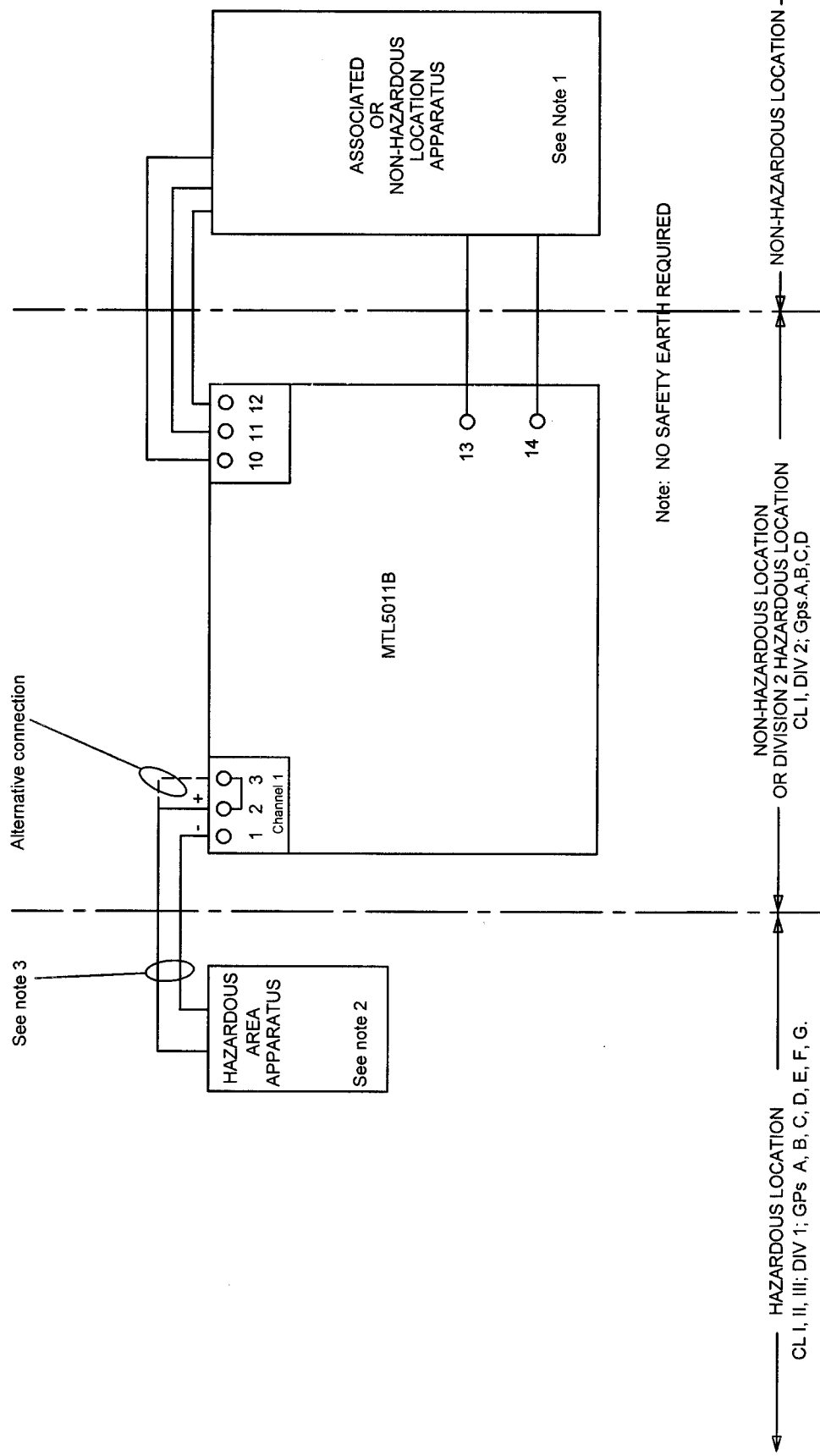


Dimensions in mm

Do Not Scale

Third Angle Projection

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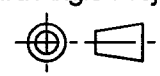
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| System Certificate No: | | Scale N/A |
| Certifying Authority: UL | | Sheet 1 of 2 |
| Title MTL5011B Single Channel, Switch/Proximity Detector Interface Installation Diagram | | Drg. No. SCI-896 |

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Dimensions in mm

Do Not Scale

Third Angle Projection



Note 1

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

Note 2

The Hazardous Location equipment may be Simple Apparatus. 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

a) Entity Concept Parameters for each channel of the MTL5011B ie channel 1 (Terminals 1 & 2) are as follows:-

Channel 1 - Terminal 1 Wrt 2/3 $V_{oc} \leq 10.5V$ $I_{sc} \leq 14mA$

| | | |
|------------------|----------------------|------------------|
| Groups A and B | $Ca \leq 2.4 \mu F$ | $La \leq 165mH$ |
| Groups C and E | $Ca \leq 7.2 \mu F$ | $La \leq 495mH$ |
| Groups D,F and G | $Ca \leq 19.2 \mu F$ | $La \leq 1000mH$ |

b) The parameters of the complete installation must meet the following criteria :-

$V_{oc} \leq V_{max}$, $I_{sc} \leq I_{max}$
 $Ca \geq C_i + C_{cable}$, $La \geq L_i + L_{cable}$

Note 4

For installation in the USA, the installation practices must comply with the National Electrical code NFPA70 Article 504 ANSI/ISA RP12.6.

Note 5

The MTL5011B 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

Note 6

Intrinsically Safe wiring must be installed in accordance with the ANSI National Electrical Code / NFPA70, Article 504 in an enclosure meeting the requirements of ANSI/ISA-S82.

Note 7

Use UL listed 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.

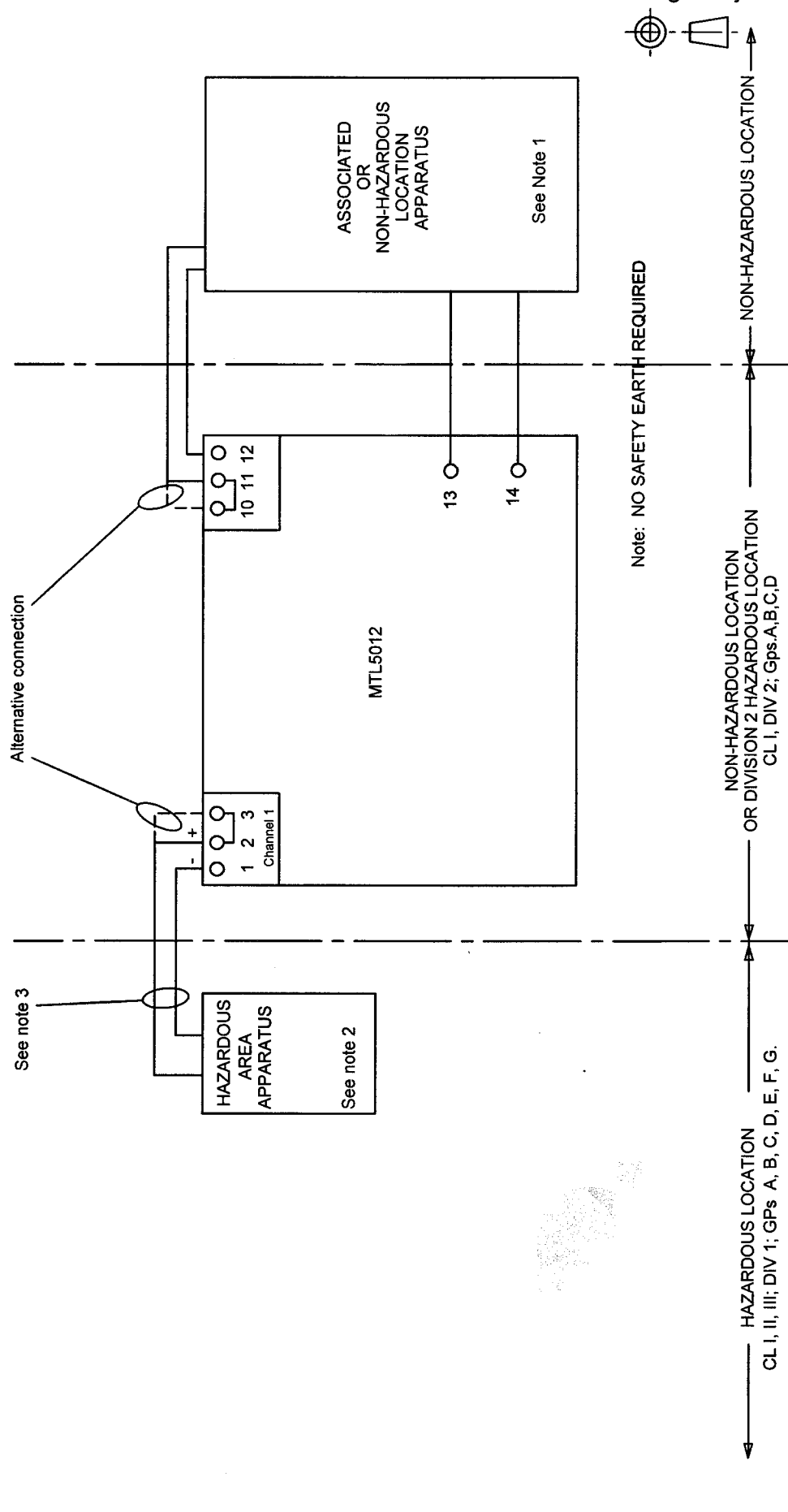
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| System Certificate No: | | Scale N/A |
| Certifying Authority: UL | | Sheet 2 of 2 |
| Title MTL5011B Single Channel, Switch/Proximity Detector Interface Installation Diagram | | Drg. No. SCI-896 |

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Dimensions in mm

Do Not Scale

Third Angle Projection

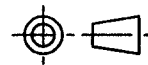


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| System Certificate No: | | Scale N/A |
| Certifying Authority: UL | | Sheet 1 of 2 |
| Title MTL5012 Single Channel, Switch/Proximity Detector Interface Installation Diagram | | Drng. No. SCI-897 |

Dimensions in mm

Do Not Scale

Third Angle Projection



Note 1

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

Note 2

The Hazardous Location equipment may be Simple Apparatus. 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

a) Entity Concept Parameters for the MTL5012 ie channel 1 (Terminals 1 & 2) are as follows:-

Channel 1 - Terminal 1 Wrt 2/3 $V_{oc} \leq 10.5V$ $I_{sc} \leq 14mA$

| | | |
|------------------|----------------------|------------------|
| Groups A and B | $Ca \leq 2.4 \mu F$ | $La \leq 165mH$ |
| Groups C and E | $Ca \leq 7.2 \mu F$ | $La \leq 495mH$ |
| Groups D,F and G | $Ca \leq 19.2 \mu F$ | $La \leq 1000mH$ |

b) The parameters of the complete installation must meet the following criteria :-

$$V_{oc} \leq V_{max}, I_{sc} \leq I_{max}$$

$$Ca \geq C_i + C_{cable}, La \geq L_i + L_{cable}$$

Note 4

For installation in the USA, the installation practices must comply with the National Electrical code NFPA70 Article 504 ANSI/ISA RP12.6.

Note 5

The MTL5012 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

Note 6

Intrinsically Safe wiring must be installed in accordance with the ANSI National Electrical Code / NFPA70, Article 504 in an enclosure meeting the requirements of ANSI/ISA-S82.

Note 7

Use UL listed 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.

