

EU-TYPE EXAMINATION CERTIFICATE



Equipment or Protective System intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU

EU-Type Examination Certificate Number: **UL 25 ATEX 3345X Rev. 1**

Product : **Global Series Modular Audible Device, Global Series Modular Visual LED, Global Series Modular Visual Strobe**

Manufacturer : **Federal Signal Corporation**

Address : **2645 Federal Signal Drive, University Park, IL 60484**

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

UL International Demko A/S, notified body number 0539 in accordance with Article 17 of the 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 the confidential report no. **US/UL/ExTR25.0019/01.**

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

**EN IEC 60079-0:2018
EN 60079-1:2014/A11:2024
EN 60079-7:2015/A11:2024
EN 60079-31:2014**

**EN IEC 60079-0:2018/A11:2024
EN 60079-7:2015
EN 60079-28:2015
EN IEC 60079-31:2024**

**EN 60079-1:2014
EN IEC 60079-7:2015/A1:2018
EN 60079-28:2015/A11:2024**

Where additional criteria beyond those given here have been used, they are listed at item 18 in the Schedule.

If the sign "X" is placed after the certificate number, it indicates that the product is subject to the "Specific Conditions of Use" listed under item 17 of this certificate.

This EU-Type Examination Certificate relates only to the technical design of the specified product in accordance with the Directive 2014/34/EU. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by the certificate.

The marking of the product shall include the following (marking is provided in the Schedule as a part of item 15, if applicable):

Global Series Modular Audible Device

II 2 G Ex db IIB T5 Gb or Ex db eb IIB T5 Gb

II 2 D Ex tb IIIC T100°C Db IP66 (Tamb = -55°C to +49°C)

II 2 G Ex db IIC T4 Gb or Ex db eb IIC T4 Gb

II 2 D Ex tb IIIC T135°C Db IP66 (Tamb = -55°C to +70°C)

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Global Series Modular Visual LED

 II 2 G Ex db op is IIC T6 Gb or Ex db eb op is IIC T6 (Tamb = -55°C to +58°C)

 II 2 D Ex op is tb IIIC T85°C Db IP66 (Tamb = -55°C to +58°C)

 II 2 G Ex db op is IIC T5 Gb or Ex db eb op is IIC T5 Gb (Tamb = -55°C to +70°C)

 II 2 D Ex op is tb IIIC T100°C Db IP66 (Tamb = -55°C to +70°C)

Global Series Modular Visual Strobe

 II 2 G Ex db IIC T3 Gb (Tamb = -55°C to +70°C)

 II 2 G Ex db IIC T4 Gb (Tamb = -55°C to +66°C for 21J Models)

 II 2 G Ex db IIC T5 Gb (Tamb = -55°C to +40°C for 15J Models)

 II 2 D Ex tb IIIC T200°C Db IP66 (Tamb = -55°C to +70°C)

 II 2 G Ex db eb IIC T3 Gb (Tamb = -55°C to + 70°C)

 II 2 G Ex db eb IIC T4 Gb (Tamb = -55°C to +66°C for 21J Models)

 II 2 G Ex db eb IIC T5 Gb (Tamb = -55°C to +40°C for 15J Models)

 II 2 D Ex tb IIIC T200°C Db IP66 (Tamb = -55°C to + 70°C)

Certification Manager
Thomas Wilson

This is to certify that the sample(s) of the Product described herein ("Certified Product") has been investigated and found in compliance with the Standard(s) indicated on this Certificate, in accordance with the ATEX Product Certification Program Requirements. This certificate and test results obtained apply only to the product sample(s) submitted by the Manufacturer. UL did not select the sample(s) or determine whether the sample(s) provided were representative of other manufactured product. UL has not established Follow-Up Service or other surveillance of the product. The Manufacturer is solely and fully responsible for conformity of all product to all applicable Standards, specifications, requirements or Directives. The test results may not be used, in whole or in part, in any other document without UL's prior written approval.

