



1 **EC-TYPE EXAMINATION CERTIFICATE**

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

5 EC-Type Examination Certificate Number : **BAS01ATEX7153**

6 Equipment or Protective System: **MTL5042 REPEATER POWER SUPPLY 4/20mA**

7 Manufacturer: **MEASUREMENT TECHNOLOGY LIMITED**

8 Address: **Luton, Bedfordshire, LU1 3JJ**

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

10 The Electrical Equipment Certification Service, notified body number 600 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 N°

01(C)0220 dated 18 December 2001 (held on EECS 0703/02/299)

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

EN 50014: 1997 + Amds 1 & 2 **EN 50020: 1994**

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

12 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.

13 This EC-TYPE EXAMINATION CERTIFICATE relates only to the design and construction of the specified equipment or protective system. If applicable, further requirements of this Directive apply to the manufacture and supply of this equipment or protective system.

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

Ex II (1) GD [EEEx ia] IIC (-20°C ≤ T_a ≤ +60°C)

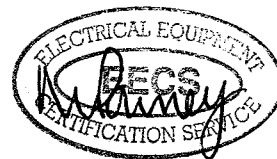
This certificate may only be reproduced in its entirety and without any change, schedule included.

File No: EECS 0703/02/328

This certificate is granted subject to the general conditions of the Electrical Equipment Certification Service. It does not necessarily indicate that the apparatus may be used in particular industries or circumstances.



Electrical Equipment Certification Service
Health and Safety Executive
Harpur Hill, Buxton, Derbyshire, SK17 9JN, United Kingdom
Tel: +44(0)1298 28000 Fax: +44(0)1298 28244
internet: www.baseefa.com e-mail: baseefa.info.eecs@hsl.gov.uk



I M CLEARE
DIRECTOR
29 April 2002

Re-issued 5 July 2002 to correct drawing issue numbers and dates.

CERT\ATEX\EQUIPCAT1-2P, Issue 1, Dated September 1998



13

Schedule

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EC-TYPE EXAMINATION CERTIFICATE N° BAS01ATEX7153

15

Description of Equipment or Protective System

An MTL5042 Repeater Power Supply, 4/20mA provides a fully floating d.c. supply for energising a conventional two or three wire 4-20 mA transmitters which is located in the hazardous area. The apparatus repeats the current signal into another floating circuit so as to drive a safe area load. For smart transmitters, the unit allows bi-directional communication signals to be superimposed on the 4/20mA signal. The bi-directional signal may be processed by a suitably certified hand held communicator. The repeater restricts the transfer of energy from unspecified safe-area apparatus to an intrinsically safe circuit by the limitation of voltage and current. Three transformers provide galvanic isolation between the hazardous and non-hazardous area circuitry.

The apparatus comprises of one power transformers, two current transformers, duplicated diode/zener diodes chains and current limiting resistors to provide voltage and current limitation. The above, together with other electronic components are mounted on a printed circuit board and housed in a moulded plastic enclosure. Polarised plugs and sockets are provided for the hazardous and non-hazardous connections.

CON 3, Pins 7, 8, 9; CON 4, Pins 10, 11, 12 and CON 5, Pins 13 &14

$$U_m = 250V$$

The circuit connected to the safe area terminals on CON 3, CON 4 and CON 5 is designed to operate from a d.c. supply voltage of up to 35V.

CON 1 Pin 2, CON 2 Pin 5 w.r.t. CON 1 Pin 1, CON 2 Pin 4

$$U_o = 28V$$

$$I_o = 93mA$$

$$P_o = 0.65 W$$

$$C_i = 0$$

$$L_i = 0$$

CON 1 Pin 3 w.r.t. CON 1 Pin 1, CON 2 Pin 4

$$U_o = 1.1V$$

$$I_o = 53mA$$

$$P_o = 15 mW$$

$$C_i = 0$$

$$L_i = 0$$



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Schedule

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EC-TYPE EXAMINATION CERTIFICATE N° BAS01ATEX7153

CON 1 Pin 2, CON 2 Pin 5 w.r.t. CON 1 Pin 3

$U_o = 28V$
 $I_o = 87mA$
 $P_o = 0.61W$
 $C_i = 0$
 $L_i = 0$

The capacitance and either the inductance or the inductance to resistance ratio (L/R) of the hazardous area load must not exceed the following values:

GROUP	CAPACITANCE (μF)	INDUCTANCE (mH)	OR	L/R RATIO ($\mu H/ohm$)
IIC	0.083	3.05 (4.2)		55
IIB	0.650	9.15 (12.6)		210
IIA	2.150	24.4 (33.6)		444

When the external circuit contains no lumped inductance greater than $10\mu H$ i.e. the L_i of any attached apparatus is less than $10\mu H$, the cable inductance may be increased to the values within parentheses.

Equipment referred to in this certificate having the same type number as items in BASEEFA Certificate No Ex 95D2341 may be used as a direct substitute in a system provided that the cable parameters used are within the limits shown on this certificate.

VARIATION 0.1

To permit an external intrinsically safe source with $U_o = 30V$ and $I_o = 121mA$ having a source resistance of U_o/I_o to be connected to pin 3 with respect to pins 1 and 4. Output pins 2 and 5 must not be used when this external source is connected to pin 3 with respect to pins 1 and 4.

The capacitance and either the inductance or the inductance to resistance ratio (L/R) of the hazardous area cables must not exceed the values as detailed in the original schedule or the certificate relating to the external intrinsically safe source.

VARIATION 0.2

To permit the connection of MTL5000 Ring Terminal assemblies in place of the safe and hazardous area screw terminals. The enclosure remains IP20 whether or not the Ring Terminal is fitted. The following MTL5000 Ring Terminals may be connected to the MTL5042. Blanking covers may be removed if necessary.



13 **Schedule**

14 **EC-TYPE EXAMINATION CERTIFICATE N° BAS01ATEX7153**

Hazardous Area Terminal	MTL5042 pins	1, 2, 3
	HAZ-RT-1-3	1, 2, 3
Safe Area Terminal	MTL5042 pins	8, 9, 11, 12
	SAF-RT-8-12	5, 6, 7, 8

16 **Report No**

01(C)0220

17 **Special Conditions For Safe Use**

None.

18 **Essential Health and Safety Requirements**

ESSENTIAL HEALTH & SAFETY REQUIREMENTS not covered by standards listed in Section 9		
Clause	Subject	Compliance
1.1.3	Changes in characteristics of materials and combinations thereof	Report No 01(C)0220 Clause 5.1.1.3
1.2.2	Components for incorporation or replacement	Report No 01(C)0220 Clause 5.1.2.2
1.2.5	Additional means of protection	Report No 01(C)0220 Clause 5.1.2.5
1.2.7	Protection against other hazards	Report No 01(C)0220 Clause 5.1.2.7
1.4.2	Withstanding attack by aggressive substances	Report No 01(C)0220 Clause 5.1.4.2

19 **DRAWINGS**

Number	Sheet	Issue	Date	Description
CI5042-1	2	4	11.01	MTL5042 Parts List
CI5042-1	3	3	08.96	MTL5042 Circuit Diagram
CI5042-1	4	3	08.96	MTL5042 Component Layout
CI5042-1	5	1	06.96	MTL5042 General Assembly
CI5042-1	6	2	11.01	MTL5042 Internal Construction
CI5042-1	7	3	08.96	MTL5042 PCB Track Layout
CI5042-1	8	2	11.01	MTL5042 Transformer Winding Details
*CI 5000-1	1	1	5.95	I.S. Transformer TRF301
*CI 5000-1	2	1	5.95	I.S. Transformer TFR301
*CI 5000-2	1	1	5.95	I.S. Transformer TFR300
*CI 5000-2	2	1	5.95	I.S. Transformer TFR300
CI 5000-3	1	3	7.00	I.S. Transformer TFR302
CI 5000-3	2	3	7.00	I.S. Transformer TFR302

Drawings marked * are associated with and are held on BASEEFA Certificate BAS01ATEX7157



