TEST REPORT

CTK Co., Ltd.
5 Dongbu-ro 221beon-gil, Cheoin-gu, Yongin-si,
Gyeonggi-do, Republic of Korea
Tel: 1551-9871
Fax: +82-31-624-9501

REPORT No.:
CTK-2026-02082

1. Applicant

- Name : Hanwha Vision Co., Ltd.
- Address : 6, Pangyo-ro 319Beon-gil, Bundang-gu, Seongnam-si, Gyeonggi-do, 13488 KOREA
- Date of Receipt : Sep. 02, 2025

2. Manufacturer

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

3. Use of Report : Quality control

4. Test sample / Model : NETWORK CAMERA / XNV-A9085R

5. Date(s) of test : Sep. 19, 2025~ Sep. 26, 2025

6. Test Standard (Method) used : NEMA 250-2020
Enclosures for Electrical Equipment (1000 Volts Maximum)

7. Testing Environment : Temperature: (25 ± 10) ℃, 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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Approval	Tested by Name: HongBeom Jeon (Signature)	Technical Manager Name: HoHyun Lee (Signature)

Remark. This report is not related to ISO/IEC 17025, KOLAS accreditation and relevant regulation.

Jul. 28, 2026

CTK Co., Ltd.

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Table of Contents

1. Testing laboratory ____ 3
1.1 Testing laboratory information ... 3
1.2 Testing laboratory accreditation status ... 3

2. Sample description and equipment information ____ 3
2.1 Sample description ... 3
2.2 Model description ... 4
2.3 Manufacturer information ... 4
2.4 Equipment information ... 6
2.5 Pre-test sample images ... 7
2.6 Testing equipment images ... 8
2.7 Sample appearance ... 9
2.8 Construction Diagram including installation method ... 10

3. Test Information ____ 11
3.1 Test item particulars and Possible test case verdicts ... 11
3.2 General remarks and factory information ... 11
3.3 Type 4X Test information ... 12
3.4 NEMA 250-2020 Test list ... 14
3.5 Parts List ... 17

4. Hose Down Test (Clause 5.7) ____ 22
4.1 Test date and environmental conditions ... 22
4.2 Test Conditions and methods ... 22
4.3 Test Setup and During test sample images ... 23
4.4 Test result ... 24
4.5 Post-test sample images ... 25

1. Testing laboratory

1.1 Testing laboratory information

Lab. Name	CTK Co., Ltd.
Representative	Young Joseph Seungwon
Address	5 Dongbu-ro 221beon-gil, Cheoin-gu, Yongin-si, Gyeonggi-do, Republic of Korea
Tel.	1551-9871
Fax.	+82-31-624-9501
E-Mail	all.youngin@element.com
Website	www.elementkorea.kr

1.2 Testing laboratory accreditation status

Country	Classification	Accreditation Number	Logo
International	KOLAS	TESTING NO. KT119	

2. Sample description and equipment information

2.1 Sample description

Product Name	Model Name	Quantity	Comment
NETWORK CAMERA	XNV-A9085R	1 EA	-

2.2 Model description

Basic Model .....:	XNV-A9085R
Series model ..... .:	XNV-A8085R, XNV-A6085R
Model differences .....:	Use of the same external shape and materials (case, finishing material, PCB, cable, etc.), differences in electronic parts inside the product and SW.

2.3 Manufacturer information

Test item description .....:	NETWORK CAMERA
Trade Mark .....:	Hanwha Vision
Manufacturer .....:	Lot O-2, Que Vo Industrial Zone extended area, Nam Son ward, Bac Ninh province, Vietnam
Model/Type reference .....:	XNV-A9085R
Ratings .....:	Electrical XNV-A9085R DC12 V⎓20.6 W / PoE 53 V ⎓ 19.7W DC12 V⎓1.72 A / PoE 53 V ⎓ 0.37 A XNV-A8085R DC12 V⎓20.6 W / PoE 53 V ⎓ 19.7W DC12 V⎓1.72 A / PoE 53 V ⎓ 0.37 A XNV-A6085R DC12 V⎓1.68 / PoE (53 V ⎓) 0.36 A Dimension: Ø180 by 565.2 mm, Ø100 by 314 mm, Ø25*2 by 157 mm, Ø 8.5*4 by 106.76 mm

