

TEST REPORT

**CTK Co., Ltd.**

(Ho-dong), 113, Yejik-ro, Cheoin-gu, Yongin-si,
Gyeonggi-do, 449-100, Korea
Tel: +82-31-339-9970
Fax: +82-31-624-9501

REPORT No.:

CTK-2024-03185

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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 : Oct. 10, 2024

2. Manufacturer

- Name : HANWHA VISION VIETNAM COMPANY LIMITED
- Address : Lot O-2, Que Vo Industrial Zone extended area, Nam Son ward,
Bac Ninh city, Bac Ninh province, Vietnam

3. Use of Report :

Quality control

4. Test sample / Model :

NETWORK CAMERA / TNO-A26081

5. Date(s) of test :

Oct. 29, 2024 ~ Nov. 05, 2024

6. Test Standard (Method) used :

NEMA 250-2014

Enclosures for Electrical Equipment (1000 Volts Maximum)

7. Testing Environment :

Temperature: (25 ±10) °C, Humidity: (50 ±25) % R.H.

Pressure: (96 ±10) kPa

8. Test Results :

Refer to the test results

9. Location of Test :☒ Permanent Testing Lab ☐ On Site Testing

(5 Dongbu-ro 221beon-gil, Cheoin-gu, Yongin-si, Gyeonggi-do, Republic of Korea)

The results shown in this test report refer only to the sample(s) tested unless otherwise stated.
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Affirmation	Tested by	Technical Manager
	HyungUk Jeon (Signature)	HoHyun Lee (Signature)

Remark. This report is not related to KOLAS accreditation and relevant regulation.

Nov 22, 2024

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1. Testing laboratory

1.1 Testing laboratory information

Lab. Name	CTK Co., Ltd.
Address	113, Yejik-ro, Cheoin-gu, Yongin-si, Gyeonggi-do Republic of Korea
Tel.	+82-31-339-9871
Fax.	+82-31-624-9501
E-Mail	ctk@e-ctk.com
Website	e-ctk.com

1.2 Testing laboratory accreditation status

Country	Classification	Accreditation Number	Logo
International	KOLAS	TESTING NO. KT119	

2. Product description and equipment information

2.1 Product description

Product Name	Model Name	Quantity	Comment
NETWORK CAMERA	TNO-A26081	1 EA	—



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2.2 Manufacturer information

Test item description : NETWORK CAMERA

Trade Mark :



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

Model/Type reference : TNO-A26081

Ratings : Electrical
TNO-A26081 DC 12 V \equiv 35.4 W / PoE (55 V \equiv) 44.3 W,
DC 12 V \equiv 2.95 A / PoE (55 V \equiv) 0.81 A

Dimension:

230 mm, 128 mm, 230 mm, 128 mm, 679 mm,

139 mm, 135 mm, 139 mm, 135 mm,

Ø 18.5 mm by 58.09 mm, Ø 23 *2 mm by 144.44 mm,

Ø 7.3 *6 mm by 137.53 mm, Ø 8.5 *4 mm by 106.76 mm,

Ø 8.5 *4mm by 106.76 mm

List of Attachments (including a total number of pages in each attachment):

Attachment 1: 15 pages (Construction Diagram including installation method)

Attachment 2: 16-21 pages (Parts List)

Attachment 3: 17-21 pages (photographs)

Summary of testing:

Tests performed (name of test and test clause):
Clause 5.7(Hose Down Test)

Testing location:

CTK Co., Ltd.

5 Dongbu-ro 221beon-gil, Cheoin-gu, Yongin-si,
Gyeonggi-do, Republic of Korea

Copy of marking plate: The artwork above may be only a draft.

제품명칭: NETWORK CAMERA

모델명: TNO-A26081

정격전압: DC 12V \equiv 35.4W

PoE(55V \equiv) 44.3W

M/C: TNO-A26081/KDO Fac. ID: D

2024.10 S/N: Serial No.

MAC ADDRESS: XX-XX-XX-XX-XX-XX

인증번호: R-R-StW-TNOA26081

상호: 한화비전(주)

제조자/제조국가: 한화비전(주)/한국



IP66 and IP67



NETWORK CAMERA, TNO-A26081

DC 12V \equiv 2.95A

PoE(55V \equiv) 0.81A

M/C: TNO-A26081/KEX

Fac. ID: D

2024.10 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 and IP67

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2.3 Equipment information

Testing equipment	Model Name	Manufacturer	Manufacturing Number	Calibration Date
25.4mm Nozzle	S3-IP18	CTK	S3-IP18	-
Temperature & Humidity Chamber	TH-GA-408	JEIO TECH	X110169	2025.08.23
Area flow meter	FT220-VM	NURITECH	01	2025-02-28
Stop Watch	NONE	Casio	612Q01R-1	2026-01-23
Digital Vernier Calipers	100 mm	MITUTOYO	A17179462	-



CTK Co., Ltd.

