold or recommended by the manufacturer may cause fire, electric shocks or injuries. Such unauthorized measures shall exclude any liability by the manufacturer.
- ▶ The liability-prescriptions of the manufacturer in the issue valid at the time of purchase are valid for the device. The manufacturer shall not be held legally responsible for inaccuracies, errors, or omissions in the manual or automatically set parameters for a device or for an incorrect application of a device.
- ▶ Repairs may only be executed by the manufacturer.
- ▶ Installation, operation and maintenance procedures should only be carried out by qualified personnel.
- ▶ Use of the device and its installation must be in accordance with national legal requirements and local electrical codes.
- ▶ When working on devices the valid safety regulations must be observed.
- ▶ Use of controls or adjustments or performance of procedures other than those specified herein may result in exposure to hazardous visible laser light. The laser scanner utilizes a low-power laser diode. Although staring directly at the laser beam momentarily causes no known biological damage, avoid staring into the beam as one would with any very strong light source, such as sunlight. Avoid that the laser beam hits the eye of an observer, even through reflective surfaces like mirrors, etc.
The 1D laser is a class 1 laser. The 1D/2D imager uses a class 2 laser.



LASER RADIATION! DO NOT STARE INTO BEAM!

- ▶ Do not crush, puncture, short circuit or place the LiPo battery in fire or water. To reduce the risk of fire or burns, do not attempt to open, disassemble, or service the battery pack. Do not expose the unit to temperatures above 60 °C (140 °F). Only charge the battery with the battery charger intended by the manufacturer. Do not deep discharge the battery. Do not use damaged batteries.
- ▶ Switch off your wireless device whenever you are instructed to do so by airport or airline staff. Consult airline staff and ask for the device's use in-flight.
- ▶ Wireless devices may affect medical electrical equipment. Therefore they should be switched off wherever you are requested to do so in hospitals or healthcare facilities to prevent interference with sensitive medical equipment.
- ▶ It is recommended by pacemaker manufacturers to maintain a minimum of 15 cm (6") between a handheld wireless device and a pacemaker to avoid potential interference. Therefore persons with pacemakers should not carry the device in a breast pocket. These recommendations are consistent with independent research and recommendations by Wireless Technology Research. If you have any reason to suspect that interference is taking place, turn off your device.
- ▶ Do not take note or use the device while driving. When driving a vehicle, driving is your first responsibility, therefore give full attention to driving.
- ▶ RF signals may affect improperly installed or inadequately shielded electronic systems in motor vehicles. You should consult the manufacturer of any equipment that has been added to your vehicle.
- ▶ Do not place the device in the area over the air bag or in the air bag deployment area. Improperly installed wireless equipment could result in serious injury when the air bag inflates.

- Observe restrictions on the use of radio devices in fuel depots, chemical plants and areas where the air contains chemicals or particles such as grain, dust or metal powder as well as any other area where you are advised to turn off your vehicle engine.

2 Revision History of Documentation

Revision	Date	Description
0	29.03.2019	Initial version

3 Scope of Delivery

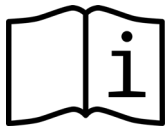
The scope of delivery includes following components:



1 x ID PM ECCO+



1 x USB Charging Cable



1 x ID PM ECCO+ User Guide

After unboxing please make sure, that all listed parts have been delivered properly and in good condition.

4 Product Description

The ID PM ECCO+ captures and stores barcodes and RFID data for a variety of uses and transmits those to a host via USB connection, Bluetooth or WiFi. This document provides a basic instruction for using the ID PM ECCO+ device.

