

TEST REPORT

	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-2020-02565-1 Page(1) / (21) Pages	
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1. Applicant

- Name..... : Hanwha Vision Co., Ltd
- Address..... : 6 Pangyo-ro 319Beon-gil, Bundang-gu, Seongnam-si, Gyeonggi-do, 13488 KOREA
- Date of Receipt..... : 2020-06-04

2. Manufacturer

- Name..... : Hanwha Vision Co., Ltd

3. Use of Report : Quality control

4. Test sample / Model..... : NETWORK CAMERA / XNP-9300RW

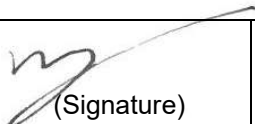
5. Date(s) of test : 2020-06-11 - 2020-06-18

NEMA 250-2014

6. Test Standard (Method) used.... : Enclosures for Electrical Equipment (1000 Volts Maximum)

7. 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: Min-Gi Mun  (Signature)	Technical Manager: SooChan Bae  (Signature)
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2023-02-23

CTK Co., Ltd.



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Test place

Institution name	CTK Co., Ltd.
Address	142, Dongbu-ro, Cheoin-gu, Yongin-si, Gyeonggi-do, Republic of Korea

	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-2020-02565-1 Page(3) / (21) Pages	
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Test item description :	NETWORK CAMERA
Trade Mark :	 Hanwha Vision
Manufacturer	HANWHA VISION VIETNAM COMPANY LIMITED Lot O-2, Que Vo Industrial Zone extended area, Nam Son commune, Bac Ninh city, Bac Ninh province, Vietnam
Model/Type reference	XNP-9300RW
Ratings	Electrical : PoE(DC 55 V / 0.77 A) Dimension : Ø 56 mm by 175.9 mm, Ø 63 mm by 197.9 mm, Ø 79 mm by 248.1 mm, Ø 127 mm by 398.9 mm, Ø 44 mm by 138.2 mm, Ø 283 mm by 889 mm, Ø 32 mm by 100.5 mm

List of Attachments (including a total number of pages in each attachment): Attachment 1: 11-13 pages (Construction Diagram including installation method) Attachment 2: 14-18 pages (Parts List) Attachment 3: 19-20 pages (photographs)
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Summary of testing:	
Tests performed (name of test and test clause): Clause 5.7(Hose Down Test)	Testing location: CTK Co., Ltd. 142, Dongbu-ro, Cheoin-gu, Yongin-si, Gyeonggi- do, Republic of Korea

Copy of marking plate: The artwork above may be only a draft.  NETWORK CAMERA MODEL: XNP-9300RW PoE (55V ) 0.77A M/C: XNP-9300RW/VUS Fac. ID: V  DATE S/N: Serial No. MAC ADDRESS: XX-XX-XX-XX-XX-XX CAN ICES-3(A)/NMB-3(A) Manufacture for Hanwha Vision Co., Ltd Engineered in Korea Made in Vietnam  NETWORK CAMERA MODEL: XNP-8300RW PoE (55V ) 0.77A M/C: XNP-8300RW/VUS Fac. ID: V  DATE S/N: Serial No. MAC ADDRESS: XX-XX-XX-XX-XX-XX CAN ICES-3(A)/NMB-3(A) Manufacture for Hanwha Vision Co., Ltd Engineered in Korea Made in Vietnam
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NETWORK CAMERA MODEL: XNP-6400RW PoE (55V ~) 0.77A M/C: XNP-6400RW/VUS Fac. ID: V DATE S/N: Serial No. MAC ADDRESS: XX-XX-XX-XX-XX-XX CAN ICES-3(A)/NMB-3(A) Manufacture for Hanwha Vision Co., Ltd Engineered in Korea Made in Vietnam	NETWORK CAMERA, XNP-C9303RW PoE(55V ~) 0.84A M/C: XNP-C9303RW/KEX Fac. ID: D DATE S/N: Serial No. MAC ADDRESS: XX-XX-XX-XX-XX-XX CAN ICES-3(A)/NMB-3(A) HANWHA VISION CO., LTD. MADE IN KOREA Rainproof/ Étanche IP66
NETWORK CAMERA, XNP-C8303RW PoE(55V ~) 0.84A M/C: XNP-C8303RW/KEX Fac. ID: D DATE S/N: Serial No. MAC ADDRESS: XX-XX-XX-XX-XX-XX CAN ICES-3(A)/NMB-3(A) HANWHA VISION CO., LTD. MADE IN KOREA Rainproof/ Étanche IP66	NETWORK CAMERA, XNP-C6403RW PoE(55V ~) 0.84A M/C: XNP-C6403RW/KEX Fac. ID: D DATE S/N: Serial No. MAC ADDRESS: XX-XX-XX-XX-XX-XX CAN ICES-3(A)/NMB-3(A) HANWHA VISION CO., LTD. MADE IN KOREA Rainproof/ Étanche IP66

