(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 18 ATEX 8227 X Issue: 02

(4) Equipment: **Slave Display**

(5) Manufacturer: **Compac Industries Ltd**
(6) Address: **52 Walls Road, Penrose Auckland**
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/Ex8227.02/18

(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 ≤ Ta ≤ +70°C)

TÜV Rheinland Zertifizierungsstelle für Explosionsschutz Cologne, 2023-06-02

Dipl.-Ing. Klaus-Peter Graffi

(13) Annex

(14) # EU Type Examination Certificate

TÜV 18 ATEX 8227 X Issue: 02

(15) Description of equipment

15.1 Equipment and type:

Slave Display

15.2 Description / Details of Change

General product information

The Slave Display is designed as a secondary fuel dispenser indicator but may be used in other applications too. It consists of a CI503 Slave Display Main Board, with a large LCD board CI252, plus 1 or 2 smaller LCD boards CI253directly mounted to the Slave Display Board. It may also contain a totaliser, all housed in a plastic enclosure with a polycarbonate front cover that has an anti-static film applied. The back is not anti-static and hence can only be cleaned with a damp cloth. The equipment may include a CI515 Preset Board with one or two 4 x 4 membrane keypads.

A metal bracket used to mount the totaliser is accessible from outside the plastic enclosure.

The Slave Display is designed to form part of an intrinsically safe control system, and is powered via the BUS-IN connector J1. Connections are provided for 5 V and 9 V IS supplies, common ground and RS485 communications. The Slave Display provides a BUS-OUT connector J2 which is directly connected to BUS-IN connector J1 (though the pin numbers on J1 for the various circuits are not the same as the pin numbers on J2) 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 Slave Display Board (CI503) provides connector J300 for a totalizer mounted internal to the enclosure.

The Preset Board CI515 is separate from the Slave Display, and connection is achieved by connecting its J100 to any of the J2 – J4 of the Display Board. This connector only uses the 5V and RS485 connections of J2 – J4.

This ATEX certificate addresses the below supplementary changes:

- Compliance has been assessed to the more recent Standards EN IEC 60079-0:2018; EN 60079-11:2012
- Revised PCB for the display board CI252.
- Minor changes to the BOM for all the printed circuit board assemblies to include details of the PCB construction and conformal coating.
- Revised Instruction Manual

Technical Data

Nominal input voltage 5V and 9V
Ingress Protection: IP20
Tamb -40°C ≤ Ta ≤ +70°C

(16) Test-Report No. 557 / Ex 8227.02 / 18

(17) Special Conditions for safe use

1. The following input and output parameters were determined for the connectors on the Slave Display Main Board and must be taken into account during interconnection:

Slave Display Main Board CI503 with Preset Board (CI515) installed Connector J1 (BUS-IN) see Note 1	
5V & RS485	**Pins 1, 2 & 6 w.r.t. Pins 3, 4, 5 & 7**
Ui	6V
Ii	235mA
Pi	1.05 W
Li	1µH
Ci	13.5µF
Io	2mA see Note 2
Po	3mW see Note 2
9V	**Pin 8 w.r.t. Pins 3, 4, 5 & 7**
Ui	10V
Ii	1A
Li	0µH
Ci	0µF

Note 1: Connectors J2 – J4 (BUS-OUT) are connected in parallel to J1, and hence have the same parameters, with the pin numbers allocated as follows:

Circuit reference	J1 Pin #	J2 – J4 Pin #
9V	8	6
5V	2	9
A	6	8
B	1	4
Earth, Screen	3, 4, 5, 7	2, 7, 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.

The CI515 Preset Board is connected to BUS-OUT on the Slave Display Main Board and hence its input parameters are already included in the Slave Display Main Board parameters given above.

For the sake of completeness, the Preset Board parameters have been listed below:

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

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

(18) Basic Safety and Health Requirements

Covered by afore mentioned standard

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