

(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 17 ATEX 8119 X

Issue: 01

- (4) Equipment: **C5000 Power Supply**
- (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/Ex8119.01/17

- (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 60079-1:2014

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(2) G Ex db [ib Gb] IIA T4 Gb

(-40 °C ≤ Ta ≤ +55 °C) for for 110-240Vac 15A version (with motor triacs)

(-40°C ≤ Ta ≤ +65°C) for 110-240Vac 2A version (without motor triacs)

TÜV Rheinland Zertifizierungsstelle für Explosionsschutz

Cologne, 2023-06-02

Dipl.-Ing. Klauspeter Craffi

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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 17 ATEX 8119X Issue: 01

(15) Description of equipment

15.1 Equipment and type:

C5000 Power Supply

15.2 Description / Details of Change

General product information

The C5000 Power Supply consists of a flameproof box enclosing several printed circuit board assemblies. The Ex protection code for the complete power supply includes db and ib for use in Zone 1 areas.

The equipment includes:

- The flameproof box PDM1442
- The flameproof box lid PDM1443
- The flameproof box cable gland PDM1444
- The flameproof box blanking plugs SW050
- The Processor Board (non-IS) CI500
- The Communication board (non-IS) CI501
- The Terminal board (non-IS) CI504
- The Power Supply board CI505

The flameproof enclosure is made of cast aluminium with a built in barrier gland and may be used with compac brass blanking plugs BAPLUG-20E.

The mains terminal board (CI504), the processor board (CI500), the Communication board (CI501), and part of the power supply boards (CI505) are on the non-intrinsically safe side of the electronics and have been provided Ex d protection. The outputs from the power supply board (CI505) are intrinsically safe and have been considered in this certificate.

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The flameproof box and its accessories provide the Ex d protection. The processor and communication boards do not help provide any protection but must be considered when calculating the maximum temperature inside the box.

The mains supply is 110-240Vac 50/60Hz 2A (for the models fitted without motor triacs) or 15A (for the models fitted with motor triacs).

As far as the intrinsic safety is concerned the mains fuses (F2, F3) are on the terminal board (CI504). These are the only two components on the terminal board that are required for the intrinsic safety of the output. The fuses are placed on the top side of the PCB and are protected with plastic covers. The tracks after the fuses are on the bottom side of the PCB so cannot be compromised by shorting out to the wiring on the top.

The Power Supply board CI505 is the “associated apparatus” that bridges between the non-intrinsically safe parts and the intrinsically safe outputs. This actually consists of 3 printed circuit boards piggy backed on top of one another. This board is fitted under the processor and terminal board. This board provides a non-IS 12V 1A. It also provides intrinsically safe 9V supply output, a 5V supply output, and a RS485 connection brought out on a cable through a gland, with a plug with 8 pins.

Type name:

C5000 Power Supply 110-240Vac 50/60Hz 15A (or 2A) IP66

Technical Data

Mains input nominal voltage range of 110-240Vac.

Ingress Protection rating: IP66

Ambient temperature range:

(-40 °C ≤ Ta ≤ +55 °C) for 110-240Vac 15A version (with motor triacs)

(-40°C ≤ Ta ≤ +65°C) for 110-240Vac 2A version (without motor triacs)

This ATEX certificate addresses the below supplementary changes:

- Compliance has been assessed to the more recent Standards EN IEC 60079-0:2018; EN 60079-1:2014; EN 60079-11:2012
- Allowance for an increased output cable length
- Revised marking label and Instruction Manual
- Revised certificate Ex code to clarify that T_{amb} depends on the current listed in the marking label
- Method of affixing O-ring and reduced thread tap length

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(16) Test-Report No. 557 / Ex 8119.01 / 17

(17) Special Conditions for safe use

1. The Um of 250Vac is applicable on the non-intrinsically safe connections, with a nominal voltage range of 110-240Vac.

input output intrinsically safe parameters that must be taken into account during interconnection with other intrinsically safe equipment:

C5000 Power Supply I.S. Cable connections:	
5V & RS485	Pins 1, 2, & 6 w.r.t. Pins 3, 4, 5, & 7
Uo	5.2V
Io	192mA
Po	1W
Co	800µF
Lo	2.5mH
9V Output	Pin 8 w.r.t. Pins 3, 4, 5, & 7
Uo	9.6V
Io	960mA
Po	9.2W
Co	15µF
Lo	27µH

2. The intrinsically safe output circuits are bonded to the metallic enclosure, and this must be taken into account when interconnecting in the system.
3. Some flamepaths are different from the standard and must be considered during maintenance / repair using the information supplied by the manufacturer.
4. The maximum length of the output I.S. cable is 4m. Longer cables may be used but then the parameters of the extra cable capacitance (300pF/m 1uH/m) must be included in the analysis of the system parameters and will effectively reduce the Co and Lo parameters of the above output parameters
5. The equipment provides IP66 only when the base is fitted with an O-ring fitted in the base and with the use of appropriate glands

(18) Basic Safety and Health Requirements

Covered by afore mentioned standard

TÜV Rheinland Zertifizierungsstelle für Explosionsschutz

Cologne, 2023-06-02



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