MTL4532 – MTL5532
PULSE ISOLATOR
pulse & 4/20mA current outputs

The MTL532 isolates pulses from a switch, proximity detector, current pulse transmitter or voltage pulse transmitter located in a hazardous area. It is ideal for applications involving high pulse rates and fast response times, by repeating the pulses into the safe area. An analogue output proportional to frequency is also provided, together with a relay output, which may be configured to act as an alarm. Configuration is carried out with a personal computer.

SPECIFICATION

See also common specification

Number of channels
One, fully floating

Sensor type
Switch or proximity detector (NAMUR/BS EN 60947–5–6:2001).
2– or 3–wire voltage or pulse transmitter

Location of switch
Zone 0, IIC, T6 hazardous area
Div. 1, Group A, hazardous location

Location of proximity detector or transmitter
Zone 0, IIC, T4–T6 if suitably certified
Div.1, Group A, hazardous location

Input
Switch input:
Output ON if switch is closed
Proximity detector input:
Excitation: 7.0 to 9.0V dc from 1kΩ nominal
Output ON if input > 2.1mA* (< 2kΩ)
Output OFF if input < 1.2mA* (> 10kΩ)
Switching hysteresis: 0.2mA (650Ω) nominal
*NAMUR and BS EN 60947–5–6:2001 standards
Current pulse input:
Transmitter supply: 16.5V dc at 20mA
Short circuit current: 24mA
Output: Iin > 9.0mA = ON, Iin < 7.0mA = OFF
(User selectable by switches on the side of the module)
Input impedance: > 10kΩ
Input impedance: > 10kΩ
Switching point voltage (Vsp): 3, 6, or 12V nominal
Switching hysteresis:
Switching hysteresis: 0.5mA
Voltage pulse input:
Output ON if input > 2.1mA* (< 2kΩ)
Output ON if switch is closed
Proximity detector input:
Output ON if switch is closed
Proximity detector input:
Excitation: 7.0 to 9.0V dc from 1kΩ nominal
Output ON if input > 2.1mA* (< 2kΩ)
Output OFF if input < 1.2mA* (> 10kΩ)
Switching hysteresis: 0.2mA (650Ω) nominal
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Safe-area pulse output
Maximum delay: 10µs
Maximum off–state voltage: 35V
Maximum off–state leakage current: 10µA
Maximum on–state resistance: 25Ω
Maximum on–state leakage current: 50mA
Output OFF if supply fails
Note: LFD signal is Zener-diode protected against inductive loads

Safe-area current output
Input capture delay: 2 signal periods (5ms min.)
Signal range: 4 to 20mA
Underload range: 0 to 22mA
Load resistance: 0 to 450Ω @20mA
Output resistance: >1MΩ
Ripple: < 50µA peak-to-peak
Accuracy: better than 20µA at 20°C
Temperature drift: < 1µA/°C
Risetime (10% - 90%, after step change): 60 ms
Alarm output
Relay ON in alarm, 0.5A @ 35Vdc max.

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In the interest of further technical developments, we reserve the right to make design changes.