



IP68 NETWORK PLASTIC BOX - WP series
IP68 TEST CERTIFICATE

Test certification: Remark

1. This certificate is the IP68 test certificate for model WP10-10-4G, WP15-21-6G, and WP20-20-7G.

WP series is constructed and secured through screws, of which there are 3 variations: 4, 6, and 8 screw models.

Since the larger size boxes (WP10-10-4G, WP15-21-6G, and WP20-20-7G) of each screw variation have passed the IP68 test, we consider that the test results shall apply to all other IP68 models (as shown below) in the WP series.

*This shall be applicable to both the "G" and "C" color type.

•4 screw Models

WP5-7-2G, C	WP5-7-3G, C	WP6-8-2G, C	WP6-8-3G, C
WP8-8-2G, C	WP8-8-4G, C	WP8-10-2G, C	WP8-10-4G, C
WP10-10-3G, C	WP10-10-4G, C	WP15-15-4G, C	WP15-15-6G, C

•6 screw Models

WP9-13-3G, C	WP9-13-4G, C	WP11-15-3G, C	WP11-15-4G, C
WP13-18-3G, C	WP13-18-5G, C	WP15-21-4G, C	WP15-21-6G, C

•8 screw Models

WP20-20-5G, C	WP20-20-7G, C
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2. The waterproof performance will be lost by drilling/milling holes or cutouts for buttons or switches on the enclosures.

Please note that this certificate is only applicable to standard enclosures as-is without any customization, and does not apply to enclosures which have been drilled/milled, or from the installation of connectors/switches and other components.

3. This certificate should be shown, used, or reference to, in its entirety, and is not to be done so in a partial format.

(Unauthorized uploading or partial reproduction, such as on a website, or in other mediums such as print, is strictly prohibited.)

March 31, 2023

TAKACHI ELECTRONICS ENCLOSURE CO., LTD.

R&D department

E-mail : sales@takachi-el.co.jp

TEST CERTIFICATE

We, hereby, verify that the under mentioned electrical product submitted to test at our laboratory dated January 27,2023 (Reception No. D22Y0479) is in compliance with the requirement of the test standard to be applied, as shown in the attached TEST REPORT (Ref. No. 22TR-Y1115)

Applicant (name & address): TAKACHI ELECTRONICS ENCLOSURE CO., LTD.

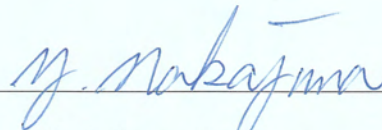
3-21-16, HIGASHI-RYOKE, KAWAGUCHI-SHI, SAITAMA,
JAPAN(332-0003)

Name of product: IP68 NETWORK PLASTIC BOX

Model/Type Ref.: WP10-10-4G

Rating and principal characteristics: -

Date of issue: March 2,2023



Yoshikatsu Nakajima
Director, Yokohama Laboratories
Japan Electrical Safety &
Environment
Technology Laboratories (JET)

TEST REPORT

Report reference No. 22TR-Y1115

Date & No. of reception January 27, 2023 (D22Y0479)

Applicant (Name&address)

TAKACHI ELECTRONICS ENCLOSURE CO., LTD.

3-21-16, HIGASHI-RYOKE, KAWAGUCHI-SHI, SAITAMA,
JAPAN (332-0003)

Name of product IP68 NETWORK PLASTIC BOX

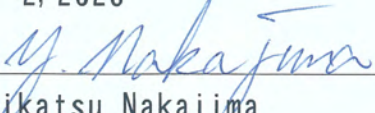
Model/type Ref. WP10-10-4G

Rating and principal characteristics
-

Test Standard JISC0920:2003 (IEC60529:2001)
Degrees of protection provided by enclosures
(IP code)
Test for first characteristic numeral 6,
Test for second characteristic numeral 8

Test Result Pass

Date of issue March 2, 2023


Yoshikatsu Nakajima
Director, Yokohama Laboratory
Japan Electrical Safety & Environment
Technology Laboratories (JET)

Testing laboratory

Japan Electrical Safety & Environment Technology Laboratories

- ☐ JET Tokyo Laboratory
5-14-12 Yoyogi, Shibuya-ku, Tokyo, 151-8545, Japan
- ☒ JET Yokohama Laboratory
1-12-30 Motomiya, Tsurumi-ku, Yokohama, Kanagawa, 230-0004, Japan
- ☐ JET Kansai Laboratory
4-1 Koyo-cho Nishi, Higashinada-ku, Kobe, Hyogo, 658-0033, Japan
- ☐ JET Power Technology Testing Laboratory
1-12-28 Motomiya, Tsurumi-ku, Yokohama, Kanagawa, 230-0004, Japan
- ☐ Other Location ()
Address :

Date of Sample received January 27, 2023

Date of test February 3, 2023 until February 27, 2023

Tested by (+ signature) Kazuya Nemoto
Kazuya Nemoto

Approved by (+ signature) Makoto Kanazawa
Makoto Kanazawa

Test case verdicts

N (A.) : Test case does not apply to the test object.

P (ass) : Test item does meet the requirement.

F (ail) : Test item does not meet the requirement.

— Test item not applied. (according to request from the applicant)

General remarks

- The test results presented in this report relate only to the object tested.
- This report shall not be reproduced except in full without the written approval of JET.

