



OMRON SCIENTIFIC TECHNOLOGIES INCORPORATED
EC Declaration of Conformity

OMRON Scientific Technologies Incorporated (at 6550 Dumbarton Circle, Fremont, CA 94555-3605, U.S.A.), hereby declares that the following series manufactured products listed below conform with the relevant Essential Health and Safety Requirements (EHSRs) of the European Machinery Directive (2006/42/EC), with the relevant requirements of the Low Voltage Directive (2006/95/EC), and with the essential protection requirements of the Electromagnetic Compatibility (EMC) Directive (2004/108/EC).

Resource Modules: RM-1, RM-2, RM-2AC, RM-2AC-IP, AND RM-X

The Relay Output Extension Devices **RM-1**, RM-2, RM-2AC, RM-2AC-IP, AND RM-X have been type-examined per

EC Type-Examination Certificate, Registration No.: 968/EL 271.02/11,

issued by notified body TUV Rheinland Industrie Service GmbH, Geschäftsfeld ASI, Automation, Software und Informationstechnologie, Am Grauen Stein, 51101 Koln/Germany, Certification Body for FS-Products (NB No. 0035).

The following Standards were used to form the basis for the requirements and tests:

EN 61496-1:2004 + A1:2008 - Safety of machinery – Electro Sensitive Protective Equipment, Part 1: General requirements and tests.

EN 62061:2005 – Safety of machinery. Functional safety of safety-related electrical, electronic and programmable electronic control systems.

EN ISO 13849-1:2008 + AC:2009 - Safety of machinery – Safety-related parts of control systems, Part 1: General principle for design.

EN 60204-1:2006 + A1:2009 (in extracts): Safety of machinery – Electrical equipment of machines, Part 1: General requirements.

EN 50178:1997: Electronic equipment for use in power installations.

IEC 61508, Parts 1 – 7:2010 - Functional Safety Of Electrical/Electronic/Programmable electronic Safety-Related Systems.

Date 24 June 2011

Signed Martin D. Krikorian

Martin D. Krikorian
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Scientific Technologies, Inc.
Fremont, CA, USA

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Am Grarock 8
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TÜVRheinland®

ZERTIFIKAT
CERTIFICATE

No.: 968/EL 271.02/11

Product tested	Relay Output Extension Devices	Certificate holder	OMRON Scientific Technologies, Inc. 6550 Dumbarton Circle Fremont, CA 94555-3605 USA
Type designation	Resource Modules: RM-1, RM-2, RM-2AC, RM-2AC-IP and RM-X	Manufacturer	see certificate holder
Codes and standards forming the basis of testing	EN 61496-1:2004 + A1:2008 EN 62061:2005 EN ISO 13849-1:2008 + AC:2009		EN 60204-1:2006 + A1:2009 (in extracts) EN 50178:1997 IEC 61508 Parts 1-7:2010
Intended application	The RM-1, RM-2x and RM-X Resource Modules comply with the requirements of the relevant standards (Type 4 acc. to EN 61496-1/-2, Cat. 4 / PL e acc. to EN ISO 13849-1, SIL CL 3 acc. to EN 62061 and SIL 3 acc. to IEC 61508) and can be used in applications up to Cat. 4 / PL e acc. to EN ISO 13849-1 and SIL 3 acc. to EN 62061 / IEC 61508.		
Specific requirements	The instructions of the associated Installation and Operating Manual shall be considered.		
This certificate is valid until 2016-02-14.			

The test report-no.: 968/EL 271.02/11 dated 2011-02-14 is an integral part of this certificate.

This certificate is valid only for products which are identical with the product tested. It becomes invalid at any change of the codes and standards forming the basis of testing for the intended application.

