

UL TEST REPORT AND PROCEDURE

Standard:	UL 60950-1, 2nd Edition, 2007-03-27 (Information Technology Equipment - Safety - Part 1: General Requirements) CSA C22.2 No. 60950-1-07, 2nd Edition, 2007-03 (Information Technology Equipment - Safety - Part 1: General Requirements)
Certification Type:	Listing
CCN:	NWQQ, NWGQ7 (Information Technology Equipment Including Electrical Business Equipment)
Product:	AutoDome System
Model:	AutoDome Series: VG4-1ab-cdefgh; VG4-2ab-cdefgh; VG4-3ab-cdefgh; VG4-5ab-cdefgh; VG5-1ab-cdefgh; VG5-6ab-cdefgh
	Power Supplies: VG4-A-PAxx; VG4-A-PSUxx.
	(PA is power box with arm only - no dome, PSU is power box with cover only)
	Where a, b = 0-9; c, d, e = 0-9 or A-Z; Where x = 0-9 or A-Z or Blank. Where f = 0-9 or Blank; g, h = 0-9 or A-Z or Blank
Rating:	24Vac, 3A, 50/60Hz or 120Vac, 0.7A, 60Hz or 230Vac, 0.4A, 50 Hz.
Applicant Name and Address:	BOSCH SECURITY SYSTEMS INC 850 GREENFIELD RD LANCASTER PA 17601 UNITED STATES

This is to certify that representative samples of the products covered by this Test Report have been investigated in accordance with the above referenced Standards. The products have been found to comply with the requirements covering the category and the products are judged to be eligible for Follow-Up Service under the indicated Test Procedure. The manufacturer is authorized to use the UL Mark on such products which comply with this Test Report and any other applicable requirements of Underwriters Laboratories Inc. ('UL') in accordance with the Follow-Up Service Agreement. Only those products which properly bear the UL Mark are considered as being covered by UL's Follow-Up Service under the indicated Test Procedure.

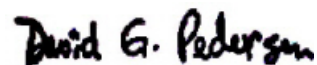
The applicant is authorized to reproduce the referenced Test Report provided it is reproduced in its entirety.

Any information and documentation involving UL Mark services are provided on behalf of Underwriters Laboratories Inc. (UL) or any authorized licensee of UL.

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Report Reference # E183863-A8-UL

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Reviewed by: Michelle Hahnlein
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Supporting Documentation

The following documents located at the beginning of this Procedure supplement the requirements of this Test Report:

- A. Authorization - The Authorization page may include additional Factory Identification Code markings.
- B. Generic Inspection Instructions -
 - i. Part AC details important information which may be applicable to products covered by this Procedure. Products described in this Test Report must comply with any applicable items listed unless otherwise stated in the body of this Test Report.
 - ii. Part AE details any requirements which may be applicable to all products covered by this Procedure. Products described in this Test Report must comply with any applicable items listed unless otherwise stated in the body of each Test Report.
 - iii. Part AF details the requirements for the UL Certification Mark which is not controlled by the technical standard used to investigate these products. Products are permitted to bear only the Certification Mark(s) corresponding to the countries for which it is certified, as indicated in each Test Report.

Product Description

The AutoDome product is for indoor and outdoor use.

The in-ceiling dome unit has been further evaluated for air handling space in accordance to UL Standard "Fire Test for Heat and Visible Smoke Release for Discrete Products and Their Accessories Installed in Air-Handling Spaces", UL 2043, Second Edition.

The unit configured as 1) power supply in a box as well as 2) power supply with neck and dome has been further evaluated for rain tight in accordance with UL 60950-1, 1st Edition, 2007-10-31 and CSA C22.2 No. 60950-1-03, 1st Edition, 2006-07 and to IEC 60529, Ed. 2.1 to IP66. The pressurized autodome has also been further evaluated for raintight in accordance with UL 60950-1, 1st Edition and CSA C22.2 No. 60950-1-03, 1st Edition, 2006-07 and to IEC 60529, Ed. 2.1 to IP 66 and for pressurized autodome with the pipe mount, it has been evaluated to IEC 60529, Edition 2.1 for IP 67. The unit configured as the in-ceiling AutoDome has been further evaluated in accordance to IP54. See Enclosure Miscellaneous for test report of IP54.

