


TEST REPORT

 CTK Co., Ltd. <small>The Prime Leader of Global Regulatory Certification</small>	CTK Co., Ltd. (Ho-dong) 113, Yejik-ro, Cheoin-gu, Yongin-si, Gyeonggi-do, KOREA, REPUBLIC OF Tel: +82-31-339-9970 Fax: +82-31-624-9501	Report No.: CTK-2018-00531 Page(1) / (16) Pages	
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1. Applicant

- Name: Hanwha Techwin Co., Ltd.
- Address: Hanwha Techwin R&D center, 6 Pangyo-ro 319Beon-gil,
Bundang-gu, Seongnam-si, Gyeonggi-do, 13488 KOREA
- Date of Receipt: 2017-11-22

2. Manufacturer

- Name: HANWHA TECHWIN (TIANJIN) CO.,LTD.
- Address: No.11 Weiliu Rd, Micro-Electronic Industrial
Park, TEDA, Tianjin, 300385, People's Republic of China



3. **Test sample / Model**: Network Camera / XNP-6320HS

4. **Date(s) of test**: 2017-12-19

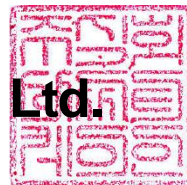
5. **Test Standard (Method) used**: NEMA 250-2014
Enclosures for Electrical Equipment (1000 Volts Maximum)

6. **Results**: Pass


The results shown in this test report refer only to the sample(s) tested unless otherwise stated.
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Approval	Tested by: WonHyeon Choi  (Signature)	Technical Manager: YenHwang Jung  (Signature)
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2018-03-07

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Test item description :	Network Camera
Trade Mark :	WISENET
Manufacturer	No.11 Weiliu Rd, Micro-Electronic Industrial Park, TEDA, Tianjin, 300385, People's Republic of China
Model/Type reference :	XNP-6320HS
Ratings :	Electrical : AC24V / PoE+
	Dimension : Ø 227.0 mm by 296.0 mm

List of Attachments (including a total number of pages in each attachment): Attachment 1: 11 pages (Construction Diagram including installation method) Attachment 2: 12-13 pages (Parts List) Attachment 3: 14-16 pages (photographs)

Summary of testing:	
Tests performed (name of test and test clause): Clause 5.7(Hose Down Test)	Testing location: CTK Co., Ltd. (Ho-Dong) 113, Yejik-ro Cheoin-gu, Yongin-shi Gyeonggi-do KOREA, REPUBLIC OF

Copy of marking plate: The artwork above may be only a draft.	
<div> <p>NETWORK CAMERA, XNP-6320HS</p> <p>AC 24V ~ 50/60Hz 65W / PoE 42.5~57V --- 24W</p> <p>M/C:XXXXXXXXXX</p>  <p>제조년월 2017.12 S/N:XXXXXXXXXXXXXX</p> <p>MAC ADDRESS: XX-XX-XX-XX-XX-XX</p> <p>인증번호 R-REM-STW-XNP6320HS</p> <p>제조사/제조국가 : 한화테크윈(주)/한국</p> </div>	<div> <p>NETWORK CAMERA, XNP-6320HS</p> <p>AC 24V ~ 50/60Hz 2.9A</p> <p>PoE 42.5~57V --- 0.9A</p> <p>M/C:XXXXXXXXXX Fac. ID : T</p>  <p>Feb 2018 S/N:XXXXXXXXXXXXXX</p> <p>MAC ADDRESS: XX-XX-XX-XX-XX-XX</p> <p>HANWHA TECHWIN CO., LTD. MADE IN CHINA</p> </div>
<div> <p>NETWORK CAMERA, XNP-6320HS</p> <p>AC 24V ~ 50/60Hz 2.9A</p> <p>PoE 42.5~57V --- 0.9A M/C:XXXXXXXXXX</p>  <p>Dec 2017 S/N:XXXXXXXXXXXXXX</p> <p>MAC ADDRESS: XX-XX-XX-XX-XX-XX</p> <p>HANWHA TECHWIN CO., LTD. MADE IN CHINA</p> </div>	

Test item particulars :	Network Camera
Classification of installation and use	Outdoor(Watertight/Corrosion Resistant)
Possible test case verdicts:	
- test case does not apply to the test object..... :	N/A
- test object does meet the requirement	P (Pass)
- test object does not meet the requirement..... :	F (Fail)
- test case does not evaluated to the test object :	N/E



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General remarks:

"(See Enclosure #)" refers to additional information appended to the report.

