

**Australian/New Zealand
Certification Scheme for**

EXPLOSION-PROTECTED ELECTRICAL EQUIPMENT

ANZEx Scheme

Certificate of Conformity

Certificate No.: **ANZEx 08.4071X**

Original Issue No.: **0**

Date of Issue: **8 March 2009**

Certificate Holder: Ampcontrol CSM Pty Ltd
7 Billbrooke Close
Cameron Park NSW 2285
Australia



Electrical Apparatus: **Integrated Protection Relay Systems –
Types A (IPA), B (IPB) and C (IPC)
(including equipment as listed in Table 1)**

Type of Protection: IPA, IPB and IPC including items 1 to 6 and 9 (refer Table 1); Ex (ia) I
Items 7 + 8 (refer Table 1); Ex ia I 150C

Marking Code: (Type of Protection as listed in Table 1)
ANZEx 08.4071X

Manufacturing Location(s): Ampcontrol CSM Pty Ltd
7 Billbrooke Close
Cameron Park NSW
Australia

This certificate and schedule shall not be reproduced except in full

 <p>ABN 06 098 886 563</p>	<p>Certificate issued by</p> <p><i>ITACS Pty. Ltd.</i> <i>4-6 Second Street SA 5007 Australia</i> <i>PO Box 300 Hindmarsh SA 5007 Australia</i> <i>Phone: +61 8 8346 8680 Fax: +61 8 8346 7072</i> <i>Email: itacs@itacslab.com</i></p>	 <p>Accreditation by the Joint Accreditation System of Australia and New Zealand Acc No. Z2870404AA www.jas-anz.com.au</p>
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This certificate is granted subject to the conditions as set out in Standards Australia/Standards New Zealand Miscellaneous Publication MP87:2004.

STANDARDS:

The electrical apparatus 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:

AS 2380.1:1989 inc Amdt No. 1	Electrical equipment for explosive atmospheres Explosion protection techniques Part 1 : General requirements
AS 2380.7: 1987	Electrical equipment for explosive atmospheres Explosion protection techniques. Part 7: Intrinsic Safety

*This Certificate **does not** indicate compliance with electrical safety and performance requirements other than those expressly included in the Standard(s) listed above. Attention is drawn to the fact that the above Standards have been superseded.*

ASSESSMENT & TEST REPORTS:

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

Test Report No. and Issuing Body:	Refer to Schedule
Quality Assessment Report No. and Issuing Body:	IECEX AU/TSA/QAR06.0007/02
File Reference:	ANZEx 08.4071X



Signed for and on behalf of issuing body

Certification Authority

Position

8 March 2009

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This certificate is not transferable and remains the property of the issuing body and must be returned in the event of it being revoked or not renewed.

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--	------------------------------	------------------------------------

Schedule

EQUIPMENT:

The Integrated Protection Relay Type A (IPA), Integrated Protection Relay Type B (IPB) and Integrated Relay Type C (IPC), with associated equipment as listed in Table 1 below, provide electrical protection functions for electrical power circuits in coal mines.

Table 1. Associated Equipment

ITEM	Module Type	Category
1	Cable Connection Module – CCMA – 3.3KV, 1000V, 415V + 110V	Ex [ia]
2	Optional LED/Relay Module	
3	Serial Interface Module – I.P.S.I	
4	Remote Termination Units – RTU-1 and RTU-2	
5	Communications Interface Unit RTU-CIU1	
6	Keypad Interface IKA	
7	Keypad IKA	Ex ia
8	Remote Display Module – RDM-1	
9	Cable Connection Module – CCMC – 3.3kV, 1.0kV	Ex [ia]

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TEST REPORTS:

Test Reports applicable to the product and systems covered by this certificate include:

Test Laboratory	Test Report	Equipment
SIMTARS	NI94/0021 NI92/0106 NI93/0005 NI93/0041 I94/0529	Integrated Protection Relay Systems Type A & B
SIMTARS	NI95/0023 NI92/005 I92/018 NI94/0021	Integrated Protection Relay Systems Type A & B
SIMTARS	NI96/0030	Integrated Protection Relay Systems Type A & B
SIMTARS	NI97/0006	Integrated Protection Relay Systems Type A & B
SIMTARS	NI97/0032	Integrated Protection Relay Systems Type A & B
SIMTARS	I98/0012	Integrated Protection Relay Systems Type A & B
SIMTARS	NI01/0001	Integrated Protection Relay Systems Type A,B & C
SIMTARS	9689A	Serial Interface Module for IPA-IPSI

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CONDITIONS OF CERTIFICATION:

The following conditions apply to this certificate:-

Conditions of manufacture

1. In addition to the manufacturer's performance and routine testing, it is a requirement of manufacturer that a routine test shall be carried out on each Cable Connection Module to ensure correct operation of the diodes and the value of the current limiting resistance.

Conditions of safe use

1. When mounted in a cut-out in the wall of the enclosure, the Remote Display Module RDM-1 Shall be mounted such that the enclosure maintains a degree of protection of at least IP54.
2. The equipment shall be installed according to AS/NZS 2381.1 & AS 2381.7 and satisfy the Coal Mining Electrical Rules.
3. The equipment shall be connected to systems where the earth fault current is limited to less than 480A and instantaneous peak value for the IPB and IPC relays and 80A for the IPA relay.
4. The parameters marked on the IPA, IPB and IPC units facia plates and respective modules shall be observed. Entity parameters for the CCMC are listed below;

Entity Parameters				
Config.	Uo (V)	Io (μ A)	Group I	
			Co (μ F)	Lo (mH)
A	24.5	3.3	4.2	1000
B	24.5	9.9	4.2	1000
C	24.5	19.8	4.2	1000

Config.

- A Single CCMC single output channel – Earth
B Single CCMC all three channels parallel connection – earth
C Two CCMC all six channels parallel connection – earth

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--	------------------------------	------------------------------------

- 5 The RTU-1 Remote Termination Unit, RTU-2 Remote Termination Unit RTU-CIU1 Communications Interface Module, when in a hazardous area, shall be installed in a flameproof enclosure and connections thereto shall not be considered intrinsically safe when the power cable is energized.
6. The CCMA-110V Cable Connection Module is not to be used for Earth Fault Lockout applications,

MANUFACTURER'S DOCUMENTS:

Number	Title	Rev	Date
A1708-0 Sheet 1 of 8	IPA SCHEMATIC - TERMINALS	4	1992-04-10
A1708-13	IPA Base Terminal Pin-out	2	1992-04-06
A1708-14	IPA Block Diagram	2	1992-04-06
A1708-15	IPA Typical Connection Diagram	4	1992-04-21
A1708-16	IPA SERIAL I/O PORTS CONNECTIONS	4	1992-04-24
A1708-17	IPA Enclosure	3	1992-04-21
A1708-21	IPA 1000V LINE CONNECTION MODULE CONSTRUCTION DETAILS	2	2008-12-03
A1708-22	IPA 415V LINE CONNECTION MODULE CONSTRUCTION DETAILS	2	2008-12-03
A1708-24	IPA CABLE CONNECTION MODULE 1000V ARTWORK DRAWING	1	2008-12-08
A1708-25	IPA CABLE CONNECTION MODULE 415V ARTWORK DRAWING	1	2008-12-03
A1708-27	IPA 1000V LINE CONNECTION MODULE (DIMENSIONS & MARKING)	2	2009-02-16
A1708-28	IPA 415V LINE CONNECTION MODULE (DIMENSIONS & MARKING)	2	2009-02-16
A1708-31	IPA REMOTE DISPLAY MODULE ARTWORK & TERMINAL MARKINGS	1	1992-04-06
A1708-38	IPA Proc, Board ARTWORK DRAWING	2	1992-07-28
A1708-44	IPA 3.3kV INTERFACE CCMA 3.3kV CONSTRUCTION DETAILS	3	2008-12-03
A1708-9	IPA: I.S. Components	2	1992-07-29
IKA-A-005	IKA KEYPAD MARKING DETAILS	3	2009-01-21
IKAM002	IKA INTERFACE MODULE GENERAL DETAILS	3	1994-02-11
IKA-S-001	IKA INTERFACE MODULE SCHEMATIC	3	2008-12-03
IKA-S-002	IKA Keypad Schematic	3	2008-10-01

