



सत्यमेव जयते

TEST/CALIBRATION REPORT



ELECTRONICS REGIONAL TEST LABORATORY (WEST)
MINISTRY OF COMMUNICATIONS & INFORMATION TECHNOLOGY, (STQC Dte.)

Government of India

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MEMORANDUM

The Test/Calibration Report issued by ERTL (W) is a record of the measurements conducted on the products submitted to it for testing / calibration and the results thereof. Unless otherwise specified in the report, the results are applicable only to those products which have been tested / calibrated and do not apply to other products even though declared to be identical.

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LIABILITY CLAUSE

1. ERTL(W) shall not be liable for any change in test/calibration data and performance specification on account of malfunctioning of the standard / instrument / equipment due to any damage caused to it after the report, in respect of it has been issued.
2. The report shall not be regarded in any way diminishing the normal contractual responsibilities / obligations between the customer and ERTL (W).
3. The results reported in this report are valid only at the time of and under the stated conditions of the measurements.

ELECTRONICS REGIONAL TEST LABORATORY (WEST) DEPARTMENT OF INFORMATION TECHNOLOGY		REPORT NO. ERTL (W) / 2005 E&S 181	
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1. SCOPE

1.1 Service Request No : ERTL(W) / 2005 1345 Dated. 10th August, 2005

1.1.1 Service Request finalised on : 10th August, 2005

1.2 Requested by (Name and address of organisation) : SETO TEKNOLOG PVT LTD.
406, HILL VIEW INDL. ESTATE
OFF. LBS MARG, AMRUT NAGAR
GHATKOPAR(W), MUMBAI 400086

1.3	Description	Qty	Manufacturer	Type No.	Serial Nos.
	Voltage Transducer, Input: 0-132 V AC, Output: 4-20 mA DC, Class: 0.5, Isolation: 4 kV, User Category: II	01	SETO No. TEKNOLOG PVT LTD.	STE-A-2T	350987

1.4 Test specifications IEC 60688 (Limited Parameters)

1.5 Lab Ambient Temperature: (25 ±2) deg. C
RH : (55 ±5) % RH

1.6 Test Equipment used

1. Power Energy Calibrator (E&S/126)
2. High Voltage Tester (E&S/66)
3. Impulse Voltage Tester (COM/209)
4. Variac (E&S/99)
5. Clamp Meter (SAF/137)
6. DC Power Supply
7. Magnetic Influence Jig
8. Timer

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2.0 Test Results.

Sr.No.	Test/Parameter (Clause No.)	Test Condition	Requirement	Observation	Remark
2.1	Intrinsic error (4.2)	Auxiliary power supply: 48 V DC. Input voltage = 110 V AC a) Input frequency = 45 Hz b) Input frequency = 50Hz c) Input frequency = 55 Hz	Class index (0.5 %) ±0.080 mA (Max)	See Annexure -I	Complied
2.2	Variation due to ambient temp. (6.4)	Auxiliary power supply ; 48 V DC Input voltage = 110 V AC Temp, varied from 0 deg. C to 45 deg. C	100% of class index ±0.080 mA (Max)	See Annexure -I	Complied
2.3	Variation due to distortion of input quantities (6.10)	Auxiliary power supply: 48 V DC Input voltage = 110VAC I/p with 20% 3 rd harmonics	200% of Class index ±0.160 mA (Max)	See Annexure —I	Complied
2.4	Variation due to magnetic field of external origin (6.11)	Auxiliary power supply : 48 V DC Input voltage = 110 V AC Magnetic field of 0.4 kA/m	100 % of class index ±0.080 mA (Max)	See Annexure -I	Complied

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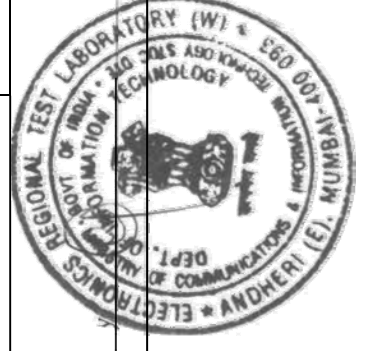
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Sr.No.	Test/Parameter Clause No.	Test Condition	Requirement	Observation	Remark
2.5	Permissive excessive inputs (6.18)				
2.5.1	Continuous excessive inputs (6.18.1)	Auxiliary power supply 48 V DC Apply 120 % of nominal upper value on aux. Supply, voltage inputs and current inputs.	Continue to comply the accuracy class after test	See Annexure -I	Complied
2.5.2	Excessive inputs of short duration (6.18.2)	a) For voltage inputs: 200 % of the nominal value of the measured voltage applied for 1 s and repeated 10 times at 10 s interval, b) For current inputs: 20 times the nominal value of the measured current applied for 1 s and repeated 5 times at 300 s interval	Continue to comply the accuracy class after test	See Annexure -I	Complied
2.6	Voltage test (6.19)	At 4kV AC for 1 min. between a) Input & output b) Aux. & output c) Aux. & input	No breakdown.	No flashover or Breakdown observed.	Complied