Date of issue: 2025-03-31

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Notified Body UL International Demko A/S, Borupvang 5A, 2750 Ballerup, Denmark
Tel. +45 44 85 65 65, info.dk@ul.com, www.ul.com

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[15] Description of Product**Global Series Modular Visual LED**

The Global Series Modular Visual LED is rated for 24 Vdc, 300 mA or 110-240 Vac at 120-70 mA and is afforded ingress protection rating IP66. The optical irradiance is less than 5mW/mm² at the surface of the glass dome.

The Global Series Modular Visual LED comprises a non-metallic flameproof LED array enclosure, which may be used with optional increased safety terminal enclosures.

The flameproof LED enclosure is in two parts, that are screwed together to form a threaded flameproof joint. Entry into the internal electronics is via this threaded joint, which is additionally retained by a hexagon socket screw. The bottom half of the enclosure has two entry holes to provide electrical connections. The top half of the enclosure has an integral glass dome, covered by a metallic guard. An optional non-metallic clear or colored lens may be fitted which is not covered by this certificate.

When the optional increased safety terminal enclosures are used, a line bushing to EPS 11 ATEX 1342X is fitted to provide conductor egress from the flameproof enclosure for the connection inside the increased safety enclosure. Component certified terminals to PTB 03 ATEX 1189 U or PTB 08 ATEX 1075 U are used.

Cable entry holes are provided as specified in the certification drawings for the accommodation of cable entry devices, with or without the interposition of a thread adaptor. Unused entries are to be fitted with certified stopping plugs.

Nomenclature:

I	II	III	IV	V	VI	VII
G	LED	DC	T	A	H	R

I – Model

II – Type

(LED) – LED

III – Voltage

(DC) – 24VDC

(AC) – 120-240VAC

IV – Configuration

(D) - Ex d Surface Mount

(T) – Ex d U-Bracket

(E) – Ex de Surface Mount

V – Color

(A)– Amber

(B) - Blue

(C) - Clear

(G) – Green

(M) - Magenta

(R) - Red

(Y) – Yellow

VI – Lens

(Blank) – Low-Profile

(H) – High-Profile

VII – Enclosure Color

(Blank) – Black

(R) – Red

Global Series Modular Visual Strobe

The Global Series Modular Visual Strobe is rated for 24Vdc, 1.5A or 110Vac, 450 mA or 240Vac, 340mA and is afforded ingress protection rating IP66. The maximum flash frequency is 60 FPM.

The Global Series Modular Visual Strobe comprises a non-metallic flameproof Strobe enclosure, which may be used with optional increased safety terminal enclosures.



Accredited by DANAK under registration number 7011 to certification of products.

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The flameproof Strobe enclosure is in two parts, that are screwed together to form a threaded flameproof joint. Entry to the internal electronics is via this threaded joint, which is additionally retained by a hexagon socket set screw. The bottom half of the enclosure has two entry holes to provide electrical connections. The top half of the enclosure has an integral glass dome, covered by a metallic guard. An optional nonmetallic clear or colored lens may be fitted which is not covered by this certificate.

When the optional increased safety terminal enclosures are used, a line bushing to EPS 11 ATEX 1 342X is fitted to provide conductor egress from the flameproof enclosure for connection inside the increased safety enclosure. Component certified terminals to PTB 03 ATEX 1189 U or PTB 08 ATEX 1075 U are used.

Cable entry holes are provided as specified in the certification drawings for the accommodation of cable entry devices, with or without the interposition of a thread adaptor. Unused entries are to be fitted with certified stopping plugs. The cable entry devices, thread adapters and stopping plugs shall be suitable for the equipment, the cable and the conditions of use and shall be certified as Equipment (not a Component). When used in a potentially explosive dust atmosphere, the cable entry devices shall maintain the ingress protection of the enclosure.

