



Yadav Measurements

TEST CERTIFICATE

Issued By :

YADAV MEASUREMENTS PRIVATE LIMITED

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CIN number: U31909RJ2003PTC018450



T-0347



Certificate number: YMPL/253359/64276		Page 1 of 6
1.a	Tested for:-	RISHABH INSTRUMENTS PRIVATE LIMITED, F-31, MIDC SATPUR, NASHIK, MAHARASHTRA, 422007, INDIA
1.b	Submitted by:	RISHABH INSTRUMENTS PRIVATE LIMITED, F-31, MIDC SATPUR, NASHIK, MAHARASHTRA, 422007, INDIA
2.	Reference:- Customer order number: Service request form number: Date: Date of receipt of the instrument: Condition of item on receipt:	-Nil- 2014-2015/1009/1 16 th October, 2014 16 th October, 2014 Satisfactory
3.	Test certificate: Date of issue: Date of testing:	16 th December, 2014 13 th November, 2014
4.	Description of equipment under test:-	
	Number of samples:	2
	Nature of sample:	POWER QUALITY MONITOR
	Sr. No.	14/07/0107, 14/07/0108
	Aux. Supply:	60-300V AC/DC
	Input Voltage:	500V L-L
	Current rating:	5A/1A
	Impulse Constant:	4000 imp/kWh
	Type/Model :	RISH PQM
	Reference frequency:	45Hz-65Hz
	Accuracy Class:	0.5s

This certificate is issued in accordance with the laboratory accreditation requirements of the National Accreditation Board for testing and calibration Laboratories (NABL). This certificate may not be reproduced other than in full, except with the prior written approval of the issuing laboratory.

Checked by :

Sign. :

Name : PRADEEP BHANAWAT

Approved by :

Sign. :

Name : ABHIJAT DUBE

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5.	Tests details:- D=Test done, ND=Test not done, NA=Test not applicable, PD=Test partially done C: Conform, NC= Non Conform		
5.1	Test specification as per IEC 61326-1:2012 Amend 0 and test procedure as per IEC 61000-4-2:2008 for Electrostatic discharge test.		
A	Electrostatic discharge test.	D	C
6.	Note:- 1) This Certificate relates only to the particular samples received for testing at YMPL. 2) Only the test(s) asked by the customer has been carried out. 3) This certificate, in full or in part, shall not be published, advertised, used for any legal action, unless prior permission has been secured. 4) Any anomaly/discrepancy in this test report/certificate should be brought to our notice within 45 days from the date of issue. 5) Authenticity of this certificate can be verified by sending details of certificate to Yadav.measurements@ymllabs.com 6) EN 61326-1:2013 is equivalent to IEC61326-1:2012 7) Unless otherwise specified all testing done on 50Hz.		
7.	Test results:-The test results are given on next pages.		



Product Description

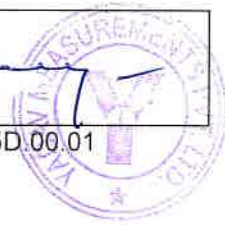
The EUT is Power Quality monitor with both of the configuration 3 Phase 4 Wire and 3 Phase 3 Wire input supply 500V L-L and auxiliary supply 60V-300V AC/DC along with the Input current 5A/1A. EUT has a LCD Display. Refer figures given below for detailed description of EUT.

For testing EUT was powered up with 230 V AC auxiliary voltages and was given input voltage 230V along with the line current of 5A for the all three lines.
 It has 2 terminals 13 and 14 for auxiliary supply.
 1, 4 and 7 for line current IN for L1 L2 and L3 respectively and terminal 3, 6 and 9 for line current OUT for L1 L2 and L3 respectively.

EUT limits specified as specified by customer.

Performance criteria A: During the test Input voltage 230V is given to the EUT should be within the range of +/-23.0V and 5 Amp the current given to the system should within the range of the +/-0.5amp as read by the display of the EUT.
 Performance criteria B: During the testing the equipment could be outside the limits i.e. (0.5Amps if 5 AMP and 23V if 230V is fed into the system) but after the test there shall be no loss or degradation of performance.

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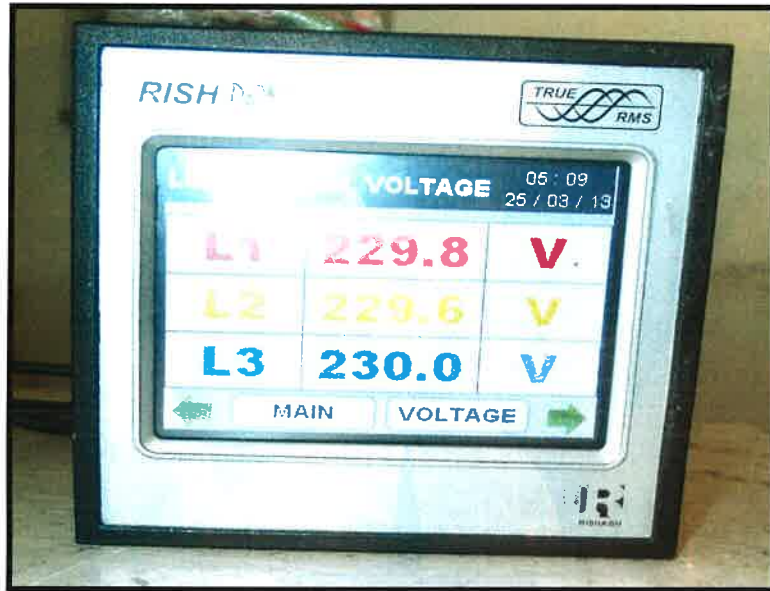


