



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 UL 06.0010X Issue No: 2 Certificate history:
Issue No. 2 (2014-01-28)
Status: Current Page 1 of 4 Issue No. 1 (2008-07-29)
Issue No. 0 (2006-07-25)
Date of Issue: 2014-01-28
Applicant: **Federal Signal Corp.**
2645 Federal Signal Dr.
University Park, IL 60466
United States of America
Electrical Apparatus: **Visual Signaling Device**
Optional accessory:
Type of Protection: **Flameproof "d" and Increased Safety "e"**
Marking: Ex d IIB + H₂ T6...T3 Gb
Ex d e IIB + H₂ T6...T3 Gb

Approved for issue on behalf of the IECEx
Certification Body:

Paul T. Kelly

Position:

Principal Engineer, Global Hazardous Locations

Signature:
(for printed version)

Date:

2014-01-28

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:

UL LLC
333 Pfingsten Road
Northbrook IL 60062-2096
United States of America





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Page 2 of 4

Manufacturer: **Federal Signal Corp.**
2645 Federal Signal Dr.
University Park, IL 60466
United States of America

Additional Manufacturing
location(s):

Federal Signal Corp.
2645 Federal Signal Dr.
University Park, IL 60466
United States of America

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 : 2011 Edition:6.0	Explosive atmospheres - Part 0: General requirements
IEC 60079-1 : 2007-04 Edition:6	Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
IEC 60079-7 : 2006-07 Edition:4	Explosive atmospheres - Part 7: Equipment protection by increased safety "e"

*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:

[US/UL/ExTR06.0036/00](#)

[US/UL/ExTR06.0036/01](#)

[US/UL/ExTR06.0036/02](#)

Quality Assessment Report:

[US/UL/QAR06.0012/05](#)



IECEx Certificate of Conformity

Certificate No: IECEx UL 06.0010X

Issue No: 2

Date of Issue: 2014-01-28

Page 3 of 4

Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

The flameproof visual indicators consist of a cylindrical black polymeric body ending with a glass Dome of different possible colors. The glass dome is mechanically secured to a dome cover and forms a cemented joint between the two parts. The dome cover forms a threaded joint with the body and is also mechanically secured against moving. The body end of series WW450XD or WW450XLD is completed with a plug forming a threaded joint with the body, and a threaded opening for suitable field wiring means. The body end of series WW450XE or WW450XLE also has an increased safety terminal wiring box attached to the bottom of the body accessed via a flameproof bushing in the threaded opening of the body. The only difference between Models WW450XD, WW450XE to WW450XLD and WW450XLE respectively is the different lamp type used.

See Annex for additional details and ratings.

CONDITIONS OF CERTIFICATION: YES as shown below.



IECEX Certificate of Conformity

Certificate No: IECEX UL 06.0010X

Issue No: 2

Date of Issue: 2014-01-28

Page 4 of 4

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):

Issue 1: Capacitor designations, part numbers and values were changed for Models WV450XD and WV450XE, 110 Vac and 220-240 Vac. Drawing Nos. AT2581921B, AT2581921B-01, AT258192B-02, AT2581921B-03 and AT258192B-06 were updated to reflect these changes. Drawing Nos. AT8545104A, AT85454104B and 2562015C were updated to reflect revisions for the ATEX certification only; the revisions do not affect this IECEx Certificate.

Issue 2: Addition of new models WV450XLD and WV450XLE. All models were updated to the IEC 60079-0, Sixth Edition.

Annex:

[Annex to IECEx UL 06.0010X.pdf](#)

Annex to IECEx UL 06.0010X

Nomenclature for type WV450XD and WV450XE:

Form Nos. WV450XD 05 - 024 R
 I II III IV

I – Basic Form

WV450XD – Flameproof ‘d’ model only

WV450XE – Flameproof with additional Increased Safety ‘e’ terminal wiring box

II – Lamp Joules

05 – 5 Joules

10 – 10 Joules

15 – 15 Joules

21 - 21 Joules

III – Electrical Input Rating

024 – 24-48VDC

110 – 110VAC, 50/60 Hz

220 – 220-248VAC, 50/60 Hz

220 - 220 VAC, 50/60 Hz, 21 Joule Version Only

IV – Globe Glass Color (This option is not related to the safety of the device)

A-Z - Colors

Nomenclature for type WV450XLD and WV450XLE:

Form Nos. WV450XLD - 024 R
 I II III

I – Basic Form

WV450XLD – Flameproof ‘d’ model only

WV450XLE – Flameproof with additional Increased Safety ‘e’ terminal wiring box

III - Electrical Input Rating

024 – 24-48VDC

110-220 – 110VAC-248VAC, 50/60 Hz

IV – Globe Glass Color (This option is not related to the safety of the device)

A-Z - Colors

Ratings:

Ex d IIB+H2 T4:

Model WV450XD05-024X, rated 24-48VDC, 0.87/0.48A, 5 Joule

Model WV450XD10-024X, rated 24-48VDC, 0.91/0.46A, 10 Joule

Model WV450XD15-024X, rated 24-48VDC, 0.94/0.48A, 15 Joule

Ex d IIB+H2 T3:

Model WV450XD5-110X, rated 110VAC, 0.17A, 5 Joule

Model WV450XD10-110X, rated 110VAC, 0.27A, 10 Joule

Model WV450XD15-110X, rated 110VAC, 0.57A, 15 Joule

Model WV450XD21-110X, rated 110VAC, 0.75A, 21 Joule

Ex d IIB+H2 T3:

Model WV450XD05-220X, rated 220-248VAC, 0.12A, 5 Joule

Model WV450XD10-220X, rated 220-248VAC, 0.23A, 10 Joule

Model WV450XD15-220X, rated 220-248VAC, 0.33A, 15 Joule

Model WV450XD21-220X, rated 220VAC, 0.50A, 21 Joule

Ex d e IIB+H2 T4:

Model WV450XE05-024X, rated 24-48VDC, 0.87/0.48A, 5 Joule

Model WV450XE10-024X, rated 24-48VDC, 0.91/0.46A, 10 Joule

Model WV450XE15-024X, rated 24-48VDC, 0.94/0.48A, 15 Joule

Ex d e IIB+H2 T3:

Model WV450XE05-110X, rated 110VAC, 0.17A, 5 Joule

Model WV450XE10-110X, rated 110VAC, 0.27A, 10Joule

Model WV450XE15-110X, rated 110VAC, 0.57A, 15Joule

Model WV450XE21-11 OX, rated 110VAC, 0.75A, 21 Joule

Ex d e IIB+H2 T3:

Model WV450XE05-220X, rated 220-248VAC, 0.12A, 5 Joule

Model WV450XE10-220X, rated 220-248VAC, 0.23A, 10 Joule

Model WV450XE15-220X, rated 220-248VAC, 0.33A, 15 Joule

Model WV450XE21-220X, rated 220VAC, 0.50A, 21 Joule

Ex d IIB+H2 T6:

Model WV450XLD, rated 24-48VDC; 110VAC-248VAC; 50/60 Hz

Model WV450XLE, rated 24-48 VDC; 110VAC-248VAC; 50/60 Hz