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

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

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Name and address of factory (ies):**1. HANWHA VISION VIETNAM COMPANY LIMITED**

Lot O-2, Que Vo Industrial Zone extended area, Nam Son commune, Bac Ninh city, Bac Ninh province, Vietnam

2. D-TECH CO.,LTD.

173-25, Saneop-ro, Gwonseon-gu, Suwon-si, Gyeonggi-do, Korea (Suwon Industrial Complex)

General product information:

Applied NEMA Rating : 4X

Model XNP-9300RW is basic model which was tested.

Basic Model	XNP-9300RW
Series model	XNP-8300RW, XNP-6400RW, XNP-C9303RW, XNP-C8303RW, XNP-C6403RW

Model differences:

Series model differences are only for function not related to the quality of enclosure integrity.

Type 4X

Enclosures constructed for either indoor or outdoor use to provide a degree of protection against access to hazardous parts; to provide a degree of protection for equipment inside the enclosure against ingress of solid foreign objects (dust, windblown dust); to provide a degree of protection with respect to harmful effects due to the ingress of water (rain, sleet, snow, splashing water, water): that provides an increased level of protection against corrosion.



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

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

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

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

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

Enclosure Type	Test Conditions	Degree of Protection	
		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

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

Enclosure Type	Test Conditions	Degree of Protection	
		Brief Description	Definition
4X	<u>Non-vented</u> 5.7	Windblown dust protected	No ingress of dust
	<u>Vented</u> 5.5.1 Dust		

Table 5-1C
Degrees of Protection against Water

Enclosure Type	Test Conditions	Degree of Protection	
		Brief Description	Definition
4X	5.7	Protected against hose directed water	Water projected against the enclosure in any direction shall not enter

Table 5-1D
Additional Protection

Enclosure Type	Test Conditions	Additional Protection	
		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 th

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Clause	Requirement + Test	Result - Remark	Verdict
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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. HB 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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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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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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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 56 mm by 175.9 mm, Ø 63 mm by 197.9 mm, Ø 79 mm by 248.1 mm,

Ø 127 mm by 398.9 mm, Ø 44 mm by 138.2 mm, Ø 283 mm by 889 mm, Ø 32 mm by 100.5 mm)

Test Duration = 358 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-9300RW	240 LPM	No	Pass

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	2019-04-03	2021-04-03
S1-D09	Steel Measuring Tape	5 m	KOMELON/KMC-74N	2019-02-25	2021-02-25
S3-IP20	Water flow meter	250LPM	Nuri tech/Z-4007	2019-07-04	2020-07-04
S1-D03	DIGITAL VERNIER CALIPER	200 mm	MITUTOYO/200 mm	2020-03-26	2021-03-26



