

(1) EU-TYPE EXAMINATION CERTIFICATE



- (2) Equipment and Protective Systems intended for use in Potentially Explosive Atmosphere - **Directive 2014/34/EU**
- (3) EU-Type Examination Certificate Number

TÜV 19 ATEX 8434 X

Issue: 01

- (4) Equipment: **TP Slave Display**
- (5) Manufacturer: **Compac Industries Ltd**
- (6) Address: **52 Walls Road, Penrose
Auckland 1061, New Zealand**

- (7) This product and any acceptable variation thereto are specified in the schedule to this certificate and the documents therein referred to.
- (8) The TÜV Rheinland Zertifizierungsstelle für Explosionsschutz of TÜV Rheinland Industrie Service GmbH, Notified Body No. 0035 in accordance with Article 21 of the Council Directive 2014/34/EU of 26th February 2014, certifies this product which has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmosphere, given in Annex II to the Directive.

The examination and test results are recorded in the confidential report 557/Ex8434.01/19

- (9) Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the schedule of this certificate, has been assessed by reference to:

EN IEC 60079-0:2018

EN 60079-11:2012

- (10) If the sign "X" is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the schedule to this certificate.
- (11) This EU-Type Examination Certificate relates only to the design and specification for construction of the equipment or protective system. It does not cover the process for actual manufacture or supply of the equipment or protective system, for which further requirements of the directive are applicable.
- (12) The marking of the equipment shall include the following:



II 2 G Ex ib IIA T4 Gb

-40°C ≤ Tamb ≤ +70°C

TÜV Rheinland Zertifizierungsstelle für Explosionsschutz

Cologne, 2024-08-29

Dipl.-Ing. Christian Mehrhoff



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This EU-Type Examination Certificate may be circulated only without alteration. Extracts or alterations are subject to approval by the TÜV Rheinland Industrie Service GmbH TÜV Rheinland Group Am Grauen Stein 51105 Köln
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(13)

Annex

(14)

EU Type Examination Certificate

TÜV 19 ATEX 8434 X

Issue: 01

(15)

Description of equipment

15.1 Equipment and type:

TP Slave Display

15.2 Description / Details of Change

General product information

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.



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.

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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.

Details of change

- Added TE Model M3200 series pressure probe as an additional option for pressure probes.
- Updated several components and PCB layout of LCD PCB (CI252)

Technical Data

Nominal input voltage 5V and 9V

Tamb: $-40^{\circ}\text{C} \leq T_a \leq +70^{\circ}\text{C}$

(16) Test-Report No. 557/Ex8434.01/19

(17) Special Conditions for safe 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) <small>see Note 1</small>	
5V & RS485	Pins 1, 2 & 6 w.r.t. Pins 3, 4, 5 & 7
U _i	6 V
I _i	235 mA
P _i	1.05 W
L _i	0 μH
C _i	5.5 μF
I _o	1.5 mA <small>see Note 2</small>
P _o	2 mW <small>see Note 2</small>

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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) have 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 meters.

Preset Board (CI515)	
Connector J100 (BUS-IN) <small>see Note 1</small>	
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 Board

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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) <small>see Note 1</small>	
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 μ H
Ci	13.5 μ F
Io	1.5 mA <small>see Note 2</small>
Po	2 mW <small>see Note 2</small>
9V	
Pin 8 w.r.t. Pins 3, 4, 5 & 7	
Ui	9.6 V
Ii	1 A
Pi	9.6 W
Li	0 μ H
Ci	0 μ F

Note 1: Connector J101 (BUS-OUT) on both the TP Slave Display – Temp-Press 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 μ H
Co	0.1 μ F

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(18) Basic Safety and Health Requirements

Covered by afore mentioned standard

TÜV Rheinland Zertifizierungsstelle für Explosionsschutz

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