

# TEST REPORT

Report No.: HC90057A/2013

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Date: October 1, 2013

DYNACOLOR INC.  
NO. 116, JOU TZ STREET, NEIHU,  
TAIPEI, TAIWAN

The following merchandise was submitted and identified by the vendor as:

Product Description: Compact Bullet IP Camera  
Style/ Item No.: 9B0B/ No.1  
Quantity: Total 1 piece  
Testing Period: Sep. 13, 2013 to Sep. 17, 2013

We have tested the submitted sample(s) as requested and the following results were obtained:

Test Required: Test for Degrees of Protection Provided by Enclosures (IEC 60529 Edition 2.1: 2001)

IP Code	IP66
<b>First characteristic numeral</b>	Degrees of protection against access to hazardous parts and against solid foreign objects
<b>Second characteristic numeral</b>	Degrees of protection against ingress of water

Test Results:

Conclusion
Submittals sample(s) comply with the requirement and acceptance conditions of IEC 60529 Edition 2.1: 2001 Degrees of Protection Provided by Enclosures -- IP66 The detailed description of test result, please see attached sheet(s).

\* HC90057/2013, dated on September 18, 2013, is hereby canceled and replaced by HC90057A/2013.

Signed for and on behalf of  
SGS TAIWAN Ltd.



Winson Tseng  
Asst. Manager

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Test for Degrees of Protection Provided by Enclosures:

Test Equipment:

Name	Brand	Model	Serial No.
Dust-proof Object Test Probe	ED&D	TRP-02	B0050180
Digital Force Gauge	ALGOL	HF-50	HF-106764
Dust Tester	T-MACHINE	TMJ-9723C	T-23-050411
IPX6 Water Jet Hose Nozzle Set	PTL	P03.28	5040045

Lab Environmental Conditions:

Ambient temperature:  $(25 \pm 3) ^\circ\text{C}$

Ambient humidity:  $(55 \pm 20) \% \text{RH}$

Test Method/ Specification:

Test method: IEC 60529 Edition 2.1: 2001--IP66

**1. Test for protection against access to hazardous parts:**

Test method: The test wire with 1.0 mm in diameter and 100 mm long is pushed against or inserted through any openings of the enclosure with designated force. Examine whether the test wire touches the hazardous live parts inside the enclosure or not.

Test force: 1 N $\pm$ 10 %

**2. Test for protection against solid foreign objects:**

Test method: Dust test

Specimen Condition: Non-Operating

Type of dust: Talcum powder

The amount of dust: 2 kg

The chamber size: 1 m<sup>3</sup>

The maximum depression: -20 mbar

Test duration: 8 hours

- Examine the protection against ingress of dust of specimen(s) after this test.

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Test Method/ Specification--Continued:

**3. Test for protection against water:**

Test means:	<u>Spraying the enclosure from all practicable directions with a stream of water from a standard test nozzle as specified in test standard.</u>
Specimen Condition:	<u>Non-Operating</u>
Internal diameter of the nozzle:	<u>12.5 mm</u>
Delivery rate:	<u>100 l/minute ±5%</u>
Distance from nozzle to enclosure surface:	<u>between 2.5 m and 3 m</u>
Core of the substantial stream:	<u>circle of approximately 120 mm diameter at 2.5 m distance from nozzle</u>
Test duration:	<u>Total 3 minutes</u>

- Examine the protection against ingress of water of specimen(s) after this test.

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**Specimen:**

Style/ Item No.: 9B0B/ No.1  
 Quantity: Total 1 piece

**Test Result:**

A. Degrees of protection against access to hazardous parts and against solid foreign objects (IP6X)  
 A-1 Test for protection against access to hazardous parts (IP6X)

Test Result		
Check Item		
Style/ Item No.		
9B0B/ No.1		
1	Does the test wire penetrate any openings of the enclosure?	No
2	(followed check item 1) If the test wire penetrates any openings of the enclosure, does the test wire touch any hazardous live parts or any hazardous mechanical parts?	N/A
3	(followed check item 2) Does adequate clearance be kept between the test wire and hazardous live parts or hazardous mechanical parts?	N/A

Note 1: N/A means "Not Applicable".  
 Note 2: The check items in this test report for inspecting the degree of protection provided by enclosures are reference to the requirements specified in IEC 60529 Edition 2.1: 2001 and in accordance with the acceptance conditions specified by client.

A-2 Test for protection against solid foreign objects (IP6X)

Test Result		
Check Item		
Style/ Item No.		
9B0B/ No.1		
1	Does any dust deposit inside the enclosure at the end of the test?	No

Note 1: N/A means "Not Applicable".  
 Note 2: The check items in this test report for inspecting the degree of protection provided by enclosures are reference to the requirements specified in IEC 60529 Edition 2.1: 2001 and in accordance with the acceptance conditions specified by client.

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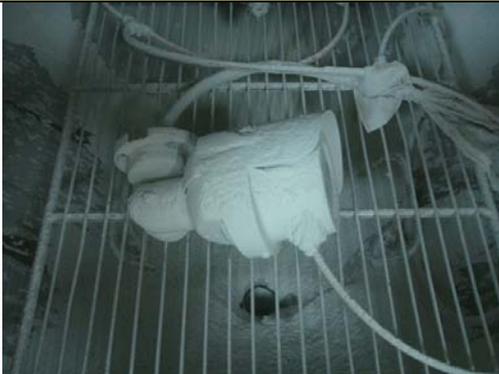
Test Result--Continued:

B. Degree of protection against ingress of water (IPX6)

Check Item		Test Result
		Style/ Item No.
		9B0B/ No.1
1	Does any water permeate into the specimen?	No
2	(followed check item 1) If any water has entered, does the water accumulate near the cable end or live parts?	N/A
2.1	(followed check item 2) Does the water be sufficient to interfere with the correct operation of the equipment or impair safety?	N/A
2.2	(followed check item 2.1) Does the water deposit on insulation parts where it could lead to tracking along the creepage distances?	N/A
2.3	(followed check item 2.2) Does the water reach live parts or windings not designed to operate when wet?	N/A
Note 1: N/A means "Not Applicable".		
Note 2: The check items in this test report for inspecting the degree of protection provided by enclosures are reference to the requirements specified in IEC 60529 Edition 2.1: 2001 and in accordance with the acceptance conditions specified by client.		

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Test Photos:

	
<p>1. Appearance of specimen</p>	<p>2. Appearance of specimen</p>
	
<p>3. Test for protection against solid foreign objects (Dust test)</p>	<p>4. Test for protection against water</p>

— — — The End of Test Report — — —

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