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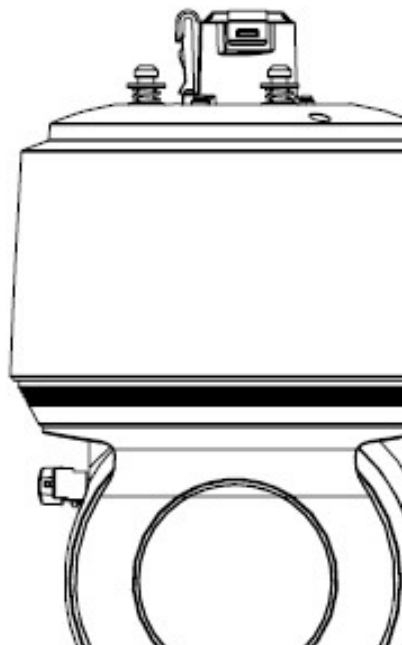
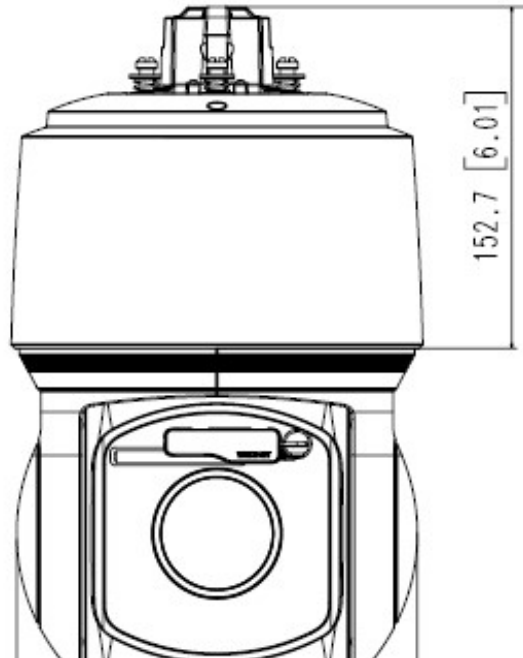
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Attachment 1 – Construction Diagram and installation method