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| System Certificate No: | | Scale N/A |
| Certifying Authority: UL | | Sheet 2 of 2 |
| Title MTL5012 Single Channel, Switch/Proximity Detector Interface Installation Diagram | | Drg. No. SCI-897 |

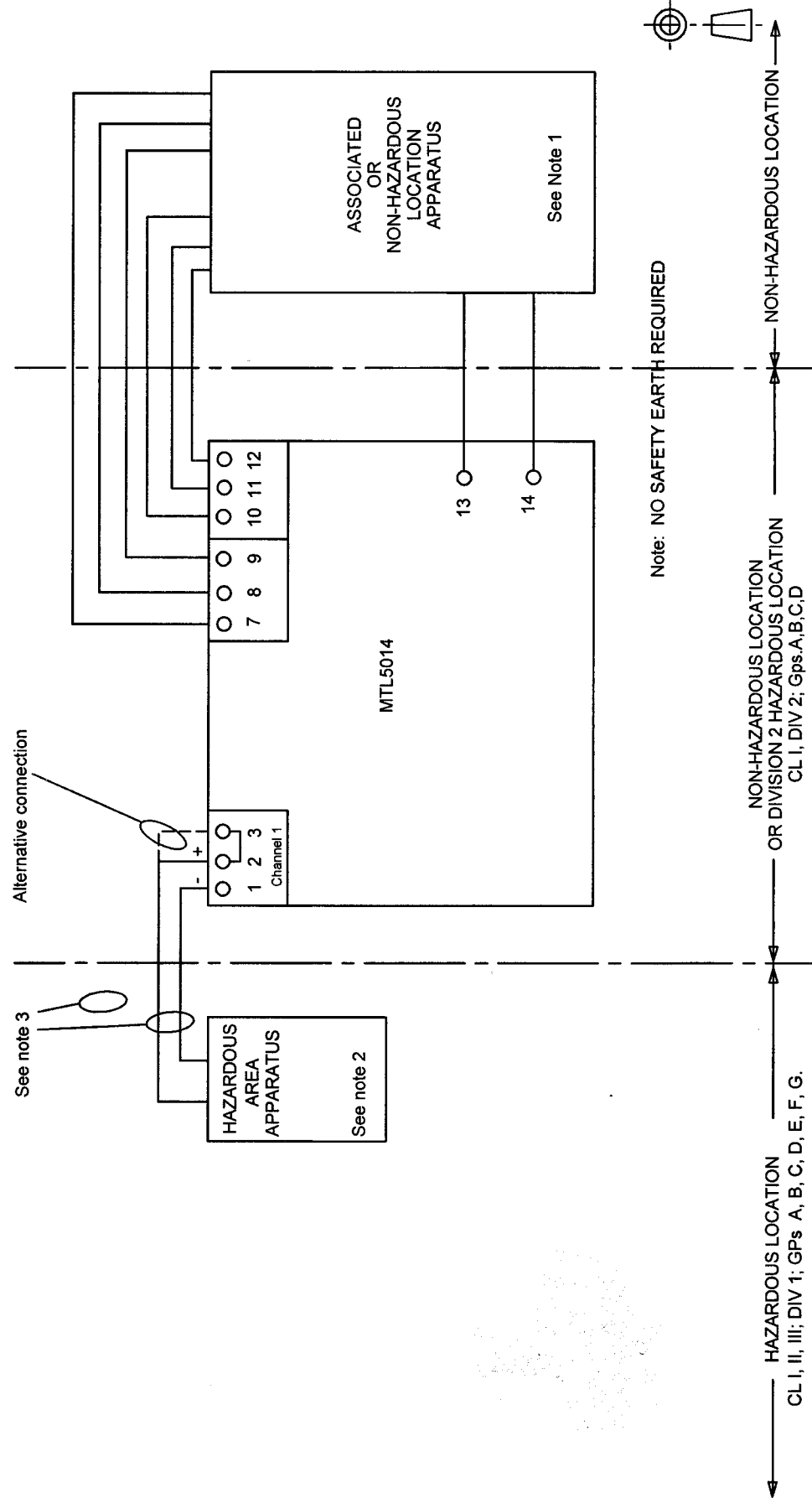
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Dimensions in mm

Do Not Scale

Third Angle Projection



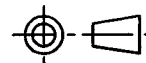
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| System Certificate No: | | Scale N/A |
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| Title MTL5014 Single Channel, Switch/Proximity Detector Interface Installation Diagram | | Drng. No. SCI-898 |

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Dimensions in mm

Do Not Scale

Third Angle Projection



Note 1

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

Note 2

The Hazardous Location equipment may be Simple Apparatus. 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

a) Entity Concept Parameters for each channel of the MTL5014 ie channel 1 (Terminals 1 & 2) are as follows:-

Channel 1 - Terminal 1 Wrt 2/3 $V_{oc} \leq 10.5V$ $I_{sc} \leq 14mA$

| | | |
|------------------|----------------------|------------------|
| Groups A and B | $Ca \leq 2.4 \mu F$ | $La \leq 165mH$ |
| Groups C and E | $Ca \leq 7.2 \mu F$ | $La \leq 495mH$ |
| Groups D,F and G | $Ca \leq 19.2 \mu F$ | $La \leq 1000mH$ |

b) The parameters of the complete installation must meet the following criteria :-

$$V_{oc} \leq V_{max}, I_{sc} \leq I_{max}$$

$$Ca \geq C_i + C_{cable}, La \geq L_i + L_{cable}$$

Note 4

For installation in the USA, the installation practices must comply with the National Electrical code NFPA70 Article 504 ANSI/ISA RP12.6.

Note 5

The MTL5014 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

Note 6

Intrinsically Safe wiring must be installed in accordance with the ANSI National Electrical Code / NFPA70, Article 504 in an enclosure meeting the requirements of ANSI/ISA-S82.

Note 7

Use UL listed 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.

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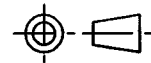
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| System Certificate No: | Scale N/A |
| Certifying Authority: UL | Sheet 2 of 2 |
| Title MTL5014 Single Channel, Switch/Proximity Detector Interface Installation Diagram | Drg. No. SCI-898 |

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| <p>Dimensions in mm</p> <p>Do Not Scale</p> <p>Third Angle Projection</p> | | | | | <p>System Certificate No:</p> <p>Certifying Authority: UL</p> <p>Title: MTL5015 Two Channel, Switch/Proximity Detector Interface Installation Diagram</p> | | | | |
| Scale N/A | | | | | Sheet 1 of 2 | | | | |
| Drg. No. SCI-899 | | | | | | | | | |

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Note 1

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

Note 2

The Hazardous Location equipment may be Simple Apparatus. 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

a) Entity Concept Parameters for each channel of the MTL5015 ie channel 1 (Terminals 1 & 2), channel 2 (Terminals 4 & 5) are as follows:-

Channel 1 - Terminal 1 Wrt 2/3 $V_{oc} \leq 10.5V$ $I_{sc} \leq 14mA$

Channel 2 - Terminal 4 Wrt 5/3 $V_{oc} \leq 10.5V$ $I_{sc} \leq 14mA$

| | | |
|------------------|----------------------|------------------|
| Groups A and B | $Ca \leq 2.4 \mu F$ | $La \leq 165mH$ |
| Groups C and E | $Ca \leq 7.2 \mu F$ | $La \leq 495mH$ |
| Groups D,F and G | $Ca \leq 19.2 \mu F$ | $La \leq 1000mH$ |

b) The parameters of the complete installation must meet the following criteria :-

$$V_{oc} \leq V_{max}, I_{sc} \leq I_{max}$$

$$Ca \geq C_i + C_{cable}, La \geq L_i + L_{cable}$$

Note 4

For installation in the USA, the installation practices must comply with the National Electrical code NFPA70 Article 504 ANSI/ISA RP12.6.

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

Note 6

Intrinsically Safe wiring must be installed in accordance with the ANSI National Electrical Code / NFPA70, Article 504 in an enclosure meeting the requirements of ANSI/ISA-S82.

Note 7

Use UL listed 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.

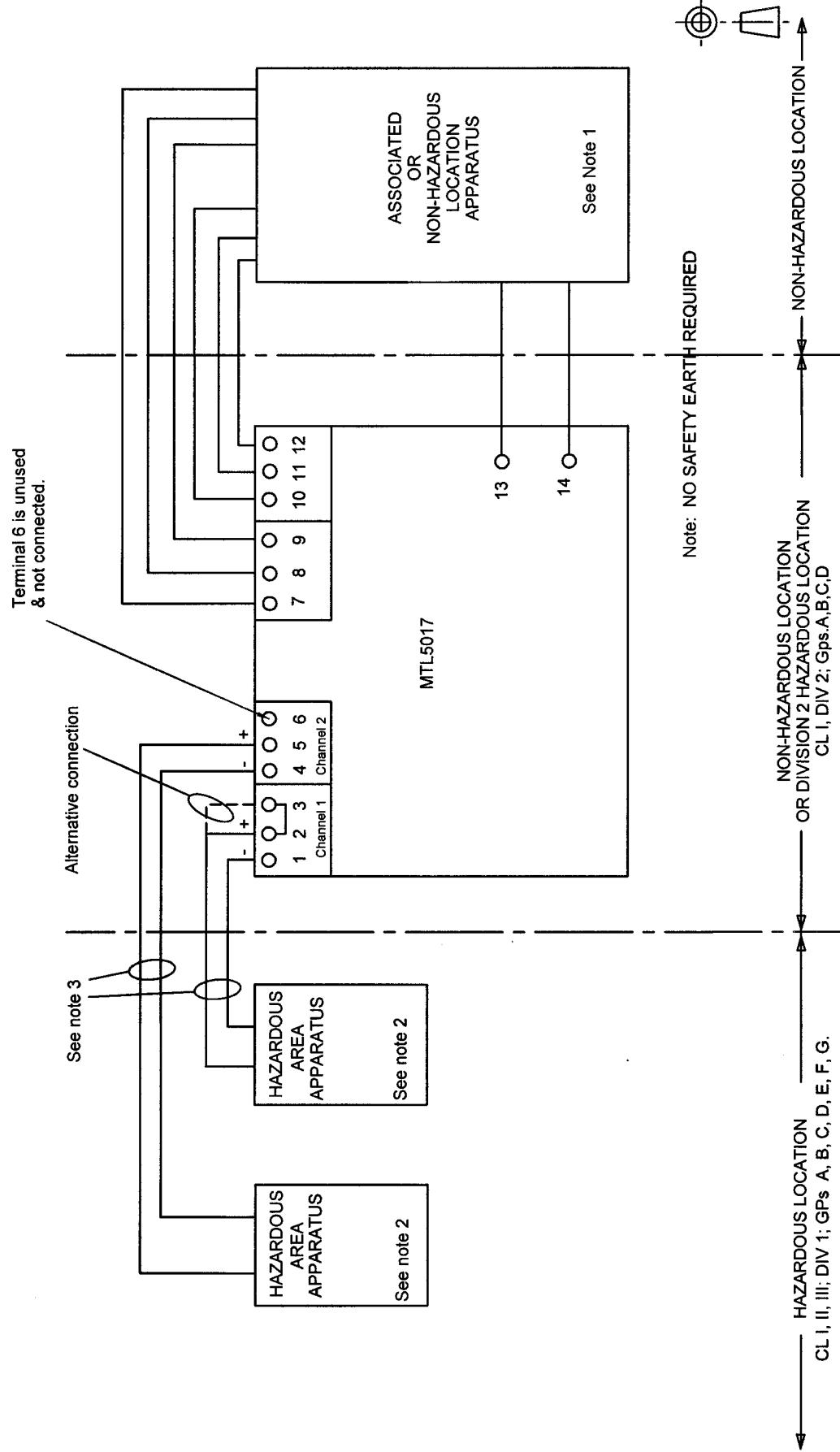
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| System Certificate No: | | Scale N/A |
| Certifying Authority: UL | | Sheet 2 of 2 |
| Title MTL5015 Two Channel, Switch/Proximity Detector Interface Installation Diagram | | Drg. No. SCI-899 |

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Dimensions in mm

Do Not Scale

Third Angle Projection



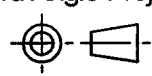
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| System Certificate No: | | Scale N/A |
| Certifying Authority: UL | | Sheet 1 of 2 |
| Title MTL5017 Two Channel, Switch/Proximity Detector Interface Installation Diagram | | Drng. No. SCI-901 |

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Dimensions in mm

Do Not Scale

Third Angle Projection



Note 1

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

Note 2

The Hazardous Location equipment may be Simple Apparatus. 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

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

Channel 1 - Terminal 1 Wrt 2/3 $V_{oc} \leq 10.5V$ $I_{sc} \leq 14mA$

Channel 2 - Terminal 4 Wrt 5/3 $V_{oc} \leq 10.5V$ $I_{sc} \leq 14mA$

| | | |
|------------------|-----------------------|-------------------|
| Groups A and B | $C_a \leq 2.4 \mu F$ | $L_a \leq 165mH$ |
| Groups C and E | $C_a \leq 7.2 \mu F$ | $L_a \leq 495mH$ |
| Groups D,F and G | $C_a \leq 19.2 \mu F$ | $L_a \leq 1320mH$ |

b) The parameters of the complete installation must meet the following criteria :-

$$V_{oc} \leq V_{max}, I_{sc} \leq I_{max}$$

$$C_a \geq C_i + C_{cable}, L_a \geq L_i + L_{cable}$$

Note 4

For installation in the USA, the installation practices must comply with the National Electrical code NFPA70 Article 504 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

Note 6

Intrinsically Safe wiring must be installed in accordance with the ANSI National Electrical Code / NFPA70, Article 504 in an enclosure meeting the requirements of ANSI/ISA-S82.

