

Factory Mutual Research

1151 Boston-Providence Tumpike 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

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

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,

ti en selection all all all til still black for the selection of the first black and the selection of the se

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:

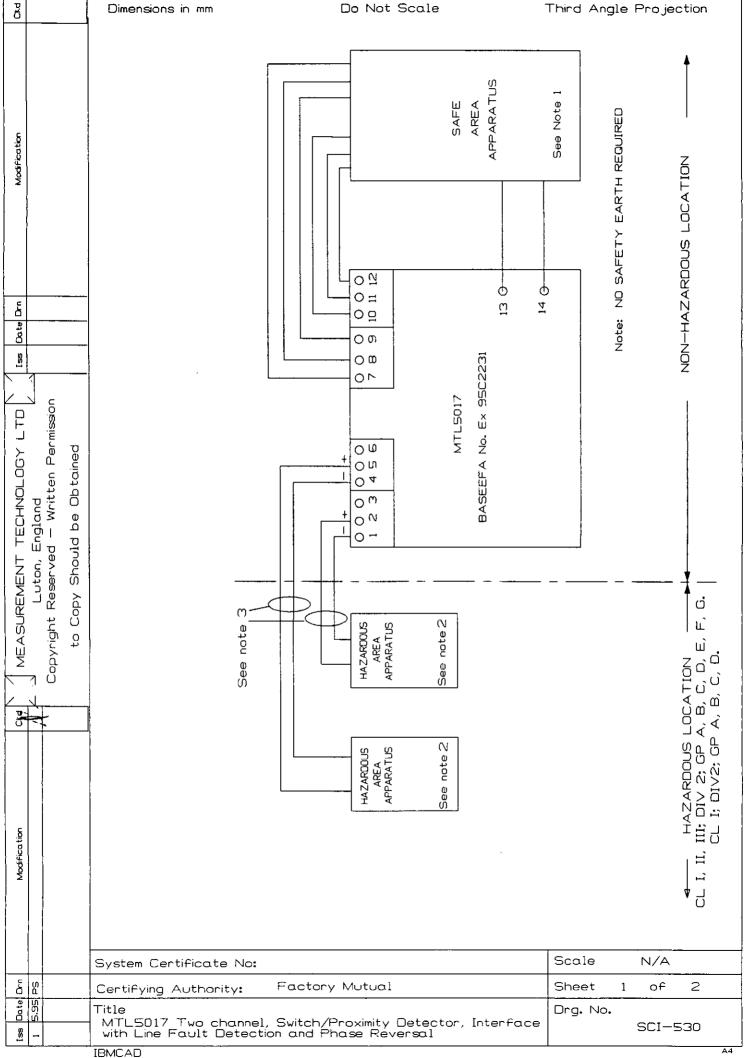
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Factory Mutual Research Corporation

