

## APPLICATION FOR TEST REPORT

On Behalf of

Prepared For : **Magnizon Power Systems FZE**  
JAFZA, Dubai, United Arab Emirates

Product Name : Solar Pumping VFD  
Models : SVD-002K3, SVD-003K3, SVD-005K3, SVD-007K3, SVD-010K3, SVD-015K3, SVD-020K3, SVD-025K3B

Prepared By : **SHENZHEN POCE TECHNOLOGY CO., LTD.**  
H Building, Hongfa Science And Technology Park, Tangtou, Shiyan,  
Bao'An District, Shenzhen, China

Test Date : Feb 2, 2018 to Feb 6, 2018

Date of Report : Feb 6, 2018

Report No. : POCE18020606HRS

**Note:** This test report is limited to the above client company and the product model only. It may not be duplicated without prior written consent of Shenzhen POCE Technology Co., Ltd.

<b>TEST REPORT</b> <b>EN 61800-1:1997</b> <b>Adjustable speed electrical power drive systems</b> <b>-- Part 5-1: Safety requirements - Electrical, thermal and energy</b>	
Reference No.....	POCE18020606HRS
Tested by (name and signature) .....	Eva
Approved by (name and signature)...	Machael Mo
Date of issue .....	Feb 6, 2018
	
<b>Testing laboratory</b>	
Name.....	SHENZHEN POCE TECHNOLOGY CO., LTD.
Address.....	H Building, HongFa Science and Technology Park, Tangtou, Shiyao, Bao'an District, Shenzhen, China
Testing location.....	Same as above
<b>Client</b>	
Name.....	Magnizon Power Systems FZE
Address.....	JAFZA, Dubai, United Arab Emirates
<b>Test specification</b>	
Standard.....	EN 61800-1:1997
<b>Test item</b>	
Description .....	Solar Pumping VFD
Trademark.....	Magnizon
Model and/or type reference .....	SVD-002K3, SVD-003K3, SVD-005K3, SVD-007K3, SVD-010K3, SVD-015K3, SVD-020K3, SVD-025K3
Manufacturer.....	Magnizon Power Systems FZE
Address .....	JAFZA, Dubai, United Arab Emirates
Rating(s).....	Input: 3PH 380V~ 50Hz Output: 3PH 380V~ 15kW class I

**Test case verdicts**

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

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

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

**Testing**

Date of receipt of test item ..... : Feb 2, 2018

Date(s) of performance of test : Feb 2, 2018 to Feb 6, 2018

**General remarks**

This test 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 tested.

"(see remark #)" refers to a remark appended to the report.


"(see appended table)" refers to a table appended to the report.

Throughout this report a comma is used as the decimal separator.


**Remark:**

- The maximum ambient temperature of the product is 40°C.


Copy of marking plate:


**MAGNIZON**  
GREEN ENERGY  
[www.magnizon.com](http://www.magnizon.com)


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<b>MODEL</b>	<b>SVD-010K3</b>
<b><u>PV INPUT</u></b>	
Vdc max	750V
Vdc mpp	300-750V
Idc max	30A
<b><u>MAINS AC INPUT</u></b>	
No. of Phase	3ph
Vac Input	320- 480V
Fac Input	40-70Hz
Iac Input max	20.5A
<b><u>AC OUTPUT</u></b>	
Ouput Phase	3ph
Pac nom	10hp/7.5kw
Fac nom	50Hz/60Hz
Iac	17A
Protective class	IP20
Operation temp	-20-60°C
Certification	IEC62355; EN61800; EN55011; EN61000; ISO9001:2015
Size	160(W)x183(D)X248(H)mm
Weight	3.7kG
S/N	
<b>*MP1802SVD010K0027*</b>	

