1 # EU - TYPE EXAMINATION CERTIFICATE

2 **Equipment or Protective System Intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU**

3	EU - Type Examination Certificate Number:	**SGS24ATEX0014X**
4	Product:	**CPM/CCM16 Series Backplane Assembly with MTL4500 Isolators**
5	Manufacturer:	**Eaton Electric Limited**
6	Address:	**Great Marlings, Butterfield, Luton, Bedfordshire, LU2 8DL United Kingdom**

7 This product and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

8 SGS Fimko Oy, Notified Body number 0598, in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in confidential Report No. **GB/SGS/ExTR24.0031/00**

9 Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN IEC 60079-0: 2018 **EN IEC 60079-7: 2015 + A1: 2018** **EN 60079-11: 2012** **EN IEC 60079-15: 2019**

except in respect of those requirements listed at item 18 of the Schedule.

10 If the sign "X" is placed after the certificate number, it indicates that the product is subject to the Specific Conditions of Use specified in the schedule to this certificate.

11 This EU - TYPE EXAMINATION CERTIFICATE relates only to the design and construction of the specified product. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.

12 The marking of the product shall include the following:

Ⓔx II 3 (1) G Ex ec nC [ia Ga] IIC T4 Gc (-20 °C ≤ Tamb ≤ +60 °C)

SGS Fimko Oy Customer Reference No. **0703** Project File No. **23/0503**

SGS Fimko Oy
Takomotie 8
FI-00380 Helsinki, Finland
Telephone +358 (0)9 696 361
e-mail sgs.fimko@sgs.com
web site www.sgs.fi
Business ID 0978538-5 Member of the SGS Group (SGA SA)

Mikko Välimäki
SGS Fimko Oy

13 # Schedule

14 ## Certificate Number SGS24ATEX0014X

15 Description of Product

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

The Backplane 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 Isolators are intended to connect to intrinsically safe devices in Zone 0 & Zone 1 areas.

The information pertaining to the intrinsically safe parameters of the isolators used is given in ATEX certificates SGS23ATEX0017, SGS23ATEX0018, SGS23ATEX0019 and SGS23ATEX0020.

The equipment is rated 20 Vdc to 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:

Isolator Designation
MTL4514
MTL4514X
MTL4521
MTL4521L
MTL4523L
MTL4523V
MTL4526
MTL4541
MTL4541A
MTL4541AS
MTL4541S
MTL4544
MTL4544D
MTL4546Y

The isolator outputs are intended to connect to Zone 0 and Zone 1 Intrinsic Safety circuits.

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

Backplane Models	Permitted Isolators
CPM16-AI3722R-L or CCM16-AI3722R-L	MTL4544D
CPM16-AI3722R-R or CCM16-AI3722R-R	MTL4544D
CPM16-AO3809X or CCM16-AO3809X	MTL4514X
	MTL4521
	MTL4526
	MTL4541S
	MTL4541AS
	MTL4546Y

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

The back planes 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.

16 Report Number

GB/SGS/ExTR24.0031/00

17 Specific Conditions of Use

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 Isolators 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. Live maintenance is not permitted on any part of the equipment. Power must be disconnected before opening the enclosure.
6. The maximum values for the intrinsically safe circuits have to be taken from the ATEX certificates SGS23ATEX0017, SGS23ATEX0018, SGS23ATEX0019 and SGS23ATEX0020.

18 Essential Health and Safety Requirements

In addition to the Essential Health and Safety Requirements (EHSRs) covered by the standards listed at item 9, the following are considered relevant to this product, and conformity is demonstrated in the report:

Clause	Subject
1.2.7	LVD type requirements
1.2.8	Overloading of equipment (protection relays, etc.)
1.4.1	External effects
1.4.2	Aggressive substances, etc.

