



TEST REPORT

Report No. : SGS-R23-1294-EN00
Order No. : DTRC2306001259EN
Applicant : SUNGMUN ELECTRONICS
Address : 301-302. Bucheon Techno Park, 345 Seokcheon-ro, Bucheon-si,
Gyeonggi-do, Korea
Product : Rotary Switch Series
Model : TDR-10
Date of Test : June 19, 2023.
Location of Test : ☒ Permanent testing Lab. ☐ On Site Testing
(Address : 20, Dongtansandan 10-gil and 12, Dongtansandan 10-gil,
Hwaseong-si, Gyeonggi-do, Korea)
Standard / Method : IEC60529:1989+A1:1999+A2:2013
Degrees of protection provided by enclosures (IP67)
Test Result : Refer to page 7, 10.
Use of Report : For quality evaluation

This is certified that the above mentioned products have been tested for the sample provided by client.

Affirmation	Tested by	Technical Manager
	Name : Choi, In-ho 	Name : Koo, Hyung-kun 

- ※ No part of this document may be duplicated or reproduced by any means without the express written permission.
- ※ The test report is not related to our KOLAS accreditation.

June 20, 2023.

SGS Korea Co., Ltd. Dongtan Laboratory



This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at www.sgs.com/terms_and_conditions.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



Contents

1. Overview	3
2. Product	3
2.1 Description	3
2.2 Photograph	3
3. Test process	4
3.1 Operating Test	4
3.2 Non-operating Test	4
4. Test condition & Test result	4
4.1 IPX7	5
4.2 IP6X	8



1. Overview

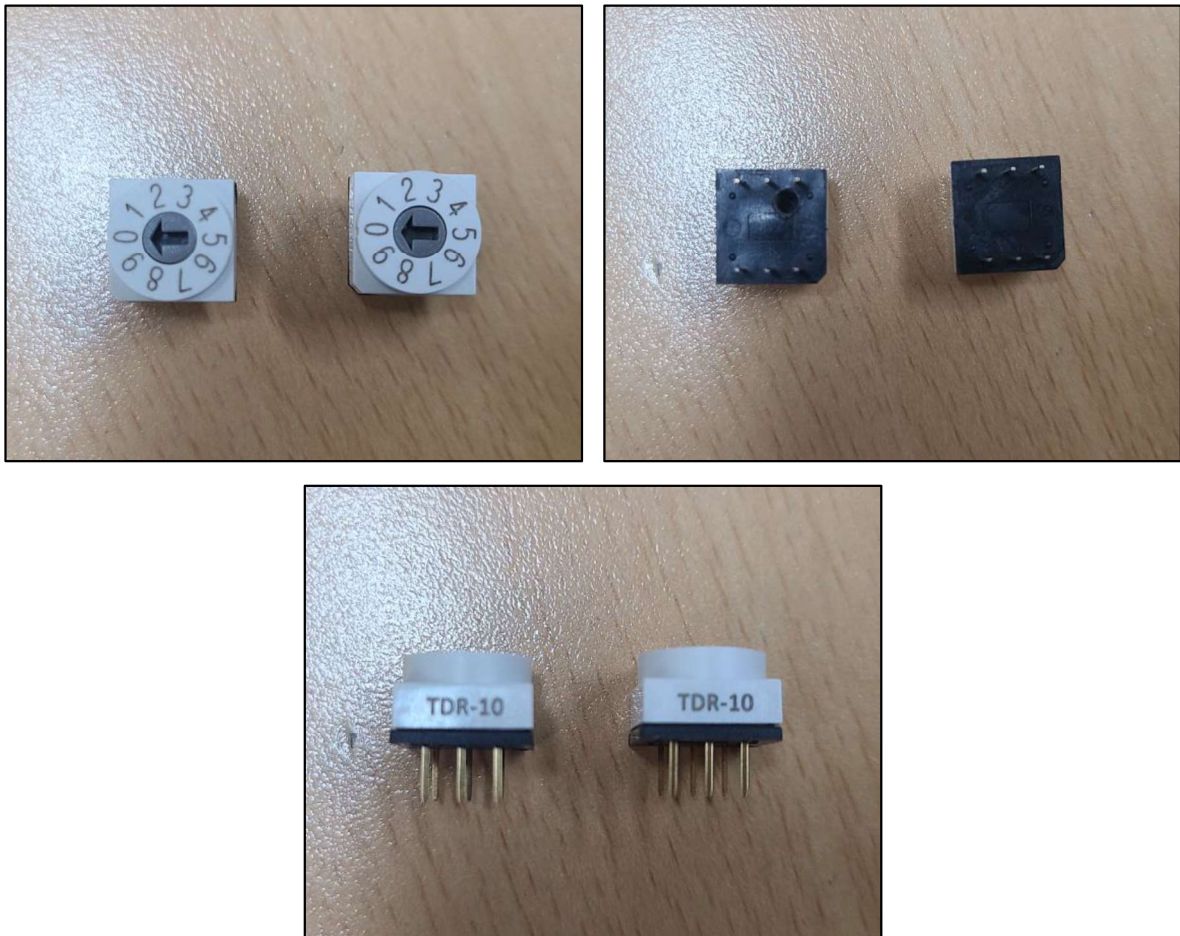
As requested by the client, this test was conducted on test sample according to the test specification presented by the client.