"(See appended table)" refers to a table appended to the report.

Throughout this report a ☐ comma / ☒ point is used as the decimal separator.

Clause numbers between brackets refer to clauses in NEMA 250-2014

Name and address of factory (ies):

1. HANWHA TECHWIN (TIANJIN) CO.,LTD.

No.11 Weiliu Rd, Micro-Electronic Industrial Park, TEDA, Tianjin, 300385, People's Republic of China

General product information:

Applied NEMA Rating : 4X

Model XNP-6320HS is basic model which was tested.

Type 4X

Enclosures constructed for either indoor or outdoor use to provide a degree of protection to personnel against access to hazardous parts; to provide a degree of protection of the equipment inside the enclosure against ingress of solid foreign objects (falling dirt and windblown dust); to provide a degree of protection with respect to harmful effects on the equipment due to the ingress of water (rain, sleet, snow, splashing water, and hose directed water); that provides an increased level of protection against corrosion; and that will be undamaged by the external formation of ice on the enclosure.

Table 2-1
Comparison of Specific Applications of Enclosures for Indoor Nonhazardous
(Unclassified) Locations

Provides a Degree of Protection against the Following Conditions	Type of Enclosure									
	1	2	4	4X	5	6	6P	12	12K	13
Access to hazardous parts	X	X	X	X	X	X	X	X	X	X
Ingress of solid foreign objects (falling dirt)	X	X	X	X	X	X	X	X	X	X
Ingress of water (dripping and light splashing)	...	X	X	X	X	X	X	X	X	X
Ingress of solid foreign objects (circulating dust, lint, fibers, and flyings **)	X	X	...	X	X	X	X	X
Ingress of solid foreign objects (settling airborne dust, lint, fibers, and flyings **)	X	X	X	X	X	X	X	X
Ingress of water (hosedown and splashing water)	X	X	...	X	X	...	...	...
Oil and coolant seepage	X	X	X
Oil or coolant spraying and splashing	X
Corrosive agents	X	...	...	X	...	...	...
Ingress of water (occasional temporary submersion)	X	X	...	...	...
Ingress of water (occasional prolonged submersion)	X	...	...	...

** These fibers and flyings are not considered Class III type ignitable fibers or combustible flyings. For Class III type ignitable fibers or flyings see the *National Electrical Code®*, Article 500.5(D).

Table 2-2
Comparison of Specific Applications of Enclosures for Indoor & Outdoor Nonhazardous (Unclassified) Locations

Provides a Degree of Protection Against the Following Conditions	Type of Enclosure									
	3	3X	3R	3RX	3S	3SX	4	4X	6	6P
Access to hazardous parts	X	X	X	X	X	X	X	X	X	X
Ingress of solid foreign objects (falling dirt)	X	X	X	X	X	X	X	X	X	X
Ingress of water (dripping and light splashing)	X	X	X	X	X	X	X	X	X	X
Ingress of water (rain, snow, and sleet **)	X	X	X	X	X	X	X	X	X	X
Sleet ***	...	...	...	...	X	X	...	...	...	...
Ingress of solid foreign objects (windblown dust, lint, fibers, and flyings****)	X	X	...	...	X	X	X	X	X	X
Ingress of water (hosedown and splashing water)	...	...	...	...	...	...	X	X	X	X
Corrosive agents	...	X	...	X	...	X	...	X	...	X
Ingress of water (occasional temporary submersion)	...	...	...	...	...	...	...	...	X	X
Ingress of water (occasional prolonged submersion)	...	...	...	...	...	...	...	...	...	X

** External operating mechanisms are not required to be operable when the enclosure is ice covered.

*** External operating mechanisms are operable when the enclosure is ice covered. See subsection 5.6.

**** These fibers and flyings are not considered Class III type ignitable fibers or combustible flyings. For Class III type ignitable fibers or flyings see the *National Electrical Code®*, Article 500.5(D).