IEC 60529 (2001) / JIS C0920 (2003)			
Clause	Requirement – Test	Result - Remark	Verdict
11	General requirements for the tests		<i>P</i>
11.1	Atmospheric conditions for water or dust tests :		<i>P</i>
	Temperature range: 15~35 °C	<i>For water test</i> <i>When the test started</i> 22 °C <i>When the test finished</i> 23 °C <i>For dust test</i> 22 °C	<i>P</i>
	Relative humidity: 25~75 %	<i>For water test</i> <i>When the test started</i> 29 % <i>When the test finished</i> 39 % <i>For dust test</i> 36 %	<i>P</i>
	Air pressure: 86~106 kPa	<i>For water test</i> <i>When the test started</i> 100.6 kPa <i>When the test finished</i> 101.8 kPa <i>For dust test</i> 101.5 kPa	<i>P</i>
11.2	Test samples for each test		<i>P</i>
	- in a clean and new condition	<i>New condition</i>	<i>P</i>
	- the complete equipment	<i>Complete equipment</i>	<i>P</i>
	- representative parts		<i>N</i>
	- smaller equipment having the same full-scale design		<i>N</i>
	Number of samples to be tested	2 sets <i>Sample for dust test</i> 1 set <i>Sample for water test</i> 1 set	<i>P</i>
	Conditions for mounting, assembling and positioning of samples		<i>N</i>
	Pre-conditioning	<i>The sample for dust test was set with pipes for depression</i>	<i>P</i>
	Whether to be tested energized or not	<i>Not energized</i>	<i>P</i>
	Whether to be tested with its parts in motion or not	<i>Not in motion</i>	<i>P</i>
11.3	Application of test requirements and interpretation of test results	<i>The equipment didn't contain drain-hole and ventilation opening</i>	<i>P</i>
	Standard applied for the general requirements for tests and the acceptance conditions for equipment containing drain-holes or ventilation openings		<i>N</i>
	Standard applied for the interpretation of test results	<i>This standard</i>	<i>P</i>
11.4	Combination of test conditions for the first characteristic numeral: Table V applied	<i>First characteristic numeral 6</i>	<i>P</i>
11.5	Empty enclosures		<i>P</i>
	Whether the enclosure to be tested is with or without equipment inside	<i>Without equipment inside</i> <i>The part which might be affected by the penetration of foreign objects or water, according to the applicant's instruction:</i> <i>All part inside the sample</i>	<i>P</i>
12	Tests for protection against access to hazardous parts indicated by the first characteristic numeral		<i>N</i>

IEC 60529 (2001) / JIS C0920 (2003)			
Clause	Requirement – Test	Result - Remark	Verdict
13	Tests for protection against solid foreign objects indicated by the first characteristic numeral		<i>P</i>
13.1	Test means		<i>P</i>
	The test means and the main test conditions applied as in Table VII	<i>Dust chamber Under pressure</i>	<i>P</i>
13.2	Test conditions for first characteristic numerals 1, 2, 3, 4		<i>N</i>
13.3	Acceptance conditions for first characteristic numerals 1, 2, 3, 4		<i>N</i>
13.4	Dust test for characteristic numerals 5 and 6	<i>First characteristic numeral 6</i>	<i>P</i>
	Use of dust chamber in Fig. 2	<i>Fig.2(Dust chamber)</i>	<i>P</i>
13.4A	Category 1 enclosures	<i>Category 1</i>	<i>P</i>
	- 2 hours (extraction rate: 40~60 volumes per hour)		<i>N</i>
	- until 80 volumes have been through or continued for a period of 8 hours	<i>8 hours (Extraction rate was less than 40 volumes per hour with maximum depression of 2kPa)</i>	<i>P</i>
13.4B	Category 2 enclosures		<i>N</i>
13.4C	Category 1 enclosures and Category 2 enclosures	<i>The enclosure was complete</i>	<i>P</i>
	If it is impracticable to test the complete enclosure in the test chamber, one of the following procedure shall be applied:		<i>N</i>
13.5	Special conditions for first characteristic numeral 5		<i>N</i>
13.6	Special conditions for first characteristic numeral 6		<i>P</i>
13.6.1	Test conditions		<i>P</i>
	Category 1 applied	<i>(Refer to sub-clause 13.4A)</i>	<i>P</i>
13.6.2	Acceptance conditions		<i>P</i>
	No deposit of dust is observable inside the enclosure at the end of the test	<i>No talcum powder entered into the sample</i>	<i>P</i>

14	Tests for protection against water indicated by the second characteristic numeral		<i>P</i>
14.1	Test means		<i>P</i>
	The test means and the main test conditions applied as in Table VIII	<i>Second characteristic numeral: 8 Immersion tank</i>	<i>P</i>
14.2	Test conditions		<i>P</i>
	Tests performed according to sub-cl. 14.2, the test method and main test which was given in Table VIII	<i>Test conditions are given in Table VIII (Refer to sub-cl 14.2.8)</i>	<i>P</i>
	Difference between water temperature and temperature of the specimen (the maximum 5 K)	<i>When the test started Difference: 0 K Water temperature: 22 °C Sample temperature: 22 °C When the test finished Difference: 0 K Water temperature: 21 °C Sample temperature: 21 °C</i>	<i>P</i>
	Calculation of the enclosure surface area	<i>Not more than 1.0 m²</i>	<i>P</i>
14.2.1	Test for second characteristic numeral 1 with the drip box		<i>N</i>
14.2.2	Test for second characteristic numeral 2 with the drip box		<i>N</i>
14.2.3	Test for second characteristic numeral 3 with oscillating tube or spray nozzle		<i>N</i>
14.2.4	Test for second characteristic numeral 4 with oscillating tube or spray nozzle		<i>N</i>
14.2.5	Test for second characteristic numeral 5 with 6.3 mm nozzle		<i>N</i>
14.2.6	Test for second characteristic numeral 6 with 12.5 mm nozzle		<i>N</i>
14.2.7	Test for second characteristic numeral 7: temporary immersion between 0.15 m and 1 m		<i>N</i>

