



## ECOM Instruments Smart-Ex 03 DZ1 5G Smart Phone Instruction Manual

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 **PEPPERL+FUCHS**  
Ex-Safety Manual  
ATEX / IECEx / UKEX  
Intrinsically Safe  
5G Smartphone  
Smart-Ex 03  
DZ1



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## Smart-Ex 03 DZ1 5G Smart Phone



### Note:

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

### Safety precautions:

These safety instructions contain information and safety regulations which are to be observed. Non-observance of this information and these instructions can have serious consequences and may violate regulations. Please read these safety instructions carefully before using the device for the first time! In the event of conflicting information the details specified in the Ex-safety manual shall take precedence. In case of any doubt (in the form of translation or printing errors) the English text shall be applied.

### 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If there is any reason to suspect that the safety of the device has been impaired, it must be withdrawn from use and removed immediately from the hazardous area.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 on the housing.
- Malfunctions occur.
- The device has been improperly stored.

- Device markings or inscriptions are illegible.
- Permitted limit values have been exceeded.

### Certification:

ATEX/UKCA-Marking:	Ⓔ II 2 GD
Ex-Marking gas:	Ex ia IIC T4 Gb
Ex-Marking dust:	Ex ia IIIC T135°C Db
IECEX Certificate no.:	IECEX EPS 23.0021X
ATEX Certificate no.:	EPS 23 ATEX 1 094 X
UKEX Certificate no.:	EPS 23 UKEX 1 095 X
Ambient Temperature:	-20°C ≤ Ta ≤ +60°C

The Ex specified ingress protection level of IP64 differs to the specified industrial IP-rating due to the increased enclosure tests required under IEC 60079-0 in conjunction with the tests listed in IEC 60529.

### Warnings:

- USE ONLY BATTERY PACK TYPE EX-BP S03 OR EX-BP S03s
- DO NOT OPEN THE DEVICE IN A HAZARDOUS LOCATION
- DO NOT CHARGE THE BATTERY IN A HAZARDOUS LOCATION

### Specific conditions of use (X-conditions):

The device shall be protected against high energy impacts.

When used in group IIC or IIB environments the device shall not be used in close proximity to processes producing high electrostatic charges.

### Safety instructions:

Charging, SIM-card and battery pack replacement is only allowed in ordinary (non-hazardous) locations. It must be ensured that the battery cover is mounted properly before entering the hazardous location so that the IP rating of the device is not affected.

The device may only be charged in a temperature range of 0 °C to 45 °C.

Charging and wired data-transfer via the USB-C interface is limited to a maximum Um of 6V and a current of 10A (Im).

It must be ensured that the power plug/supply used for charging and wired data connections via the USB-C port is a non-shock hazard extra low voltage equipment such as SELV, PELV or ES1 as per IEC 62368-1 (former IEC 60950-1) or equivalent.

Intrinsically safe equipment for use in the hazardous location connected to the audio jack or USB-C interface must fulfill one of the following:

- The combination of the intrinsically safe equipment and the Smart-Ex 03 DZ1 must be assessed and the certificate of the equipment must allow the connection to the Smart-Ex 03.
- The equipment entity parameter must match with the Smart-Ex 03 DZ1 entity parameter as follows:

## Entity parameter USB-C interface for use in hazardous locations

$U_o = 4.2 \text{ V} / I_o = 0.8 \text{ A} / P_o = 0.6 \text{ W} / C_o = 2 \text{ } \mu\text{F} / L_o = 8 \text{ } \mu\text{H}$   
 $U_i = 4.4 \text{ V} / I_i = 1.5 \text{ A} / P_i = \text{NR} / C_i = 15 \text{ } \mu\text{F} / L_i = 2 \text{ } \mu\text{H}$

## Entity parameter Audio Jack for use in hazardous locations

$U_o = 3.6 \text{ V} / I_o = 290 \text{ mA} / P_o = 210 \text{ mW} / C_o = 2.6 \text{ } \mu\text{F} / L_o = 730 \text{ } \mu\text{H}$   
 $U_i = 4.5 \text{ V} / I_i = 30 \text{ mA} / P_i = \text{NR} / C_i = 0 \text{ } \mu\text{F} / L_i = 0 \text{ } \mu\text{H}$

## Spare parts user replacement in ordinary locations

The following spare parts are allowed to be replaced by the end user in ordinary non-hazardous locations:

- a) USB-C Cover
- b) Audio Jack door
- c) Battery Cover / Battery pack

### Repair:

Repairs are to be conducted by the manufacturer or an authorized service center.

## Non-Electrical accessories:

The following accessories are allowed to be used together with the SmartEx 03 in the hazardous location. The accessories groups and EPL must be considered together with the groups and EPL of the Smart-Ex 03 model used. The worst case of both must be assumed.

Accessory	Description	Suitable for Group and EPL	Restriction
CR-Ex S03*	Cradle with belt- or spring clip	Groups I, IIC, IIIC EPL Ma, Ga, Da	None
LC-Ex S03*	Leather case with belt- or spring clip	Groups I, IIC, IIICEPL Ma, Ga, Da	In IIC environments no use next to strong charge producing mechanisms
LH-Ex S03	Leather holster	Groups I, IIC, IIIC EPL Ma, Ga, Da	None
RL ID01	Retractable lanyard	Groups I, IIC, IIIC EPL Ma, Ga, Da	None
EXT-C2LCO I L	Coil tether	Groups I, IIC, IIIC EPL Ma, Ga, Da	None
Mini QD Loop	Mini disconnect clip with loop	Groups I, IIC, IIIC EPL Ma, Ga, Da	None
ST 02 with tether	Stylus pen with tether	Groups I, IIC, IIIC EPL Ma, Gb, Da	None

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## Documents / Resources

	<p><a href="#">ECOM Instruments Smart-Ex 03 DZ1 5G Smart Phone</a> [pdf] Instruction Manual DZ1, DZ2, Smart-Ex 03 DZ1 5G Smart Phone, Smart-Ex 03 DZ1, 5G Smart Phone, Smart Phone, Phone</p>
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## References

- [FUCHS Global lubrication solutions | FUCHS Group | Fuchs SE](#)
- [Pepperl+Fuchs International. Industrial Sensors, Factory Automation, Process Automation, Intrinsic Safety, Explosion Protection](#)
- [Pepperl+Fuchs International. Industrial Sensors, Factory Automation, Process Automation, Intrinsic Safety, Explosion Protection](#)
- [User Manual](#)

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