List of Attachments (including a total number of pages in each attachment):
Attachment 1: 8-9 pages (Construction Diagram including installation method)
Attachment 2: 16-20 pages (Parts List)
Attachment 3: 22-24 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: **XNV-A9085R**
정격전압: DC 12V ⎓ 20.6W/
PoE(53V ⎓) 19.7W

M/C: **XNV-A9085R/KDO**

DATE S/N: **Serial No.**
MAC ADDRESS: **XX-XX-XX-XX-XX-XX**
인증번호: **R-R-HWVS-XNVA9085R**
상호: 한화비전(주)
제조자/제조국가: 한화비전(주)/한국

IP66/IP67

NETWORK CAMERA,XNV-A9085R
DC 12V ⎓ 1.72A/
PoE (53V ⎓) 0.37A
M/C: XNV-A9085R/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 and IP67

제품명칭: **NETWORK CAMERA**
모델명: **XNV-A8085R**
정격전압: DC 12V ⎓ 20.6W/
PoE(53V ⎓) 19.7W

M/C: **XNV-A8085R/KDO**

DATE S/N: **Serial No.**
MAC ADDRESS: **XX-XX-XX-XX-XX-XX**
인증번호: **R-R-HWVS-XNVA8085R**
상호: 한화비전(주)
제조자/제조국가: 한화비전(주)/한국

IP66/IP67

NETWORK CAMERA,XNV-A8085R
DC 12V ⎓ 1.72A/
PoE (53V ⎓) 0.37A
M/C: XNV-A8085R/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 and IP67

NETWORK CAMERA,XNV-A6085R
DC 12V ⎓ 1.68A/
PoE (53V ⎓) 0.36A
M/C: XNV-A6085R/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 and IP67

2.4 Equipment information

Testing equipment	Model Name	Manufacturer	Manufacturing Number	Next Cal. Date
25.4mm Nozzle	S3-IP18	CTK	S3-IP18	-
Temperature & Humidity Chamber	C4-340	Weisstechnik	54260023190010	Feb. 06, 2026
Area flow meter	Z-6504	FLOWTECH	229400	Jan. 16, 2026
Steel measuring meter	5.5 m	KOMELON	225851	Jan. 16, 2026
Stop Watch	NONE	Casio	612Q01R-1	Jan. 15, 2027
Digital Vernier Calipers	100 mm	MITUTOYO	A17179462	-

