



1 **EC - TYPE EXAMINATION CERTIFICATE**

2 **Equipment or Protective System Intended for use in Potentially Explosive Atmospheres
Directive 94/9/EC**

3 EC - Type Examination Certificate Number: **Baseefa07ATEX0191X**

4 Equipment or Protective System: **TX2122.56 Single Port Repeater and TX2122.57 Multiport Repeater**

5 Manufacturer: **Trolex Limited**

6 Address: **Hazel Grove, Stockport, Cheshire, SK7 5DY**

7 This equipment or protective system and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

8 Baseefa (2001) Ltd., Notified Body number 1180, in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment or protective system has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in confidential Report No. 07(C)0171-2

9 Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN 60079-0: 2006 EN 60079-11: 2007 EN 60079-28: 2007 EN 50303: 2000

except in respect of those requirements listed at item 18 of the Schedule.

10 If the sign "X" is placed after the certificate number, it indicates that the equipment or protective system is subject to special conditions for safe use specified in the schedule to this certificate.

11 This EC - TYPE EXAMINATION CERTIFICATE relates only to the design and construction of the specified equipment or protective system. Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system. These are not covered by this certificate.

12 The marking of the equipment or protective system shall include the following :

See Schedule

This certificate may only be reproduced in its entirety, without any change, schedule included.

Baseefa Customer Reference No. 1159

Project File No. 07/0171

This certificate is granted subject to the general terms and conditions of Baseefa (2001) Ltd. It does not necessarily indicate that the equipment may be used in particular industries or circumstances.

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R S SINCLAIR
DIRECTOR
On behalf of
Baseefa (2001) Ltd.



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Schedule

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Certificate Number Baseefa07ATEX0191X

15 Description of Equipment or Protective System

The TX2122.56 Single Port Repeater and TX2122.57 Multiport Repeater is designed to take a single serial communications interface and either repeat it via a non-isolated interface (TX2122.56 Single Port Repeater) or repeat it on several ports via a non-isolated interface (TX2122.57 Multiport Repeater). The TX2122.57.68 Multiport Repeater is additionally fitted with two optical interfaces. The TX2122 is intended to be mounted in the hazardous area.

The apparatus consists of two or three PCB's mounted within a plastic DIN rail mounted enclosure. The TX2122.56 Single Port Repeater measures approximately 71mm x 90mm x 59mm, while the TX2122.57 Multiport Repeater measures approximately 105mm x 90mm x 59mm. On the side of the enclosure is an eight way DIL switch block used to set the address of the repeater. LED indicators are situated on the top of the enclosure indicating power and communications status.

Electrical connections to the apparatus are made via screw terminals. The TX2122 is mounted in a separate outer enclosure offering a degree of ingress protection of at least IP54 and suitable for a mining environment.

TX2122.56 Single Port Repeater

I M1 Ex ia I (-20°C ≤ Ta ≤ +50°C)

Power Connections: CN1/5 w.r.t. CN1/7 (0V)

$U_i = 14.4V$

$I_i = 3.33A$

$C_i = 2.5\mu F$

$L_i = 0$

RS458A Serial Interface Connections: CN2/1 and CN2/3 w.r.t. CN2/5 (0V)

RS485B Serial Interface Connections: CN1/1 and CN2/7 w.r.t. CN1/3 (0V)

$U_o = 6.88V$

$I_o = 60mA$

$P_o = 0.221W$

$U_i = 6.88V$

$C_i = 8.42\mu F$

$L_i = 0$

$C_o = 130\mu F$

$L_o = 60mH$

$L_o/R_o = 3355\mu H/\Omega$



TX2122.57 Multiport Repeater

I M1 Ex ia I (-20°C ≤ Ta ≤ +50°C)

Power Connections: CN101/7 & CN201/7 w.r.t. CN101/8 & CN201/8 (0V)

$U_i = 14.4V$
 $I_i = 3.33A$
 $C_i = 4.42\mu F$
 $L_i = 0$

RS458A Serial Interface Connections: CN101/1 and CN101/3 w.r.t. CN101/5 (0V)

RS485B Serial Interface Connections: CN101/2 and CN101/4 w.r.t. CN101/6 (0V)

RS485C Serial Interface Connections: CN201/1 and CN201/3 w.r.t. CN201/5 (0V)

RS485D Serial Interface Connections: CN201/2 and CN201/4 w.r.t. CN201/6 (0V)

$U_o = 6.88V$
 $I_o = 60mA$
 $P_o = 0.221W$
 $U_i = 6.88V$
 $C_i = 8.42\mu F$
 $L_i = 0$
 $C_o = 130\mu F$
 $L_o = 60mH$
 $L_o/R_o = 3355\mu H/\Omega$

TX2122.57.68 Multiport Repeater (with fibre-optic interface)

I M1 Ex ia I (-20°C ≤ Ta ≤ +50°C) Ex op is I Ma

Power Connections: CN101/7 & CN201/7 w.r.t. CN101/8 & CN201/8 (0V)

$U_i = 14.4V$
 $I_i = 3.33A$
 $C_i = 4.42\mu F$
 $L_i = 0$

RS458A Serial Interface Connections: CN101/1 and CN101/3 w.r.t. CN101/5 (0V)

RS485B Serial Interface Connections: CN101/2 and CN101/4 w.r.t. CN101/6 (0V)

RS485C Serial Interface Connections: CN201/1 and CN201/3 w.r.t. CN201/5 (0V)

RS485D Serial Interface Connections: CN201/2 and CN201/4 w.r.t. CN201/6 (0V)

$U_o = 6.88V$
 $I_o = 60mA$
 $P_o = 0.221W$
 $U_i = 6.88V$
 $C_i = 8.42\mu F$
 $L_i = 0$
 $C_o = 130\mu F$
 $L_o = 60mH$
 $L_o/R_o = 3355\mu H/\Omega$

16 Report Number

07(C)0171-2



17 Special Conditions for Safe Use

The apparatus must be mounted inside an enclosure that offers a degree of ingress protection of at least IP54 according to IEC 60529 and be suitable for a mining environment.

18 Essential Health and Safety Requirements

All relevant Essential Health and Safety Requirements are covered by the standards listed at item 9.

19 Drawings and Documents

Number	Sheet	Issue	Date	Description
P5554.01	1 to 2	C	24/09/07	TX2122 Multiport Repeater Circuit Diagram Main PCB
P5554.03	1 to 2	C	17/01/08	TX2122 Multiport Repeater Circuit Diagram, Optic PCB
P5554.04 #	1 of 1	A	08/02/07	TX2120 Series Repeater/Isolator Circuit Diagram, LED PCB
P5554.05	1 to 2	B	08/02/07	TX2122.56 Single Port Repeater Circuit Diagram Main PCB
P5554.10	1 to 3	C	25/02/08	TX2122 Multiport Repeater PCB, Main
P5554.12	1 of 1	B	29/10/07	TX2122.57/57.68 Multiport Repeater General Arrangement
P5554.18	1 to 3	B	25/02/08	TX2122.56 Single Port Repeater PCB, Main
P5554.20	1 of 1	B	21/02/08	TX2122.56 Single Port Repeater General Arrangement
P5554.22	1 to 3	C	25/02/08	TX2122 Multiport Repeater PCB, Optic
P5554.24 #	1 of 1	A	08/02/07	TX2120 Series Repeater/Isolator PCB, LED
P5554.28	1 of 1	B	01/02/08	TX2122.57 Multiport Repeater Label Details
P5554.30	1 of 1	B	01/02/08	TX2122.56 Single Port Repeater Label Details

Drawings also associated and held with Baseefa07ATEX0190X.