19 Drawings and Documents

Number	Sheet	Issue	Date	Description
MTL4516 Isolator				
CI4516-1	1 of 6	3	12.23	Parts List for MTL4516
CI4516-1	2 of 6	5	10.11	Circuit Diagram for MTL4516
CI4516-1	3 of 6	3	12.07	MTL4516 Track Layout
CI4516-1	4 of 6	6	10.12	MTL4516 Component Layout
CI4516-1	5 of 6	2	1.07	PCB Detail for TPL308
CI4500-3	1 of 1	1	12.10	MTL4500 and MTL5500 – Alternative Zener Diode (Panjit)
CI4500-6	1 of 1	1	20.12.10	MTL4500 and MTL5500 – Conformal Coating
CI4500-7	1 of 1	3	12.23	MTL4500 Relay Encapsulant
CI4500-100	1 of 1	2	1.13	MTL 4500 Case
MTL4514X Isolator				
CI4514X-1	1 of 1	1	10.23	Circuit diagram for MTL4514X
CI4514X-1	1 and 2	1	10.23	Parts list for MTL4514X
CI4514X-1	1 of 1	1	11.23	MTL4514X Track Layout
CI4514X-1	1 of 1	1	11.23	MTL4514X Component Layout
CI4514X-1	1 of 1	1	11.23	PCB detail for TPL308
CI4500-3	1 of 1	1	12.10	MTL4500 and MTL5500 – Alternative Zener Diode (Panjit)
CI4500-6	1 of 1	1	20.12.10	MTL4500 and MTL5500 – Conformal Coating
CI4500-7	1 of 1	3	12.23	MTL4500 Relay Encapsulant
CI4500-100	1 of 1	2	1.13	MTL 4500 Case
MTL452X Isolator				
CI4521-1	1 of 6	3	12.23	Parts list for MTL452X
CI4521-1	2 of 6	5	7.10	Circuit diagram for MTL452X
CI4521-1	3 of 6	3	2.10	MTL452X Track Layout
CI4521-1	4 of 6	4	1.13	MTL452X Component Layout
CI4521-1	5 of 6	2	1.07	PCB detail for TPL301
CI4500-3	1 of 1	1	12.10	MTL4500 and MTL5500 – Alternative Zener Diode (Panjit)
CI4500-6	1 of 1	1	20.12.10	MTL4500 and MTL5500 – Conformal Coating
CI4500-100	1 of 1	2	1.13	MTL 4500 Case
MTL4521L Isolator				
CI4521-11	1 of 6	3	12.23	Parts list for MTL4521L
CI4521-11	2 of 6	1	2.10	Circuit diagram for MTL4521L
CI4521-11	3 of 6	1	2.10	MTL4521L Track Layout
CI4521-11	4 of 6	2	1.13	MTL4521L Component Layout
CI4521-11	5 of 6	1	2.10	PCB detail for TPL301
CI4500-3	1 of 1	1	12.10	MTL4500 and MTL5500 – Alternative Zener Diode (Panjit)
CI4500-6	1 of 1	1	20.12.10	MTL4500 and MTL5500 – Conformal Coating
CI4500-100	1 of 1	2	1.13	MTL 4500 Case
MTL4523V Isolator				
CI4523-1	1 of 6	3	11.23	Parts List for MTL4523V
CI4523-1	2 of 6	2	11.11	Circuit Diagram for MTL4523V

Number	Sheet	Issue	Date	Description
CI4523-1	3 of 6	1	8.10	MTL4523V Track Layout
CI4523-1	4 of 6	2	1.13	MTL4523V Component Layout
CI4523-1	5 of 6	1	8.10	PCB Detail for TPL301
CI4523-2	1 of 3	2	11.11	Circuit Diagram for MTL4523V
CI4523-2	2 of 3	1	8.10	MTL4523V Track Layout
CI4523-2	3 of 3	2	1.13	MTL4523V Component Layout
CI4500-3	1 of 1	1	12.10	MTL4500 and MTL5500 – Alternative Zener Diode (Panjit)
CI4500-6	1 of 1	1	20.12.10	MTL4500 and MTL5500 – Conformal Coating
CI4500-100	1 of 1	2	1.13	MTL 4500 Case
MTL4526 Isolator				
CI4526-1	1 of 5	2	12.23	Parts List for MTL4526
CI4526-1	2 of 5	1	3.08	MTL4526 Circuit Diagram
CI4526-1	3 of 5	1	4.08	MTL4526 Track Layout
CI4526-1	4 of 5	2	1.13	MTL4526 Component Layout
CI4500-3	1 of 1	1	12.10	MTL4500 and MTL5500 – Alternative Zener Diode (Panjit)
CI4500-6	1 of 1	1	20.12.10	MTL4500 and MTL5500 – Conformal Coating
CI4500-7	1 of 1	3	12.23	MTL4500 Relay Encapsulant
CI4500-100	1 of 1	2	1.13	MTL 4500 Case
MTL4541/MTL4544 Isolator(s)				
CI4541-1	1 of 8	4	9.15	Parts List for MTL4541/MTL4544
CI4541-1	2 of 8	5	7.09	Circuit Diagram for the MTL 4541/4544
CI4541-1	3 of 8	5	7.09	Circuit Diagram for the MTL 4541/4544
CI4541-1	4 of 8	5	1.18	MTL4541/MTL4544 Track Layout
CI4541-1	4A of 8	5	1.18	MTL4541/MTL4544 Track Layout
CI4541-1	5 of 8	6	1.13	MTL4541 Component Layout
CI4541-1	6 of 8	2	1.07	PCB Detail for TPL300
CI4541-1	7 of 8	2	1.07	PCB Detail for TPL301
CI4500-3	1 of 1	1	12.1	MTL4500 and MTL5500 – Alternative Zener Diode (Panjit)
CI4500-6	1 of 1	1	20.12.10	MTL4500 and MTL5500 – Conformal Coating
CI4500-100	1 of 1	2	1.13	MTL 4500 Case
MTL4541A/MTL4544A Isolator(s)				
CI4541-2	1 of 8	2	12.23	Parts List for MTL4541A/MTL4544A
CI4541-2	2 of 8	1	11.08	Certification Diagram for MTL4544A & 4541A
CI4541-2	3 of 8	1	11.08	Certification Diagram for MTL4544A & 4541A
CI4541-2	4 of 8	1	11.08	MTL4541A & 4544A Track Layout
CI4541-2	5 of 8	2	1.13	MTL4541A & MTL4544A Component Layout
CI4541-2	6 of 8	1	11.08	PCB Detail for TPL300
CI4541-2	7 of 8	1	11.08	PCB Detail for TPL301
CI4500-3	1 of 1	1	12.1	MTL4500 and MTL5500 – Alternative Zener Diode (Panjit)
CI4500-6	1 of 1	1	20.12.10	MTL4500 and MTL5500 – Conformal Coating
CI4500-100	1 of 1	2	1.13	MTL 4500 Case

