

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

PAGE 01 OF 12

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 : **TROLEX LTD.**
(Name & Address
of the organisation) 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

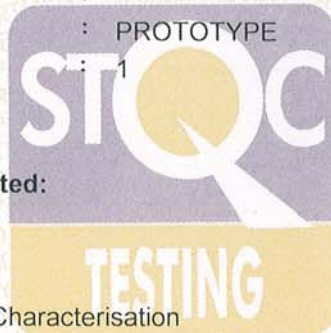
1.6.1 Date of completion of testing : 05/02/2013

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



Certificate No. : T1397

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PAGE 12 OF 12

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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.



RELEASED BY
 (signature & date)

Sona Jana
 20.3.13

SONA JANA
 Scientist
 STQC Directorate, Deptt. of IT, Ministry of Comm. & Info. Tech., Government of India, Kolkata-700 091

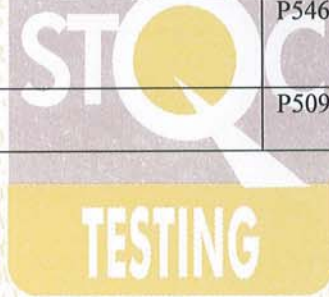
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Annexure-I

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

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

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)

$U_o = 16.5V$; $C_i = 2.4nF$; $L_i = 0$

T3-T4 (sensor signal)

$U_o = 16.5V$; $I_o = 33mA$; $P_o = 135mW$; $C_i = 1.2nF$; $L_i = 0$

T5-T6 (supply)

$U_i = 16.5V$; $C_i = 3.6nF$; $L_i = 0$

T7-T8 (relay)

$U_o = 0$; $U_i = 20V$; $C_i = 0$; $L_i = 0$

T11-T12 (relay reset / power on delay)

$U_o = 16.5V$; $U_i = 0$; $C_i = 0$; $L_i = 0$

T9-T10 (Dual Relay Output Option)

$U_o = 0$; $U_i = 20V$; $C_i = 0$; $L_i = 0$

Or.

T9-T10 (4-20mA Output Option)

$U_o = 16.5V$; $C_i = 0$; $L_i = 0$; $I_o = 105mA$

Value of L_o & C_o must not exceed the following limits.

$L_o = 42mH$; $C_o = 11.7 \mu F$

Refer clause no. 10.1.5.2 of IS/IEC 60079-11:2006 for connection of combined inductance and capacitance.

Or.

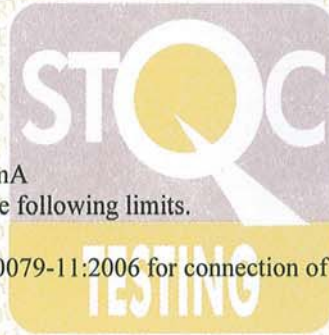
T9-T10 (.4-2V Output Option)

$U_o = 16.5V$; $C_i = 0$; $L_i = 0$; $I_o = 105mA$

Value of L_o & C_o must not exceed the following limits.

$L_o = 42mH$; $C_o = 11.7 \mu F$

Refer clause no. 10.1.5.2 of IS/IEC 60079-11:2006 for connection of combined inductance and capacitance.





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Head (EAC)