Note 7

Use UL listed 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.

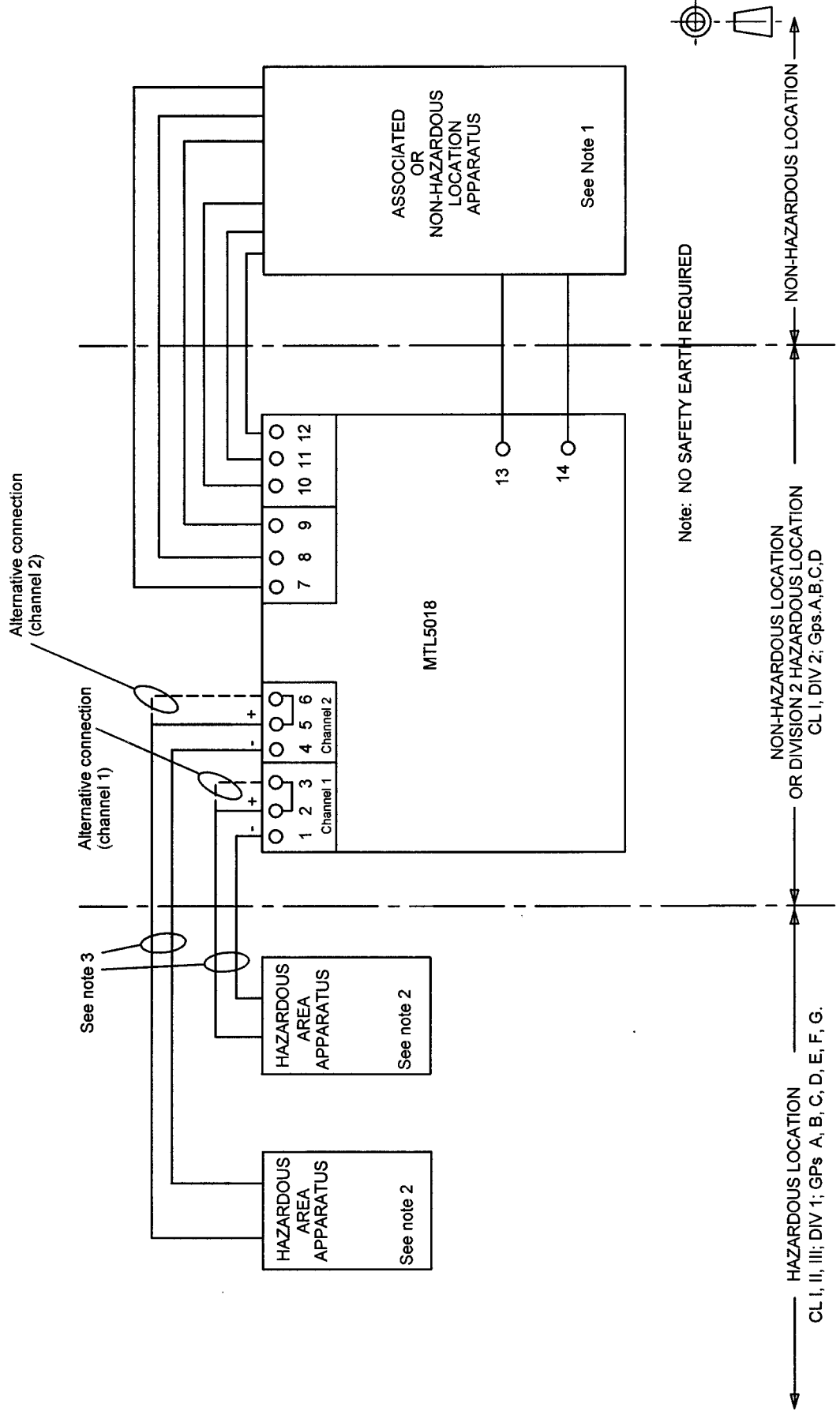
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| System Certificate No: | | Scale N/A |
| Certifying Authority: UL | | Sheet 2 of 2 |
| Title MTL5017 Two Channel, Switch/Proximity Detector Interface Installation Diagram | | Drg. No. SCI-901 |

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| System Certificate No: | | | | Certifying Authority: UL | | | | Title | | | |
| Scale N/A | | | | Sheet 1 of 2 | | | | MPL5018 Two Channel, Switch/Proximity Detector Interface Installation Diagram | | | |
| Drg. No. SCI-902 | | | | | | | | | | | |

Dimensions in mm

Do Not Scale

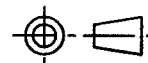
Third Angle Projection



Dimensions in mm

Do Not Scale

Third Angle Projection



Note 1

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

Note 2

The Hazardous Location equipment may be Simple Apparatus. 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

a) Entity Concept Parameters for each channel of the MTL5018 ie channel 1 (Terminals 1 & 2), channel 2 (Terminals 4 & 5) are as follows:-

Channel 1 - Terminal 1 Wrt 2/3 $V_{oc} \leq 10.5V$ $I_{sc} \leq 14mA$

Channel 2 - Terminal 4 Wrt 5/6 $V_{oc} \leq 10.5V$ $I_{sc} \leq 14mA$

| | | |
|------------------|-----------------------|-------------------|
| Groups A and B | $C_a \leq 2.4 \mu F$ | $L_a \leq 165mH$ |
| Groups C and E | $C_a \leq 7.2 \mu F$ | $L_a \leq 495mH$ |
| Groups D,F and G | $C_a \leq 19.2 \mu F$ | $L_a \leq 1000mH$ |

b) The parameters of the complete installation must meet the following criteria :-

$$V_{oc} \leq V_{max}, I_{sc} \leq I_{max}$$

$$C_a \geq C_i + C_{cable}, L_a \geq L_i + L_{cable}$$

Note 4

For installation in the USA, the installation practices must comply with the National Electrical code NFPA70 Article 504 ANSI/ISA RP12.6.

Note 5

The MTL5018 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

Note 6

Intrinsically Safe wiring must be installed in accordance with the ANSI National Electrical Code / NFPA70, Article 504 in an enclosure meeting the requirements of ANSI/ISA-S82.

Note 7

Use UL listed 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.

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| System Certificate No: | | Scale N/A |
| Certifying Authority: UL | | Sheet 2 of 2 |
| Title MTL5018 Two Channel, Switch/Proximity Detector Interface Installation Diagram | | Drg. No. SCI-902 |

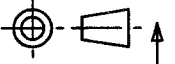
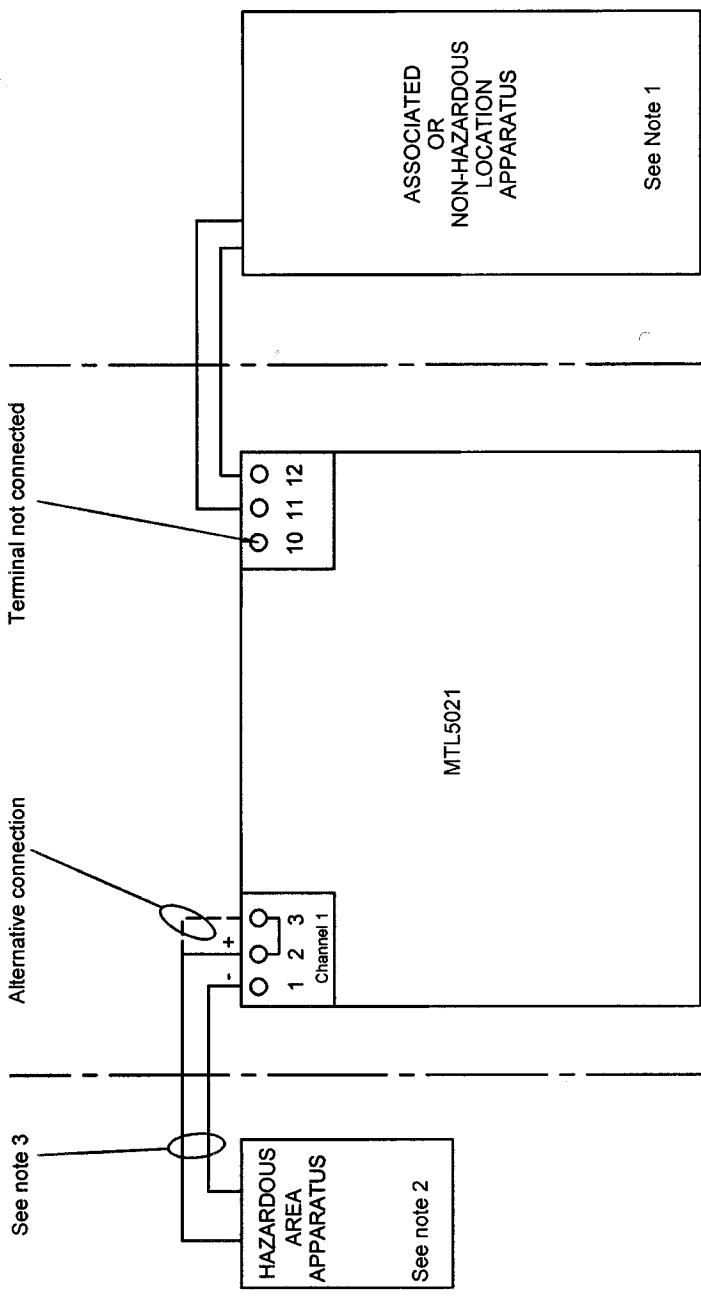
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| System Certificate No: | | | | Scale N/A | | | |
| Certifying Authority: UL | | | | Sheet 1 of 2 | | | |
| Title MTL5021 Solenoid / Alarm Driver IIC Installation Diagram | | | | Drg. No. SCI-903 | | | |

Dimensions in mm

Do Not Scale

Third Angle Projection

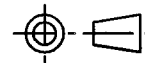


Note: NO SAFETY EARTH REQUIRED

← HAZARDOUS LOCATION
 CL I, II, III; GPs A, B, C, D, E, F, G.
 OR DIVISION 2 HAZARDOUS LOCATION
 CL I, DIV 2; Gps A, B, C, D
 → NON-HAZARDOUS LOCATION

Note 1

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

Note 2

The Hazardous Location equipment may be Simple Apparatus. 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

a) Entity Concept Parameters for the MTL5021 ie channel 1 (Terminals 1 & 2) are as follows:-

Channel 1 - Terminal 1 Wrt 2/3 $V_{oc} \leq 25V$ $I_{sc} \leq 147mA$

| | | |
|------------------|-----------------------|--------------------|
| Groups A and B | $C_a \leq 0.17 \mu F$ | $L_a \leq 1.32mH$ |
| Groups C and E | $C_a \leq 0.51 \mu F$ | $L_a \leq 3.96mH$ |
| Groups D,F and G | $C_a \leq 1.36\mu F$ | $L_a \leq 10.56mH$ |

b) The parameters of the complete installation must meet the following criteria :-

$$V_{oc} \leq V_{max}, I_{sc} \leq I_{max}$$

$$C_a \geq C_i + C_{cable}, L_a \geq L_i + L_{cable}$$

Note 4

For installation in the USA, the installation practices must comply with the National Electrical code NFPA70 Article 504 ANSI/ISA RP12.6.