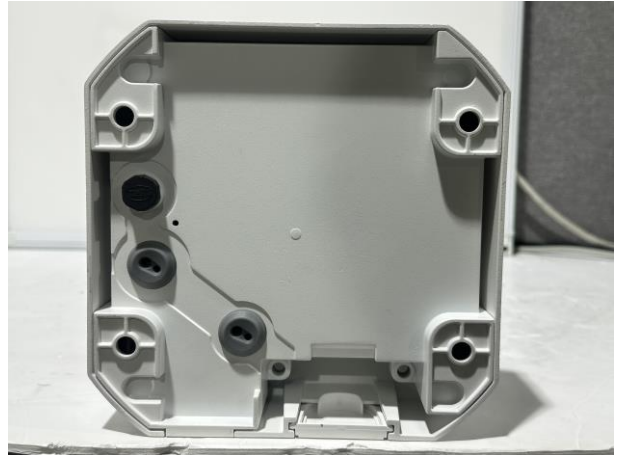
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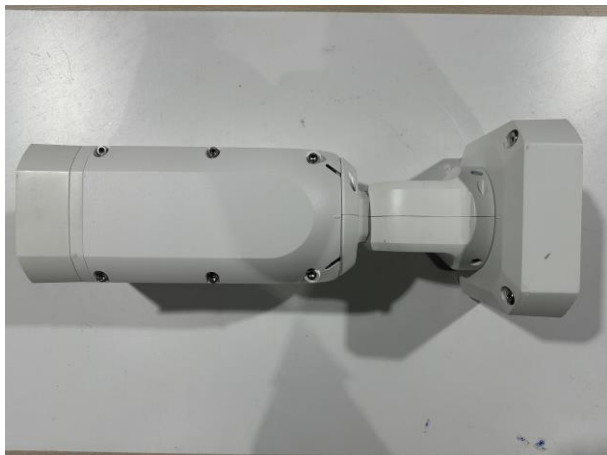
2.4 Pre-test product images



Top



Bottom



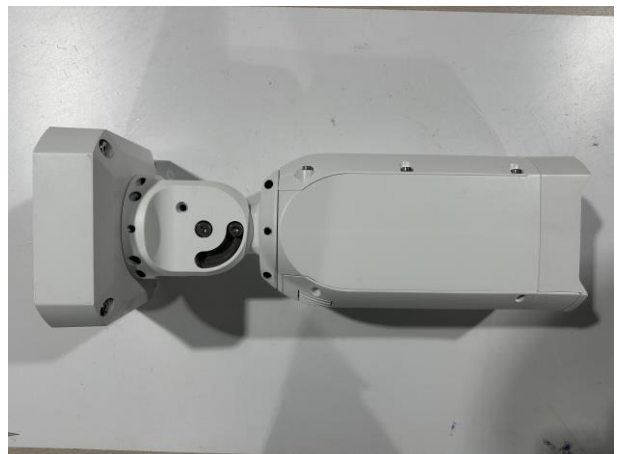
Front



Rear



Left side



Right side



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2.5 Testing equipment images



25.4mm Nozzle



Temperature & Humidity Chamber



Area flow meter



Stop Watch



Stop Watch



Digital Vernier Calipers

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3. Test Information

3.1 Test item particulars and Possible test case verdicts

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 evaluate to the test object:	N/E

3.2 General remarks and factory information

General remarks:
<p>"(See Enclosure #)" refers to additional information appended to the report.</p> <p>"(See appended table)" refers to a table appended to the report.</p> <p>Throughout this report a <input type="checkbox"/> comma / <input checked="" type="checkbox"/> point is used as the decimal separator.</p> <p>Clause numbers between brackets refer to clauses in NEMA 250-2014</p>
<p>Name and address of factory (ies):</p> <p>1. HANWHA VISION VIETNAM COMPANY LIMITED</p> <p>Lot O-2, Que Vo Industrial Zone extended area, Nam Son ward, Bac Ninh city, Bac Ninh province, Vietnam</p> <p>2. D-TECH CO., LTD.</p> <p>173-25, Saneop-ro, Gwonseon-gu, Suwon-si, Gyeonggi-do, Korea (Suwon Industrial Complex)</p>

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3.3 Type 4X Test information

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).

