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 ExTC 19.0010X**	Page 1 of 5	Certificate history:
Status:	**Current**	Issue No: 1	Issue 0 (2019-08-27)
Date of Issue:	2024-08-01		
Applicant:	**Compac Industries Ltd** 52 Walls Road Penrose Auckland 1061 **New Zealand**		
Equipment:	**TP Slave Display**		
Optional accessory:			
Type of Protection:	**Intrinsic Safety 'i'**		
Marking:	Ex ib IIA T4 Gb Tamb = -40°C to +70°C		

Approved for issue on behalf of the IECEx Certification Body:	**James Bes**
Position:	**Certification Authority**
Signature: (for printed version)	
Date: (for printed version)	2024-08-13

1. This certificate and schedule may only be reproduced in full.
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Certificate issued by:

Ex Testing and Certification Pty Ltd
1/30 Kennington Drive
Tomago NSW 2322
Australia

TESTING & CERTIFICATION

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Manufacturer: **Compac Industries Ltd**
52 Walls Road
Penrose Auckland 1061
New Zealand

Manufacturing locations: **Compac Industries Ltd**
52 Walls Road
Penrose Auckland 1061
New Zealand

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

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 Reports:

AU/EXTC/ExTR19.0009/00 AU/ExTC/ExTR24.0029/00

Quality Assessment Report:

AU/TSA/QAR08.0008/10

IECEx Certificate of Conformity

EQUIPMENT:
Equipment and systems covered by this Certificate are as follows:

The TP Slave Display comprises a CI507 Temp-Press Main Board, either a CI252 or CI253 LCD Panel PCB directly mounted to the Temp-Press Main Board, an optional CI515 Preset Board with one or two 4 x 4 membrane keypads and an optional totaliser, all housed in a plastic enclosure with a polycarbonate front cover. A metal bracket is used to mount the totaliser. The keypads are accessible from outside the plastic enclosure.

Refer to Annex for additional information.

SPECIFIC CONDITIONS OF USE: YES as shown below:
Refer to Annexe for details.

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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)
Refer to Annexe for details.

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Additional information:
ExTC Job no: 24078

Annex:

IECEx ExTC 19.0010X-01 Annex Final 2024-08-13.pdf

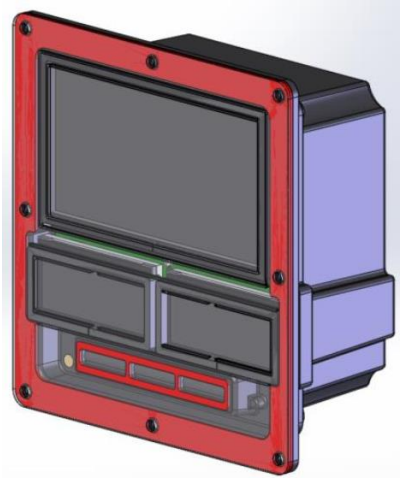
IECEx Certificate of Conformity

Annex

Annex to Certificate No.:	IECEx ExTC 19.0010X	Issue No.:	01

Description: (continued from certificate)

The TP Slave Display is designed to form part of an intrinsically safe control system and is powered via the BUS-IN connector J100 on the CI507 Temp-Press Main Board. Connections are provided for 5 V and 9 V IS supplies, common ground and RS485 communications. The CI507 Temp-Press Main Board provides a BUS-OUT connector J101 which is directly connected to BUS-IN connector J100 (though the pin numbers on J100 for the various circuits are not the same as the pin numbers on J101) for through connected 5 V and 9 V IS supplies, common ground and RS485 communications.



In addition to the BUS-IN and BUS OUT connectors, the Temp-Press Main Board (CI507) provides connectors J200 and J201 for two temperature sensors, connectors J400 to J403 for four pressure probes and connector J500 for a totalizer mounted internal to the enclosure.

Although the CI515 Preset Board is optionally housed in the TP Slave Display enclosure, there is no direct connection with other boards in the enclosure other than the BUS connector. In the same manner as the CI507 Temp-Press Main Board, the CI515 Preset Board is provided with BUS-IN and BUS-OUT connections J100 and J101 respectively. The CI515 Preset Board takes input from the keypad(s) and provides information on the RS485 lines on the BUS.