Units rated 24Vac are intended to be powered by External UL Listed / I.T.E certified power supply, LPS or Class 2.

When the unit is utilized for outdoor use, the Environmental Shield is added to the Dome.

For indoor use only, there is no Environmental Shield and no heater module utilized.

These units are for service access only.

When the units are utilized for outdoors, all cables are not exposed and are shielded into the earthed conduit.

Power supply box with enclosure is separately Listed within this report.

Plenum design is not acceptable for ITE.

The pipe interface board assembly is intended to be used for pipe mounting applications. See Photo 3-14 for details.

The back box interface module is installed onto the in-ceiling dome for mounting to ceiling tiles.

The units can be mounted in various means 1) Wall, Corner, Mast (Pole) Mount. See Section 1 of Enclosure Manual for mounting details; 2) Roof Parapet or Pipe Mount. See Section 2 of Enclosure Manual for mounting details; 3) Mounting In-Ceiling AutoDome. See Section 3 of Enclosure Manual for mounting details.

This product does not connect to Telecommunication and /or Cable Distribution system.

Model Differences

See Enclosure-Miscellaneous for details.

Technical Considerations

- Equipment mobility : stationary
- Connection to the mains : permanent connection
- Operating condition : continuous
- Access location : restricted access location
- Over voltage category (OVC) : OVC II
- Mains supply tolerance (%) or absolute mains supply values : +6%, -10% (for rated 120Vac); +10%, -10% (for rated 230Vac); N/A (for rated 24Vac from external Listed Class 2 or LPS power adapter).
- Tested for IT power systems : No
- IT testing, phase-phase voltage (V) : N/A
- Class of equipment : Class I (earthed) (rated 120 or 230Vac); Class III (SELV) (rated 24Vac)
- Considered current rating (A) : 3 A max.
- Pollution degree (PD) : PD 2
- IP protection class : IP66 (complete pendant mount assembly with camera and power supply in box); IP54 for in-ceiling AutoDome only, IP66 for pressurized AutoDome and IP67 for pressurized AutoDome with PipeMount.
- Altitude of operation (m) : less than 2000 m
- Altitude of test laboratory (m) : less than 2000 m

- Mass of equipment (kg) : 9.07 kg
- The product was investigated to the following additional standards: EN 60950-1:2006+ A11:2009 (which includes all European national differences, including those specified in this test report).
- The product was submitted and evaluated for use at the maximum ambient temperature (T_{ma}) permitted by the manufacturer's specification of: 50°C
- The means of connection to the mains supply is: Permanently connected (field wired)
- The product is intended for use on the following power systems: TN
- The equipment disconnect device is considered to be: provided as part of the building installation.
- The following circuit locations (with circuit/schematic designation) were investigated as a limited power source (LPS): Power source output (24Vac)
- The class of laser product is: Incorporates previously certified Class 1 laser product.

Additional Information

This CB Report is a re-issue and upgrade to 60950-1 2nd Edition of CB Test Report Reference No. E183863-A8-CB-3, CB Test Certificate Ref.No. US/14840A/UL. No testing was conducted under this investigation due to reissue. All required testing carried out under original investigation. Based on the review of product construction and previously conducted testing it was determined that the product continues to comply with the standard.

The pressurized autodome has also been further evaluated to UL 60950-1, 1st Edition, 2007-10-31 and CSA C22.2 No. 60950-1-03, 1st Edition, 2006-07 for raintight and IEC 60529, Edition 2.1 for IP66 and for pressurized autodome with the pipe mount, it has been evaluated to IEC 60529, Edition 2.1 for IP 67. See Enclosure Miscellaneous for test report of IP66 and IP67 testing. The unit configured as the in-ceiling AutoDome has been further evaluated in accordance to IP54. See Enclosure Miscellaneous for test report of IP54.

Max weight consist of Dome Camera Assembly, Power Supply and Arm Assembly is 20 pounds.

The marking plate label noted in Enclosure Marking Plate ID 13-01 is representative of the Power Supply series.

The marking plate label noted in Enclosure Marking Plate ID 13-02 is representative of the AutoDome series.