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CE

  
RoHS

  
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~~WEEE~~

EN 61800-5-1			
Clause	Requirement – Test	Result - Remark	Verdict
5	Ratings		P
5.1	BDM input ratings		P
5.1.1	Input voltages	~	P
	The BDM input ratings shall be stated by the manufacturer. Preferred values are: a) 100, 110, 200, 220, 230*, 240, 380, 400*, 415, 440, 500, 660, 690* V at 50 Hz; b) 100, 115, 120, 200, 208, 220, 230, 240, 400, 440, 460, 480, 575, 600 V at 60 Hz	3PH 380V 50/60Hz	P
5.1.2	Input currents		N
	There are two input currents: converter alone: IVN;		N
	this value shall be stated by the manufacturer at the minimum a.c. line impedance; – CDM or BDM: ILN; this value includes current required by auxiliaries IXN.		N
5.2	BDM output ratings		P
5.2.1	Continuous output ratings		P
5.2.2	Overload capability		P
5.2.3	Speed range		N
	The speed shall be capable of being adjusted over a range of not less than eight to one by armature voltage control. This speed range may be extended by motor field weakening to a maximum speed depending on the motor rating (see figure A.1).		N
5.2.4	Existing d.c. voltage ratings		N
	Inverting operation may require reduction of armature voltage. A three-phase line commutated converter can fail in the inverting mode due to excessive d.c./a.c. ratio. This ratio can have its large value due to a low a.c. line or to a large motor terminal voltage. The low a.c. line may be due to a large motor starting on the power system causing a line dip, or to a properly placed commutation notch from another converter.		N
5.3	Efficiency and losses	0-500Hz	P
	The equipment included in the determination of the overall efficiency shall be stated. The losses or efficiency of the PDS or of the CDM/BDM (see 2.5.8) shall be given by the manufacturer at rated load and base speed.		P
5.4	Ripple	Type C	P

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Clause	Requirement – Test	Result - Remark	Verdict
	Type A Direct current generator – battery, – polyphase rectifier having no less than 12 pulses per cycle and maximum 15 % phase control, – any power supply that provides sufficient series inductance to obtain 6 % peak-to-peak, or less, armature current ripple.		N
	Type B Three-phase full wave power supply having 12 controlled pulses per cycle, without free-wheeling diode and without series inductance added in the motor armature circuit.		N
	Type C Three-phase full wave power supply having six controlled pulses per cycle, without free-wheeling diode and without series inductance added in the motor armature circuit.		P
	Type D Three-phase semibridge power supply having three controlled pulses per cycle, with free-wheeling diode and without series inductance added in the motor armature circuit.		N
	Type E Three-phase single way power supply having three controlled pulses per cycle, without free-wheeling diode and series inductance, added in the motor armature circuit.		N
	Type K Single-phase full wave power supply having two total pulses and two controlled pulses per cycle, with free-wheeling diode and without series inductance added in the motor armature circuit.		N
	Type L Single-phase full wave power supply having two controlled pulses per cycle, without free-wheeling diode and without series inductance added in the motor armature circuit.		N
5.5	Transformers and reactors		P
6	Performance requirements		P
6.1	Steady-state performance		P
	6.1.1 Deviation band (see figure 6) The deviation band is the total excursion of the directly controlled variable (unless another variable is specified) under steady-state conditions as a result of changes in the service or operating conditions within their specified ranges. It is expressed:		P
	a) as a percentage of the ideal maximum value of the directly controlled (or other specified) variable, see example in 6.1.2;		P
	b) as an absolute number for systems which have no readily definable base, such as position or air temperature control systems.		P
6.1.2	Selection of deviation bands (steady-state)		P

