

# Certificate of Conformity

## Ex EQUIPMENT

Certificate No.:	<b>ANZEx 20.3010X</b>	Current Issue:	0	Date of Issue:	2020-12-11
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**Applicant:** **Pepperl+Fuchs SE**  
Lilienthalstrasse 200  
68307 Mannheim  
Germany

**Equipment:** Intrinsically safe smartphone Smart-Ex 02 \*\*\* M

**Type of Explosion Protection:** intrinsic safety "ia"

**Explosion Protection Marking:** Ex ia op is I Ma IP64  
(0°C ≤ Ta ≤ +50°C)

*This certificate is granted subject to the conditions as set out in  
Standards Australia/Standards New Zealand Miscellaneous Publication **MP87.1***

Signed for and on behalf of issuing body



Name & Position

Ujen Singh – Quality and Certification Manager

*This certificate is not transferable and remains the property of the issuing body.*

*The status of this certificate can be confirmed through the database located at [www.anzex.com.au](http://www.anzex.com.au)*

Certificate issued by:

TestSafe Australia  
919 Londonderry Road, Londonderry NSW 2753 Australia

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**Manufacturer:** **ecom Instruments GmbH**  
Industriestrasse 2  
97959 Assamstadt  
Germany

**Additional  
Manufacturing  
Location(s):** None

### STANDARDS:

*The equipment and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards:*

<b>IEC 60079-0:2017 Ed 7</b>	Explosive atmospheres - Part 0: Equipment - General requirements
<b>IEC 60079-11:2011 Ed 6</b>	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
<b>IEC 60079-28:2015 Ed 2</b>	Explosive atmospheres - Part 28: Protection of equipment and transmission systems using optical radiation

*This Certificate does not indicate compliance with safety and performance requirements other than those expressly included in the Standards listed above.*

### TEST & ASSESSMENT REPORTS:

*The equipment listed has successfully met the examination and test requirements as recorded in:*

Test Report Nos. & Issuing Bodies associated with all issues of the certificate:	DE/EPS/ExTR19.0116/02; Bureau Veritas Consumer Products Services Germany GmbH
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Quality Assessment Report No. & Issuing Body:	DE/PTB/QAR06.0008/13; PTB
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File Reference:	2020/011127
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### Schedule

#### Equipment Description:

The intrinsically safe Smart Phone of type Smart-Ex 02 \*\*\* M is a communication device intended for use in mines susceptible to firedamp.

The device provides additional features such as camera, GPS, NFC, acceleration sensor, WiFi, Bluetooth, vibration motor, headphone connector, magnetic sensor and flash-light. Different integrated antennas can be used for the usual cellular systems. The device is equipped with an exchangeable Li-Ion battery unit. Charging and wired data transfer is done via the magnetic USB-connector in ordinary locations only.

Degree of protection is required by the used standards and was carried out according to IEC 60529. The requirements of IEC 60079-0 Clause 26.4.5.1 for testing were respected.

#### Electrical Ratings/Parameters

Supply: Two rechargeable built-in Li-Ion batteries in parallel.

Battery pack Ex-BP S02 nominal data: 3.7 V, 4400 mAh, 16.28 Wh or

Battery pack Ex-BP S02C nominal data: 3.7 V, 3920 mAh, 14.5 Wh.

Charging and Wired data transfer:  $U_m = 6V$ , outside of classified hazardous locations only.

#### Specific Conditions of Use:

1. Ambient temperature range:  $0^{\circ}C \leq T_{amb} \leq +50^{\circ}C$ .
2. The battery pack is only allowed to be charged and replaced outside of the classified hazardous location.
3. It must be ensured that the power supply for charging fulfills the requirements for SELV or PELV and  $U_m = 6V$ .
4. The Battery-Cover for card and battery-pack access must be mounted and screwed tight before entering the hazardous location.
5. The device must be protected against high energy impacts.
6. The device shall not be used near processes producing high electrostatic charges.
7. The device shall not be repaired or dismantled (except the Battery-Cover in ordinary locations).
8. The device shall not be used where chemical agents such as oil or grease are likely to come into contact with the equipment.
9. Before entering a hazardous location, the USB cover must be closed tight and shall not be opened again until the end user is in a safe area.
10. The equipment shall remain with a user at all times and be removed from the mine on loss of ventilation or the detection of firedamp.
11. It can use the 3.5 mm Audio Plug in the hazardous locations for connections to certified accessory meeting the following entity parameters:

$U_i = 4.2 V / I_i = 50 mA / P_i = 100 mW / C_i = 0.1 \mu F / L_i = 1 \mu H$

$U_o = 4.2 V / I_o = 0.35 A / P_o = 0.5 W / C_o = 3 \mu F / L_o = 440 \mu H$

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**Additional Information:**

None.

*Manufacturer's Documents associated with this Issue:*

Document Number	Pages / Sheets	Document Title	Revision	Date
16-1438BU-01	108	S02-PCB-Data ( <i>Schematic and PCB Layout</i> )	0	2019-05-10
16-1438BU-02	48	S02-Parts-Lists	0	2019-04-16
16-1438BU-03	3	S02-Assembly Drawings	0	2019-04-16
16-1497TE-10	1	Smart-Ex 02 *** Label Ex-Marking Mining ANZEx	0	2020-11-04