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EXPLOSION-PROTECTED ELECTRICAL EQUIPMENT

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--	------------------------------	------------------------------------

Number	Title	Rev	Date
IKA-S-003	IKA INTRINSIC SAFETY COMPONENTS	4	2008-12-03
IKA-S-004	IKA INTERFACE UNIT ARTWORK DRAWING	1	2008-12-03
IKA-S-005	IKA I.S. Keypad Module Artwork Detail	4	2008-10-01
IKA-Z-001	IKA SYSTEM MARKING DETAILS - APPROVAL DRAWING	1	2009-02-16
IPAS005	IPA Relay/Led OUTPUT Module Details	2	2009-02-04
IPA-Z-001	IPA Marking Details - Approval Drawing	1	2009-02-16
IPA-Z-002	CCMA-110V Marking & Dimension Details	1	2009-02-16
IPA-Z-003	CCMA-110V Construction Details	0	2008-12-03
IPA-Z-004	IPA I.S. Components	1	2009-01-06
IPB-E-003	IPA-IPB CIU/1 – COMMS INTERFACE MODULE SCHEMATIC	0	2008-12-03
IPB-Z-001	IPB SCHEMATIC – ALNANLOGUE BOARD - IPNUTS	1	2008-12-03
IPB-Z-002	IPB Schematic - Analog Board - Coms	0	1994-10-24
IPB-Z-003	IPB Schematic - Processor Board, Sheet 1 -Inputs	0	1994-10-24
IPB-Z-004	IPB Proc, Board, Sheet 2 –A/D	0	1994-10-24
IPB-Z-005	IPB Processor Board, Sheet 3 -Processor	0	1994-10-24
IPB-Z-006	IPB Processor Board, Sheet 3 -Battery/RAM/Clock	0	1994-10-24
IPB-Z-007	IPB Schematic - Power Supply Board	0	1994-10-24
IPB-Z-008	IPB Schematic - Relay Board	0	1994-10-24
IPB-Z-009	IPB SCHEMATIC - REMOTE TERMINATION UNIT - SHEET 1	0	2008-12-03
IPB-Z-010	IPB RELAY Analog Board PCB APPROVAL DRAWING	0	2009-01-06
IPB-Z-011	IPB RELAY Processor, Power & RTU Boards PCB APPROVAL DRAWING	1	2008-12-01
IPB-Z-012	IPB MARKING DETAILS - APPROVAL DRAWING	3	2009-02-16
IPB-Z-013	IPB BASEPLATE DETAILS	0	2009-01-06
IPB-Z-014	IPB I.S. Components Approval DRAWING	2	2009-01-06
IPB-Z-015	IPB Typical Connection Diagram	2	2009-01-06
IPB-Z-016	HM7231.3 Transformer Construction Details	1	2009-02-16
IPB-Z-017	IPB RTU UNIT ENCLOSURE/MOUNTING DETAILS	0	2009-01-06