Number	Sheet	Issue	Date	Description
MTL4541S, MTL5541S, MTL4544S, MTL5544S, MTL4544D, MTL5544D Isolator(s)				
CI4541-3	1 of 8	5	12.23	Parts List for MTL4541S, MTL5541S, MTL4544S, MTL5544S, MTL4544D, MTL5544D
CI4541-3	2 of 8	2	10.12	Circuit Diagram for the MTL4541S, MTL5541S, MTL4544S, MTL5544S, MTL4544D, MTL5544D, MTL4541T
CI4541-3	3 of 8	2	10.12	Circuit Diagram for the MTL4541S, MTL5541S, MTL4544S, MTL5544S, MTL4544D, MTL5544D, MTL4541T
CI4541-3	4 of 8	1	6.09	Track Layout for MTL4541S, MTL5541S, MTL4544S, MTL5544S, MTL4544D, MTL5544D
CI4541-3	5 of 8	3	1.14	Component Layout for MTL4541S, MTL4541T, MTL5541S, MTL4544S, MTL5544S, MTL4544D, MTL5544D
CI4541-3	6 of 8	1	6.09	PCB Detail for TPL300
CI4541-3	7 of 8	1	6.09	PCB Detail for TPL301
CI4500-3	1 of 1	1	12.1	MTL4500 and MTL5500 – Alternative Zener Diode (Panjit)
CI4500-6	1 of 1	1	20.12.10	MTL4500 and MTL5500 – Conformal Coating
CI4500-100	1 of 1	2	1.13	MTL 4500 Case
MTL4546 Isolator				
CI4546-1	1 of 7	4	12.23	Parts List for MTL4546
CI4546-1	2 of 7	6	10.12	Circuit Diagram for the MTL 4546
CI4546-1	3 of 7	3	6.07	MTL4546 Track Layout
CI4546-1	4 of 7	6	10.12	MTL4546 Component Layout
CI4546-1	5 of 7	2	1.07	PCB Detail for TPL300 and TPL302
CI4546-1	6 of 7	2	1.07	PCB Detail for TPL301
CI4500-3	1 of 1	1	12.10	MTL4500 and MTL5500 – Alternative Zener Diode (Panjit)
CI4500-6	1 of 1	1	20.12.10	MTL4500 and MTL5500 – Conformal Coating
CI4500-100	1 of 1	2	1.13	MTL 4500 Case
Backplanes				
CI4500-1-180	1	1	10.23	CPM16-D03604E-L ASSEMBLY
CI4500-1-181	1	1	11.23	CPM16-D03604E-R ASSEMBLY
CI4500-1-659	1	1	11.23	CPM16-AO3809X ASSEMBLY
CI4500-1-689	1	1	11.23	CPM16-SDI3506X--L ASSEMBLY
CI4500-1-691	1	1	11.23	CPM16-SDI3506X--R ASSEMBLY
CI4500-1-693	1	1	11.23	CPM16-SDI3506X-EX ASSEMBLY
CI4500-1-706	1	1	11.23	CPM16-AI3722R-L ASSEMBLY
CI4500-1-708	1	1	11.23	CPM16-AI3722R-R ASSEMBLY
CI4500-1-710	1	1	11.23	CPM16-AI3722X-L ASSEMBLY
CI4500-1-712	1	1	11.23	CPM16-AI3722X-R ASSEMBLY
CI4500-2-180	1	1	11.23	CPM16-D03604E-L ASSEMBLY
CI4500-2-659	1	1	11.23	CPM16-SDI3506X--L ASSEMBLY
CI4500-2-689	1	1	11.23	CPM16-SDI3506X--R ASSEMBLY
CI4500-2-691	1	1	11.23	CPM16-SDI3506X-EX ASSEMBLY
CI4500-2-693	1	1	11.23	CPM16-AI3722R-L ASSEMBLY
CI4500-2-706	1	1	11.23	CPM16-AI3722R-R ASSEMBLY
CI4500-2-708	1	1	11.23	CPM16-AI3722X-L ASSEMBLY

Number	Sheet	Issue	Date	Description
CI4500-2-710	1	1	11.23	CPM16-AI3722X-R ASSEMBLY
CI4500-2-712	1	1	11.23	CPM16-D03604E-L ASSEMBLY
Labels				
CI4500-1-100	1	1	11.24	Backplane certification label - Ex ec
CI4500-1-101	1	1	11.24	Isolator certification label - Ex ec [ia] - Baseefa