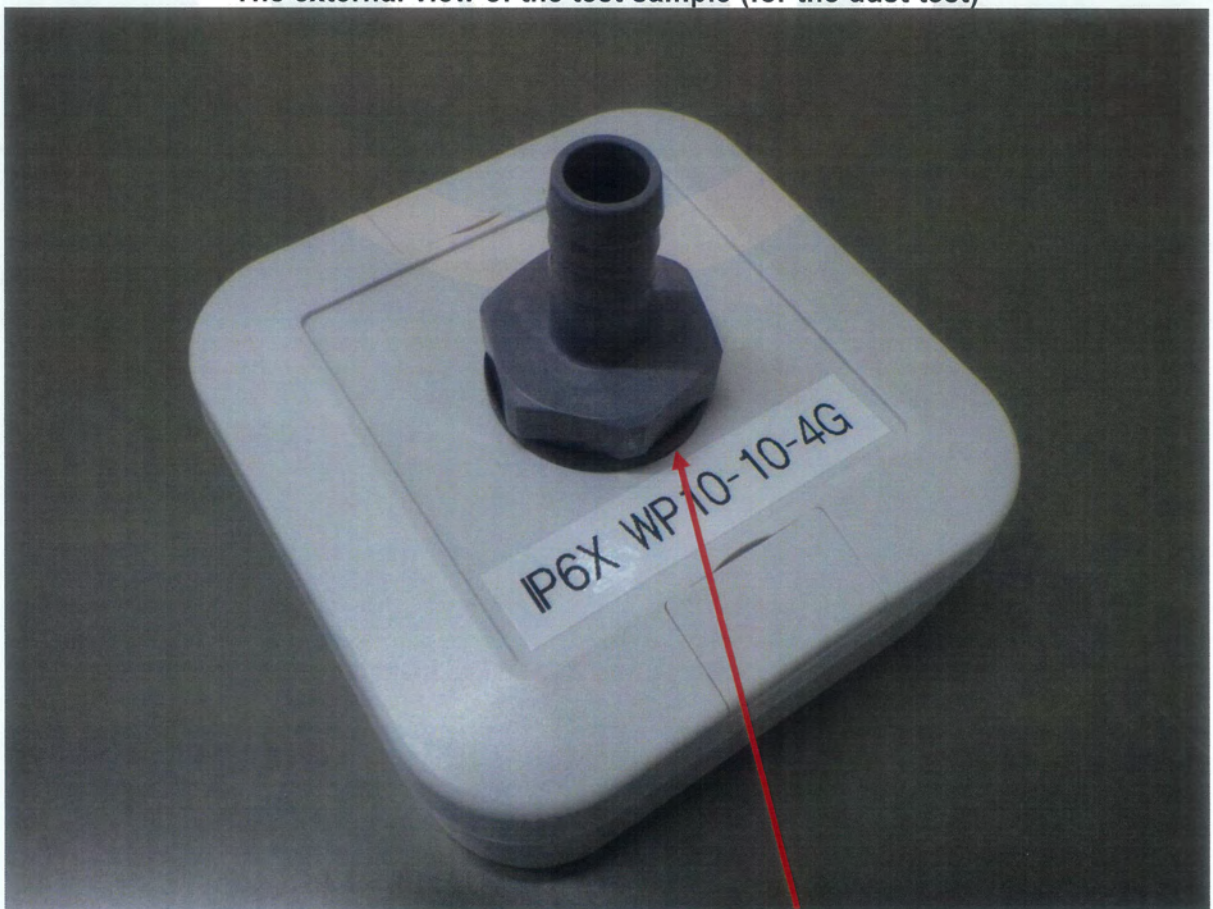
IEC 60529 (2001) / JIS C0920 (2003)			
Clause	Requirement – Test	Result - Remark	Verdict
14.2.8	Test for second characteristic numeral 8: continuous immersion subject to agreement		<i>P</i>
	Test condition:		<i>P</i>
	- depends on the relevant product standard		<i>N</i>
	- depends on agreement between manufacturer and user	<i>The test condition was under the request of the applicant (manufacturer)</i> <i>Water depth: the lowest point of the sample was 1 m below the surface of water</i> <i>Immersed term: 24 hours</i>	<i>P</i>
14.3	Acceptance conditions		<i>P</i>
	Acceptance conditions applied as specified in :		<i>P</i>
	- sub-clause 14.3	<i>sub-clause 14.3</i>	<i>P</i>
	- the relevant product standard		<i>N</i>
	Whether or not any water has entered	<i>No water entered the sample</i>	<i>P</i>
	If any water has entered, it is proved by inspection that any water which enters:		<i>N</i>
15	Tests for protection against access to hazardous parts indicated by the additional letter		<i>N</i>

Photo

The external view of the test sample (for the water test)



The external view of the test sample (for the dust test)