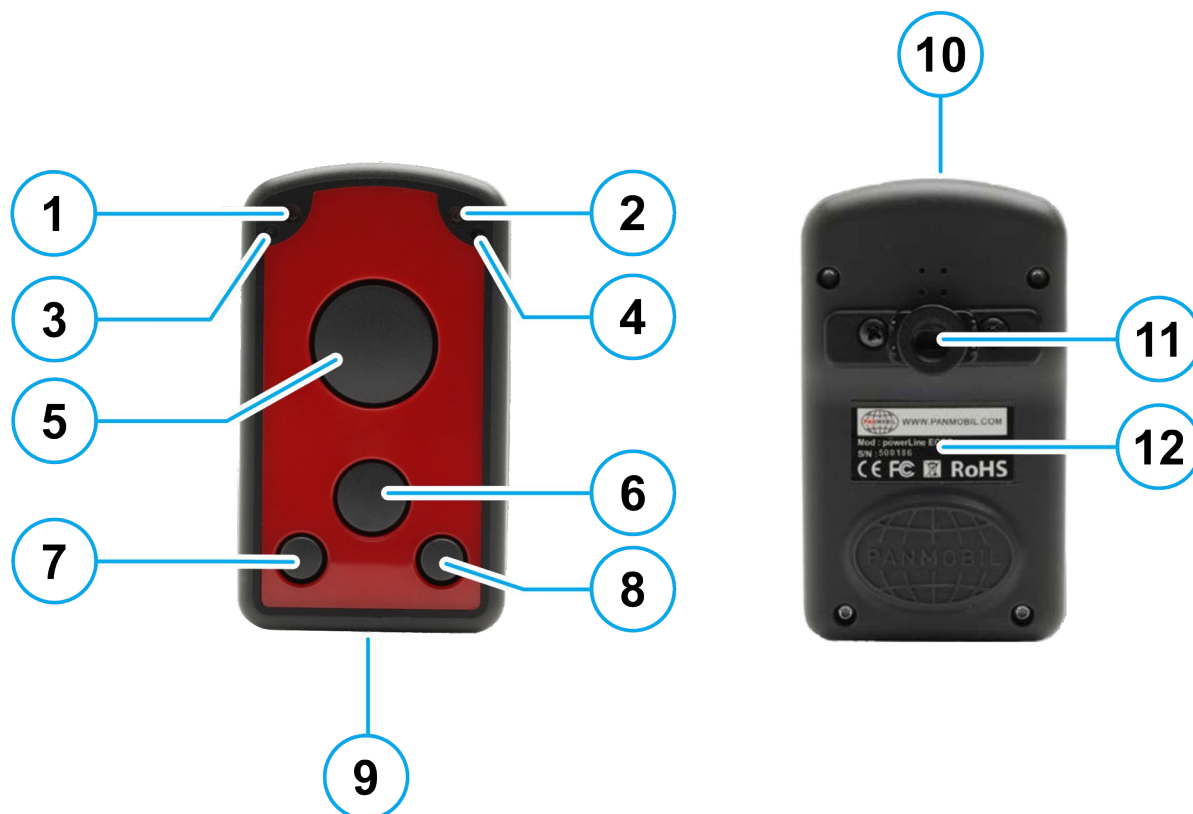


Fig. 1: ID PM ECCO+ device overview

Label	Description	Function
1	Green LED	Lights up green when ID PM ECCO+ is turned ON. When the battery level is empty, it flashes every 2 sec. (Further function can be user defined with the programming interface)
2	Yellow LED	Lights up yellow if a barcode or RFID tag was read successfully. Is flashing every 500 ms when connected to USB. (Further function can be user defined with the programming interface)
3	Red LED	Lights up red if connected to a battery charger (USB or power adapter). Red = Battery charging Off = Battery fully charged
4	Blue LED	Lights up blue when ID PM ECCO+ is connected to Bluetooth. Is flashing every 500 ms while Wi-Fi is associated. Is flashing every 3 s when Wi-Fi is connected. (Further function can be user defined with the programming interface)
5	Key 1 (trigger button)	Triggers the barcode and/or the RFID reader. (Further function can be user defined by Master Setup or with the programming interface)
6	Key 2 (custom)	(This function can be configured by using Master Setup or with the programming interface)

7	Key 3 (custom)	(This function can be configured by using Master Setup or with the programming interface)
8	Key 4 (custom) Power ON/OFF button	(This function can be configured by using Master Setup or with the programming interface) Power key to turn the unit ON. Pressing this key for 3 sec. turns the unit OFF.
9	USB protection clip Mini-USB interface	Rubber clip to protect the Mini USB port. Main communication and battery charging interface.
10	Scanning window RFID antenna (option)	Protection glass for the barcode and RFID reader. To have the best reading performance, keep the glass clean and free of scratches. Antenna for RFID reader/writer
11	Mounting plate	Holder to fix the belt clip (accessories).
12	Int. Li-ion battery	Rechargeable Li-ion battery 1250 mAh

