IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification System for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.:	**IECEx SGS 24.0011X**	Page 1 of 3	Certificate history:
Status:	**Current**	Issue No: 0	
Date of Issue:	2024-12-02		
Applicant:	**Eaton Electric Limited** Great Marlings Butterfield Luton Bedfordshire LU2 8DL **United Kingdom**		
Equipment:	**CPM/CCM16 Series Backplane Assembly with MTL4500/4600 Isolators**		
Optional accessory:			
Type of Protection:	**Increased Safety – "Ex e"; Intrinsic Safety – "Ex i"; Protection by Type – "Ex n"**		
Marking:	**Ex ec nC [ia Ga] IIC T4 Gc – Excludes MTL4599N and MTL4626 isolators** **Ex ec nC IIC T4 Gc - MTL4599N and MTL4626 isolators only** **(-20°C ≤ Tamb ≤ +60°C)**		

Approved for issue on behalf of the IECEx Certification Body:	**P Oates**
Position:	**Certification Manager**
Signature: (for printed version)	
Date: (for printed version)	2/12/2024

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 www.iecex.com or use of this QR Code.

Certificate issued by:

SGS United Kingdom Ltd
Rockhead Business Park
Staden Lane
Buxton, Derbyshire SK17 9RZ
United Kingdom

IECEx Certificate of Conformity

Manufacturer: **Eaton Electric Limited**
Great Marlings
Butterfield
Luton
Bedfordshire
LU2 8DL
United Kingdom

Manufacturing locations: **Eaton Electric Limited**
Great Marlings
Butterfield
Luton
Bedfordshire
LU2 8DL
United Kingdom

MTL Instruments PVT Limited
No 3 Old Mahabalipuram Road,
Sholinganallur, Chennai, 600 119
India

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 equipment 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 60079-0:2017 Explosive atmospheres - Part 0: Equipment - General requirements
Edition:7.0

IEC 60079-11:2011 Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
Edition:6.0

IEC 60079-15:2010 Explosive atmospheres - Part 15: Equipment protection by type of protection "n"
Edition:4

IEC 60079-7:2017 Explosive atmospheres - Part 7: Equipment protection by increased safety "e"
Edition:5.1

This Certificate **does not** indicate compliance with 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:

GB/SGS/ExTR24.0031/00

Quality Assessment Reports:

GB/BAS/QAR06.0022/11 GB/BAS/QAR07.0017/10

IECEx Certificate of Conformity

EQUIPMENT:
Equipment and systems covered by this Certificate are as follows:

The CPM/CCM16 Series Backplane Assembly with MTL4500/4600 Isolators is a collection of up to 16 Isolators, performing different functions, mounted on a backplane. The equipment is suitable for installation in an atmosphere requiring an Equipment Protection Level (EPL) “Gc” i.e., Zone 2.

The assembly is not provided with a complete assembly and must be installed in a suitably certified enclosure with a minimum ingress protection of IP54 against the requirements of IEC 60079-0 and IEC 60079-7. The back plane may or may not be conformally coated dependent on the requirements of the application.

The CPM/CCM16 Series Backplane Assembly with MTL4500/4600 Isolators may supply power to intrinsically safe devices if suitably certified. All Isolators are capable of doing so with the exception of the MTL4599N and MTL4626 isolators. These two isolators must not be installed in assemblies where any isolator is to be used to supply intrinsically safe circuits.

The information pertaining to the intrinsically safe parameters of the isolators used are given in IECEx certificates IECEx BAS 23.0011, IECEx BAS 23.0012, IECEx BAS 23.0013 and IECEx BAS 23.0014.

The equipment carries a rating of 20 Vdc – 35 Vdc with a maximum power that is dependent on the isolators fitted to the assembly.

Refer to the certificate Annex for further details.

SPECIFIC CONDITIONS OF USE: YES as shown below:
1. The equipment must be installed in an area of Pollution Degree 2 or better, as defined in IEC 60664-1, and in an enclosure that provides a degree of protection of at least IP54 and meets the relevant requirements of IEC 60079-0 and IEC 60079-7.

2. If the equipment is installed in an enclosure with a non-metallic surface, with non-metallic parts of the enclosure including but not limited to non-metallic coatings then the final assembly may present an electrostatic hazard. Installation of the equipment must consider the environment that the equipment is installed in to prevent the build-up of electrostatic charges on the surface of the equipment. The equipment must only be cleaned with a damp cloth.

3. The ambient temperature stated on this certificate refers to the temperature within the enclosure into which it must be installed in accordance with condition number 1).

4. It is the responsibility of the installer to ensure that there is adequate isolation between the MTL4500/MTL4600 Isolator and backplane assembly and the frame of the supplementary enclosure. The equipment must be capable of withstanding the 500V dielectric strength test in accordance with clause 6.1 of IEC 60079-7 between the equipment and the supplementary enclosure. This must be taken into account during installation.

5. The maximum values for the intrinsically safe circuits have to be taken from the IECEx Certificate of Conformity IECEx BAS 23.0011, IECEx BAS 23.0012, IECEx BAS 23.0013 and IECEx BAS 23.0014.

6. The backplanes are not permitted to be fitted with a mixture of isolators with intrinsically safe output and non-intrinsically safe outputs (IECEx Zone 2). Each backplane is only permitted to be fitted with either intrinsically safe outputs or non-intrinsically safe outputs (IECEx Zone 2).

