



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: **Baseefa03ATEX0584**

4 Equipment or Protective System: **MTL5043 Repeater Power Supply, Dual Output, 4/20mA for 2-Wire
'Smart' Transmitters**

5 Manufacturer: **MEASUREMENT TECHNOLOGY LIMITED**

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

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. **03(C)0663**

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

EN 50014: 1997 + Amds 1 & 2 EN 50020: 2002

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 :

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

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

Baseefa (2001) Ltd. Customer Reference No. **0703**

Project File No. **03/0663**

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.

R S SINCLAIR

DIRECTOR

On behalf of

Baseefa (2001) Ltd.

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



13

Schedule

14

Certificate Number Baseefa03ATEX0584

15 Description of Equipment or Protective System

The MTL5043 Repeater Power Supply, Dual Output, 4/20mA for 2-Wire 'Smart' Transmitters is designed to provide a fully floating d.c. supply for energising a conventional 2-wire 4/20mA 'Smart' transmitter which is to be located in the hazardous area. The apparatus repeats the current in two floating circuits to drive two independent safe area loads. The 'Smart' data transfer is repeated through Channel 1 only, for bi-directional communication.

The MTL5043 restricts the transfer of energy from unspecified safe-area apparatus to an intrinsically safe circuit by the limitation of voltage and current. An LED indicator provides indication of the status of the transmitter.

The MTL5043 apparatus comprises four isolating transformers which provide galvanic isolation between the hazardous area and the non-hazardous area circuitry and a detection circuit with zener diode/resistance combination 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 area and non-hazardous area connections.

Connector CON3, CON4 and CON5

$$U_m = 253 \text{ Vrms}$$

The circuit connected to the safe area terminals CON3, CON4 and CON5 is designed to operate from a d.c. supply voltage of up to 35V.

Connector CON1 Pins 2 w.r.t. 1

$$\begin{aligned} U_o &= 28\text{V} \\ I_o &= 93\text{mA} \\ P_o &= 0.65\text{W} \\ C_i &= 0 \\ L_i &= 0 \end{aligned}$$

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

GROUP	CAPACITANCE (μF)	INDUCTANCE (mH)	OR	L/R RATIO ($\mu\text{H}/\text{ohm}$)
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 μH i.e. the L_i of any attached apparatus is less than 10 μH , the cable inductance may be increased to the values within parentheses.



16 Report Number

03(C)0663

17 Special Conditions for Safe Use

None

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
CI5043-2	1	1	08.03	MTL5043 Parts List
CI5043-2	2	1	08.03	MTL5043 Circuit Diagram
CI5043-2	3	1	08.03	MTL5043 Component Layout
CI5043-2	4	1	08.03	MTL5043 General Assembly
CI5043-2	5	1	08.03	MTL5043 PCB Track Layout
CI5043-2	6	1	08.03	MTL5043 Transformer Winding Details
*CI 5000-1	1	1	05.95	I.S. Transformer TRF301
*CI 5000-1	2	1	05.95	I.S. Transformer TFR301
*CI 5000-2	1	1	05.95	I.S. Transformer TFR300
*CI 5000-2	2	1	05.95	I.S. Transformer TFR300

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



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: Baseefa03ATEX0584/1

4 Equipment or Protective System: MTL5043 Repeater Power Supply, Dual Output, 4/20mA for 2-Wire 'Smart' Transmitters

5 Manufacturer: Measurement Technology Limited

6 Address: Luton, Bedfordshire LU1 3JJ

7 This supplementary certificate extends EC – Type Examination Certificate No. Baseefa03ATEX0584 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.

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

Baseefa (2001) Ltd. Customer Reference No. 0703

Project File No. 03/0818

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.

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

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



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Schedule

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Certificate Number Baseefa03ATEX0584/1

15 **Description of the variation to the Equipment or Protective System**

Variation 1.1

To permit minor circuit changes that do not affect the original intrinsic safety 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
CI5043-2	2	2	09.03	MTL5043 Circuit Diagram
CI5043-2	3	2	09.03	MTL5043 Component Layout
CI5043-2	5	2	09.03	MTL5043 PCB Track Layout



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: **Baseefa03ATEX0584/2**

4 Equipment or Protective System: **MTL5043 Repeater Power Supply, Dual Output, 4/20mA for 2-Wire
'Smart' Transmitters**

5 Manufacturer: **Measurement Technology Limited**

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

7 This supplementary certificate extends EC – Type Examination Certificate No. Baseefa03ATEX0584 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 (2001) Ltd. Customer Reference No. 0703

Project File No. 04/0061

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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


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



13

Schedule

14

Certificate Number Baseefa03ATEX0584/2

15 **Description of the variation to the Equipment or Protective System**

Variation 1.1

To permit changes to the PCB layout that does not affect the original intrinsic safety 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
CI5043-2	2	3	12.03	MTL5043 Circuit Diagram
CI5043-2	3	3	01.04	MTL5043 Component Layout
CI5043-2	5	3	01.04	MTL5043 PCB Track Layout



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: Baseefa03ATEX0584/3

4 Equipment or Protective System: MTL5043 Repeater Power Supply, Dual Output, 4/20mA for 2-Wire 'Smart' Transmitters

5 Manufacturer: Measurement Technology Limited

6 Address: Luton, Bedfordshire, LU1 3JJ

7 This supplementary certificate extends EC – Type Examination Certificate No. Baseefa03ATEX0584 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. 05/0450

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

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 (2001) Ltd
Registered in England No. 4305578 at the above address



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Schedule

14

Certificate Number Baseefa03ATEX0584/3

15 **Description of the variation to the Equipment or Protective System**

Variation 3.1

To permit minor drawing changes that do not affect the original intrinsic safety 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
CI5043-2	2	4	07.05	MTL5043 Circuit Diagram
CI5043-2	3	4	07.05	MTL5043 Component Layout
CI5043-2	6	2	07.05	MTL5043 Transformer Winding Details



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: **Baseefa03ATEX0584/4**

4 Equipment or Protective System: **MTL5043 Repeater Power Supply, Dual Output, 4/20mA for 2-Wire
'Smart' Transmitters**

5 Manufacturer: **Measurement Technology Limited**

6 Address: **Power Court, Luton, Bedfordshire, LU1 3JJ**

7 This supplementary certificate extends EC – Type Examination Certificate No. Baseefa03ATEX0584 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

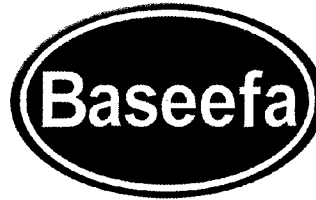
Project File No. 08/0743

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



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Schedule

14

Certificate Number Baseefa03ATEX0584/4

15 **Description of the variation to the Equipment or Protective System**

Variation 4.1

To permit minor changes to the printed circuit board layout 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
CI5043-2	5 of 6	4	10.08	MTL5043 Repeater Power Supply, Dual Output, 4/20mA, for 2 Wire "Smart" Transmitters – PCB Track Layout

The above drawing is associated and held with IECEX Certificate No. IECEX BAS 05.0055/1