Table 5-1A
Degrees of Protection Against Access to Hazardous Parts

Enclosure Type	Test Conditions	Degree of Protection		Corresponding IP First Characteristic Numeral
		Brief Description	Definition	
4X	5.7	Protected against access to hazardous parts with a wire	An access probe of 1.0 mm shall not penetrate	6

Table 5-1B
Degrees of Protection Against Solid Foreign Objects

Enclosure Type	Test Conditions	Degree of Protection		Corresponding IP First Characteristic Numeral
		Brief Description	Definition	
4X	<u>Non-vented</u> 5.7	Windblown dust protected	No ingress of dust	6
	<u>Vented</u> 5.5.1 Dust Blast Method			



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Table 5-1C
Degrees of Protection against Water

Enclosure Type	Test Conditions	Degree of Protection		Corresponding IP Second Characteristic Numeral
		Brief Description	Definition	
4X	5.7	Protected against hose directed water	Water projected against the enclosure in any direction shall not enter	6 No Ingress Allowed*

Table 5-1D
Additional Protection

Enclosure Type	Test Conditions	Additional Protection		Corresponding IP Second Characteristic Numeral
		Brief Description	Definition	
4X	5.6 5.9 5.10	Special corrosion protection and undamaged by the external formation of ice	Enclosure provides increased corrosion protection and is not damaged by ice that forms on the outside	None


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NEMA 250-2014			
Clause	Requirement + Test	Result - Remark	Verdict

3	CONSTRUCTION		
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3.1	General		P
3.2	Units of Measurement		P
3.3	Materials-General	Enclosures are made of metal or polymeric materials	P
3.4	Materials-Polymeric	More than 650 mm ² (1 in ²) in area Polymeric Materials used is declared as Min. V-0 Used to UL certified material. (See the attachment 2)	N/E
3.5	Corrosion Protection	Stainless steel and/or aluminium are declared as the materials used (See the attachment 2)	N/E
3.6	Openings	No openings in Product	N/A
3.7	Mounting	Mounting means are external to the equipment cavity (See the attachment 1)	P
3.8	Conduit Connection	No conduit connection (See the attachment 1)	N/A
3.9	Hubs and Fittings	No Hubs and Fittings	N/A
3.10	Knockouts	No Knockouts	N/A
3.11	External Operating Mechanisms	No External Operating Mechanisms	N/A
3.12	Access to Interior	Needs tool to open unit	P
3.13	Closing Hardware	No closing Hardware	N/A
3.14	Gaskets	Gaskets made of a silicone Sponge Rubber (no Elastomeric or Thermoplastic used) (See clause 5.14 and the attachment 2)	P
3.15	Observation Windows	No Observation Window	N/A


4	MARKING		
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NEMA 250-2014			
Clause	Requirement + Test	Result - Remark	Verdict
4.1	Type Designations	"Type 4X" Marking is declared to be on the product before on the market	P
4.2	Supplemental Markings	Supplemental Marking (watertight/ corrosion resistant) is declared to be used when it is on the market. The required marking shall be added on the product)	P
4.3	Location of Markings	See the Attachment 3	P
4.4	Enclosure Orientation	No Particular Mounting Orientation	N/A
4.5	Conduit Hubs and Closure Plates	No Conduit Hubs and Closure Plates	N/A
4.6	Equipment Openings	No Openings on Unit	N/A
4.7	Drainage Openings	No Drain Openings	N/A

5	DESIGN TESTS	
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5.1	General	See Table 5-1A to 5-1D and 5.1.5 in the General product information	P
5.2	Tests For Protection Against Access to Hazardous Parts	Rated 4X	N/A
5.3	Tests for Protection Against Ingress of Water (Dripping and Light Splashing)	Rated 4X	N/A
5.4	Tests for Protection Against Ingress of Water (Rain)	Rated 4X	N/A
5.5	Tests for Protection Against Ingress of Solid Foreign Objects (Setting Airborne Dust, Lint, Fibers, And Flings)	Non-vented (See clause 5.7)	N/A
5.6	External Icing Test	No external cavities to trap water when mounted in the normal position.	N/A
5.7	Tests for Protection Against Ingress of Water (Hosedown)	No entry of water See the test information	P
5.8	Indoor Corrosion Protection (Rust-Resistance Test (24-Hour Salt Spray Test))	See clause 3.5	N/E
5.9	Outdoor Corrosion Protection	See clause 3.5	N/E
5.10	Corrosion Protection-Type 3X, 3RX, 3SX, 4X Or 6P Enclosures	See clause 3.5	N/E