Note 5

The MTL5021 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

Note 6

Intrinsically Safe wiring must be installed in accordance with the ANSI National Electrical Code / NFPA70, Article 504 in an enclosure meeting the requirements of ANSI/ISA-S82.

Note 7

Use UL listed 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.

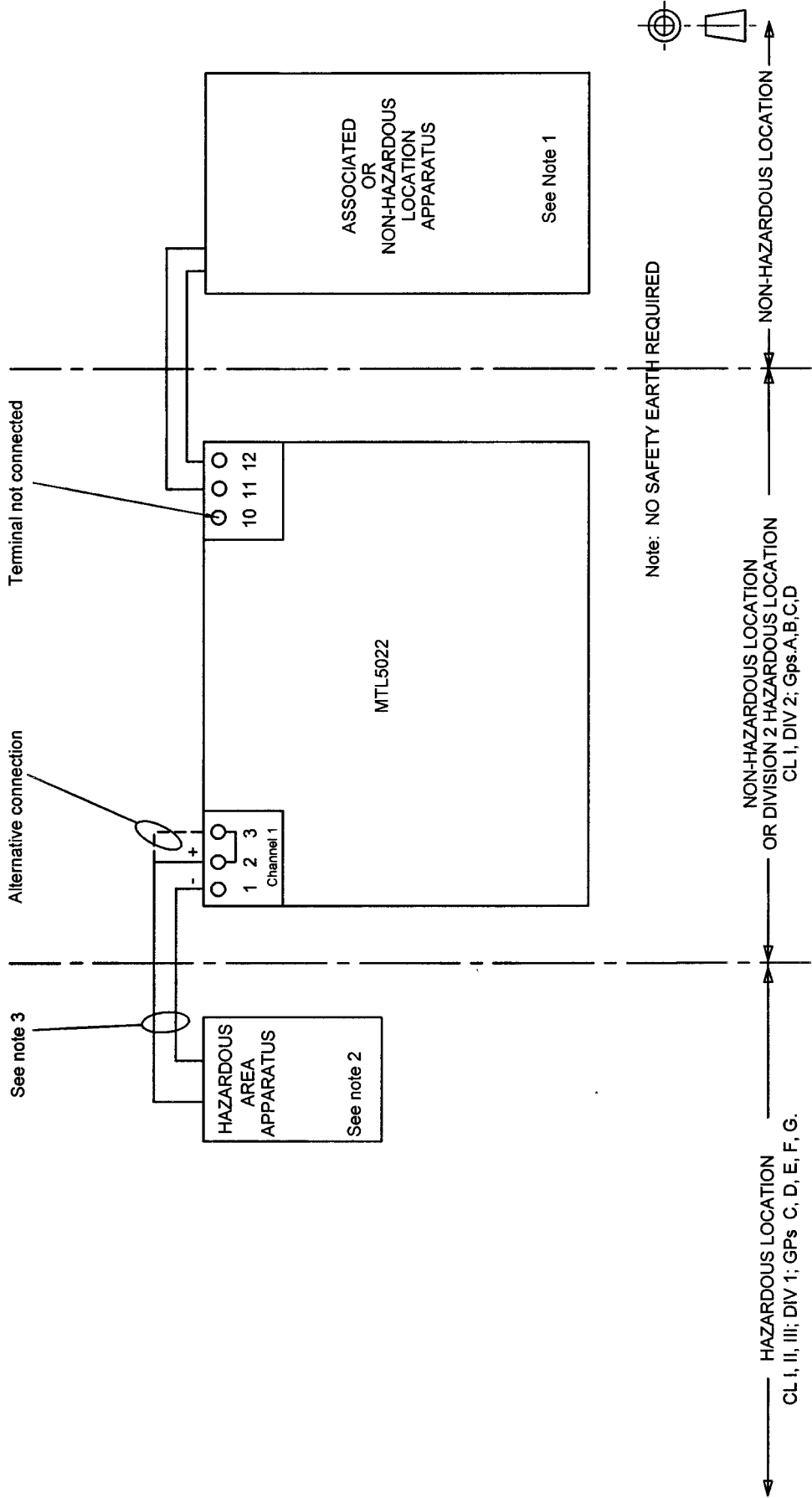
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| System Certificate No: | | Scale N/A |
| Certifying Authority: UL | | Sheet 2 of 2 |
| Title MTL5021 Solenoid / Alarm Driver IIC Installation Diagram | | Drg. No. SCI-903 |

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Dimensions in mm

Do Not Scale

Third Angle Projection

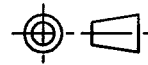


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| System Certificate No: | Scale N/A |
| Certifying Authority: UL | Sheet 1 of 2 |
| Title MTL5022 Solenoid / Alarm Driver IIB Installation Diagram | Drng. No. SCI-904 |

Dimensions in mm

Do Not Scale

Third Angle Projection



Note 1

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

Note 2

The Hazardous Location equipment may be Simple Apparatus. 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

a) Entity Concept Parameters for the MTL5022 ie channel 1 (Terminals 1 & 2) are as follows:-

Channel 1 - Terminal 1 Wrt 2/3 $V_{oc} \leq 25V$ $I_{sc} \leq 188mA$

| | | |
|------------------|-----------------------|--------------------|
| Groups C and E | $C_a \leq 0.51 \mu F$ | $L_a \leq 3.96mH$ |
| Groups D,F and G | $C_a \leq 1.36\mu F$ | $L_a \leq 10.56mH$ |

b) The parameters of the complete installation must meet the following criteria :-

$$V_{oc} \leq V_{max}, I_{sc} \leq I_{max}$$

$$C_a \geq C_i + C_{cable}, L_a \geq L_i + L_{cable}$$

Note 4

For installation in the USA, the installation practices must comply with the National Electrical code NFPA70 Article 504 ANSI/ISA RP12.6.

Note 5

The MTL5022 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

Note 6

Intrinsically Safe wiring must be installed in accordance with the ANSI National Electrical Code / NFPA70, Article 504 in an enclosure meeting the requirements of ANSI/ISA-S82.

Note 7

Use UL listed 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.

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| System Certificate No: | | Scale N/A |
| Certifying Authority: UL | | Sheet 2 of 2 |
| Title MTL5022 Solenoid / Alarm Driver IIB Installation Diagram | | Drg. No. SCI-904 |

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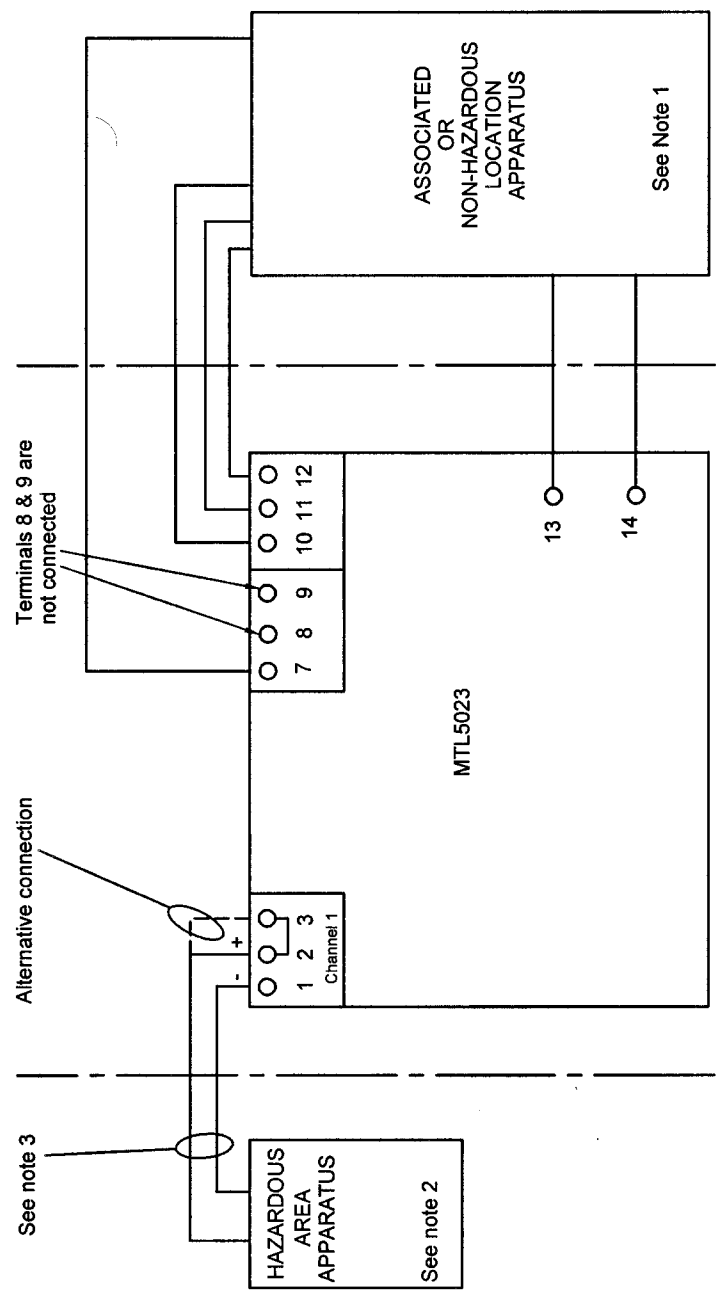
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Dimensions in mm

Do Not Scale

Third Angle Projection

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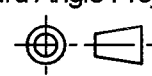
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| System Certificate No: | | Scale N/A |
| Certifying Authority: UL | | Sheet 1 of 2 |
| Title MTL5023 Solenoid / Alarm Driver Installation Diagram | | Drg. No. SCI-905 |

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| Iss | 1 |

Dimensions in mm

Do Not Scale

Third Angle Projection



Note 1

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

Note 2

The Hazardous Location equipment may be Simple Apparatus. 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

a) Entity Concept Parameters for the MTL5023 ie channel 1 (Terminals 1 & 2) are as follows:-

Channel 1 - Terminal 1 Wrt 2/3 $V_{oc} \leq 25V$ $I_{sc} \leq 147mA$

| | | |
|------------------|----------------------|-------------------|
| Groups A and B | $Ca \leq 0.17 \mu F$ | $La \leq 1.32mH$ |
| Groups C and E | $Ca \leq 0.51 \mu F$ | $La \leq 3.96mH$ |
| Groups D,F and G | $Ca \leq 1.36\mu F$ | $La \leq 10.56mH$ |

b) The parameters of the complete installation must meet the following criteria :-

$$V_{oc} \leq V_{max}, I_{sc} \leq I_{max}$$

$$Ca \geq C_i + C_{cable}, La \geq L_i + L_{cable}$$

Note 4

For installation in the USA, the installation practices must comply with the National Electrical code NFPA70 Article 504 ANSI/ISA RP12.6.

Note 5

The MTL5023 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

Note 6

Intrinsically Safe wiring must be installed in accordance with the ANSI National Electrical Code / NFPA70, Article 504 in an enclosure meeting the requirements of ANSI/ISA-S82.

Note 7

Use UL listed 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.

