



EC-TYPE EXAMINATION CERTIFICATE

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

EC-Type Examination Certificate Number : **BAS02ATEX7276**

Equipment or Protective System: **MTL9121 FISCO POWER SUPPLY - IIC**

Manufacturer: **MEASUREMENT TECHNOLOGY LIMITED**

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

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

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)0717 dated 23 August 2002

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.

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.

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.

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

⊕ II (2) GD [EEEx ib] IIC (-40°C ≤ T_a ≤ +70°C)

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

File No: EECS 0703/02/338

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.



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I M CLEARE
DIRECTOR
30 August 2002



13

Schedule

14

EC-TYPE EXAMINATION CERTIFICATE N° BAS02ATEX7276

15

Description of Equipment or Protective System

The MTL9121 FISCO Power Supply - IIC is a module comprising electronic components on two printed circuit boards mounted within a plastic enclosure. The electrical circuit is designed for a duplicated d.c. input voltage of 19.2 to 30V d.c. to provide redundancy. This supply is switched at high frequency into a high frequency transformer. A secondary output voltage is rectified and smoothed, and is provided with triplicated crowbar circuits. These circuits will trip on under or over voltage which will disable the supply. The power supply contains two independent active current limiting (ACL) circuits. One of the ACLs performs additional functions associated with the Fieldbus operational requirements in accordance with IEC61158-2.

The apparatus repeats a modulated data signal onto the output power supply which allows communication with FISCO Field devices.

The output has been clamped in such a manner as to provide a Category ia voltage but requires further current limitation before it can be considered an Intrinsically Safe Category ia circuit.

Input Power Supply Connector Power Pins 1, 2 & 3 (CON2 Pins 1- 3)

$$U_m = 250V$$

The circuit connected to the safe area terminals CON2 are designed to operate from a d.c. supply voltage of up to 30V.

Host Output Connector Host Pins 4, 5 & 6 (CON3 pins 1 to 3)

$$U_m = 250V$$

The circuit connected to the safe area terminals CON3 are designed to operate from a d.c. supply voltage of up to 32V.

FISCO Power Supply I.S. Pins 7, 8 & 9 (CON1 Pin 3 wrt 1)

$$U_o = 14V$$

$$I_o = 180mA @ 14V$$

$$P_o = 2.52W$$

$$C_o = 0.20\mu F$$

$$L_o = 300\mu H$$

When used in accordance with IEC60079-27, there is no need to take into consideration C_o and L_o .

The MTL9121 FISCO Power Supply - IIC has been designed to meet the requirements of the Fieldbus Intrinsically Safe Concept (FISCO) to the draft standard TS 60079-27/CVD © IEC.

16

Report No.

01(C)0717



13 **Schedule**

14 **EC-TYPE EXAMINATION CERTIFICATE N° BAS02ATEX7276**

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)0717 Clause 6.1.1.3
1.2.2	Components for incorporation or replacement	Report No 01(C)0717 Clause 6.1.2.2
1.2.5	Additional means of protection	Report No 01(C)0717 Clause 6.1.2.5
1.2.7	Protection against other hazards	Report No 01(C)0717 Clause 6.1.2.7
1.4.2	Withstanding attack by aggressive substances	Report No 01(C)0717 Clause 6.1.4.2

19 **DRAWINGS**

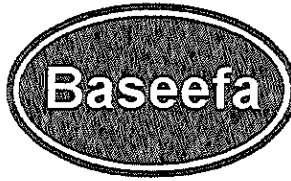
Number	Sheets	Issue	Date	Description
CI9121	1 to 16	1	07.02	MTL9121 & MTL9122 Circuit Diagram
CI9121-1	1 to 5	1	07.02	PCB971/Top Parts List
CI9121-2	1	1	08.02	PCB972/Bottom Parts List
CI9121-3	1 to 3	1	08.02	PCB971/Top PCB Assembly
CI9121-4	1 & 2	1	08.02	PCB972/Bottom PCB Assembly
CI9121-5	1	1	08.02	TFR254 Transformer
CI9121-6	1 to 3	1	08.02	General Assembly
CI9121-7	1	1	08.02	Certification Label Drawing
CI9121-8	1 & 2	1	07.02	PCB971/Top PCB Track Layout
CI9121-9	1 & 2	1	07.02	PCB972/Bottom PCB Track Layout
CI9121-10	1	1	07.02	Segregation PCB
CI9121-11	1	1	08.02	Common Mode Choke
*CI4100-1	1	5	06.98	MTL4100 Series IS Transformer

The above drawings are associated with BAS02ATEX7277

The drawing marked * is held on Certificate BAS01ATEX7175

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

BASEEFA List Keywords
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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 : **BAS02ATEX7276/1**

4 Equipment or protective system: **MTL9121 FISCO POWER SUPPLY - IIC**

5 Manufacturer : **MEASUREMENT TECHNOLOGY LIMITED**

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

7 This supplementary certificate extends EC - Type Examination Certificate No. BAS02ATEX7276 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 Electrical Equipment Certification Service, Notified Body Number 0600, 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 that 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. 02/0408

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.

