Factory Mutual Research

1151 Boston-Providence Turnpike
P.O. Box 9102
Norwood, Massachusetts 02062

CERTIFICATE OF COMPLIANCE

HAZARDOUS (CLASSIFIED) LOCATION ELECTRICAL EQUIPMENT

This certificate is issued for the following company:

Measurement Technology Limited
Power Court, Luton
Bedfordshire, England LU1 3JJ

For:

MTL5000 SERIES ISOLATING BARRIERS. Models MTL5011, MTL5016, MTL5017

AIS/I,II,III/1/ABCDEFG - SCI-530, SCI-533, SCI-536; Entity
NI/I/2/ABCD

Max. Entity Parameters: Per applicable installation drawing.

Equipment Ratings:	Associated Intrinsically Safe apparatus with connections to Class I, II, III Division 1, Group A, B, C , D, E, F and G in accordance with entity requirements and MTL Installation Drawings SCI-530, SCI-533 or SCI-536; nonincendive for Class I, Division 2, Group A, B, C and D hazardous indoor locations.
Manufactured By:	Measurement Technology Limited Power Court, Luton Bedfordshire, England LU1 3JJ

FACTORY MUTUAL RESEARCH CORPORATION

This certifies that the equipment described has been found to comply with the following Factory Mutual Research Corporation Approval Standards:

Approval Standard Class 3600 - 1989
Approval Standard Class 3610 - 1988
Approval Standard Class 3611 - 1986
Approval Standard Class 3810 - 1989

Approval Job Identification: 2Z7A9.AX Issue Date: January 22, 1996

Subsequent Revision Reports/Date Approval Amended:

None

Factory Mutual Research Corporation

Frank J, McGowan, Manager
Instrumentation Section
Approval Division

2/14/96
Date

Iss	Date	Drn	Modification	Ckd
1	5.95	PS		

MEASUREMENT TECHNOLOGY LTD
Luton, England

Iss	Date	Drn	Modification	Ckd

IBMCAD

Title
MTL5017 Two channel, Switch/Proximity Detector, Interface with Line Fault Detection and Phase Reversal

Certifying Authority: Factory Mutual

System Certificate No:

Drg. No. SCI-530

Sheet 1 of 2

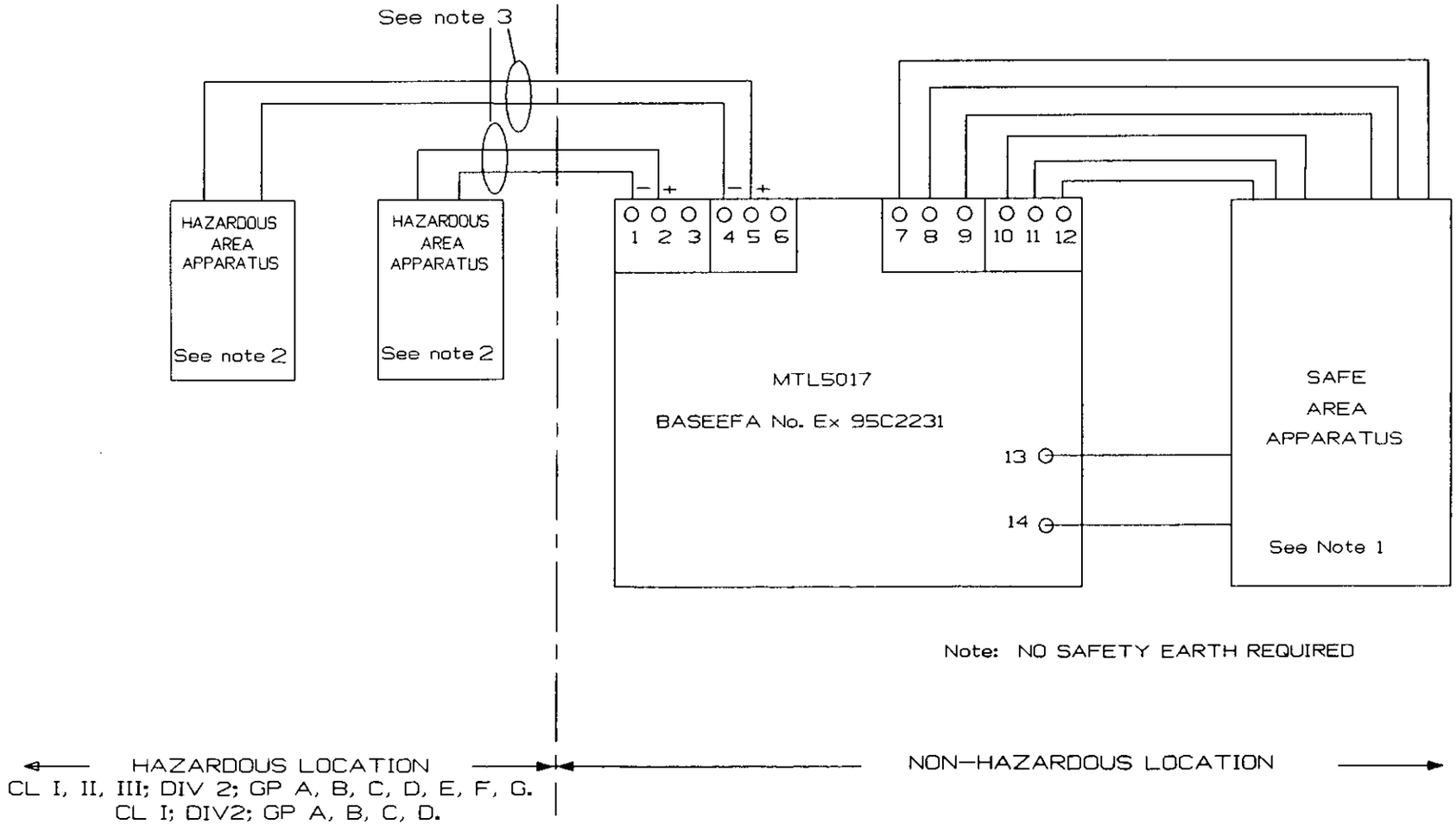
Scale N/A

A4

Dimensions in mm

Do Not Scale

Third Angle Projection



Note 1

The Non-Hazardous Location (or Control Room) equipment must not generate or use more than 250 volts r.m.s

Note 2

The Hazardous Location equipment may be switches or thermocouples. Other apparatus such as RTD's, LED's and non-inductive resistors may also be used if the autoignition temperatures of the hazardous location is greater than T4 (275°F or 135°C). Certified devices with the correct Entity Concept parameters may also be used.

Note 3

Entity Concept Parameters for each channel of the MTL5017 ie channel 1 (Terminals 1 & 2), channel 2 (Terminals 4 & 5) are as follows:-

Terminal 1 Wrt 2/3 Voc ≤ 10.5V Isc ≤ 14mA

Terminal 4 Wrt 5/3 Voc ≤ 10.5V Isc ≤ 14mA

Groups A and B	Ca ≤ 2.4μF	La ≤ 165mH
Groups C and E	Ca ≤ 7.2μF	La ≤ 495mH
Groups D,F and G	Ca ≤ 19.2μF	La ≤ 1320mH

Note 4

For guidance on the installation see ANSI/ISA RP12.6

Note 5

The MTL5017 is Associated Apparatus and when mounted in the appropriate enclosure (See notes 6 and 7) is suitable for installation in the following area:-

Non-Hazardous Locations
Class I, Division 2, Groups A,B,C and D, Hazardous Locations
Class II, Division 2, Groups F and G Hazardous Locations
Class III, Division 2, Hazardous Locations

Note 6

Associated Apparatus must be installed in accordance with the National Electrical Code in an enclosure meeting the requirements of ANSI/ISA-S82.

Note 7

Use FRMC Approved or NRTL Listed dust-ignition proof enclosure(s) Appropriate for the environmental protection in class II, Division 2, Groups F and G; Class III, Division 2 Hazardous Locations.

Note 8

When the MTL5017 is installed in Division 2 Hazardous locations, a warning label must be prominently affixed near the unit(s) which warns that the MTL5017 must not be removed or inserted unless the area is known to be non-hazardous.

