Intrinsically Safe Barriers

The MTL7706/7787 is an intrinsically safe (IS) shunt-diode barrier that can be used to communicate with and provide isolations for certain Dwyer transmitters approved for use in hazardous areas. These barriers limit the amount of energy allowed to pass into the hazardous area, which inhibit ignition in flammable atmospheres.

**SPECIFICATIONS**

- **Transmitter Voltage:** 16.2 V at 20 mA with 250Ω load (negative w.r.t. earth); 11.0 V at 20 mA with 500Ω load (negative w.r.t. earth).
- **Safe Area Output:** 4 to 20 mA.
- **Load Resistance:** 0 to 500Ω.
- **Power Requirement:** 20 to 35 VDC w.r.t. earth.
- **Accuracy:** ±2 µA under all conditions.
- **LED Indicator:** Green: Power indication.
- **Temperature Limits:**
  - Operating: -4 to 140°F (-20 to 60°C);
  - Storage: -40 to 176°F (-40 to 80°C).
- **Humidity:** 5 to 95% RH.
- **Terminals:** Accommodate up to 2.5 mm² stranded or single-core.
- **Safety Description:** 28 µV, 300Ω, 93 mA.
- **Weight:** 4.9 oz (140 g).
- **Agency Approvals:** See table below.

**Compatible Models:** 637, 638, 608, SBLTX, PBLTX, IS626

**MTL Zener Barrier** | Approval | Dwyer Series
--- | --- | ---
MTL7706 | FM for Class I, II, II; Div. 1 Groups C, D, F, G | 638
MTL7706 | UL for Class I; Div. 1 Groups A, B, C, D CL II; Div. 1 Groups E, F, G; CL III Div. 1 IS626 SBLTX PBLTX
MTL7706 | FM for Class I, II, III; Div. 1 Groups B, C, D, E, F, G | 637
MTL7706 | FM for Class I, II, III; Div. 1 Groups A, B, C, D, E, F, G | 608

<table>
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<th>MTL Zener Barrier</th>
<th>Standard</th>
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<tr>
<td>MTL7706</td>
<td>AIS/I,III/II/Entity ABCDEFG-SCI-942; NII@ABCD/T4 [IV] AEx[i]IIC-SCI-942 Entity; NII/1/IIIC/T4; Ta=140°F (60°C)</td>
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**Group** | **µF** | **mH**
--- | --- | ---
A & B | 0.083 | 4.2
BASEEFA (ATEX) | 0.083 | 3.05
IIC | 0.083 | 4.2

**Group** | **µF** | **mH**
--- | --- | ---
A & B | 0.083 | 3.05
BASEEFA (ATEX) | 0.083 | 3.05
IIC | 0.083 | 3.05