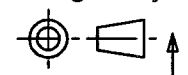
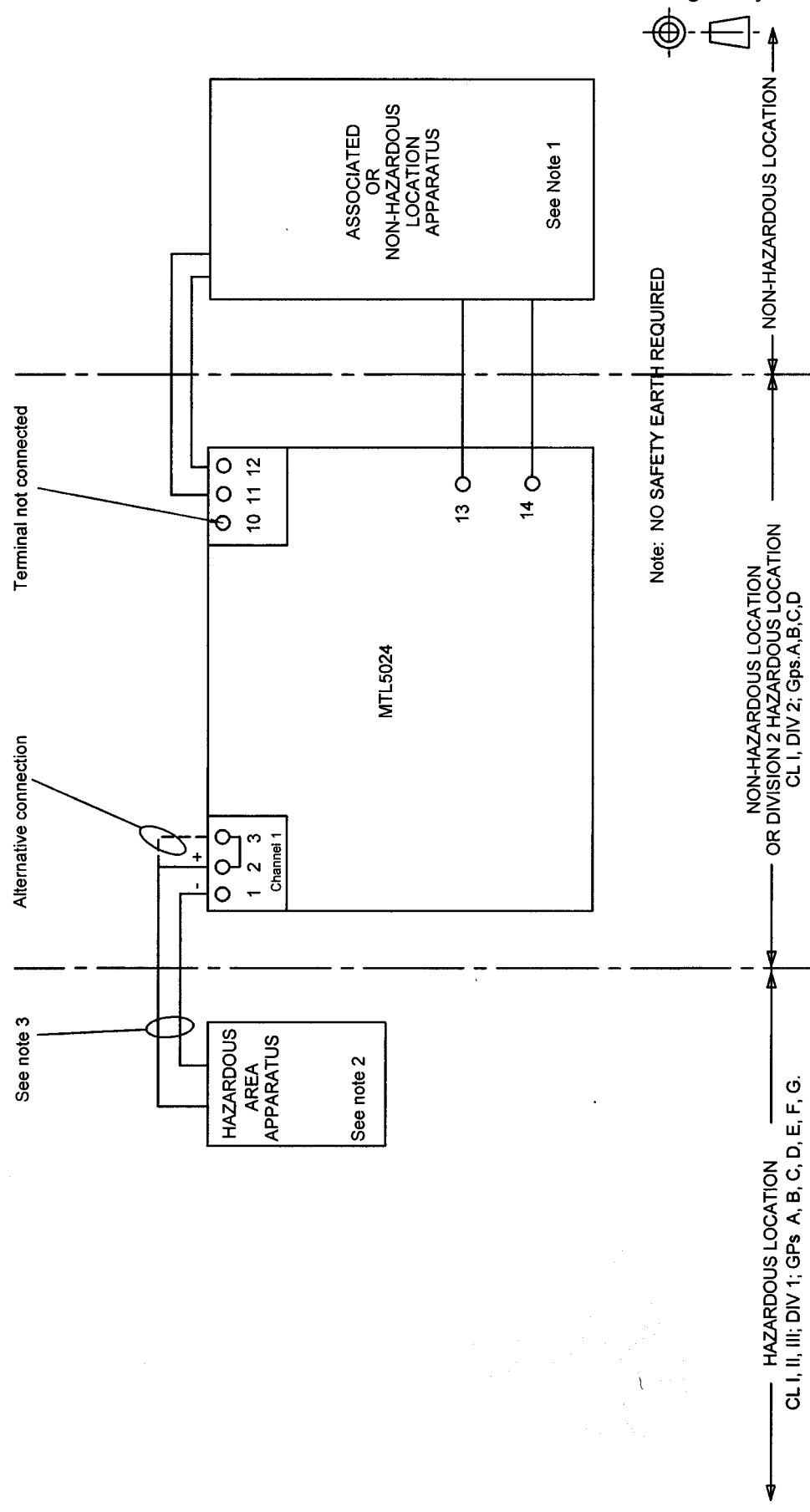
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| System Certificate No: | | Scale N/A |
| Certifying Authority: UL | | Sheet 2 of 2 |
| Title MTL5023 Solenoid / Alarm Driver Installation Diagram | | Drg. No. SCI-905 |

| Iss | | Date Dm | | Modification | | Chd | |
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| System Certificate No: | | | | Scale N/A | | | |
| Certifying Authority: UL | | | | Sheet 1 of 2 | | | |
| Title MTL5024 Solenoid / Alarm Driver, Installation Diagram | | | | Drg. No. SCI-906 | | | |

Dimensions in mm

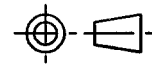
Do Not Scale

Third Angle Projection



Note 1

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

Note 2

The Hazardous Location equipment may be Simple Apparatus. 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

a) Entity Concept Parameters for the MTL5024 ie channel 1 (Terminals 1 & 2) are as follows:-

Channel 1 - Terminal 1 Wrt 2/3 $V_{oc} \leq 25V$ $I_{sc} \leq 147mA$

| | | |
|------------------|-----------------------|--------------------|
| Groups A and B | $C_a \leq 0.17 \mu F$ | $L_a \leq 1.32mH$ |
| Groups C and E | $C_a \leq 0.51 \mu F$ | $L_a \leq 3.96mH$ |
| Groups D,F and G | $C_a \leq 1.36\mu F$ | $L_a \leq 10.56mH$ |

b) The parameters of the complete installation must meet the following criteria :-

$$V_{oc} \leq V_{max}, I_{sc} \leq I_{max}$$

$$C_a \geq C_i + C_{cable}, L_a \geq L_i + L_{cable}$$

Note 4

For installation in the USA, the installation practices must comply with the National Electrical code NFPA70 Article 504 ANSI/ISA RP12.6.

Note 5

The MTL5024 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

Note 6

Intrinsically Safe wiring must be installed in accordance with the ANSI National Electrical Code / NFPA70, Article 504 in an enclosure meeting the requirements of ANSI/ISA-S82.

Note 7

Use UL listed 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.

System Certificate No:

Scale N/A

Certifying Authority: UL

Sheet 2 of 2

Title
MTL5024 Solenoid / Alarm Driver,
Installation Diagram

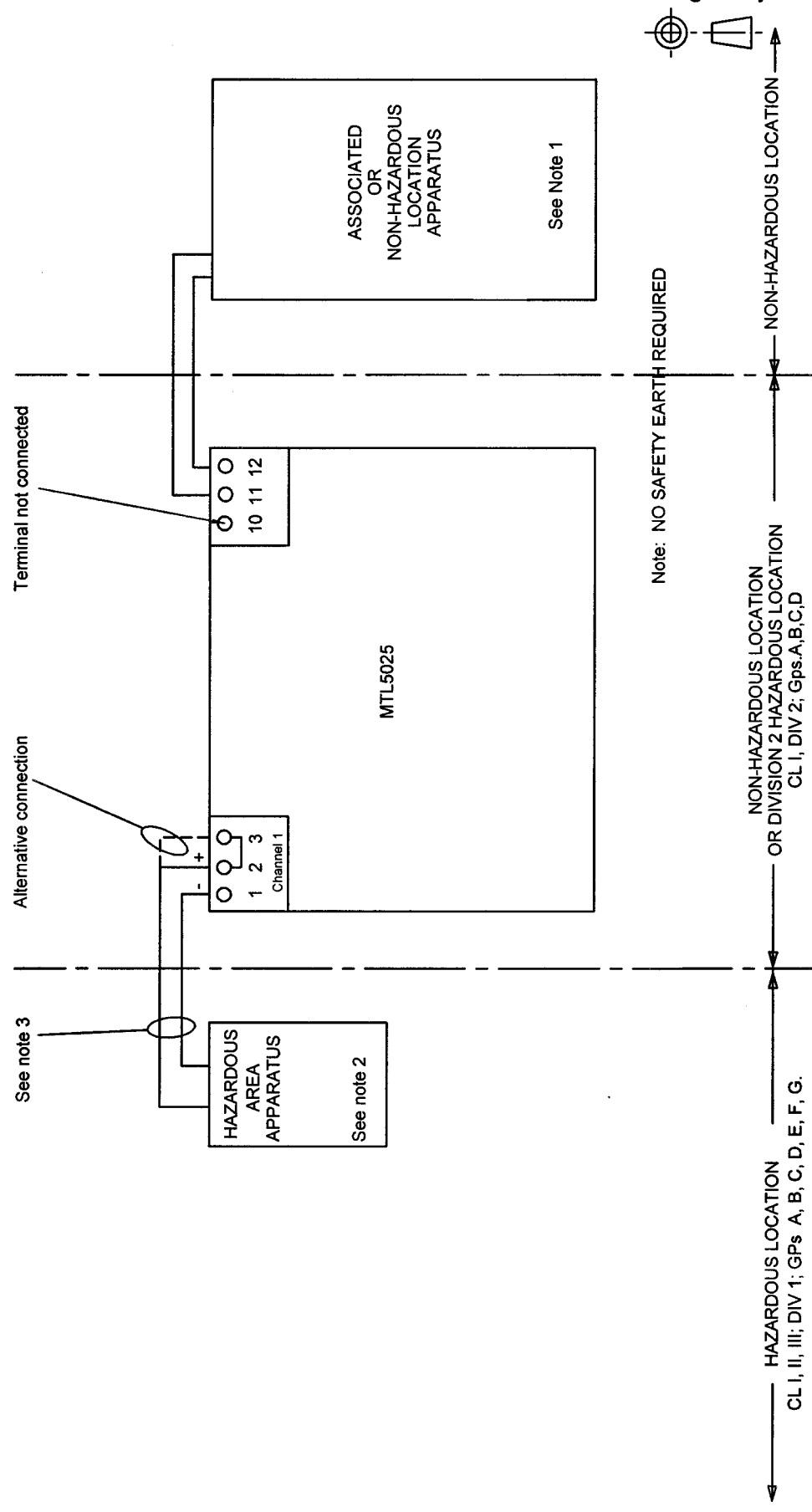
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SCI-906

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| <p>Certifying Authority: UL</p> | | | | | | | | | | | | | | | |
| <p>Title: MTL5025 Solenoid / Alarm Driver, Installation Diagram</p> | | | | | | | | | | | | | | | |
| <p>Scale: N/A</p> | | | | | | | | | | | | | | | |
| <p>Sheet 1 of 2</p> | | | | | | | | | | | | | | | |
| <p>Drg. No. SCI-907</p> | | | | | | | | | | | | | | | |

Dimensions in mm

Do Not Scale

Third Angle Projection



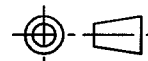
Dimensions in mm

Do Not Scale

Third Angle Projection

Note 1

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

Note 2

The Hazardous Location equipment may be Simple Apparatus. 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

- a) Entity Concept Parameters for the MTL5025 ie channel 1 (Terminals 1 & 2) are as follows:-

Channel 1 - Terminal 1 Wrt 2/3 $V_{oc} \leq 25V$ $I_{sc} \leq 93mA$

| | | |
|------------------|-----------------------|-------------------|
| Groups A and B | $C_a \leq 0.17 \mu F$ | $L_a \leq 4.2mH$ |
| Groups C and E | $C_a \leq 0.51 \mu F$ | $L_a \leq 12.6mH$ |
| Groups D,F and G | $C_a \leq 1.36\mu F$ | $L_a \leq 33.6mH$ |

- b) The parameters of the complete installation must meet the following criteria :-

$$V_{oc} \leq V_{max}, I_{sc} \leq I_{max}$$

$$C_a \geq C_i + C_{cable}, L_a \geq L_i + L_{cable}$$

Note 4

For installation in the USA, the installation practices must comply with the National Electrical code NFPA70 Article 504 ANSI/ISA RP12.6.

Note 5

The MTL5025 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

Note 6

Intrinsically Safe wiring must be installed in accordance with the ANSI National Electrical Code / NFPA70, Article 504 in an enclosure meeting the requirements of ANSI/ISA-S82.

Note 7

Use UL listed 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.

