



EC-TYPE EXAMINATION CERTIFICATE

- 1.
2. **Equipment or Protective System Intended for use in
Potentially Explosive Atmospheres Directive 94/9/EC**
3. EC-Type Examination Certificate Number: ITS03ATEX21173
4. Equipment or Protective System: MTL647 SERIAL TEXT DISPLAY
5. Manufacturer: MEASUREMENT TECHNOLOGY LIMITED
6. Address: Power Court, Luton, 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. The ITS Testing and Certification Limited, notified body number 0359 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 Number:
ITS Report Ref 03010243 Issue 1, dated May 2003
9. Compliance with the Essential Health and Safety Requirements has been assured by compliance with:
EN 50014:1997 + Amds 1 & 2, EN 50020:2002 and 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, examination and tests of the specified equipment or protective system in accordance to the directive 94/9/EC. 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 G, EEx ia IIC T5 V (-40°C <Ta <+60°C)

ITS Testing & Certification Limited
ITS House, Cleeve Road, Leatherhead, Surrey, KT22 7SB
Tel: + 44 (0)1372 370900 Fax: +44 (0)1372 370977
<http://www.etlsemko.com/uk>
Registered No 3272281 Registered Office: 25 Savile Row London W1X 1AA


R M Adams
Deputy Certification Manager
23 May 2003

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

13. **Schedule**
14. EC-TYPE EXAMINATION CERTIFICATE NUMBER ITS03ATEX21173
15. Description of Equipment or Protective System.

MTL647 Serial Text Display is a field mounting equipment designed to display text and simple graphics in the hazardous area. The MTL647 incorporates four push-buttons and two solid state outputs to form an operator interface for simple machine and process control applications.

The MTL647 comprises a Field Connection Assembly 01, EC-Type Examination Certificate Number ITS02ATEX2042U, a 5051 Power Supply & Communications Board, EC-Type Examination Certificate Number ITS02ATEX2043U, an Alarm Board 01, EC-Type Examination Certificate Number ITS02ATEX2044U and a CPU and Display, EC-Type Examination Certificate Number ITS02ATEX2045U, all housed within a two parts plastic enclosure.

The enclosure provides a Degree of Protection of at least IP20.

Intrinsic safety is assured by the use of certified components, which provide limitation of voltage, current and power, limitation of capacitance and infallible segregation.

The maximum intrinsically safe input and output parameters are as follows:

TB1 terminals 1 and 2

$U_i = 25V$

$I_i = 108 \text{ mA}$

$P_i = 0.58W$

The equivalent parameters are:

$C_i = 0.01 \mu F$

$L_i = 20\mu H$

TB1 terminals 4 and 2

$U_i = 14 V$

$I_i = 108 \text{ mA}$

$P_i = 0.45 W$

ITS Testing & Certification Limited
ITS House, Cleeve Road, Leatherhead, Surrey, KT22 7SB
Tel: +44 (0)1372 370900 Fax: +44 (0)1372 370977
<http://www.etlsemko.com/uk>
Registered No 3272281 Registered Office: 25 Savile Row London W1X 1AA

This Certificate is the property of ITS Testing and Certification Ltd
and is subject to ITS Testing and Certification Conditions for Granting Certification

13. Schedule

14. EC-TYPE EXAMINATION CERTIFICATE NUMBER ITS03ATEX21173

The equivalent parameters are:

$$C_i = 0$$

$$L_i = 0$$

TB1 terminals 1, 2, 5 and 6

$$U_i = 20 \text{ V}$$

$$I_i = 139 \text{ mA}$$

$$P_i = 0.46 \text{ W}$$

The equivalent parameters are:

$$C_i = 0.01 \mu\text{F}$$

$$L_i = 20 \mu\text{H}$$

TBS terminals S1 to S7

$$U_o = 14.7 \text{ V}$$

$$I_o = 99 \text{ mA}$$

$$P_o = 0.6 \text{ W}$$

The equivalent parameters are:

$$C_i = 30 \mu\text{F at } 6 \text{ V}$$

$$C_i = 0.4 \mu\text{F at } 14.7 \text{ V}$$

$$L_i = 0.3 \text{ mH}$$

TBA terminals A1 & A2, A3 & A4 (each Alarm channel)

$$U_i = 28 \text{ V}$$

$$U_o = 1.49 \text{ V}$$

$$I_i = 200 \text{ mA}$$

$$I_o = 1 \mu\text{A}$$

$$P_i = 0.85 \text{ W}$$

$$P_o = 3 \mu\text{W}$$

The equivalent parameters are:

$$C_i = 0.04 \mu\text{F}$$

$$L_i = 20 \mu\text{H}$$

For intrinsic safety considerations, under fault conditions the voltage, current and power at the above terminals do not exceed those specified in Clause 5.4 of EN 50020: 2002. The equivalent capacitance and inductance are the result of r.f suppression components directly connected to the apparatus terminals.

