



# IECEX Certificate of Conformity

## INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification Scheme for Explosive Atmospheres

for rules and details of the IECEx Scheme visit [www.iecex.com](http://www.iecex.com)

Certificate No.: IECEx SIM 08.0016X Issue No: 1 Certificate history:  
Status: **Current** Page 1 of 4 [Issue No. 1 \(2010-08-03\)](#)  
Date of Issue: **2010-08-03** [Issue No. 0 \(2008-12-18\)](#)  
Applicant: **CSIRO**  
1 Technology Court  
PULLENVALE QLD 4069  
**Australia**  
Electrical Apparatus: **Ethernet Switch Type ISES**  
*Optional accessory:*  
Type of Protection: **ia**  
Marking: Ex ia I

Approved for issue on behalf of the IECEx  
Certification Body:

Ashraf Chowdhury

Position:

Principal Engineer

Signature:  
(for printed version)

Date:

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting the [Official IECEx Website](#).

Certificate issued by:

**Safety in Mines Testing and Research Station (Simtars)**  
2 Smith Street  
REDBANK QLD 4301  
Australia





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Manufacturer: **Ampcontrol CSM Pty Ltd**  
7 Billbrooke Close  
CAMERON PARK NSW 2285  
**Australia**

Additional Manufacturing  
location(s):

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended.

#### 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:

**IEC 60079-0 : 2000** Electrical apparatus for explosive gas atmospheres - Part 0: General requirements

Edition:3.1

**IEC 60079-11 : 1999** Electrical apparatus for explosive gas atmospheres - Part 11: Intrinsic safety 'i'

Edition:4

*This Certificate **does not** indicate compliance with electrical safety and performance requirements other than those expressly included in the Standards listed above.*

#### TEST & ASSESSMENT REPORTS:

*A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in*

Test Report:

[AU/SIM/ExTR08.0019/00](#)

[AU/SIM/ExTR08.0019/01](#)

Quality Assessment Report:

[AU/TSA/QAR06.0007/03](#)



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## Schedule

### EQUIPMENT:

*Equipment and systems covered by this certificate are as follows:*

The Ethernet Switch, Type ISES, facilitates communication between single-mode and multi-mode glass and plastic fibre technologies in a hazardous area. The equipment contains five fibre-optic ports with associated processing circuitry and is housed in a stainless steel enclosure which, in turn, is intended for installation within another IP55 rated enclosure. Power is to be supplied from a separately certified isolated intrinsically safe power source.

### CONDITIONS OF CERTIFICATION: YES as shown below:

Power to the equipment must be supplied from an isolated intrinsically safe power source.

In order to maintain the degree of protection of IP55, the equipment must be installed in an enclosure with a degree of protection rating of at least IP55 in accordance with IEC 60529.

Entity parameters associated with Issue 0 of the certificate are listed below:

Ui (V)	Ii (A)	Pi (W)	Ci ( $\mu$ F)	Li (mH)
15	2.5	37.5	0	0



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## DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):

Issue 1:

Entity parameters are as follows:

Ui (V)	Ii (A)	Pi (W)	Ci ( $\mu$ F)	Li (mH)	Li/Ri ( $\mu$ H/ ? )
15.2	2.6	39.52	0	0	0

Reduction of internal regulated power supply rails from 11 to 4.

Changes to printed circuits boards, components and hardware associated with the above changes .

Degree of protection rating removed from marking.

## Annex:

[IECEX SIM 08.0016X-1 Annex.pdf](#)



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## Manufacturer's documents:

### Drawings associated with Issue 1:

Drawing No	Subject	Rev.	Date
ISES-E-001 Sheets 1 to 5 of 6	ISES S/ASSY PCB ISES MAIN Schematic	0	09/6/2010
ISES-P-001 7 sheets	C/BOARD ISES MAIN PCB	1	18.6.2010
ISESB001 4 sheets	ISES Main Board Consolidated BOM	0	10/06/2010
ISES-E-002	ISES S/ASSY PCB ISES TXRX Schematic	0	09/6/2010
ISES-P-002 5 sheets	C/BOARD ISES TXRX PCB	1	18.6.2010
ISESB002	ISES TxRx Board BOM	0	10/06/2010
ISESZ006	Heatsink Details ISES	1	-
ISESZ001	SWITCH ISES IS ETHERNET	2	20/5/10
ISESZ007	SWITCH ISES ETHERNET	1	10 Feb 10
ISESZ008	CABLE FIBRE ISES PATCH ASSEMBLIES Part Detail	2	20/4/10

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## Drawings associated with Issue 0:

Drawing No	Subject	Rev.	Date
NES-DWG-00	Ethernet Switch Block Diagram	E	10/06/08
NES-DWG-01.sch	Ethernet switch Controller	D	10/06/08
NES-DWG-02	Ethernet switch PORT 1	E	09/12/08
NES-DWG-03	Ethernet switch PORT 2	E	09/12/08
NES-DWG-04	Ethernet switch PORT 3	E	09/12/08
NES-DWG-05	Ethernet switch PORT 4	E	10/06/08
NES-DWG-06	Ethernet switch PORT 5	E	10/06/08
NES-DWG-07	10Mbps Transceiver Block A	A	10/06/08
NES-DWG-08	10Mbps Transceiver Block B	A	10/06/08
NES-DWG-09	Ethernet switch General Overview	D	10/06/08
NES-DWG-10	IS Ethernet Switch ASSEMBLY	A	-
NES-DWG-11 Sheet 1 of 2	Potting Dam Fitting & Creepage Distances Ethernet Switch Circuit Board Ethernet Switch	5	18 Jun 2008
NES-DWG-11 Sheet 2 of 2	Creepage Distances 100Mb Port Sub-Board Ethernet Switch Circuit Board	5	18 Jun 2008
NES-DWG-12	300mm Optical Fibre Patch Lead Ethernet Switch	1	4 Apr 2007
NES-DWG-14 Sheet 1 of 4	Short Heat-Sink Ethernet Switch Circuit Board Ethernet Switch	2	12 Mar 2008
NES-DWG-14 Sheet 2 of 4	Long Heat-Sink Ethernet Switch Circuit Board Ethernet Switch	2	12 Mar 2008
NES-DWG-14 Sheet 3 of 4	Back Heat-Sink Ethernet Switch Circuit Board Ethernet Switch	2	12 Mar 2008

(Drawing list continued next page)

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Drawing No	Subject	Rev.	Date
NES-DWG-14 Sheet 4 of 4	Heatsink Assembly & Thermal Specification Circuit Board Sub-Assembly Ethernet Switch	2	12 Mar 2008
NES-DWG-17 Sheet 1 of 2	Enclosure, IS Ethernet Switch Manufacturing Detail	A	-
NES-DWG-19 (10 sheets)	Ethernet Switch – Bill of Materials	H	10/09/08
NES-DWG-20 (4 sheets)	CSIRO ISES TXRX PCB	2	24/11/2008
NES-DWG-21 (6 sheets)	CSIRO ISES MAIN PCB	2	18/11/2008
NES-DWG-23 Sheet 1 of 2	Lid, IS Ethernet Switch Manufacturing Detail	A	-
NES-DWG-23 Sheet 2 of 2	Lid, IS Ethernet Switch Screen Printing	A	-
NES-DWG-24	Plate, Mounting, IS Ethernet Switch Manufacturing Detail	A	-
ISES-Z-001	IS Ethernet Switch Certification Detail	1	28 Nov 08

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