System Certificate No:

Scale N/A

Certifying Authority: UL

Sheet 2 of 2

Title
MTL5025 Solenoid / Alarm Driver,
Installation Diagram

Drg. No.
SCI-907

Modification

Drm

Date

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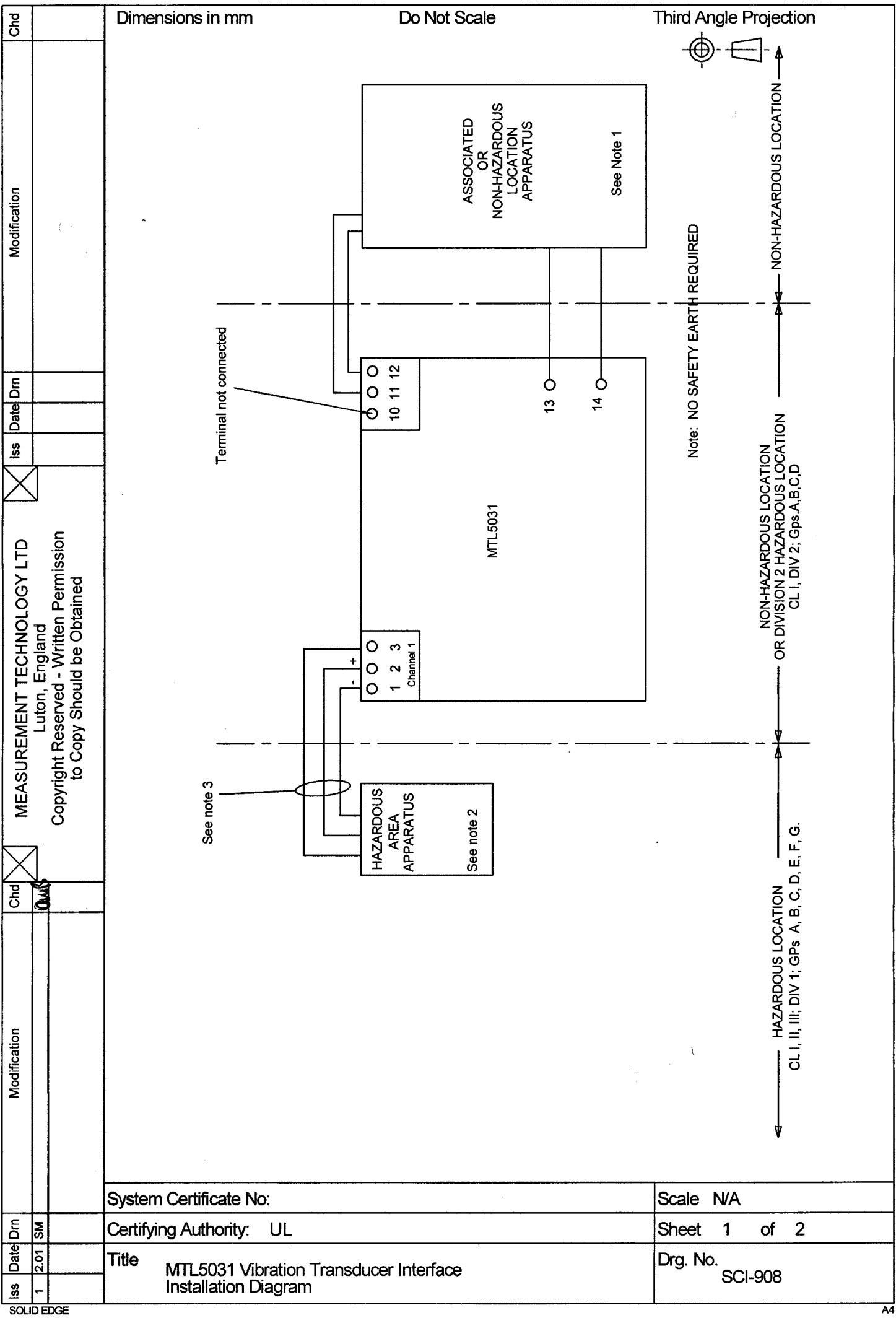
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Modification

Drm

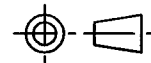
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Note 1

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

Note 2

The Hazardous Location equipment may be Simple Apparatus. 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

a) Entity Concept Parameters for the MTL5031 ie channel 1 (Terminals 1 & 2/3) are as follows:-

Channel 1 - Terminal 1 Wrt 2/3 $V_{oc} \leq 26.6V$ $I_{sc} \leq 94mA$

| | | |
|------------------|----------------------|------------------|
| Groups A and B | $Ca \leq 0.13 \mu F$ | $La \leq 4.2mH$ |
| Groups C and E | $Ca \leq 0.39 \mu F$ | $La \leq 12.6mH$ |
| Groups D,F and G | $Ca \leq 1.04\mu F$ | $La \leq 33.6mH$ |

b) The parameters of the complete installation must meet the following criteria :-

$$V_{oc} \leq V_{max}, I_{sc} \leq I_{max}$$

$$Ca \geq C_i + C_{cable}, La \geq L_i + L_{cable}$$

Note 4

For installation in the USA, the installation practices must comply with the National Electrical code NFPA70 Article 504 ANSI/ISA RP12.6.

Note 5

The MTL5031 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

Note 6

Intrinsically Safe wiring must be installed in accordance with the ANSI National Electrical Code / NFPA70, Article 504 in an enclosure meeting the requirements of ANSI/ISA-S82.

Note 7

Use UL listed 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.

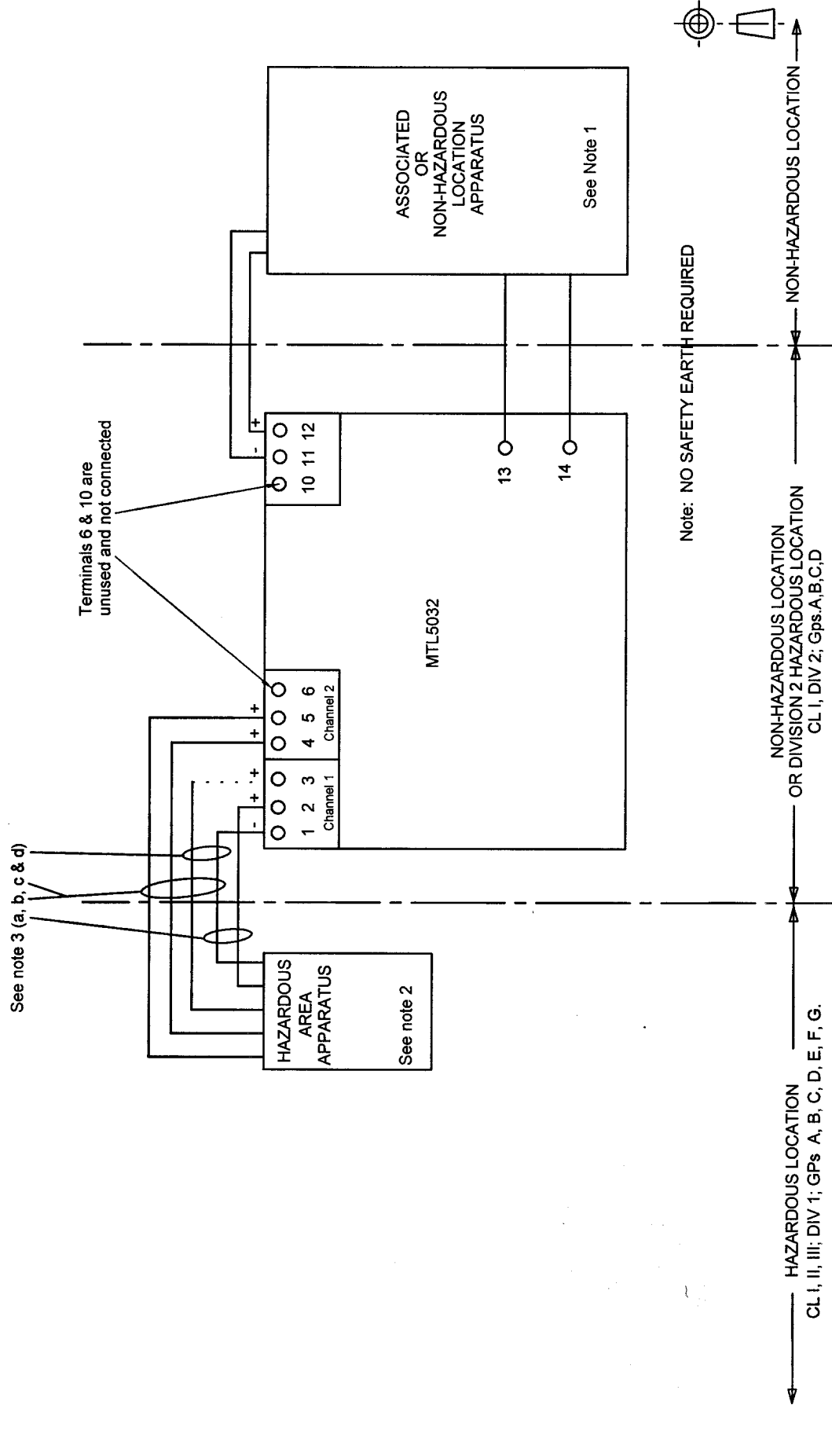
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| System Certificate No: | | Scale N/A |
| Certifying Authority: UL | | Sheet 2 of 2 |
| Title MTL5031 Vibration Transducer Interface Installation Diagram | | Drg. No. SCI-908 |

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Dimensions in mm

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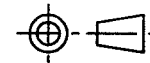
Third Angle Projection



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| System Certificate No: | | Scale N/A |
| Certifying Authority: UL | | Sheet 1 of 3 |
| Title MTL5032 Pulse Isolator Installation Diagram | | Drg. No. SCI-909 |

Note 1

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

Note 2

The Hazardous Location equipment may be Simple Apparatus. 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 the MTL5032 (Terminals 2 to 1), (Terminals 4 & 3 to 1), (Terminals 5 & 4 to 1) and (Terminals 3 to 1) are as follows:-

a) Terminals 2 to 1 $V_{oc} \leq 10.5V$ $I_{sc} \leq 14mA$

| | | |
|------------------|----------------------|-------------------|
| Groups A and B | $C_a \leq 2.4 \mu F$ | $L_a \leq 165mH$ |
| Groups C and E | $C_a \leq 7.2 \mu F$ | $L_a \leq 495mH$ |
| Groups D,F and G | $C_a \leq 19.2\mu F$ | $L_a \leq 1320mH$ |

b) Terminals 4 & 3 to 1 $V_t \leq 28V$ $I_t \leq 146mA$

| | | |
|------------------|-----------------------|--------------------|
| Groups A and B | $C_a \leq 0.13 \mu F$ | $L_a \leq 1.54mH$ |
| Groups C and E | $C_a \leq 0.39 \mu F$ | $L_a \leq 4.71mH$ |
| Groups D,F and G | $C_a \leq 1.04\mu F$ | $L_a \leq 12.56mH$ |

c) Terminals 5 & 4 to 1 $V_t \leq 28V$ $I_t \leq 93mA$

| | | |
|------------------|-----------------------|-------------------|
| Groups A and B | $C_a \leq 0.13 \mu F$ | $L_a \leq 4.1mH$ |
| Groups C and E | $C_a \leq 0.39 \mu F$ | $L_a \leq 12.6mH$ |
| Groups D,F and G | $C_a \leq 1.04\mu F$ | $L_a \leq 33.6mH$ |

d) Terminals 3 to 1 $V_{oc} \leq 1.1V$ $I_{sc} \leq 51mA$

| | | |
|------------------|-----------------------|-------------------|
| Groups A and B | $C_a \leq 1000 \mu F$ | $L_a \leq 13.8mH$ |
| Groups C and E | $C_a \leq 1000 \mu F$ | $L_a \leq 41.4mH$ |
| Groups D,F and G | $C_a \leq 1000\mu F$ | $L_a \leq 110mH$ |

e) The parameters of the complete installation must meet the following criteria :-

$$V_{oc} \leq V_{max}, I_{sc} \leq I_{max}$$

$$C_a \geq C_i + C_{cable}, L_a \geq L_i + L_{cable}$$

System Certificate No:

Scale N/A

Certifying Authority: UL

Sheet 2 of 3

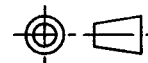
Title
MTL5032 Pulse Isolator
Installation Diagram

Drg. No.
SCI-909

Dimensions in mm

Do Not Scale

Third Angle Projection



Note 4

For installation in the USA, the installation practices must comply with the National Electrical code NFPA70 Article 504 ANSI/ISA RP12.6.