2.5 Pre-test sample images

2.5.1 Test sample



Top



Bottom



Front



Rear



Left side



Right side

2.6 Testing equipment images

2.6.1 Test equipment



25.4mm Nozzle



Temperature & Humidity Chamber



Area flow meter



Steel measuring meter



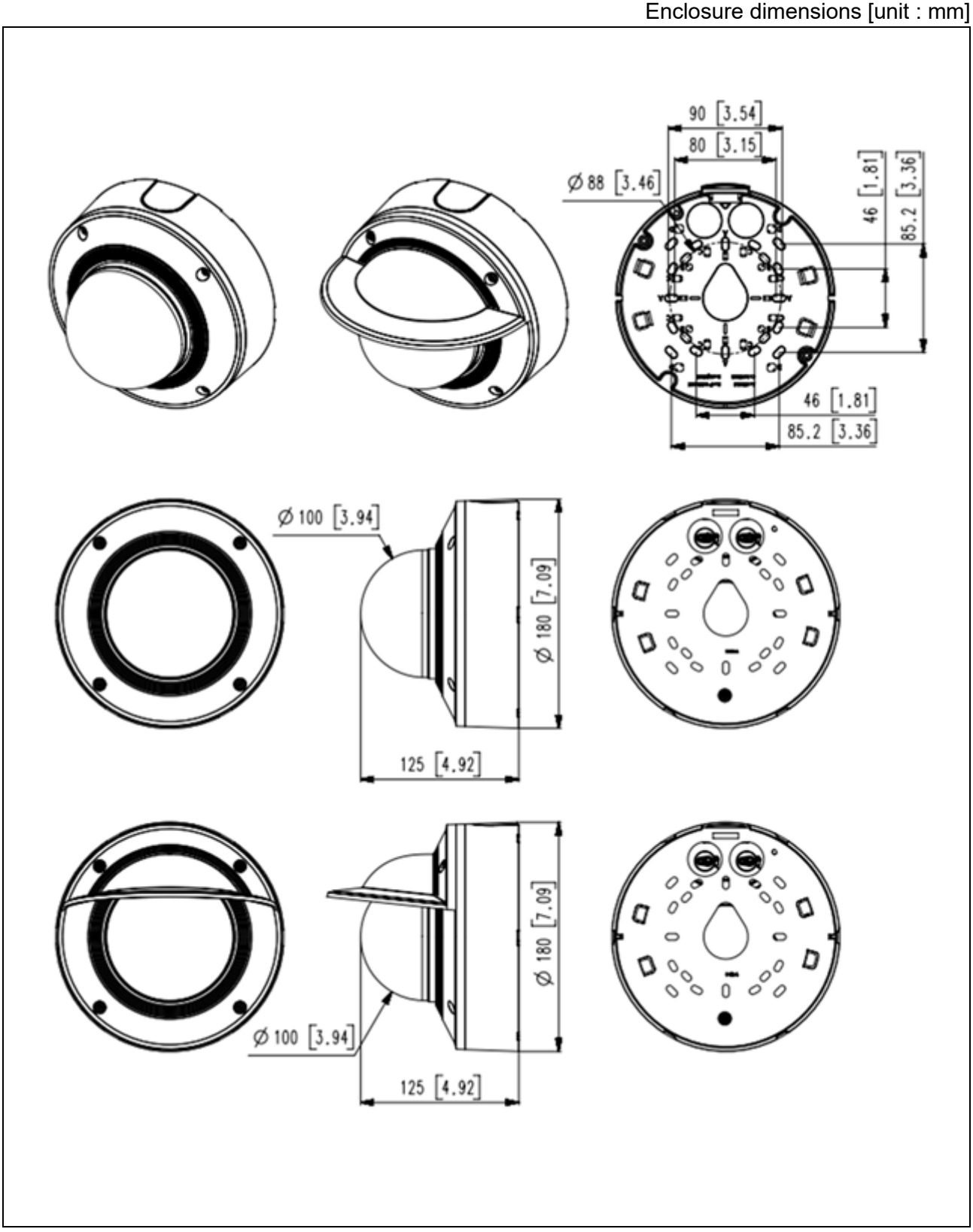
Stop Watch



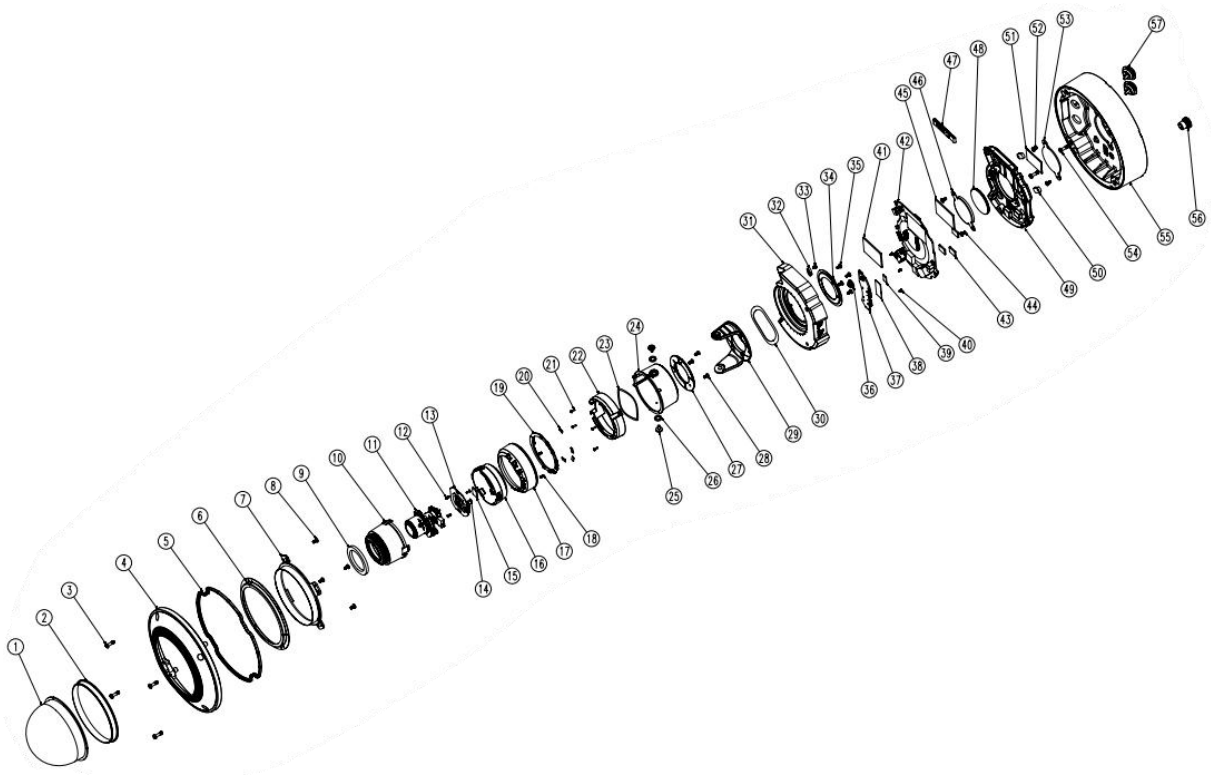
Digital Vernier Calipers

2.7 Sample appearance

Enclosure dimensions [unit : mm]



2.8 Construction Diagram including installation method



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:

"(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 250-2020

Name and address of factory (ies):

1. HANWHA VISION VIETNAM COMPANY LIMITED

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

2. D-TECH CO., LTD.

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

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).

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	Non-vented 5.7 Vented 5.5.1 Dust Blast Method	Windblown dust protected	No ingress of dust	6

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

3.4 NEMA 250-2020 Test list

NEMA 250-2020			
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	P
3.7	Mounting	Mounting means are external to the equipment cavity (See the attachment 1)	N/A
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

NEMA 250-2020			
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)	N/E
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

NEMA 250-2020			
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/A
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 ℃ for 168 h according to 5.14.3(Alternate Evaluation) before performing relevant required tests.	N/E
5.15	Test for Sharpness of Edges	No sharp edges	P

