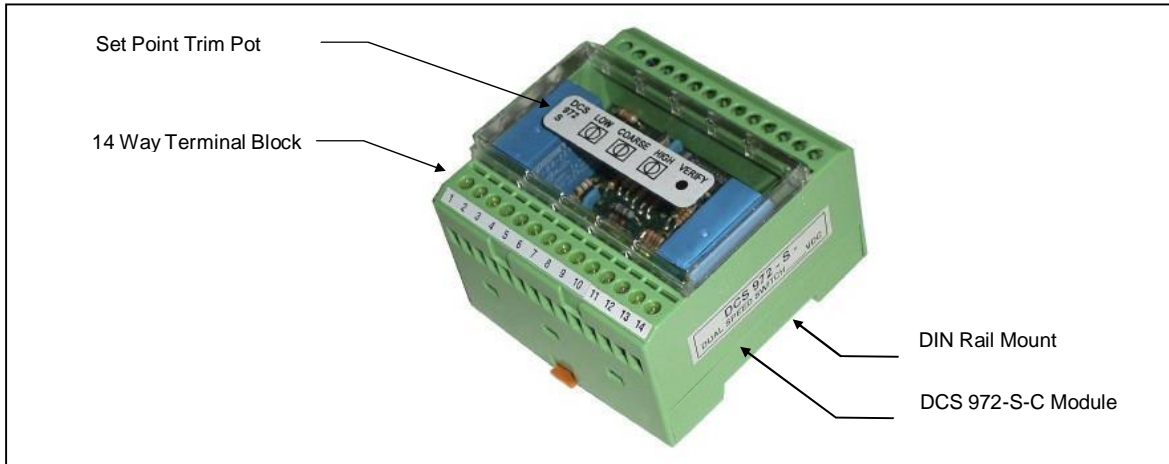


## DCS 972S SERIES SPEED SWITCH



### DESCRIPTION

The DCS 972 Series Dual Speed Switch Modules are designed to monitor two adjustable speed trip levels on an engine by detecting pulses via a magnetic pick-up or charging alternator (using the alternator AC output before the rectifier). The sensing signal generated can be in the order of 0.7 –100 volts R.M.S. The impedance is approximately 500 K $\Omega$ . The loading of the pick-up is of no significance, enabling a number of speed switches to be connected to the same pick-up.

The length of signal cable is not limited, but use of shielded cables is advisable. The shield of the signal cable must be grounded at one end only.

The unit is enclosed in a robust DIN rail mount plastic housing with indication for Supply On and Relay Operation LED's.

Settings and programming links are accessible by unclipping the clear front cover.

The printed circuit board and components are tropicalised.

The DCS 972 speed switch is available in two combinations...

### DCS 972S-HH

#### DUAL HIGH SPEED SWITCH

The dual high speed switch provides two independent speed levels. Each speed switch has a minimal differential only and no time delay. The Low speed switch can be used to monitor under speed and the High speed switch to monitor over speed.

#### Link A: Low (Alt / Low Range)

Relay 1: 460 – 2700 Hz

Relay 2: 700 – 3500 Hz

#### Link A High (Mag P/UP / High Range)

Relay 1: 650 – 5600 Hz

Relay 2: 1500 – 7500 Hz

DCS 972S-HH DUAL SPEED SWITCH

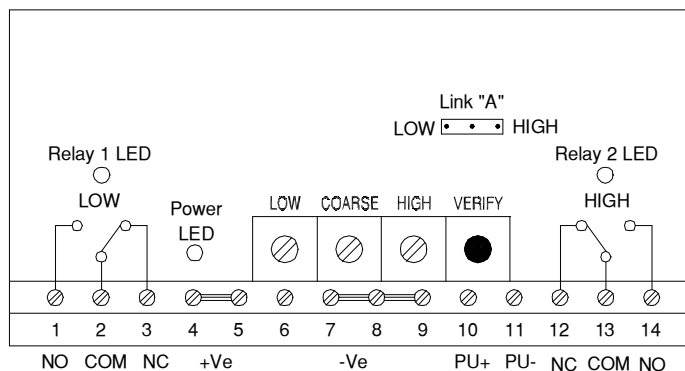


Figure 1 – Typical Wiring Diagram

# DCS 972S-CH

## CRANK CUT OUT AND HIGH SPEED SWITCH

The Crank cut out speed switch has a very large differential and in addition is time delayed during run down to ensure that the engine has come to a complete standstill before the relay de-energises. To enable this function, apply Permanent +Ve supply to terminal No. 6. The Crank cut out speed switch is adjustable by the Low trim pot.

The High speed switch has a minimal differential only and is not time delayed. It is intended for monitoring under or over speed.

When used for over speed monitoring, the Verify push button is provided to simulate a 10% over speed (other values can be specified). The push button can also be used to set the over speed switch. Set the engine at 100% speed and with the push button depressed adjust the High trim pot until the Relay 2 LED lights up. To verify the operation, after setting, the engine must be run at or above 100% speed.

### Link A: Low (Alt / Low Range)

Relay 1: 40 – 650 Hz  
Relay 2: 700 – 3500 Hz

### Link A High (Mag P/UP / High Range)

Relay 1: 300 – 5500 Hz  
Relay 2: 1500 – 7500 Hz

DCS 972S-CH DUAL SPEED SWITCH

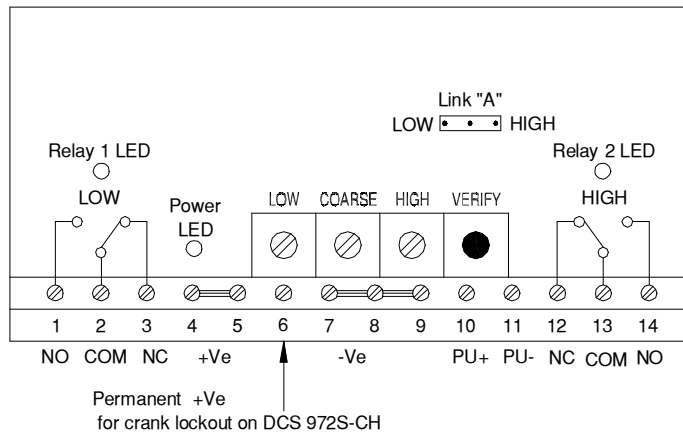


Figure 2 – Typical Wiring Diagram

## NOTES

- 1) The programming link A is for selecting the low or high sensing range. Changing this will effect both speed switch setting points.
- 2) The Coarse trim pot needs to be adjusted if the speed is outside the Low or High trim pot range.
- 3) If the Coarse setting needs to be adjusted the Low and High settings must be re-adjusted

## SPECIFICATIONS

DC Supply: 12v (8-16.5v)  
24v (16-33v)  
Operating Current: 150mA (approx.)  
Case Material: Thermoplastic  
Operating Temperature: -10 to 60° Celsius  
Relay Contacts: One voltage free change over per channel, max 5 amp resistive  
Dimensions: 53h x 75w x 75d  
Protection against polarization errors