
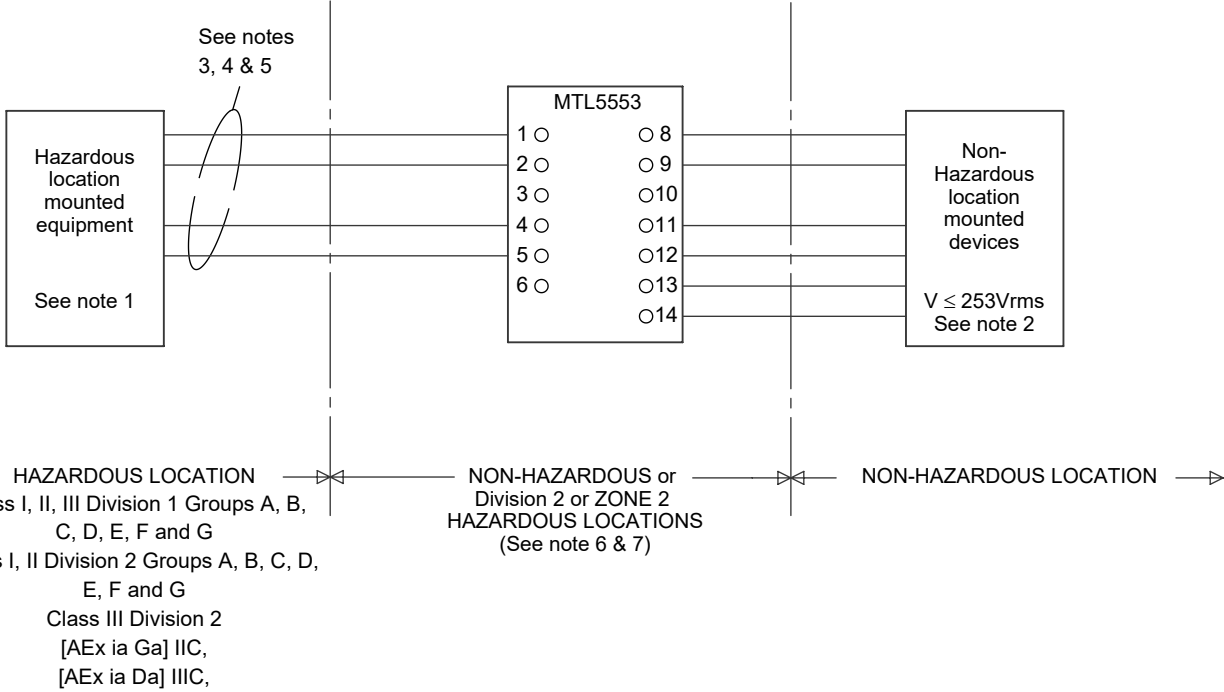


Date	Modification	 Eaton Electric Limited, Great Marlings, Butterfield, Luton, Bedfordshire, England, LU2 8DL Telephone: +44 (0)1582 723633 Web: www.mtl-inst.com Email: mtl enquiry@eaton.com Powering Business Worldwide	Eaton Electric Limited, Great Marlings, Butterfield, Luton, Bedfordshire, England, LU2 8DL Telephone: +44 (0)1582 723633 Web: www.mtl-inst.com Email: mtl enquiry@eaton.com	A



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	$\leq V_{max}$ or U_i
I_o or I_{sc} or I_t	$\leq I_{max}$ or I_i
C_a or C_o	$\leq C_i + C_{cable}$
L_a or L_o	$\leq L_i + L_{cable}$
P_o	$\leq P_i$ or P_{max}

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.



Note 2



The non-hazardous location mounted equipment (i.e. control system and power supply) must not generate or use more than 253Vdc 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.

This component / assembly to be in compliance with RoHS & REACH regulations.			Sheet: 1 of 3
Tolerance (Unless Otherwise Stated): N/A	Scale: 1:1	Drawn by: CMB	Drawn Date: 11.22
Title:	Drawing Number: SCI-1086		Revision: 1