3.5 Parts List

3.5.1 Parts List (1)

XNV-A8085R			
No.	Part No.	Part Name	Q'ty
1	FC15-006668B	COVER-DOME	1
2	FC10-001168A	RUBBER-DOME-IR_XPLUS	1
3	FC18-004000A	SCREW-SPECIAL,PH,TR20,M4,L7+5,SUS	4
4	FC29-018728A	CASE-TOP_XNV-A9085R	1
5	FC10-001149A	RUBBER-TOP-XNV-6081Z	1
6	FC09-019206A	BRACKET-DOME_XNV-A9085R	1
7	FC29-018729A	HOOD-DOME_XNV-A9085R	1
8	Z6001053501A	SCREW-MACHINE,BH,+,M3,L6,Ni	4
9	FC29-011588A	HOOD-LENS_XPLUS_2M	1
10	FC15-007206J	COVER-FRONT-XNV-A9084R	1
11	EP14-001326	LENS SET-YT0W2ZF-PIRIS-5MP+H82+IR1021	1
12	Z6001055201A	SCREW-MACHINE,BH,+,M2,L5,ZP	2
13	AM06-011689A	ASSY,PCB-XNO-A8084R SENSOR	1
14	Z6003019601A	SCREW-TAPTITE,PH,M2,L6,BLK,B-TYPE	2
15	FC28-003386A	PAD-THERMAL-14X10XT1.0,K=1.5W/M-K	1
16	FC15-008198C	COVER-REAR-XNV-A8084R	1
17	FC29-012952A	HOOD-IR-XNV-9082R	1
18	Z6001055201A	SCREW-MACHINE,BH,+,M2,L5,ZP	2
19	AM06-011673A	ASS,PCB-XNV-A9084R IR LED	1
20	FC28-002363A	PAD-THERMAL_W8_D4_T1	4
21	Z6003019601A	SCREW-TAPTITE,PH,M2,L6,BLK,B-TYPE	4
22	FC39-006142C	FRAME-IR_XNV-9082R_NP	1
23	FC18-005134B	WASHER,WAVE-TILT_XPLUS_REV01	1
24	FC39-005613B	FRAME-TILT_XPLUS	1
25	FC18-006193A	SCREW-TAPTITE,PWH,+,M3,L8,BLK,B-TYPE	2
26	FC10-001068A	RUBBER-TILT_9020	2
27	FC30-006426B	PLATE-TILT_XPLUS	1
28	Z9642306007	SCREW-MACHINE,BH,+,M3,L6,Zn-B	3
29	FC39-006539A	FRAME-PAN-XNV-9083R	1
30	FC18-006039A	WASHER,WAVE-PAN-XNV-9083R	1
31	FC39-008179B	FRAME-MAIN-TOP_XNV-A9085R	1
32	FC29-011838A	STOPPER-PAN_XNV-6081R	1
33	FC18-005325A	SCREW-MACHINE,PWH,M2,L4,WHT	1
34	FC30-008123A	PLATE-PAN_XNV-6123R	1
35	FC18-006373A	SCREW-TAPTITE,BH,M3,L6,BLK	4
36	FC10-001334A	RUBBER-TAMPERING_XNV-A9085R	1
37	AM06-012080A	ASSY,PCB-XNV-A9085R SUB	1
38	FC10-001144A	RUBBER-SD	1
39	FC28-002128A	PAD-THERMAL_12X8XT1	1
40	Z6001055201A	SCREW-MACHINE,BH,+,M2,L5,ZP	3
41	FC28-003385A	PAD-THERMAL-45X30XT2,K=7W/M-K	1
42	AM06-012096A	ASSY,PCB-XNV-A8085R NETWORK	1
43	FC28-004148A	PAD-THERMAL-14X10XT2,K=7W/M-K	3
44	Z6001049601A	SCREW-MACHINE,BH,+,M3,L6,NI	2
45	FC28-003385A	PAD-THERMAL-45X30XT2,K=7W/M-K	1
46	FC09-009905A	BRACKET-YOKE-XNV-6081Z	1
47	FC29-011023A	STRAP-PULL-XNV-6081Z	1
48	EP10-001189A	MAGNET-OD44-T3.0-N35UH	1
49	FC39-008180A	FRAME-MAIN-BOT_XND-A9085RV	1
50	HP07-001393A	GASKET-XNV-6081Z	2
51	FC28-002823A	PAD-THERMAL-PET-38X25XT1,K=7W/M-K	1
52	Z6001049601A	SCREW-MACHINE,BH,+,M3,L6,NI	2
53	FC09-009874A	BRACKET-MAGNET-XNV-6081Z	1
54	FC18-004000A	SCREW-SPECIAL,PH,TR20,M4,L7+5,SUS	2
55	FC29-010814A	CASE-BOTTOM-XNV-6081Z	1
56	HP06-001469A	VENT-SCRE TYPE_PFOE_B	1
57	MC06-001042A	BUSHING-CABLE SET	2

