Smart-Ex 03 DZ1/DZ2

User Manual

Intrinsically Safe
5G Smartphone

Your automation, our passion.

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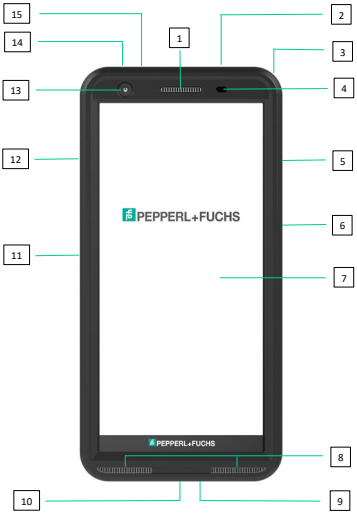
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Note:

The current user manual and Ex-safety manual can be downloaded from the relevant product page at www.pepperl-fuchs.com, or alternatively they can be requested directly from Pepperl+Fuchs.

1. Application

1.1 Smart-Ex 03 DZ1

The Smart-Ex 03 DZ1 is an intrinsically safe water-, dust- and impact resistant smartphone for industrial application in areas with an increased risk of explosion in Zone 1, Zone 2, Zone 21 and Zone 22.

1.2 Smart-Ex 03 DZ2

The Smart-Ex 02 DZ2 is an intrinsically safe water-, dust- and impact resistant smartphone for industrial application in areas with an increased risk of explosion in Zone 2 and Zone 22.

2. Safety precautions

The safety manual contains information and safety regulations which are to be observed without fail for safe operation in the described conditions. Non-observance of this information and these instructions can have serious consequences or it may violate regulations.

Please read this safety manual carefully before starting to use the device! In the event of conflicting information the details specified in the safety manual, safety instructions and control drawing shall apply. In case of any doubt (in the form of translation or printing errors) the English version shall apply.

3. Safety Guidelines

Please read and understand the following safety guidelines before you use the phone. Keep them in mind when operating the phone. Also, conform to any legal requirements regarding the use of cellular phones.

Icon	Description
	Electrical interference may obstruct the use of your phone. Observe restrictions in hospitals and near medical equipment.
	Ensure that only qualified personnel install or repair your phone.
	Switch off your cellular phone when in an aircraft. Wireless phones can cause interference or danger to an aircraft. In an aircraft, the phone can be used in airplane mode.
	Avoid using the phone in close proximity to personal medical devices, such as pacemakers and hearing aids.
	Adhere to road safety laws. Do not hold/use a phone while you are driving; find a safe place to stop first. Use hands-free microphone while you are driving.
	Use only Smart-Ex® 03 approved charging equipment to charge your phone and avoid damage to your phone.
	Do not expose the battery to high temperatures (in excess of +60°C). For charging, the battery temperature of the Smart-Ex® 03 must be between 0 to +45˚C
	WARNING IR emitted from this product. Do not look at the operating lamp
	CAUTION UV emitted from this product. Eye or skin irritation may result from exposure. Use appropriate shielding

	In accordance with IEC 62368-1:2018 Clause F.5, below logo is placed on the phone where the surface temperature limit for ordinary persons is exceeded (+48°C) and the following explanation applies: Hot parts! Temperature >+48°C, but <+58°C, may occur at the location where the logo is placed on the phone in very rare high-power consuming use cases.
	This device has been tested to comply with the Sound Pressure Level requirement laid down in the applicable EN 50332-1 and/ or EN 50332-2 standards. Permanent hearing loss may occur if earphones or headphones are used at high volume for prolonged periods of time. To prevent possible hearing damage, do not listen at high volume levels for long periods.
	The Smart-Ex® 03 is water-proof and can be submerged up to 1.0 meters for 31 minutes. Make sure to properly close the rubber cover of the charging connector and audio connector. The screws of the back cover must be tightened to avoid deposits of water drops on these connectors, when the phone is immersed in water. Water droplets may condense under the display cover if the phone is immersed in water with significant drop in temperature. This does not indicate water leakage. The droplets disappear at room temperature. The Smart-Ex® 03 is dust-resistant, rugged and shock-resistant. However, it is not dust-proof or unbreakable if subjected to overwhelming impact. For best results and long product life, one should protect the Smart-Ex® 03 from salt water, dust and strong impacts
Li-ion	Please check local regulations for disposal of batteries. The battery should never be placed in municipal waste. Use a battery disposal facility if available.