Nomenclature:

I	II	III	IV	V	VI	VII
G	STR	024	T	A	15J	R

I – Model

II – Type

(STR) – Strobe

III – Voltage

(024) – 24VDC

(120) – 120VAC

(230) – 220-240VAC

IV – Configuration

(D) - Ex d Surface Mount

(T) – Ex d U-Bracket

(E) – Ex de Surface Mount

V – Color

(A)– Amber

(B) - Blue

(C) - Clear

(G) – Green

(M) - Magenta

(R) - Red

(Y) – Yellow

VI – Joule

(21J) – Blank

(15J) – 15 Joule

VII – Enclosure Color

(Blank) – Black

(R) – Red



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Global Series Modular Audible Device

The Global Series Modular Audible Device comes in three forms: an Audible Sounder, an Audible Amplified Speaker and an Audible Loudspeaker. The devices have an ingress protection rating of IP66 and have an electrical rating as per the table below:

	Voltage (DC) Max Current	Voltage (AC) Max Current	Voltage (AC) Max Current
Audible Sounder	24Vdc 460mA	110Vac 140mA	240Vac 80mA
Audible Amplified Speaker	24Vdc 370mA	110Vac 60mA	240Vac 40mA
Audible Loudspeaker	-	70Vac 160 mA	100Vac 110mA

The Global Series Modular Audible Device comprises a non-metallic flameproof Audio Device enclosure, which may be used with optional increased safety terminal enclosures.

The flameproof Audible Device enclosure is in two parts, that are screwed together to form a threaded flameproof joint. Entry to the internal electronics is via this threaded joint, which is additionally retained by a hexagon socket set screw. The bottom half of the enclosure has two entry holes to provide electrical connections. The top half of the enclosure is an audible cap with an integral sinter at the base to allow for the emergence of sound from the respective electrical Audible Device inside the flameproof enclosure.

When the optional increased safety terminal enclosures are used, a line bushing to EPS 11 ATEX 1 342X is fitted to provide conductor egress from the flameproof enclosure for connection inside the increased safety enclosure. Component certified terminals to PTB 03 ATEX 1189 U or PTB 08 ATEX 1075 U are used.

Cable entry holes are provided as specified in the certification drawings for the accommodation of cable entry devices, with or without the interposition of a thread adaptor. Unused entries are to be fitted with certified stopping plugs. The cable entry devices, thread adapters and stopping plugs shall be suitable for the equipment, the cable and the conditions of use and shall be certified as Equipment (not a Component). When used in a potentially explosive dust atmosphere, the cable entry devices shall maintain the ingress protection of the enclosure.

Nomenclature:

I	II	III	IV	V	VI
G	SND	MV	D		R

I – Model

II – Type

(SND) – Sounder

III – Voltage

(MV) – Multi-voltage

(024) – 24VDC

(120) – 120VAC

(230) – 220-240VAC

IV – Configuration

(D) - Ex d Surface Mount

(T) – Ex d U-Bracket

(E) – Ex de Surface Mount

V – Rated Power

(Blank) – 15W

VI – Enclosure Color

(Blank) – Black

(R) – Red



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I	II	III	IV	V	VI	VII
G	SPA	MV	D	25V		R

I – Model

II – Type

(SPA) – Amplified Speaker

III – Voltage

(MV) – Multi-voltage
 (024) – 24VDC
 (120) – 120VAC
 (230) – 220-240VAC

IV – Configuration

(D) - Ex d Surface Mount
 (T) – Ex d U-Bracket
 (E) – Ex de Surface Mount

V – Color

(25V) – 25Vrms
 (Blank) – 0.8/2.8Vrms

VI – Rated Power

(Blank) – 15W

VII – Enclosure Color

(Blank) – Black
 (R) – Red

I	II	III	IV	V	VI
G	SPK	070	D		R

I – Model

II – Type

(SPK) – Loudspeaker

III – Voltage

(070) – Loudspeaker 70 Vrms
 (100) – Loudspeaker 100 Vrms

IV – Configuration

(D) - Ex d Surface Mount
 (T) – Ex d U-Bracket
 (E) – Ex de Surface Mount

V – Rated Power

(Blank) – 15W

VI – Enclosure Color

(Blank) – Black
 (R) – Red

Environments Ratings:**Global Series Modular Visual LED**

-55°C to +58°C at T6

-55°C to +70°C at T5



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Global Series Modular Visual Strobe