XNV-A9085R			
No.	Part No.	Part Name	Q'ty
1	FC15-006668B	COVER-DOME	1
2	FC10-001168A	RUBBER-DOME-IR_XPLUS	1
3	FC18-004000A	SCREW-SPECIAL,PH,TR20,M4,L7+5,SUS	4
4	FC29-018728A	CASE-TOP_XNV-A9085R	1
5	FC10-001149A	RUBBER-TOP-XNV-6081Z	1
6	FC09-019206A	BRACKET-DOME_XNV-A9085R	1
7	FC29-018729A	HOOD-DOME_XNV-A9085R	1
8	Z6001053501A	SCREW-MACHINE,BH,+,M3,L6,Ni	4
9	FC29-011588A	HOOD-LENS_XPLUS_2M	1
10	FC15-007206J	COVER-FRONT-XNV-A9084R	1
11	Z6001055201A	SCREW-MACHINE,BH,+,M2,L5,ZP	2
12	AM07-017604C	ASSY-LENS-XNV-A9085R	1
13	FC28-003386A	PAD-THERMAL-14X10XT1.0,K=1.5W/M-K	1
14	FC15-008198A	COVER-REAR-XNV-C9083R	1
15	-	-	-
16	-	-	-
17	FC29-012952A	HOOD-IR-XNV-9082R	1
18	Z6001055201A	SCREW-MACHINE,BH,+,M2,L5,ZP	2
19	AM06-011673A	ASS,PCB-XNV-A9084R IR LED	1
20	FC28-002363A	PAD-THERMAL_W8_D4_T1	4
21	Z6003019601A	SCREW-TAPTITE,PH,M2,L6,BLK,B-TYPE	4
22	FC39-006142C	FRAME-IR_XNV-9082R_NP	1
23	FC18-005134B	WASHER,WAVE-TILT_XPLUS_REV01	1
24	FC39-005613B	FRAME-TILT_XPLUS	1
25	FC18-006193A	SCREW-TAPTITE,PWH,+,M3,L8,BLK,B-TYPE	2
26	FC10-001068A	RUBBER-TILT_9020	2
27	FC30-006426B	PLATE-TILT_XPLUS	1
28	Z9642306007	SCREW-MACHINE,BH,+,M3,L6,Zn-B	3
29	FC39-006539A	FRAME-PAN-XNV-9083R	1
30	FC18-006039A	WASHER,WAVE-PAN-XNV-9083R	1
31	FC39-008179B	FRAME-MAIN-TOP_XNV-A9085R	1
32	FC29-011838A	STOPPER-PAN_XNV-6081R	1
33	FC18-005325A	SCREW-MACHINE,PWH,M2,L4,WHT	1
34	FC30-008123A	PLATE-PAN_XNV-6123R	1
35	FC18-006373A	SCREW-TAPTITE,BH,M3,L6,BLK	4
36	FC10-001334A	RUBBER-TAMPERING_XNV-A9085R	1
37	AM06-012080A	ASSY,PCB-XNV-A9085R SUB	1
38	FC10-001144A	RUBBER-SD	1
39	FC28-002128A	PAD-THERMAL_12X8XT1	1
40	Z6001055201A	SCREW-MACHINE,BH,+,M2,L5,ZP	3
41	FC28-003385A	PAD-THERMAL-45X30XT2,K=7W/M-K	1
42	AM06-012096A	ASSY,PCB-XNV-A8085R NETWORK	1
43	FC28-004148A	PAD-THERMAL-14X10XT2,K=7W/M-K	3
44	Z6001049601A	SCREW-MACHINE,BH,+,M3,L6,NI	2
45	FC28-003385A	PAD-THERMAL-45X30XT2,K=7W/M-K	1
46	FC09-009905A	BRACKET-YOKE-XNV-6081Z	1
47	FC29-011023A	STRAP-PULL-XNV-6081Z	1
48	EP10-001189A	MAGNET-OD44-T3.0-N35UH	1
49	FC39-008180A	FRAME-MAIN-BOT_XND-A9085RV	1
50	HP07-001393A	GASKET-XNV-6081Z	2
51	FC28-002823A	PAD-THERMAL-PET-38X25XT1,K=7W/M-K	1
52	Z6001049601A	SCREW-MACHINE,BH,+,M3,L6,NI	2
53	FC09-009874A	BRACKET-MAGNET-XNV-6081Z	1
54	FC18-004000A	SCREW-SPECIAL,PH,TR20,M4,L7+5,SUS	2
55	FC29-010814A	CASE-BOTTOM-XNV-6081Z	1
56	HP06-001469A	VENT-SCRE TYPE_PFOE_B	1
57	MC06-001042A	BUSHING-CABLE SET	2

3.5.2 Parts List (2)

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

c UL us
ALSO CERTIFIED TO IEC REQUIREMENTS

Flammability	Value	Test Method
Flame Rating		UL 94 IEC 60695-11-10, -20
1.5 mm, ALL	V-0	
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

Page 1 of 1
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3.5.3 Parts List (3)

Component - Plastics

S-2000+(f1), S-2001+(f1), S-2003+(f1)

Yellow Card™

MITSUBISHI ENGINEERING-PLASTICS CORP
ENVIRONMENT & QUALITY ASSURANCE DEPT
SHIODOME SUMITOMO-BLDG 25TH FL
1-9-2 HIGASHI-SHINBASHI
MINATO-KU, Tokyo 105-0021 Japan

