



Certificate of Compliance

Certificate: 80057097

Master Contract: 169790

Project: 80057097

Date Issued: 2021-03-30

Issued To: Pepperl+Fuchs SE
Lilienthalstrasse 200
Mannheim, 68307
Germany

Attention: Michael Breitenbach

The products listed below are eligible to bear the CSA Mark shown with adjacent indicators 'C' and 'US' for Canada and US or with adjacent indicator 'US' for US only or without either indicator for Canada only.



Issued by: *Andy Jiang*
Andy Jiang

PRODUCTS

CLASS - C225803 - PROCESS CONTROL EQUIPMENT - Intrinsically Safe and Non Incendive Systems - For Hazardous Locations

CLASS - C225883 - PROCESS CONTROL EQUIPMENT-Intrinsically Safe and Non-Incendive Systems-For Hazardous Locations-Certified to U.S. Standards

For Canada:

- **Class I, Div 1, Groups A, B, C and D T4**
- **Class I, Div 2, Groups A, B, C and D T4**
- **Class II, Div 1, Groups E, F, G T120°C**
- **Class II, Div 2, Groups E, F, G T120°C**
- **Class III**
- **Ex ib op is IIC T4 Gb**
- **Ex ic IIC T4 Gc**
- **Ex ib op is IIIC T120°C Db**
- **Ex ic IIIC T120°C Dc**



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For U.S.:

- **Class I, Div 1, Groups A, B, C and D T4**
- **Class I, Div 2, Groups A, B, C and D T4**
- **Class II, Div 1, Groups E, F, G T120°C**
- **Class II, Div 2, Groups E, F, G T120°C**
- **Class III**
- **Class I, Zone 1, AEx ib op is IIC T4 Gb**
- **Class I, Zone 2, AEx ic IIC T4 Gc**
- **Zone 21, AEx ib op is IIIC T120°C Db**
- **Zone 22, AEx ic IIIC T120°C Dc**

Intrinsically safe Mobile Phone, battery operated including power and energy limitation;
 2 Li-Ion cells (parallel), U_o = 3.7 V, U_{max} = 4.2 V; I_{UBAT_max} = 2.6 A; P_{max} = 10 W

Supply: Two Rechargeable built-in Li-Ion Cells in Parallel

- 1) Battery Pack Ex-BP H10 Nominal data: 3.7V, 4400mAh, 16.28 Watt/hr
- 2) Battery Pack EX-BP H10C Nominal data: 3.7V, 3920mAh, 15.4 Watt/hr

Enclosure: IP64, Type 3

Operating temperature range: -20°C to +60°C

Model Code	Div/Zone	Marking
Ex-Handy H10 *** DZ1	Div 1/ Zone 1 for US	<ul style="list-style-type: none"> • Class I, Div 1, Groups A, B, C and D T4 • Class II, Div 1, Groups E, F, G T120°C • Class III • Class I, Zone 1, AEx ib op is IIC T4 Gb • Zone 21, AEx ib op is IIIC T120°C Db
Ex-Handy H10 *** DZ1	Div 1/ Zone 1 for Canada	<ul style="list-style-type: none"> • Class I, Div 1, Groups A, B, C and D T4 • Class II, Div 1, Groups E, F, G T120°C • Class III • Ex ib op is IIC T4 Gb • Ex ib op is IIIC T120°C Db
Ex-Handy H10 *** DZ2	Div 2/ Zone 2 for US	<ul style="list-style-type: none"> • Class I, Div 2, Groups A, B, C and D T4 • Class II, Div 2, Groups E, F, G T120°C • Class III • Class I, Zone 2, AEx ic IIC T4 Gc • Zone 22, AEx ic IIIC T120°C Dc



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Ex-Handy H10 *** DZ2	Div 2/ Zone 2 for Canada	<ul style="list-style-type: none"> • Class I, Div 2, Groups A, B, C and D T4 • Class II, Div 2, Groups E, F, G T120°C • Class III • Ex ic IIC T4 Gc • Ex ic IIIC T120°C Dc
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*** Stars indicated above do not affect safety.