Modification	Iss	Date	Drn	Ckd
	1	5.95	PS	

System Certificate No:	Scale N/A
Certifying Authority: Factory Mutual	Sheet 2 of 2
Title MTL5017 Two channel, Switch/Proximity Detector, Interface with Line Fault Detection and Phase Reversal	Drg. No. SCI-530

Iss	Date	Drn	Modification	Ckd
1	5.95	PS		

Iss	Date	Drn	Modification	Ckd

IBMCAD

Title MTL5016 Two-Channel Switch/Proximity Detector Interface with Phase Reversal

Certifying Authority: Factory Mutual

System Certificate No:

Drg. No. SCI-533

Sheet 1 of 2

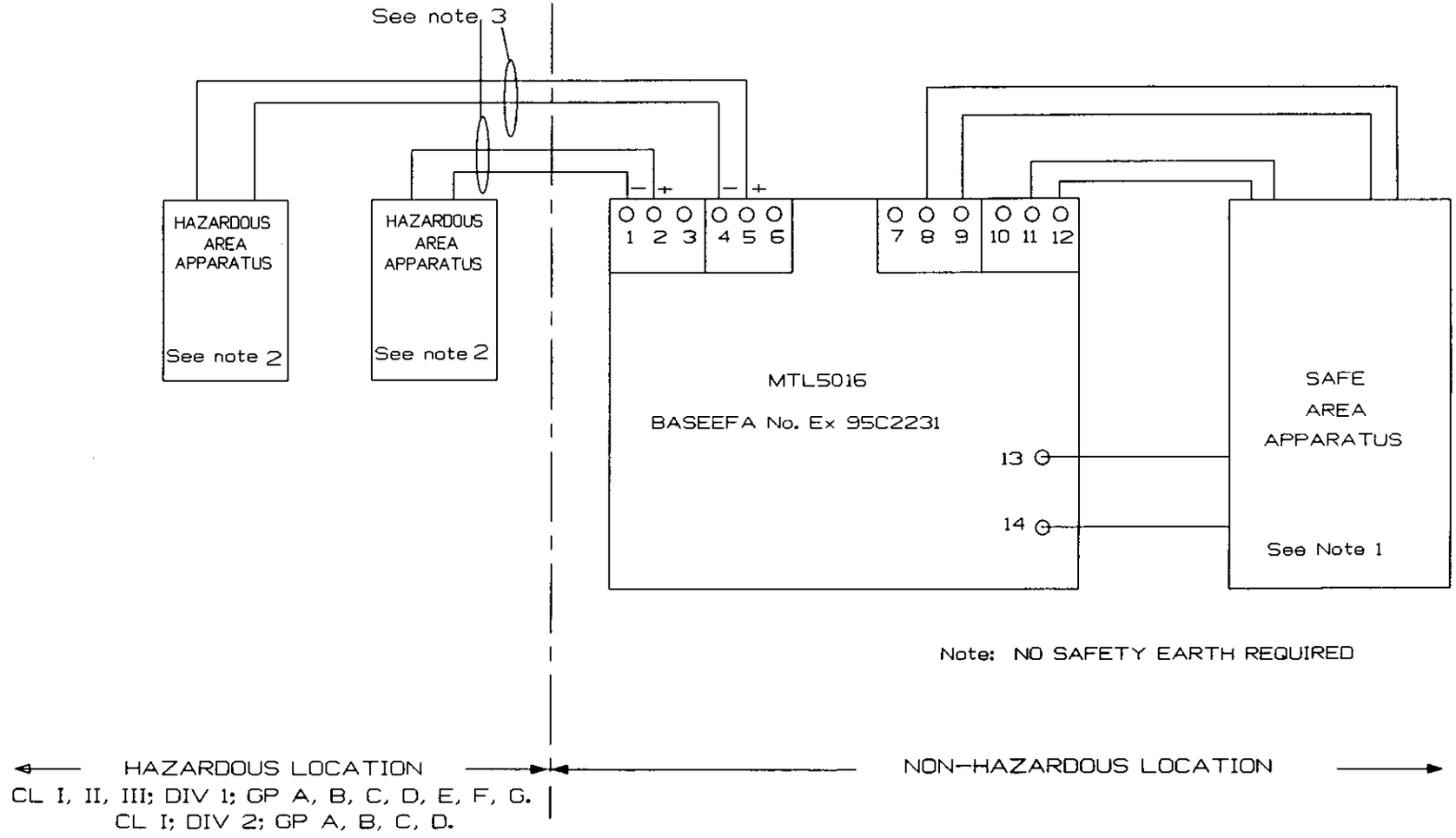
Scale N/A

A4

Dimensions in mm

Do Not Scale

Third Angle Projection



Dimensions in mm | Do Not Scale | Third Angle Projection

Note 1

The Non-Hazardous Location (or Control Room) equipment must not generate or use more than 250 volts r.m.s

Note 2

The Hazardous Location equipment may be switches or thermocouples. Other apparatus such as RTD's, LED's and non-inductive resistors may also be used if the autoignition temperatures of the hazardous location is greater than T4 (275°F or 135°C). Certified devices with the correct Entity Concept parameters may also be used.

