

TEST REPORT



CTK Co., Ltd.

5 Dongbu-ro 221beon-gil, Cheoin-gu, Yongin-si,
Gyeonggi-do, Republic of Korea
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REPORT No.:
CTK-2024-01573
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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 : Apr 29, 2024

2. Manufacturer

- Name : Hanwha Vision Co., Ltd

3. Use of Report :

For customer submission

4. Test sample / Model :

NETWORK CAMERA / PNM-C32083RQZ

5. Date(s) of test :

May 10, 2024 ~ May 21, 2024

6. Test Standard (Method) used :

IEC 60529:1989 +A1:1999+A2:2013

7. Testing Environment :

Temperature: (25 ±10) °C, Humidity: (50 ±25) %R.H.
Pressure: (96 ±10) kPa

8. Test Results :

Clause 4. 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		Technical Manager	
	Name: JIHun Jung	(Signature)	Name: HoHyun Lee	(Signature)

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

Jun 03, 2024

CTK Co., Ltd.



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1. Testing Laboratory

1.1 Testing laboratory information

Lab. Name	CTK Co., Ltd.
Address	5 Dongbu-ro 221beon-gil, Cheoin-gu, Yongin-si, Gyeonggi-do, Republic of Korea
Tel.	+82-31-339-9970
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	

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2. Product description and Equipment information

2.1 Product description

Product Name	Model Name	Quantity	Comment
NETWORK CAMERA	PNM-C32083RQZ	1 EA	-

2.2 Equipment information

Testing equipment	Model Name	Manufacturer	Manufacturing Number	Calibration Date
Stop Watch	NONE	Casio	612Q01R-1	2026-01-23
Push Pull Gage	FB30K	Imada	83805	2025-01-23
Test wire (1.0 mm)	TRP-02	ED&D	S1-J15	-
Dust Chamber	NONE	JFM	S5-IP02	2025-02-23
Hose Nozzle (12.5 mm)	IPX6	Kingpo	S5-IP07	-
Steel measuring meter	10 m	KOMELON	S3-D01	2024-11-11

2.3 Pre-test product images



Top



Bottom



Front



Rear



Left side



Right side

2.4 Testing equipment images



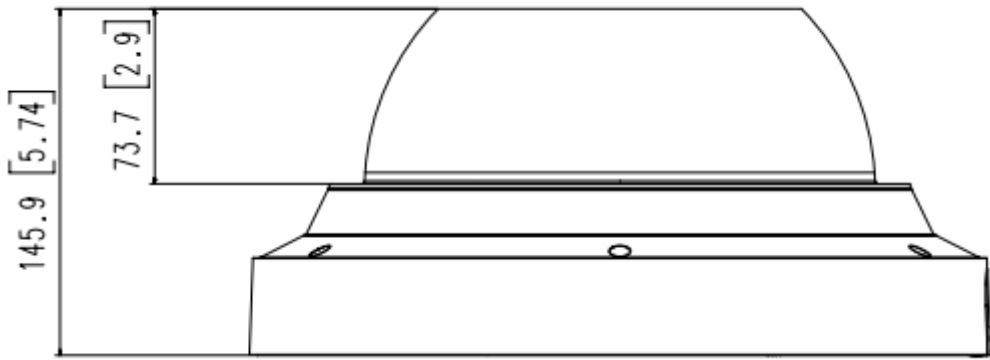
Dust Chamber



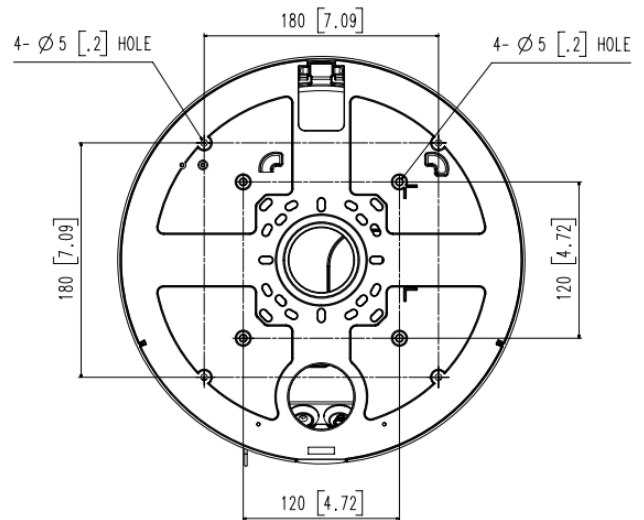
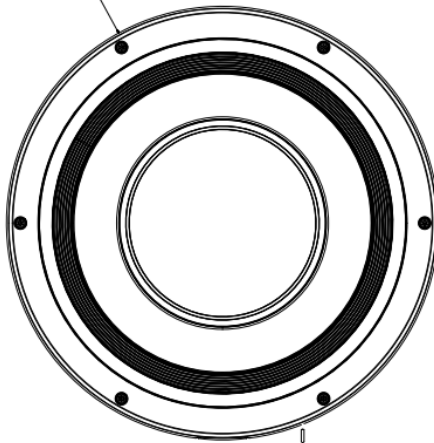
Hose Nozzle (12.5 mm)

