Third Angle Projection | Do Not Scale | All Dimensions in mm

Date	Modification

Eaton Electric Limited,
Great Marlings, Butterfield, Luton, Bedfordshire, England, LU2 8DL
Telephone: +44 (0)1582 723633
Web: www.mtl-inst.com | Email: mtlenquiry@eaton.com

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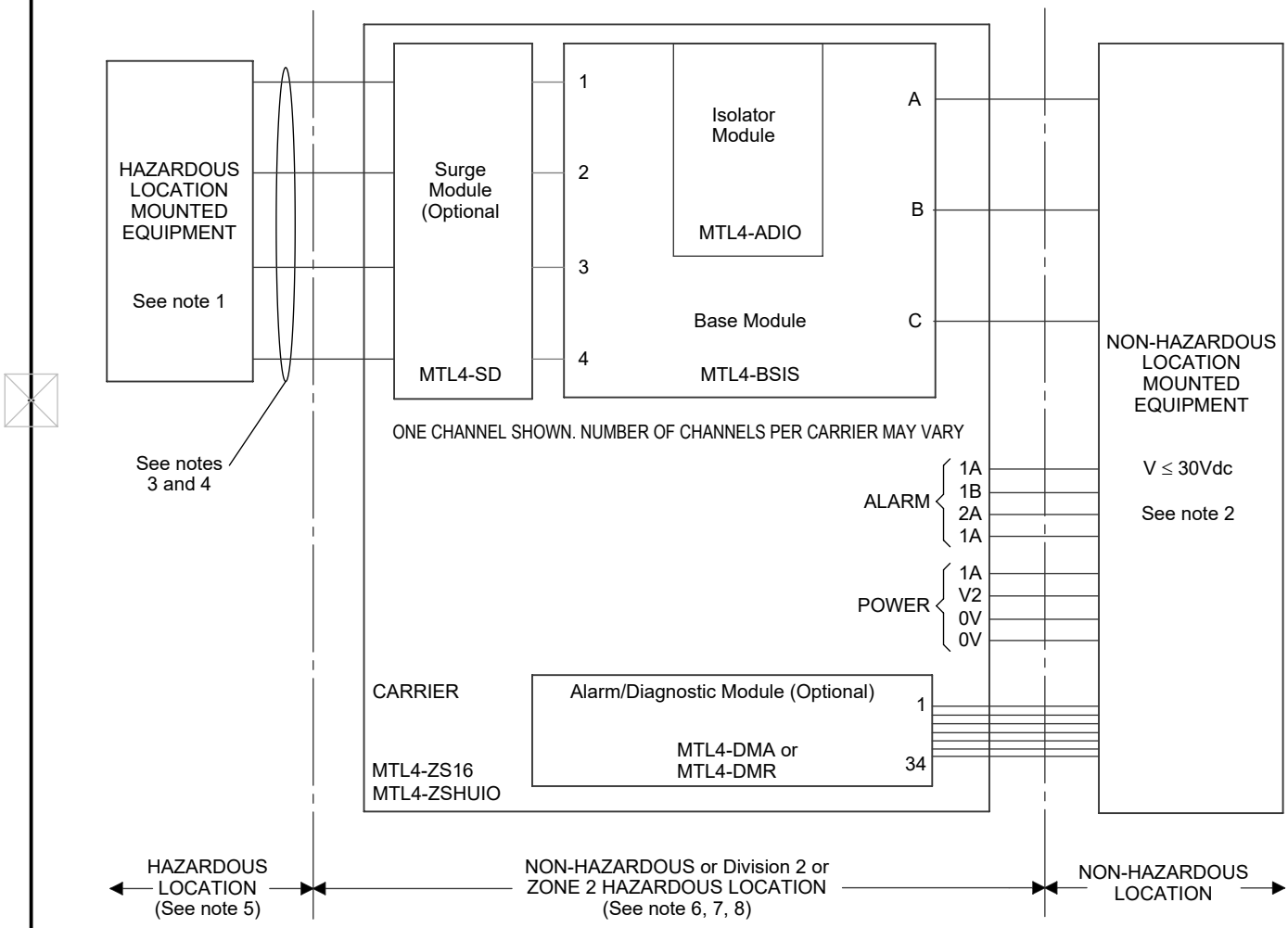