4. Accessories

Recognized accessories are listed on the relevant product page at www.pepperl-fuchs.com.

Note: The USB interface and Audio Plug do not have to be closed by the respective dust and dirt cover.

5. Device layout

(see illustration on page 2)

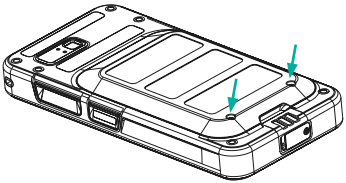
1. Ear-piece | 2. Headset | RSM interface | 3. Eyelet | 4. Proximity | Light sensor
5. Multifunction key right | 6. Power key with fingerprint sensor | 7. Touchscreen
8. Loudspeakers | 9. Microphone | 10. USB-C interface | 11. Multifunction key left
12. Volume key | 13. Front camera | 14. Alarm key | 15. Notification LED
16. Rear camera | 17. Noise canceling microphone | 18. Flash LED
19. Battery | 20. NFC antenna | 21. Charging contacts

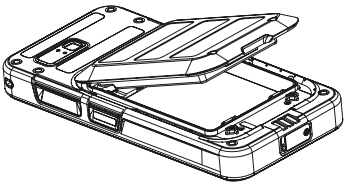
6. Inserting the SIM card and the battery pack

How to insert the nano-SIM card and the battery pack.

Step 1

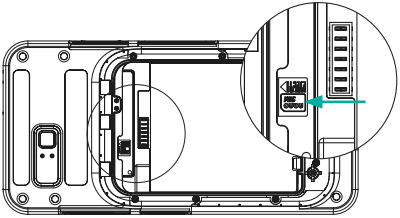
To insert the nano-SIM card, unscrew the two cover screws in a counterclockwise direction and remove the battery.
Please use the screwdriver Torx T8 provided with the phone.





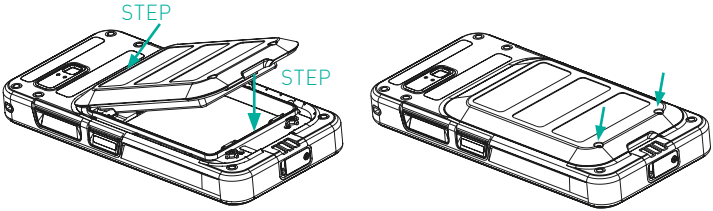
Step 2

Insert the nano-SIM card with the gold-colored contacts facing downwards by pushing it upward in the designated slot.



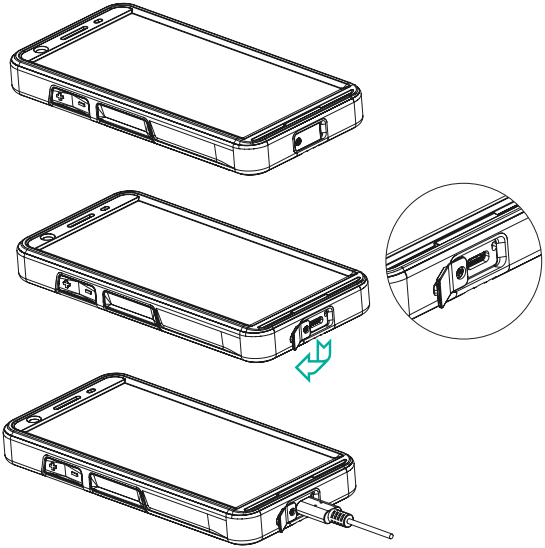
Step 3

Insert the battery into the battery slot in the prescribed order as shown in the illustration below and screw down the two cover screws in a clockwise direction. Please use the screwdriver Torx T8 and ensure not to overtighten the screws.



Step 4

It is recommended to fully charge the battery before using the smartphone for the first time. To charge the smartphone, open the USB-C cover and rotate it 180° to fix it in place. After that the USB-C cable can easier be connected.



7. Charging the Smartphone

The battery of the smartphone is not fully charged. It is recommended to fully charge the battery before using the smartphone for the first time. The full capacity of the battery is reached after 3-4 complete charge/discharge cycles.

Note:

- Please insert the battery swiftly to ensure that it is detected right.
- If the battery is not detected by the device, please connect the travel charger

provided with the phone to activate the battery.

