



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

Certificate No.: IECEx TSA 08.0046X Issue No: 0 Certificate history:
Issue No. 0 (2009-01-19)

Status: **Current** Page 1 of 3

Date of Issue: **2009-01-19**

Applicant: **CSIRO, Division of Exploration and Mining**
1 Technology Ct
Pullenvale QLD 4069
Australia

Electrical Apparatus: **Serial to Ethernet Converter**
Optional accessory:

Type of Protection: **Intrinsic Safety**

Marking: Ampcontrol CSM
STEC - Serial to Ethernet Converter
 $U_i = 13\text{ V}$, $I_i = 3.3\text{ A}$, $P_i = \text{NA}$
 $C_i = 0\ \mu\text{F}$,
 $L_i = 0\text{ mH}$
 $U_o = 7.14\text{ V}$, $I_o = 251\text{ mA}$, $P_o = 0.447\text{ W}$
 $C_o = 124\ \mu\text{F}$,
 $L_o = 933\ \mu\text{H}$
S/N XXXX-XXXX
Ex ia I IECEx TSA 08.0046X
Warning: Electrostatic hazard, clean with a damp cloth only

Approved for issue on behalf of the IECEx
Certification Body:

Position:

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](http://www.iecex.com).

Certificate issued by:

TestSafe Australia
919 Londonderry Road
Londonderry NSW 2753
Australia





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Manufacturer: **Ampcontrol CSM Pty Limited**
7 Billbrook 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 : 2004 Electrical apparatus for explosive gas atmospheres - Part 0: General requirements
Edition:4.0

IEC 60079-11 : 2006 Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
Edition:5

*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/TSA/ExTR08.0065/00](#)

Quality Assessment Report:

[AU/TSA/QAR06.0007/02](#)



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Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

The Serial to Ethernet Converter (STEC) is designed to convert copper serial RS422/485 to TCP/IP over 10BaseFL single and multimode fibre optic Ethernet. The system is designed to be housed in an enclosure with IP 54 protection. The system is powered from an Intrinsically Safe power supply with level of protection 'ia', with maximum voltage of 13 V. The Serial to Ethernet Converter is capable of both 2-wire and 4-wire serial RS422/485 communications. The system is designed to interface with a range of existing intrinsically safe devices such as Ampcontrol's Gasguard controller and Trollex 9042 PLC unit via the RS422/485.

CONDITIONS OF CERTIFICATION: YES as shown below:

Refer annexe of the certificate for conditions of certification.

Annex:

[Annexe for IECEx TSA 08_0046X-0.pdf](#)




IECEX Certificate of Conformity Annexe

Annexe for Certificate No.:	IECEX TSA 08.0046X	Issue No.:	0
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Drawing list pertaining to Issue 0 of this Certificate:

Document No.	Sheets	Document Title	Issue	Date (yyyy/mm/dd)
NSTEC-DWG-00.sch	1	NSTEC Power Supply Circuit	F	2008/12/04
NSTEC-DWG-01.sch	2	NSTEC Main Board Circuit	F	2008/12/04
NSTEC-DWG – 02sch	2	NSTEC Front Pannel Circuit	E	2008/12/04
NSTEC – DWG - 03	3	CSIRO ISES Power (Power Board PCB)	2	2008/11/20
NSTEC – DWG – 04	3	CSIRO ISES Main (Main Board PCB)	2	2008/11/24
NSTEC – DWG – 05	4	CSIRO ISES Panel (Panel Board PCB)	1	2008/11/24
STEC-Z-001	2	Serial To Ethernet Converter Certification Details	1	2008/12/15
NSTEC-DWG-07	1	STEC typical Connection Diagram	B	2007/09/25
STEC-Z-002	1	NETLIST_NSTEC-DWG-00.prjPCB (BOM)	1	2008/12/16
STEC-Z-003	1	NETLIST_NSTEC-DWG-01.prjPCB (BOM)	1	2008/12/16
STEC-Z-004	1	NETLIST_NSTEC-DWG-02.prjPCB (BOM)	1	2008/12/16
STEC-Z-05	1	Important Information Required for Conformity to IECEX TSA 08.0046X (Manual)	0	2008/12/15
NSTEC-DWG-12	1	120mm 10 –pin Ribbon Cable Assembly Serial to Ethernet Connector	1	2007/07/13
NSTEC-DWG-13	1	120mm 16 –pin Ribbon Cable Assembly Serial to Ethernet Connector	1	2007/07/13

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IECEX Certificate of Conformity Annexe

Annexe for Certificate No.:	IECEX TSA 08.0046X	Issue No.:	0
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Conditions of Certification pertaining to Issue 0 of this Certificate:

1. It is a condition of safe use that the following input output parameters must be taken into account when used.

Input Parameters:

Pins 1, 2, 3, 4 (Supply input) and Pins 20, 21, 22, 23 (RS422/485) of Connector J8; NSTEC-DWG-00.sch:

$U_i = 13 \text{ V}$

$I_i = 3.3 \text{ A}$

$C_i = 0\mu\text{F}$

$L_i = 0 \text{ mH}$

$P_i = \text{Not applicable}$

Output Parameters:

Pins 20,21,22,23 (RS422/485) of connector J8;

$U_o = 7.14 \text{ V}$

$I_o = 251 \text{ mA}$

$C_o = 124 \mu\text{F}$


$L_o = 933 \mu\text{H}$

$P_o = 0.447 \text{ W}$

2. It is a condition of safe use that the apparatus must be mounted inside an enclosure of ingress protection of at least IP54.

3. It is a condition of safe use that the enclosure is to be cleaned only with damp cloth to avoid electrostatic discharge.

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