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Sr.No.	Test/Parameter (Clause No.)	Test Condition	Requirement	Observation	Remark
2.7	Impulse voltage tests (6.20)	At peak test voltage of 5 kV in both positive and negative senses having the standardized impulse waveform of 1.2/50 us, applied between terminals of each circuit in turn and all other circuit connected together.	There shall be no flashover or breakdown.	See Annexure -I	Complied
2.7.1	Intrinsic error (4.2)	As in 2.1 above	Class index (0.5 %) ±0.080 mA (Max)	See Annexure -I	Complied
2.8	High frequency disturbance test (6.21)	2.5 kV peak between independent circuits. 1kV peak between terminals of the same circuit.	The variation due to the effect of disturbance shall not be twice of class index.	See Annexure -I	Complied
2.8.1	Intrinsic error (4.2)	As in 2.1 above	Class index (0.5 %) ±0.080 mA (Max)	See Annexure -I	Complied

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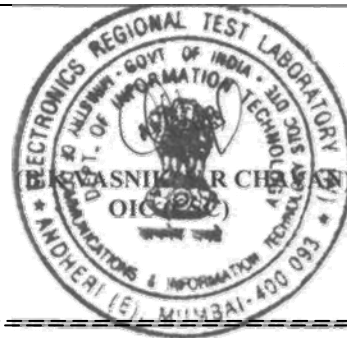
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3.0 General Remarks : - NIL -

REPORT APPROVED BY

REPORT RELEASED BY

Abdul Moideen
ABDUL MOID
HEAD (E&S)



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ANNEXURE -I

OUTPUT at 25 deg C				Output after Impulse Test	
INPUT (V)	STD. (mA DC)	OBS. (mA DC)	Error	OBS. (mA)	Variation
0	4.000	3.996	0.004	4.024	0.028
66	12.000	11.980	0.020	11.981	0.001
132	20.000	19.979	0.021	19.978	0.001
Output at 0 deg C				Output at 45 deg C	
INPUT (V)	STD. (mA DC)	OBS. (mA DC)	Error	OBS. (mA)	Variation
0	4.000	3.984	0.012	3.976	0.020
66	12.000	11.972	0.008	11.958	0.022
132	20.000	19.971	0.008	19.955	0.024
Output with Magnetic field				Output at 3rd Harm	
INPUT (V)	STD. (mA DC)	OBS. (mA DC)	Error	OBS. (mA)	Variation
0	4.000	3.971	0.025	3.998	0.002
66	12.000	11.958	0.022	12.015	0.035
132	20.000	19.955	0.024	20.017	0.038
O/p after Cont. Excessive input				O/P after excessive input of short duration	
INPUT (V)	STD. (mA DC)	OBS. (mA DC)	Error	OBS. (mA)	Variation
0	4.000	4.010	0.014	4.030	0.034
66	12.000	11.979	0.001	11.982	0.002
132	20.000	19.978	0.001	19.983	0.004
Output after HF Disturbance.					
INPUT (V)	STD. (mA DC)	OBS. (mA DC)	Variation		
0	4.000	4.028	0.032		
66	12.000	11.985	0.005		
132	20.000	19.981	0.002		

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OUR ACCREDITATION STATUS

ERTL (WJ set tip under the STQC Directorate, Ministry of Communications & Information Technology, Govt of India has been accredited under number of national / international systems as follows :

SYSTEM	AREA	STATUS
IECQ [International Electro-technical Commission on Quality Assessment System for Electronic Components)	Component Testing • Resistors (Fixed) • Capacitors (Fined)	Accredited as ITL (Independent Test Laboratory)
NABL(C), India National Accreditation Board for Test & Calibration laboratories (Calibration System)	Calibration • Eteciro-technical discipline • Thermal discipline • Mechanical discipline	Accredited Calibration Laboratory
NABL (T). India National Accreditation Board for Test & Calibration laboratories (Testing System)	Electronic & Electrical Testing	Accredited Test Laboratory
IECEE-CB-Scheme	• Wains Operated Electronic Consumer Products • IT Products • Safely critical components	Approved as a CB Test Laboratory
SASO	Electronics & Electrical Testing	Recognised by Saudi Arabian Standard Organisation
Other recognitions	Electronics & Electrical Testing	Recognised by CSPO of State Govt., DOT. OGS & D, LCSO, RDSO. DRDO and BIS.