Specific Conditions of Use:

1. The equipment has a potential electrostatic charging hazard. Clean only with a damp cloth.
2. The following input and output parameters were determined for the various connectors to external equipment on the TP Slave Display and must be taken into account during interconnection:

TP Slave Display - Temp-Press Main Board (CI507) Connector J100 (BUS-IN) see Note 1	
5V & RS485	**Pins 1, 2 & 6 w.r.t. Pins 3, 4, 5 & 7**
Ui	6 V
Ii	235 mA
Pi	1.05 W
Li	0 µH
Ci	5.5 µF
Io	1.5 mA see Note 2
Po	2 mW see Note 2
9V	**Pin 8 w.r.t. Pins 3, 4, 5 & 7**
Ui	9.6 V
Ii	1 A
Pi	9.6 W
Li	0 µH
Ci	0 µF

TP Slave Display - Temp-Press Main Board (CI507) **Connectors J200, J201** Platinum Temperature Probes	
Uo	6 V
Io	12.5 mA
Po	20 mW
Lo	10 mH/Ω
Co	0.1 µF

TP Slave Display - Temp-Press Main Board (CI507) **Connectors J400, J401, J402, J403** Pressure Probes	
Uo	6 V
Io	159 mA
Po	195 mW
Lo	10 mH
Co	980 µF

**The TE Model 3200 Series pressure transducers (model M323N-000005-350BG) and TE Model 5200 Series pressure transducers model M523N-000005-350BG has been assessed as suitable for connection to these connectors satisfying the entity parameters provided. Connection is made via 28-22AWG cable of maximum length 20 metres.

Preset Board (CI515) **Connector J100 (BUS-IN)** see Note 1	
5V & RS485	**Pins 1, 2 & 6 w.r.t. Pins 3, 4, 5 & 7**
Ui	6 V
Ii	235 mA
Pi	1.05 W
Li	1 µH
Ci	8 µF
9V	**Pin 8 w.r.t. Pins 3, 4, 5 & 7**
Ui	9.6 V
Ii	1 A
Pi	10 W
Li	0 µH
Ci	0 µF

Note that as the CI515 Preset Board is connected to BUS-OUT on the CI507 Temp-Press Main Board and the only external connection is to BUS-IN on the CI507 Temp-Press Main Board the applicable parameters have been combined to provide the following parameters table:

TP Slave Display - Temp-Press Main Board (CI507) with Preset Board (CI515) installed Connector J100 (BUS-IN) see Note 1	
5V & RS485	**Pins 1, 2 & 6 w.r.t. Pins 3, 4, 5 & 7**
Ui	6 V
Ii	235 mA
Pi	1.05 W
Li	1 µH
Ci	13.5 µF
Io	1.5 mA see Note 2
Po	2 mW see Note 2
9V	**Pin 8 w.r.t. Pins 3, 4, 5 & 7**
Ui	9.6 V
Ii	1 A
Pi	9.6 W
Li	0 µH
Ci	0 µF

Note 1: Connector J101 (BUS-OUT) on both the TP Slave Display – Temp-Press Main Board and Preset Board is connected in parallel to J100, and hence have the same parameters, with the pin numbers allocated as follows:

Circuit reference	J100 Pin #	J101 Pin #
9V	8	6
5V	2	3
A	6	8
B	1	4
Earth, Screen	3, 4, 5, 7	1, 2, 5, 7, 9, 10

Note 2: The terminals on the 5V circuit may be considered under fault to be connected to an internal source of supply due to a supercapacitor that may charge up to the applied Ui but is limited by internal resistance to provide the Io and Po shown in this table. This needs to be accounted for when connecting in a system.