2. Product

2.1 Description

- | | |
|------------------|------------------------|
| 1) Applicant | : SUNGMUN ELECTRONICS |
| 2) Manufacturer | : SUNGMUN ELECTRONICS |
| 3) Product | : Rotary Switch Series |
| 4) Model | : TDR-10 |
| 5) Serial No. | : #1, #2 |
| 6) No. of sample | : 2 EA |

2.2 Photograph



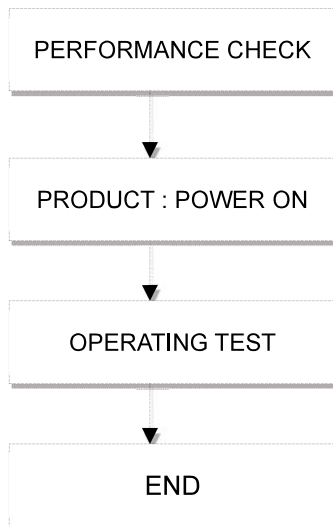


3. Test process

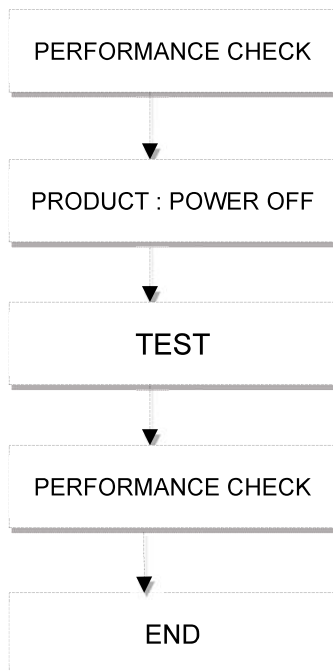
Refer to each test report

(Using one process among next two kinds of process)

3.1 Operating Test



3.2 Non-operating Test



4. Test condition & Test result



4.1 IPX7

Applicant	SUNGMUN ELECTRONICS	Dept. in charge	Reliability Test Team
Product	Rotary Switch Series	Tester	Choi, In-ho (+82-31-240-6638)
Model	TDR-10	Date	June 19, 2023.
Serial No.	#1		
Standard	IEC60529:1989+A1:1999+A2:2013 Degrees of protection provided by enclosures	Page	3
Test Location	SGS Korea Co., Ltd. Dongtan Laboratory		