Output Entity Parameters for 3.5mm Audio Plug:

Parameters	Ex-Handy H10 *** DZ1/ Ex-Handy H10 *** DZ2	
	Gas Application(DZ1)	Gas Application(DZ2)
Terminals		
Voltage Voc/U _o	DC 4.2 V	DC 4.2 V
Isc/I _o	0.35A	0.35A
Power P _o	500mW	500mW
Effective capacitance C _o	3.0uF	5.6uF
Effective inductance L _o	440uH	680uH

Conditions of Acceptability

1. Ambient Temperature range: $-20^{\circ}\text{C} \leq T_a \leq 60^{\circ}\text{C}$
2. Battery pack is only allowed to be charged outside of the classified hazardous location.
3. The device has to be protected from impacts.
4. The SIM-Card-Cover for card access must be screwed tight before entering the hazardous location.
5. The device shall not be repaired or dismantled (Except the SIM-Card-Cover in ordinary locations).
6. It is allowed to use the 3.5mm Audio Plug in the hazardous locations connections to certified accessory meeting the following entity parameters:
 (DZ1)U_o = 4.2 V, I_o =350mA, P_o=500mW, C_o = 3.0uF, L_o =440uH
 (DZ2)U_o = 4.2 V, I_o =350mA, P_o=500mW, C_o= 5.6uF, L_o = 680uH

APPLICABLE REQUIREMENTS

CAN_CSA-C22.2 No. 62368-1-14	-	Audio/video, information and communication technology equipment – Part 1: Safety requirements
CAN/CSA/C22.2 No. 213-17	-	Non-Incendive Electrical Equipment for Use in Class I, Division 2 Hazardous Locations
CAN/CSA-C22.2 No. 60079-0:19 (IEC 60079-0 7 th Edition)	-	Explosive atmospheres - Part 0: Equipment - General requirements
CAN/CSA-C22.2 No. 60079-11:14(R2018) (IEC 60079-11 6 th Edition)	-	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety “i”



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CAN/CSA-C22.2 No. 60079-28:16 (IEC 60079-28 2 nd Edition)	-	Explosive atmospheres — Part 28: Protection of equipment and transmission systems using optical radiation
CAN/CSA-C22.2 No. 60529:16	-	Degrees of protection provided by enclosures (IP Code)
CAN/CSA-C22.2 No. 94.2-15	-	Enclosures for Electrical Equipment, Environmental Considerations
UL 62368-1 2nd Ed	-	Audio/video, information and communication technology equipment – Part 1: Safety requirements
UL Std. No 913, 8 th Edition	-	Intrinsically Safe Apparatus and Associated Apparatus for use in Class I, II, III, Division 1, Hazardous (Classified) Locations.
UL 12.12.01, 9 th Edition	-	Non-Incendive Electrical Equipment for Use in Class I and II, Division 2 and Class III, Divisions 1 and 2 Hazardous (Classified) Locations
UL Std. No. 60079-0, 7 th Edition (IEC 60079-0 7 th Edition)	-	Explosive atmospheres – Part 0: Equipment - General requirements
UL Std. No. 60079-11, 6 th Edition (IEC 60079-11 6 th Edition)	-	Explosive atmospheres – Part 11: Equipment Protection by Intrinsic safety “i”
UL 60079-28, 2 ND Edition (IEC 60079-28 2 nd Edition)	-	Explosive atmospheres — Part 28: Protection of equipment and transmission systems using optical radiation
ANSI/IEC 60529:2004	-	Degrees of protection provided by enclosures (IP Code)
UL 50E, 2st Edition	-	Enclosures for Electrical Equipment, Environmental Considerations

MARKINGS

Please refer to MARKINGS section under Descriptive Report and Test Results for details.



Supplement to Certificate of Compliance

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The products listed, including the latest revision described below, are eligible to be marked in accordance with the referenced Certificate.

Product Certification History

Project	Date	Description
80057097	2021-03-30	Update to report 80057097 Ed.1 based on the existing report # 70213342 Ed.1 (Master Contract # 248090) for intrinsically safe and non-incendive mobile phone Ex-Handy H10. Updates include change of legal entity, change of critical and non-critical components, removal of components on main-board, battery-board, and audio jack PCB. Further updates include drawing revisions, FPC/PCB SIM-SD-FLASH minor layout changes, cameral coil change, and inclusion of new label material.
70213342	2019-10-31	Under master contract # 248090 CSA Certification for Canada and USA on mobile phone/smart-phone of type Ex-Handy 10, based on IECEX Certificate: IECEX EPS 19.0008X and ExTR DE/EPS/ExTR19.0007/01.