7. Live maintenance is not permitted on any part of the equipment. Power must be disconnected before opening the enclosure

Annex:

IECEx SGS 24.0011X-00 Annex.pdf

The CPM/CCM16 Series Backplane Assembly with MTL4500/4600 Isolators is a collection of up to 16 Isolators, performing different functions, mounted on a backplane.

The assembly must be installed in a suitably certified enclosure with a minimum ingress protection of IP54 against the requirements of IEC 60079-0 and IEC 60079-7. The backplane may or may not be conformally coated dependent on the requirements of the application.

The CPM/CCM16 Series Backplane Assembly with MTL4500/4600 Isolators may supply power to intrinsically safe devices if suitably certified. All Isolators are capable of doing so with the exception of the MTL4599N and MTL4626 isolators. These two isolators must not be installed in assemblies where any isolator is to be used to supply intrinsically safe circuits.

The information pertaining to the intrinsically safe parameters of the isolators used are given in IECEx certificates IECEx BAS 23.0011, IECEx BAS 23.0012, IECEx BAS 23.0013 and IECEx BAS 23.0014.

The equipment carries a rating of 20 Vdc – 35 Vdc with a maximum power that is dependent on the isolators fitted to the assembly.

The Isolators that may be fitted to the equipment are as follows:

Table A.1 – Permitted Isolators and Applied Protection Concept

Isolator Designation	Intrinsic Safety	Increased Safety
MTL4514	•	•
MTL4514X	•	•
MTL4521	•	•
MTL4521L	•	•
MTL4523L	•	•
MTL4523V	•	•
MTL4526	•	•
MTL4541	•	•
MTL4541A	•	•
MTL4541AS	•	•
MTL4541S	•	•
MTL4544	•	•
MTL4544D	•	•
MTL4546Y	•	•
MTL4599N		•
MTL4626		•

All isolators used have been assessed as being safe for use / installation in an atmosphere requiring an Equipment Protection Level (EPL) “Gc”. The devices marked as Intrinsic Safety may be used to supply circuits in more restrictive atmospheres using the intrinsic safety protection concept. The devices marked as increased safety only shall not be installed on the back panel when isolators are intended to connect to equipment relying on the intrinsically safe outputs from the isolators.

These isolators may be fitted to one of a number of options. The following table identifies the permitted combinations:

Backplane Models	Permitted Isolators
CPM16-SDI3506X -L (master) with CPM16-SDI3506X-EX (slave)* Or CCM16-SDI3506X -L (master) with CCM16-SDI3506X-EX (slave)*	MTL4514
CPM16-SDI3506X -R (master) with CPM16-SDI3506X-EX (slave)* Or CCM16-SDI3506X -R (master) with CCM16-SDI3506X-EX (slave)*	MTL4514
CPM16-DO3604E-L or CCM16-DO3604E-L	MTL4521
	MTL4521L
	MTL4523L
	MTL4523V
CPM16-DO3604E-R or CCM16-DO3604E-R	MTL4521
	MTL4521L
	MTL4523L
	MTL4523V
CPM16-AI3722X-L or CCM16-AI3722X-L	MTL4541
	MTL4541A
CPM16-AI3722X-R or CCM16-AI3722X-R	MTL4541
	MTL4541A
CPM16-AI3722R-L or CCM16-AI3722R-L	MTL4544D
CPM16-AI3722R-R or CCM16-AI3722R-R	MTL4544D
CPM16-AO3809X or CCM16-AO3809X	MTL4514X
	MTL4521
	MTL4526
	MTL4626
	MTL4541S
	MTL4541AS
	MTL4546Y
	MTL4599N

Note: * This is a master/slave arrangement where power and data is connected to the master and then supplied to the slave.

The backplanes may be coated for environmental reasons. The uncoated backplanes are identified in the part number by the prefix “CPM16” and the coated backplanes are marked with the prefix “CCM16”.

The backplane connections to the isolators are offset on one side the backplane. The backplanes may be provided in one of two configurations. The offset on the left side of the backplane or the right side. This is to assist in the installation of the equipment and has no bearing on the concept of protection. The offset is identified by the “-L” (Left) suffix or the “-R” (Right Suffix). The function of the backplane is identical in both cases.

Information pertaining to the isolators referenced are as follows:

MTL4626 Two Channel Switch-operated Relay Output

The MTL4526 Two Channel Switch-operated Relay Output is designed to enable two separate circuits to be switched via relay contacts by on/off switches or logic signals from unspecified apparatus in the non-hazardous area. Configuration switches on the apparatus allow the two relay output channels to be alternatively controlled by one input. Each non-hazardous area input can also be loop powered. Two relays provide galvanic isolation between the hazardous and non-hazardous area circuitry.

Each channel of the apparatus includes a relay which together with other electronic components are mounted on a printed circuit board and housed in a moulded plastic enclosure. Polarised plugs and sockets are provided for hazardous and non-hazardous area connections. LED indication is provided for the status of each output channel and power-on.

Input / Output Parameters

The circuit connected to non-hazardous area terminals 8, 9, 10, 11, 13 & 14 is designed to operate from a d.c. supply voltage of up to 35V.

MTL4599N General Purpose Feed-through Module

The feed–through termination module allows non–IS connections to the MTL4500 backplanes. The wires from the field are connected using screw terminals. Six terminals are provided on top of the module and linked down to the multiway connector on the backplane.

Input / Output Parameters

The circuits connected to non-hazardous area terminals 7, 8, 9, 10, 11, 12 must not be >50V or >0.25A.