5 Technical Data

Mechanical Data

Housing	Double-walled Inside: robust ABS Outside: protective rubber coating
Dimension (W x H x D)	87 mm x 48 mm x 26 mm (3.42" x 1.89" x 1.02")
Weight	98 g (3.46 oz)
Protection Class	IP 64
Color	black, red

Electrical Data

Operating Frequency RFID (optional)	
• HF	13.56 MHz
• UHF	865 MHz to 928 MHz
Supported Transponders (optional)	ISO 14443, ISO 15693 EPC Class 1 Gen 2, ISO 18000-6-C
Barcode (optional)	1D: EAN-8, EAN-13, UPC-A, UPC-E Code 128, Code 39, Code 93, Interleaved 2of5, Chinese 2of5, Codabar, Codablock_F 2D: DataMatrix, QR Code, Micro QR, Aztec Code, Maxi Code, PDF417, MicroPDF
Interfaces	
• USB	USB mass storage, USB HID, USB Ethernet, USB Serial
• WiFi	2.4 GHz (IEEE 802.11 b/g)
• Bluetooth	Bluetooth Class 2, HiD SPP
Battery	1250 mAh Lithium Ion, 3.7 V
Indicators	LED (red, green, yellow, blue) Speaker Vibration feedback
Keyboard	4 keys; each key is programmable / configurable
CPU	ARM9, 400 MHz
Memory	128 MB RAM 1 GB Flash (500 MB internal / 500 MB external)
Proof of Data	Non-volatile memory
Date / Time	Real-time clock
Supported OS	Win 7 / Win 8 / Win 10 (32 and 64 bit) / Server 2003/2000
Programming	ECLIPSE IDD for C/C++
Configuration	MasterSetup

Environmental Conditions

Temperature Range	
• Operation	0 °C up to 55 °C (32 °F up to 122 °F)
• Storage	-20 °C up to 60 °C (-4 °F up to 140 °F)
Humidity	5 % up to 95 % (non-condensing)
Drop	1.6 m drop to concrete

Standard Compliance

RoHS, WEEE, CE

6 Operation

6.1 Charging the Battery

Before the first operation, the main battery should be fully charged by using the included USB charging cable. As long as the battery is charging the red LED (3) will light solid red. After the battery is fully charged the red LED (3) turns off. A full recharge of the battery takes approx. 4 to 5 hours.

To charge the battery via USB follow the instructions below:

1. Remove the USB protection clip (9) from the device.
2. Connect the device to the USB port of a computer or to the USB power adapter (accessories).
3. As long as the battery is charging, the red LED (3) lights solid red.
4. After the battery is fully charged the red LED (3) turns off.

6.2 Device Reset

To reset the ID PM ECCO+ press and hold the keys 1, 2, 3 and 4 (see chapter 4 Product Description on page 9) for 5 seconds.

NOTE:

- ***By reset the device loses its timestamp. Before continuing to use it you must synchronize the time settings by connecting the ID PM ECCO+ with the Master Setup. The time thereby will be automatically synchronized with the system time of your PC.***
- ***Specific configuration settings and data will not be lost by the reset.***

6.3 Configuration

To set the alternative configuration mode follow the steps below:

1. Switch off the device.
2. Press and hold keys 4 and 5 until a beep sound appears (this may take a few seconds).
3. Connect the ID PM ECCO+ to a computer via USB.
4. The device will be mounted as a removable drive "SCANNDY".
5. Open the file "config.ini" or use the Universal Configurator to modify the settings.
6. Press button 3 (trigger) until a beep sound appears.
7. The device restarts with the new settings.

The ID PM ECCO+ config.ini file contains the most common device settings. For information about the configuration for options like Bluetooth, Wi-Fi, HF and UHF RFID as well as barcode configuration please refer to the document Config_ini.pdf.

6.4 Scanning

6.4.1 1D Laser

To scan a barcode follow the steps below:

1. Aim the scanner on the barcode.
2. Press the trigger key (5).
3. Ensure that the scanning line is directed straight on the barcode.
4. The ID PM ECCO+ beeps and the yellow LED (2) lights up to indicate a successful decode.