Pipe for depression

Test of First Characteristic Numeral 6

Before Dust Test

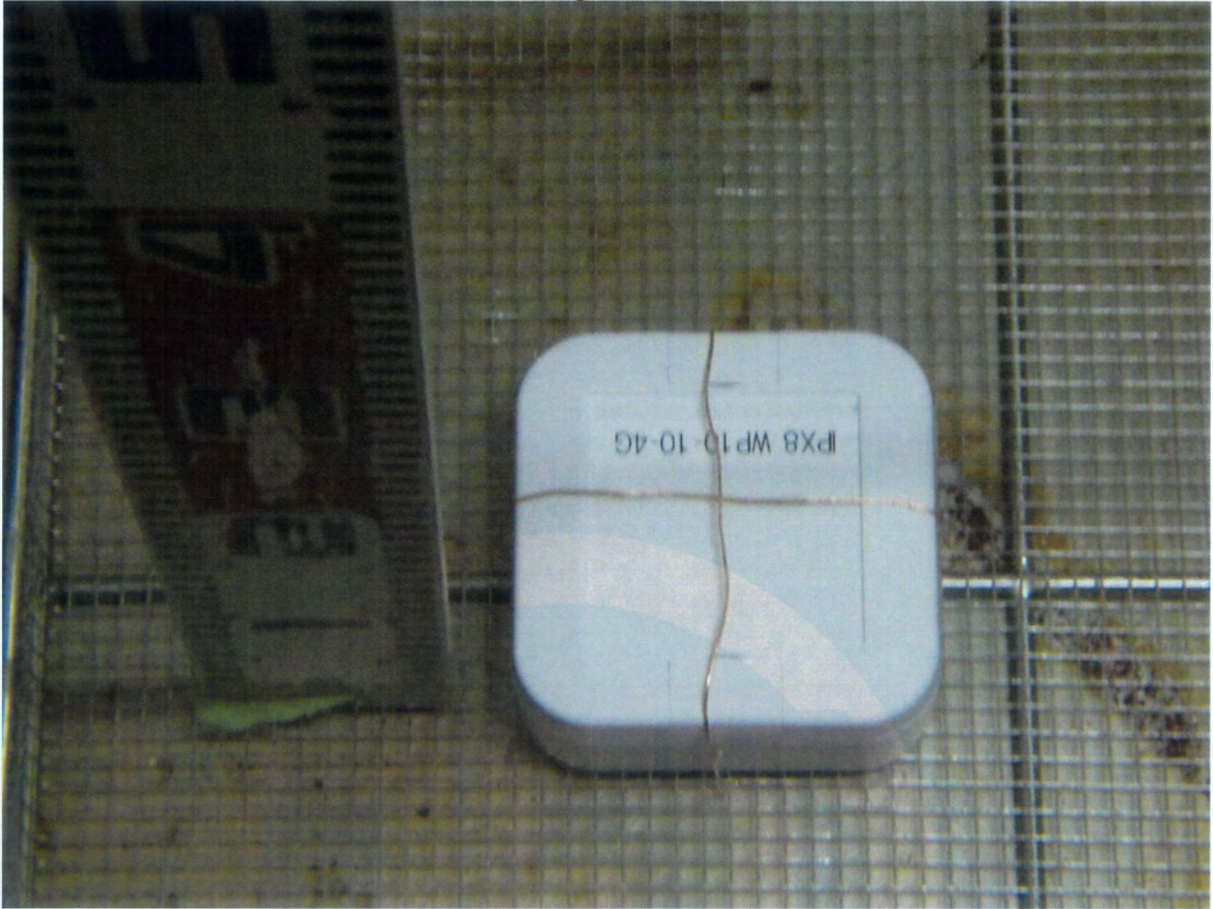


After Dust Test



Test of Second Characteristic Numeral 8

Situation of setting in the immersion tank



—— End of Report ——

TEST CERTIFICATE

We, hereby, verify that the under mentioned electrical product submitted to test at our laboratory dated January 27,2023 (Reception No. D22Y0480) is in compliance with the requirement of the test standard to be applied, as shown in the attached TEST REPORT (Ref. No. 22TR-Y1116)

Applicant (name & address): TAKACHI ELECTRONICS ENCLOSURE CO., LTD.

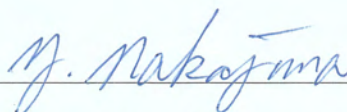
3-21-16, HIGASHI-RYOKE, KAWAGUCHI-SHI, SAITAMA,
JAPAN(332-0003)

Name of product: IP68 NETWORK PLASTIC BOX

Model/Type Ref.: WP15-21-6G

Rating and principal characteristics: -

Date of issue: March 2,2023



Yoshikatsu Nakajima
Director, Yokohama Laboratories
Japan Electrical Safety &
Environment
Technology Laboratories (JET)

TEST REPORT

Report reference No. 22TR-Y1116

Date & No. of reception January 27, 2023 (D22Y0480)

Applicant (Name&address)

TAKACHI ELECTRONICS ENCLOSURE CO., LTD.

3-21-16, HIGASHI-RYOKE, KAWAGUCHI-SHI, SAITAMA,
JAPAN (332-0003)

Name of product IP68 NETWORK PLASTIC BOX

Model/type Ref. WP15-21-6G

Rating and principal characteristics

-

Test Standard

JISC0920:2003 (IEC60529:2001)

Degrees of protection provided by enclosures
(IP code)

Test for first characteristic numeral 6,

Test for second characteristic numeral 8

Test Result

Pass

Date of issue

March 2, 2023


Yoshikatsu Nakajima

Director, Yokohama Laboratory

Japan Electrical Safety & Environment
Technology Laboratories (JET)

Testing laboratory

Japan Electrical Safety & Environment Technology Laboratories

- ☐ JET Tokyo Laboratory
5-14-12 Yoyogi, Shibuya-ku, Tokyo, 151-8545, Japan
- ☒ JET Yokohama Laboratory
1-12-30 Motomiya, Tsurumi-ku, Yokohama, Kanagawa, 230-0004, Japan
- ☐ JET Kansai Laboratory
4-1 Koyo-cho Nishi, Higashinada-ku, Kobe, Hyogo, 658-0033, Japan
- ☐ JET Power Technology Testing Laboratory
1-12-28 Motomiya, Tsurumi-ku, Yokohama, Kanagawa, 230-0004, Japan
- ☐ Other Location ()
Address :

Date of Sample received January 27, 2023

Date of test February 3, 2023 until February 27, 2023

Tested by (+ signature) Kazuya Nemoto
Kazuya Nemoto

Approved by (+ signature) Makoto Kanazawa
Makoto Kanazawa

Test case verdicts

N(A.) : Test case does not apply to the test object.

P(ass) : Test item does meet the requirement.

F(ail) : Test item does not meet the requirement.

— Test item not applied. (according to request from the applicant)

General remarks

- The test results presented in this report relate only to the object tested.
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IEC 60529 (2001) / JIS C0920 (2003)			
Clause	Requirement – Test	Result - Remark	Verdict
11	General requirements for the tests		<i>P</i>
11.1	Atmospheric conditions for water or dust tests :		<i>P</i>
	Temperature range: 15~35 °C	<i>For water test</i> <i>When the test started</i> 22 °C <i>When the test finished</i> 23 °C <i>For dust test</i> 22 °C	<i>P</i>
	Relative humidity: 25~75 %	<i>For water test</i> <i>When the test started</i> 29 % <i>When the test finished</i> 39 % <i>For dust test</i> 36 %	<i>P</i>
	Air pressure: 86~106 kPa	<i>For water test</i> <i>When the test started</i> 100.6 kPa <i>When the test finished</i> 101.8 kPa <i>For dust test</i> 101.5 kPa	<i>P</i>
11.2	Test samples for each test		<i>P</i>
	- in a clean and new condition	<i>New condition</i>	<i>P</i>
	- the complete equipment	<i>Complete equipment</i>	<i>P</i>
	- representative parts		<i>N</i>
	- smaller equipment having the same full-scale design		<i>N</i>
	Number of samples to be tested	2 sets <i>Sample for dust test</i> 1 set <i>Sample for water test</i> 1 set	<i>P</i>
	Conditions for mounting, assembling and positioning of samples		<i>N</i>
	Pre-conditioning	<i>The sample for dust test was set with pipes for depression</i>	<i>P</i>
	Whether to be tested energized or not	<i>Not energized</i>	<i>P</i>
	Whether to be tested with its parts in motion or not	<i>Not in motion</i>	<i>P</i>
11.3	Application of test requirements and interpretation of test results	<i>The equipment didn't contain drain-hole and ventilation opening</i>	<i>P</i>
	Standard applied for the general requirements for tests and the acceptance conditions for equipment containing drain-holes or ventilation openings		<i>N</i>
	Standard applied for the interpretation of test results	<i>This standard</i>	<i>P</i>
11.4	Combination of test conditions for the first characteristic numeral: Table V applied	<i>First characteristic numeral 6</i>	<i>P</i>
11.5	Empty enclosures		<i>P</i>
	Whether the enclosure to be tested is with or without equipment inside	<i>Without equipment inside</i> <i>The part which might be affected by the penetration of foreign objects or water, according to the applicant's instruction:</i> <i>All part inside the sample</i>	<i>P</i>
12	Tests for protection against access to hazardous parts indicated by the first characteristic numeral		<i>N</i>

