Thermocouple Input for Hazardous Location Groups A - G
[using Intrinsic Safety Barriers]

Intrinsic Safety Barrier Selection

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>MTL 7060ac</td>
<td>7.2V</td>
<td>8.4V</td>
<td>50mA</td>
<td>101Ω</td>
<td>At 7.2V: 10μA</td>
<td>Max. 1.050  Min. 354 (PPM/°C)</td>
</tr>
<tr>
<td>MTL 7160ac</td>
<td>7.2V</td>
<td>8.7V</td>
<td>50mA</td>
<td>1101.1Ω</td>
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<td></td>
</tr>
</tbody>
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RTD Input for Hazardous Location Groups A - G
[using Intrinsic Safety Barriers]

Intrinsic Safety Barrier Selection

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</thead>
<tbody>
<tr>
<td>MTL 7055ac</td>
<td>0.6V</td>
<td>3.0V</td>
<td>100mA</td>
<td>24Ω*</td>
<td>At 0.6V: 1μA</td>
<td>Max. 973  Min. 202 (PPM/°C)</td>
</tr>
</tbody>
</table>

*24Ω ±0.15Ω @ 20°C, Channels track within 0.15Ω from -20 to +60°C

JMS recommends and uses MTL Intrinsic Safety and Galvanic Isolation Barriers
Thermocouple Input for Hazardous Location Groups A - G [using Galvanic Isolation Devices]

Technical Data

Rated Supply Voltage: 24V (15 to 35Vdc)
Protection Fuse: 50 mA
Power Consumption: 0.46 watts max.

Input Data

T/C type: J, K, E, T, R, N (or mV)
Span: 4-60mV
Zero: -12 to +60mV

Load Specification: 4-20mA

A simple apparatus is a device which will not generate nor store more than 1.2 V, 0.1A, 25mW, or 20 uJ. Some examples include switches, RTDs, thermocouples, and LEDs. Since these devices cannot contribute energy of sufficient magnitude to ignite a hazardous mixture under a fault condition, they may be connected to a certified intrinsically safe circuit, via an associated apparatus, without the evaluation of a third party testing agency.

RTD Input for Hazardous Location Groups A - G [using Galvanic Isolation Devices]

Technical Data

Rated Supply Voltage: 24V (15 to 35Vdc)
Protection Fuse: 50 mA
Power Consumption: 0.46 watts max.
Current Supplied to Field: 400μA
Line Resistance: 100Ω max. each line

Input Data

RTD: 2-3 wire 100Ω Platinum
Span: 25 to 800°C
Zero: -200 to +400°C
Potentiometer: 0-300Ω

Load Specification: 4-20mA

For all practical reasons no electrical circuit is inherently intrinsically safe. An intrinsically safe system consists of an Associated Apparatus, either a simple or Intrinsically Safe Apparatus, and interconnecting wiring. When properly installed, the incidence of abnormal spark-causing conditions such as electrical equipment failure, miswiring, overvoltage application to the circuit, or grounding, shorting, or open-circuiting of any lead(s) in the presence of a hazardous mixture, shall not be of sufficient energy to cause ignition.

JMS recommends and uses MTL Intrinsic Safety and Galvanic Isolation Barriers