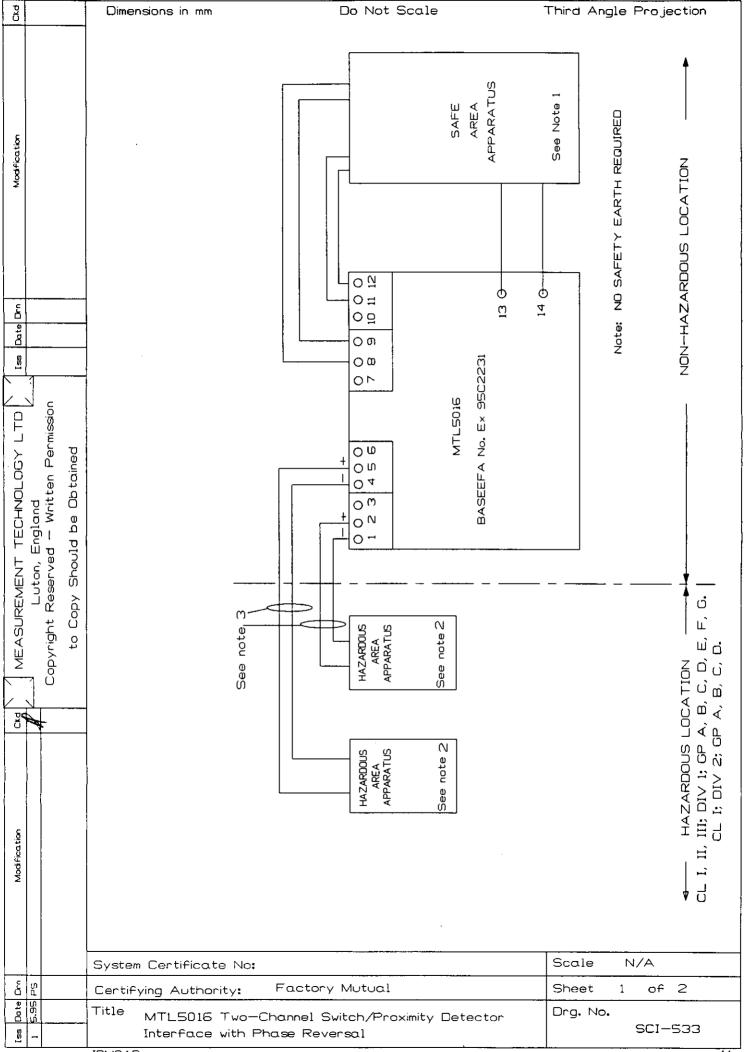
Frank J, McGowan, Manager

Instrumentation Section Approval Division

2Z7A9.AX-2

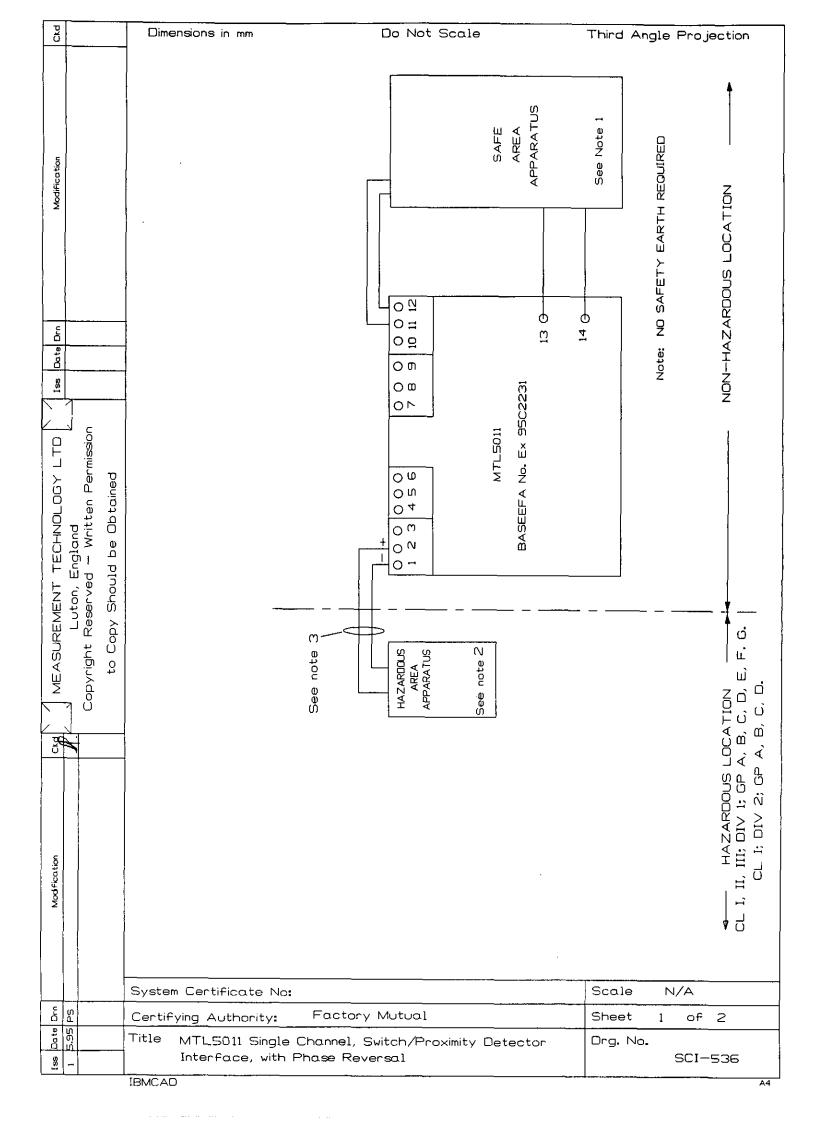


Š	Dimensions in mm Do Not Scale Third Angle Projection				
	Note 1				
!	The Non-Hazardous Location (or Control Room) equipment must not generate or use more than 250 volts r.m.s				
Modfication	Note 2				
	The Hazardous Location equipment may be switches or thermocouples. Other apparatus such as RTD's, 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				
-D	Terminal 4 Wrt $5/3$ Voc ≤ 10.5 V Isc ≤ 14 mA				
Iss Date	Groups A and B $Ca \le 2.4 \mu F$ $La \le 165 mH$				
	Groups C and E $Ca \le 7.2\mu F$ $La \le 495mH$				
L'TC rmissier	Groups D,F and G				
TECHNOLOGY LTD England d - Written Permission	Note 4				
CHNO and Writt	For guidance on the installation see ANSI/ISA RP12.6				
TECI inglo	Note 5				
ENT ton, erve	The MTL5017 is Associated Apparatus and when mounted in the appropriate enclosure (See notes 5 and 7) is suitable for installation in the following area:—				
MEASUREMI Lu Copyright Res to Copy 3	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 5				
3	Associated Apparatus must be installed in accordance with the National Electrical Code in an enclosure meeting the requirements of ANSI/ISA—S82.				
	<u>Note 7</u>				
	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.				
8	Note 8				
Modfication	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.				
	System Certificate No: Scale N/A				
ج الآ	Certifying Authority: Factory Mutual Sheet 2 of 2				
Iss Date	Title MTL5017 Two channel, Switch/Proximity Detector, Interface with Line Fault Detection and Phase Reversal Drg. No. SCI-530				
<u> </u>	IBMCAD A4				



Note 1 The Non-Hazardous Location (or Control Room) equipment must not generate or use more than 250 voits runs. Nate 2 The Hazardous Location equipment may be switches an thermocouples Other apparetus 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 155°C). Certified devices with the correct Entity Concept parameters for each channel of the MTLSOIG is channel 1 (Terminals 1 & 2), channel 2 (Terminals 4 & 5) are as follows— Terminal 1 Wrt 2/3 Voc \$ 10.5V Isc \$ 14mA Terminal 1 Wrt 5/3 Voc \$ 10.5V Isc \$ 14mA Groups A and B	Š	Dimensions in mm	Do Not Scale	Third Angle Projection
Groups A and B Ca ≤ 2.4µF La ≤ 165mH Groups C and E Ca ≤ 7.2µF La ≤ 495mH Croups D.F and G Ca ≤ 19.2µF La ≤ 1320mH Note 4 For guidance on the installation see ANSI/ISA RP12.6 Note 5 The MTL5015 is Associated Apparatus and when mounted in the appropriate enclosure (See notes 5 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 7 Use FRMC Approved or NRTL Listed dust-ignition proof enclosure(s) Appropriate for the environmental protection in class III, Division 2, Groups F and G; Class III, Division 2 Hazardous Locations Note 8 When the MTL5015 is installed in Division 2 Hazardous Locations, a warning label must be prominently