

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

REPORT No.:
CTK-2024-02202
Page (1) / (16) pages

1. Applicant

- Name : Hanwha Vision Co., Ltd
- Address : 6 Pangyo-ro 319Beon-gil, Bundang-gu, Seongnam-si,
Gyeonggi-do, 13488 KOREA
- Date of Receipt : NOV 09, 2023

2. Manufacturer

- Name : Hanwha Vision Co., Ltd

3. Use of Report :

For customer submission

4. Test sample / Model :

BARCODE READER / TNS-9050IBC

5. Date(s) of test :

NOV 14, 2023 ~ NOV 16, 2023

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: KyuNam Park (Signature)	Name: HoHyun Lee (Signature)

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

AUG 05, 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
BARCODE READER	TNS-9050IBC	1 EA	-

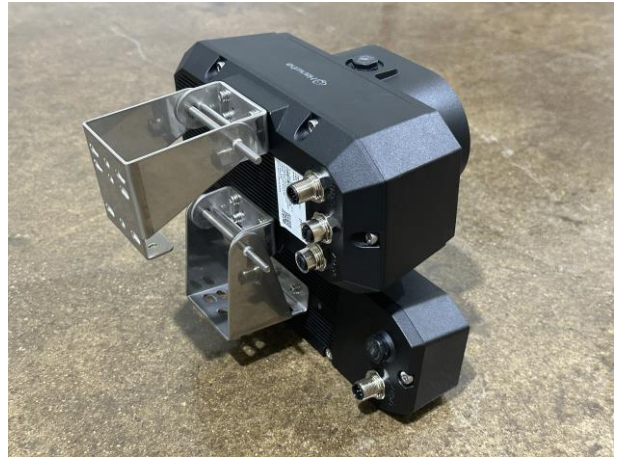
2.2 Equipment information

Testing equipment	Model Name	Manufacturer	Manufacturing Number	Calibration Date
Stop Watch	NONE	Casio	612Q01R-1	2024-02-21
Aneroid Barometer	BAROMEX	SATO	84682	2024-02-02
Thermo/Humidity meter	Smart600	ZOGLAB	SMART1706010741A	2024-04-03
Push Pull Gage	FB30K	Imada	83805	2024-02-03
Test wire (1.0 mm)	TRP-02	ED&D	S1-J15	-
Dust Chamber	NONE	JFM	S3-IP36	2024-03-27
Immersion tank	Cage for IPX7 / IPX8	Kingpo	-	-
Steel measuring meter	10 m	KOMELON	S3-D01	2024-11-11

2.3 Pre-test product images



Top



Bottom

2.4 Model description

Basic Model	TNS-9050IBC
Series model	TNS-9040IBC, TNS-9060IBC
Model differences	Use of the same external shape and materials (case, finishing material, PCB, cable, etc.), differences in Lens inside the product.

2.5 Testing equipment images



Dust Chamber



Push Pull Gage



Test wire (1.0 mm)



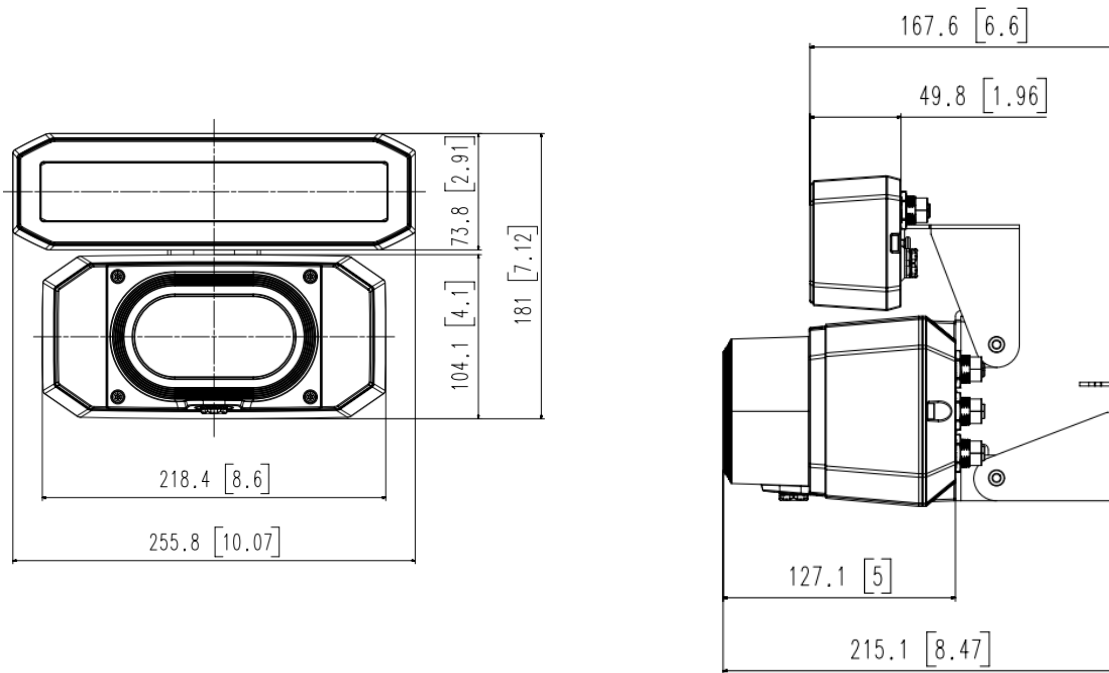
Immersion tank



Steel measuring meter

2.6 Product Appearance

Enclosure Dimensions [Unit : mm]



