

# Test Report



Korea Marine Equipment  
Research Institute

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Report No. :

KOMERI-0307-18T1580

<http://www.komeri.re.kr>



## 1. Applicant

- Company Name : SEGIBIZ CO., LTD
- Address : (46989) 32, Saebyeoksijang-ro, Sasang-Gu, Busan, Korea
- Date of Receipt : 2018. 04. 24

## 2. Equipment under Test

- Name of Product : Plastic Terminal Box
- Model : SG-TB-15PT
- Serial No. : -

3. Test Standards : IEC 60529:1989+AMD1:1999+AMD2:2013 Degree of protection provided by enclosure (IP CODE)

4. Use of Report : Quality verification

5. Test Period : 2018. 05. 02 ~ 2018. 05. 03

6. Environment : Refer to detailed Test Environments

7. Test Result : Conformity(IP65)

The result shown in this test report refer only to the sample(s) tested unless otherwise stated.

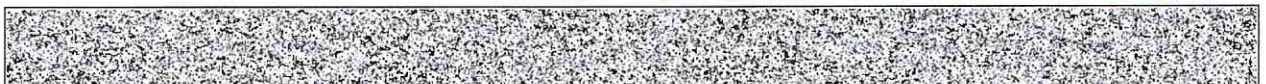
Affirmation	Tested by	Technical Manager
	Name : Sang-Jin LEE	Name : Bong-Yeol CHOI

This test certificate is the accredited test results by Korea Laboratory Accreditation Scheme, which signed the ILAC-MRA.

Date of issue : 2018. 05. 11

Accredited by KOLAS, Republic of KOREA

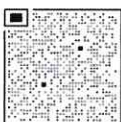
The President of Korea Marine Equipment Research Institute





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## GENERAL

### ■ MANUFACTURER

Company Name : SEGIBIZ CO., LTD

Address : (46989) 32, Saebyeoksijang-ro, Sasang-Gu, Busan, Korea

### ■ TEST SITE

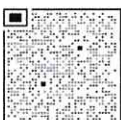
· 24-20, Noksansandan 335-ro, Gangseo-gu, Busan, Korea

### ■ TEST SUMMARY

No.	Test Item	Test Standard	Result
1	IP6X	IEC 60529:1989+AMD1:1999+AMD2:2013 Degree of protection provided by enclosure (IP CODE)	Conformity
2	IPX5		Conformity

### ■ ADDITIONAL TEST INFORMATION

· The result shown in this test report is only accepted to EUT applied with rated voltage not exceeding 72.5 kV.







## 1. IP6X TEST

### 1.1 TEST ENVIRONMENT

- Temperature (Start 19 °C / End 19 °C)
- Humidity (Start 44 % R.H. / End 45 % R.H.)

### 1.2 TEST STANDARD

- IEC 60529:1989+AMD1:1999+AMD2:2013 Degree of protection provided by enclosure (IP CODE)

### 1.3 TEST EQUIPMENT

	Description	Model Number	Serial No.	Calibration Due	Used
◆	IP1X test probe	P10,24	5070330	2018. 08. 10	<input type="checkbox"/>
◆	IP2X test probe	P10,10	5140191	2018. 09. 03	<input type="checkbox"/>
◆	IP2X test finger	P10,14	5070292	2018. 09. 03	<input type="checkbox"/>
◆	IP3X test probe	P10,26	5070294	2018. 08. 10	<input type="checkbox"/>
◆	IP4X test probe	P10,27	5070331	2018. 08. 10	<input checked="" type="checkbox"/>
◆	Small dust tester (pressure gauge)	ZSE40	P10111901	2018. 08. 10	<input type="checkbox"/>
◆	Large dust tester (port #1)	LEO2	56990	2018. 08. 10	<input type="checkbox"/>
◆	Large dust tester (port #2)	LEO2	56989	2018. 08. 10	<input checked="" type="checkbox"/>
◆	Large dust tester (port #3)	LEO2	60150	2018. 08. 10	<input type="checkbox"/>
◆	Large dust tester (port #4)	LEO2	60146	2018. 08. 10	<input type="checkbox"/>
◆	Large dust tester (Category 2)	-	-	-	<input type="checkbox"/>





## 1.4 TEST SET-UP

- The test samples shall be in place and mounted in the manner stated by the manufacturer.

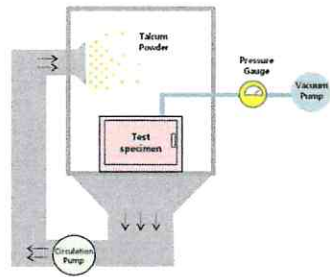


Figure 1-1 IP6X test diagram



Photo 1-1 IP6X test set-up

## 1.5 TEST PROCEDURE

- IP6X indicates the degree of protection provided by enclosures against access to hazardous parts and solid foreign objects.

### 1.5.1 Protection against access to hazardous parts

- Object probes shall not penetrate the enclosure at all.
- The conditions to be observed are as follows :
  - diameter of the object probe : 1.0 mm
  - test force :  $(1 \pm 0.1)$  N

### 1.5.2 Protection against solid foreign objects

- The test is made using a dust chamber incorporating the basic principles.
- The talcum powder used shall be able to pass through a square-meshed sieve the nominal wire diameter of which is 50  $\mu$ m and the nominal width of a gap between wires 75  $\mu$ m.
- The protection is satisfactory if no deposit of dust is observable inside the enclosure at the end of the test.