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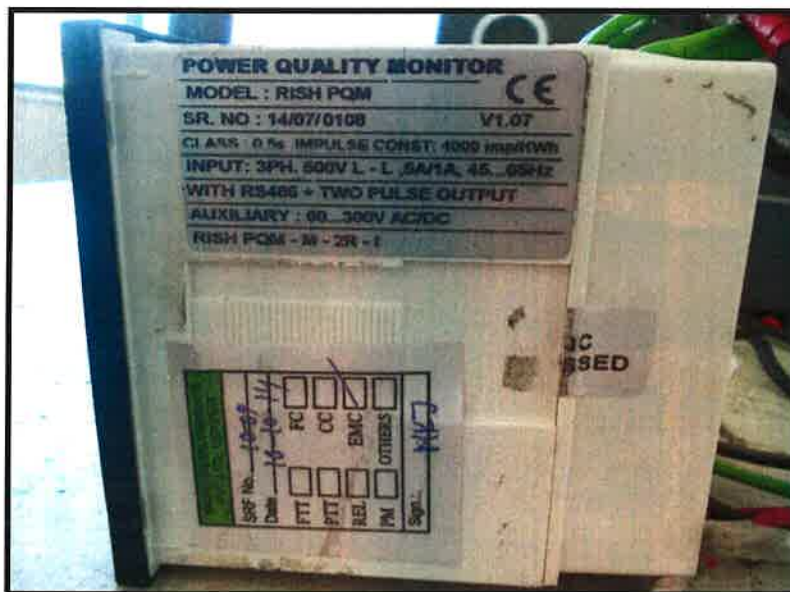
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EUT picture:

1) Front View



2) Side View

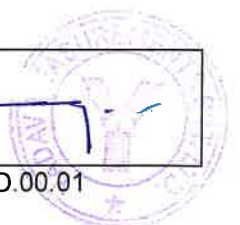


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Approved by:

[Signature]



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Electrostatic discharge Test

Test Instrument details:-

ESD Gun: - Make: - Noise ken

Model: - ESS2000



Sr. No.:-ESS0685937

ESD simulator: - Make: - Noise ken

Model: - TC-815R

Environmental Condition: Temperature: 25.14°C
 Relative Humidity: 54.12%
 Atmospheric Pressure: 0.93 Bar

S. No	Particulars of tests & clause number	Requirement as per Specification	Measured value/observation	Remarks
A	Electrostatic discharge test (As per IEC 61326-1:2012 Amend 0)	<p>The test shall carried out according to IEC61000-4-2 under the following conditions :-</p> <p>-Contact Discharge -Test Voltage : 4kV -Test severity level : 2 -Number of discharges : 10</p> <p>-Air Discharge: - Test Voltage 8kV - Test Severity level: 3 - Number of Discharges: 10 -Auxiliary circuits energised with reference voltage and 5A current applied in all the three phases. The equipment should be within specified limits i.e. for system current 5A±0.5A and 230V+/-23V. As per performance criteria B the equipment could be outside the limit during the test but after the test no degradation of performance or loss of function is allowed and EUT should be within the specified limits (5A±0.5A and 230V+/-23V).</p>	<p>The EUT compiles to performance criteria B. During and after the test there was no fluctuation and flickering of display and the applied system current was also within the limit as specified by the customer. Also EUT was checked for its performance and found ok after application of the ESD. Also there was no disturbance occurred in modbus communication during the test. (Test was performed on EUT Sr. No. 14/07/0108)</p>	Conform

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Indirect contact discharge:-
At Vertical coupling plane



Points of discharge	Type of discharge	2kV		4kV	
		+	-	+	-
Left side	Indirect contact Discharge	Ok	Ok	Ok	Ok
Right side	Indirect contact Discharge	Ok	Ok	Ok	Ok
Front side	Indirect contact Discharge	Ok	Ok	Ok	Ok
Back side	Indirect contact Discharge	Ok	Ok	Ok	Ok

At Horizontal coupling plane:-

Points of discharge	Type of discharge	2kV		4kV	
		+	-	+	-
Left side	Indirect contact Discharge	Ok	Ok	Ok	Ok
Right side	Indirect contact Discharge	Ok	Ok	Ok	Ok
Front side	Indirect contact Discharge	Ok	Ok	Ok	Ok
Back side	Indirect contact Discharge	Ok	Ok	Ok	Ok

Air discharge:-

Points of discharge	Type of discharge	2kV		4kV		8kV	
		+	-	+	-	+	-
Display	Air Discharge	Ok	Ok	Ok	Ok	Ok	Ok
Cover Body	Air Discharge	Ok	Ok	Ok	Ok	Ok	Ok
Cover Joints	Air Discharge	Ok	Ok	Ok	Ok	Ok	Ok

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Electrostatic discharge test set up



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QF5D.00.01