(1) Test condition

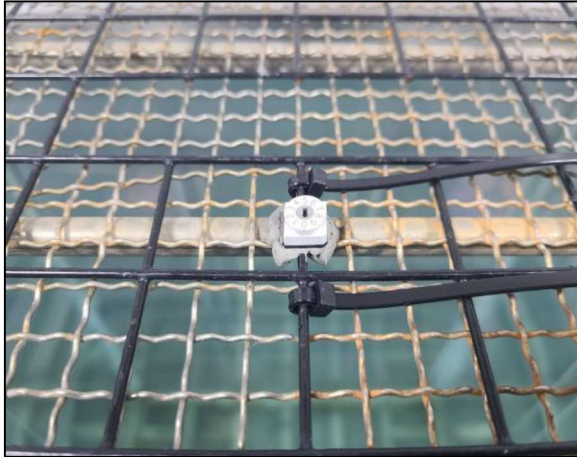
- 1) IP Code : IPX7
- 2) Immersion depth : 1 m (From water surface to the specimen's lower end)
- 3) Test duration : 30 min
- 4) Status of product : ① Unpacked Product ② Non-operation
- 5) No. of sample : 1 EA

(2) List of used equipment

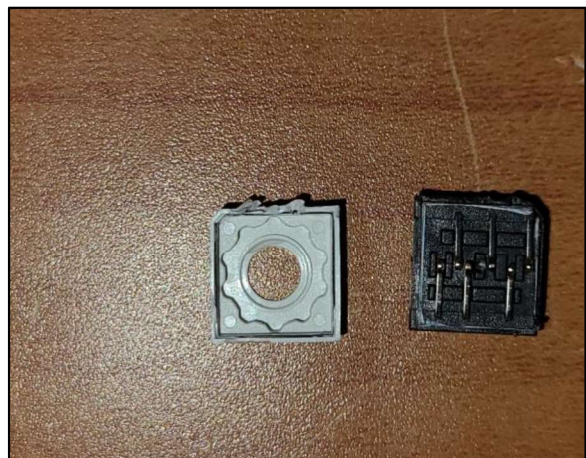
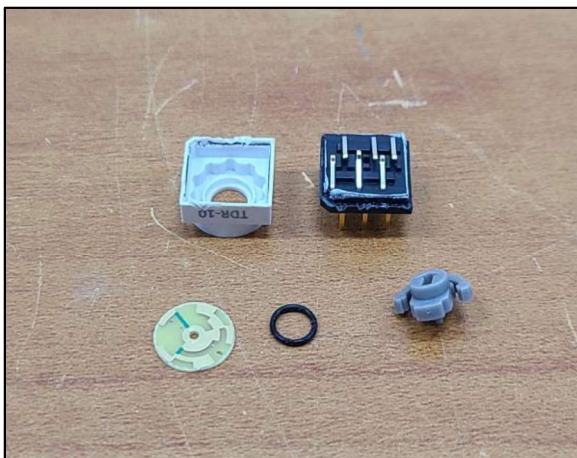
Description	Manufacturer & Model	Serial Number	The due date of next Calibration	Calibration Laboratory
Immersion apparatus	Sejong FA	-	-	-
straight edge ruler	2 000 mm	12062537-7	May 11, 2024.	SICT
STOP WATCH	KS-201	0704771	June 17, 2024.	SSTECH

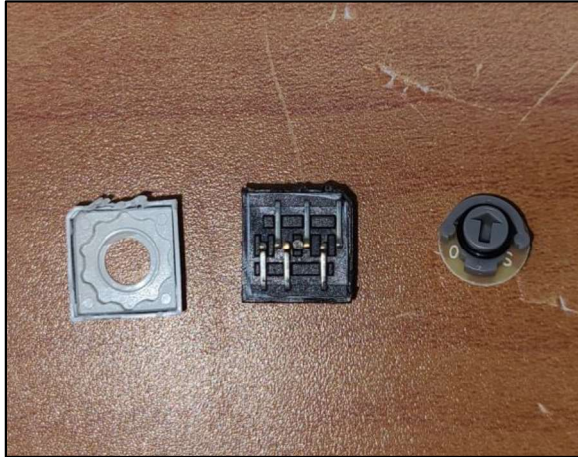


(3) Test photograph



(4) Test Result photograph





(5) Test result

Check item	Test result
- . Confirmation of water resistance	No water penetration was found.