Fig. 2: Barcode Scanner Alignment

6.4.2 1D/2D Imager

To scan a barcode follow the steps below:

1. Aim the scanner on the barcode.
2. Press the trigger key (5).
3. The ID PM ECCO+ decodes the barcode closest to the cross center unless you disable the Pick-List Mode (see below) in the 2D cameras.
4. The device beeps and the yellow LED (2) lights up yellow to indicate a successful decode.



Fig. 3: Scan Example 1D/2D Imager

6.4.3 RFID

To scan an RFID tag follow the steps below:

1. Aim the scanner on the RFID tag.
2. Make sure the tag is within the reader range.
3. Press the trigger key (5) to read data of the RFID tag.
4. The device beeps and the yellow LED (2) lights up to indicate a successful decode.

7 Bluetooth Connection

To pair the Bluetooth enabled devices to a Bluetooth enabled host.

1. Connect the device to the host using the USB port and use the Master Setup to set the data output mode to Bluetooth.

Select the Bluetooth profile supported by the host or required by the application.

- Serial Port Profile (SPP)

The scanner connects to the host via Bluetooth and emulates a serial connection. The scanner accepts an incoming connection requested by a Bluetooth host.

- Bluetooth Keyboard Emulation (HID)

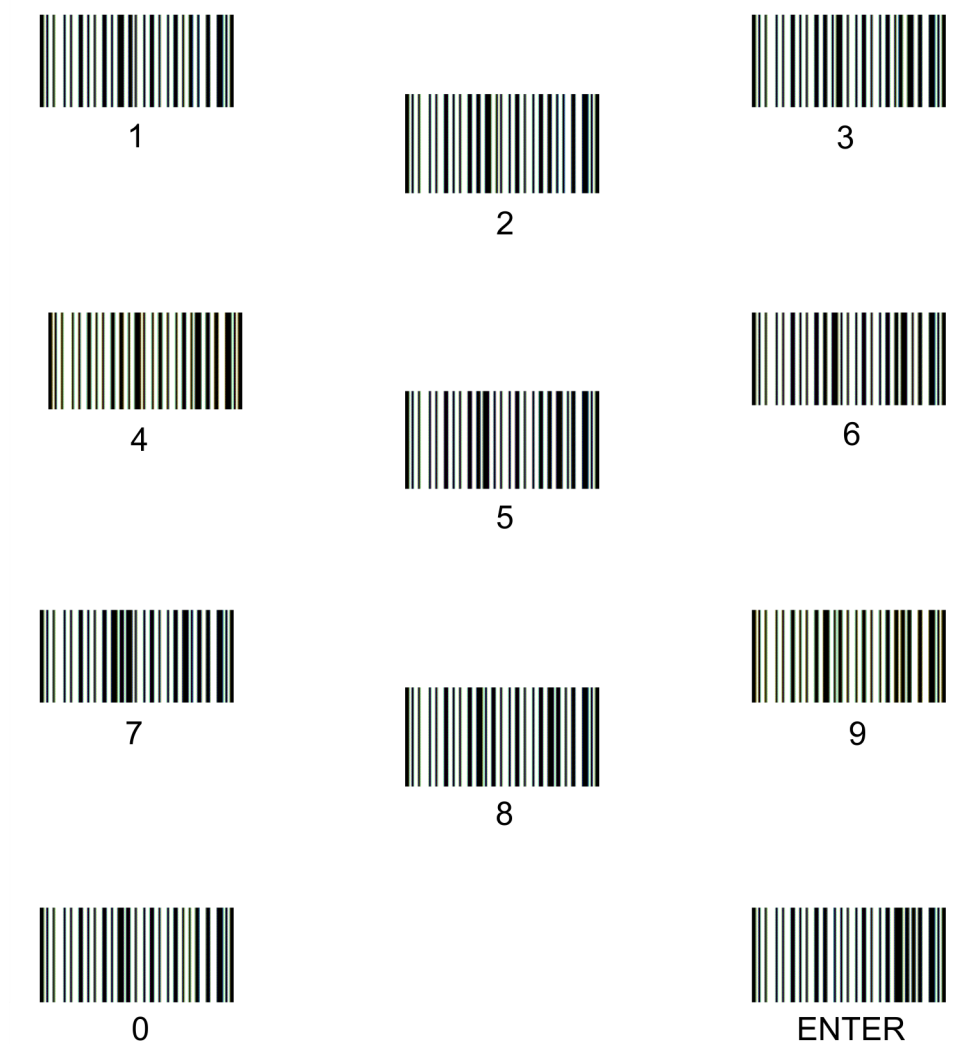
The scanner connects to the host via Bluetooth and emulates a keyboard. The scanner accepts an incoming connection, requested by a Bluetooth host.

