

# MTL4632

## PULSE ISOLATOR

pulse & 4/20mA current outputs

The MTL4632 isolates pulses from a switch, proximity detector, current pulse transmitter or voltage pulse transmitter. It is ideal for applications involving high pulse rates and fast response times, by repeating the pulses into an isolated circuit. 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

#### Input

##### Switch input:

Output ON if switch is closed

Proximity detector input:

Excitation: 7.0 to 9.0V dc from 1k $\Omega$  nominal

Output ON if input > 2.1mA\* (< 2k $\Omega$ )

Output OFF if input < 1.2mA\* (> 10k $\Omega$ )

Switching hysteresis: 0.2mA (650 $\Omega$ ) 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:  $I_{in} > 9.0mA = ON$ ,  $I_{in} < 7.0mA = OFF$

Switching hysteresis: 0.5mA

##### Voltage pulse input

Input impedance: > 10k $\Omega$

Switching point voltage ( $V_{sp}$ ): 3, 6, or 12V nominal

(User selectable by switches on the side of the module)

Output:  $V_{in} > V_{sp} = ON$ ,  $V_{in} < V_{sp} = OFF$

Switching hysteresis: 100mV + (0.1 x  $V_{sp}$ ) typical

#### Pulse output

Maximum off-state voltage: 35V

Maximum off-state leakage current: 10 $\mu$ A

Maximum on-state resistance: 25 $\Omega$

Maximum on-state current: 50mA

Output OFF if supply fails

Note: LFD signal is Zener-diode protected against inductive loads

#### Current output

Signal range: 4 to 20mA

Under/over range: 0 to 22mA

Load resistance: 0 to 450 $\Omega$  @20mA

Output resistance: >1M $\Omega$

Ripple: < 50 $\mu$ A peak-to-peak

Accuracy: better than 20 $\mu$ A at 20°C

Temperature drift: < 1 $\mu$ A/°C

Response delay: TBA ms

#### Alarm output

Relay ON in alarm, 0.5A @ 35Vdc max.

#### Pulse width

High: 10 $\mu$ s min

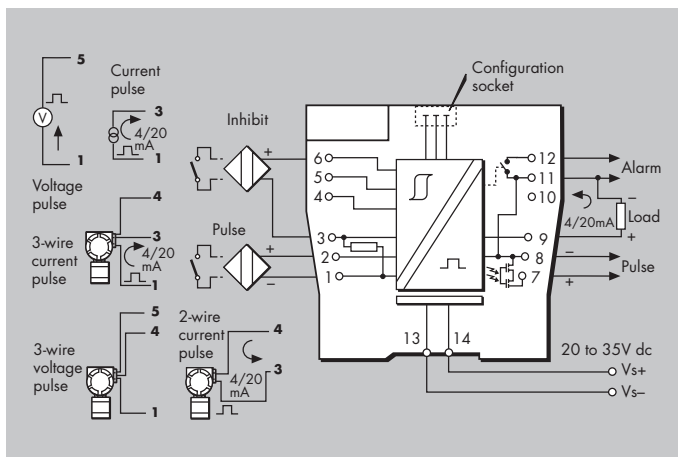
Low: 10 $\mu$ s min

#### Frequency range

0 – 50kHz - pulse output mode

0 – 10KHz - for analogue output

### MTL4632



#### LED indicators

Green: power indication

Yellow: on when output circuit is on

Red: flashing when line fault or error

#### Power requirement

65mA at 24V dc

70mA at 20V dc

55mA at 35V dc

#### Power dissipation within unit

1.35W maximum at 24V

1.75W maximum at 35V

#### Configurator

A personal computer running MTL PCS45 software with a PCL45USB serial interface.



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