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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			

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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3.4 NEMA 250-2014 Test list

NEMA 250-2014			
Clause	Requirement + Test	Result – Remark	Verdict
3	CONSTRUCTION		
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-2 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

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NEMA 250-2014

Clause	Requirement + Test	Result – Remark	Verdict
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		
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		
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

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NEMA 250-2014

Clause	Requirement + Test	Result – Remark	Verdict
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
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

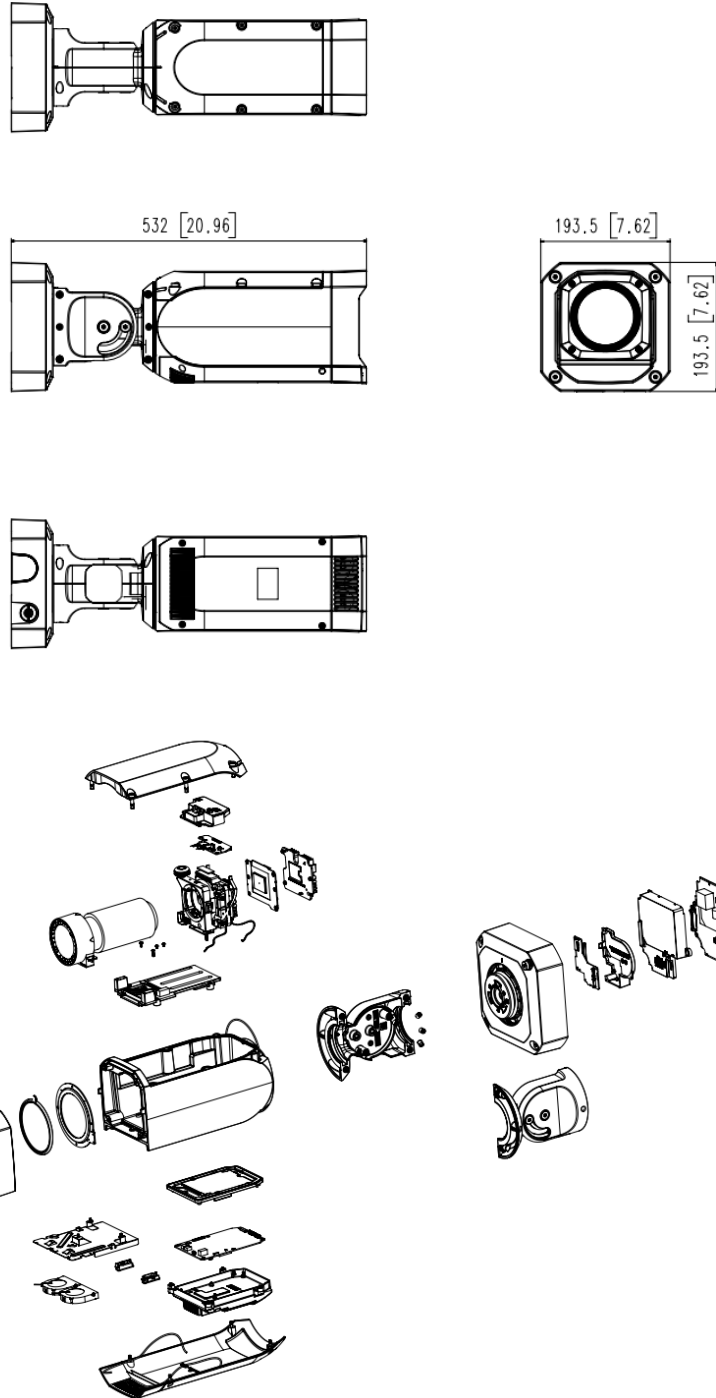


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3.5 Attachment 1 – Construction Diagram and installation method