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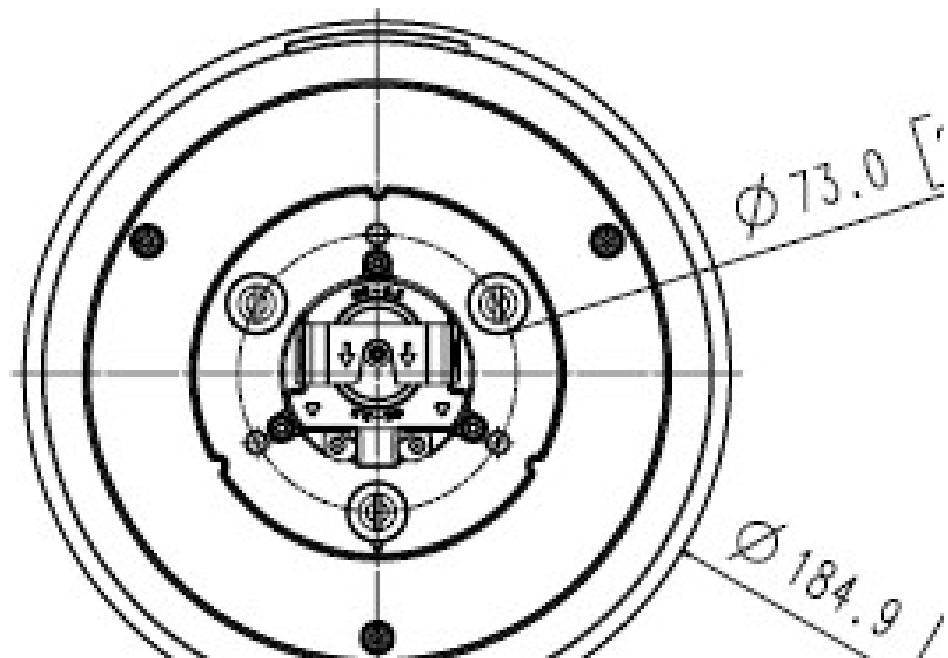
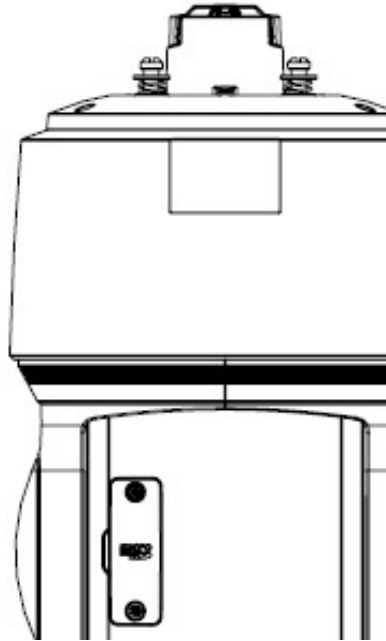
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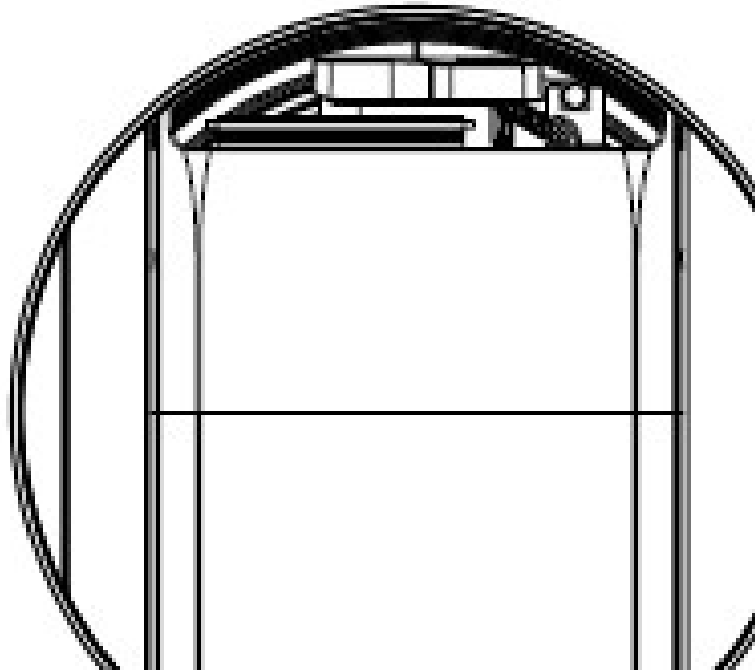
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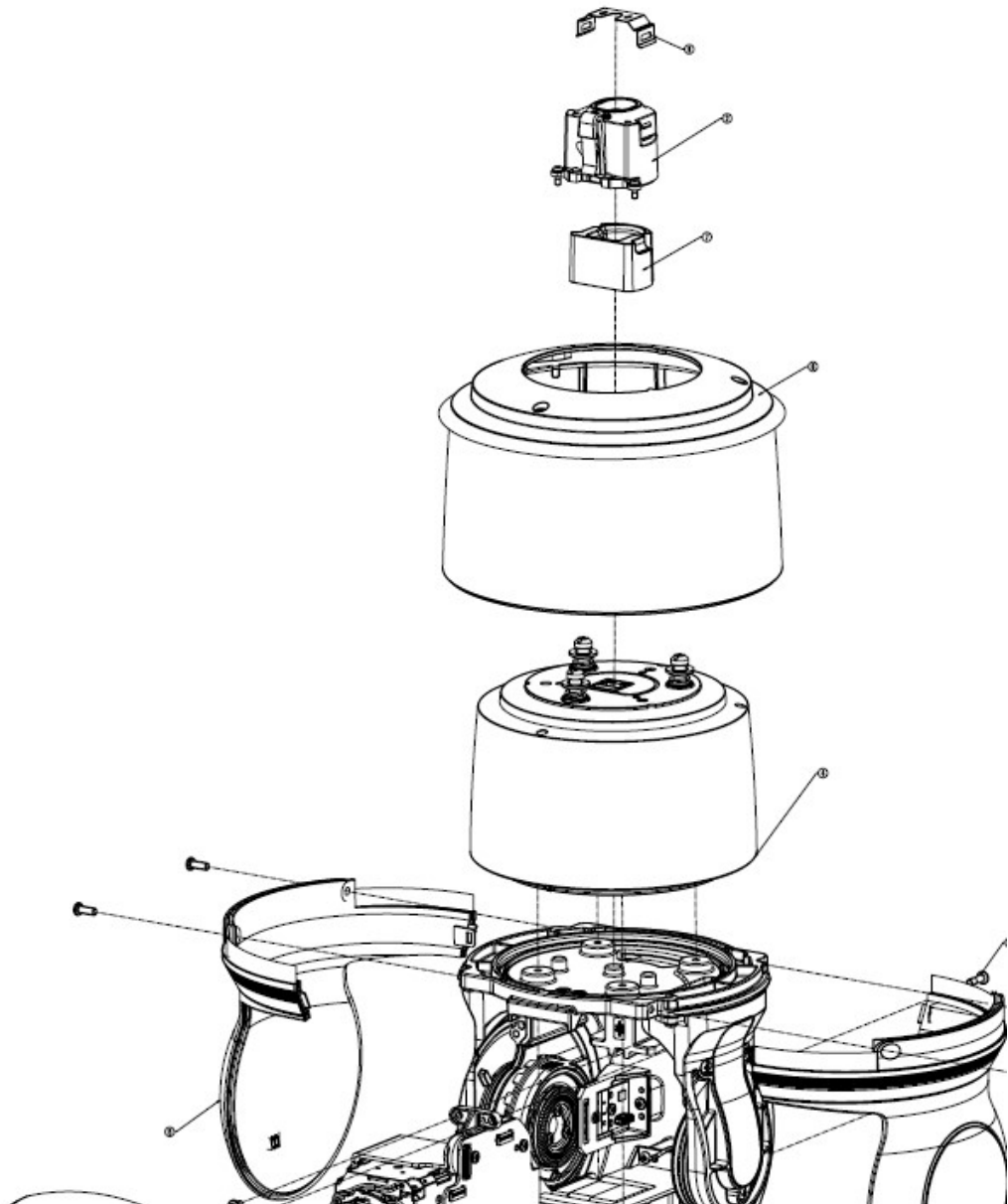
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Attachment 2 – Parts List