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Clause	Requirement – Test	Result - Remark	Verdict
	The steady-state performance of a feedback control system shall be described by two numbers, selected from table 6 (other levels may be defined by agreement).		P
6.1.3	Service deviation band – limits		P
6.1.4	Operating deviation band – limits		P
6.1.5	Resolution		P
6.2	Dynamic performance		P
6.3	Dynamic braking and dynamic slowdown		P
6.3.1	Dynamic braking		P
	When dynamic braking (stop) is provided:		P
	a) the converter shall be capable of braking a load at a current of 110 %, 125 % or 150 % of rated current, depending on converter rating;		P
	b) the dynamic braking resistor shall be capable of absorbing two times the stored rotational energy of the motor at maximum speed (with the resistor initially at ambient temperature);		P
	c) drive systems with large variable inertia of the driven equipment (such as winders) shall be capable of braking the maximum stored energy; the dynamic braking resistor is initially at ambient temperature, the energy rating shall be adequate to allow stopping the drive system once from any operating speed; the maximum dynamic braking armature current at top speed is 150 %; in this case inertia of the driven equipment shall be provided by the user.		P
6.3.2	Dynamic slowdown		P
6.4	Other performance requirements		P
6.4.1	Use of the drive in the application		P
6.4.2	Use of the drive in its connection to supply		P
6.4.3	Ratings		P
6.4.4	Protective devices		P
6.4.4.1	Overcurrent protection devices		P
	The current setting of overcurrent protection devices shall not exceed the service limit output current rating of the BDM.		P
6.4.4.2	Acceleration control		P
	Drives shall be provided with either current limit or timed acceleration.		P
6.4.4.3	DC motor field control		P

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Clause	Requirement – Test	Result - Remark	Verdict
	When the field control of the motor could cause detrimental generated voltage and/or current in the armature circuit, means shall be provided to automatically prevent such a possibility.		P
6.4.4.4	Field loss protection		P
	Should be provided, if it is not covered by other means.		P
6.4.4.5	Overspeed and speed feedback loss protection		P
	Shall be provided, if speed feedback is used and maximum safe speed can be exceeded.		P
6.4.4.6	Fan loss protection		P
	Drive systems supplied with fans shall have fan loss protection.		P
7	Tests		P
7.1	Classification of tests		P
7.1.1	type test: A test of one or more devices made to a certain design to show that the design meets certain specifications [IEV 151-04-15].		P
7.1.2	routine test: A test to which each individual device is subjected during or after manufacture to ascertain whether it complies with certain criteria [IEV 151-04-16].		P
7.1.3	sampling test: A test on a number of devices taken at random from a batch [IEV 151-04-17].		P
7.1.4	special test: A test additional to type and routine tests, made either at the discretion of the manufacturer or according to an agreement between the manufacturer and the customer or his representative.		P
7.1.5	workshop test: A test on a device or equipment carried out in the factory or laboratory of the manufacturer to validate the design.		P
7.1.6	acceptance test: A contractual test to prove to the customer that the device meets certain conditions of its specification [IEV 151-04-20].		P
7.1.7	commissioning test: A test on a device or equipment carried out on site, to prove the correctness of installation and operation [IEV 151-04-21].		P
7.1.8	witness test: Any of the above tests performed in the presence of the customer, the user, or his representative.		P
7.2	Performance of tests		P
7.2.1	General conditions		P
7.2.2	Earthing conditions		P
7.3	Items of separate device tests		P
7.3.1	Standard tests for PDS		P
7.3.2	Essais normaux des CDM/BDM		P
7.3.2	Standard tests for CDM/BDM		P



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Clause	Requirement – Test	Result - Remark	Verdict
7.3.3	Checking the properties of the control equipment of CDM/BDM		P
7.4	Items of power drive system tests		P