-55°C to +70°C at T3
-55°C to +66°C at T4 (21J Models)
-55°C to +40°C at T5 (15J Models)

Global Series Modular Audible Device

-55°C to +49°C for T5
-55°C to +70°C for T4

Electrical data

Global Series Modular Visual LED

24Vdc 300mA, 110-240Vac, 120-70mA

Global Series Modular Visual Strobe

24Vdc. 1.5A or 110Vac, 450 mA or 240Vac, 340mA

Global Series Modular Audible Device

Audible Sounder - 24Vdc 460mA; 110Vac 140mA; 240Vac 80mA
Audible Amplified Speaker - 24Vdc 370mA; 110Vac 60mA; 240Vac 40mA
Audible Loudspeaker – 70Vac 160mA; 100Vac 110mA

Routine tests

1. Each and every flameproof enclosure shall be subject to a routine overpressure test at a pressure of at least 16.3 bar (1.5 x 10.86 bar) without damage, permanent deformation, or leakage other than through the flame paths.
2. When the Global Modular Visual LED, Global Series Modular Visual Strobe, and/or Global Series Modular Audible Device are used with the Global Series increased safety enclosures it shall be subject to a routine dielectric strength test.
 - a. For the 24Vdc model, the test voltage shall be 500Vac applied for 1 min or 600V applied for 100ms. No dielectric breakdown shall occur.
 - b. For the 120-240Vac model, the test voltage shall be 1480Vac applied for 1 min or 1776Vac applied for 100ms. No dielectric breakdown shall occur.

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Descriptive Documents

The scheduled drawings are listed in the report no. provided under item no. [8] on page 1 of this EU-Type Examination Certificate.

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Specific conditions of use:

Global Series Modular Visual LED

1. The Modular Visual LED has external non-metallic surfaces which may provide a potential electrostatic charging hazard. See the manufacturer's instructions for further information.
2. The Modular Visual LED has metallic components in the non-metallic walls of the enclosure which can store electrical charge and therefore may provide a potential electrostatic charging hazard. The metallic brass inserts have a capacitance of 14 pF. The metallic guard has a capacitance of 18 pF. See the manufacturer's instructions for further information.
3. When multiple Ex eb terminal housings are installed, they must be fully supported by the base.
4. Repair of flamepaths is not intended.

Global Series Modular Visual Strobe

1. The Modular Visual Strobe has external non-metallic surfaces which may provide a potential electrostatic charging hazard. See the manufacturer's instructions for further information.
2. The Modular Visual Strobe has metallic components in the non-metallic walls of the enclosure which can store electrical charge and therefore may provide a potential electrostatic charging hazard. The metallic brass inserts have a capacitance of 14 pF. The metallic guard has a capacitance of 18 pF. See the manufacturer's instructions for further information.
3. When multiple Ex eb terminal housings are installed, they must be fully supported by the base fixings provided.
4. Repair of flamepaths is not intended.

Global Series Modular Audible Device

1. The Modular Audible Device enclosure incorporates a sinter, and the volume is greater than 100cm³, therefore the use of the Modular Audible Device in carbon disulphide gas atmospheres is not permitted.
2. The Modular Audible Device has external non-metallic surfaces which may provide a potential electrostatic charging hazard. See the manufacturer's instructions for further information.
3. The Modular Audible Device has metallic components in the non-metallic walls of the enclosure which can store electrical charge and therefore may provide a potential electrostatic charging hazard. The metallic brass inserts have a capacitance of 14 pF. See the manufacturer's instructions for further information.
4. When multiple Ex eb terminal housings are installed, they must be fully supported by the base fixings provided.
5. Repair of flamepaths is not intended.

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Essential Health and Safety Requirements

The Essential Health and Safety Requirements (EHSRs) covered by the standards listed at item 9. 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.

Additional information

The manufacturer shall inform the notified body concerning all modifications to the technical documentation as described in Annex III to Directive 2014/34/EU of the European Parliament and the Council of 26 February 2014.