ITS Testing & Certification Limited

ITS House, Cleeve Road, Leatherhead, Surrey, KT22 7SB

Tel: +44 (0)1372 370900 Fax: +44 (0)1372 370977

<http://www.etlsemko.com/uk>

Registered No 3272281 Registered Office: 25 Savile Row London W1X 1AA

This Certificate is the property of ITS Testing and Certification Ltd
and is subject to ITS Testing and Certification Conditions for Granting Certification

13. **Schedule**
14. EC-TYPE EXAMINATION CERTIFICATE NUMBER ITS03ATEX21173
16. Report No. ITS Report Ref 03010243 Issue 1, dated May 2003.
17. SPECIAL CONDITIONS FOR SAFE USE
None
18. Essential Health and Safety Requirements

Essential Health and Safety Requirements not covered by Standards listed at (9)		
Clause	Subject	Compliance
1.01	Principles of integrated explosion safety	The equipment is designed to comply with the requirements of EN 50014, EN 50020 and EN 50284
1.02	Analysis of possible operating faults	The equipment is designed to comply with failure modes specified in EN 50020
1.0.3	Special checking and maintenance conditions	No special requirements
1.2.4	Dust deposits	Certification for gas atmospheres only
1.2.7	Protection against other hazards	The equipment is designed to comply with the requirements of EN 50014
1.6.4	Hazards arising from connections	The equipment is provided with suitable conduit entries

19. **DOCUMENTS**

EC-Type Examination Certificate No ITS02ATEX2035

DRAWING

Number	Issue	Date	Description
CI646-1	1	5.03	MTL647 Certification Label

The above drawing is held with EC-Type Examination Certificate No ITS03ATEX21172.

ITS Testing & Certification Limited
 ITS House, Cleeve Road, Leatherhead, Surrey, KT22 7SB
 Tel: +44 (0)1372 370900 Fax: +44 (0)1372 370977
<http://www.etlsemko.com/uk>
 Registered No 3272281 Registered Office: 25 Savile Row London W1X 1AA

This Certificate is the property of ITS Testing and Certification Ltd
 and is subject to ITS Testing and Certification Conditions for Granting Certification

1. **SUPPLEMENTARY 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:** ITS03ATEX21173/3
4. **Equipment or Protective System:** MTL647 Serial Text Display
5. **Manufacturer:** Measurement Technology Limited
6. **Address:** Great Marlings, Butterfield, Luton, Bedfordshire, LU2 8DL
7. This supplementary certificate extends EC-Type Examination Certificate Number ITS03ATEX21173 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 variations specified in the Schedule attached to this certificate and the documents therein referred to.

Intertek Report Ref: 101659584MAN-001B dated May 2014.

This Supplementary Certificate shall be held with the original Certificate(s).

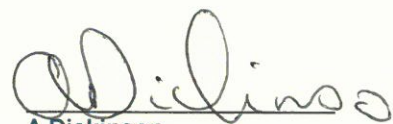
ITS03ATEX21173 dated 23rd May 2003.

ITS03ATEX21173/2 dated 25th February 2014.

Intertek Testing & Certification Limited
Intertek House, Cleeve Road, Leatherhead, Surrey, KT22 7SB
Tel: +44 (0)1372 370900 Fax: +44 (0)1372 370977
www.intertek.com

Registered No 3272281 Registered Office: Academy Place, 1-9 Brook Street, Brentwood, Essex, CM14 5NQ.

This certificate may only be reproduced in its entirety and without any change, schedule included and is subject to Intertek Testing and Certification's Conditions for Granting Certification.



A Dickinson
Certification Officer
30 June 2014

SCHEDULE

SUPPLEMENTARY EC-TYPE EXAMINATION CERTIFICATE NUMBER ITS03ATEX21173/3

VARIATION THREE

Description of the Variation to the Equipment or Protective System.

To permit the following change(s): -

- Change of company name only on nameplate on drawing Cl646-1 to Measurement Technology Limited Luton, England.
- Change of address from "Power Court, Luton LU1 3JJ, Bedfordshire, UK" to " Great Marlings, Butterfield, Luton, Bedfordshire, LU2 8DL".

Report No.:

Intertek Report Ref.:10165984MAN-001B dated: May 2014

Conditions of Certification:

- Special Conditions for safe use
 - There are no additional conditions, see previous certificates.
- Conditions of Manufacture
 - There are no additional conditions, see previous certificates.

Essential Health and Safety Requirements (EHSR's)

See original certificates, the listed change to the Equipment or Protective System has not affected compliance.

Drawings: New

Title	Drawing / Document Reference	Revision / Level	Date
Certification label Information MTL646 & MTL647 Serial Text Displays	Cl646-1	3	5.14

This Certificate is for the exclusive use of Intertek's client and is provided pursuant to the agreement between Intertek and its Client. Intertek's responsibility and liability are limited to the terms and conditions of the agreement. Intertek assumes no liability to any party, other than to the Client in accordance with the agreement, for any loss, expense or damage occasioned by the use of this Certificate. Only the Client is authorized to permit copying or distribution of this Certificate and then only in its entirety. Any use of the Intertek name or one of its marks for the sale or advertisement of the tested material, product or service must first be approved in writing by Intertek.

Intertek Testing & Certification Limited
Intertek House, Cleeve Road, Leatherhead, Surrey, KT22 7SB
Tel: + 44 (0)1372 370900 Fax: +44 (0)1372 370977

www.intertek.com

Registered No 3272281 Registered Office: Academy Place, 1-9 Brook Street, Brentwood, Essex, CM14 5NQ.

This Certificate is the property of Intertek Testing and Certification Ltd and is subject to Intertek Testing and Certification's Conditions for Granting Certification.