



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: **Baseefa04ATEX0251X**
- 4 Equipment or Protective System: **TP**-*-* Series Surge Protection Devices**
- 5 Manufacturer: **Atlantic Scientific Corporation (MTL Global Surge Technologies)**
- 6 Address: **4300 Fortune Place, Suite A, W. Melbourne,
Florida 32904, USA**

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. **04(C)0056**

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

EN 50014: 1997 + A1 & A2 EN 50020: 2002 EN 50284: 1999

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 1GD EEx ia IIC T4 / T5 / T6 (-40°C ≤ T_a ≤ See Schedule)

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

Baseefa (2001) Ltd. Customer Reference No. **5229**

Project File No. **04/0056**

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.

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



13

Schedule

14

Certificate Number Baseefa04ATEX0251X

15 Description of Equipment or Protective System

The TP**-** Series Surge Protection Devices are designed to provide protection for sensitive electronic equipment, and are intended to be mounted within a Hazardous Area.

Within the TP48-**-** Series Surge Protection Devices, three different wiring configurations are available, TP48-2W (2-wire,) TP48-3W (3-wire) and TP48-4W (4-wire). All units have the same safety input parameters for intrinsic safety purposes. Each unit has two, three or four active connections and an earth connection, but all connections must form part of the same intrinsically safe circuit.

The TP32-**-** Series Surge Protection Devices provides a further configuration which has three active connections and an earth connection but all connections must form part of the same intrinsically safe circuit. The TP32-**-** unit has the same safety input parameters as the TP48-**-** for intrinsic safety purposes.

The TP**-**-** Series units comprise various combinations which include three-terminal gas discharge tubes, voltage dependant resistors, silicon avalanche diodes, and a diode bridge circuit mounted on a printed circuit board. Each of these assemblies is encapsulated within a tubular metal enclosure, sealed at one end. The open end is provided with a threaded stub intended for screwing into the wall of other apparatus, which may be a flameproof enclosure. The connection wires emerge from the encapsulation and are intended to be terminated within the enclosure. Various different thread forms are available denoted by the suffix N, I or G, to the type number.

The type number TP	**	-*	-*	
	48/32	-*	-*	Nominal surge protection voltage
	**	- /3/4		Two, three or four wire connections and an earth
	**	-*	-N/I/G	Differing thread forms

⊕ II 1GD EEx ia IIC T6 (-40°C ≤ T_a ≤ 60°C) or

⊕ II 1GD EEx ia IIC T5 (-40°C ≤ T_a ≤ 80°C)

TP48-**-** or TP32-**-** Series Surge Protection Devices Parameters

$$U_i = 60V$$

$$P_i = 1.2W$$

$$C_i = 0$$

$$L_i = 0$$

$$U_o = U_i$$

$$I_o = I_i$$

$$P_o = P_i$$

Variation 0.1

To permit the addition of a FISCO termination unit within the TP32-**-** Series Surge Protection Devices denoted by the suffix "T", i.e. TP32-T-** with the "*" options of the differing thread forms -N/I/G as above.

The TP32-T-** Series Surge Protection Devices provides a further configuration within the series which has three active connections and an earth connection but all connections must form part of the same intrinsically safe circuit.



The TP32-T-* Surge Protection Device has been designed as a terminator to meet the requirements of **either** the Fieldbus Intrinsically Safe Concept (FISCO) to IEC 60079-27 Ed. 1.0 TS **or** may be used within any other intrinsically safe circuit.

TP32-T-* Surge Protection Device for use within a FISCO System, Parameters:-

$U_i = 17.5V$
 $I_i = 380mA$
 $P_i = 5.32W$ (Ex) II 1GD EEx ia IIC T4 (-40°C ≤ T_a ≤ 60°C)
 $C_i = 0$
 $L_i = 0$

$U_o = U_i$
 $I_o = I_i$
 $P_o = P_i$

TP32-T-* Surge Protection Device for use within any other intrinsically safe circuit, Parameters:-

$U_i = 30V$
 $I_i = 380mA$
 $P_i = 1.2W$ (Ex) II 1GD EEx ia IIC T6 (-40°C ≤ T_a ≤ 60°C)
 $P_i = 1.2W$ (Ex) II 1GD EEx ia IIC T5 (-40°C ≤ T_a ≤ 80°C)
 $P_i = 5.32W$ (Ex) II 1GD EEx ia IIC T4 (-40°C ≤ T_a ≤ 60°C)
 $C_i = 0$
 $L_i = 0$

$U_o = U_i$
 $I_o = I_i$
 $P_o = P_i$

16 Report Number

04(C)0056

17 Special Conditions for Safe Use

1. The apparatus is to be installed such that the flying leads are afforded a degree of protection of at least IP54.
2. Although all versions of the TP48-*-* , TP32-*-* and TP32-T-* Series Surge Protection Devices will meet the 500V test to the metal case, the electrical circuits within the Surge Protection Devices are not capable of withstanding the 500V test to the Green/Yellow wire for one minute without breakdown. This must be taken into consideration in any installation.
3. These devices are not provided with an external connection facility for an earthing or bonding conductor. Adequate earth continuity via the mounting arrangement must be ensured.
4. This apparatus is also afforded Flameproof Certification to Baseefa04ATEX0053X and is dual marked. On installation the relevant protection concept must be permanently marked on the apparatus in the space provided.

18 Essential Health and Safety Requirements

Justification for using the Gas Standards in the context of an explosive dust hazard is given in the Report 04(C)0056, Clause 5.8.



19 Drawings

Number	Sheet	Issue	Date	Description
1100438	1	-	16 th Aug 2004	Index sheet
1100438	2	-	16 th Aug 2004	Certification Label
1100438	3	-	16 th Aug 2004	Circuit Diagram
1100438	4	-	16 th Aug 2004	Internal Components
1100438	5	-	16 th Aug 2004	Enclosure
1100438	6	-	16 th Aug 2004	Full Assembly