affixed near the unit(s) which warns that the MTL5015 must not be removed or inserted unless the area is known to be non-hazardous. System Certificate No; Scale N/A Title MTL5016 Two-Channel, Switch/Proximity Detector, Cass III, MTL5016 Two-Channel, Switch/Proximity Detector, Cass III MTL5016 Two-Channel, Switch/Proximity Detector,	Modfication	Note 1 The Non-Hazardous Loca or use more than 250 volton	tion (or Control Room) ess r.m.s quipment may be switched LED's and non-inductive sures of the hazardous and devices with the correct sed. for each channel of the control of the contro	equipment must not generate es or thermocouples. Other e resistors may also be used location is greater than T4 ect Entity Concept he MTL5015 ie channel 1
Groups C and E Groups D,F and G Hazardous Locations Class II, Division 2, Groups D,F and D,F		Terminal 4 Wrt 5/3 Vac	≤ 10,5V Isc ≤ 14mA	
Groups D.F. and G	- 1	Groups A and B	Ca ≤ 2.4µF	La ≤ 165mH
Note 4 For guidance on the installation see ANSI/ISA RPI2.6 Note 5 The MTL5015 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. System Certificate No: System Certificate No: System Certifying Authority: Factory Mutual Title MTL5015 Two-Channel, Switch/Proximity Detector, SCILES2	ي ک	Groups C and E	Ca ≤ 7.2µF	La ≤ 495mH
Note 4 For guidance on the installation see ANSI/ISA RPI2.5 Note 5 The MTL5015 is Associated Apparatus and when mounted in the appropriate enclosure (See notes 5 and 7) is suitable for installation in the following area: Non-Hazardous Locations Class II, 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. System Certificate No: System Certificate No: System Certifying Authority: Factory Mutual Title MTL5015 Two-Channel, Switch/Proximity Detector, SCILES2	· LTD	Groups D,F and	G Ca ≤ 19,2µF	La ≤ 1320mH
Certifying Authority: Factory Mutual Sheet 2 of 2 Title MTL5016 Two-Channel, Switch/Proximity Detector,	Copyright Reserved	For guidance on the install Note 5 The MTL5015 is Associated enclosure (See notes 5 and area:— Non-Hazardous Locations Class I, Division 2, Groups Class II, Division 2, Groups Class III, Division 2, Hazard Note 6 Associated Apparatus must Electrical Code in an enclosure of the environ Groups F and G; Class III, Note 8 When the MTL5016 is install must be prominently affixed MTL5016 must not be removed.	d Apparatus and when 77 is suitable for instance A,B,C and D, Hazardous Locations The beinstalled in according to the requiremental protection in classical protection in cla	mounted in the appropriate allation in the following s Locations cations ance with the National ements of ANSI/ISA-S82. proof enclosure(s) ass II, Division 2, ocations. dous locations, a warning label warns that the
Title MTL5016 Two-Channel, Switch/Proximity Detector,		System Certificate No:		Scale N/A
	r S	Certifying Authority: Fact	ory Mutual	Sheet 2 of 2
Interface with Phase Reversal	5.95	Title MTL5016 Two-Channe Interface with Phase F		ctor, Drg. No. SCI-533