File Number: E41179

lupilon: S-2000+(f1), S-2001+(f1), S-2003+(f1)

Polycarbonate (PC), insulating material, pellets, powder, sheets

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

+ - Suffix optional, exceptions: The following cannot be used as optional suffixes: "N" for grade MB2112+, "S1" for grade F20-54, "V" for grades S-2000+(f1), S-2001+(f1), S-2003+(f1), the last letter "L" for grade CFH2520+, "W" for ELV2010 included in Grade ELV20(a5)+, "V" for grade MB2210+, "K1" for grade EKD3206+ included in Grade EKD32(a6)+, "K2" for grade EKD2213+ included in Grade EKD22(a12)+, "DC" and "UDC" for grade MB4303+, "B9" for grades HL-30(#)(#)+(f1), HL-40(#)(#)+(f1), HL-50(#)(#)+(f1), HL-70(#)(#)+(f1), HL-80(#)(#)+(f1), HL-85(#)(#)+(f1), HL-90(#)(#)+(f1).

c UL us
ALSO CERTIFIED TO IEC REQUIREMENTS

Flammability	Value	Test Method
Flame Rating		
3.0 mm, ALL	HB	UL 94
6.0 mm, ALL	HB	UL 94
0.38 mm, ALL	V-2	UL 94 IEC 60695-11-10, -20
1.5 mm, ALL	V-2	UL 94 IEC 60695-11-10, -20
1.8 mm, ALL	V-2	UL 94 IEC 60695-11-10, -20
3.0 mm, ALL	HB40	IEC 60695-11-10, -20
6.0 mm, ALL	HB40	IEC 60695-11-10, -20
Electrical	**Value**	**Test Method**
Hot-wire Ignition (HWI)		UL 746A
1.5 mm	PLC 3	
1.8 mm	PLC 3	
3.0 mm	PLC 3	
6.0 mm	PLC 0	
High Amp Arc Ignition (HAI)		UL 746A
1.5 mm	PLC 0	
1.8 mm	PLC 0	
3.0 mm	PLC 0	
6.0 mm	PLC 0	
Comparative Tracking Index (CTI)	PLC 2	UL 746A
Dielectric Strength	20 kV/mm	ASTM D149
High Voltage Arc Tracking Rate (HVTR)	PLC 0	UL 746A
Volume Resistivity	1.0E+7 ohms·cm	ASTM D257 IEC 60093
Arc Resistance	PLC 5	ASTM D495

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3.5.4 Parts List (4)

Component - Plastics

S-2000+(f1), S-2001+(f1), S-2003+(f1)

Yellow Card™

MITSUBISHI ENGINEERING-PLASTICS CORP
ENVIRONMENT & QUALITY ASSURANCE DEPT
SHIODOME SUMITOMO-BLDG 25TH FL
1-9-2 HIGASHI-SHINBASHI
MINATO-KU, Tokyo 105-0021 Japan

File Number: E41179

Iupilon: S-2000+(f1), S-2001+(f1), S-2003+(f1)

Polycarbonate (PC), insulating material, pellets, powder, sheets

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

+ - Suffix optional, exceptions: The following cannot be used as optional suffixes: "N" for grade MB2112+, "S1" for grade F20-54, "V" for grades S-2000+(f1), S-2001+(f1), S-2003+(f1), the last letter "L" for grade CFH2520+, "W" for ELV2010 included in Grade ELV20(a5)+, "V" for grade MB2210+, "K1" for grade EKD3206+ included in Grade EKD32(a6)+, "K2" for grade EKD2213+ included in Grade EKD22(a12)+, "DC" and "UDC" for grade MB4303+, "B9" for grades HL-30(#)(#)+(f1), HL-40(#)(#)+(f1), HL-50(#)(#)+(f1), HL-70(#)(#)+(f1), HL-80(#)(#)+(f1), HL-85(#)(#)+(f1), HL-90(#)(#)+(f1).