photos

### PHOTOS



Overview



Side view

photos



Fig 1 Front view



Fig 2 Top view

photos



Fig 3 Fan view



Fig 4 Internal view

photos

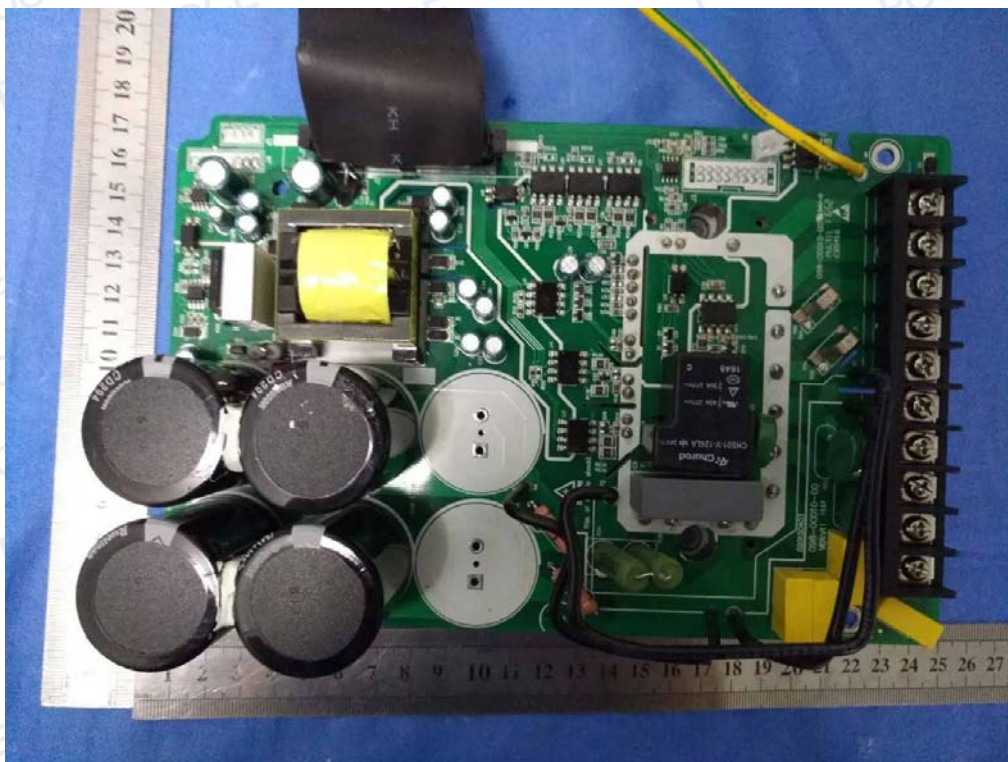


