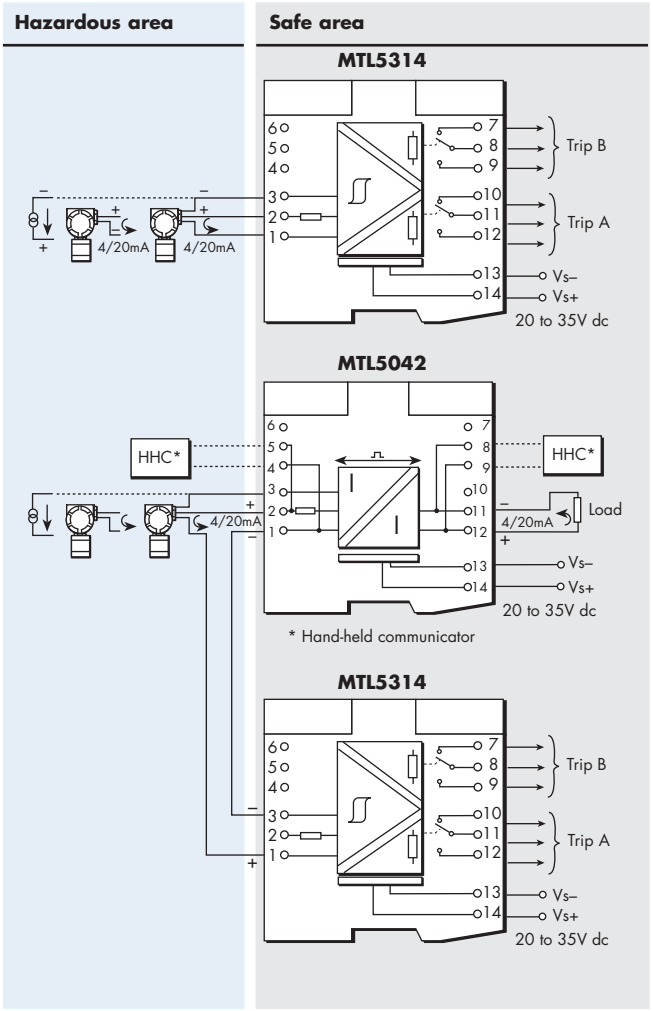
MTL5314 TRIP AMPLIFIER

4/20mA, for 2- or 3-wire transmitters

CE

The MTL5314 connects to a 2- or 3-wire 4/20mA transmitter or current source located in the hazardous area. It supplies one or two configurable alarm signals to the safe area via changeover relays. Each relay may be configured individually to signal an alarm condition (relay de-energised) when the input signal is greater than or less than a pre-set value.

In addition, the MTL5314 can be connected in series to the hazardous-area side of an MTL5042 4/20mA repeater power supply (or equivalent device) to provide two trip alarm outputs direct from the transmitter signal (see schematic diagram). Looping the transmitter signal through the MTL5314 (via terminals 1 and 3) does not affect HART® communications.



SPECIFICATION

See also common specification

Number of channels
One, with two configurable alarms

Location of field equipment
Zone 0, IIC, T4–T6 hazardous area, if suitably certified
Div 1, Group A, hazardous location

Safe-area output
Two relays with changeover contacts

Hazardous-area input
Signal range: 0 to 24mA
(including over-range)

Voltage available for transmitter (terminals 1 and 2)
>17V at 20mA

Current input (terminals 1 to 3)
Input resistance 25Ω maximum

Response time
<75ms

Trip-points
Trip-points can be adjusted by the user via multiturn potentiometers accessible on the top of the unit.

Trip-point range	0.5 to 22mA
Effective resolution	20µA
Trip-point drift with temperature	1.5µA/°C max.
Hysteresis	min 1% of trip-point range max 1.7% of trip-point range

Relay type
Single pole, changeover contacts
Note: reactive loads must be adequately suppressed

Relay characteristics

Contact rating	250V ac, 2A, cosø >0.7 40V dc, 2A, resistive load
Contact life expectancy	$3.3x10^5$ operations

LED indicators
Power LED green, illuminated when the power is connected to the module
Status LED yellow, one per trip, illuminated when relay is energised (not tripped)

Supply voltage
20 to 35V dc

Maximum current consumption (with 20mA signal)
85mA at 24V
100mA at 20V
60mA at 35V

Maximum power dissipation within the unit (with 20mA signal)
1.7W at 24V
1.8W at 35V

Terminal	Function
1	Current input
2	Transmitter supply +ve
3	Common
7	Trip B (NC)
8	Trip B (COM)
9	Trip B (NO)
10	Trip A (NC)
11	Trip A (COM)
12	Trip A (NO)
13	Supply –ve
14	Supply +ve

Safety description

Terminals 2 to 1 and 3	28V, 300Ω, 93mA
Terminals 1 and 3	These terminals meet clause 5.4 of EN50020 : 1994 and have the following parameters: U ≤ 1.5V, I ≤ 0.1A, P ≤ 25mW. They can be connected without further certification into an IS loop with open circuit voltage of not more than 28V. See certificate for further details.

HART® is a registered trademark of the HART Communication Foundation.

See also MTL5000 Series cable parameters and approvals

EUROPE (EMEA) Tel: +44 (0)1582 723633 Fax: +44 (0)1582 422283
AMERICAS Tel: +1 281 571 8065 Fax: +1 281 571 8069
ASIA PACIFIC Tel: +65 6 487 7887 Fax: +65 6 487 7997
E-mail: enquiry@mtl-inst.com **Web site: www.mtl-inst.com**

Aug 2008