

TEST REPORT



한국산업기술시험원
Korea Testing Laboratory

Report No. : 23-009164-01-2

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1. Client

Name : Tissin Co., Ltd.

Address : 201-1105, No 397, 201-1105, No 397, Seokcheon-ro, Ojeong-gu, Bucheon-Si, Gyeonggi-do, Korea

Date of Receipt : 2023. 02. 13

2. Use of Report : To verify IP grade to IEC 60529

3. Test Sample

Description : Limit switch Box

Manufacturer : Tissin Co., Ltd.

Model Name : TS400

Serial Number : -

Remark : Please refer to the clause 1.4 regarding the test sample and results.

4. Date of Test : 2023. 02. 17. ~ 2023. 02. 21.

5. Location of Test :

☒ KTL Permanent Test Lab (Address : 87, Digital-ro 26-gil, Guro-gu, Seoul, KOREA)

☐ On Site Testing

6. Test Standard/Method : IEC 60529:1989 +AMD1:1999+AMD2:2013 CSV/COR2:2015

7. Test Results : Pass (IP67)

Note :

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4. The report is related to KS Q ISO/IEC 17025 & KOLAS Accreditation.
5. The results marked as '※' are out of KOLAS accreditation scope.

Affirmation	Tested by	Technical Manager
	Name : Min Jae Sik (Signature)	Name : Choi Yong-won (Signature)

The above test report is the accredited test result by Korea Laboratory Accreditation Scheme, which signed the ILAC-MRA.

2023. 02. 28

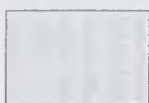
Korea Testing Laboratory

Accredited by KOLAS, Republic of KOREA



87, Digital-ro 26-gil, Guro-gu, Seoul, KOREA Tel.+82-2-860-1514 Fax. +82-2-860-1549

FP104-03-01



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Test Results

1. Summary of Test

1.1. Test Standard

This test was conducted in accordance with "IEC 60529:1989 +AMD1:1999+AMD2:2013 CSV/COR2:2015".

1.2. Test Sample

- Description : Limit switch Box
- Model Name : TS400
- Dimensions : 148.5 mm × 113.6 mm × 98.6 mm



[Fig. 1: Sample]



[Fig. 2: Sample]

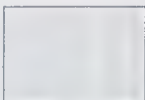
1.3. Test Environment

- Temperature : (25.0 ± 2.0) °C
- Humidity : (48.0 ± 2.0) % R.H.
- Atmospheric Pressure : (101.32 ± 2.0) kPa

1.4. Remark

The test was conducted with the plug applied on the entry of the sample (Refer to Fig. 2)

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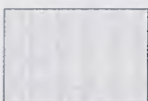


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2. Results

Code Letters	IP	Conditions & Results
1st Characteristic numerals Against ingress of solid foreign objects	6	2.1 Dust Test Conditions - Talcum powder(mesh) wire diameter: 50 μm - Talcum powder(mesh) wire width: 75 μm - Amount of talcum powder of the test chamber: 2 kg/m^3 2.2 Dust Test Contents - Volume of the enclosures: About 504 cm^3 - Reduction air pressure: - 2.00 kPa - Flow Rate: About 0.01 L/min - Extraction rate per hour: About 1.19 volumes/h - Test duration: 8 h
		2.3 Dust Test Result Pass
2nd Characteristic numerals Against ingress of water with harmful effects	7	2.4 Water Test Conditions - The lowest point of enclosure: 1 000 mm - The highest point of enclosure: 850 mm - Differential temperature of water and enclosure (less than 5.0 K): Under 2.0 K 2.5 Water Test Contents - Test duration: 30 min
		2.6 Water Test Result Pass

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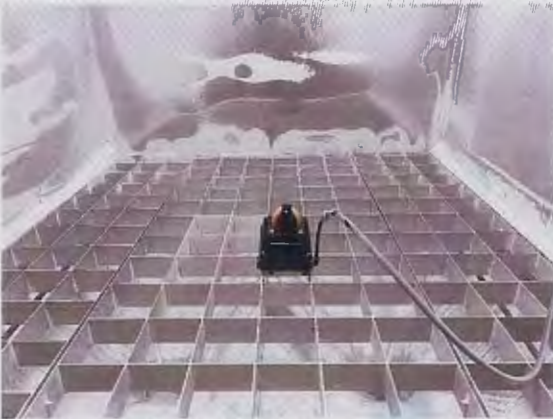


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3. List of Testing Equipments

Equipment	Model	Manufacturer	Date of Calibration	Date of next Calibration
Thermo-hygrometer	Testo 622	Testo	2022-04-28	2023-04-28
Timer	HS-30W	CASIO	2021-08-17	2023-08-17
Vernier Calipers	CD-20APX	Mitutoyo Corp.	2023-02-16	2024-02-16
Flowmeter(IP5X, IP6X)	RMA-13-SSV	DWYER	2022-06-13	2023-06-13
Water temperature gauge	SDT8Q	SUMMIT	2022-06-13	2023-06-13
Pressure Meter	PM-80	Digitron	2022-10-12	2023-10-12

4. Test Figures

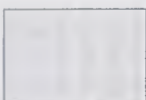


[Fig. 3: IP6X]



[Fig. 4: IPX8]

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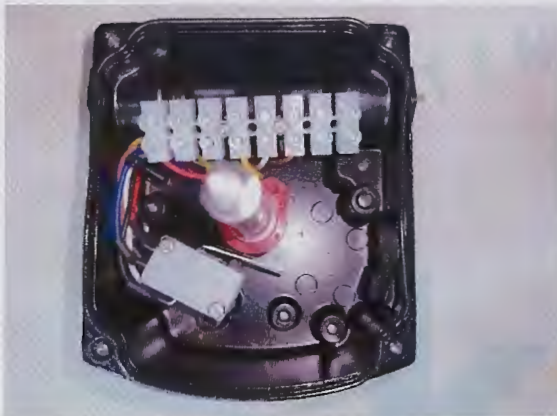
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5. Dust Test Result Figures



[Fig. 5: IP6X]

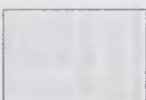
6. Water Test Result Figures



[Fig. 6: IPX7]

-End -

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