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3.6 Attachment 2 – Parts List

제품/자재 코드	제품/자재명	수량
FC15-010748A	COVER-BODY-TNO-A26081;ADC,WHITE	1
HP07-001938A	GASKET-BODY;SILICON-RUBBER	1
FC29-017363A	HOOD-FRONT-TNO-A26081;PC	1
EP07-004278	HEATER,ELECTRIC-TNO-A26081-HEATER-ASSY;M	1
FC18-004000A	SCREW-SPECIAL:PH,TR20,M4,L7+5,SUS,FP	4
FC09-017161A	BRACKET-WINDOW-HEATER;A50	1
HP07-001943A	GASKET-FRONT;SILICON-RUBBER	1
HP07-001939A	GASKET-WINDOW;SILICON-RUBBER	1
FC37-001133A	WINDOW-26M	1
FC15-010749A	COVER-FRONT-TNO-A26081;ADC,BLACK	1
FC18-005325A	SCREW-MACHINE;M2,L4,PWH,,,WHITE	2
FC36-001442B	SHEET-PROTECT WINDOW;TPE5010,D82,T0.1	1
Z6001053501A	SCREW-MACHINE;6001-001476,BH,+,M3,L6,Ni	4
FC09-016193A	BRACKET-CABLE;TNO-A26081;AL	2
HP07-001857A	GASKET-CABLE;TNO-A26081;SILICON	2
EP02-005052A	HARNESS-TNM-A4940TD;WIRE,10P-10P, 9P-9P,	1
EP02-005502A	CABLE-TNO-A26081;1:1,MCX,BL,30PIN,-,425M	1
Z6001047201A	SCREW_TH_M3L6	9
FC30-009757A	PLATE-DISK;TNO-A26081;SUS304	1
HP06-001469A	VENT-SCREW TYPE_PFOE_B	1
FC18-007525A	SCREW-MACHINE;M2_L4,+,BH,FP,0.4,4,NON,2,	4
EP07-004276	FAN,ELECTRIC-EF50101BX;0.192A,-10~70,290	2
FC18-001418A	SCREW-MACHINE:PH,T10,M3,L8,SUS,FP	4
HP07-001942A	GASKET-BLOWER;SILICON-RUBBER	2
FC28-004002A	DOOR-CONNECTOR;A50	2
Z6001047201A	SCREW_TH_M3L6	3
FC09-018033A	BRACKET-BLOWER-TNO-A26081	1
HP07-001990A	GASKET-NW-TNO-A26081;SILICON RUBBER	1
FC09-017994A	BRACKET-PCB-MAIN;TNO-A26081;PC	1
Z6001053501A	SCREW-MACHINE;6001-001476,BH,+,M3,L6,Ni	2
AM06-011577B	ASSY,PCB-TNO-A26081 MAIN	1
FC15-010750A	COVER-NW-TNO-A26081;ADC,HEATSINK	1
FC15-010870A	COVER-BLOWER-TNO-A26081;PC,WHITE	1

