



Smart-Ex® 01 | Ex-Handy 09

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### Note:

The current safety instructions, operating instructions, EU Declaration of Conformity and the Certificate of Conformity can be downloaded from the relevant product page at [www.ecom-ex.com](http://www.ecom-ex.com), or alternatively they can be requested directly from the manufacturer.

## **1. Application**

### **1.1 ATEX & IECEx**

The Smart-Ex 01 and Ex-Handy 09 are intrinsically safe water-, dust- and impact resistant Smartphones for industrial application in areas with an increased risk of explosion in zone 1, zone 2, zone 21 and zone 22 in accordance with directives 1999/92/EC, 2014/34/EU (ATEX) and the IECEx System.

### **1.2 NEC & CEC**

The Smart-Ex 01 and Ex-Handy 09 are intrinsically safe water-, dust- and impact resistant Smartphones for industrial application in areas with an increased risk of explosion. Approved for Division 1 and 2 Class I, II, III.

## **2. Safety precautions**

These safety instructions contain 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 these safety instructions carefully before starting to use the device! In the event of conflicting information the details specified in the safety instructions shall apply.

In case of any doubt (in the form of translation or printing errors) the English version shall apply.

## **3. Faults and damage**

If there is any reason to suspect that the safety of the device has been impaired, it must be withdrawn from use and removed immediately from the hazardous area. Measures must be taken to prevent it from being used within the hazardous area accidentally.

The safety of the device maybe compromised, if, for example:

- There is visible damage to the housing.
- The device has been subjected to excessive loads.
- The device has been improperly stored.
- The device has been damaged in transit.
- Device markings or inscriptions are illegible.
- Malfunctions occur.
- Permitted limit values have been exceeded.

#### 4. Safety regulations

Use of the intrinsically safe Smartphone Smart-Ex 01 or Ex-Handy 09 assumes that the operator observes the conventional safety regulations and has read the certificate of conformity in order to eliminate malfunction of the device.

The following items are to be observed:

Operating conditions:

- It must be ensured that the device is not taken into zones 0 or 20.
- The device has to be protected against strong impacts.
- The device must be protected against exposure to UV-radiation.
- The SIM-Card Slot Cover must be screwed tight before entering the hazardous location.
- The device shall not be repaired or dismantled.

Electrostatic:

- The unit must not be used in close proximity to processes generating high electrostatic charges.
- Friction of the housing should be avoided as far as possible for electrostatic charging reasons.
- Under certain extreme circumstances, exposed plastic and unearthed metal parts of the enclosure may store an ignition-capable level of electrostatic charge. Therefore, the user/installer shall implement precautions to prevent the buildup of electrostatic charge, e.g. locate the equipment where a charge-generating mechanism (such as wind-blown dust) is unlikely to be present and clean the equipment with a damp cloth.

Charging and data connections:

- The Smartphone may only be charged outside the hazardous area and only by using the Safety Box "SB S01".
- The Smartphone may only be charged in a temperature range of 0 – 45 °C.
- The data connection via USB is only allowed outside the hazardous areas and only allowed by using the Safety Box "SB S01".
- For charging or data transfer first connect the Safety Box "SB S01" to the phone, then connect the Safety Box "SB S01" to an USB-A socket.
- If done differently, the Safety Box may be electrically damaged.

Power supply requirements as per EN/IEC 60079-14:

- It must be ensured that the power supply used fulfills SELV or PELV requirements.

- The output voltage of the power supply must match with the maximum input Voltage  $U_m$  of the Safety Box "SB S01";  $U_m=29V$

Accessoires:

- Only accessories approved by ecom instruments GmbH may be used or intrinsically safe accessories applying to the relevant entity parameter for the audio jack as stated in document 500055EX05A.
- Recognized accessories are listed on the relevant product page at [www.ecom-ex.com](http://www.ecom-ex.com).
- Wired headsets may only be used inside hazardous areas if the headset itself is certified for use inside hazardous areas and the headset meets the interface parameter of the Smartphone. In such case the Ex-Marking and special conditions of certification of the accessory must be observed additionally.

## 5. Ex-Data

### 5.1 ATEX

EC-Type Examination Certificate: EPS 14 ATEX 1 767 X

Ex-Marking:           ⊕ II 2G Ex ib IIC T4 Gb IP64  
                              ⊕ II 2D Ex ib IIIC T135°C Db IP64

Ambient temperature:  $T_a$  -20 °C ... +55 °C

Approved for zone 1 and 2, device group II, explosion group IIC (explosive gases, vapors or mist), temperature class T4. Approved for zone 21 and 22, device group II, explosion group IIIC (combustible flying, non-conductive dust and conductive dust), maximum Temperature 135°C.

### 5.2 IECEx

IECEx Certificate of Conformity no.: IECEx EPS 14.0093X

Ex-Marking:           Ex ib IIC T4 Gb IP64  
                              Ex ib IIIC T135°C Db IP64

Ambient temperature:  $T_a$  -20 °C ... +55 °C

Approved for zone 1 and 2, device group II, explosion group IIC (explosive gases, vapors or mist), temperature class T4. Approved for zone 21 and 22, device group II, explosion group IIIC (combustible flying, non-conductive dust and conductive dust), maximum Temperature 135°C.

### 5.3 NEC & CEC

Ex-Marking: Class I, II, III Div 1 Groups A-G T4

Ambient temperature: Ta -20 °C ... +55 °C



Approved for Division 1 and 2 Class I, II, III.