2. Save the settings and disconnect the device from the computer.

On the host computer, launch the third party Bluetooth pairing application and place the application into discover Bluetooth device mode.

3. Select the ECCO+ from the discovered device list. The Bluetooth application may prompt you to scan a passkey it generated, or for you to create one and then scan the PIN code.
4. If the Bluetooth application prompts you to generate a PIN, enter the configured Bluetooth PIN
DEFAULT: 1234
Once set, the PIN can be changed via Master Setup or in the Config.ini.
5. If the Bluetooth application prompts you to enter the pass key it generated, scan numeric barcodes on page 10 and confirm by scanning ENTER.
6. The right LED (4) lights constantly blue as long as the device is connected.

7.1 Numeric Barcodes for Bluetooth Pairing



8 Wi-Fi Connection

To connect Wi-Fi enabled devices to a host.

1. Connect the device to the host using the USB port and use the Master Setup to set the data output mode to Wi-Fi.
2. Open the file “config.ini” setup the parameters for Wi-Fi and host connection (See the document “Config_ini” section Wi-Fi to learn how to set the parameters for Wi-Fi communication). Alternatively, the parameters can also be set via the Master Setup in the tab “Connectivity”.
3. Save the settings and disconnect the device from the computer.
4. The device tries to connect to the configured wireless network. The right LED (4) flashes blue every second. If the device could connect to the wireless network and to the host, the right LED (4) flashes slowly blue every 3 seconds.

If the device fails to connect, please check the parameters configured in the file “config.ini”. Ask your network administrator for assistance if necessary.

9 Transmitting Barcode and/or RFID Data to a Host

Batch mode

All barcodes and RFID data scanned in batch mode are saved in the file "Output.txt" on the removable drive "SCANNDY". Connect the device to the host computer via USB and use the Windows-Explorer to navigate to the device "SCANNDY". Copy the file "Output.txt" to the host.

To delete the data from the device just delete the file "Output.txt".

Transmitting data from a Bluetooth or Wi-Fi device

When the scanner is paired to a host via Bluetooth, the data transmits to the host after each scanning procedure and is not stored on the scanner unless the scanner moves out of the range of the host. For out of range usage you can configure the device to either store the data in a cache memory or do not allow scanning.

If the device was configured to store the out of range captured data, it stores the data in a file Cache.txt.

After reconnection and another scan the device transmits all cached data to the host.

Via Master Setup a key for emptying the cache can be assigned.

Example:

1. No connection: 3 tags are scanned → stored in the cache
2. Reconnection via Bluetooth or Wi-Fi
3. 1 tag is scanned → 1 + 3 data sets are transmitted

Bidirectional communication for Bluetooth and Wi-Fi connected devices

For applications that require bidirectional communication between the device and the host, PANMOBIL devices support an embedded communication protocol SCOMP and REMOTE mode.

