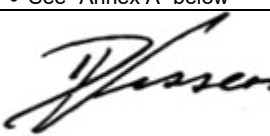





Mining And Surface Certification (Pty) Ltd

2015/021934/07

IN TERMS OF REGULATION 21.17.2 OF THE MINERALS ACT (INCORPORATION THE MINE HEALTH AND SAFETY ACT) AND REGULATION 9 (1) OF THE ELECTRICAL MACHINERY REGULATIONS OF THE OCCUPATIONAL HEALTH AND SAFETY ACT

IA CERTIFICATE	MASC S/19-6122X	Issue	1
Issue Date	11 August 2021	Expiry Date	23 July 2024
*Based on Certificate No	IECEX EPS19.0031X	Issue / Variations / Amendment	0
Requested by	Pepperl-Fuchs (Pty) Ltd 1st fl Zerwick Forum, 8 Glen Eagle Office Park, Cnr Monument Rd and Braambos St, Glen Erasmia, Kempton Park 1619 South Africa		
Manufacturer	Pepperl+Fuchs SE Lilienthalstrasse 200, 68307 Mannheim Germany		
Description	The intrinsically safe Smartphone of type Smart-Ex 02 *** DZ1 is communication device intended for use in hazardous areas of zones 1, 2, 21 and 22. 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. <u>Electrical data:</u> 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: Um = 6V, outside of classified hazardous locations only		
Equipment	Intrinsically Safe Smartphone	Type	Smart-Ex 02 *** DZ1
MARKING: Original marking as per certificate * remains applicable. IA number to be added.	Type Ex Marking IA Number Warnings	Intrinsically Safe Smartphone - Smart-Ex 02 *** DZ1 Ex ib op is IIC T4 Gb IP64 Ex ib op is IIIC T120°C Db MASC S/19-6122X See Base Certificate * and original marking	
Quality Assurance report (QAR) / Notification (QAN):	DE/PTB/QAR06.0008/16		
Quality Assurance report (QAR) / Notification (QAN) Expiry date:	23 July 2024		
Compliance:	The equipment as described above has been allocated the Explosion Protected per rating above utilizing the SANS/IEC Standards: <ul style="list-style-type: none"> • SANS (IEC) 60079-0: 2018 Explosive atmospheres - Part 0: Equipment - General requirements • SANS (IEC) 60079-11: 2012 Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i" • SANS (IEC) 60079-28: 2016 Explosive atmospheres - Part 28: Protection of equipment and transmission systems using optical radiation 		
Special conditions of safe use "X":	<ul style="list-style-type: none"> • See "Annex A" below 		
Conditions of manufacture:	<ul style="list-style-type: none"> • See "Annex A" below 		
 D.P. Visser TECHNICAL SPECIALIST	 N Viljoen TECHNICAL OFFICER		
This certificate covers all units sold as long as the QAR/QAN remains valid. According to the relevant requirements of the MHS Act and the OHS Act, production units of explosion protected equipment are required to comply with third party quality assurance (an approved mark scheme or batch testing by an accredited test laboratory).			

Apparatus in hazardous locations is subject to the following provisions as applicable, which shall be adhered to:
SANS 10086 requirements;
Any conditions mentioned in the above report
Any restrictions and conditions enforced by the chief inspector of mines or chief inspector of factories
Any relevant requirements of the MHS Act.

/I. ANNEX A...

This certificate may only be reproduced in full.
This certificate is not transferable and remains the property of the issuing body

Mining And Surface Certification (Pty) Ltd
Unit 5 Lelyta Park, 45 Jurg Ave, Hennopspark Ext 87
Centurion, 0157

IA CERTIFICATE: MASC S/19-6122X

Equipment: Smart Phone

ANNEX A

This document is based on and must be read in conjunction with certificate IECEx EPS 19.0031X	
Description (According to Base Certificate *)	
"Refer to description in Base Certificate * (and any applicable schedules/issues/variatioins)."	
Issue	Issue 1: Supplemented for review as per ARP 0108.
Standard compliance	See Base Certificate *
Special conditions of safe use ("X")	<ul style="list-style-type: none"> • Ambient temperature range: $-20^{\circ}\text{C} \leq T_{amb} \leq +60^{\circ}\text{C}$ • The battery pack is only allowed to be charged and replaced outside of the classified hazardous location. • It must be ensured that the power supply for charging fulfills the requirements for SELV or PELV and $U_m = 6\text{ V}$. • The Battery-Cover for SIM/SD card and battery-pack access must be mounted and screwed tight before entering the hazardous location. • The device has to be protected against high energy impacts. • The device shall not be used in close proximity to processes producing high electrostatic charges. • The device shall not be repaired or dismantled (except the Battery-Cover in ordinary locations). • It is allowed to use the 3.5 mm Audio Plug in the hazardous locations for connections to certified accessory meeting the following entity parameters: <ul style="list-style-type: none"> $U_i = 4.2\text{ V}$ $I_i = 50\text{ mA}$ $P_i = 100\text{ Mw}$ $C_o = 3\text{ }\mu\text{F}$ $L_o = 440\text{ }\mu\text{H}$
Conditions of manufacture	<ul style="list-style-type: none"> • None
Conditions of Certification	<ul style="list-style-type: none"> • This IA Certificate covers all units sold from the date of this document to the expiry date of this certificate. • As per ARP 0108 a maximum three yearly review is required on this IA Certificate (expiry is determined as per the QAR/QAN/QMS expiry date). • The apparatus must be additionally marked with the MASC marking details above. • This approval only covers the equipment as certified above and does not include any scheduled additions or variations / amendments / new issues to the certificate(s), made after the above date. • The equipment does not need to be re-tested when used on the conditions and with such restrictions as prescribed by the certificate on which this IA Certificate is based and any other conditions in this IA Certificate. • The certification on which this IA Certificate is based must remain valid. • The extent of the requirements in the ARP 0108 (or regulations), SANS 10108 and any other applicable regulations on the certification of the equipment must remain unchanged. • The Ex quality assurance notification/report for the equipment must remain valid.
Conclusion:	<ul style="list-style-type: none"> • From the above and the selective examination of the documentation, nothing contrary to the requirements of the applicable standards was found, provided that the equipment / component is used as described in the above document / certificate and according to the MASC conditions below. A MASC IA certificate is issued based on the work done as per the Base Certificate *. • The routine tests for production units according to the Base Certificate * must be complied with (if applicable).

