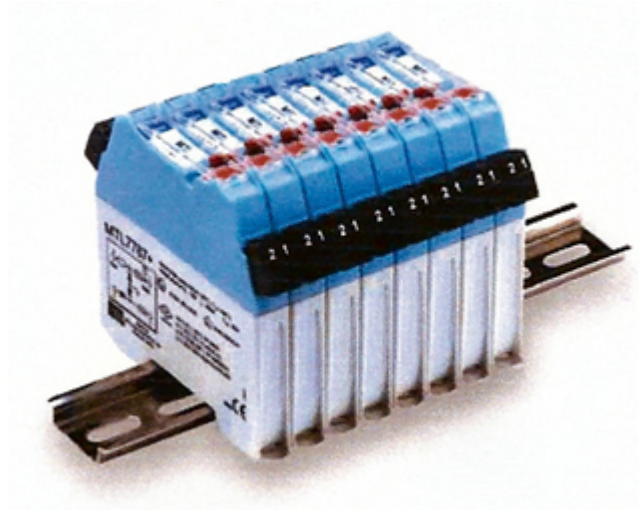




Procon Engineering

(A Division of National Oilwell Varco UK Limited)



INTRINSIC SAFETY

Type MTL7700 Series Safety Barriers

- for weighing applications

DIN rail mounting

Electronic fusing

Removable terminals

Direct replacement for MTL700 series barriers

How They Work:

All MTL7700 Series barriers are based on the same simple principle. Each channel contains two stages of pulse-tested Zener or forward connected diodes and an 'infallible' terminating resistor. In the event of an electrical fault in the safe area, the diodes limit the voltage that can reach the hazardous area and the resistor limits the current. A fuse protects the diodes, and the two stages of voltage limitation ensure continued safety if either stage should fail. No active output current limiting circuits are employed. All models are certified 'ia' for all zones and 'IIC' for all explosive atmospheres (except MTL7707P+ and MTL7729P+, 'ia' 'IIB').

Type MTL7700 Series Safety Barriers

Technical Specification Sheet

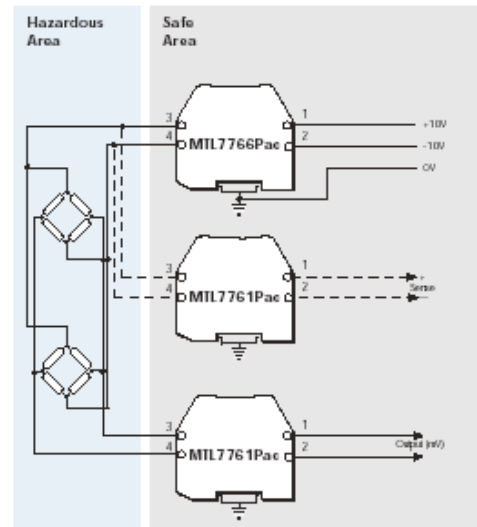
STRAIN GAUGE BRIDGES

Double strain-gauge bridges

Quite frequently there is a demand to monitor two load cells, and a possible circuit, safe in IIC, is shown.

Here, the lower voltage drop of the MTL7766Pac is an advantage. The MTL7766Pac supplies power to the bridge(s) whilst two MTL7761Pac barriers interface with the sense and pick-off circuits. Using 350Ω bridge systems, the following voltages are available from an MTL7766Pac with a ±10V supply:

- 1 bridge: 13.11V,
- 2 bridges: 9.75V



GENERAL SPECIFICATION

Ambient temperature and humidity limits

- 20 to +60°C continuous working
- 40 to +80°C storage
- 5-95% RH

Leakage current

For 'basic' barriers with a working voltage of 5V or more, the leakage current decreases by at least one decade per volt reduction in applied voltage below the working voltage, over two decades. For the MTL7755ac/7756ac it decreases by at least one decade for a 0.4V reduction in applied voltage.

Terminations

Removable terminals accommodate conductors up to 2.5mm² (13AWG). Hazardous area terminals are identified by blue labels. Removal force >15N

Colour coding of barrier label

- Grey: non-polarised
- Red: positive polarity (MTL7706 negative to transmitter)
- Black: negative polarity
- White: dummy barrier, MTL7799

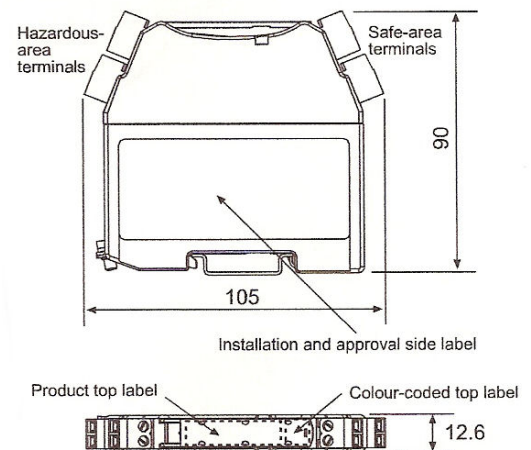
Weight

140g approx.

Mounting and earthing

By 35mm Top Hat DIN rail

Dimensions (mm)



MTL7700 Range Key Barriers Summarised		
Type	Application	Key Barrier
Analogue input (low-level)	Resistance temperature detectors	7756ac
	Thermocouples, ac sensors	7760ac
Analogue input (high level)	Transmitters, 2-wire, 4/20mA	7706+
		7787+
Analogue output	Controller outputs, on line earthed	7728+
	Controller outputs, neither line earthed	7787+
Digital (on/off) input	Switches	7787+
		7741/3
Digital (on/off) output	Solenoids, alarms, LEDs	7728

Procon Engineering's policy is one of continuous product enhancement.

We therefore reserve the right to incorporate technical modifications without prior notification. E&OE.

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