Markings and instructions

Clause Title	Marking or Instruction Details
For units intended to be installed outdoors (See model nomenclature in enclosure "Miscellaneous")	Following or equivalent installation instruction: "All wiring connecting to this unit must be routed inside a permanently earthed metal conduit" See manual pages 5 and 19 per enclosure "Manual", supplement Id 6-01.

<p>Manual attached in enclosure "Manual", supplement Id 6-01:</p>	<p>The following or similar wording shall be included in the manual; See manual pages 5, 6, 7, 9, 19, 22, 25, 26, and 29, marked with asterisk. A) Must use UL Listed Liquid Tight Strain Reliefs for Conduits; B) External Interconnecting Cables are to be installed in accordance to NEC, ANSI/NFPA70 (for US application) and Canadian Electrical Code, Part I, CSA C22.1 (for CAN application) and in accordance to local country codes for all other countries. C) the branch circuit protection is 20A as is provided as part of the building installation. D) A readily accessible disconnect device shall be incorporated in the building installation wiring. E) Unambiguous reference to service documentation for instructions for replacement of fuses replaceable only by service personnel; F) Short Circuit/Overcurrent Protection: Instructions indicate Listed circuit breaker or branch rated fuse, rating, number of poles, special characteristics; G) Mounting Instructions - Indicates min thickness of wood 3/4 " .</p>
<p>Manual Instructions for Pipe Mounting</p>	<p>In order to maintain the type rating of the 4 and 4X Enclosure, the installation manual shall state the following or similar wording: "A. The end of the Pipe Mount that is meant to terminate into an enclosure is intended to be field installed and shall be marked or provided with instructions that identify the equipment necessary to maintain the environmental integrity of the enclosure: In order to maintain the integrity of a Type 4X environment, equipment connected needs to have a Type 4X environmental rating. In order to maintain the integrity of a Type 4 environment, equipment connected needs to have a Type 4, 4X, 6 or 6P environmental rating.</p> <p>B. Thread Sealing Compound for pipe mounting must be used and must be Teflon Tape.</p> <p>C. All screws shall be securely tightened."</p>
<p>Marking Label/Instructions - Raintight</p>	<p>The product may be marked "RainTight".</p>
<p>1.7.1 Power rating - Ratings</p>	<p>Ratings (voltage, frequency/dc, current)</p>
<p>1.7.1 Power rating - Company identification</p>	<p>Listee's or Recognized company's name, Trade Name, Trademark or File Number</p>
<p>1.7.1 Power rating - Model</p>	<p>Model Number</p>

<p>1.7.2 Disconnect device - Permanently connected equipment</p>	<p>Statement indicating that a readily accessible disconnect device shall be incorporated in the building installation wiring. (Instruction)</p>
<p>1.7.6 Fuses - Non-operator access/soldered-in fuses</p>	<p>Unambiguous reference to service documentation for instructions for replacement of fuses replaceable only by service personnel</p>
<p>2.7.1 Short Circuit/Overcurrent protection for Pluggable B or permanently connected equipment</p>	<p>Installation Instructions indicate Listed circuit breaker or branch rated fuse, rating, number of poles, special characteristics.</p>
<p>1.7.7.2 Terminals for external primary power supply conductors</p>	<p>Capital letter "N" located adjacent to a terminal intended exclusively for connection of the primary power neutral conductor</p>
<p>1.7.7 Class 2/3 terminals</p>	<p>"Class 2" or "Class 2 output"</p>

Special Instructions to UL Representative

Lancaster, PA, Straubing, Germany, and Hermosillo, Sonora, Mexico are final inspection facilities. Zhuhai, China facilities is a split inspection facility. The final inspection facilities may receive split inspection components from Zhuhai, China in which these split inspection components will be identified with a blue dot. See Enclosure Miscellaneous 7-09 with details of what parts noted in the critical component table 1.5.1 are part of the split inspection with reference to the photo's as shown within this report per Enclosure Photographs. When the power supply is made at the split inspection facility Zhuhai, China as described in accordance to the details as outlined per Enclosure Miscellaneous 7-09 the production - line testing shall be conducted on this power supply in accordance to the requirements as noted in this report. The blue dot will indicate this testing has been conducted at the split inspection facility for this power supply device.