

TO WHOM IT MAY CONCERN

Bosch Security Systems  
Torenallee 49  
5617 BA Eindhoven  
The Netherlands

**Product Test Report**

BT-SC 2018-E-054

**Products****DIVAR IP all-in-one 7000 (4<sup>th</sup> gen)**

F.01U.417.248	DIP-74C0-00N	Management appliance, 2U w/o HDD
F.01U.417.249	DIP-74C4-8HD	Management appliance, 2U 8X4TB
F.01U.417.250	DIP-74C8-8HD	Management appliance, 2U 8X8TB
F.01U.417.251	DIP-74CI-8HD	Management appliance, 2U 8X18TB
F.01U.417.252	DIP-74CI-12HD	Management appliance, 2U 12X18TB
F.01U.417.253	DIP-74G0-00N	Management appliance, 3U w/o HDD
F.01U.417.254	DIP-74GI-16HD	Management appliance, 3U 16X18TB

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, 2014/30/EU (EMCD)</b>	<b>Description</b>
EN 55032:2015 +A11:2020	Electromagnetic compatibility of multimedia equipment - Emission requirements. Class A
EN 55035:2017 +A11:2020	Electromagnetic compatibility of multimedia equipment - Immunity requirements
EN 61000-3-2:2014	Electromagnetic compatibility (EMC) - Part 3-2: Limits - Limits for harmonic current emissions (equipment input current $\leq 16$ A per phase)
EN 61000-3-3:2013	Electromagnetic compatibility (EMC) - Part 3-3: Limits - Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems
<b>EMC Canada</b>	
ICES-003 Issue 7:2020 Class A	Spectrum Management and Telecommunications Policy Interference-Causing Equipment Standard
<b>EMC US</b>	
FCC CFR Title 47 part 15 Subpart B: 2020, ClassA	Telecommunication Chapter I - FEDERAL COMMUNICATIONS COMMISSION, Subchapter A – GENERAL, Part 15 - RADIO FREQUENCY DEVICES

<b>EMC Australia and New Zealand</b>	
AS/NZS CISPR 32: 2015 AMD 1: 2020, Class A	RCM, Electromagnetic compatibility of multimedia equipment - Emission requirements.
<b>EMC Japan</b>	
VCCI: VCCI-CISPR 32: 2016	CISPR 32 EMC Emission Testing of Multimedia Equipment. EMC certification for Japan.
<b>EMC Korea</b>	
KS C 9832 KS C 9835	KCC, Electromagnetic Compatibility (EMC) Test Methods for Conformity Assessment Change to KS Standards. EMC certification for South Korea.
<b>EMC United Kingdom</b>	
BS EN 55032:2015+A11:2020, Class A BS EN 55035:2017+A11:2020 BS EN 61000-3-2:2014 BS EN 61000-3-3:2013	UKCA DoC
<b>EMC South Africa</b>	
SANS 2332: 2017, ClassA SANS 2335:2018 SANS 61000-3-2: 2009 SANS 61000-3-3: 2009	SABS, EMC certification for South Africa
<b>EMC Taiwan</b>	
CNS 15936	BSMI, EMC certification for Taiwan
<b>Morocco</b>	
NM EN 55032 : 2022 NM EN 61000 3 2 : 2015 EN 55035:2017+A11:2020	CMIM DoC

### Safety approvals

<b>Safety EU, 2014/35/EU (LVD)</b>	
EN IEC 62368-1:2020/A11:2020	Audio/Video, Information and communication technology equipment - Part 1: Safety requirements Information technology equipment - Safety - Part 22: Equipment installed outdoors
<b>Safety USA</b>	
UL 62368-1, 3rd Edition, 2018	Audio/Video, Information and Communication Technology Equipment - Part 1: Safety Requirements) Information Technology Equipment - Safety - Part 22: Equipment to be installed outdoors
<b>Safety Canada</b>	
CSA/UL 62368-1:2019	Audio/Video, Information and Communication Technology Equipment - Part 1: Safety Requirements) Information Technology Equipment - Safety - Part 22: Equipment to be installed outdoors
<b>Safety RCM</b>	
AS/NZS 62368.1:2022	Audio/Video, Information and Communication Technology Equipment - Part 1: Safety Requirements) Information Technology Equipment - Safety - Part 22: Equipment to be installed outdoors
<b>Safety India</b>	
IS 13252: Part 1(2010)	BIS, Information Technology Equipment Safety Part 1 General Requirements
<b>Safety Taiwan</b>	
CNS15598-1	BSMI, Safety certification for Taiwan