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FC18-004000A	SCREW-SPECIAL:PH,TR20,M4,L7+5,SUS,FP	4
Z9642308001	SCREW-MACHINE:PH,+,M3,L8,WHT,FP	2
FC28-004001A	SLIDE-LENS-TNO-A26081;PC	1
FC18-007697A	BOLT-HEX-M6L100P1;100,6,PLATED,SILVER	1
FC24-001027A	LEVER-LOCK-TNO-A26081;PC	1
MC01-001012A	BRAKE-LENS;SECC	1
FC18-005325A	SCREW-MACHINE;M2,L4,PWH,,,WHITE	2
EP07-002043A	SINK,HEAT-INSIDE-TNO-A26081;ADC	1
EP07-004278	HEATER,ELECTRIC-TNO-A26081-HEATER-ASSY;M	1
FC29-017364A	HOLDER-LENS-FRONT-TNO-A26081	1
EP14-001284	LENS SET-CANON_55-250MM;EF-S	1
FC15-010877A	COVER-DN-TNO-A26081;AL	1
FC29-007994A	GUIDE-ACCESSORY,GUIDE-PIN-ZOOM MAIN;	2
Z6003012201A	SCREW-TAPTITE:CH,+,M2,L5,WHT,B-TYPE	8
FC29-017245A	HOLDER-LENS-TNO-A26081;ADC	1
MC19-003136A	SHAFT-LENS-TNB-9000;SUS304	1
FC38-001231A	SPRING,EXT-LENS-TNB-9000;SUS304	1
FC24-001014A	LEVER-LENS-LOCK;PC	1
FC38-001230A	SPRING,PLT-MOUNT-TNB-9000;SUS304-CSP	1
Z6003020401A	SCREW-TAPTITE:CH,+,M1.7,L4,BLK,B-TYPE	4
FC29-017361A	HOLDER-DN-TNO-A26081	1
EP14-000269A	ACCESSORY,LENS-GUIDE SPRING	1
EP14-002258A	ACCESSORY,LENS-GUIDE CELL;POM_YELLOW	1
EP14-002671A	LENS-DUMMY GLASS_TNO-A26081	1
EP14-002670A	LENS-IR CUT FILTER_TNO-A26081	1
FC29-017362A	HOLDER-FILTER-TNO-A26081	1
Z6003019801A	SCREW-TAPTITE:PL,+,M2,L4,WHT,B-TYPE	2
EP16-003726A	FPCB-TNO-A26081;LENS,PI,2L-2L-2L,-,3.25T	1
EP05-001050A	CONNECTOR-SP13-150710-PR00_SPC(A);1P,-,D	3
EP05-001049A	CONNECTOR-SP13-150610-PR00_SPC(B);1P,-,D	5
FC15-007275A	COVER-PIN-BLOCK-TNB-9000;PC	1
FC05-001450A	BASE-PIN-BLOCK-TNB-9000;PC	1
Z0608000201A	PHOTO INTERRUPTER(ON1004-CA)	1
EP16-003727A	FPCB-TNO-A26081;MOTOR,PI,2L-2L-2L-2L,-,3	1
EP08-002285A	MOTOR,ZOOM-MOTOR,STEP-ZOOM-MOTOR;VCL_VL2	1

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FC36-000017B	SHEET-FRONT GLASS PNO	1
Z6001053501A	SCREW-MACHINE;6001-001476,BH,+,M3,L6,Ni	2
AM06-011592A	ASSY,PCB-TNO-A26081 SENSOR	1
EP02-005503A	CABLE-TNO-A26081;1:N,MCX,G/BL,UL10005,50	1
EP07-002050A	SINK,HEAT-SENSOR-TNO-A26081;ADC12	1
Z6001053501A	SCREW-MACHINE;6001-001476,BH,+,M3,L6,Ni	3
FC28-003842A	PAD-THERMAL;42X30X1.5,7W	1
Z6001045901A	4748_M3_L6_SCREW	1
AM06-011605A	ASSY,PCB-TNO-A26081 INTERFACE	1
FC15-010872A	COVER-INTERFACE-TNO-A26081;PC,BLACK	1
FC15-008208A	COVER-CDS-PNM-9031RV;PC	1
Z6003019801A	SCREW-TAPTITE;PL,+,M2,L4,WHT,B-TYPE	2
EP02-004826A	HARNESS-XNP-9300R;MCX,50P-50P,240MM	1
Z6001053501A	SCREW-MACHINE;6001-001476,BH,+,M3,L6,Ni	2
FC18-006373A	SCREW,TAPTITE-M3_L6_BLK;1,L6,-,-	3
FC28-003406A	PAD-THERMAL-45X22XT2;K=7W/M-K	1
FC18-006373A	SCREW,TAPTITE-M3_L6_BLK;1,L6,-,-	4
FC18-005354B	SCREW-MACHINE_;BH,FP,0.5,10,-,2.6,5.35,2	4
Z9642300001	SCREW-MACHINE;PH,+,M3,L10,WHT,FP	3
FC15-010326A	COVER-TOP-BB;TNO-A26081;AL,.	1
FC18-007484A	SCREW-M;BUILT-IN;T30,FP,M8,1.25,L29,D-SI	4
FC30-009757A	PLATE-DISK;TNO-A26081;SUS304	1
Z6001047201A	SCREW_TH_M3L6	3
FC15-010328A	COVER-CONDUIT;TNO-A26081;PC,.	1
Z6001047201A	SCREW_TH_M3L6	3
AM06-011603A	ASSY,PCB-TNO-A26081 CONNECTOR	1
FC15-010327A	COVER-PCB-PTOP;TNO-A26081;PC,.	1
Z6001053501A	SCREW-MACHINE;6001-001476,BH,+,M3,L6,Ni	3
FC09-016195A	BRACKET-TILT-R;TNO-A26081;AL	1
FC30-009232A	PLATE-BRACKET-TILT;TNO-A26081;SUS	1
FC18-007485A	SCREW-M;FH,FP,M4,0.7,L6,,.,SUS	2
FC18-007486A	SCREW,SET-M;T30,FP,M8,1.25,L10,,.,SUS	1
FC15-010332A	COVER-TILT-R;TNO-A26081;AL,.	1
FC30-009233A	PLATE-COVER-TILT;TNO-A26081;SUS	1
FC18-007485A	SCREW-M;FH,FP,M4,0.7,L6,,.,SUS	2