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NEMA 250-2014			
Clause	Requirement + Test	Result - Remark	Verdict
5.11	Test for Protection Against Ingress of Water (Temporary Submersion)	Rated 4X	N/A
5.12	Test for Protection Against Ingress of Water (Prolonged Submersion)	Rated 4X	N/A
5.13	Oil Exclusion Test	Rated 4X	N/A
5.14	GASKET MATERIAL TESTS	The product itself(including gaskets) was conditioned at 70 °C for 168 hrs according to 5.14.3(Alternate Evaluation) before performing relevant required tests.	P
5.15	Test for Sharpness of Edges	No sharp edges	P

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NEMA 250-2014			
Clause	Requirement + Test	Result - Remark	Verdict

Test Information

	Hose Down Test : Clause 5.7	P
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Description of Test

The enclosure and its external mechanisms were subjected to a stream of water from a hose that has a 25.4 mm (1 in) inside diameter nozzle and delivers at least 240 L (65 gal) per minute.

The nozzle was held from 3.0 to 3.5 m (10 to 12 feet) from the enclosure, and the spray of water was directed at all points of potential water entry such as seams, joints, external operating mechanisms, and such. The nozzle was moved along each test point one time at a uniform rate of 6 mm/sec(1/4 in/sec).

Sample Dimension(Ø 227.0 mm by 296.0 mm)


Test Duration = 195.2 secs

Acceptance conditions:

The enclosure shall be considered to have met the requirements if at the conclusion of the test no water has entered the enclosure

Test Results

Sample No (Model)	Water Flow	Presence of water inside	Result
XNP-6320HS	240 LPM	No	Pass

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List of test equipment used:

Instr. Code	Instrument Type	Range Used	Mfr./Model	Calibration Date	
				Last	Due
S3-IP18	25.4mm Nozzle	25.4 mm	CTK/S3-IP18	-	Checked by calliper below before using
S1-SW2	Stop Watch	0.01 s	CASIO/ NONE	2016-03-16	2018-03-16
S1-D09	Steel Measuring Tape	5 m	KOMELON/KMC-74N	2013-06-11	2018-06-11
S3-IP20	Water flow meter	250LPM	Nuri tech/Z-4007	2017-04-14	2018-04-14
S1-D03	DIGITAL VERNIER CALIPER	200 mm	MITUTOYO/200 mm	2017-03-21	2018-03-21



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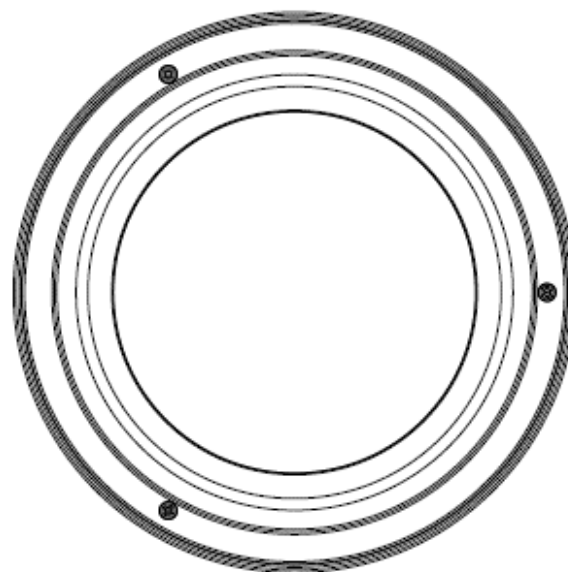
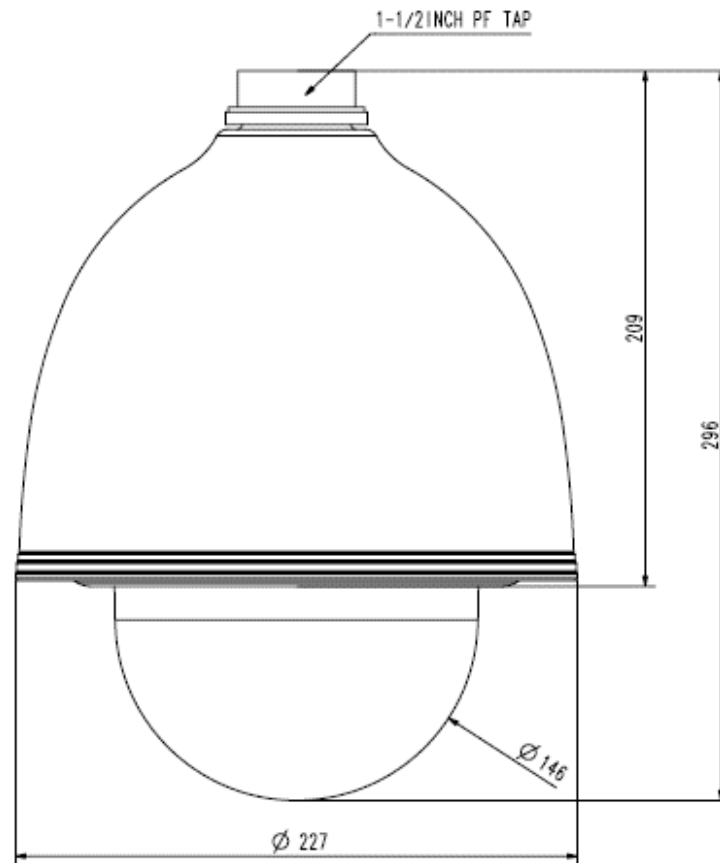
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Attachment 1 – Construction Diagram and installation method



