

TEST REPORT

**CTK Co., Ltd.**

5 Dongbu-ro 221beon-gil, Cheoin-gu, Yongin-si,
Gyeonggi-do, Republic of Korea
Tel: +82-31-339-9970
Fax: +82-31-624-9501

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1. Applicant

- Name : Hanwha Vision Co., Ltd.
- Address : 6 Pangyo-ro 319Beon-gil, Bundang-gu, Seongnam-si,
Gyeonggi-do, 13488 Republic of Korea
- Date of Receipt : Aug. 13, 2025

2. Manufacturer

- Name : Hanwha Vision Co., Ltd.

3. Use of Report :

For submission to customer

4. Test sample / Model :

IP Controller / NHP-P400

5. Date(s) of test :

Aug. 20, 2025 ~ Aug. 21, 2025

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 :

Refer to the test results

9. Location of Test :

☒ Permanent Testing Lab ☐ On Site Testing
(113, Yejik-ro, Cheoin-gu, Yongin-si, Gyeonggi-do, 449-100,
Republic of Korea)

The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This report cannot be reproduced or copied without the written consent of CTK.

Approval	Tested by	Technical Manager
	Name: HyungUk Jeon (Signature) 	Name: HoHyun Lee (Signature) 

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

Aug. 29, 2025

CTK Co., Ltd.



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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.	+82-31-339-9970
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. Product description and equipment information

2.1 Product description

Product Name	Model Name	Quantity	Comment
IP Controller	NHP-P400	—	—

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2.2 Equipment information

Testing equipment	Model Name	Manufacturer	Manufacturing Number	Next Cal. Date
Dust Chamber	NONE	JFM	S5-IP02	Feb. 14, 2026
Water flow meter with Drip box	M-15	LZT	200971	Feb. 19, 2026
Drip box	Drip Box, IPX1/ IPX2	Kingpo	ZH13388-1	
Steel measuring meter	5.5 m	KOMELON	225851	Jan. 16, 2026



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2.3 Pre-test product images

2.3.1 Test sample



Top



Bottom



Front



Rear



Left side



Right side



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2.4 Testing equipment images

