Government of India
Ministry of Communications and Information Technology
Department of Information Technology, Standardisation Testing & Quality Certification Directorate

ELECTRONICS REGIONAL TEST LABORATORY (EAST)

TEST REPORT ON TRIP AMPLIFIER

1.0 SCOPE

1.1 Service Request No. : TE/0061/08-12

1.2 Test Report No. : ERTL(E)/TES/T238/0002/12-12
Date : 12/03/2013

1.3 Requested by (Name & Address of the organisation) : **TROLEX LTD.**
NEWBY ROAD INDL.ESTATE
HAZEL GROVE,STOCKPORT,
CHESHIRE, SK75DY,
UNITED KINGDOM

1.4 Description , Identification of the item to be tested

Item	:	TRIP AMPLIFIER
Make	:	TROLEX
Model	:	TX9131
Sl.No.	:	PROTOTYPE
Qty.	:	1

1.4.1 Applicable Spec.of the item(s) tested:

Ui=16.5V, Ci=3.6nF, Li=0

1.4.2 Characterisation and condition of the item

Characterisation : Not applicable /

Condition : Satisfactory /

1.5 Date of item receipt of item : 04/09/2012

1.6 Date of start of testing : 12/12/2012

1.6.1 Date of completion of testing : 05/02/2013

1.7 Location where testing performed : In house

1.8 Ambient condition during measurement : 25 +/- 1.5°C
70% RH. Max.

1.9 Spec. used for testing : IS/IEC 60079-0:2004 & IS/IEC 60079-11:2006,GAS GROUP I

1.9.1 Details of non-standard method followed (if any) : NIL

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3.0 Equipment used

Pl. see the ANNEXURE-'EQUIPMENT USED' for details of equipment used for testing

4.0 Remarks (if any)

a) The equipment "Trip Amplifier", Type:TX9131, Make:Trolex has been assessed & tested as per relevant clauses of IS/IEC 60079-0:2004 & 60079-11:2006 for its intrinsically safe design & found complied for Gas Group I application.

b) Safe condition of use: The equipment "Trip Amplifier" shall be housed in IP 54 enclosure (minimum requirement) or Flameproof enclosure tested and certified for Group I application.

c) This report is exclusively valid for Trip Amplifier TX9131 having three options i.e. Single relay 4 to 20mA output option, Single relay .4 to 2V output option and Dual relay output option only.

ERTL (East), Kolkata * Ministry of Comm. & Info. Govt. of India

20.3.13

RELEASED BY
(signature & date)

SONALI MANA
Scientific Officer
Electronics Regional Test Laboratory (East)
STQC Directorate, Department of Information Technology
Ministry of Communications & Information Technology
Government of India
Kolkata-700 091

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Annexure-I

Report No: ERTL(E)/TES/T238/0002/12-12

Following are the certified drawings/ documents as listed Trip Amplifier, Type : TX9131, Make: Trolex.

Sl. No	Title	Document / Drawing No.	Date	Issue	No of sheet(s)
01	Label Details	P5460.127.1	31.01.13	A	1
02	Interconnection Block Diagram	P5460.45	21.01.98	A	1
03	Circuit diagram Control PCB	P5460.01-I	07.07.97	A	1
04	PCB Artwork (Control)	P5460.03	07.07.97	A	1
05	Circuit diagram Output PCB (V,I,KTY81 Input)	P5460.38-I	09.01.98	A	1 of 3
06	Circuit diagram Output PCB (V,I,KTY81 Input)	P5460.38-I	09.01.98	A	2 of 3
07	Circuit diagram Output PCB (V,I,KTY81 Input)	P5460.38	06.02.02	B	3 of 3
08	Output PCB	P5460.29	08.01.98	A	7 sheets 1of 7 to 7 of 7
09	Reed Relay	P5093.27	21.01.97	C	1 of 1

B. Deb
Head (EAC)

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Annexure – II

Report no. ERTL(E)/TES/T238/0002/12-12

Entity parameters for Trip Amplifier, Make: Trolex, Type: TX9131 as referred in the report

T1-T2 (sensor power)
Uo = 16.5V; Ci = 2.4nF; Li = 0

T3-T4 (sensor signal)
Uo = 16.5V; Io = 33mA; Po = 135mW; Ci = 1.2nF; Li = 0

T5-T6 (supply)
Ui = 16.5V; Ci = 3.6nF; Li = 0

T7-T8 (relay)
Uo = 0; Ui = 20V; Ci = 0; Li = 0

T11-T12 (relay reset / power on delay)
Uo = 16.5V; Ui = 0; Ci = 0; Li = 0

T9-T10 (Dual Relay Output Option)
Uo = 0; Ui = 20V; Ci = 0; Li = 0

Or.

T9-T10 (4-20mA Output Option)
Uo = 16.5V; Ci = 0; Li = 0; Io = 105mA
Value of Lo & Co must not exceed the following limits.
Lo = 42mH; Co = 11.7 uF
Refer clause no. 10.1.5.2 of IS/IEC 60079-11:2006 for connection of combined inductance and capacitance.

Or.

T9-T10 (.4-2V Output Option)
Uo = 16.5V; Ci = 0; Li = 0; Io = 105mA
Value of Lo & Co must not exceed the following limits.
Lo = 42mH; Co = 11.7 uF
Refer clause no. 10.1.5.2 of IS/IEC 60079-11:2006 for connection of combined inductance and capacitance.

B. Deb
Head (EAC)

ERTL (East), Kolkata
Govt of India