3. Test conditions and methods

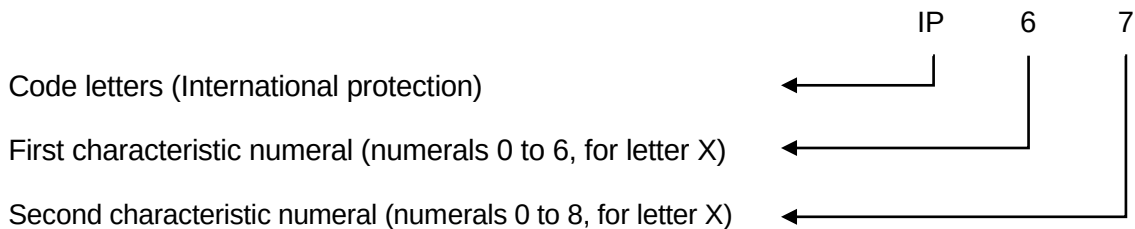
3.1 Test duration

3.1.1 Test Date : NOV 14, 2023 ~ NOV 16, 2023

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 um wire that are spacing 75 um in squared, per volume and union Talcum powder have to be 2 kg/m³) Products in volume: 9 959.09 cm³ → 9.96 L Target intake volume (Products in volume 80): 796.73 L Suction volume (Max product in volume 60): 597.55 LPH → 9.96 LPM Actual Suction volume: 9.96 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
7	Sink the product in the water by the Pressure and Time according to regulation and the product must not be harmed. Immersion tank water-level on enclosure with: ☐ height equal to or greater than 850 mm: the highest point of enclosures located 0.15 m below the surface of the water ☒ height less than 850 mm: the lowest point of enclosures located 1 m below the surface of the water Duration of test: 30 min	☒