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FC18-007486A	SCREW,SET-M;T30,FP,M8,1.25,L10,,,SUS	1
FC18-007483A	SCREW-M;T30,FP,M8,1.25,L20,D-SIMS,,,SUS	2
FC09-016194A	BRACKET-TILT-L;TNO-A26081;AL	1
FC18-004000A	SCREW-SPECIAL:PH,TR20,M4,L7+5,SUS,FP	4
FC18-007486A	SCREW,SET-M;T30,FP,M8,1.25,L10,,,SUS	1
FC30-009232A	PLATE-BRACKET-TILT;TNO-A26081;SUS	1
FC18-007485A	SCREW-M;FH,FP,M4,0.7,L6,,,SUS	2
FC15-010331A	COVER-TILT-L;TNO-A26081;AL,	1
FC18-004000A	SCREW-SPECIAL:PH,TR20,M4,L7+5,SUS,FP	2
FC30-009233A	PLATE-COVER-TILT;TNO-A26081;SUS	1
FC18-007485A	SCREW-M;FH,FP,M4,0.7,L6,,,SUS	2
FC18-007486A	SCREW,SET-M;T30,FP,M8,1.25,L10,,,SUS	1
FC18-007483A	SCREW-M;T30,FP,M8,1.25,L20,D-SIMS,,,SUS	2
HP07-001989A	GASKET-SFP;TNO-A26081;RB,O-RING	1
FC15-010471A	COVER-GLAND;TNO-A26081;ALDC,WHT	1
MC06-001189A	BUSHING-CABLE 2 HOLE;SILICONE,GRAY	2
HP06-001469A	VENT-SCREW TYPE_PFOE_B	1
Z6001053501A	SCREW-MACHINE;6001-001476,BH,+,M3,L6,Ni	6
FC15-011516A	COVER-PCB-BB;TNO-A26081;ADC,_	1
HP07-001856A	GASKET-BOTTOM-BB;TNO-A26081;SILICON	1
FC15-010330A	COVER-BOTTOM-BB;TNO-A26081;AL,	1
AM06-011593B	ASSY,PCB-TNO-A26081 BACK BOX	1
HP07-001394A	GASKET-SHIELD-FOAM-15-10-13	1
FC18-005987A	SCREW-BUILT IN-M6-L15-T30;1.0,15,NON,M6	2
FC14-005723A	ADAPTER-CONDUIT;TNO-A26081;AL	1
FC15-010869A	COVER-TOP-TNO-A26081;PC,WHITE	1
FC18-005590A	SCREW-MACHINE;SOCKET HEAD,M6,L22,TORX30,	6



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Component - Plastics

ER016007(f1) , EXL9334U(f1)

Yellow Card™

SABIC JAPAN L L C

PACIFIC GRADES - RESIN
2-2 KINUGAOKA
MOKA-SHI, Tochigi 321-4392 Japan

File Number: E207780

ELCRES: ER016007(f1) , EXL9334U(f1)

PC/Siloxane, two liquid components

(f1) - Suitable for outdoor use with respect to exposure to Ultraviolet Light, Water Exposure and
Immersion in accordance with UL 746C.

NOTE - Material designation may be followed by a color nomenclature consisting of either an alpha/
numeric or numeric/alpha combination.