c UL us — ALSO CERTIFIED TO IEC REQUIREMENTS

Flammability	Value	Test Method
Flame Rating		
3.0 mm, ALL	HB	UL 94
6.0 mm, ALL	HB	UL 94
0.38 mm, ALL	V-2	UL 94 IEC 60695-11-10, -20
1.5 mm, ALL	V-2	UL 94 IEC 60695-11-10, -20
1.8 mm, ALL	V-2	UL 94 IEC 60695-11-10, -20
3.0 mm, ALL	HB40	IEC 60695-11-10, -20
6.0 mm, ALL	HB40	IEC 60695-11-10, -20
Electrical	**Value**	**Test Method**
Hot-wire Ignition (HWI)		UL 746A
1.5 mm	PLC 3	
1.8 mm	PLC 3	
3.0 mm	PLC 3	
6.0 mm	PLC 0	
High Amp Arc Ignition (HAI)		UL 746A
1.5 mm	PLC 0	
1.8 mm	PLC 0	
3.0 mm	PLC 0	
6.0 mm	PLC 0	
Comparative Tracking Index (CTI)	PLC 2	UL 746A
Dielectric Strength	20 kV/mm	ASTM D149
High Voltage Arc Tracking Rate (HVTR)	PLC 0	UL 746A
Volume Resistivity	1.0E+7 ohms·cm	ASTM D257 IEC 60093
Arc Resistance	PLC 5	ASTM D495

Page 1 of 2

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Last Revised: 7/15/2020 4:42:37 AM

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3.5.5 Parts List (5)

Component - Plastics

S-2000+(f1), S-2001+(f1), S-2003+(f1)

Thermal	Value	Test Method
RTI Elec		UL 746B
0.38 mm	80.0 °C	
1.5 mm	125 °C	
1.8 mm	125 °C	
3.0 mm	125 °C	
6.0 mm	125 °C	
RTI Imp		UL 746B
0.38 mm	80.0 °C	
1.5 mm	115 °C	
1.8 mm	115 °C	
3.0 mm	115 °C	
6.0 mm	115 °C	
RTI Str		UL 746B
0.38 mm	80.0 °C	
1.5 mm	125 °C	
1.8 mm	125 °C	
3.0 mm	125 °C	
6.0 mm	125 °C	
Physical	Value	Test Method
Dimensional Change	0.0 %	ASTM D1042 ISO 2796
Outdoor Suitability	f1	UL 746C

Component - Plastics

S-2000+(f1), S-2001+(f1), S-2003+(f1)

Thermal	Value	Test Method
RTI Elec		UL 746B
0.38 mm	80.0 °C	
1.5 mm	125 °C	
1.8 mm	125 °C	
3.0 mm	125 °C	
6.0 mm	125 °C	
RTI Imp		UL 746B
0.38 mm	80.0 °C	
1.5 mm	115 °C	
1.8 mm	115 °C	
3.0 mm	115 °C	
6.0 mm	115 °C	
RTI Str		UL 746B
0.38 mm	80.0 °C	
1.5 mm	125 °C	
1.8 mm	125 °C	
3.0 mm	125 °C	
6.0 mm	125 °C	
Physical	Value	Test Method
Dimensional Change	0.0 %	ASTM D1042 ISO 2796
Outdoor Suitability	f1	UL 746C

4. Hose Down Test (Clause 5.7)

4.1 Test date and environmental conditions

4.1.1 Test date: Sep. 19, 2025~ Sep. 26, 2025

4.1.2 Measured Environmental Conditions

Item	Temperature (℃)	Humidity (% R.H.)	Pressure (kPa)
Measurement	25.1	59.8	103.2

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/min (65 gal). 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/s (1/4 in/s).

4.2.2 Sample Dimension

Ø180 mm by 565.2 mm, Ø100 mm by 314 mm, Ø25*2 mm by 157 mm, Ø 8.5*4 mm by 106.76 mm Test Duration = 190.49 s

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 Test Setup and During test sample images

4.3.1 Evidence of test setting





4.4 Test result

4.4.1 Test result table

Sample No (Model)	Water Flow	Presence of water inside	Result
XNV-A9085R	240 L/min	**No**	Pass

※ Refer to the sample photos after the completion of testing in section 4.5.

4.5 Post-test sample images

4.5.1 Test sample image





- End -