

Certification of

EXPLOSION PROTECTED ELECTRICAL EQUIPMENT

Administered by: Standards Australia Quality Assurance Services

Certificate of Conformity

Certificate No: AUS Ex 3595X **Issue 0:** Original Issue 8/3/1999
Issue 1: 26/2/2002

Date of Expiry: 8/3/2009

Certificate Holder: Compac Industries Limited
52 Walls Road
Penrose, Auckland
NEW ZEALAND

Electrical Equipment: C4000 Fuel Dispenser Control Unit

Type of Protection: The equipment includes Ex ia, ib and d

Marking Code: C4000 Flameproof Enclosure: Ex d (ib) IIA T3
C4000 Micoprocessor Box: Ex ib IIA T3
AUS Ex 3595X

Manufactured By: Compac Industries Limited
52 Walls Road
Penrose, Auckland, NEW ZEALAND

Issued by:



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This certificate is granted subject to the conditions as set out in Standards Australia Miscellaneous Publication MP 69 and the Procedures (Doc Q7134) of the scheme.

The electrical equipment and any acceptable variation to it specified in the schedule to this certificate and the identified documents, was found to comply with the following standards:

- AS 2380.1-1989 Electrical equipment for explosive atmospheres - Explosion-protection techniques - General requirements
- AS 2380.2-1991 Electrical equipment for explosive atmospheres - Explosion-protection techniques - Flameproof enclosure 'd' (incorporating Amendment 1)
- AS 2380.7-1987 Electrical equipment for explosive atmospheres - Explosion-protection techniques - Intrinsic Safety 'i'
- AS 1939-1990 Degrees of protection provided by enclosures of electrical equipment (IP Code)

This certificate does not ensure compliance with electrical safety requirements and performance other than those included in the Standard(s) listed above.

The equipment listed has successfully met the examination and test requirements as recorded in

Test Report No: LOSC 18506, TestSafe 22288

File Reference: TestSafe 97/8566/TSA -1; -4

Signed for and on behalf of issuing authority

Director
TestSafe Australia

Position

26/2/2002

Date of issue

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This certificate and schedule may not be reproduced except in full.

This certificate is not transferable and remains the property of Standards Australia Quality Assurance Services and must be returned in the event of its being revoked or not renewed.

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Schedule

Certificate No: AUS Ex 3595X

Issue: 1

Date of Issue: 26/2/2002

Certified Equipment: The C4000 Fuel Dispenser Control Unit is a microprocessor-based device, which controls all of the electrical functions associated with a fuel dispenser, or Depot/Bulkmeter register. It is provided with various display options, preset facility, card reader, PIN pad, printer, communications and controlling functions for the motors and solenoids which are installed in a hazardous area, Zone 1.

The CWIF Aerials 50-200 μ H are to be installed in a hazardous area, Zone 0. The C4000 Fuel Dispenser Control Unit consists of the following parts, which are located in a safe area or in a flameproof (Ex d) Box: Gilbarco Pump Comms Interface – CI143, C4000 Non-IS Power Supply – CI138 and C4000 IS Power Supply – CI139.

The C4000 Fuel Dispenser Control Unit consists of the following parts, which are located in a safe area: Printer Power Supply & Interface PCB – CI125, 2 Channel Isolator – CI059 and Printer mechanism.

Conditions of Certification:

- 1) The apparatus has been assessed to the "Entity" concept, the following input parameters must be taken into account when installing the unit:

Input Parameters	CON J1 to J12 (CI138)	CON 1 to 3 (CI125)	CON J1 to J2 (CI059)
Maximum Supply Voltage U_m	250 V	250 V	250 V

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Conditions of Certification continued:

- 2) As the apparatus has been assessed to the "Entity" concept, the following output parameters must be taken into account when connecting external circuits to the terminals of CON2 of CLAN Board (CI066):

Output Parameters	Terminals CON2 of CLAN (CI066)
Maximum Output Voltage U_o	11 V
Maximum Output Current I_o	1.15 A
Maximum Output Power P_o	0.5 W
Maximum External Capacitance C_o	35.4 μ F
Maximum External Inductance L_o	0.2 mH

- 3) The capacitance and either the inductance or the inductance to resistance (L/R) ratio of the interconnecting cables between CLAN must not exceed the following values:

GROUP	CAPACITANCE	INDUCTANCE OR L/R RATIO	
	in μ F	in mH	in μ H/ Ω
IIA	35.6	0.2	253

Drawings Schedule

Drawing No	Drawing Title	Issue	Date
AP-020	Dot Matrix Display Module	F	10/2/99
AP-183 Sht 1	Encoder PCB CI61 Issue B	B	8/5/98
AP-205 Sht 1	CNG Encoder PCB CI70 Issue B	B	8/5/98
AP-206	CNG Temperature Board CI75 Issue A	B	8/5/98
AP-209	Retail Display with 'Last Sale' CI49 Issue A	A	8/5/98
AP-216	Tank Gauge Temperature, Pressure & Water Level	D	10/5/98
AP-238 Sht 6	Depot Register Box C4000 Electronics PCB Assembly	B	11/2/99
AP-295	Customer Interface Module Approval Drawing, General Assembly	B	14/3/96
AP300 Sht 1 to 3	C4000 Block Diagram	C	3/2/99
AP301 Sht 1 to 7	C4000 Cabling	B	20/8/98
AP302 Sht 1	C4000 Enclosures – CLAN	C	2/3/99
AP302 Sht 2	C4000 Enclosures – Micromotion Isolator	C	2/3/99