2.4.1 Test equipment (1)



Dust Chamber



Water flow meter with Drip box



Drip box



Steel measuring meter



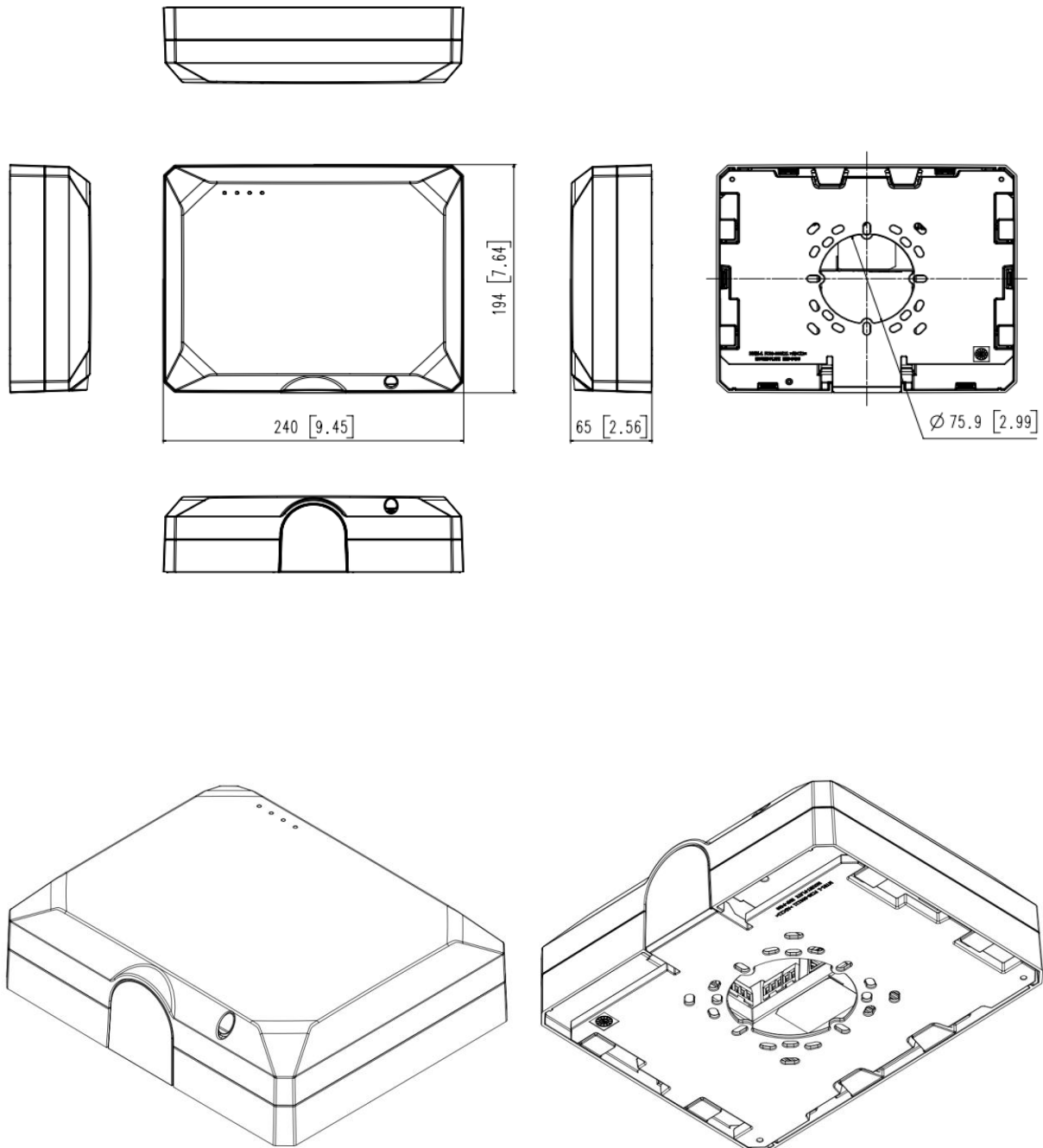
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2.5 Product appearance

Enclosure dimensions [unit : mm]



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3. Degrees of protection provided by enclosures (IP code)

3.1 Test date and environmental conditions

3.1.1 Test date: Aug. 20, 2025 ~ Aug. 21, 2025

3.1.2 Measured Environmental Conditions

Item	Temperature (°C)	Humidity (% R.H.)	Pressure (kPa)
Measurement	27.6	67.4	89.1

3.2 Test conditions and methods

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

3.2.2 Arrangement of the IP code

	IP	5	2
Code letters (International protection)	←		
First characteristic numeral (numerals 0 to 6, for letter X)	←		
Second characteristic numeral (numerals 0 to 8, for letter X)	←		

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

First characteristic numeral	Degree of protection	Application
5	Dust Testing Equipment Whether reductions in pressure below the atmospheric pressure are present or not, ingress of dust is not totally preventive, but dust shall not penetrate in a quantity to interfere with satisfactory operation of the apparatus or to impair safety. (The talcum powder must pass through a calibrated sieve with a 50 µm wire mesh, spaced at 75 µm intervals in a square pattern. Additionally, the bulk density of the talcum powder should be 2 kg/m³)	—
	Category 2: Enclosures where no pressure difference relative to the surrounding air is present.	☒

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

Second characteristic numeral	Degrees of protection	Application
2	When outskirts of the product have been tilted by 15° Water that drops verticality has to be harmless. Drip box Fig.3, Enclosure in 4 fixed positions of 15° tilt Water flow rate: 3 mm/min Duration of test: 2.5 min for each position of tilt	☒

3.3 Testing images

3.3.1 Evidence of test setting (1)



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3.4 Test result

3.4.1 Test result table

IP code	Evaluation Criteria	Test Results	Remark
IP 5X	operation and function	Normal	-
	No ingress of dust	ingress of dust was founded	
IP X2	No ingress of water	Normal	

※ Refer to the product photos after the completion of testing in section 3.5.