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Schedule

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EC-TYPE EXAMINATION CERTIFICATE N° BAS01ATEX7153

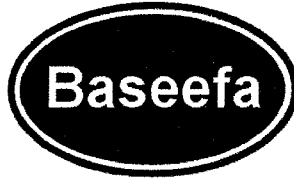
Drawing associated with Variation 0.2

Number	Sheet	Issue	Date	Description
**CI5000-12	1 to 4	1	02.02	MTL5000 Ring Terminal

Drawing marked ** is associated with and held on BASEEFA Certificate BAS01ATEX7144

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BASEEFA List Keywords
2ISOLBAR



1 SUPPLEMENTARY EC - TYPE EXAMINATION CERTIFICATE

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

3 Supplementary EC - Type Examination Certificate Number: BAS01ATEX7153/1

4 Equipment or Protective System: MTL5042 REPEATER POWER SUPPLY, 4/20mA

5 Manufacturer: MEASUREMENT TECHNOLOGY LIMITED

6 Address: Luton, Bedfordshire, LU1 3JJ

7 This supplementary certificate extends EC – Type Examination Certificate No. BAS01ATEX7153 to apply to equipment or protective systems designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

This supplementary certificate shall be held with the original certificate.

The original certificate was issued by The Electrical Equipment Certification Service, Notified Body Number 0600, which retains responsibility for its original documentation. Baseefa (2001) Ltd., Notified Body Number 1180, is responsible only for the additional work relating to this supplementary certificate and any other supplementary certificate it has issued.

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

Baseefa (2001) Ltd. Customer Reference No. 0703

Project File No. 02/0523

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.

Baseefa (2001) Ltd.
Health and Safety Laboratory Site, Harpur Hill,
Buxton, Derbyshire SK17 9JN
Telephone +44 (0) 1298 28255 Fax +44 (0) 1298 28216
e-mail info@baseefa2001.biz web site www.baseefa2001.biz
Registered in England No. 4305578 at 13 Dovedale Crescent, Buxton,
Derbyshire, SK17 9BJ

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



13

Schedule

14

Certificate Number BAS01ATEX7153/1

15

Description of the variation to the Equipment or Protective System

Variation 1.1

To allow the MTL5042 Repeater Power Supply, 4/20mA to be supplied with or without plug-in terminals. The enclosure maintains a degree of protection of at least IP20 with the plug-in terminals removed.

16

Report Number

None

17

Special Conditions for Safe Use

None

18

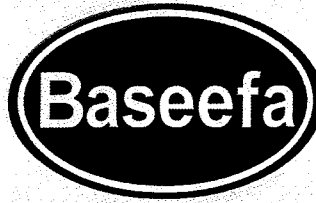
Essential Health and Safety Requirements

Compliance with the Essential Health and Safety Requirements is not affected by this variation.

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Drawings and Documents

Number	Sheet	Issue	Date	Description
CI5042-1	6	3	12.02	MTL5042 General Assembly and label



1 SUPPLEMENTARY EC - TYPE EXAMINATION CERTIFICATE

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

- 3** Supplementary EC - Type Examination Certificate Number: **BAS01ATEX7153/2**
- 4** Equipment or Protective System: **MTL5042 Repeater Power Supply, 4/20mA**
- 5** Manufacturer: **Measurement Technology Limited**
- 6** Address: **Great Marlings, Butterfield, Luton, Bedfordshire. LU2 8DL
(formerly Power Court, Luton, Bedfordshire LU1 3JJ)**
- 7** This supplementary certificate extends EC – Type Examination Certificate No. BAS01ATEX7153 to apply to equipment or protective systems designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

This supplementary certificate shall be held with the original certificate.

The original certificate was issued by The Electrical Equipment Certification Service, Notified Body Number 0600, which retains responsibility for its original documentation. Baseefa, Notified Body Number 1180, is responsible only for the additional work relating to this supplementary certificate and any other supplementary certificate it has issued.

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Baseefa Customer Reference No. 0703

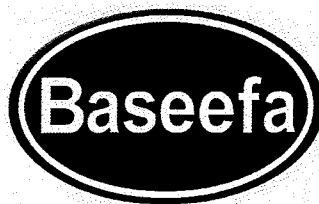
Project File No. 09/0437

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

A handwritten signature in black ink, appearing to read "R S Sinclair".