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Drawing Schedule (Cont'd)

Drawing No	Drawing Title	Issue	Date
AP302 Sht 3	C4000 Enclosures – CWIT	C	2/3/99
AP302 Sht 4	C4000 Enclosures – Printer Power Supply	C	2/3/99
AP302 Sht 5	C4000 Enclosures - Pinpad Box PCB Assembly	B	17/2/99
AP302 Sht 6	C4000 Enclosures – Plastic Cover	B	26/2/99
AP304	C4000 Processor Box	B	10/2/99
AP306 Sht 1 to 3	C4000 I.S. Component Specifications	E	20/8/98
AP310	Label for C4000	B	26/2/99
CI59 Sht 1 of 3	Micromotion Isolator	C	9/5/98
CI59 Sht 2 & 3	Micromotion Isolator	C	8/5/98
CI66 Sht 1 of 4	CLAN	E	9/5/98
CI66 Sht 2 of 4	CLAN Component Ref	E	9/5/98
CI66 Sht 3 of 4	CLAN Top Layer	E	9/5/98
CI66 Sht 4 of 4	CLAN Bottom Layer	E	9/5/98
CI101 Sht 1 of 5	CWIT	D	9/5/98
CI101 Sht 2 of 5	CWIT	D	9/5/98
CI101 Sht 3 of 5	CWIT Component Ref	D	9/5/98
CI101 Sht 4 of 5	CWIT Top Layer	D	9/5/98
CI101 Sht 5 of 5	CWIT Bottom Layer	D	9/5/98
CI102	3 Channel Encoder, COM125/COM250	B	9/5/98
CI111	3 Channel Encoder	B	10/5/98
CI114	Capacitance Keypad	D	9/5/98
CI119	PIN-Pad Capacitance Keypad	A	9/5/98
CI120	Error Checked Pre-set Display	A	9/5/98
CI121	Error Checked Retail Display (64 pin)	A	10/5/98
CI122	Error Checked Multi-price Display	A	9/5/98
CI123	6 Digit Retail Display	A	9/5/98
CI125 Sht 1 of 4	Receipt Printer Power Supply	D	9/5/98
CI125 Sht 2 of 4	Receipt Printer Power Supply, Component Reference	D	9/5/98
CI125 Sht 3 of 4	Receipt Printer Power Supply, Top Layer	D	9/5/98

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Drawing Schedule (Cont'd)

Drawing No	Drawing Title	Issue	Date
CI125 Sht 4 of 4	Receipt Printer Power Supply, Bottom Layer	D	9/5/98
CI127	6 Digit Error Checked Commercial Display	A	9/5/98
CI131 Sht 1 of 4	PIN-Pad Capacitance Keypad I/F	G	10/5/98
CI131 Sht 2 of 4	Capacitance Keypad Interface, Component Reference	G	10/5/98
CI131 Sht 3 of 4	Capacitance Keypad Interface, Top Layer	G	10/5/98
CI131 Sht 4 of 4	Capacitance Keypad Interface, Bottom Layer	G	10/5/98
CI137 Sht 1 & 2	Aviation Retail Display	A	10/5/98
CI138 Sht 1 of 4	C4000 Non IS Power Supply	B	9/5/98
CI138 Sht 2 of 4	Non-IS Power Supply (C4000), Component Reference	B	9/5/98
CI138 Sht 3 of 4	Non-IS Power Supply (C4000), Top Layer	B	9/5/98
CI138 Sht 4 of 4	Non-IS Power Supply (C4000), Bottom Layer	B	9/5/98
CI139 Sht 1 of 5	C4000 IS Power Supply	C	8/6/98
CI139 Sht 2 of 5	C4000 IS Power Supply	B	9/5/98
CI139 Sht 3 of 5	IS Power Supply (C4000), Component Layer	B	9/5/98
CI139 Sht 4 of 5	IS Power Supply (C4000), Top Layer	B	9/5/98
CI139 Sht 5 of 5	IS Power Supply (C4000), Bottom Layer	B	9/5/98
CI140-1 Sht 1 of 9	C4000 Microprocessor System	B1	10/2/99
CI140 Sht 2 of 9	C4000 Microprocessor System	B	9/5/98
CI140 Sht 3 of 9	C4000 Microprocessor, Component Reference	B	9/5/98
CI140 Sht 4 of 9	C4000 Microprocessor, Top Layer	B	9/5/98
CI140 Sht 5 of 9	C4000 Microprocessor, Mid Layer 1	B	9/5/98
CI140 Sht 6 of 9	C4000 Microprocessor, Internal Plane 1 (Negative), Super Imposed with Mid Layer 1	B	9/5/98
CI140 Sht 7 of 9	C4000 Microprocessor, Internal Plane 2 (Negative), Super Imposed with Mid Layer 2	B	9/5/98
CI140 Sht 8 of 9	C4000 Microprocessor, Mid Layer 2	B	9/5/98
CI140 Sht 9 of 9	C4000 Microprocessor, Bottom Layer	B	9/5/98
CI141	Bennet Encoder	A	9/5/98
CI143 Sht 1 of 4	Gilbarco Interface to C4000	A	9/5/98
CI143 Sht 2 of 4	Gilbarco Interface to C4000, Component Reference	A	9/5/98