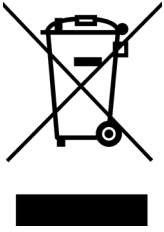
10 Troubleshooting

Problem	Possible Solution
Device does not turn on.	Make sure the battery is charged.
Laser comes on but device does not decode barcode.	• Ensure the device is configured to read the type of code being scanned. • Ensure the code is not defaced. Try to read another barcode. • Move the device closer to or further from the code. This depends on your barcode size.
The device is on but does not react on any keystroke.	• Press and hold the keys 5+6+7+8 for 5 seconds to reset the device. By reset the device loses its timestamp. Before you continue to use it, you must synchronize the time settings by connecting to a host. Connect the device again with the Master Setup- The time will be automatically synchronized with the system time of your PC. Specific configuration settings and data will not be lost by the reset. Stored data and configuration are not affected by a reset.
Bluetooth is not working.	• Ensure that the device is in the correct Bluetooth Mode (HID or SPP). • Ensure that you are paired correct to your host. • Renew your pairing with your host system.
Wi-Fi is not working.	• Ensured that the device is in the correct Wi-Fi Mode (Wi-Fi or Wi-Fi Batch) • Ensure that your Wi-Fi configuration (in Config.ini file) is correct (SSID, Key, Crypto, Host, Port, DHCP, etc.) • Move the device closer to your access point.
Barcode reading ability has degraded.	• Maybe the scan window has become dirty. Please clean your scan window with a soft cloth with water.
Nothing happens when the scan key is pushed.	• Make sure your device is powered on (green LED on the left must be on). • Ensure that your keys are correctly configured.

11 Maintenance and Cleaning

To clean the lense use a clean and dry cleaning cloth. Do not use chemical cleaners, lyes or similar.

12 Disposal



Never dispose of Li-Ion batteries in household waste! Li-Ion batteries can be disposed of at special collection points. Before disposal, make sure that the Li-Ion battery is completely discharged.

13 Approvals

13.1 USA (FCC) and Canada (IC)

Product name:	HF Version	UHF Version
FCC ID: IC:	PJMECCOPLUS 6633A-ECCOPLUS	2AACD-ECCOPLUS 20859-ECCOPLUS
Notice for USA and Canada	This device complies with Part 15 of the FCC Rules and with RSS-210 of Industry Canada. 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. Unauthorized modifications may void the authority granted under Federal communications Commission Rules permitting the operation of this device. This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense. Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.	

Wireless notice:

This product emits radio frequency energy, but the radiated output power of this device is far below the FCC radio frequency exposure limits. Nevertheless, the device should be used in such a manner that the potential for human contact with the antenna during normal operation is minimized. The system antenna(s) used for this transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

① NOTE:

Changes or modifications made to this equipment not expressly approved by FEIG ELECTRONIC GmbH may void the FCC authorization to operate this equipment.

13.2 Europe (CE)

This equipment is intended to be commercialized in all the countries of the European Union and there is no commercialization or operational restrictions in any of the countries.

Hereby, advanced FEIG ELECTRONIC GmbH declares that this Bluetooth, Wi-Fi barcode scanner is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC



Performance Classification according to ETSI EN 301 489: Class 2

14 Warranty

FEIG ELECTRONIC warrants that the product will be free of defects in material and workmanship for 12 months from the date of shipment when used as intended. FEIG ELECTRONIC will, at its option, either repair or replace the defective products. Such repair or replacement shall be buyer's sole remedy in the event of manufacturer's breach of his limited warranty. Repaired or replaced parts or products may include new, reconditioned or remanufactured parts and equipment at manufacturer's option. All costs associated with shipment to FEIG ELECTRONIC for warranty service, including but not limited to freight, duties, insurance and custom fees, are buyer's responsibility. FEIG ELECTRONIC will pay the freight costs (duties, insurance, customs and any other fees) associated with the return shipment to the buyer. The method of shipment will be at the manufacturer's discretion. Repair or replacement of any parts or equipment does not extend the period of warranty provided for herein.

THIS LIMITED WARRANTY IS THE MANUFACTURER'S ONLY WARRANTY. FEIG ELECTRONIC DOES NOT GIVE WARRANTIES OF MERCHANTABILITY OR WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE.

To take advantage of this warranty, the buyer should contact the seller not the manufacturer. The warranty set forth herein does not cover and FEIG ELECTRONIC will have no obligations hereunder if any non-conformance is caused in whole or in part by accident, transportation, neglect, misuse, alteration, modification, or enhancement of the product or incorporation, interfacing, attachment of any feature, program, or device to the product by a person or entity other than the manufacturer, failure to provide a suitable installation environment, use of the product for other than the specific purpose for which the product is designed or any use of the product not in accordance with the User Guide or other misuse or abuse of the product. The warranty does not cover problems linked to batteries.

In case the product was bought directly from FEIG ELECTRONIC the buyer should refer to www.panmobil.com/rma.

Shipment Address:

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Hansestrasse 91
D-51149 Cologne