Note 5

The MTL5032 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

Note 6

Intrinsically Safe wiring must be installed in accordance with the ANSI National Electrical Code / NFPA70, Article 504 in an enclosure meeting the requirements of ANSI/ISA-S82.

Note 7

Use UL listed 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.

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| Chd | 0415 |
| Modification | |
| Date Dm | |
| Date | 2.01 |
| Iss | 1 |

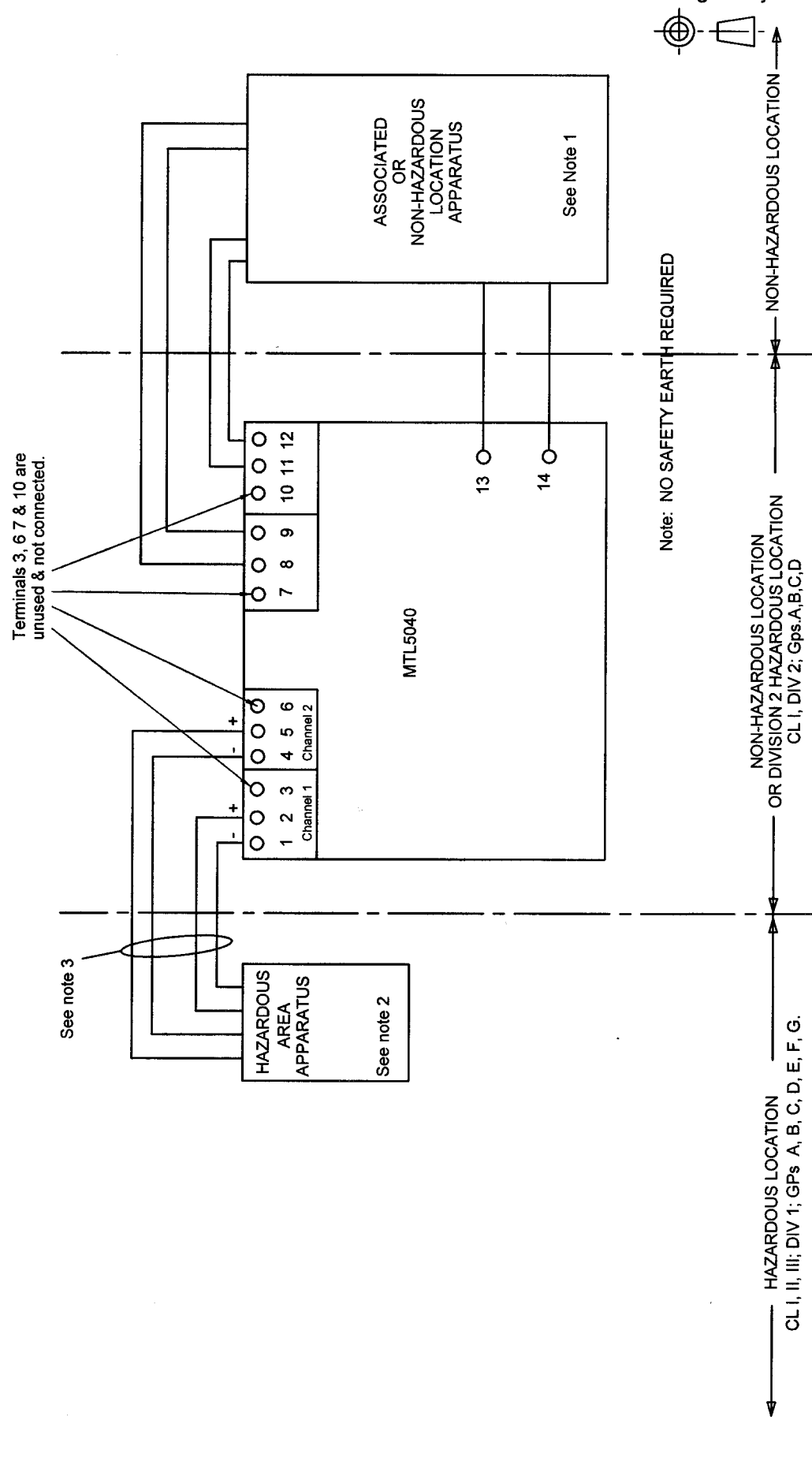
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| System Certificate No: | Scale N/A |
| Certifying Authority: UL | Sheet 3 of 3 |
| Title MTL5032 Pulse Isolator Installation Diagram | Drg. No. SCI-909 |

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Dimensions in mm

Do Not Scale

Third Angle Projection

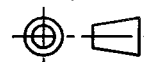


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| System Certificate No: | | Scale N/A |
| Certifying Authority: UL | | Sheet 1 of 2 |
| Title MTL5040 Loop Isolator 4/20mA Installation Diagram | | Drg. No. SCI-910 |

Dimensions in mm

Do Not Scale

Third Angle Projection



Note 1

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

Note 2

The Hazardous Location equipment may be Simple Apparatus. 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

a) Entity Concept Parameters for each channel of the MTL5040 ie channel 1 (Terminals 1 & 2), channel 2 (Terminals 4 & 5) are as follows:-

Channel 1 - Terminal 1 Wrt 2 $V_{oc} \leq 28V$ $I_{sc} \leq 93mA$

Channel 2 - Terminal 4 Wrt 5 $V_{oc} \leq 28V$ $I_{sc} \leq 93mA$

| | | |
|------------------|-----------------------|-------------------|
| Groups A and B | $C_a \leq 0.13 \mu F$ | $L_a \leq 4.2mH$ |
| Groups C and E | $C_a \leq 0.39 \mu F$ | $L_a \leq 12.6mH$ |
| Groups D,F and G | $C_a \leq 1.04 \mu F$ | $L_a \leq 33.6mH$ |

b) The parameters of the complete installation must meet the following criteria :-

$$V_{oc} \leq V_{max}, I_{sc} \leq I_{max}$$

$$C_a \geq C_i + C_{cable}, L_a \geq L_i + L_{cable}$$

Note 4

For installation in the USA, the installation practices must comply with the National Electrical code NFPA70 Article 504 ANSI/ISA RP12.6.

Note 5

The MTL5040 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

Note 6

Intrinsically Safe wiring must be installed in accordance with the ANSI National Electrical Code / NFPA70, Article 504 in an enclosure meeting the requirements of ANSI/ISA-S82.

Note 7

Use UL listed 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.

System Certificate No:

Scale N/A

Certifying Authority: UL

Sheet 2 of 2

Title
MTL5040 Loop Isolator 4/20mA
Installation Diagram

Drg. No.
SCI-910

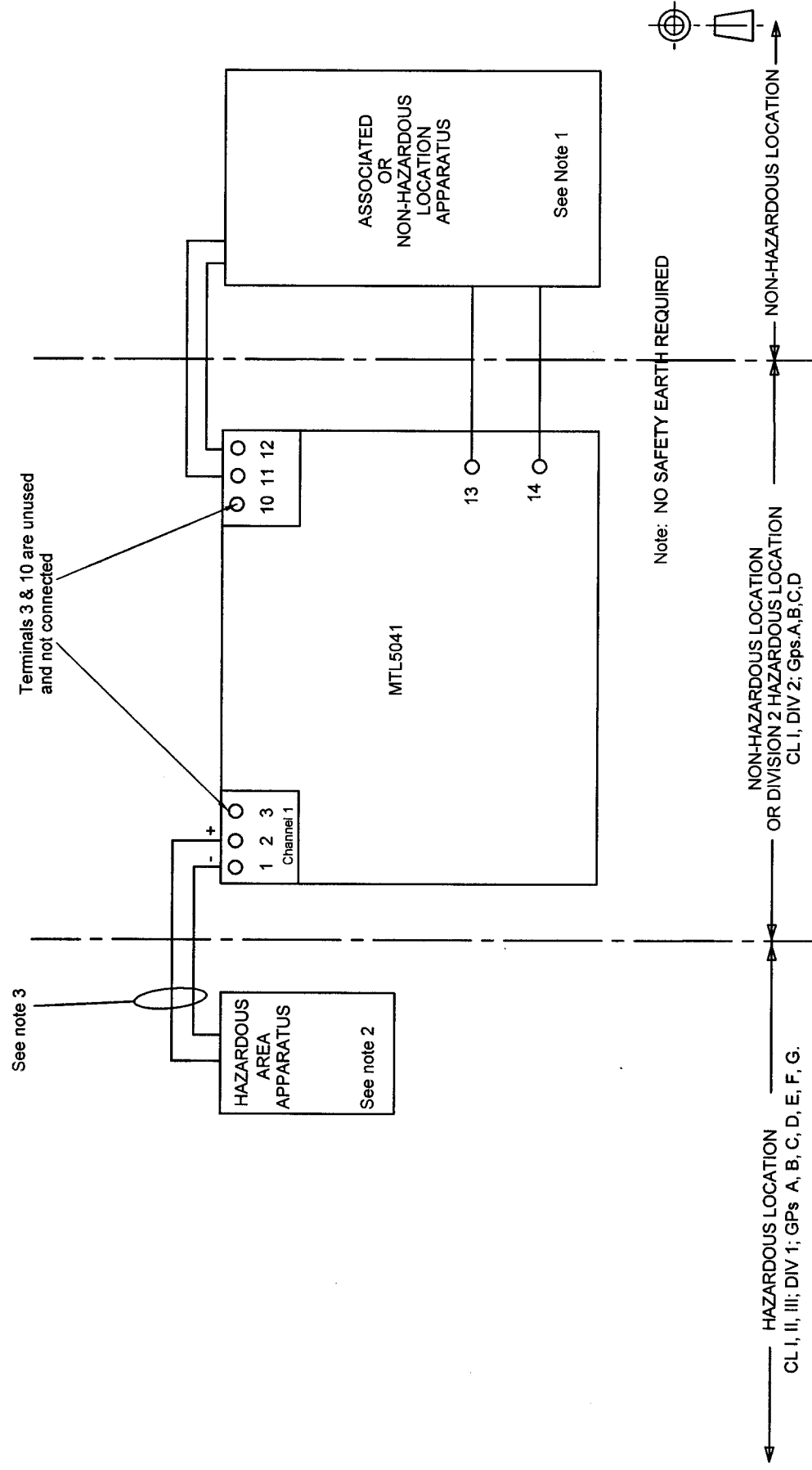
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Dimensions in mm

Do Not Scale

Third Angle Projection

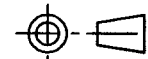


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| System Certificate No: | | Scale N/A |
| Certifying Authority: UL | | Sheet 1 of 2 |
| Title MTL5041 Repeater Power Supply Installation Diagram | | Drg. No. SCI-911 |

Dimensions in mm

Do Not Scale

Third Angle Projection



Note 1

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

Note 2

The Hazardous Location equipment may be Simple Apparatus. 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

a) Entity Concept Parameters for the MTL5041 ie channel 1 (Terminals 1 & 2) are as follows:-

Channel 1 - Terminal 1 Wrt 2 $V_{oc} \leq 28V$ $I_{sc} \leq 93mA$

| | | |
|------------------|----------------------|------------------|
| Groups A and B | $Ca \leq 0.13 \mu F$ | $La \leq 4.2mH$ |
| Groups C and E | $Ca \leq 0.39 \mu F$ | $La \leq 12.6mH$ |
| Groups D,F and G | $Ca \leq 1.04\mu F$ | $La \leq 33.6mH$ |

b) The parameters of the complete installation must meet the following criteria :-

$$V_{oc} \leq V_{max}, I_{sc} \leq I_{max}$$

$$Ca \geq C_i + C_{cable}, La \geq L_i + L_{cable}$$

Note 4

For installation in the USA, the installation practices must comply with the National Electrical code NFPA70 Article 504 ANSI/ISA RP12.6.

