



# 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](http://www.iecex.com)

Certificate No.: IECEx UL 06.0010X issue No.: 1

Status: **Current**

Certificate history:  
Issue No. 1 (2008-7-29)  
Issue No. 0 (2006-7-25)

Date of Issue: **2008-07-29** Page 1 of 4

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

Electrical Apparatus: **Series WV450XD and WV450XE Visual Signaling Devices**  
Optional accessory:


Type of Protection: **Ex d IIB+H2, Ex de IIB+H2**

Marking: **WV450XD**  
**Ex d IIB+H2 T3-T4 -20°C<Ta<55°C IP66**  
**WV450XE**  
**Ex de IIB+H2 T3-T4 -20°C<Ta<55°C IP66**

Approved for issue on behalf of the IECEx Certification Body: Paul T. Kelly

Position: Lead Operations Manager

Signature:  
(for printed version)

  
2008-07-29

Date:

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.

Certificate issued by:

Underwriters Laboratories Inc (UL)  
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**

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:

<b>IEC 60079-0 : 2004</b> Edition: 4.0	Electrical apparatus for explosive gas atmospheres - Part 0: General requirements
<b>IEC 60079-1 : 2003</b> Edition: 5	Electrical apparatus for explosive gas atmospheres - Part 1: Flameproof enclosure 'd'
<b>IEC 60079-7 : 2001</b> Edition: 3	Electrical apparatus for explosive gas atmospheres - Part 7: 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

##### Quality Assessment Report:

US/UL/QAR06.0012/00



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Issue No.: 1

Page 3 of 4

## Schedule

### EQUIPMENT:

*Equipment and systems covered by this certificate are as follows:*

#### Ex d IIB + H<sub>2</sub> 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+H<sub>2</sub> T3

Model WV450XD05-110X, rated 110VAC, 0.17A, 5 Joule  
Model WV450XD10-110X, rated 110VAC, 0.27A, 10 Joule  
Model WV450XD15-110X, rated 110VAC, 0.57A, 15 Joule

#### Ex d IIB+H<sub>2</sub> 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

#### Ex de IIB+H<sub>2</sub> 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 de IIB+H<sub>2</sub> T3

Model WV450XE05-110X, rated 110VAC, 0.17A, 5 Joule  
Model WV450XE10-110X, rated 110VAC, 0.27A, 10 Joule  
Model WV450XE15-110X, rated 110VAC, 0.57A, 15 Joule

#### Ex de IIB+H<sub>2</sub> 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

### CONDITIONS OF CERTIFICATION: YES as shown below:

WARNING – DO NOT OPEN WHEN ENERGIZED. DO NOT OPEN WHEN AN EXPLOSIVE ATMOSPHERE MAY BE PRESENT

WARNING - POTENTIAL STATIC CHARGING HAZARD - CLEAN ONLY WITH DAMP WET CLOTH

Use wire rated 85°C or higher.



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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.