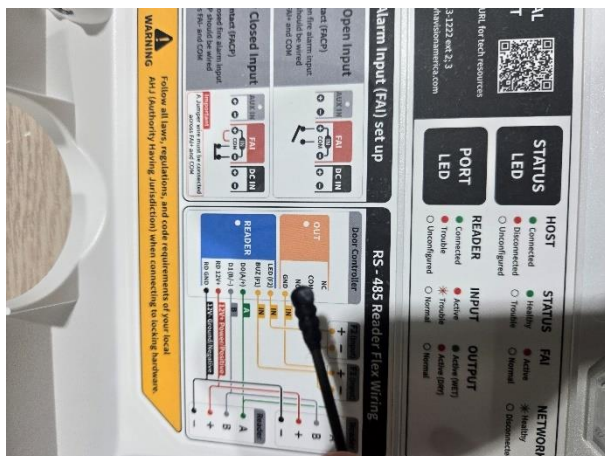
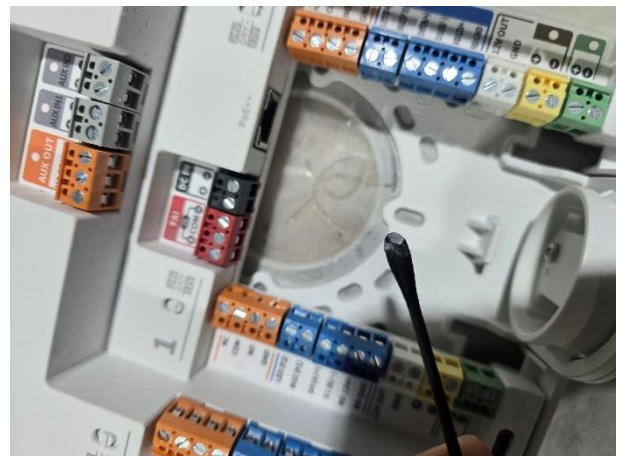
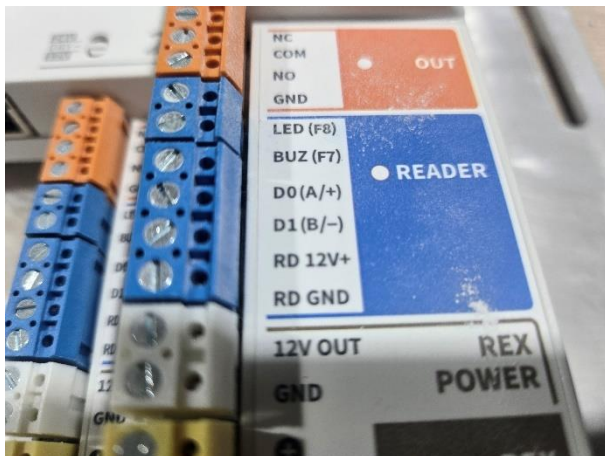
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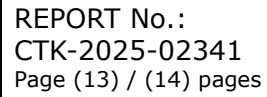
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3.5 Post-test product images

