

FM Approvals
1151 Boston-Providence Turnpike
P.O. Box 9102 Norwood, MA 02062 USA
T: 781 762 4300 F: 781 762 9375 www.fmglobal.com

CERTIFICATE OF COMPLIANCE

HAZARDOUS (CLASSIFIED) LOCATION ELECTRICAL EQUIPMENT

This certificate is issued for the following equipment:

MTL647a Serial Text Display

IS / I, II, III / 1 / ABCDEFG / T4 Ta = 60°C – SCI-1010; Entity; Type 4X, IP66
I / 0 / AEx ia IIC T4 Ta = 60°C – SCI-1010; Entity; Type 4X, IP66
NI / 1 / 2 / ABCD / T4 Ta = 60°C – SCI-1011; NIFW; Type 4X, IP66
S / II / 2 / EFG / T4 Ta = 60°C – SCI-1011; NIFW; Type 4X, IP66
S / III / 2 / T4 Ta = 60°C – SCI-1011; NIFW; Type 4X, IP66
I / 2 / IIC / T4 Ta = 60°C – SCI-1011; NIFW; Type 4X, IP66

Intrinsic Safety Parameters

Input Parameters

Terminals	Ui (V)	Ii (mA)	Pi (W)	Ci (μF)	Li (mH)
1 & 2	25	108	0.58	0.01	0.02
4 & 2	14	108	0.45	0	0
1, 2, 5 & 6	20	139	0.46	0.01	0.02
S1 to S7	0	0	0	0.54	0.3
A1 & A2; A3 & A4	28	200	0.85	0.04	0.02

Output Parameters

Terminals	Uo (V)	Io (mA)	Po (W)	Co (μF)	Lo (mH)
S1 to S7	14.7	146.7	0.58	0.08	1.1
A1 & A2; A3 & A4	1.49	0.0001	0.003	1000	1000

Nonincendive Field Wiring Parameters

Input Parameters

Terminals	Ui (V)	Ii (mA)	Pi (W)	Ci (μF)	Li (mH)
1 & 2	25	-	-	0.01	0.02
4 & 2	14	-	-	0	0
1, 2, 5 & 6	20	-	-	0.01	0.02
A1 & A2; A3 & A4	32	-	-	0.04	0.02

Output Parameters

Terminals	Uo (V)	Io (mA)	Po (W)	Co (μF)	Lo (mH)
S1 to S7	14.7	146.7	-	0.08	1.1

a = Parameter not affecting safety.

Special conditions of use

1. The MTL647 shall be protected from direct exposure to sunlight.

MTL646a Serial Text Display

IS / I / 1 / ABCD / T4 Ta = 60°C – SCI-1010; Entity; Type 4X*, IP66*

I / 0 / AEx ia IIC T4 Ta = 60°C – SCI-1010; Entity; Type 4X*, IP66*

NI / I / 2 / ABCD / T4 Ta = 60°C – SCI-1011; NIFW; Type 4X*, IP66*

I / 2 / IIC / T4 Ta = 60°C – SCI-1011; NIFW; Type 4X*, IP66*

*Front panel only

Intrinsic Safety Parameters

Input Parameters

Terminals	Ui (V)	Ii (mA)	Pi (W)	Ci (μF)	Li (mH)
1 & 2	25	108	0.58	0.01	0.02
4 & 2	14	108	0.45	0	0
1, 2, 5 & 6	20	139	0.46	0.01	0.02
S1 to S7	0	0	0	0.54	0.3
A1 & A2; A3 & A4	28	200	0.85	0.04	0.02

Output Parameters

Terminals	Uo (V)	Io (mA)	Po (W)	Co (μF)	Lo (mH)
S1 to S7	14.7	146.7	0.58	0.08	1.1
A1 & A2; A3 & A4	1.49	0.0001	0.003	1000	1000

Nonincendive Field Wiring Parameters

Input Parameters

Terminals	Ui (V)	Ii (mA)	Pi (W)	Ci (μF)	Li (mH)
1 & 2	25	-	-	0.01	0.02
4 & 2	14	-	-	0	0
1, 2, 5 & 6	20	-	-	0.01	0.02
A1 & A2; A3 & A4	32	-	-	0.04	0.02

Output Parameters

Terminals	Uo (V)	Io (mA)	Po (W)	Co (μF)	Lo (mH)
S1 to S7	14.7	146.7	-	0.08	1.1

a = Parameter not affecting safety.

Special conditions of use

1. To maintain the Type 4X or IP66 enclosure rating the MTL646 shall be installed in accordance with the mounting conditions provided on drawing numbers SCI-1010 and SCI-1011
2. The MTL646 shall be installed in compliance with the enclosure, mounting, spacing and segregation requirements of the ultimate application.
3. The MTL646 shall be protected from direct exposure to sunlight.

Equipment Ratings:

MTL647a Serial Text Display

Intrinsically Safe for Class I, II and III, Division 1, Groups A, B, C, D, E, F and G; and Class I, Zone 0, Group IIC Hazardous (Classified) Locations using the Entity Concept when installed in accordance with Control Drawing SCI-1010.

Nonincendive for Class I, Division 2, Groups A, B, C and D and Class I, Zone 2, Group IIC Hazardous (Classified) Locations using the Nonincendive Field Wiring Concept when installed in accordance with Control Drawing SCI-1011.

Suitable for Class II, Division 2, Groups E, F and G Hazardous (Classified) Locations using the Nonincendive Field Wiring Concept when installed in accordance with Control Drawing SCI-1011.

Suitable for Class III, Division 2, Hazardous (Classified) Locations using the Nonincendive Field Wiring Concept when installed in accordance with Control Drawing SCI-1011.

MTL647a Serial Text Display

Intrinsically Safe for Class I, Division 1, Groups A, B, C, and D; and Class I, Zone 0, Group IIC Hazardous (Classified) Locations using the Entity Concept when installed in accordance with Control Drawing SCI-1010.

Nonincendive for Class I, Division 2, Groups A, B, C and D and Class I, Zone 2, Group IIC Hazardous (Classified) Locations using the Nonincendive Field Wiring Concept when installed in accordance with Control Drawing SCI-1011.

FM Approved for:

Measurement Technology Limited
Luton, Bedfordshire LU1 3JJ United Kingdom

This certifies that the equipment described has been found to comply with the following Approval Standards and other documents:

Class 3600	1998
Class 3610	1999
Class 3611	2004
Class 3810	2006
NEMA 250	1991

Original Project ID: 3026711

Approval Granted: July 18, 2006

Subsequent Revision Reports / Date Approval Amended

Report Number	Date	Report Number	Date
060530	12/28/06		

FM Approvals LLC


George A. Smith
Assistant Vice President

12/28/06
Date