Note 3

Entity Concept Parameters for each channel of the MTL5016 ie channel 1 (Terminals 1 & 2), channel 2 (Terminals 4 & 5) are as follows:-

Terminal 1 Wrt 2/3 Voc ≤ 10.5V Isc ≤ 14mA

Terminal 4 Wrt 5/3 Voc ≤ 10.5V Isc ≤ 14mA

Groups A and B	Ca ≤ 2.4μF	La ≤ 165mH
Groups C and E	Ca ≤ 7.2μF	La ≤ 495mH
Groups D,F and G	Ca ≤ 19.2μF	La ≤ 1320mH

Note 4

For guidance on the installation see ANSI/ISA RP12.6

Note 5

The MTL5016 is Associated Apparatus and when mounted in the appropriate enclosure (See notes 6 and 7) is suitable for installation in the following area:-

Non-Hazardous Locations
Class I, Division 2, Groups A,B,C and D, Hazardous Locations
Class II, Division 2, Groups F and G Hazardous Locations
Class III, Division 2, Hazardous Locations

Note 6

Associated Apparatus must be installed in accordance with the National Electrical Code in an enclosure meeting the requirements of ANSI/ISA-S82.

Note 7

Use FRMC Approved or NRTL Listed dust-ignition proof enclosure(s) Appropriate for the environmental protection in class II, Division 2, Groups F and G; Class III, Division 2 Hazardous Locations.

Note 8

When the MTL5016 is installed in Division 2 Hazardous locations, a warning label must be prominently affixed near the unit(s) which warns that the MTL5016 must not be removed or inserted unless the area is known to be non-hazardous.

Modification | Ckd | Drn | Date | Iss
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System Certificate No:	Scale N/A
Certifying Authority: Factory Mutual	Sheet 2 of 2
Title MTL5016 Two-Channel, Switch/Proximity Detector, Interface with Phase Reversal	Drg. No. SCI-533

IBMCAD | A4

Iss	Date	Drn	Modification	Ckd
1	5.95	PS		

MEASUREMENT TECHNOLOGY LTD
Luton, England

Iss	Date	Drn	Modification	Ckd

IBMCAD

Title MTL5011 Single Channel, Switch/Proximity Detector Interface, with Phase Reversal

Certifying Authority: Factory Mutual

System Certificate No:

