# **MTL5053 ISOLATOR/** POWER SUPPLY 31.25kbit/s fieldbus

The MTL5053 has been specifically developed to extend 31.25kbit/s (H1) fieldbus networks into hazardous areas. It provides power and communication to devices powered through the signal conductors. For installations in which the safe-area bus length is small an internal terminator can be enabled by a switch on top of the module

The MTL5053 complies with requirements of Fieldbus Foundation<sup>™</sup> specified power supply Type 133<sup>†</sup> (IS power supply).

### SPECIFICATION

#### See also common specification

#### Location of fieldbus device(s)

Zone 0, IIC, T4-6 hazardous area if suitably certified

Hazardous-area fieldbus power supply

18.4V ± 2%  $105\Omega$  ±3% dc impedance

80mA maximum current

### Maximum cable length

Determined by IS requirements, depending on other devices attached and maximum acceptable voltage drop along cable

#### **Digital signal transmission**

Compatible with 31.25kbit/s fieldbus systems and complies with fieldbus standards<sup>†</sup>

#### Supply voltage

20 to 35Vdc

#### LED indicator

Green: one provided for power indication

#### Power requirement, Vs, with 80mA output load

135mA typical at 24V

105mA at 35V

## Power dissipation within unit, with 80mA output load

## 2.3W typical at 24V

2.6W maximum at 35V Note: To allow adequate heat dissipation under all likely thermal conditions, it is recommended that MTL5053's are installed on a

- horizontal DIN-rail mounted on a vertical surface\* with a 10mm space between adjacent units. MTL MS010 10mm DIN-rail module spacers are available for this purpose.
- \* If an MTL5053 is mounted in a non-optimum orientation, the maximum operating temperature is reduced to 45°C.

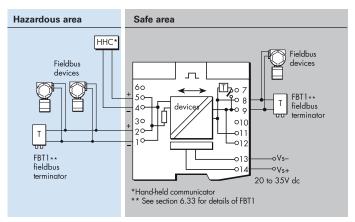
#### Isolation

250V ac between safe- and hazardous-area circuits and power supply

## Safety description

Terminals 1 and 2 22V, 102Ω, 216mA; Um = 250V rms or dc18kΩ

The applicable fieldbus specifications and standards are: Foundation † fieldbus™ 31.25kbit/s Physical Layer Profile Specification, document FF-816, IEC 61158-2: 1993 and ISA-S50.02-1992 for 31.25kbit/s fieldbus systems



Terminal	Function
1	Hazardous-area fieldbus device(s) connection –ve
2	Hazardous-area fieldbus device(s) connection +ve
4	Optional HHC connection -ve
5	Optional HHC connection +ve
8 & 11	Safe-area fieldbus device(s) connection -ve
9 & 12	Safe-area fieldbus device(s) connection +ve
13	Supply -ve
14	Supply +ve

Note: To assist the process of terminating cable screens, screw terminals have been provided in terminals 3, 6, 7 and 10. Please note, however, that there is no internal connection for these terminals so they are not earthed.

> The given data is only intended as a product description and should not be regarded as a lega warranty of properties or guarantee. In the interest of further technical developments, we reserve the right to make design changes

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