1	2	3	4																																
Third Angle Projection 		Do Not Scale																																	
		All Dimensions in mm																																	
Date	Modification	 Eaton <i>Powering Business Worldwide</i>	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																																
				This drawing and any information or descriptive material set out on it are the confidential and copyright property of Eaton Electric Limited and MUST NOT BE DISCLOSED, COPIED, LOANED in whole or part or used for any purpose without the written permission of Eaton Electric Limited.																															
<p>Note 4 Non-hazardous location terminals Terminals 8, 9, 11, 12 , 13 & 14:</p> <p style="text-align: center;">$U_m = 253V_{dc}$</p> <p>The circuit connected to non-hazardous area terminals 8, 9, 11, 12, 13 & 14 is designed to operate from a d.c. supply voltage of up to 35V.</p> <p>Entity Parameters - Hazardous location terminals Refer to the Instruction Manual for the usage of different terminals and I/O modes.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Terminals</th> <th>Voc = Uo</th> <th>Isc = Io</th> <th>Po</th> <th>Ci</th> <th>Li</th> </tr> </thead> <tbody> <tr> <td>2 w.r.t 1 or 5 w.r.t 4</td> <td>22V</td> <td>216mA</td> <td>1.2W</td> <td>0</td> <td>0</td> </tr> </tbody> </table> <p>Load Parameters - Hazardous location terminals</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Group</th> <th>Ca (uF)</th> <th>La (mH)</th> <th>L/R ratio (uH/ohm)</th> </tr> </thead> <tbody> <tr> <td colspan="4">Terminal 2 w.r.t 1 and 5 w.r.t 4</td> </tr> <tr> <td>Group A & B</td> <td>0.165</td> <td>0.26</td> <td>29</td> </tr> <tr> <td>Group C & E</td> <td>1.14</td> <td>0.79</td> <td>119</td> </tr> <tr> <td>Group D, F & G</td> <td>4.2</td> <td>2.12</td> <td>239</td> </tr> </tbody> </table> <p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p>				Terminals	Voc = Uo	Isc = Io	Po	Ci	Li	2 w.r.t 1 or 5 w.r.t 4	22V	216mA	1.2W	0	0	Group	Ca (uF)	La (mH)	L/R ratio (uH/ohm)	Terminal 2 w.r.t 1 and 5 w.r.t 4				Group A & B	0.165	0.26	29	Group C & E	1.14	0.79	119	Group D, F & G	4.2	2.12	239
Terminals	Voc = Uo	Isc = Io	Po	Ci	Li																														
2 w.r.t 1 or 5 w.r.t 4	22V	216mA	1.2W	0	0																														
Group	Ca (uF)	La (mH)	L/R ratio (uH/ohm)																																
Terminal 2 w.r.t 1 and 5 w.r.t 4																																			
Group A & B	0.165	0.26	29																																
Group C & E	1.14	0.79	119																																
Group D, F & G	4.2	2.12	239																																
This component / assembly to be in compliance with RoHS & REACH regulations.			Sheet: 2 of 3																																
Tolerance (Unless Otherwise Stated): N/A		Scale: 1:1	Drawn by: CMB																																
		Drawn Date: 11.22																																	
Title:		Drawing Number: SCI-1086	Revision: 1																																

1	2	3	4
Third Angle Projection 		Do Not Scale	
		All Dimensions in mm	
Date	Modification	 Eaton <i>Powering Business Worldwide</i>	Eaton Electric Limited, Great Marlings, Butterfield, Luton, Bedfordshire, England, LU2 8DL Telephone: +44 (0)1582 723633 Web: www.mtl-inst.com Email: mtl-enquiry@eaton.com
<p>Note 5 The field outputs of this Associated Apparatus are suitable for connection to IS equipment mounted in the following locations:</p> <p style="margin-left: 40px;">Class I, II, III Division 1 Groups A, B, C, D, E, F and G Class I, II Division 2 Groups A, B, C, D, E, F and G Class III Division 2 [AEx ia Ga] IIC [AEx ia Da] IIIC,</p> <p>Note 6 When mounted in an appropriate enclosure (see note 7) this Associated Apparatus is suitable for installation in the following locations:</p> <p style="margin-left: 40px;">Non - Hazardous Locations Class I, Division 2 Groups A, B, C, D T4 Class II, Division 2 Groups F and G Class III, Division 2 Class I, Zone 2 T4.</p> <p>Note 7 Conditions of acceptability for Increased Safety/Enclosed Break when mounted in Class I Division 2 or Class I Zone 2 locations:</p> <ol style="list-style-type: none"> The equipment must be installed in an area of Pollution Degree 2 or better, as defined in IEC 60664-1, and in a tool secured enclosure that provides a degree of protection of at least IP54 and meets the relevant requirements of UL 60079-0 and UL 60079-7. The ambient temperature stated on this certificate refers to the temperature within the enclosure into which it must be installed in accordance with condition number 1). It is the responsibility of the installer to ensure that there is adequate isolation between the MTL 5553 Isolator and the frame of the supplementary enclosure. The equipment must be capable of withstanding the 500V dielectric strength test in accordance with clause 6.1 of UL 60079-7 between the equipment and the supplementary enclosure. This must be considered during installation. All connections to, and between the modules forming the equipment the must not be inserted or removed unless either the area in which the equipment is installed is known to be non-hazardous, or the circuit to which it is connected has been de-energised. The maximum values for the intrinsically safe circuits have to be taken from the control drawing SCI-1086. <p>Note 8 WARNING: Explosion Hazard - When installed in Division 2 or Zone 2 hazardous locations do not connect/disconnect any parts of the apparatus unless the equipment is de-energized or the area is known to be non-hazardous.</p> <p>Note 9 WARNING: Explosion Hazard - Substitution of components may impair intrinsic safety or suitability for mounting in hazardous locations.</p>			
This component / assembly to be in compliance with RoHS & REACH regulations.			Sheet: 3 of 3
Tolerance (Unless Otherwise Stated): N/A		Scale: 1:1	Drawn by: CMB
		Drawn Date: 11.22	
Title:		Drawing Number: SCI-1086	Revision: 1

A

B

C

D

E

F