2.5 Product Appearance

Enclosure Dimensions [Unit : mm]



Ø 312.7 [12.31]



3. Test conditions and methods

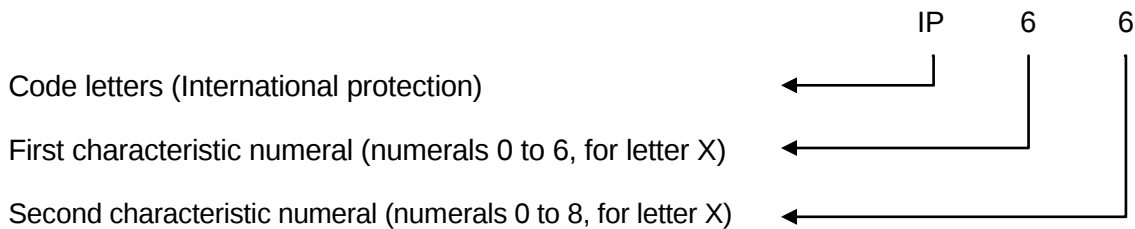
3.1 Test duration

3.1.1 Test Date : May 10, 2024 ~ May 21, 2024

3.2 Test conditions

3.2.1 Test standard: **IEC 60529:1989 +A1:1999+A2:2013**

3.2.2 Arrangement of the IP code



3.2.2.1 Degree of protection against access to hazardous parts indicated by the first characteristic numeral

First characteristic numeral	Degree of protection	Application
6	Protected against access to hazardous parts with a wire. The access probe of 1.0 mmØ, shall not penetrate. Test force: 1 N ± 10 %	☒

NOTE In the case of the first characteristic numerals 3, 4, 5 and 6, protection against access to hazardous parts is satisfied if adequate clearance is kept. The adequate clearance should be specified by the relevant product committee in accordance with 12.3.

Due to the simultaneous requirement specified in table 2, the definition “shall not penetrate” is given in table 1.

3.2.2.2 Degree of protection against solid foreign objects indicated by the first characteristic numeral

First characteristic numeral	Degree of protection	Application
6	In Dust Testing Equipment, the test sample has to have no ingress of dust after testing atmospheric pressure present condition for 8 hr. (Talcum powder have to go through the measured sieve by Φ 50 μm wire that are spacing 75 μm in squared, per volume and union Talcum powder have to be 2 kg/m³) Products in volume: 2 016 cm³ → 2.02 L Target intake volume (Products in volume 80): 161.28 L Suction volume (Max product in volume 60): 120.96 LPH → 2.02 LPM Actual Suction volume: 2.02 L Suction pressure (Up to 2 kPa): 2 kPa Test time (Up to 8 time): 8 hr	☒
¹⁾ The full diameter of the object probe shall not pass through an opening of the enclosure. Due to the simultaneous requirement specified in table 2, the definition “shall not penetrate” is given in table 1.		

3.2.2.3 Degree of protection against water indicated by the second characteristic numeral

Second characteristic numeral	Degrees of protection	Application
6	The product must not be harmed in any direction even strong jet water. Water jet hose nozzle Fig.6, Nozzle 12.5 mm diameter Water flow rate: 100 l/min $\pm$ 5 % : 100 LPM Distance: 2.5 m to 3 m: 2.5 m Duration of test: 1 min/m² at least 3 min: 3 min	☒

3.3 Testing Image

3.3.1 Test Environment Set-up Images



Dust test



Water test

4. Test result

4.1 Test Result Table

IP code	Evaluation Criteria	Test Results	Remark
IP 6X	No penetration of probe.	Normal	-
	No ingress of dust.	Normal	-
IP X6	No ingress of water.	Normal	-

※ Refer to the sample images after the test is completed. (Clause 4.2)

Model description

Basic Model	PNM-C32083RQZ
Series model	PNM-C16083RQZ
Model differences	Use of the same external shape and materials (case, finishing material, PCB, cable, etc.), differences in electronic parts inside the product.

4.2 Post-Test Product Images

4.2.1 Product internal images after test [The First characteristic Numeral Test]



Dust test_1



Dust test_2



Dust test_3



Dust test_4

4.2.2 Product internal images after test [The Second characteristic Numeral Test]



Water test_1



Water test_2



Water test_3



Water test_4

- End -