This document is issued based on Mining And Surface Certification's Standard Contract terms and conditions available on request.

While every endeavour is made to ensure that a test / assessment / inspection is representative and accurately performed, and that a report / certificate is accurate in the quoted results and conclusions drawn from the test / assessment / inspection, MASC or its directors/employees shall in no way be liable for any error made in carrying out the test / assessment or for any erroneous statement, whether in fact or in opinion, contained in a report / certificate issued pursuant to a test / assessment / inspection.

MASC takes no responsibility for any non-conformances, exclusions or any results / assessments / inspections not in compliance with the standards. By marking the equipment in accordance with the documentation / standard, the manufacturer / applicant attests on his own responsibility that the equipment / installation has been designed and constructed in accordance with the applicable requirements of the relevant standards and documentation, that the routine verifications / routine tests have been correctly completed and the equipment / installation complies with the documentation and standard(s).

This document is only for use and application in South Africa. It is issued based on National interpretations and accepted practices



IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification System for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.: **IECEx EPS 19.0031X** Page 1 of 3 [Certificate history:](#)
Status: **Current** Issue No: 0
Date of Issue: 2019-06-17
Applicant: **Pepperl+Fuchs GmbH**
Lilienthalstrasse 200
68307 Mannheim
Germany
Equipment: **Intrinsically Safe Smartphone - Smart-Ex 02 *** DZ1**
Optional accessory:
Type of Protection: **intrinsic safety**
Marking: Ex ib op is IIC T4 Gb IP64
Ex ib op is IIIC T120°C Db

Approved for issue on behalf of the IECEx
Certification Body:

Holger Schaffer

Position:

Certification Manager

Signature:
(for printed version)

Date:

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting www.iecex.com or use of this QR Code.



Certificate issued by:

Bureau Veritas Consumer Products Services Germany GmbH
Businesspark A96
86842 Türkheim
Germany





IECEx Certificate of Conformity

Certificate No.: **IECEx EPS 19.0031X**

Page 2 of 3

Date of issue: 2019-06-17

Issue No: 0

Manufacturer: **Pepperl+Fuchs GmbH**
Lilienthalstrasse 200
68307 Mannheim
Germany

Additional manufacturing locations: ecom instruments GmbH
Industriestrasse 2
97959 Assamstadt

This product may be manufactured at all additional manufacturing locations/product sites listed in DE/PTB/QAR06.0008 and having congruent types of protection and congruent product types as defined in this certificate.

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended

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

IEC 60079-0:2017 Explosive atmospheres - Part 0: Equipment - General requirements
Edition:7.0

IEC 60079-11:2011 Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
Edition:6.0

IEC 60079-28:2015 Explosive atmospheres - Part 28: Protection of equipment and transmission systems using optical radiation
Edition:2

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

TEST & ASSESSMENT REPORTS:

A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in:

Test Report:

[DE/EPS/ExTR19.0029/00](#)

Quality Assessment Reports:

[DE/PTB/QAR06.0008/09](#)

[DE/PTB/QAR07.0004/05](#)



IECEx Certificate of Conformity

Certificate No.: **IECEx EPS 19.0031X**

Page 3 of 3

Date of issue: 2019-06-17

Issue No: 0

EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

The intrinsically safe Smartphone of type Smart-Ex 02 *** DZ1 is communication device intended for use in hazardous areas of zones 1, 2, 21 and 22.

The device provide 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.

Electrical data:

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: YES as shown below:

Ambient temperature range: $-20^{\circ}C \leq T_{amb} \leq +60^{\circ}C$

The battery pack is only allowed to be charged and replaced outside of the classified hazardous location.

It must be ensured that the power supply for charging fulfills the requirements for SELV or PELV and $U_m = 6 V$.

The Battery-Cover for SIM/SD card and battery-pack access must be mounted and screwed tight before entering the hazardous location.

The device has to be protected against high energy impacts.

The device shall not be used in close proximity to processes producing high electrostatic charges.

The device shall not be repaired or dismantled (except the Battery-Cover in ordinary locations).

It is allowed to use the 3.5 mm Audio Plug in the hazardous locations for connections to certified accessory meeting the following entity parameters:

$U_i = 4.2 V$

$I_i = 50 mA$

$P_i = 100 mW$

$C_o = 3 \mu F$

$L_o = 440 \mu H$