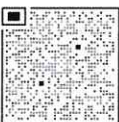


## 1.6 TEST RESULT

- Test dust and probe did not penetrate into the enclosure through any opening.



Photo 1-2 IP6X test result





## 2. IPX5 TEST

### 2.1 TEST ENVIRONMENT

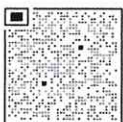
- Temperature (Start 20 °C / End 20 °C)
- Humidity (Start 45 % R.H. / End 45 % R.H.)

### 2.2 TEST STANDARD

- IEC 60529:1989+AMD1:1999+AMD2:2013 Degree of protection provided by enclosure (IP CODE)

### 2.3 TEST EQUIPMENT

	Description	Model Number	Serial No.	Calibration Due	Used
◆	IPX3/X4 test nozzle	P05,24	5021169	2018. 09. 11	<input type="checkbox"/>
◆	IPX5 test nozzle	P03,26	5070295	2018. 08. 28	<input checked="" type="checkbox"/>
◆	IPX6 test nozzle	P03,28	5070296	2018. 08. 28	<input type="checkbox"/>
◆	IPX7/X8 water tank	-	-	-	<input type="checkbox"/>
◆	1 500 mm sus scale	1 500 mm C type	LS15100801	2018. 08. 18	<input type="checkbox"/>
◆	Small water pressure test chamber	-	-	-	<input type="checkbox"/>
◆	Large water pressure test chamber	-	-	-	<input type="checkbox"/>
◆	1 MPa pressure transducer	PA-23S	80,550	2018. 08. 10	<input type="checkbox"/>
◆	10 MPa pressure transducer	PSC	PSCJ0100BCIG	2018. 08. 10	<input type="checkbox"/>
◆	Stopwatch	HS-80TW	903Q07R-1	2018. 08. 18	<input checked="" type="checkbox"/>
◆	Electrical safety analyzer	SE7440	1710595	2018. 12. 06	<input type="checkbox"/>
◆	24 Ch portable paperless recorder	MV1024	S5M107257	2018. 08. 06	<input type="checkbox"/>







## 2.4 TEST SET-UP

- The test samples shall be in place and mounted in the manner stated by the manufacturer.

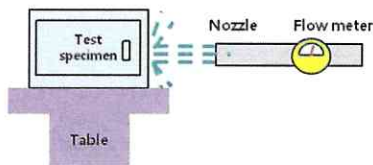


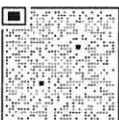
Figure 2-1 IPX5 test diagram



Photo 2-1 IPX5 test set-up

## 2.5 TEST PROCEDURE

- IPX5 indicates the degree of protection provided by enclosures with respect to harmful effects on the equipment due to the ingress of water.
- The test is made by spraying the enclosure from all practicable directions with a stream of water from a standard test nozzle.
- Test duration per square meter of enclosure surface area likely to be sprayed 1 min and minimum test duration is 3 min.
- The conditions to be observed are as follows :
  - Internal diameter of the nozzle : 6.3 mm
  - Delivery rate :  $(12.5 \pm 0.625)$  L/min
  - Distance from nozzle to enclosure surface : 2.5 m ~ 3.0 m
  - Test duration : 3 min
- After testing in accordance with test procedure, the enclosure shall be inspected for ingress of water. In general, if any water has entered, it shall not :
  - be sufficient to interfere with the correct operation of the equipment or impair safety.
  - deposit on insulation parts where it could lead to tracking along the creepage distances,
  - reach live parts or windings not designed to operate when wet.
  - accumulate near the cable end or enter the cable if any.
  - If the enclosure is provided with drain-holes, it should be proved by inspection that any water which enters does not accumulate and that it drains away without doing any harm to the equipment.
  - For enclosures without drain-holes, the relevant product standard shall specify the acceptance conditions if water can accumulate to reach live parts.







## 2.6 TEST RESULT

- Water did not penetrate into the enclosure.

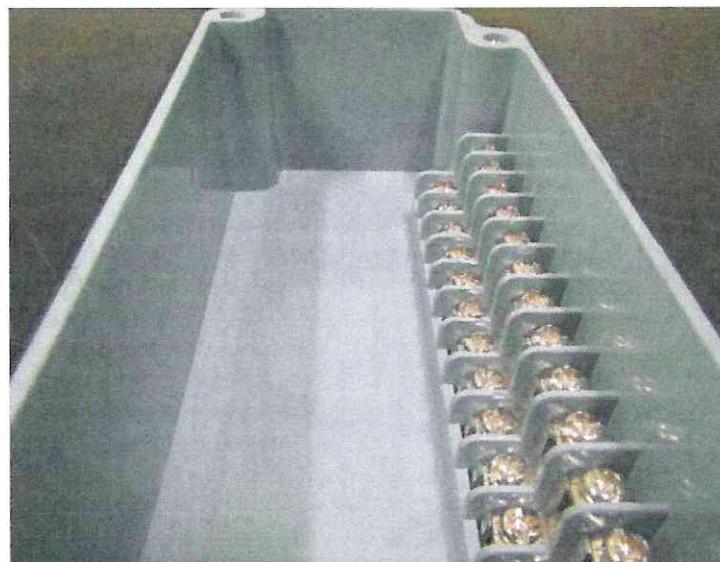


Photo 2-2 IPX5 test result

- The End -





## ATTACHMENT

### I. DRAWING