Please note: Only devices showing the FCC and IC identification numbers are approved and certified to be used in the United States and Canada

### 6. Specifications

Operating system: Android 4.4 (Kitkat)

Networks: EDGE 850/900/1800/1900 MHz

HSPA 850/900/1700/2100 MHz

LTE 800/900/1800/2100/2600 MHz

Bluetooth: 4.0/BLE (Bluetooth Low Energy)

Power supply: Li-Ion battery 3600 mAh, 3.7 V (built-in)

CE-designation: **CE** 0102

Protection class: IP68 (for 30 minutes, 2 meters under water)

SAR: max. 0.350 W/kg (10g) Smart-Ex 01

max. 0.327 W/kg (10g) Ex-Handy 09

Inserting the SIM Card:

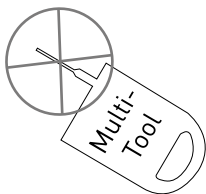
1. Remove the screws of the headset port cover and the SIM card cover with the provided Multitool "MT S01" and remove both covers.
2. Insert the pin of the Multitool "MT S01" into the pinhole and press inside. The SIM card tray will pop-up. Use the pin to hook into the loop on top of the SIM card tray and remove the tray completely.
3. Insert the SIM card in the tray and return the tray into the slot by pushing it in. Making sure the pinhole is not aligned next to the headset port.
4. Refix both the covers and screws in place using the Multitool "MT S01".

Notice:

Insert SIM card tray as shown to avoid damage to the card.

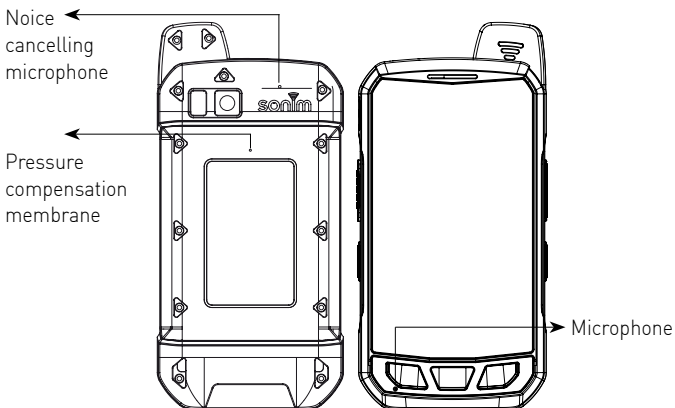


This information is also shown on the protection film affixed to the display of the Smartphones. For optimal use of the touch screen you should remove the protection film before using the Smartphone for the first time.



### Warning!

None of the openings at either side of the device are reset buttons! The insertion of sharp objects will damage components of the device that are mandatory for the Ex-safety. Do not insert any objects into openings of the device!



## 7. Charging the Smartphone

Charging the Smartphone is allowed only outside hazardous areas!

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

Note:

- There is a risk of explosion if the device is exposed to a flame.
- Only use ecom charging accessories (see point 4).

Don't attempt to replace the Smart-Ex 01 or Ex-Handy 09 battery yourself—you may damage the battery, which could cause overheating and injury. Note that when opened by an unauthorized person, the Ex-protection as well as the warranty is void.

In case the lithium-ion battery in Smart-Ex 01 or Ex-Handy 09 has to be replaced only by ecom instruments GmbH or by personnel or service centers authorized by ecom instruments GmbH, and must be recycled or disposed of separately from household waste. Don't incinerate the battery.

- The charge level of the device has to be checked after 9 months at the latest in order to prevent deep discharge.
- 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.

## 8. Safety precautions for built-in battery

Damaged devices and chargers should be removed from use and sent to ecom instruments GmbH 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 device in a fire.
- Dispose of the device in accordance with local regulations and not with normal household waste.

High quality lithium-ion batteries are used in your Smart-Ex 01 and Ex-Handy 09. 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 ageing 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 batteries 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 100 °C.

## **9. Repair**

Repairs are to be conducted by ecom instruments GmbH or by personnel or service centers authorized by ecom instruments GmbH, 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.ecom-ex.com](http://www.ecom-ex.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 ... +55 °C!
- The device should only be stored within a range of -20 °C to +40 °C (for up to 3 months) or within a range of -20 °C to +50 °C (for up to 1 month).

## **11. Disposal**

Old electrical devices by ecom instruments GmbH will be directed to disposal at our expense and disposed of free of charge in accordance with European

Directive 2002/96/EC. Please follow local regulations for the disposal of electronic products. The costs associated with returning devices to ecom instruments GmbH are to be borne by the sender.

In accordance with Article 1, Section 18 and Article 2 of the Act revising the law of Waste-Related Product Responsibility for Batteries and Accumulators (Gesetz zur Neuregelung der abfallrechtlichen Produktverantwortung für Batterien und Akkumulatoren) dated 25 June 2009, we are obligated to provide the following information.


Your device contains a rechargeable lithium battery.

Depleted batteries or rechargeable batteries that can no longer be recharged should never be disposed of along with normal or household waste. Old batteries can contain harmful substances that are hazardous to health and damaging to the environment. Please return the batteries/rechargeable batteries. Return is free of charge and required by law. Please only dispose of discharged batteries in the designated containers and tape the terminals of lithium batteries.

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 100 °C. If the battery needs to be disposed of, it can be removed as described under point [7]. The disposal regulations specified above are also applicable for old devices.

All batteries and rechargeable batteries can be recycled. Precious raw materials such as iron, zinc and nickel can therefore be reused.



The symbol  has the following meaning: Old electrical devices should not be disposed of along with normal or household waste.

## 12. Warranty and liability

The warranty of this product follows the General Conditions of Delivery and Payment of ecom instruments GmbH, which are available at [www.ecom-ex.com](http://www.ecom-ex.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.

Please also observe the information provided underneath the table of contents.

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