R S SINCLAIR
DIRECTOR
On behalf of
Baseefa

Baseefa
Rockhead Business Park, Staden Lane,
Buxton, Derbyshire SK17 9RZ
Telephone +44 (0) 1298 766600 Fax +44 (0) 1298 766601
e-mail info@baseefa.com web site www.baseefa.com
Baseefa is a trading name of Baseefa Ltd
Registered in England No. 4305578. Registered address as above.



13

Schedule

14

Certificate Number BAS01ATEX7153/2

15

Description of the variation to the Equipment or Protective System

Variation 2.1

To permit minor changes to the circuit and label not affecting the original assessment.

16

Report Number

None.

17

Special Conditions for Safe Use

None

18

Essential Health and Safety Requirements

Compliance with the Essential Health and Safety Requirements is not affected by this variation.

19

Drawings and Documents

Number	Sheet	Issue	Date	Description
CI5042-1	3 of 8	4	5.09	MTL5042 Repeater Power Supply 4/20mA, for 2 or 3 Wire Transmitters – Circuit Diagram
CI5042-1	4 of 8	4	5.09	MTL5042 Repeater Power Supply 4/20mA, for 2 or 3 Wire Transmitters – PCB Component Layout
CI5042-1	6 of 8	4	6.09	MTL5042 Repeater Power Supply 4/20mA for 2- or 3-Wire Transmitters (with Smart Communication) General Assembly and Label

The above drawings are associated and held with IECEx Certificate No. IECEx BAS 05.0015/2



1 **SUPPLEMENTARY EC - TYPE EXAMINATION CERTIFICATE**

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

- 3 Supplementary EC - Type Examination Certificate Number: **BAS01ATEX7153/3**
- 4 Equipment or Protective System: **MTL5042 Repeater Power Supply, 4/20mA**
- 5 Manufacturer: **Measurement Technology Limited**
- 6 Address: **Great Marlings, Butterfield, Luton, Bedfordshire. LU2 8DL**
- 7 This supplementary certificate extends EC – Type Examination Certificate No. BAS01ATEX7153 to apply to equipment or protective systems designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

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Baseefa Customer Reference No. 0703

Project File No. 09/0957

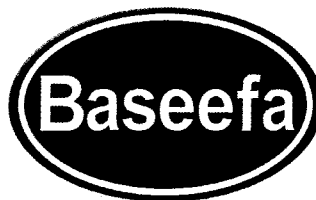
This certificate is granted subject to the general terms and conditions of Baseefa. It does not necessarily indicate that the equipment may be used in particular industries or circumstances.

Baseefa

Rockhead Business Park, Staden Lane,
Buxton, Derbyshire SK17 9RZ
Telephone +44 (0) 1298 766600 Fax +44 (0) 1298 766601
e-mail info@baseefa.com web site www.baseefa.com
Baseefa is a trading name of Baseefa Ltd
Registered in England No. 4305578. Registered address as above.

A handwritten signature in black ink, appearing to read "R S Sinclair".

R S SINCLAIR
DIRECTOR
On behalf of
Baseefa



13

Schedule

14

Certificate Number BAS01ATEX7153/3

15 Description of the variation to the Equipment or Protective System

Variation 3.1

To permit minor changes to the circuit not affecting the original assessment.

16 Report Number

None.

17 Special Conditions for Safe Use

None

18 Essential Health and Safety Requirements

Compliance with the Essential Health and Safety Requirements is not affected by this variation.

19 Drawings and Documents

Number	Sheet	Issue	Date	Description
CI5042-1	3 of 8	5	11.09	MTL5042 Repeater Power Supply 4/20mA, for 2 or 3 Wire Transmitters – Circuit Diagram
CI5042-1	4 of 8	5	11.09	MTL5042 Repeater Power Supply 4/20mA, for 2 or 3 Wire Transmitters – PCB Component Layout

The above drawings are associated and held with IECEx Certificate No. IECEx BAS 05.0015/3