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Drawing No	Drawing Title	Issue	Date
CI143 Sht 3 of 4	Gilbarco Interface to C4000, Top Layer	A	9/5/98
CI143 Sht 4 of 4	Gilbarco Interface to C4000, Bottom Layer	A	9/5/98
CI144 Sht 1 of 3	Retail Back Light	B	30/11/98
CI144 Sht 2 of 3	Retail Backlight (C4000)	B	29/11/98
CI144 Sht 3 of 3	Retail Backlight (C4000)	B	29/11/98
CI145 Sht 1 of 3	Commercial Back Light	B	30/11/98
CI145 Sht 2 of 3	Commercial Backlight (C4000)	B	29/11/98
CI145 Sht 3 of 3	Commercial Backlight (C4000)	B	29/11/98
CI147 Sht 1 & 2	MPD Display - Dollars & litres	A	5/11/98
CI148 Sht 1	CI148 Issue B MPD Display Backlight	B	30/11/98
CI148 Sht 2	MPD Display Backlight Bottom Layer & Component Reference	B	29/11/98
CI148 Sht 3	MPD Display Backlight Bottom Layer & Component Reference	B	29/11/98
CI149	MPD capacitance Preset	A	5/11/98
EP-013	CLAN Transformers, Data Transformer & Power Transformer	A	19/8/93

Schedule of Variations

Variations Permitted by Issue 1

1. Inclusion of the following circuit boards:
 1. CI155 (C4000 Density/Temperature PCB)
 2. CI157 (Putra RS232 Interface)
 3. CI158 (KG Meter)
 4. CI162 and CI163 (Encoders)
2. Revision of the following circuit boards:
 1. CI138D (Non-IS Power Supply PCB)
 2. CI139D (C4000 IS Power Supply PCB)
 3. CI140C (C4000 Processor PCB)
3. A typographical error on page 2 of this certificate with respect to the applied standards was corrected.
4. Page 1 was changed to conform to the new certificate lay-out and to improve readability.

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Conditions of Certification Related to Issue 1

The conditions of certification listed in the original issue of the certificate remain and the following condition is added:

The transducers and thermistor to be connected to terminals CON3, CON4 and CON5 of the Density/Temp PCB (CI155) must be "Simple or Low Energy Devices" as defined in AS 2381.7 Clause 1.5.

Drawings Related to Issue 1

Drawing No	Drawing Title	Issue	Date
AP300 Shts 1 to 3 of 3	C4000 Block Diagram	H	25 Jan 2002
AP301 Shts 1 to 17 of 17	C4000 Cabling	G	25 Jan 2002
AP302 Shts 7 and 8 of 8	C4000 Enclosures Density Board	A	1 Aug 2001
AP-306 Shts 1 to 5 of 5	C4000 I.S. Component Specifications	F	20 Aug 1998
CI138 Shts 1 to 4 of 4	C4000 Non IS Power Supply	D	1 Aug 2001
C1139 Shts 1 to 2 of 5	C4000 IS Power Supply	D	1 Aug 2001
CI139 Shts 3 to 5 of 5	IS Power Supply (C4000)	D	1 Aug 2001
CI-140 Shts 1 and 2 of 9	C4000 Microprocessor System	C	1 Aug 2001
CI-140 Shts 3 to 9 of 9	C4000 MPU	C	1 Aug 2001
CI155 Sht 1 of 4	Density/Pressure Board	E	1 Aug 2001
CI155 Shts 2 to 4 of 4	Density/Temperature Board	E	1 Aug 2001
CI157 Shts 1 to 4 of 4	Futra RS232 Interface	C	1 Aug 2001
CI158 Sht 1 of 4	KG Meter main PCB	D	25 Jan 2002
CI158 Shts 2 to 4 of 4	KG Meter CI158	D	1 Nov 2001
CI159 Sht 1 of 4	KG Meter Power PCB	E	25 Jan 2002
CI159 Shts 2 to 4	KG Meter CI159	C	1 Nov 2001
CI162 Sht 1 of 4	Com 50 Encoder Board	A	4 Oct 2001
CI162 Shts 2 to 4 of 4	Magnetic Encoder Board	A	4 Oct 2001
CI163 Shts 2 to 4 of 4	Magnetic Encoder Board Com 125/250	A	25 Oct 2001

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