Class I Division 1 Groups A, B, C, and D
Class II Division 1 Groups E, F, G
Class III Division 1
Class I Zone 0 Group IIC, IIB, IIA

Non-hazardous locations
Class I Division 2 Groups A, B, C, and D
Class II Division 2 Groups F, G
Class III Division 2
Class I Zone 2 IIC T4

Note 1

The intrinsically safe concept allows the interconnection of suitably certified intrinsically safe devices with entity parameters not specifically examined in combination as a system when:

Associated Apparatus		IS Equipment
U_o or V_{oc} or V_t	≤	Vmax or U_i
I_o or I_{sc} or I_t	≤	Imax or I_i
C_a or C_o	≤	C_i + Ccable
L_a or L_o	≤	L_i + Lcable
P_o	≤	P_i or Pmax

The associated apparatus may also be connected to simple apparatus as defined in National Electrical Code (ANSI/NFPA 70) Section 504.2, or Canadian Electrical Code Part 1, as applicable.

This component / assembly to be in compliance with RoHS & REACH regulations.			**Sheet:** 1 of 4
Tolerance (Unless Otherwise Stated): N/A	**Scale:** 1:1	**Drawn by:** CMB	**Drawn Date:** 6.22
Title: Control Drawing - SUM5 Universal Isolator		**Drawing Number:** SCI-1084	**Revision:** 1

SolidWorks | A4

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Note 2
The non-hazardous location mounted equipment (i.e. control system and power supply) must not generate or use more than 30Vdc unless it has been determined that the voltage has been adequately isolated from the Associated Apparatus.

Note 3
Installation should be in accordance with ANSI/ISA RP 12.06.01 and the National Electrical Code (ANSI/NFPA 70) Sections 504 and 505, or Canadian Electrical Code Part 1, as applicable.

Note 4
Non-hazardous location terminals
Base terminals A, B, C, Alarm terminals 1A, 1B, 2A, 2B, Power terminals V1, V2, 0V and connections to MTL4-DMA and MTL-DMR diagnostic module:

Um = 30Vdc

Entity Parameters - Hazardous location terminals
Refer to the Instruction Manual for the usage of different terminals and I/O modes.

Terminals	Voc = Uo	Isc = Io	Ci	Po	Li
4 w.r.t 3 (IS Power Link not fitted)	26.5V	90mA	0.6W	0	0
4 w.r.t 3 (IS Power Link fitted)	26.5V	136mA	0.9W	0	0
4 w.r.t 2 (IS Power Link not fitted)	26.5V	90mA	0.6W	0.5nF	0
4 w.r.t 2 (IS Power Link fitted)	26.5V	136mA	0.9W	0.5nF	0
2 w.r.t 3 *	10V	0.13mA	<1mW	0.5nF	0
1 w.r.t 2	10V	14mA	35mW	0.5nF	0
2 & 4 w.r.t 3 (IS Power Link not fitted)	26.5V	90mA	0.6W	0.5nF	0
2 & 4 w.r.t 3 (IS Power Link fitted)	26.5V	136mA	0.9W	0.5nF	0

* Also considered suitable for the connection of an intrinsically safe source with Uo = 30V and Io = 100mA. When an intrinsically safe source is connected to these terminals the capacitance and either the inductance or inductance to resistance ratio (L/R) of the hazardous area connections must not exceed the values detailed in the certificate of the intrinsically safe source. Hazardous area terminals 1 & 4 must not be used when a source is connected to these terminals.

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Load Parameters - Hazardous location terminals

