

TO WHOM IT MAY CONCERN

Bosch Security Systems  
Torenallee 49  
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The Netherlands

**Product Test Report**

BT-SC 2018-E-054

**Products****FLEXIDOME outdoor 3100i IR**

F.01U.406.611	NDE-3702-AL	Fixed dome 2MP 3.3-10.2mm IP66 IK10 IR
F.01U.406.612	NDE-3703-AL	Fixed dome 5MP 3.3-10.2mm IP66 IK10 IR
F.01U.427.710	NDE-3703-AL-IO	Dome 5MP 3.3-10.2mm IP66 IK10 IR I/O

The above mentioned Bosch Security Systems products have been tested in accordance and were found to comply with the tests listed below which were carried out during the development phase of the product.

**EMC approvals**

<b>EMC EU</b>	<b>Description</b>
EN 55032:2015 +A11:2020 (Class A)	Information Technology Equipment- Radio disturbance characteristics Limits and Methods of measurement. Class A
EN 55035: 2017 +A11: 2020	Electromagnetic compatibility of multimedia equipment - Immunity requirements
IEC 61000-4-2: 2008	Electromagnetic compatibility (EMC) - Part 4-2: Testing and measurement techniques - Electrostatic discharge immunity test
IEC 61000-4-3: 2020 (Ed. 4.0)	Electromagnetic Compatibility (EMC) - Part 4-3 : Testing And Measurement Techniques - Radiated, Radio-Frequency, Electromagnetic Field Immunity Test
IEC 61000-4-4: 2012	Electromagnetic compatibility (EMC) - Part 4-4: Testing and measurement techniques - Electrical fast transient/burst immunity test
IEC 61000-4-5: 2014 + A1: 2017	Electromagnetic compatibility (EMC) - Part 4-5: Testing and measurement techniques - Surge immunity test
IEC 61000-4-6: 2013 + COR1: 2015	Electromagnetic compatibility (EMC) - Part 4-6: Testing and measurement techniques - Immunity to conducted disturbances, induced by radio-frequency fields
IEC 61000-4-8: 2009	Electromagnetic Compatibility (EMC) - Part 4-8: Testing

	And Measurement Techniques - Power Frequency Magnetic Field Immunity Test
<b>EMC US</b>	
FCC 47 CFR Part 15 Subpart B Class A ICES-003 Issue 7-2020	Telecommunication Chapter I - FEDERAL COMMUNICATIONS COMMISSION, Subchapter B – Unintentional Radiators, Part 15 - RADIO FREQUENCY DEVICES  Spectrum Management and Telecommunications Policy Interference-Causing Equipment Standard
<b>EMC Australia</b>	
AS/NZS CISPR 32: 2015 + A1: 2020, Class A	Electromagnetic compatibility of multimedia equipment - Emission requirements
<b>EMC Japan</b>	
VCCI-CISPR 32: 2016, Class A	EMC certification for Japan.
<b>EMC United Kingdom</b>	
UKCA, Class A	Declaration of Conformity for UKCA
<b>EMC Saudi Arabia</b>	
SASO	EMC certification for Saudi Arabia
<b>EMC Morocco</b>	
CMIM	Conformity Mark for Electronics and Electro technical Products
<b>EMC India</b>	
BIS: IS 13252 (Part 1):2010	EMC certification for India

### Safety approvals

<b>Safety EU</b>	
EN IEC 62368-1:2020/A11:2020	Audio/video, information and communication technology equipment - Part 1: Safety requirements.
<b>Safety USA + Canada</b>	
UL 62368-1, 3rd Ed, 2021-10-22 CAN/CSA C22.2 No. 62368-1:19, 3rd Ed, 2021-10-22	Audio/video, information and communication technology equipment - Part 1: Safety requirements.
<b>IR lighting</b>	
IEC 62471	Photobiological safety of lamps and lamp systems

### Environmental approvals

<b>Directive or standard</b>	<b>Description</b>
RoHS EU, 2011/65/EU EN 50581:2012	Restriction of the use of certain hazardous substances (RoHS)
EN IEC 63000	Technical documentation for the assessment of electrical and electronic products with respect to the restriction of hazardous substances
WEEE EU, 2012/19/EU	Waste Electrical and Electronic Equipment (WEEE)
Packaging EU, 94/62/EC (amended by 2014/12/EC)	Packaging and packaging waste
N2580-1 (Bosch standard)	Central directive Bosch-Norm N 2580-1: "Prohibition and declaration of substances" Bosch-Norm N 2580-1 regulates prohibited substances and those rated declarable in materials, and it is part of the requirements for materials.
N33 6 (Bosch standard)	Design for Environment (DfE): Design and manufacturing rules.