3.5.1 Product internal images after test [The first characteristic numeral test]





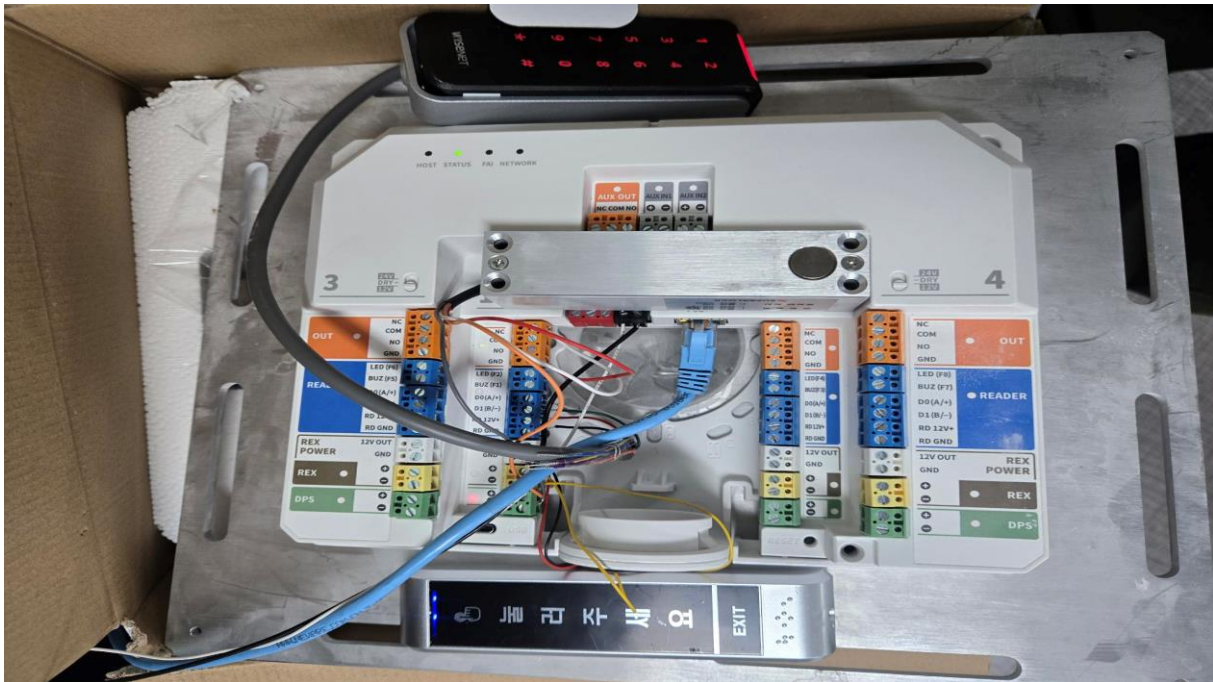
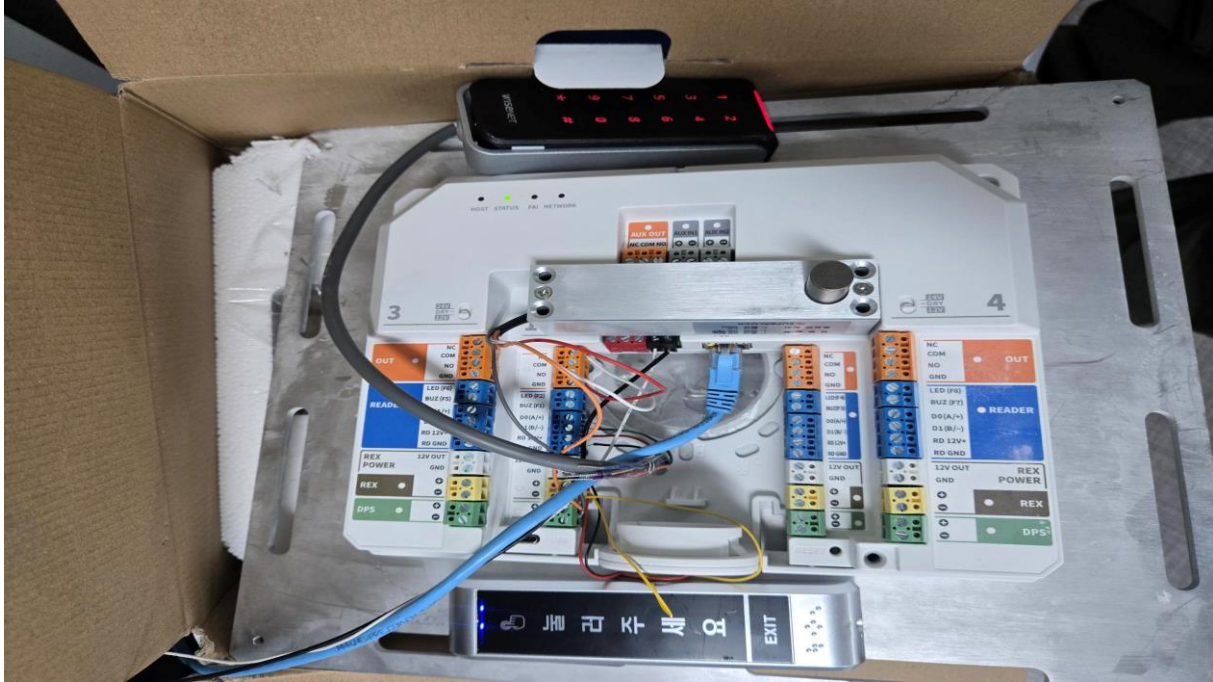


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3.5.3 Post-test operation and function



- End -