Group	Ca (uF)	La (mH)	L/R ratio (uH/ohm)
Terminal 4 w.r.t 3 (IS Power Link not fitted)			
Group A & B	0.095	4.29	58
Group C & E	0.73	17.1	235
Group D, F & G	2.45	34.3	471
Terminal 4 w.r.t 3 (IS Power Link fitted)			
Group A & B	0.095	2.00	39
Group C & E	0.73	8.40	157
Group D, F & G	2.45	16.4	315
Terminal 4 w.r.t 2 (IS Power Link not fitted)			
Group A & B	0.094	4.29	58
Group C & E	0.72	17.1	235
	2.44	34.3	471
Terminal 4 w.r.t 2 (IS Power Link fitted)			
Group A & B	0.094	2.00	39
Group C & E	0.72	8.40	157
Group D, F & G	2.44	16.4	315
Terminal 2 w.r.t 3			
Group A & B	3.0	1,000	109,401
Group C & E	20.0	1,000	437,606
Group D, F & G	100	1,000	875,213
Terminal 1 w.r.t 2			
Group A & B	3.0	172.4	1,015
Group C & E	20.0	656.4	4,063
Group D, F & G	100	1,000	8,126
Terminal 2 & 4 w.r.t 3 (IS Power Link not fitted)			
Group A & B	0.094	4.29	58
Group C & E	0.72	17.1	235
Group D, F & G	2.44	34.3	471
Terminal 2 & 4 w.r.t 3 (IS Power Link fitted)			
Group A & B	0.094	2.00	39
Group C & E	0.72	8.40	157
Group D, F & G	2.44	16.4	315

1) The above load parameters apply when one of the two conditions below is given:
- the total Li of the external circuit (excluding the cable) is < 1% of the Lo value or
- the total C of the external circuit (excluding the cable) is < 1% of the Co value.

This component / assembly to be in compliance with RoHS & REACH regulations.

Sheet: 3 of 4

Tolerance (Unless Otherwise Stated): N/A | **Scale:** 1:1 | **Drawn by:** CMB | **Drawn Date:** 6.22

Title: Control Drawing - SUM5 Universal Isolator

Drawing Number: SCI-1084

Revision: 1

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2) The above parameters are reduced to 50% when both of the two conditions below are given:
- the total Li of the external circuit (excluding the cable) is ≥ 1 % of the Lo value and
- the total Ci of the external circuit (excluding the cable) is ≥ 1 % of the Co value.

The reduced capacitance of the external circuit (including cable) shall not be greater than 600nF for Groups A & B and 1µF for Groups C, D, E, F & G.

The values of Lo and Co determined by this method shall not be exceeded by the sum of all of the Li plus cable inductances in the circuit and the sum of all of the C plus cable capacitances respectively.

Note 5
The field outputs of this Associated Apparatus are suitable for connection to IS equipment mounted in the following locations:

Class I Division 1 Groups A, B, C and D Hazardous Locations
Class II Division 1 Groups E, F, G Hazardous Locations
Class III Division 1 Hazardous Locations
Class I Zone 0 Group IIC, IIB, IIA Hazardous locations

Note 6
When mounted in an appropriate enclosure (see notes 7 and 8) this Associated Apparatus is suitable for installation in the following locations:

Non - Hazardous Locations
Class I Division 2 Groups A, B, C and D Hazardous Locations
Class I Zone 2 IIC T4 Hazardous locations
Class II Division 2 Groups F, G Hazardous Locations
Class III Division 2 Hazardous Locations

Note 7
When mounted in Class I Division 2 or Class I Zone 2 locations, this Associated Apparatus must be installed in accordance with the National Electrical Code in an IP54 enclosure meeting the requirements of ANSI/ISA - S82 or the Canadian Electrical Code, as appropriate.

Note 8
When mounted in Class II or Class III locations, this Associated Apparatus must be installed in a suitably certified dust-ignition proof enclosure appropriate for environmental protection in Class II, Division 2, Groups F and G or Class III Division 2 Hazardous Locations.

Note 9
WARNING: Explosion Hazard - When installed in Division 2 or Zone 2 hazardous locations do not connect/disconnect any parts of the apparatus (except Surge protector and field circuits) unless the equipment is de-energized or the area is known to be non-hazardous.

Note 10
WARNING: Explosion Hazard - Substitution of components may impair intrinsic safety or suitability for mounting in hazardous locations.

This component / assembly to be in compliance with RoHS & REACH regulations.			**Sheet:** 4 of 4
Tolerance (Unless Otherwise Stated): N/A	**Scale:** 1:1	**Drawn by:** CMB	**Drawn Date:** 6.22
Title: Control Drawing - SUM5 Universal Isolator		**Drawing Number:** SCI-1084	**Revision:** 1