

IP67 Test Report

Issue by

Design Technology Department

Product Model	Dattai PMSM modular controller and motor (Applicable for models from 1KW to 10KW)
Product Description	Powertrain product, uses for electrical vehicles and other industrial applications
Test Reason	☒ New product ☐ Renew product ☐ PCB : ☐ BIOS: ☐ Revision change ☐ PCB : ☐ BIOS: ☐ Component:

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Issue date

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Approved

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Test Engineer

1. Document Introduction and Revision History

This document describes how we conduct the environment conditions and test procedure. It includes the test equipment we use, the test condition, and the test procedure we take. We also define our test criteria and the way to conclude the test result.

(According to client's test specification, please see following sheets in detail.)

Table of Testing Summary Results

NO	Test Item	Condition Description	Sect. / Page	Reference to
1	IP67	IP6X & IPX7	4 / 5	IEC60529

IP Code of Definitions

Code Letters	IP	Test Description
First Code Number (Dust-Proof)	0	No Protection
	1	Prevents object greater than 50mm from entering
	2	Prevents object greater than 12mm from entering
	3	Prevents object greater than 2.5mm from entering
	4	Prevents object greater than 1mm from entering
	5	Prevents dust from entering but to a limited extent
	6	Full protection from dust
Second Code Number (Water-Proof)	0	No protection
	1	Protects from vertical water drops
	2	Protects from water drops coming down at a max. angle of 15 degrees
	3	Spraying
	4	Splashing
	5	Jetting
	6	Powerful Jetting
	7	Waterproofs from 15 cm to 1 meter underwater
	8	Waterproofs from greater than 1 meter underwater at long periods of time

2. IP67 Test:

A. Test Equipment:

Name	Brand	Model	Serial No.
Dust Tester	T-MACHINE	TMJ-9723C	T-23-050411
Oscillating Tube Unit	PTL	P02.94	DE133083240

B. LAB Environmental Conditions:

- Ambient Temperature: 25 +/- 3°C
- Relative Humidity: 55 +/- 20% RH

C. Test Method / Specification:

- Reference to Reference to IEC 60529 Edition 2.1:2001-02
 - Dust Test (IP6X) & Waterproof Test (IPX7)
- Testing Software:
 - Running Windows CE with Burnce Test

D. Check Condition and Requirements:

(D-1)IP6X Test Method / Specification

Test Equipment:

Name	Brand	Model	Serial No.
Dust Tester	T-MACHINE	TMJ-9723C	T-23-050411

Lab Environmental Conditions:

Ambient temperature: 25±3°C
Relative humidity: 55±20%RH

Test Method/ Specification:

Test method: According to IEC 60529 Edition 2.1: 2001-02--IP6X (Dust test)
Sample condition: Operating
Type of dust: Talcum powder
The amount of dust: 2 kg
The chamber size: 1 m³
The maximum depression: -20 mbar
Test duration: 8 hours

(D-2)IPX7 Test Method / Specification

Test Equipment:

Name	Brand	Model	Serial No.
IPX7/IPX8 Immersion Tank	self-made	SGS-ETR-0201	000001

Lab Environmental Conditions:

Ambient temperature: 25±3℃
Relative humidity: 55±20%RH

Test Method/ Specification:

Test method: According to IEC 60529 Edition 2.1: 2001-02--IPX7
Sample condition: Operating
Test means: Completely immerse the specimen in water in its service position as specified by client.
Test condition: See below items marked "●".

●	The lowest point of enclosures with a height less than 850 mm is located 1000 mm below the surface of the water
	The highest point of enclosures with a height equal to or greater than 850 mm is located 150 mm below the surface of the water

Test duration: 30 minutes