NO.	PART NO.	PART NAME	Spec
1	AM07-014520A	Assy camera_PNP-Axx00RW	Ass
2	AM07-014510A	Assy cover bush_PNP-Axx00RW	Ass
3	AM07-014519A	Assy cover front_XNP-xx00RW	Ass
4	AM07-014517A	Assy mecha Pan_main_XNP-xx00RW	Ass
5	AM07-014506A	Assy sub mecha tilt_XNP-xx00RW	Ass
6	AM07-014508A	Assy sun sheild_PNP-Axx00RW	Ass
7	FC15-007852A	Cover guide for RJ45 jack_XNP-xx00RW	PC (HN-
8	FC15-007602A	Cover left_PNP-Axx00RW	PC (HN-1068
9	FC29-012881A	Holder bush cable_PNP-Axx00RW	SUS304CS
10	Z6001053501A	SCREW MACHINE RH M3 L6 WHITE	RH. M3

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Attachment 2 – Parts List**Component - Plastics**

File Number: E121254

SAMYANG CORPORATION

407 3-Ga Palbok-Dong

Cheonju, YKCheonbuk 560-200 Korea, Republic of

TRIEX: 3025G(y) (f2), 3025PG(y), 3025PGR(y), 3025GRU(y), 3025PGRU(y)

Polycarbonate (PC), pellets

(f2) - Subjected to one or more of the following tests: Ultraviolet Light, Water Exposure or Immersion in ac where the acceptability for outdoor use is to be determined by UL.

(y) - Represents any number 10-19 incl.

Flammability	Value
Flame Rating	
1.0 mm, ALL	V-0
1.5 mm, ALL	V-0
2.0 mm, ALL	V-0, 5VB
3.0 mm, ALL	V-0, 5VA
6.0 mm, ALL	V-0, 5VA
Electrical	Value
Hot-wire Ignition (HWI)	
1.5 mm	PLC 2
2.0 mm	PLC 2
3.0 mm	PLC 2
6.0 mm	PLC 1
High Amp Arc Ignition (HAI)	
1.5 mm	PLC 0
2.0 mm	PLC 0
3.0 mm	PLC 0
6.0 mm	PLC 0
Comparative Tracking Index (CTI)	PLC 3
Dielectric Strength	31 kV/mm
High Voltage Arc Tracking Rate (HVTR)	PLC 3
Volume Resistivity	1.0E+15 ohms·cm
Arc Resistance	PLC 7
Thermal	Value
RTI Elec	
1.0 mm	80.0 °C

Component - Plastics

File Number: E121254

Thermal	Value
RTI Str	
1.0 mm	80.0 °C
1.5 mm	125 °C
2.0 mm	125 °C
3.0 mm	125 °C
6.0 mm	125 °C
Physical	Value
Dimensional Stability	0.0 %

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Attachment 2 – Parts List**Component - Plastics**

File Number: E121254

SAMYANG CORPORATION

407 3-Ga Palbok-Dong

Cheonju, YKCheonbuk 560-200 Korea, Republic of

TRIEX: 3500G-(z)

Polycarbonate (PC), pellets

(z) - Represents any number 20-29 incl.