TÜV Rheinland Industrie Service GmbH

Geschäftsfeld ASI

Automaten, Software und Informationstechnologie

Am Grauen Stein, 51105 Köln

Postfach 91 09 51, 51101 Köln

Köln, 2011-02-14

Certification Body for FS-Products

Dipl.-Ing. Stephan Häb

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Active Opto-electronic Protective Devices

[See General Information for Active Opto-electronic Protective Devices](#)

OMRON SCIENTIFIC TECHNOLOGIES INC
6550 DUMBARTON CIR
FREMONT, CA 94555 USA

E206571

Type 2, light curtain system, MiniProtect Series MP2100+; Model MP21 followed by suffixes to indicate coverage height and configuration options.

Type 4, light curtain: Model Series 4600+; Models MS46, OF46 followed by additional suffixes , **may include modules RM-1**, RM-2, RM-3 or RM-4 .

Type 4, light curtain system: Series 4700+; Model MC47, MS47, MCF47, MCJ47 or MS46 followed by S, R, SR, SRS or TB, followed by 12, 20 or 30, followed by xxxx, followed by LCM1, LCM2 or LCM3 or LCMxxx, followed by 3X, 10X or 30X, followed by 3R, 10R or 3.

Type 4, light curtain system consisting of Transmitter and Receiver, Series PA46+, 1-000, 2-500, 2-600, 3-400, 3-500, 4-300, 5-300 or 6-300, may be followed by Q2, followed by NO1, NO2, NC1 or NC2, followed by NP or PN, may be followed by M.

Type 4, light curtain system consisting of single light stick containing Transmitter and Receiver, and a passive stick containing reflective mirrors, Series PA46-BB-2+, followed by 500 or 600.

Type 4 Light Curtain system consisting of Transmitter and Receiver, 4800+ Series, Model MS or MSF followed by 4800, followed by A, B or S, may be followed by additional numbers and/or letters, may include RM6 Mute Module and PDM (Programmable Diagnostic Module).

+ -Also investigated to UL 1998, the Standard for Safety Related Software.

OMRON

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OMRON SCIENTIFIC TECHNOLOGIES INC
 6550 DUMBARTON CIR
 FREMONT, CA 94555 USA

E206571

Type 2, light curtain system, MiniProtect Series MP2100+; Model MP21 followed by suffixes to indicate coverage height and configuration options.

Type 4, light curtain system: Model Series 4600+; Models MS46, OF46 followed by additional suffixes, **may include modules RM-1**, RM-2, RM-3 or RM-4 .

Type 4, light curtain system: Series 4700+; Model MC47, MS47, MCF47, MCJ47 or MS46 followed by S, R, SR, SRS or TB, followed by 12, 20 or 30, followed by xxxx, followed by LCM1, LCM2 or LCM3 or LCMxxx, followed by 3X, 10X or 30X, followed by 3R, 10R or 3.

Type 4, light curtain system consisting of Transmitter and Receiver, Series PA46+, 1-000, 2-500, 2-600, 3-400, 3-500, 4-300, 5-300 or 6-300, may be followed by Q2, followed by NO1, NO2, NC1 or NC2, followed by NP or PN, may be followed by M.

Type 4, light curtain system consisting of single light stick containing Transmitter and Receiver, and a passive stick containing reflective mirrors, Series PA46-BB-2+, followed by 500 or 600.

Type 4 Light Curtain system consisting of Transmitter and Receiver, 4800+ Series, Model MS or MSF, followed by 4800, followed by A, B or S, may be followed by additional numbers and/or letters, may include RM6 Mute Module and PDM (Programmable Diagnostic Module).

+ Also complies with UL 1998, the Standard for Safety Related Software.

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Certificate of Compliance

Certificate: 1236374 (LR 90200)

Master Contract: 156365

Project: 2348719

Date Issued: September 22, 2010

Issued to: OMRON Scientific Technologies Inc

6550 Dumbarton Cir
Fremont, CA 94555-3605
USA
Attention: Doug Barnett

The products listed below are eligible to bear the CSA Mark shown with adjacent indicators 'C' and 'US' for Canada and US or with adjacent indicator 'US' for US only or without either indicator for Canada only.



Vincent Dang

Issued by: Vincent Dang, P.Eng.