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Number	Title	Rev	Date
IPB-Z-018	IPB Schematic - Remote Termination Unit - sheet 2	0	1994-10-28
IPB-Z-019	IPB-CIU CASE DETAILS APPROVAL DRAWING	0	2008-12-03
IPB-Z-020	RTU-CIU1 ARTWORK DETAILS APPROVAL DRAWING L3	0	2008-12-03
IPB-Z-023	IPB RTU-2 CONSTRUCTION DETAILS	1	2009-02-16
IPB-Z-024	RTU-2 SCHEMATIC - SHEET 1 L3	0	2008-12-03
IPB-Z-025	RTU-2 SCHEMATIC - SHEET 2	0	2008-12-03
IPB-Z-026	IPB RTU-2 - APPROVAL MARKING DETAILS	1	2009-02-16
IPB-Z-028	RDM-1k REMOTE DISPLAY MODULE GENERAL ARRANGEMENT & MOUNTING DETAILS	1	2009-02-16
IPC-Z-001	IPC 3.3kC CCMC Schematic	0	2008-09-30
IPC-Z-002	RDM1 Schematic	0	2008-09-30
IPC-Z-003	IPC CCMC-3.3k Dimension & Marking Detail	0	2008-10-01
IPC-Z-004	IPC CCMC-3.3k Construction Details	0	2008-10-01
IPC-Z-005	IPC Typical Connection Diagram	0	2008-10-01
IPC-Z-006	IPC 1000V CCMC Construction & Artwork Detail	0	2008-10-01
IPC-Z-007	IPC 1k CCMC Schematic	0	2008-09-30
IPC-Z-008	IPC 1000V CCMC Dimension & Marking Details	0	2008-10-01
IPC-Z-009	IPC 3.3kV Artwork Detail	0	2008-10-01
IPC-Z-010	IPC Analog Board V3.0 Schematic	0	2008-09-30
IPC-Z-011	IPC Analog Board Inputs V3.0	0	2008-09-30
IPC-Z-012	IPC Analog Board Coms V3.0	0	2008-09-30
IPC-Z-013	IPA/IPB/IPC Relay Base DETAILS	0	2008-10-01
IPC-Z-014	IPC Relay Base Details	0	2008-10-01
IPC-Z-015	IPC Facia Marking DETAILS	1	2009-02-16
IPC-Z-016	IPC Analog Board Artwork Detail	0	2008-10-01
IPC-Z-017	IPC Processor Connections	0	2008-09-30
IPC-Z-018	IPC Processor Inputs	0	2008-09-30
IPC-Z-019	IPC Processor ADC	0	2008-09-30
IPC-Z-020	IPC Processor CPU	0	2008-09-30

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Number	Title	Rev	Date
IPC-Z-021	IPC Processor Battery	0	2008-09-30
IPC-Z-022	IPC RDM1 Artwork Detail	0	2008-10-01
IPC-Z-023	IPC Earth Leakage Shunt DETAILS	0	2008-10-01
IPC-Z-024	IPC 415 CCMC Schematic	0	2008-09-30
IPC-Z-025	IPC 415V CCMC Dimension & Marking Details	0	2008-10-01
IPC-Z-026	IPC RTU-2 MARKING DETAILS	0	2008-12-22
IPSC-Z-005	IPSC MARKING DETAILS - APPROVAL DRAWING	1	2009-02-16
IPSI-A-002	SERIAL INTERFACE MODULE - IPSI MECHANICAL DETAILS	2	2008-12-03
IPSI-A-003	SCIENTECHNIC IPSI ISOLATION BOARD PRINTED CIRCUIT ARTWORK DETAIL	0	2008-12-03
IPSI-M-001	SCIENTECHNIC SERIAL INTERFACE MODULE - IPSI TRAFFOLYTE LABEL DETAILS	1	2008-12-03
IPSI-S-001	SCIENTECHNIC SERIAL INTERFACE MODULE – IPSI CONNECTION DIAGRAM	0	2008-12-03
IPSI-S-002	SCIENTECHNIC PROTOCOL RELAY_IPSI OPTO-COUPLER BOARD SCHEMATIC	0	2008-12-03
IPSI-Z-001	IPSI OPT110 ARRANGEMENT	0	2008-12-03
IPSI-Z-004	AMPCONTROL IPSI INTERNAL CONSTRUCTION	2	2008-12-03