### Management system

<b>Directive or standard</b>	<b>Description</b>
ISO 9001:2015	Quality management systems – Requirements <u>Scope:</u> Development, Production, Installation and Sales.
ISO 14001:2015	Environmental management systems – Requirements with guidance for use <u>Scope:</u> Development, Production, Sales and After Sales.

### Reliability tests

Dry heat (Operational) (EN 60068-2-2:2007)	Temperature +55°C, Duration 16 hours.
Cold operation (Operational) (EN 60068-2-1:2007)	Temperature -35°C, Duration 16 hours.
Damp heat, cyclic (Operational) (EN 60068-2-30:2005)	Temperature +25°C to +50°C, Relative Humidity 93%, 2 cycles.
Water ingress (Operational) (IEC 60068-2-18:2000)	Test procedure similar to EN60529 IPX6.
Salt mist, cyclic (Endurance) (EN 60068-2-52:1996)	Temperature +40°C, Relative Humidity 93%, 4 cycles, Duration 28 days.
Shock (Operational) (EN 60068-2-27:2009)	Halve sine wave pulse, duration 6ms, 3 pulses per direction, 6 directions.
Impact (Operational) (IEC 62262 Edition 1.1: 2021-IK10)	Impact energy 20 Joule , 1 impact per point, 5 positions (Similar to EN 62262 IK10 rating).
Vibration sinusoidal (Operational) (EN 60068-2-6:2008)	Frequency Range 10~150Hz, 5 m/s <sup>2</sup> , 3 axes, Sweep rate 1 octave/min, 1 sweep/axis.
Vibration sinusoidal (Endurance) (EN 60068-2-6:2008)	Frequency Range 10~150Hz, 10 m/s <sup>2</sup> , 3 axes, Sweep rate 1 octave/min, 20 sweep/axis.
Dust tightness (Endurance) (EN 60529:1991 A1:2000)	Duration 8h (similar to EN 60529 IP6X).

### Additional Reliability tests

<b>Environmental test methods</b>	<b>Specific Test description</b>
MTBF calculation of used components	Based on Telcordia Issue 4 Theoretical MTBF is about 700000 hours.
HALT (Highly Accelerating Life Test)	Overstress test to Fail, Operational, Lower Of Limitation = -80°C, High Of Limitation = +100°C, Vibration OL > 40 Grms Combined Environment Stress: Temperature -70°C to +90°C, 5 Grms to 40 Grms
<b>Transport tests acc. AV18-Q0681 ISTA-2A: 2011</b>	
1. Conditioning	Pre-conditioning: Temp. +25°C ±3°C, 55% ±20% RH, Duration 6 hours. Conditioning: Temp. +38°C, 85%RH, Duration 72 hours. Temp. +60°C, 30%RH, Duration 6 hours.
2. Compression	Weight & Load Spender: Increase the load unit it reaches the test load. Maintain the force for a designated duration, then release the force. Test load (AR): 368 kg. Test duration: 1 press
3. First vibration test	Frequency: random, 1~200 Hz. 3 axes * each axis continue 30 minutes
4. Drop test after 1 <sup>st</sup> vibration test	Height depending of weight of product. Drop height (mm): 810; drop times: 10

<b>Image performance</b>	<b>Specific Test description</b>
IEC 62676-5	Video surveillance systems for use in security applications - Part 5: Data specifications and image quality performance for camera devices

### ONVIF

<b>Conformance</b>	<b>Specific Test description</b>
EN 50132-5-2	Alarm systems - CCTV surveillance systems for use in security applications - Part 5-2: IP Video Transmission Protocols
EN 62676-2	Video surveillance systems for use in security applications

Data subject to change without notice. Eindhoven, Jan 2025