### Environmental approvals

<b>Directive or standard</b>	<b>Description</b>
RoHS EU, 2011/65/EU and 2015/863/EU	Directive of the European Parliament and of the Council as regards the list of restricted substances
EN IEC 63000: 2018	Technical documentation for the assessment of electrical and electronic products with respect to the restriction of hazardous substances
REACH, Regulation (EC) 1907/2006	Registration, Evaluation, and Authorization of Chemicals
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

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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**

Damp heat, cyclic (operational) (IEC 60068-2-30:2005)	Temperature +5°C to 45°C, Relative Humidity 50% to 95%, 2 cycles.
Dry heat (operational) (IEC 60068-2-2:2007)	Temperature 40°C, Relative Humidity 50%, 72 hours.
Cold test (operational) (IEC 60068-2-1:2007)	Temperature 5°C, 72 hours.
Change of temperature (operational) (IEC 60068-2-14:2023)	Temperature +5°C to 40°C, 10 cycles and 20 minutes period for each temperature level.
Damp heat, cyclic (non-operational, with package) (IEC 60068-2-30:2005)	Temperature -40°C to 70°C, Relative Humidity 20% to 95%, 2 cycles.
Damp heat, steady state (non-operational, with package) (IEC 60068-2-78:2012)	Temperature 70°C, Relative Humidity 95%, 96 hours.
Low air pressure (non-operational, with package) (IEC 60068-2-13:2021)	10,000 feet. Temperature -20°C to 60°C. 24 hours.
Sinusoidal Vibration (operational) (IEC 60068-2-6:2007 Test Fc)	0.17G vertical z-axis. 0.12G horizontal x and y-axes. Sweep frequency 5-500-5 Hz. 5 frequency sweeps at 1 octave/min.
Shock (operational) (IEC 60068-2-27:2008 Test Ea)	10 +/- shocks of 3.5G, 11 msec half-sine, in the x, y and z-axes.

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### Additional Reliability tests

Test methods	Specific Test description
MTBF (Mean Time Between Failures) calculation of used components	Based on: Telcordia SR-332 issue 2. Under 40 degrees. DIP-74C0-00N- 80,719 Hrs DIP-74C4-8HD- 63,605 Hrs DIP-74C8-8HD- 63,605 Hrs DIP-74CI-8HD- 66,422 Hrs DIP-74CI-12HD- 60,039 Hrs DIP-74G0-00N- 80,147 Hrs DIP-74GI-16HD- 54,513 Hrs
Acoustics — Measurement of airborne noise emitted by information technology and telecommunications equipment (ISO 7779:2018)	SPL measurement, A-weighted. Maximum SPL 75dBA.
<b>Transport tests ISTA-2A: 2011</b>	
1. Conditioning	Pre-conditioning (laboratory temperature and humidity): Temperature +25(±10)°C, 55(±25)%RH. Duration 24 hours. Conditioning: Temp. +38°C, 85%RH. Duration 72 hours. Temperature +60°C, 30%RH. Duration 6 hours.
2. Compression	Top to bottom. Machine apply and release. Calculated test load = 921.48kgf.
3. Fixed Vibration	Frequency 300CPM / 5Hz, Duration 48 minutes. Number of vibratory impacts: 14,200.
4. Random Vibration	Frequency 1-200Hz. 1.15G(rms) impact. 30 minutes for +Z axis and 10 minutes each for -Z, X and Y axes.
5. Drop test after 1 <sup>st</sup> vibration test	Height depending on weight of product Drop height: 310mm. Number of drops: 10

Data subject to change without notice.  
Eindhoven, May 2024.