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	Note 1					
	The Non-Hazardous Location (or Control Room) equipment must not generate or use more than 250 volts r.m.s					
	Note 2					
Madification	The Hazardous Location apparatus such as RTD's if the autoignition tempera (275°F or 135°C). Certification be a parameters may also be	, LED's and non-inductivatures of the hazardou ied devices with the cor	ve resistors may also s location is greater	o be used r than T4		
	Note 3	Note 3				
	Entity Concept Parameter (Terminals 1 & 2), are as	s for each channel of follows:—	the MTL5011 ie cha	innel 1		
	Terminal 1 Wrt 2/3 Vo	$c \le 10.5 $ V Isc ≤ 14 m/				
70						
Iss Date	Groups A and	B	La ≤ 165mH			
	Groups C and	E Cα ≤ 7.2μF	La ≤ 495mH			
T O	Groups D,F and	d G Ca ≤ 19.2µF	La ≤ 1320mH			
TECHNOLOGY LTD England d - Written Permissic	Note 5					
MEASUREMENT Luton, E Copyright Reserved to Copy Shoul	Note 5 The MTL5011 is Associate enclosure (See notes 5 ararea:— Non-Hazardous Locations Class I, Division 2, Groups Class II, Division 2, Groups Class III, Division 2, Hazarea Note 5 Associated Apparatus must	ed Apparatus and when and 7) is suitable for insta ; A,B,C and D, Hazardous E s F and G Hazardous L rdous Locations st be installed in accord	mounted in the approtaliation in the folice us Locations ocations	owing		
	Note 5 The MTL5011 is Associate enclosure (See notes 5 ararea:— Non-Hazardous Locations Class I, Division 2, Groups Class II, Division 2, Groups Class III, Division 2, Hazardous Locations Class I	ed Apparatus and when and 7) is suitable for insta ; A,B,C and D, Hazardous E s F and G Hazardous L rdous Locations st be installed in accord	mounted in the approtaliation in the folice us Locations ocations	owing		
MEASUR Copyright to Co	Note 5 The MTL5011 is Associate enclosure (See notes 5 ararea:— Non-Hazardous Locations Class I, Division 2, Groups Class II, Division 2, Groups Class III, Division 2, Hazarea Note 5 Associated Apparatus must Electrical Code in an enclosure in the installation in the installation is a second to the installation in the ins	ed Apparatus and when and 7) is suitable for installed in accordance in the requiremental protection in circles.	mounted in the appropriate appropriate and the follows are seen to be appropriate as II, Division 2,	owing onal A-S82.		
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MEASUR Copyright to Co	Note 5 The MTL5011 is Associated enclosure (See notes 6 ararea: Non-Hazardous Locations Class I, Division 2, Groups Class II, Division 2, Groups Class III, Division 2, Hazarea Note 6 Associated Apparatus must Electrical Code in an enclosure 7 Use FRMC Approved or N Appropriate for the envir Groups F and G; Class III	ed Apparatus and when and 7) is suitable for installed in accordance when a content of the conte	mounted in the approbable tallation in the follows Locations dance with the Nation rements of ANSI/IS/ a proof enclosure(s) lass II, Division 2, Locations. dous locations, a was warns that the	onal A-S82.		
Measure Cra MEasure Copyright Copyright to Co	Note 5 The MTL5011 is Associated enclosure (See notes 6 ara area:— Non-Hazardous Locations Class I, Division 2, Groups Class II, Division 2, Groups Class III, Division 2, Hazardous Locations Class III, Division 2, Hazardous III, Division 2, Groups Electrical Code in an enclosure of the envir Groups F and G; Class III Note 8 When the MTL5011 is instanced by the prominently affixed MTL5011 must not be reminently affixed MTL5011 must not be remin	ed Apparatus and when and 7) is suitable for installed in accordance when a content of the conte	mounted in the approbable tallation in the follows Locations dance with the Nation rements of ANSI/IS/ a proof enclosure(s) lass II, Division 2, Locations. dous locations, a was warns that the	omal A-S82.		
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