PRODUCTS

CLASS 4812 05 - SIGNAL APPLIANCES - Systems

CLASS 4812 85 - SIGNAL APPLIANCES - Systems - Certified to US Standards

Relay Modules, Model RM-1, RM-2, RM-3 (or XPSLCM1150), RM-4 (or XPSLCD1141), RM-X, and RM-2AC, DIN-rail mount, RM-1 rated 24 V dc, 0.108 A, 2.6 VA; RM-2 rated 24 V dc, 0.792 A, 19 VA; RM-X rated Input 24 V dc, 72 mA, output contacts 150 V ac, 7 A , or 24 V ac/dc, 7 A res/ 2 A ind.; RM-3 & RM-4 rated Input 24 V dc, output contacts 24 V dc, 625 mA, RM-2AC rated Input 100-240 Vac, 47-63 Hz, 0.6/0.4 A, output contacts 250 V ac, 6 A , 24 V dc, 6 A res. or 2 A ind. and 250 Vac, 3 A; RM-2AC-IP and RM-2AC-IP-SB1 rated Input 100-240 Vac, 50-60 Hz, 0.6/0.4 A.

Notes:

1. Except for models RM-2AC, RM-2AC-IP and RM-2AC-IP-SB1, the above products are supplied by external power supplies which are not part of this certification. The power supplies are Class 2, ELV (less than 100 VA and 42.4 V pk).
2. The above products are certified as components. The suitability of the combination of the components and their enclosure are to be determined in the end use application.



Certificate: 1236374 (LR 90200)

Master Contract: 156365

Project: 2348719

Date Issued: September 22, 2010

3. The above products are for use with OSTI's Presence Sensing Light Curtain devices, 4600 (or XUSLT) Series, 4700 Series, OS3100 and BeamSafeII.

4. Models RM-2AC-IP and RM-2AC-IP-SB1 were evaluated at an ambient of 55°C.

5. The RM-2AC-IP Relay Modules is for use with OSTI's Presence Sensing Light Curtain devices, MS4600, PA4600, OS3100, MS4800 and F3SJ.

6. The RM-2AC-IP-SB1 Relay Module is for use with OSTI's Presence Sensing Light Curtain device 4800 Series models MS4800S and MSF4800S (dip switch version) for "manual key switch remote control" (enabling the programming mode and start/re-start functions).

7. The above models are evaluated for electrical safety only.

APPLICABLE REQUIREMENTS

CAN/CSA-C22.2 No 205-M1983 (R2004) - Signal Equipment

UL 508 (17th Edition) - Industrial Control Equipment



Supplement to Certificate of Compliance

Certificate: 1236374

Master Contract: 156365

The products listed, including the latest revision described below, are eligible to be marked in accordance with the referenced Certificate.

Product Certification History

Project	Date	Description
2348719	September 22, 2010	Update to include alternate construction.
2145173	February 26, 2009	Update Report 1236374 to include new model RM-2AC-IP-SB1.
1945015	September 4, 2007	Update report to amend fuse part number.
1901670	June 6, 2007	Update Report 1236374 to Include Model RM-2AC-IP.
1881509	February 16, 2007	Update Report 1236374 to Include Company Name Change.
1538361	March 29, 2004	Update to include alternative power supply in RM-2AC.
1510392	March 29, 2004	Update to Report 1236374 to Include Relay Resource Module RM-2AC (C/US)

History

1369178	2002/10/18	Addition of Note 3 to page 1 of the report and addition of alternative model names for RM-3 and RM-4.
1236374	2001/09/12	Original Certification. (Re-issued Report LR 90200-34 as Report 1236374 and included new Models RM-X, RM-3, RM-4.)



Certificate of Compliance

Certificate: 1289466 (LR 90200)

Master Contract: 156365

Project: 1881510

Date Issued: 2007/02/16

Issued to: OMRON Scientific Technologies Inc

6550 Dumbarton Cir
Fremont, CA 94555-3611
USA

Attention: Mr. Doug Barnett

The products listed below are eligible to bear the CSA Mark shown with adjacent indicators 'C' and 'US'



Issued by: Rob Hempstock, ASCT.