- There is a risk of explosion if the device is exposed to a flame.
- Do not short circuit the battery.
- The battery does not contain any parts that can be exchanged.
- The casing of the battery should not be opened under any circumstances.
- Only use ecom charging accessories.
- The use of other charging accessories or batteries is not permitted. Explosion protection cannot be guaranteed in this case.
- Used batteries are to be disposed of properly.
- If the phone is not going to be used for a prolonged period, the battery should be removed.
- The charge level of the battery pack has to be checked at the latest after 1 month if the battery was built in the device and after 3 months if the battery is not built in, to prevent deep discharge.
- The phone should not be connected to the charger if the battery is not inserted.
- If the battery is completely discharged, the phone will not switch on and the display will not show a charging process, connect the phone to the charger. After charging for a few minutes the display will appear again and you can then switch on the phone.
- Battery usage by children should be supervised.
- The device may only be charged with the delivered travel charger in a temperature range of 0 °C ... +45 °C.
- Recommended charging range 0 °C ... +30 °C for best charging performance.

8. Safety precautions for battery packs

Damaged batteries and chargers should be removed from use and sent to Pepperl+Fuchs for inspection. When sending batteries/battery packs or devices containing batteries/battery packs; the sender must comply with the transport regulations for dangerous goods.

Note:

- Extreme temperatures can have an adverse effect on charging the battery.
- Do not dispose of the battery pack in a fire.
- Dispose of the battery pack in accordance with local regulations and not with normal household waste.
- High-quality lithium-ion batteries are used in your Smart-Ex 03 DZ1, Smart-Ex 03 DZ2.

These batteries have numerous advantages in everyday use, such as a low weight and high capacity in a nevertheless compact construction.
In addition these batteries also exhibit practically no memory effect. However, these batteries are susceptible to a natural aging process which impairs their functionality. Modern batteries today have a lifespan of around 500 charge cycles, which, when used daily, corresponds to a service life of approximately. 2 years. The aging process increases rapidly after this period, which means that the batteries are deemed technically defective after 500 charge cycles. Moreover, the battery cells could expand and cause irreparable damage to your device in a worst case scenario. For this reason rechargeable battery with lithium cells should be replaced after 2 years at the latest or after reaching a battery capacity that is 50% of its initial value.

Note:
The battery used in this unit poses a fire hazard and can cause chemical injuries if it is used improperly. Neither the battery nor the battery cells should be opened or disassembled and they should not be burned or exposed to temperatures exceeding +70 °C.

9. Repair

Repairs are to be conducted by the manufacturer or an authorized service center, because the safety of the device needs to be tested after repairs are implemented. The actual repair report sheet can be downloaded from the service area at www.pepperl-fuchs.com.

10. Cleaning, maintenance and storage

- Only use a suitable cloth or sponge to clean the phone.
- Do not use any solvents or abrasive cleaning agents when cleaning.
- It is recommended that you have the functionality and accuracy of the phone inspected by the manufacturer every two years.
- Do not exceed the permissible storage temperature range of -20 °C ... +60 °C!
- Recommended temperature for long-term storage is +20°C ± 3°C.

11. Disposal

Old electrical devices by Pepperl+Fuchs will be directed to disposal at our expense and disposed of free of charge in accordance with European Directive 2012/19/EU. Please follow local regulations for the disposal of electronic products. The costs associated with returning devices to Pepperl+-Fuchs are to be borne by the sender. Old electrical devices should not be disposed of along with normal or household waste.

Dispose of batteries in accordance with European Directive BattV (EU) 2023/1542. Batteries should not be disposed of with normal or household waste. Disposal can be done via appropriate collection points in your country.

Note:

The battery used in this unit poses a fire hazard and can cause chemical injuries if it is used improperly. Neither the batteries nor the battery cells should be opened or disassembled and they should not be burned or exposed to temperatures exceeding +70 °C. In case of disposal, the battery can be removed as described in the safety manual under point 5.

The disposal regulations specified above are also applicable for old devices.

12. Warranty and liability

The warranty of this product follows the General Conditions of Delivery and Payment of Pepperl+Fuchs SE, which are available at www.pepperl-fuchs.com, or alternatively they can be requested directly from the manufacturer. This warranty can be extended by the optional Service Level Agreement.

13. EU Declaration of Conformity and Certificate

The EU declaration and the certificate of conformity is enclosed with the sales packaging as a separate document.

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Printed in Germany · DOCT-9007A | 01/2024
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