Note 5

The MTL5041 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

Note 6

Intrinsically Safe wiring must be installed in accordance with the ANSI National Electrical Code / NFPA70, Article 504 in an enclosure meeting the requirements of ANSI/ISA-S82.

Note 7

Use UL listed 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.

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Modification

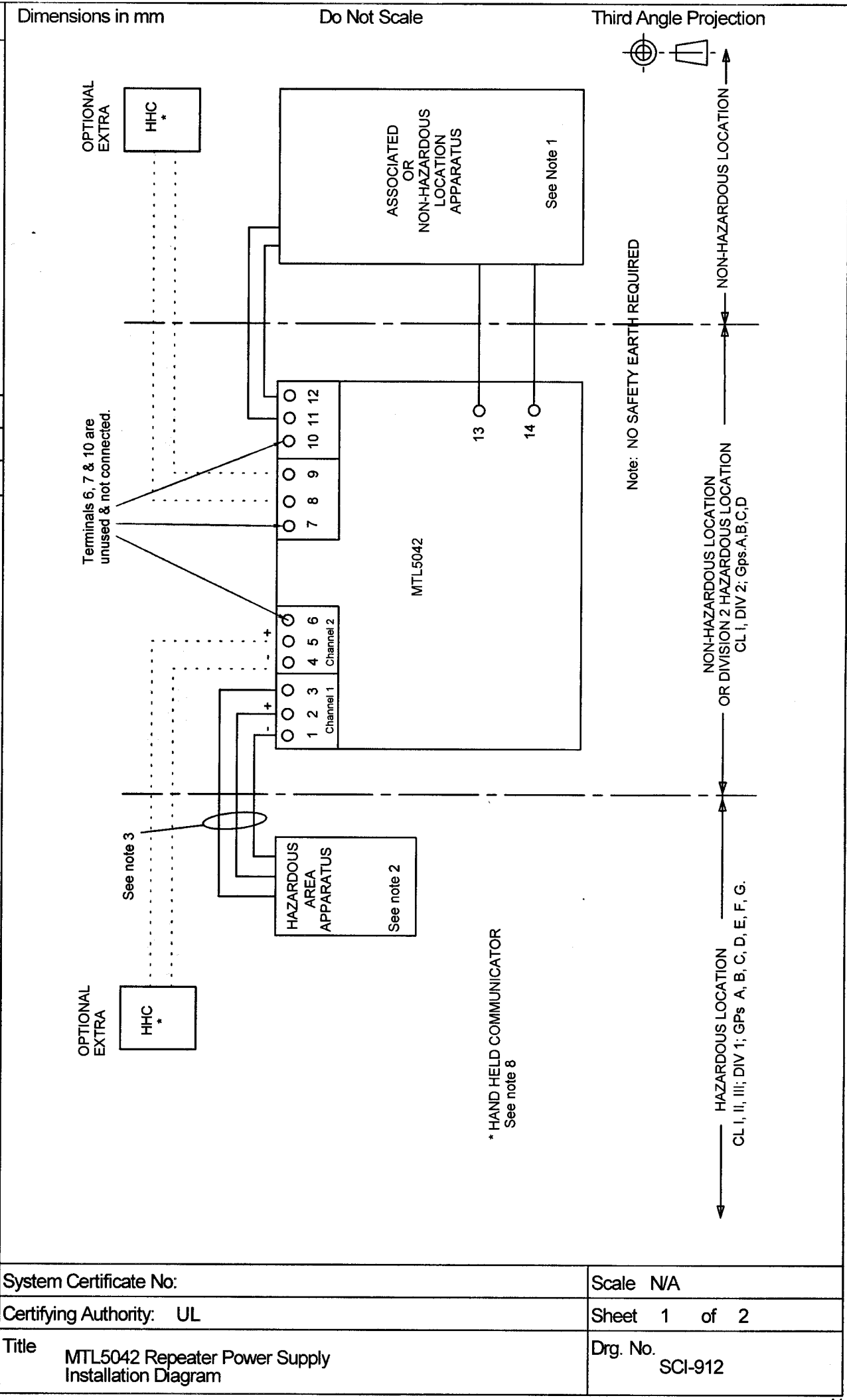
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| System Certificate No: | Scale N/A |
| Certifying Authority: UL | Sheet 2 of 2 |
| Title MTL5041 Repeater Power Supply Installation Diagram | Drg. No. SCI-911 |

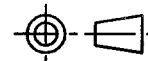
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| System Certificate No: | Scale N/A |
| Certifying Authority: UL | Sheet 1 of 2 |
| Title MTL5042 Repeater Power Supply Installation Diagram | Drg. No. SCI-912 |

Note 1

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

Note 2

The Hazardous Location equipment may be Simple Apparatus. 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

a) Entity Concept Parameters for each channel of the MTL5042 ie channel 1 (Terminals 1 & 2) are as follows:-

Channel 1 - Terminal 1 Wrt 2 $V_{oc} \leq 28V$ $I_{sc} \leq 93mA$

| | | |
|------------------|-----------------------|-------------------|
| Groups A and B | $C_a \leq 0.13 \mu F$ | $L_a \leq 4.2mH$ |
| Groups C and E | $C_a \leq 0.39 \mu F$ | $L_a \leq 12.6mH$ |
| Groups D,F and G | $C_a \leq 1.04 \mu F$ | $L_a \leq 33.6mH$ |

b) The parameters of the complete installation must meet the following criteria :-

$$V_{oc} \leq V_{max}, I_{sc} \leq I_{max}$$

$$C_a \geq C_i + C_{cable}, L_a \geq L_i + L_{cable}$$

Note 4

For installation in the USA, the installation practices must comply with the National Electrical code NFPA70 Article 504 ANSI/ISA RP12.6.

Note 5

The MTL5042 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

Note 6

Intrinsically Safe wiring must be installed in accordance with the ANSI National Electrical Code / NFPA70, Article 504 in an enclosure meeting the requirements of ANSI/ISA-S82.

Note 7

Use UL listed 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

The HHC is a MTL611B Hand Held Communicator and Interface.
The MTL611B and Interface may also be used in the Non-Hazardous or Division 2 Hazardous Locations.

System Certificate No:

Scale N/A

Certifying Authority: UL

Sheet 2 of 2

Title
MTL5042 Repeater Power Supply
Installation Diagram

Drg. No.
SCI-912

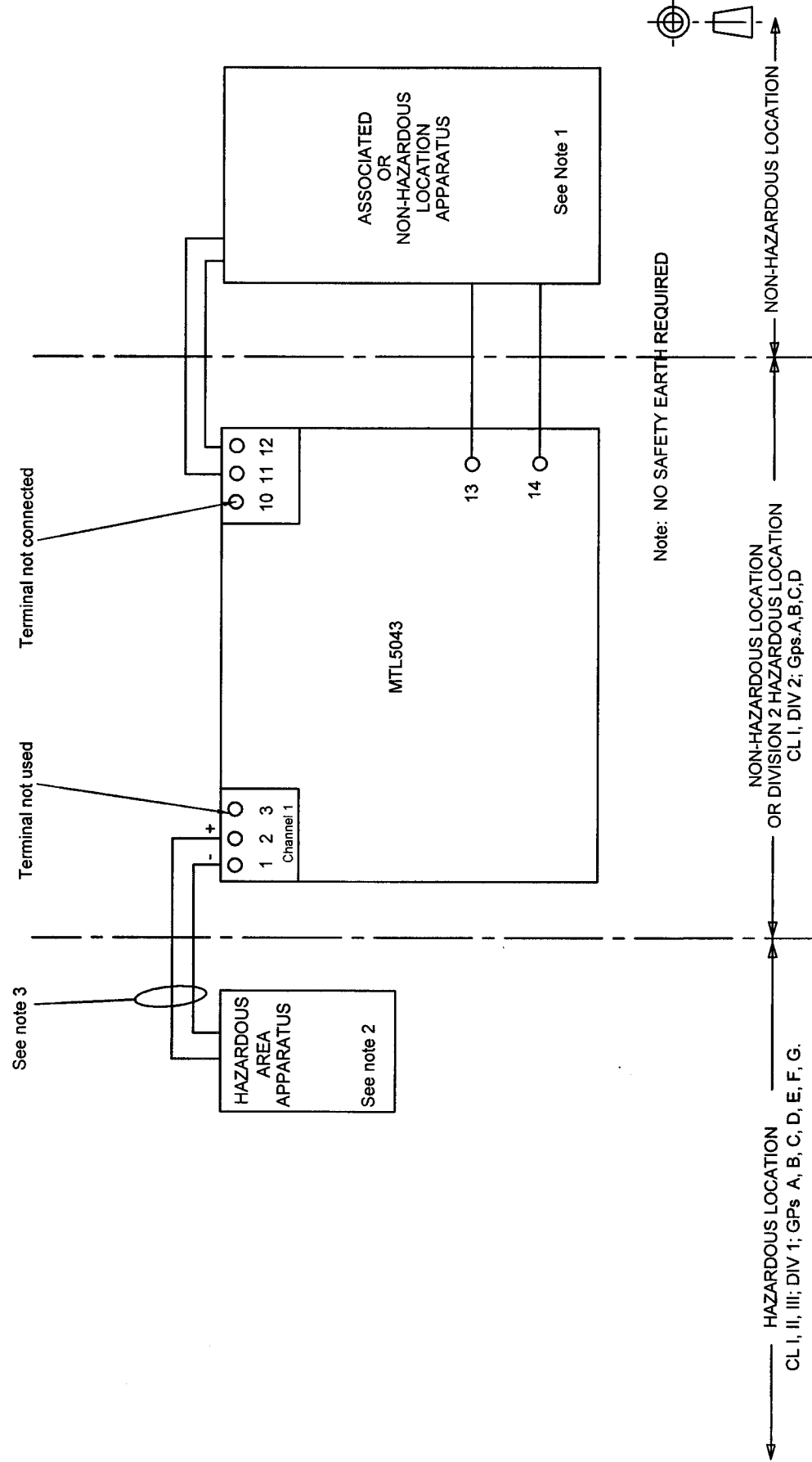
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Dimensions in mm

Do Not Scale

Third Angle Projection

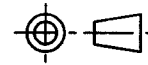


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| System Certificate No: | Scale N/A |
| Certifying Authority: UL | Sheet 1 of 2 |
| Title MTL5043 Repeater Power Supply Installation Diagram | Drg. No. SCI-913 |

Dimensions in mm

Do Not Scale

Third Angle Projection



Note 1

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

Note 2

The Hazardous Location equipment may be Simple Apparatus. 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

a) Entity Concept Parameters for the MTL5043 ie channel 1 (Terminals 1 & 2) are as follows:-

Channel 1 - Terminal 1 Wrt 2/3 $V_{oc} \leq 28V$ $I_{sc} \leq 93mA$

| | | |
|------------------|----------------------|------------------|
| Groups A and B | $Ca \leq 0.14 \mu F$ | $La \leq 4.3mH$ |
| Groups C and E | $Ca \leq 0.43 \mu F$ | $La \leq 17.3mH$ |
| Groups D,F and G | $Ca \leq 1.14\mu F$ | $La \leq 34.2mH$ |

b) The parameters of the complete installation must meet the following criteria :-

$$V_{oc} \leq V_{max}, I_{sc} \leq I_{max}$$

$$Ca \geq Ci + C_{cable}, La \geq Li + L_{cable}$$

Note 4

For installation in the USA, the installation practices must comply with the National Electrical code NFPA70 Article 504 ANSI/ISA RP12.6.

Note 5

The MTL5043 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

Note 6

Intrinsically Safe wiring must be installed in accordance with the ANSI National Electrical Code / NFPA70, Article 504 in an enclosure meeting the requirements of ANSI/ISA-S82.

Note 7

Use UL listed 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.

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| System Certificate No: | Scale N/A |
| Certifying Authority: UL | Sheet 2 of 2 |
| Title MTL5043 Repeater Power Supply Installation Diagram | Drg. No. SCI-913 |