IEC 60529 (2001) / JIS C0920 (2003)			
Clause	Requirement – Test	Result - Remark	Verdict
13	Tests for protection against solid foreign objects indicated by the first characteristic numeral		<i>P</i>
13.1	Test means		<i>P</i>
	The test means and the main test conditions applied as in Table VII	<i>Dust chamber Under pressure</i>	<i>P</i>
13.2	Test conditions for first characteristic numerals 1, 2, 3, 4		<i>N</i>
13.3	Acceptance conditions for first characteristic numerals 1, 2, 3, 4		<i>N</i>
13.4	Dust test for characteristic numerals 5 and 6	<i>First characteristic numeral 6</i>	<i>P</i>
	Use of dust chamber in Fig. 2	<i>Fig.2(Dust chamber)</i>	<i>P</i>
13.4A	Category 1 enclosures	<i>Category 1</i>	<i>P</i>
	- 2 hours (extraction rate: 40~60 volumes per hour)		<i>N</i>
	- until 80 volumes have been through or continued for a period of 8 hours	<i>8 hours (Extraction rate was less than 40 volumes per hour with maximum depression of 2kPa)</i>	<i>P</i>
13.4B	Category 2 enclosures		<i>N</i>
13.4C	Category 1 enclosures and Category 2 enclosures	<i>The enclosure was complete</i>	<i>P</i>
	If it is impracticable to test the complete enclosure in the test chamber, one of the following procedure shall be applied:		<i>N</i>
13.5	Special conditions for first characteristic numeral 5		<i>N</i>
13.6	Special conditions for first characteristic numeral 6		<i>P</i>
13.6.1	Test conditions		<i>P</i>
	Category 1 applied	<i>(Refer to sub-clause 13.4A)</i>	<i>P</i>
13.6.2	Acceptance conditions		<i>P</i>
	No deposit of dust is observable inside the enclosure at the end of the test	<i>No talcum powder entered into the sample</i>	<i>P</i>

14	Tests for protection against water indicated by the second characteristic numeral		<i>P</i>
14.1	Test means		<i>P</i>
	The test means and the main test conditions applied as in Table VIII	<i>Second characteristic numeral: 8 Immersion tank</i>	<i>P</i>
14.2	Test conditions		<i>P</i>
	Tests performed according to sub-cl. 14.2, the test method and main test which was given in Table VIII	<i>Test conditions are given in Table VIII (Refer to sub-cl 14.2.8)</i>	<i>P</i>
	Difference between water temperature and temperature of the specimen (the maximum 5 K)	<i>When the test started</i> Difference: 0 K Water temperature: 22 °C Sample temperature: 22 °C <i>When the test finished</i> Difference: 0 K Water temperature: 21 °C Sample temperature: 21 °C	<i>P</i>
	Calculation of the enclosure surface area	<i>Not more than 1.0 m²</i>	<i>P</i>
14.2.1	Test for second characteristic numeral 1 with the drip box		<i>N</i>
14.2.2	Test for second characteristic numeral 2 with the drip box		<i>N</i>
14.2.3	Test for second characteristic numeral 3 with oscillating tube or spray nozzle		<i>N</i>
14.2.4	Test for second characteristic numeral 4 with oscillating tube or spray nozzle		<i>N</i>
14.2.5	Test for second characteristic numeral 5 with 6.3 mm nozzle		<i>N</i>
14.2.6	Test for second characteristic numeral 6 with 12.5 mm nozzle		<i>N</i>
14.2.7	Test for second characteristic numeral 7: temporary immersion between 0.15 m and 1 m		<i>N</i>

IEC 60529 (2001) / JIS C0920 (2003)			
Clause	Requirement – Test	Result - Remark	Verdict
14.2.8	Test for second characteristic numeral 8: continuous immersion subject to agreement		P
	Test condition:		P
	- depends on the relevant product standard		N
	- depends on agreement between manufacturer and user	<p><i>The test condition was under the request of the applicant (manufacturer)</i></p> <p><i>Water depth: the lowest point of the sample was 1 m below the surface of water</i></p> <p><i>Immersed term: 24 hours</i></p>	P
14.3	Acceptance conditions		P
	Acceptance conditions applied as specified in :		P
	- sub-clause 14.3	<i>sub-clause 14.3</i>	P
	- the relevant product standard		N
	Whether or not any water has entered	<i>No water entered the sample</i>	P
	If any water has entered, it is proved by inspection that any water which enters:		N
15	Tests for protection against access to hazardous parts indicated by the additional letter		N

Photo

The external view of the test sample (for the water test)



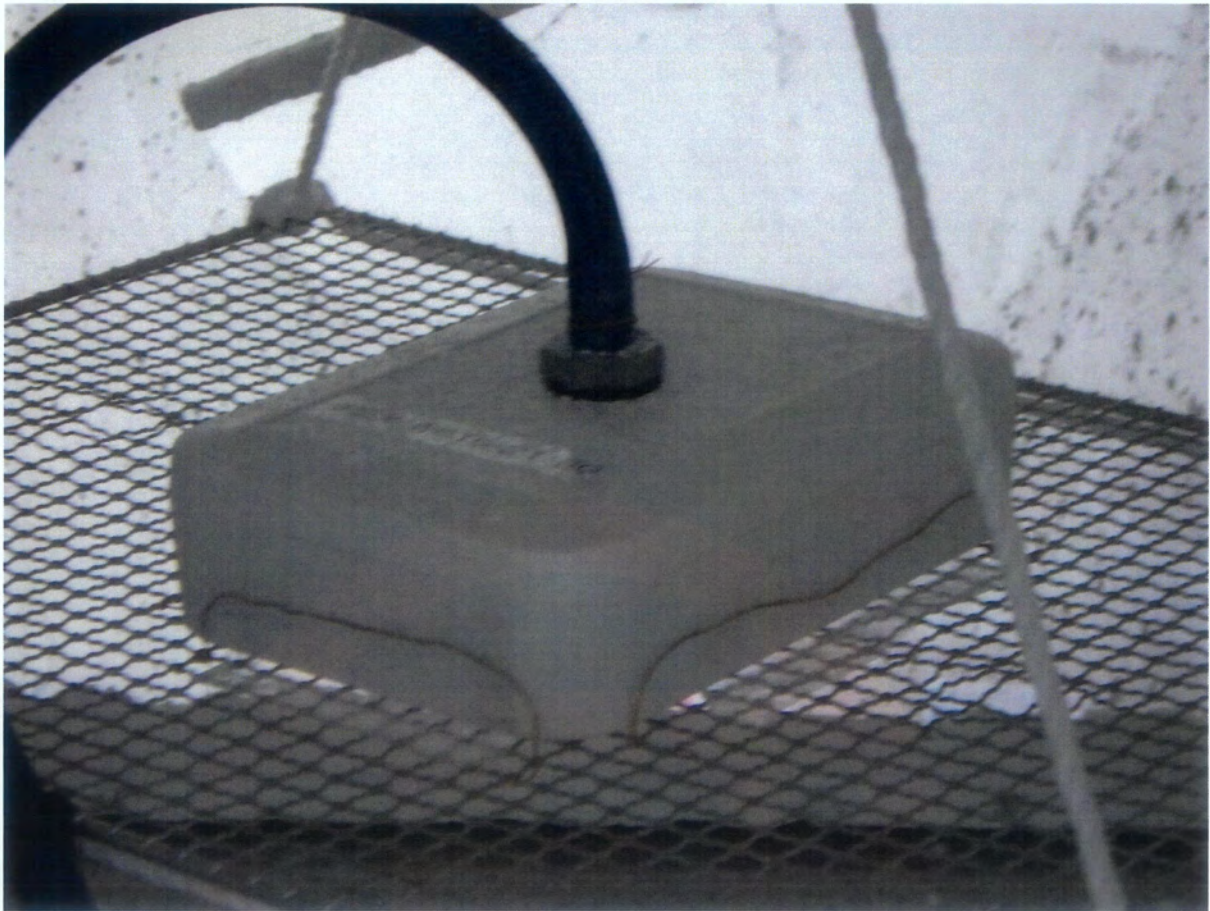
The external view of the test sample (for the dust test)