Fig 5 Components of PCB view



Fig 6 Trace of PCB view

photos

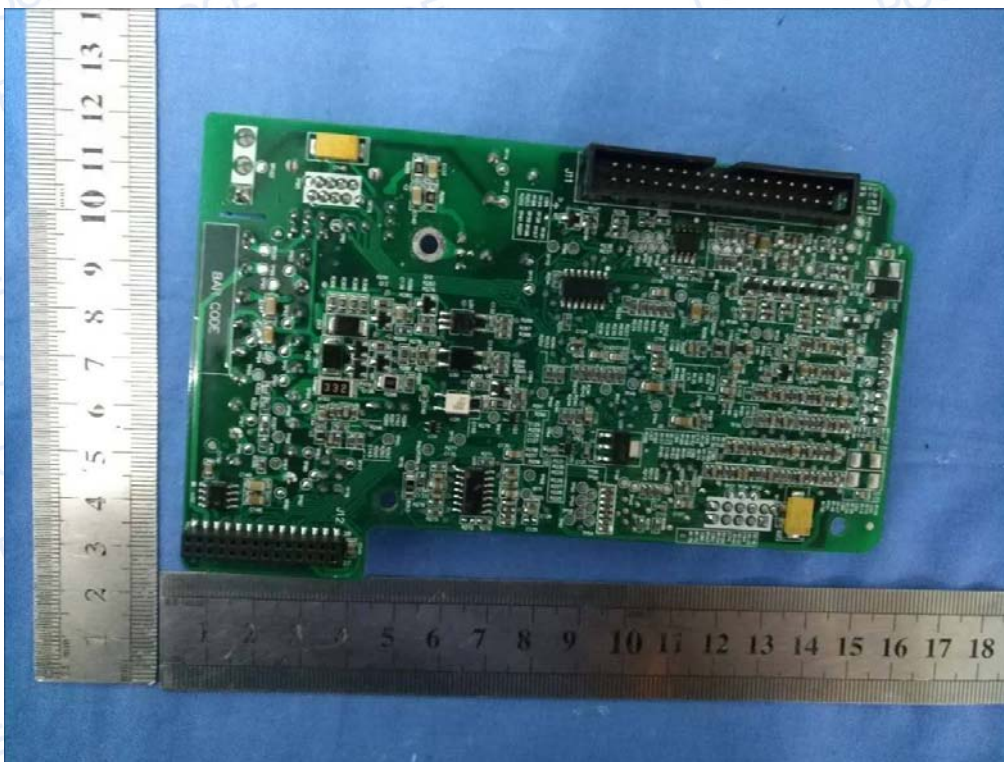


Fig 7 PCB view

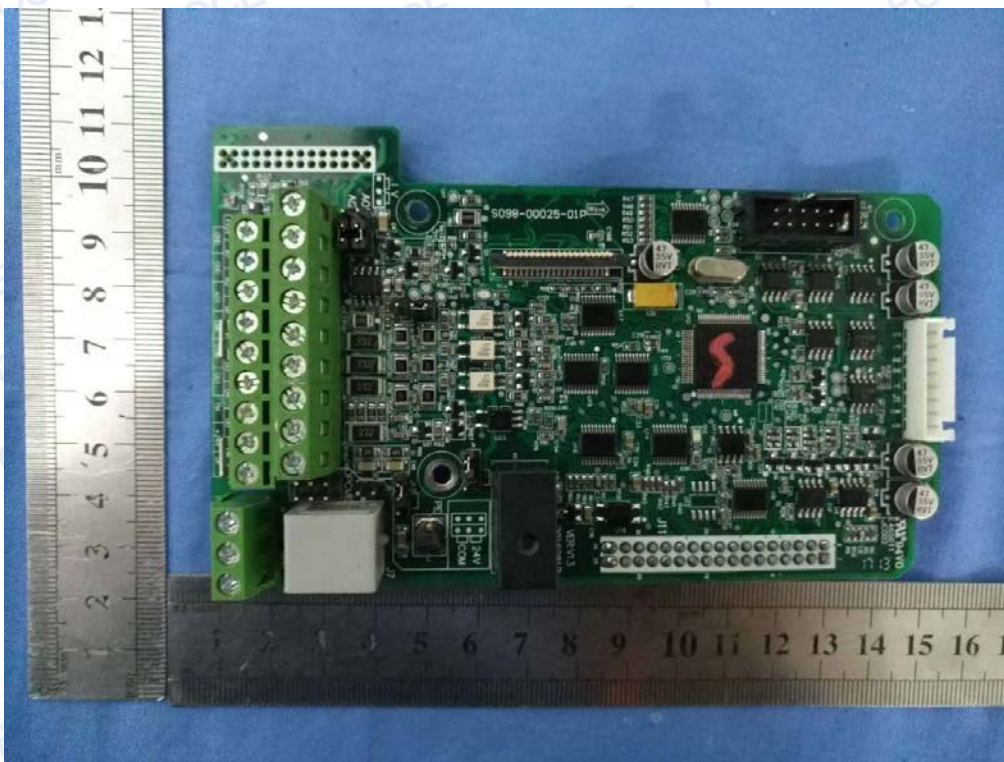