Preset Board (CI515) Connectors J200, J201 Membrane Keypad	
Uo	6 V
Io	5.6 mA
Po	8.4 mW
Lo	10 µH
Co	0.1 µF

**2024-08-13: Minor editorial to add TE Model 3200 Series pressure transducers (model M323N-000005-350BG) to the specific conditions of use to match test report AU/ExTC/ExTR24.0029/00 (REP24078-01)

Manufacturer's Documents pertaining to this Issue of the Certificate:

Title:	Drawing No.:	Pages	Rev. Level:	Date:
C5000 Displays 7 Digit Display Panel Housing Assembly	ASM0143D	2	D	2019-03-15
C5000 Control Unit Labels (Temperature/Pressure) TP Displays	AP392	Sheet 10	A	2019-08-26
*Installation & Safety Data for TP Display	AP410	5	B	2024-04-30
BUS Cable for Pre-set (CI515-J100)	AP411	1	A	2019-03-21
CI507				
C5K CNG_TP (BUS & Power) (Schematics)	CI507	Sheet 1 of 9	A	2019-03-18
C5K CNG_TP (Micro) (Schematics)	CI507	Sheet 2 of 9	A	2019-03-15
C5K CNG_TP (Power Isolation) (Schematics)	CI507	Sheet 3 of 9	A	2019-03-18
C5K CNG_TP (Pressure sensor isolation) (Schematics)	CI507	Sheet 4 of 9	A	2019-03-18
C5K CNG_TP (TOTE) (Schematics)	CI507	Sheet 5 of 9	A	2019-03-18
C5000 Temp/Press Board (Top Overlay)	CI507	Sheet 6 of 9	A	2019-03-18
C5000 Temp/Press Board (Top Layer)	CI507	Sheet 7 of 9	A	2019-03-18
C5000 Temp/Press Board (Bottom Layer)	CI507	Sheet 8 of 9	A	2019-03-18

Title:	Drawing No.:	Pages	Rev. Level:	Date:
C5000 Temp/Press Board (Bottom Overlay)	CI507	Sheet 9 of 9	A	2019-03-18
CP-C5K-CNG-TP (BOM)	CI507P	3	A	2019-07-22
***CI252**				
*LCD PANEL LAYOUT1 (Schematic)	CI252	1 and 2 of 6	F	2021-03-04
*LCD PANEL LAYOUT1 (Top Overlay)	CI252	3 of 6	F	2021-03-04
*LCD PANEL LAYOUT1 (Top Layer)	CI252	4 of 6	F	2021-03-04
*LCD PANEL LAYOUT1 (Bottom Layer)	CI252	5 of 6	F	2021-03-04
*LCD PANEL LAYOUT1 (Bottom Overlay)	CI252	6 of 6	F	2021-03-04
*CP-C5K-DSPLY7D1 (BOM)	CI252P-F	1	F	2023-04-24
***CI253**				
LCD PANEL LAYOUT2 (Schematic)	CI253	1 and 2 of 6	C	2019-08-15
LCD PANEL LAYOUT2 (Top Overlay)	CI253	3 of 6	C	2019-08-15
LCD PANEL LAYOUT2 (Top Layer)	CI253	4 of 6	C	2019-08-15
LCD PANEL LAYOUT2 (Bottom Layer)	CI253	5 of 6	C	2019-08-15
LCD PANEL LAYOUT2 (Bottom Overlay)	CI253	6 of 6	C	2019-08-15

IECEx Certificate of Conformity

Annex

Annex to Certificate No.:	IECEx ExTC 19.0010X	Issue No.:	01

Title:	Drawing No.:	Pages	Rev. Level:	Date:
CP-C5K-DSPLY7D2 (BOM)	CI253P-C	1	C	2019-08-15
CI515				
C5000 Preset (Schematic)	CI515	1 and 2 of 5	A	2018-04-06
C5000 Preset Board (Top Overlay)	CI515	3 of 5	A	2018-04-06
C5000 Preset Board (Top Layer)	CI515	4 of 5	A	2018-04-06
C5000 Preset Board (Bottom Layer)	CI515	5 of 5	A	2018-04-06
CP-C5K-PSET (BOM)	CI515P-A	1	A	2019-05-31

*Note: An * is included before the title of documents that are new or revised.*

Variations permitted by Issue 1 of this certificate:

- Added TE Model M3200 series pressure probe as an additional option for pressure probe.
- Updated several components and PCB layout on LCD PCB (CI252)
- Minor editorials within the equipment description and specific conditions of use.