Drg. No. SCI-536

Sheet 1 of 2

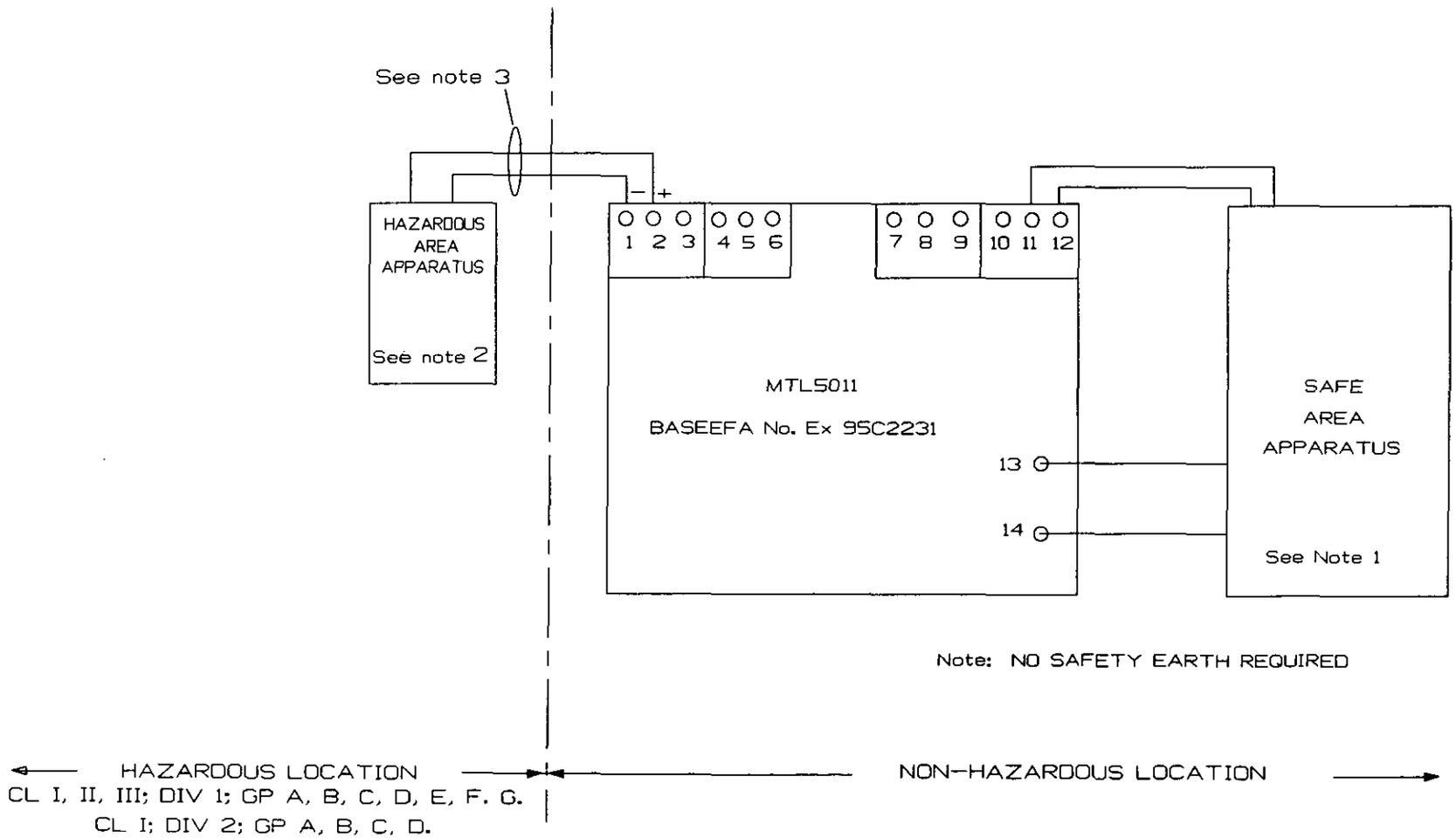
Scale N/A

A4

Dimensions in mm

Do Not Scale

Third Angle Projection



Note: NO SAFETY EARTH REQUIRED

Note 1

The Non-Hazardous Location (or Control Room) equipment must not generate or use more than 250 volts r.m.s

Note 2

The Hazardous Location equipment may be switches or thermocouples. Other apparatus such as RTD's, LED's and non-inductive resistors may also be used if the autoignition temperatures of the hazardous location is greater than T4 (275°F or 135°C). Certified devices with the correct Entity Concept parameters may also be used.

Note 3

Entity Concept Parameters for each channel of the MTL5011 ie channel 1 (Terminals 1 & 2), are as follows:-

Terminal 1 Wrt 2/3 Voc ≤ 10.5V Isc ≤ 14mA

Groups A and B	Ca ≤ 2.4μF	La ≤ 165mH
Groups C and E	Ca ≤ 7.2μF	La ≤ 495mH
Groups D,F and G	Ca ≤ 19.2μF	La ≤ 1320mH

Note 4

For guidance on the installation see ANSI/ISA RP12.6

Note 5

The MTL5011 is Associated Apparatus and when mounted in the appropriate enclosure (See notes 6 and 7) is suitable for installation in the following area:-

Non-Hazardous Locations
Class I, Division 2, Groups A,B,C and D, Hazardous Locations
Class II, Division 2, Groups F and G Hazardous Locations
Class III, Division 2, Hazardous Locations

Note 6

Associated Apparatus must be installed in accordance with the National Electrical Code in an enclosure meeting the requirements of ANSI/ISA-S82.

Note 7

Use FRMC Approved or NRTL Listed dust-ignition proof enclosure(s) Appropriate for the environmental protection in class II, Division 2, Groups F and G; Class III, Division 2 Hazardous Locations.

Note 8

When the MTL5011 is installed in Division 2 Hazardous locations, a warning label must be prominently affixed near the unit(s) which warns that the MTL5011 must not be removed or inserted unless the area is known to be non-hazardous.

Iss	Date	Drn	Modification	Ckd
1	5.95	PS		

System Certificate No:	Scale N/A
Certifying Authority: Factory Mutual	Sheet 2 of 2
Title MTL5011 Single Channel, Switch/Proximity Detector Interface, with Phase Reversal	Drg. No. SCI-536