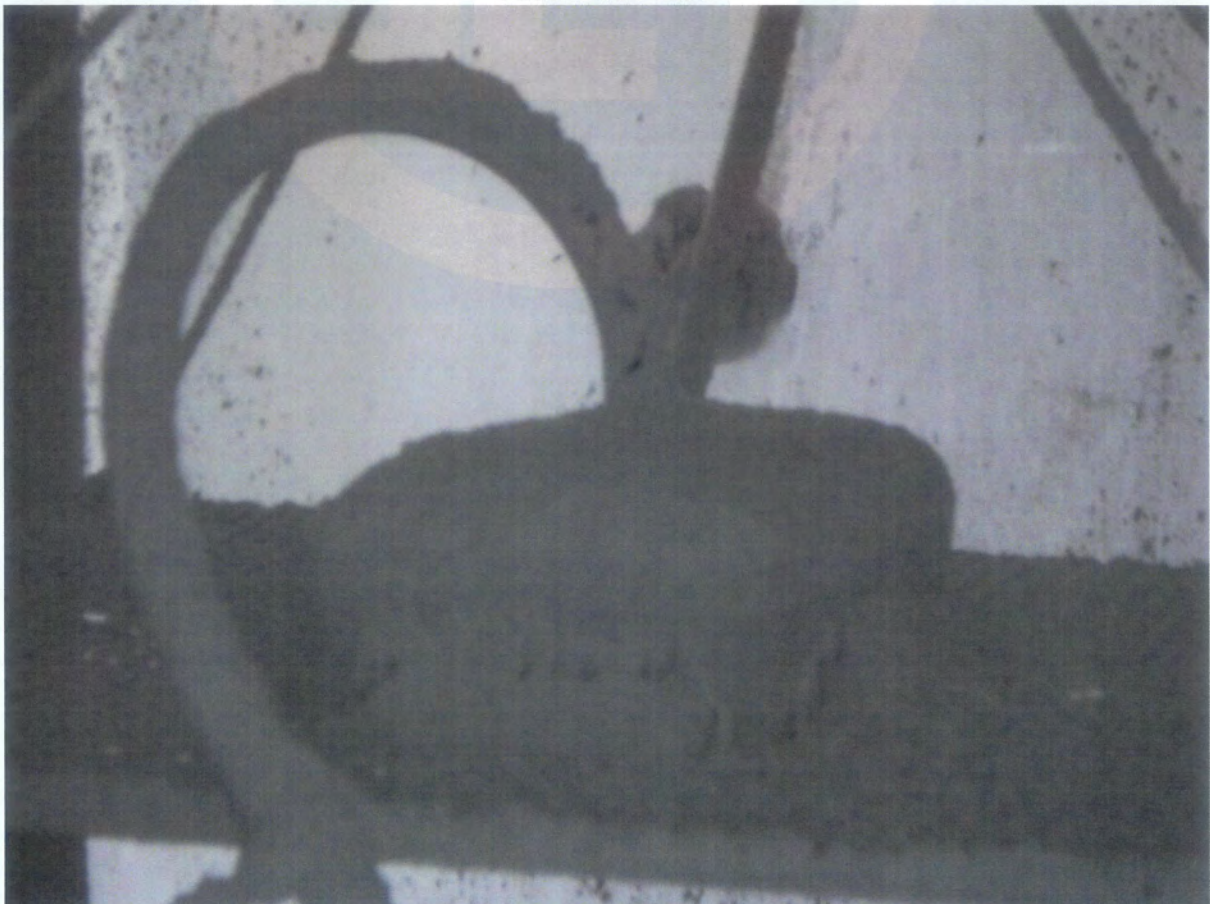
Pipe for depression

Test of First Characteristic Numeral 6

Before Dust Test

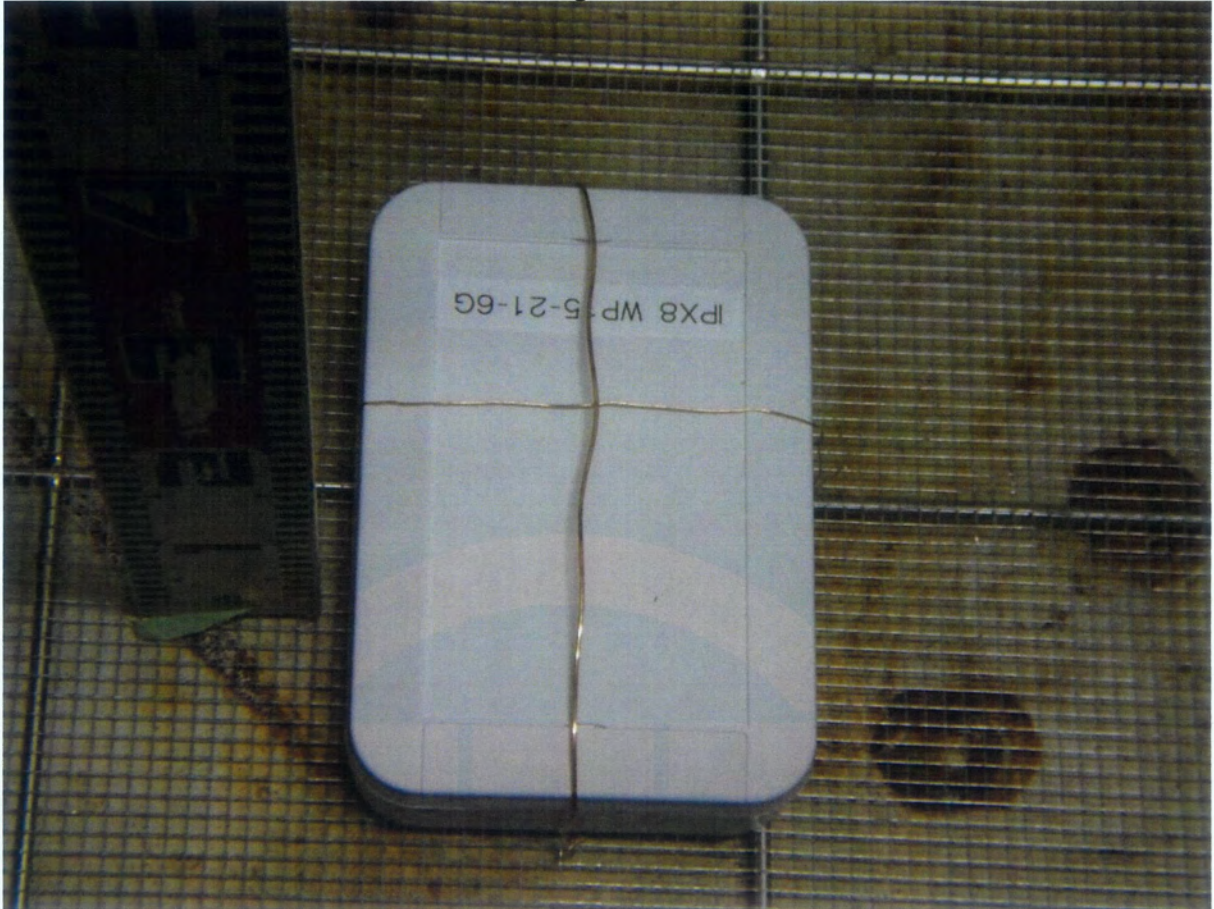


After Dust Test



Test of Second Characteristic Numeral 8

Situation of setting in the immersion tank



—— End of Report ——

TEST CERTIFICATE

We, hereby, verify that the under mentioned electrical product submitted to test at our laboratory dated January 27,2023 (Reception No. D22Y0478) is in compliance with the requirement of the test standard to be applied, as shown in the attached TEST REPORT (Ref. No. 22TR-Y1114)

Applicant (name & address): TAKACHI ELECTRONICS ENCLOSURE CO., LTD.

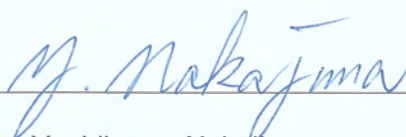
3-21-16, HIGASHI-RYOKE, KAWAGUCHI-SHI, SAITAMA,
JAPAN(332-0003)

Name of product: IP68 NETWORK PLASTIC BOX

Model/Type Ref.: WP20-20-7G

Rating and principal characteristics: -

Date of issue: March 2,2023



Yoshikatsu Nakajima
Director, Yokohama Laboratories
Japan Electrical Safety &
Environment
Technology Laboratories (JET)

TEST REPORT

Report reference No. 22TR-Y1114

Date & No. of reception January 27, 2023 (D22Y0478)

Applicant (Name&address)

TAKACHI ELECTRONICS ENCLOSURE CO., LTD.

3-21-16, HIGASHI-RYOKE, KAWAGUCHI-SHI, SAITAMA,
JAPAN (332-0003)

Name of product IP68 NETWORK PLASTIC BOX

Model/type Ref. WP20-20-7G

Rating and principal characteristics

-

Test Standard

JISC0920:2003 (IEC60529:2001)

Degrees of protection provided by enclosures
(IP code)

Test for first characteristic numeral 6,

Test for second characteristic numeral 8

Test Result

Pass

Date of issue

March 2, 2023


Yoshikatsu Nakajima

Director, Yokohama Laboratory

Japan Electrical Safety & Environment
Technology Laboratories (JET)

Testing laboratory

Japan Electrical Safety & Environment Technology Laboratories

- ☐ JET Tokyo Laboratory
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Address :

Date of Sample received January 27, 2023

Date of test February 3, 2023 until February 27, 2023

Tested by (+ signature) Kazuya Nemoto
Kazuya Nemoto

Approved by (+ signature) Makoto Kanazawa
Makoto Kanazawa

Test case verdicts

N (A.) : Test case does not apply to the test object.

P (ass) : Test item does meet the requirement.

F (ail) : Test item does not meet the requirement.

— Test item not applied. (according to request from the applicant)

General remarks

- The test results presented in this report relate only to the object tested.
- This report shall not be reproduced except in full without the written approval of JET.