4.2 IP6X

Applicant	SUNGMUN ELECTRONICS	Dept. in charge	Reliability Test Team
Product	Rotary Switch Series	Tester	Choi, In-ho (+82-31-240-6638)
Model	TDR-10	Date	June 19, 2023.
Serial No.	#2		
Standard	IEC60529:1989+A1:1999+A2:2013 Degrees of protection provided by enclosures	Page	3
Test Location	SGS Korea Co., Ltd. Dongtan Laboratory		

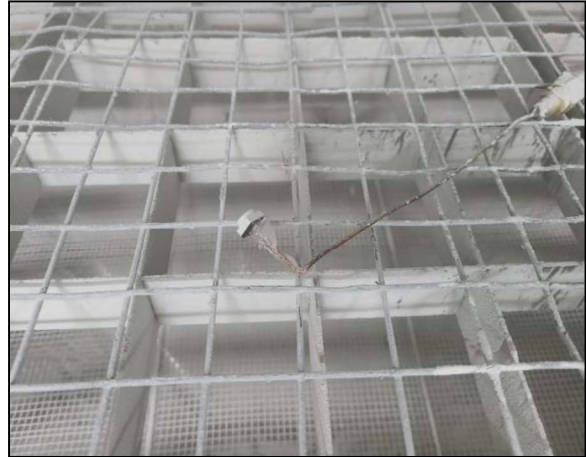
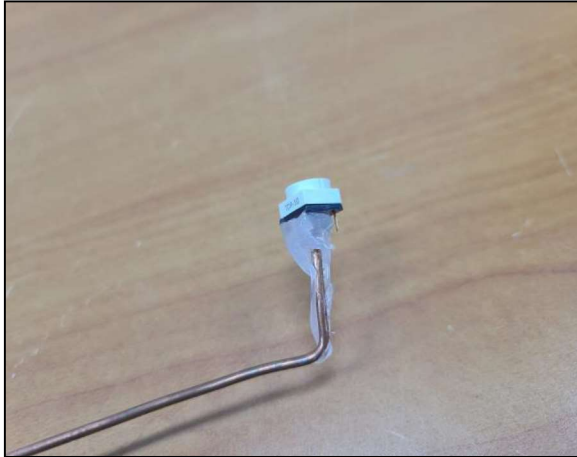
(1) Test condition

- 1) IP code : IP6X
- 2) Test time : 8 h
- 3) Decompression : Maximum depression of 2 kPa (20 mbar)
- 4) Status of product : ① Unpacked product ② Non-operation
- 5) Sample quantity : 1 EA

(2) List of used equipment

Description	Manufacturer & Model	Serial Number	The due date of next Calibration	Calibration Laboratory
Dust Chamber	Daekyung Engineering DOC-300DSEM	DOC-11-43-10DSEM	-	-
Temperature controller	HANYOUNG KX9N-SENA	825110	December 29, 2023.	SSTECH
Pressure Transmitter	SENSORTEC KP-21N	1107048	December 30, 2023.	SSTECH
Mass Flow Meter	XFM47	440070-1	January 2, 2024.	KOMETER
Finger Test	IP4X	17041874-4	December 30, 2023.	SSTECH
Digital Force Gauges	DACELL / FGA-20	001007	December 23, 2023.	SSTECH

(3) Test photograph (Solid foreign objects)



(4) Test photograph (Access to hazardous parts)





(5) Test Result photograph



(6) Test result

Check item	Test result
1. Confirmation of dust resistance	No dust penetration was found.
2. Access probe penetration check	No probe penetration was found.

End.

SGSzvPrDYf

RQP708-F02 (02)