

APPLICATION FOR TEST REPORT
On Behalf of

DANA INNOVATIONS

MAG 4.1, PATIO SERIES

Model No. : MAG 4.1 SAT, MAG 4.1 SUB

Prepared for : DANA INNOVATIONS
991 Calle Amanecer San Clemente, CA 92673

Manufacturer : REDACTED

Prepared By : Guangdong Keyway Testing Technology Co., Ltd.
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Report Number : TR19010092-S-000

Date of Test : Jul. 15, 2019 to Jul. 16, 2019

Date of Report : Jul. 16, 2019

TEST REPORT IEC 60529 Degrees of protection provided by enclosures (IP Code)	
Report reference No.:	TR19010092-S-000
Tested by (+ signature).....:	Jason Dong
Reviewed by (+ signature)	Toney Cao
Approved by (+ signature).....:	Linc Yuan
Date of issue	Jul. 16, 2019
Total page	9
Testing laboratory	Guangdong Keyway Testing Technology Co., Ltd.
Location.....:	No.7 of Zhangmutou Section, Guanzhang Road, Zhangmutou, Dongguan, Guangdong, China
Applicant	DANA INNOVATIONS
Address	991 Calle Amanecer San Clemente, CA 92673
Manufacturer	REDACTED
Address	REDACTED
Standards	IEC 60529:1989+A1:1999+A2:2013
Procedure deviation	N/A
Non-standard test meth	N/A
Test Report Form	N/A
Test Report Form No.:	N/A
TRF originator.:	Guangdong Keyway Testing Technology Co., Ltd.
Master TRF	N/A
Copyright blank test report:	Guangdong Keyway Testing Technology Co., Ltd.
Test item description	MAG 4.1, PATIO SERIES
Trademark	/
Model and/or type reference	MAG 4.1 SAT, MAG 4.1 SUB, PATIO SERIES
Rating(s) ..:	/
Test items particulars:	N/A
Classification of installation and use.....:	--
Test case verdicts	--
Test case does not apply to the test object	N/A
Test item does meet the requirement	P(Pass)
Test item does not meet the requirement:	F(Fail)



Testing	
Date of receipt of test item	Jul. 15, 2019
Date(s) of performance of test	Jul. 15, 2019 to Jul. 16, 2019
General remarks This report shall not be reproduced except in full without the written approval of the testing laboratory. The test results presented in this report relate only to the item(s) tested. " (see remark #)" refers to a remark appended to the report. "(See Annex #)" refers to an annex appended to the report.	
Summary of construction and testing: Whether parts of tests for the product have been subcontracted to other labs: ☒ Yes ☐ No If Yes, list the related test items and lab information: Test items: IP66 test item Lab information: Dongguan Kingsun Optoelectronic Co., Ltd. HengJiang Xiaqin Semiconductor Industrial Park, Changping Town, Dongguan City, Guangdong	
Supplementary information: 1. Two models are evaluated according to one system ; 2. These product passed the IP66 test.	

IEC 60529 Degrees of protection provided by enclosures (IP Code)			
Clause	Requirement	Result	Verdict
4	Designations	IP66	P
5	Degrees of protection against access to hazardous parts and against solid foreign objects indicated by the first characteristic numeral		P
5.1	Protection against access to hazardous parts		P
5.2	Protection against solid foreign objects		P
6	Degrees of protection against ingress of water indicated by the second characteristic numeral		P
7	Degrees of protection against access to hazardous parts indicated by the additional letter		N/A
8	Supplementary letters		N/A
10	Marking		P
11	General requirements for tests		P
11.1	Atmospheric conditions for water or dust tests	Temperature range: 15°C to 30°C Relative humidity: 25% to 75% Air pressure: 86kPa to 106kPa	P
11.2	Test samples	Clean and new condition, practicable to test the complete equipment	P
11.3	Application of test requirements and interpretation of test results	Apply this standard	P
11.4	Combination of test conditions for the first characteristic numeral		P
11.5	Empty enclosures	Not applicable	N/A
12	Tests for protection against access to hazardous parts indicated by the first characteristic numeral		N/A
12.1	Access probes		N/A
12.2	Test conditions		N/A
12.3	Acceptance conditions		N/A
12.3.1	For low-voltage equipment		N/A

IEC 60529 Degrees of protection provided by enclosures (IP Code)			
Clause	Requirement	Result	Verdict
13	Tests for protection against solid foreign objects indicated by the first characteristic numeral		P
13.1	Test means		P
13.2	Test conditions for first characteristic numerals 1,2,3,4		N/A
13.3	Acceptance conditions for first characteristic numerals 1,2,3,4		N/A
13.4	Dust test for first characteristic numerals 5 and 6		P
13.5	Special conditions for first characteristic numeral 5		N/A
13.6	Special conditions for first characteristic numeral 6		P
14	Tests for protection against water indicated by the second characteristic numeral		P
14.1	Test means		P
14.2	Test conditions		P
14.2.1	Test for second characteristic numeral 1 with the drip box		N/A
14.2.2	Test for second characteristic numeral 2 with the drip box		N/A
14.2.3	Test for second characteristic numeral 3 with oscillating tube or spray nozzle		N/A
14.2.4	Test for second characteristic numeral 4 with oscillating tube or spray nozzle		N/A
14.2.5	Test for second characteristic numeral 5 with the 6.3mm nozzle		N/A
14.2.6	Test for second characteristic numeral 6 with the 12.5mm nozzle	No water into	P
14.2.7	Test for second characteristic number 7: temporary immersion between 0.15m and 1m		N/A
14.2.8	Test for second characteristic number 8: continuous immersion subject to agreement		N/A

IEC 60529 Degrees of protection provided by enclosures (IP Code)			
Clause	Requirement	Result	Verdict

14.3	Acceptance conditions	The test conditions are more severe than those prescribed on 14.2.5 and take account of the condition that the enclosure will be continuously immersed in actual use.	N/A
15	Test for protection against access to hazardous parts indicated by the additional letter	No additional letter	N/A

Photos



Photos



Photos



*****End of this report*****