Authorized by: Lindsay Clark, Product Group Manager

PRODUCTS

CLASS 4812 05 - SIGNAL APPLIANCES - Systems

CLASS 4812 85 - SIGNAL APPLIANCES - Systems - Certified to US Standards

PART A: Optical Sensor, 'Microsafe', MC4200D and MC4200E; 'Microsafe Flexible', MCF4200D and MCF4200E Series, 'Minisafe', MS4500D and MS4500E Series and 'Perimeter Access', PA4500D and PA4500E Series, rated 115/230 V ac, 500/250 mA, 50/60 Hz, or 24 V dc, 30 VA power consumption.

PART B: Safety Light Curtain Controller, Model MC42E-DN, rated 24 V dc, 30 VA max, suitable for use with 1 set of light curtains as indicated above.

PART C: Safety Light Curtain System, series 4700, consisting of ELV light curtains, models MC (or XUSLM)

The 'C' and 'US' indicators adjacent to the CSA Mark signify that the product has been evaluated to the applicable CSA and ANSI/UL Standards, for use in Canada and the U.S., respectively. This 'US' indicator includes products eligible to bear the 'NRTL' indicator. NRTL, i.e. National Recognized Testing Laboratory, is a designation granted by the U.S. Occupational Safety and Health Administration (OSHA) to laboratories which have been recognized to perform certification to U.S. Standards.



Certificate: 1289466 (LR 90200)

Master Contract: 156365

Project: 1881510

Date Issued: 2007/02/16

/MCF (or XUSLMS) / MCJ/MCA/MS4700 (or MS46TB) and controllers Models LCM-XXX, 85-250 V ac, 50/60 Hz, 25 VA, and LCM-X (or XPSLCB1141), 24 V dc, 0.625A.

PART D: Safety Light Curtain System, series 4600, consisting of ELV light curtains, models MiniSafe MS4600 or OptoFence OF4600 and previously certified controllers **Models RM1**, RM2, RM3, RM4, RMX and RM2AC. Input 24 V dc/ 14 W; Output 2 x 24 V dc/500 mA.

PART E: Safety Light Curtain System, series MP2100, consisting of an ELV receiver assembly and an ELV transmitter assembly, models MiniProtect MP2100. Input 24 V dc, 3.5 W; Output 2 x 24 V dc, 500 mA.

PART F: Safety Light Curtain System, MiniSafe 4800 Series, models MS4800 or MSF4800, Input rating: Transmitter, 24 V dc +/-20%, 285mA, Receiver, 24 V dc +/-20%, 1.8A.

Notes:

1. Suffixes are used with light curtain model names in PARTS C, D, E and F to indicate resolution, protection height and other minor options.
2. Controllers Models MC42E-DN and LCM-X are components that are supplied by a Class 2, ELV (less than 100 VA and 42.4 V pk) power supplies.
3. **Controllers RM1**, RM2, RM3, RM4, RMX and RM2AC are Relay Modules certified in Report No. 1236374. Except for model RM2AC which has its own power supply, the other relay modules are supplied by external, Class 2, ELV (less than 100 VA and 42.4 V pk) power supplies, which are not part of this certification.
4. Model MiniProtect MP2100 may be used with **Relay Modules RM1**, RM2, RM3, RM4, RMX or RM2AC.
5. **MiniSafe 4800 Series** consists of an ELV receiver and ELV transmitter assembly, which are powered by an external certified Class 2 power source. MiniSafe 4800 Series may include a remote PDM (Programmable Diagnostic Module) and **may be used with Controllers** (Machine Control Circuit devices) **RM1**, RM3, RM2AC or the RM6 Mute Module. The PDM and RM6 Mute Module are ELV accessories to be used only with the MiniSafe 4800 Series.
6. The above certification is for electrical safety only.

APPLICABLE REQUIREMENTS

CAN/CSA-C22.2 No 205-M1983 (R2004) - Signal Equipment

UL 508 (17th Edition) - Industrial Control Equipment

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