Flammability	Value
Flame Rating	
1.5 mm, ALL	V-0
3.0 mm, ALL	V-0
6.0 mm, ALL	V-0
Electrical	Value
Hot-wire Ignition (HWI)	
1.5 mm	PLC 2
3.0 mm	PLC 1
6.0 mm	PLC 0
High Amp Arc Ignition (HAI)	
1.5 mm	PLC 0
3.0 mm	PLC 0
6.0 mm	PLC 0
Comparative Tracking Index (CTI)	PLC 3
High Voltage Arc Tracking Rate (HVTR)	PLC 3
Arc Resistance	PLC 7
Thermal	Value
RTI Elec	
1.5 mm	130 °C
3.0 mm	130 °C
6.0 mm	130 °C

**Component - Plastics**

File Number: E120354

KOREA ENGINEERING PLASTICS CO LTD

450 KONGDUK-DONG

MAPO-KU

SEOUL, Korea, Republic of

KEPITAL: FT-20(xx)(+)

Polyoxymethylene (POM), pellets

(xx) - May be replaced by one or two digits except F20-52(+), F20-61(+) and F20-51U.

+ - May be replaced by one, two, three, four, or five letters and/or one, two, or three digit numbers except

Flammability	Value
Flame Rating	
0.75 mm, ALL	HB
0.75 mm, ALL	HB75

**CTK Co., Ltd.**

(Ho-dong) 113, Yejik-ro, Cheoin-gu, Yongin-si,
Gyeonggi-do, KOREA, REPUBLIC OF

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Fax: +82-31-624-9501

Report No.:

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Attachment 2 – Parts List**Component - Plastics**

File Number: E115797

LOTTE CHEMICAL CORPORATION

58 GOSAN-RO

UIWANG-SI, GYEONGGI-DO 16073 Republic of Korea

INFINO: HN-1068(+)(f1)

Polycarbonate (PC), pellets

(+) - May be replaced by one, two, or three numbers and/or letter(s)

(f1) - Suitable for outdoor use with respect to exposure to Ultraviolet Light, Water Exposure and Immersion at 74°C.

Flammability	Value
Flame Rating	
1.5 mm, ALL	V-0
3.0 mm, ALL	V-0
Glow Wire Flammability Index	
1.5 mm	960 °C
3.0 mm	960 °C
Glow Wire Ignition Temperature	
1.5 mm	825 °C
3.0 mm	825 °C
Electrical	Value
Hot-wire Ignition (HWI) (1.5 mm)	PLC 3
High Amp Arc Ignition (HAI) (1.5 mm)	PLC 3
Comparative Tracking Index (CTI)	PLC 3
Dielectric Strength	32 kV/mm
Volume Resistivity	1.0E+17 ohms-cm
Thermal	Value
RTI Elec	
1.5 mm	130 °C
3.0 mm	130 °C
RTI Imp	

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Attachment 2 – Parts List**Component - Plastics**

File Number: E67171

LG CHEM LTD
20 YOIDO-DONG
YONGDUNGPO-GU
SEOUL, 150-721 Republic of Korea

LI996(&)

Acrylonitrile Styrene Acrylate (ASA), pellets

(&) - May be replaced by one, two, or three numbers and/or letter, except Grade AF367SH, XR401B, AF367SH

Flammability	Value
Flame Rating	
2.0 mm, ALL	V-0
3.0 mm, ALL	V-0
Electrical	Value
Hot-wire Ignition (HWI)	
2.0 mm	PLC 4
3.0 mm	PLC 4
High Amp Arc Ignition (HAI)	
2.0 mm	PLC 0
3.0 mm	PLC 0
Comparative Tracking Index (CTI)	PLC 2
High Voltage Arc Tracking Rate (HVTR)	PLC 2
Arc Resistance	PLC 5
Thermal	Value
RTI Elec	
2.0 mm	50.0 °C

**Component - Plastics**

File Number: E115797

LOTTE CHEMICAL CORPORATION
56 GOSAN-RO
UIWANG-SI, GYEONGGI-DO 16073 Republic of Korea

INFINO: LS-3(dd)2(+)

Polycarbonate (PC), pellets, glass fiber reinforced

(+) - May be replaced by one, two, or three numbers and/or letter(s)

(dd) - Denotes glass fiber content 10-40%.

Flammability	Value
Flame Rating	
0.8 mm, ALL	V-2
3.2 mm, ALL	V-1
Thermal	Value
RTI Elec	
0.8 mm	80.0 °C
3.2 mm	80.0 °C
RTI Imp	



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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