Fig 8 PCB view

photos

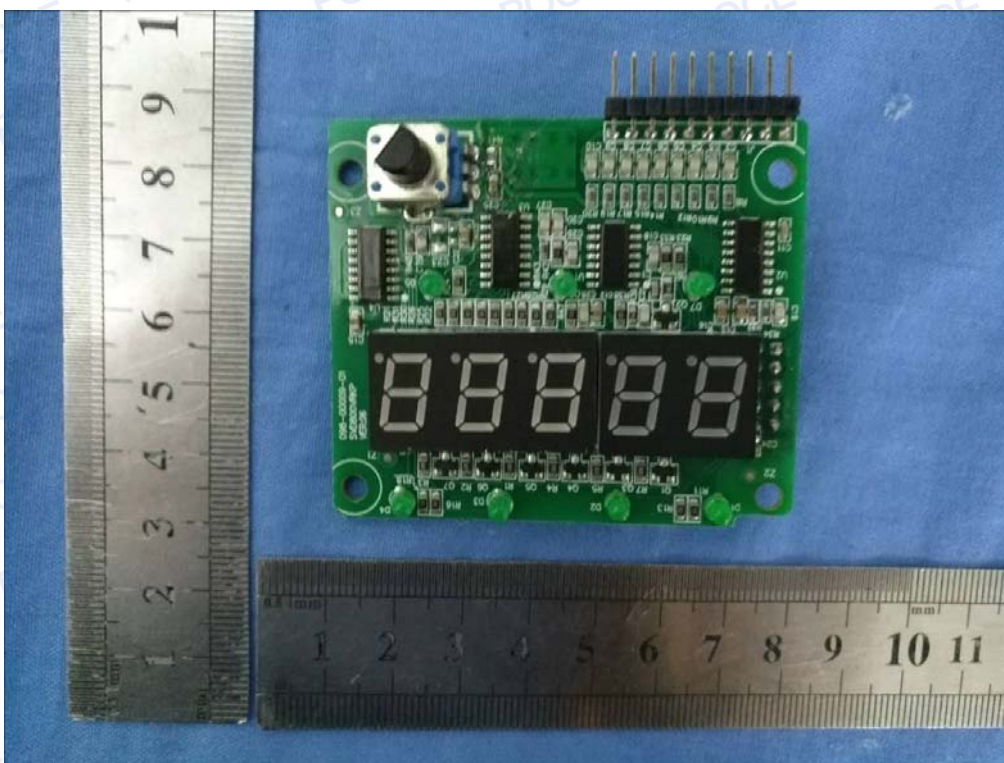


Fig 9 PCB view

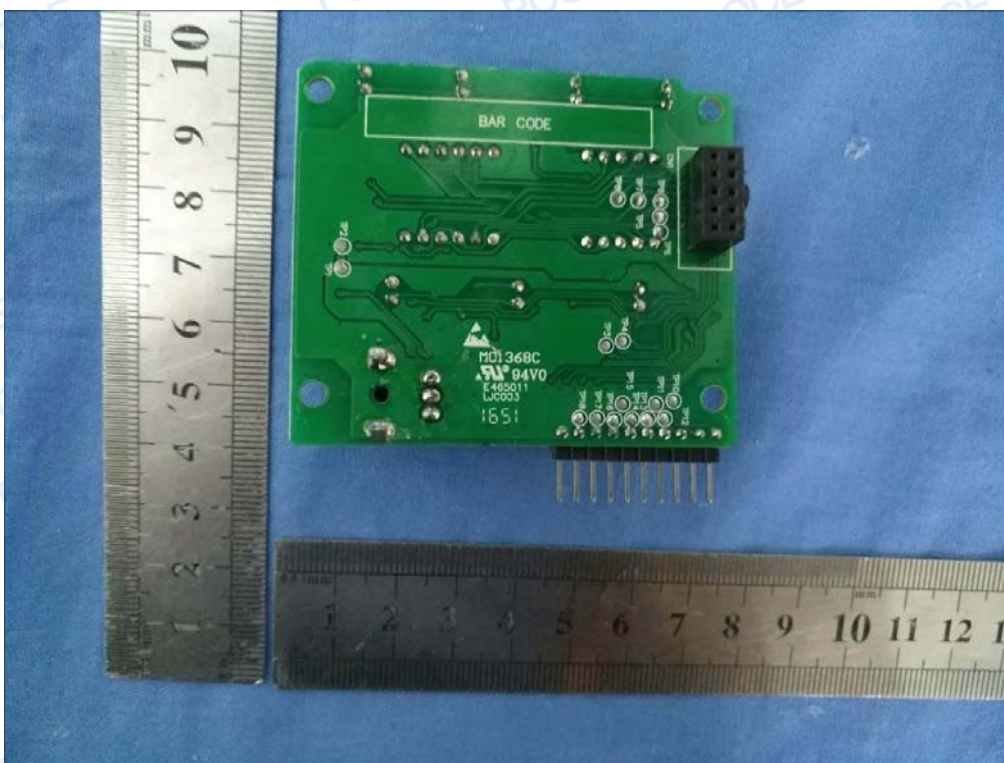


Fig 10 PCB view

\*\*\* End of the report \*\*\*