

Universal Speed Relay

USR

Universal Speed Relay



APPLICATION

The Speed Relay is a microprocessor controlled digital speed monitor for use with 2, 3, 4 wire NPN/PNP sensors, 4B's WDA range of sensors or Contact sensor inputs, with a user programmable electromechanical relay and PhotoMOS Solid State Relay (SSR) outputs. The Speed Relay has a 160x80 pixel LCD display to provide information, and 3 front panel buttons to program settings.

METHOD OF OPERATION

The Speed Relay reads input pulses and displays the calculated pulse frequency in a range of selectable units.

The user can set the Electromechanical Relay and PhotoMOS Solid State Relay outputs independently, with their own thresholds and output behaviors, and have the Alarm LED indicate the state of one of the outputs. The Electromechanical Relay can be set to trigger when the input speed is outside the chosen range. The PhotoMOS Solid State Relay can provide a trigger output or can be configured to provide a pulsed output that matches the input pulse frequency.

One LED (Input LED) shows input status of the sensor's pulses, and another LED (Alarm LED) shows the state of the assigned output.



FEATURES

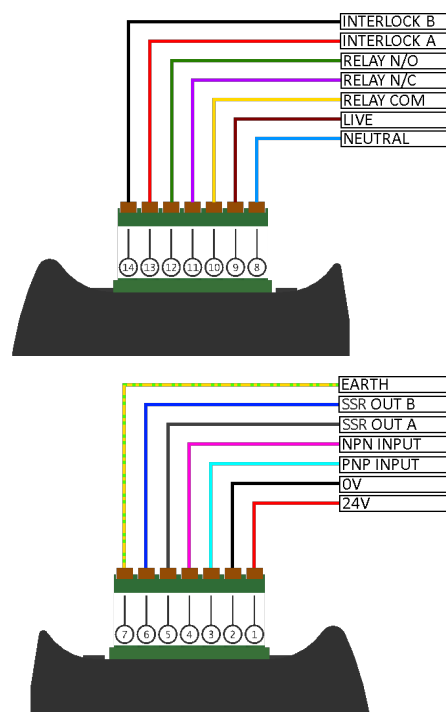
- ▶ IP20 Enclosure with removable connectors
- ▶ 160x80 pixel LCD graphical display
- ▶ 0.1 Hz to 1000 Hz input range
- ▶ 24VDC or 24VDC/250 VAC options available
- ▶ User configurable speed range
- ▶ Independent electromechanical and SSR relay outputs
- ▶ Pulse retransmission for downstream devices
- ▶ CE & UKCA certified

PART NUMBERS/ACCESSORIES

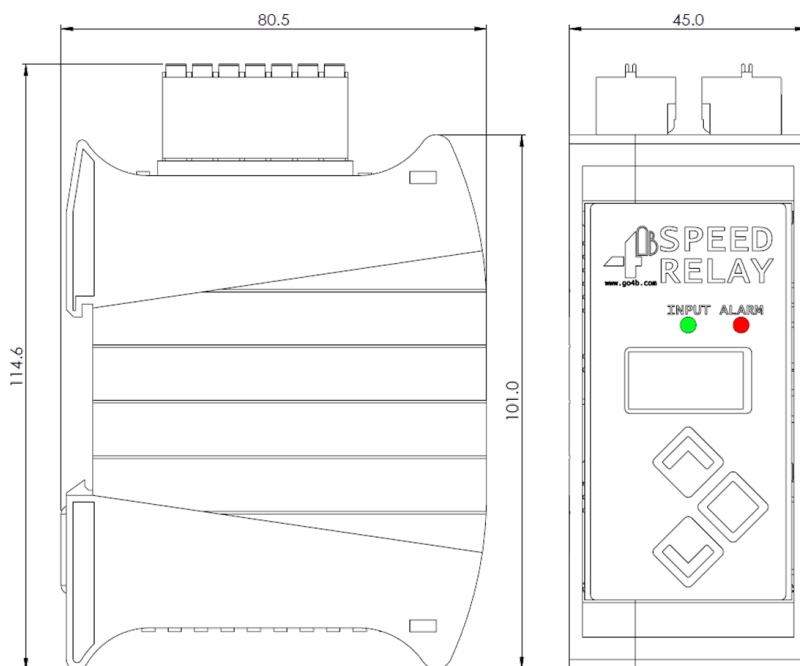
- ▶ USR1V4 – Universal Speed Relay, 24VDC, 0-1000 Hz Input, Relay + SSR output, IP20, CE & UKCA
- ▶ USR1V46 – Universal Speed Relay, 24VDC/250VAC, 0-1000 Hz Input, Relay + SSR output, IP20, CE & UKCA

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WIRE DESCRIPTION



DIMENSIONS



TECHNICAL SPECIFICATIONS

Power Supply	24VDC – 80mA Max (USR1V4) 24VDC/250VAC - 35mA Max (USR1V46)
Available Sensor Power	24 VDC, 100 mA when powered via mains. (2-Wire NPN sensors powered from terminal 4 can draw a maximum of 50mA) Note: Make sure that the sensor used with the Speed Relay works within the available sensor power.
Measuring Range	0-1000 Hz
Terminal Entry	2.5 mm ² / 12 AWG
C/O Relay Contacts	30 VDC / 250 VAC, 2.5 A MAX
SSR Output Contacts	230 V AC/DC, 100 mA
Interlock Input	18 to 28 VDC / 85 to 264 VAC
Indication	1x Red Alarm LED 1x Green Input LED 1x 160x80 LCD display
Sensor Input Frequency Range	0.1 Hz to 1000 Hz
Max Frequency Represented using SSR Output	500 Hz
Pulse Ratio	1 to 1024
Operating Temperature	-20 °C to 50 °C (-4 °F to 122 °F)
Dimensions	115mm(H) X 45mm(W) X 80mm(D) (4.5in x 1.8in x 3.1in)
Fixing Centres	35mm DIN rail clip