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Attachment 2 – Parts List

NO	Object	Part No	Teechnical Data	Remark
1	SCREW	FC18-004000A	Stainless-steel(SUS302)	-
2	COVER TOP	FC15-006158A	Stainless-steel(SUS316L)	-
3	HOUSING-6320HS	FC29-010004A	Stainless-steel(SUS316L)	-
4	BRACKET-DOME	FC09-009099A	ALUMINUM	-
5	COVER OPTICAL	FC15-001430A	Polycarbonate(Sabic,ML7687)	V-2
6	GASKET RING	HP07-000100A	SILICON	-
7	GASKET HOUSING	HP07-001306A	SILICON	-
8	GASKET DOME	HP07-001305A	SILICON	-

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Attachment 2 – Parts List

Component - Plastics

E45329**SABIC INNOVATIVE PLASTICS B V**

EUROPE - RESIN, PLASTICSLAAN 1, BERGEN OP ZOOM 4612 PX NL

EXRL0506, ML7687**Polycarbonate (PC), "Lexan", furnished as pellets**

Color	Min Thk (mm)	Flame Class	HWI	HAI	RTI Elec	RTI Imp	RTI Str
NC	1.5	V-2	-	-	80	80	80
	3.0	V-2	-	-	80	80	80

Comparative Tracking Index (CTI): -

Dimensional Stability (%): -

High-Voltage Arc Tracking Rate
(HVTR): -

High Volt, Low Current Arc Resis (D495): -

Dielectric Strength (kV/mm): -

Volume Resistivity (10^x ohm-cm): -**NOTE - Material designation may be followed by a color nomenclature consisting of either an alpha/numeric or a numeric/alpha combination.**

ANSI/UL 94 small-scale test data does not pertain to building materials, furnishings and related contents. ANSI/UL 94 small-scale test data is intended solely for determining the flammability of plastic materials used in the components and parts of end-product devices and appliances, where the acceptability of the combination is determined by UL.

Report Date: 1983-12-22

Last Revised: 2009-07-09

Underwriters Laboratories Inc®

**IEC and ISO Test Methods**

Test Name	Test Method	Units	Thickness Tested (mm)	Value
Flammability	IEC 60695-11-10	Class (color)	1.5	V-2 (NC)
			3.0	V-2 (NC)
Glow-Wire Flammability (GWFI)	IEC 60695-2-12	C	-	-
Glow-Wire Ignition (GWIT)	IEC 60695-2-13	C	-	-
IEC Comparative Tracking Index	IEC 60112	Volts (Max)	-	-
IEC Ball Pressure	IEC 60695-10-2	C	-	-
ISO Heat Deflection (1.80 MPa)	ISO 75-2	C	-	-
ISO Tensile Strength	ISO 527-2	MPa	-	-
ISO Flexural Strength	ISO 178	MPa	-	-
ISO Tensile Impact	ISO 8256	kJ/m ²	-	-
ISO Izod Impact	ISO 180	kJ/m ²	-	-
ISO Charpy Impact	ISO 179-2	kJ/m ²	-	-

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Attachment 3 – Photographs

<Photo 1 > Test Unit



<Photo 2 > Test Unit



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Attachment 3 – Photographs

<Photo 3 > Hose down test



<Photo 4 > Test Result





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Attachment 3 – Photographs

<Photo 5 > Test Result