IEC 60529 (2001) / JIS C0920 (2003)			
Clause	Requirement – Test	Result - Remark	Verdict
11	General requirements for the tests		<i>P</i>
11.1	Atmospheric conditions for water or dust tests :		<i>P</i>
	Temperature range: 15~35 °C	<i>For water test</i> <i>When the test started</i> 22 °C <i>When the test finished</i> 23 °C <i>For dust test</i> 22 °C	<i>P</i>
	Relative humidity: 25~75 %	<i>For water test</i> <i>When the test started</i> 29 % <i>When the test finished</i> 39 % <i>For dust test</i> 36 %	<i>P</i>
	Air pressure: 86~106 kPa	<i>For water test</i> <i>When the test started</i> 100.6 kPa <i>When the test finished</i> 101.8 kPa <i>For dust test</i> 101.5 kPa	<i>P</i>
11.2	Test samples for each test		<i>P</i>
	- in a clean and new condition	<i>New condition</i>	<i>P</i>
	- the complete equipment	<i>Complete equipment</i>	<i>P</i>
	- representative parts		<i>N</i>
	- smaller equipment having the same full-scale design		<i>N</i>
	Number of samples to be tested	2 sets <i>Sample for dust test</i> 1 set <i>Sample for water test</i> 1 set	<i>P</i>
	Conditions for mounting, assembling and positioning of samples		<i>N</i>
	Pre-conditioning	<i>The sample for dust test was set with pipes for depression</i>	<i>P</i>
	Whether to be tested energized or not	<i>Not energized</i>	<i>P</i>
	Whether to be tested with its parts in motion or not	<i>Not in motion</i>	<i>P</i>
11.3	Application of test requirements and interpretation of test results	<i>The equipment didn't contain drain-hole and ventilation opening</i>	<i>P</i>
	Standard applied for the general requirements for tests and the acceptance conditions for equipment containing drain-holes or ventilation openings		<i>N</i>
	Standard applied for the interpretation of test results	<i>This standard</i>	<i>P</i>
11.4	Combination of test conditions for the first characteristic numeral: Table V applied	<i>First characteristic numeral 6</i>	<i>P</i>
11.5	Empty enclosures		<i>P</i>
	Whether the enclosure to be tested is with or without equipment inside	<i>Without equipment inside</i> <i>The part which might be affected by the penetration of foreign objects or water, according to the applicant's instruction:</i> <i>All part inside the sample</i>	<i>P</i>
12	Tests for protection against access to hazardous parts indicated by the first characteristic numeral		<i>N</i>

IEC 60529 (2001) / JIS C0920 (2003)			
Clause	Requirement – Test	Result - Remark	Verdict
13	Tests for protection against solid foreign objects indicated by the first characteristic numeral		<i>P</i>
13.1	Test means		<i>P</i>
	The test means and the main test conditions applied as in Table VII	<i>Dust chamber Under pressure</i>	<i>P</i>
13.2	Test conditions for first characteristic numerals 1, 2, 3, 4		<i>N</i>
13.3	Acceptance conditions for first characteristic numerals 1, 2, 3, 4		<i>N</i>
13.4	Dust test for characteristic numerals 5 and 6	<i>First characteristic numeral 6</i>	<i>P</i>
	Use of dust chamber in Fig. 2	<i>Fig.2(Dust chamber)</i>	<i>P</i>
13.4A	Category 1 enclosures	<i>Category 1</i>	<i>P</i>
	- 2 hours (extraction rate: 40~60 volumes per hour)		<i>N</i>
	- until 80 volumes have been through or continued for a period of 8 hours	<i>8 hours (Extraction rate was less than 40 volumes per hour with maximum depression of 2kPa)</i>	<i>P</i>
13.4B	Category 2 enclosures		<i>N</i>
13.4C	Category 1 enclosures and Category 2 enclosures	<i>The enclosure was complete</i>	<i>P</i>
	If it is impracticable to test the complete enclosure in the test chamber, one of the following procedure shall be applied:		<i>N</i>
13.5	Special conditions for first characteristic numeral 5		<i>N</i>
13.6	Special conditions for first characteristic numeral 6		<i>P</i>
13.6.1	Test conditions		<i>P</i>
	Category 1 applied	<i>(Refer to sub-clause 13.4A)</i>	<i>P</i>
13.6.2	Acceptance conditions		<i>P</i>
	No deposit of dust is observable inside the enclosure at the end of the test	<i>No talcum powder entered into the sample</i>	<i>P</i>

14	Tests for protection against water indicated by the second characteristic numeral		<i>P</i>
14.1	Test means		<i>P</i>
	The test means and the main test conditions applied as in Table VIII	<i>Second characteristic numeral: 8 Immersion tank</i>	<i>P</i>
14.2	Test conditions		<i>P</i>
	Tests performed according to sub-cl. 14.2, the test method and main test which was given in Table VIII	<i>Test conditions are given in Table VIII (Refer to sub-cl 14.2.8)</i>	<i>P</i>
	Difference between water temperature and temperature of the specimen (the maximum 5 K)	<i>When the test started</i> Difference: 0 K Water temperature: 22 °C Sample temperature: 22 °C <i>When the test finished</i> Difference: 0 K Water temperature: 21 °C Sample temperature: 21 °C	<i>P</i>
	Calculation of the enclosure surface area	<i>Not more than 1.0 m²</i>	<i>P</i>
14.2.1	Test for second characteristic numeral 1 with the drip box		<i>N</i>
14.2.2	Test for second characteristic numeral 2 with the drip box		<i>N</i>
14.2.3	Test for second characteristic numeral 3 with oscillating tube or spray nozzle		<i>N</i>
14.2.4	Test for second characteristic numeral 4 with oscillating tube or spray nozzle		<i>N</i>
14.2.5	Test for second characteristic numeral 5 with 6.3 mm nozzle		<i>N</i>
14.2.6	Test for second characteristic numeral 6 with 12.5 mm nozzle		<i>N</i>
14.2.7	Test for second characteristic numeral 7: temporary immersion between 0.15 m and 1 m		<i>N</i>

IEC 60529 (2001) / JIS C0920 (2003)			
Clause	Requirement – Test	Result - Remark	Verdict
14.2.8	Test for second characteristic numeral 8: continuous immersion subject to agreement		<i>P</i>
	Test condition:		<i>P</i>
	- depends on the relevant product standard		<i>N</i>
	- depends on agreement between manufacturer and user	<i>The test condition was under the request of the applicant (manufacturer)</i> <i>Water depth: the lowest point of the sample was 1 m below the surface of water</i> <i>Immersed term: 24 hours</i>	<i>P</i>
14.3	Acceptance conditions		<i>P</i>
	Acceptance conditions applied as specified in :		<i>P</i>
	- sub-clause 14.3	<i>sub-clause 14.3</i>	<i>P</i>
	- the relevant product standard		<i>N</i>
	Whether or not any water has entered	<i>No water entered the sample</i>	<i>P</i>
	If any water has entered, it is proved by inspection that any water which enters:		<i>N</i>
15	Tests for protection against access to hazardous parts indicated by the additional letter		<i>N</i>

Photo

The external view of the test sample (for the water test)



The external view of the test sample (for the dust test)



Pipe for depression

Test of First Characteristic Numeral 6

Before Dust Test



After Dust Test



Test of Second Characteristic Numeral 8

Situation of setting in the immersion tank



—— End of Report ——