3.3 Testing Image

3.3.1 Test Environment Set-up Images



Dust test #1



Dust test #2



Water test

4. Test result

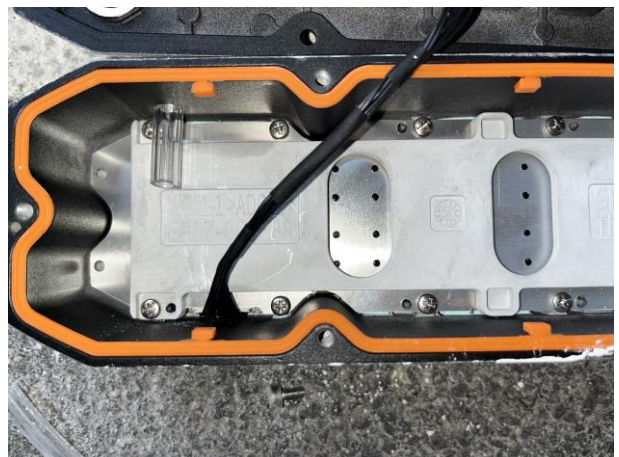
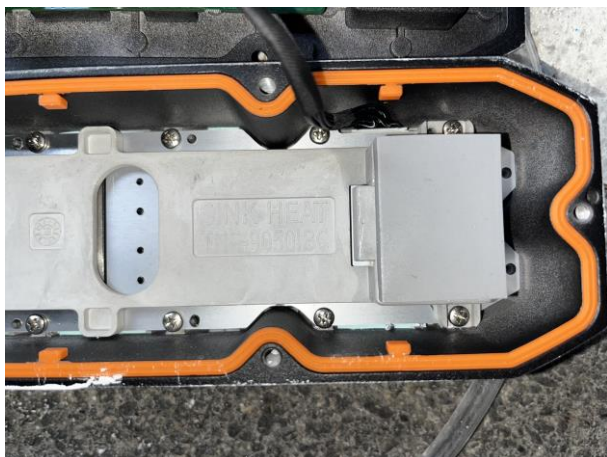
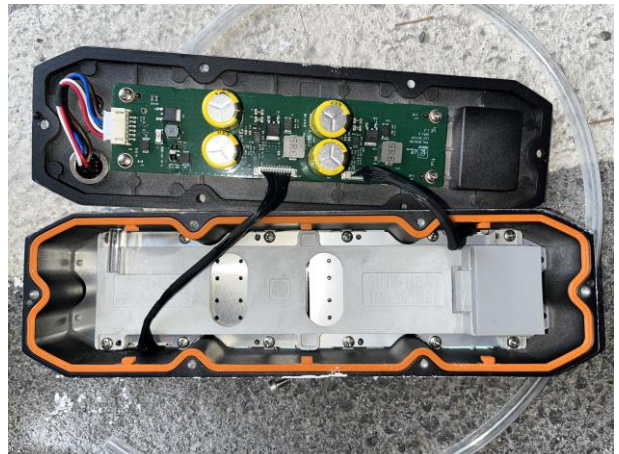
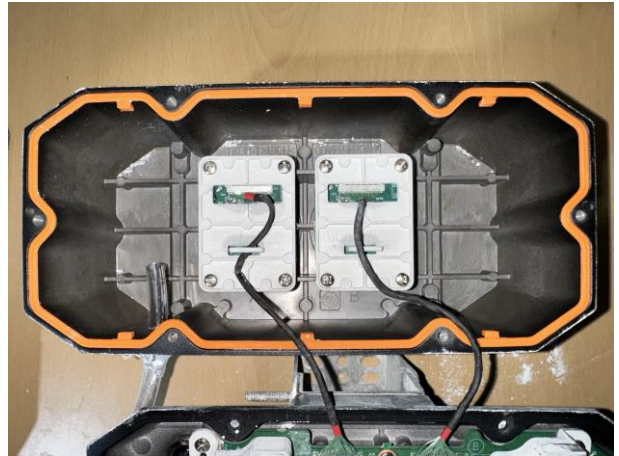
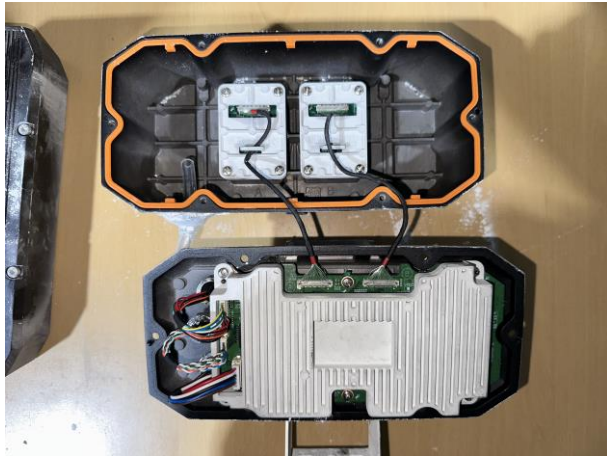
4.1 Test Result Table

IP code	Evaluation Criteria	Test Results	Remark
IP 6X	No penetration of probe.	Normal	-
	No ingress of dust.	Normal	-
IP X7	No ingress of water.	Normal	-

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

4.2 Post-Test Product Images

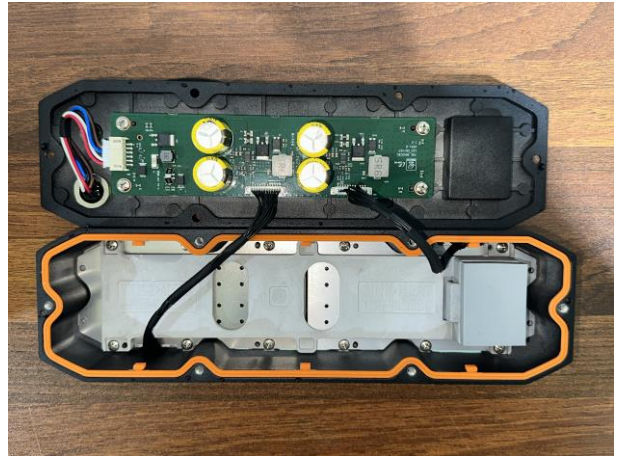
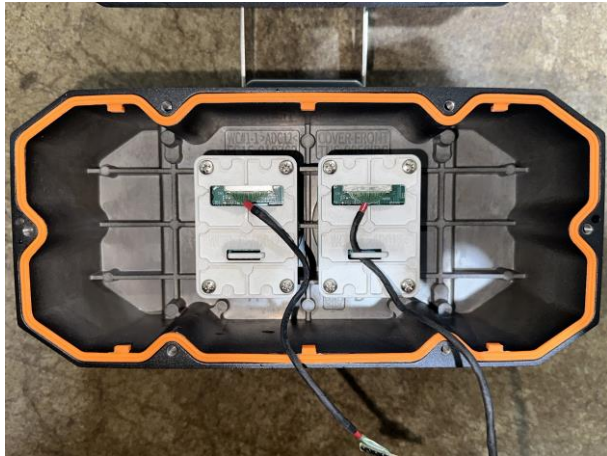
4.2.1 Product internal images after test [The First characteristic Numeral Test]



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



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



- End -