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

R S SINCLAIR

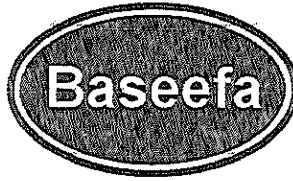
DIRECTOR

On behalf of

Baseefa (2001) Ltd.

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Re-issued 14th January 2003 to replace original – new type designation now corrected



Schedule

Description of the variation to the Equipment or Protective System

Variation 1.1

To permit:

- a. The MTL9121 FISCO Power Supply – IIC to be designated as a 9121-IS FISCO Power Supply - IIC
- b. Minor changes to the Certification Label

Report No.

None

Special Conditions for Safe Use

None

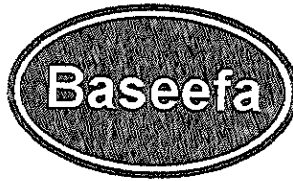
Essential Health and Safety Requirements

As detailed in the Original Schedule

Drawings and Documents

Number	Issue	Date	Description
CI9121-7	2	10.02	Certification Label

The above drawing is associated with BASEEFA Certificate No BAS02ATEX7277/1



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: **BAS02ATEX7276/2**
4 Equipment or Protective System: **MTL9121 FISCO POWER SUPPLY - IIC**
5 Manufacturer: **MEASUREMENT TECHNOLOGY LIMITED**
6 Address: **Luton, Bedfordshire. LU1 3JJ**

7 This supplementary certificate extends EC – Type Examination Certificate No. BAS02ATEX7276 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. 03/0151

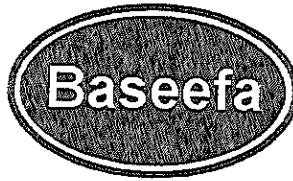
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R S SINCLAIR
DIRECTOR
On behalf of
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Schedule

13 Description of the variation to the Equipment or Protective System

Variation 2.1

To permit minor component changes that do not affect the original intrinsic safety assessment.

14 Report Number

None

15 Special Conditions for Safe Use

None

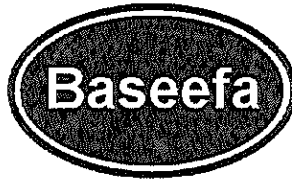
16 Essential Health and Safety Requirements

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

17 Drawings and Documents

Number	Sheet	Issue	Date	Description
CI9121-1	1	2	10.02	PCB971/Top Parts List
CI9121-1	2	2	10.02	PCB971/Top Parts List
CI9121-1	3	2	10.02	PCB971/Top Parts List
CI9121-1	4	2	10.02	PCB971/Top Parts List
CI9121-1	5	2	10.02	PCB971/Top Parts List

The above drawings are associated with BAS02ATEX7277/2



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: **BAS02ATEX7276/3**

4 Equipment or Protective System: **MTL9121 FISCO Power Supply - IIC**

5 Manufacturer: **Measurement Technology Limited**

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

7 This supplementary certificate extends EC – Type Examination Certificate No. BAS02ATEX7276 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.

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Baseefa (2001) Ltd. Customer Reference No. 0703

Project File No. 04/0660

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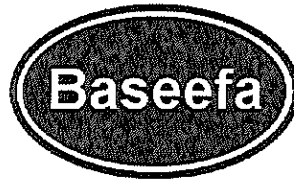
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R/S SINCLAIR
DIRECTOR
On behalf of

Baseefa (2001) Ltd.



13

Schedule

14

Certificate Number BAS02ATEX7276/3

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

Variation 3.1

To permit: -

1. Minor electrical changes to the circuit. Intrinsic safety assessment is not affected.
2. Minor drawing changes.

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
CI9121-1	1	3	08.04	PCB971/Top Parts List
CI9121-1	2	3	08.04	PCB971/Top Parts List
CI9121-1	3	3	08.04	PCB971/Top Parts List
CI9121-1	4	3	08.04	PCB971/Top Parts List
CI9121-1	5	3	08.04	PCB971/Top Parts List
CI9121-2	1	2	08.04	PCB972/Bottom Parts List

The above drawings are associated with BAS02ATEX7277/3.