Flammability	Value	Test Method
Flame Rating		UL 94
1.5 mm, ALL	V-0, 5VB	IEC 60695-11-10, -20
3.0 mm, ALL	V-0, 5VB	
Thermal	Value	Test Method
RTI Elec		UL 746B
1.5 mm	80.0 °C	
3.0 mm	80.0 °C	
RTI Imp		UL 746B
1.5 mm	80.0 °C	
3.0 mm	80.0 °C	
RTI Str		UL 746B
1.5 mm	80.0 °C	
3.0 mm	80.0 °C	
Physical	Value	Test Method
Outdoor Suitability	f1	UL 746C

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Report Date: 7/7/2022

Last Revised: 7/19/2023 12:52:51 PM

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.



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Component - Plastics
HN-1068(+)(f1)

Yellow Card™

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

File Number: E115797

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 in accordance with UL 746C.



Flammability	Value	Test Method
Flame Rating		UL 94
1.5 mm, ALL	V-0	IEC 60695-11-10, -20
3.0 mm, ALL	V-0	
Glow Wire Flammability Index		IEC 60695-2-12
1.5 mm	960 °C	
3.0 mm	960 °C	
Glow Wire Ignition Temperature		IEC 60695-2-13
1.5 mm	825 °C	
3.0 mm	825 °C	
Electrical	Value	Test Method
Hot-wire Ignition (HWI) (1.5 mm)	PLC 3	UL 746A
High Amp Arc Ignition (HAI) (1.5 mm)	PLC 3	UL 746A
Comparative Tracking Index (CTI)	PLC 3	UL 746A
Dielectric Strength	32 kV/mm	ASTM D149
Volume Resistivity	1.0E+17 ohms-cm	ASTM D257 IEC 60093
Thermal	Value	Test Method
RTI Elec		UL 746B
1.5 mm	130 °C	
3.0 mm	130 °C	
RTI Imp		UL 746B
1.5 mm	130 °C	
3.0 mm	130 °C	
RTI Str		UL 746B
1.5 mm	130 °C	
3.0 mm	130 °C	
Ball Pressure Test (130°C)	Pass	IEC 60695-10-2
Physical	Value	Test Method
Outdoor Suitability	f1	UL 746C

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4. Hose Down Test (Clause 5.7)

4.1 Test date and environmental conditions

4.1.1 Test date: Oct. 29, 2024 ~ Nov. 05, 2024

4.1.2 Measured Environmental Conditions

Item	Temperature (°C)	Humidity (% R.H.)	Pressure (kPa)
Measurement	25.7	44.5	90.1

4.2 Test Conditions and methods

4.2.1 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).

4.2.2 Sample Dimension

230 mm, 128 mm, 230 mm, 128 mm, 679 mm, 139 mm, 135 mm, 139 mm, 135 mm,
Ø 18.5 mm by 58.09 mm, Ø 23 *2 mm by 144.44 mm, Ø 7.3 *6 mm by 137.53 mm, Ø
8.5 *4 mm by 106.76 mm, Ø 8.5 *4mm by 106.76 mm

Test Duration = 416.09 secs

4.2.3 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

4.3 Attachment 3 – Photographs

4.3.1 Hose down test



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5. Test result

5.1 Test result table

Sample No (Model)	Water Flow	Presence of water inside	Result
TNO-A26081	240 LPM	No	Pass

※ Refer to the product photos after the completion of testing in section 5.2.

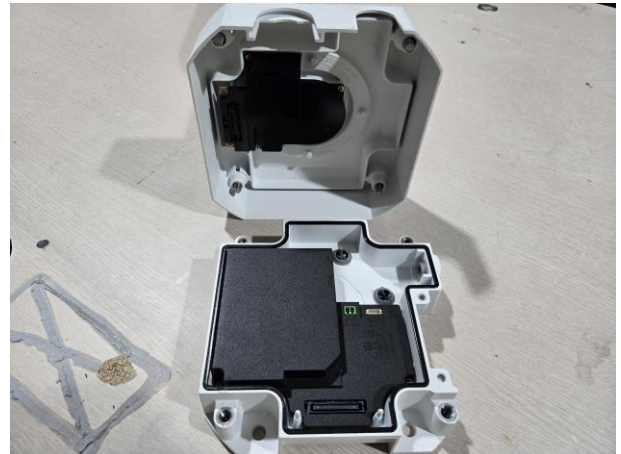


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5.2 Test sample image



- End -