Product Specification
36597

DSS-2
Two-Channel Digital Speed Switch

APPLICATIONS

QCC's DSS-2 is a multipurpose electronic device suitable for diverse applications. While protecting engines from overspeed or underspeed conditions DSS-2 also protects system equipment from the needless wear and damage brought about by these conditions. For example, DSS-2 will shut down a motor, an engine, or a piece of equipment if it detects underspeed, thereby preventing conveyors from jamming, compressors from freezing, belts and drives breaking, and motor windings from overheating.

As an **electronic speed switch** for internal combustion engines, DSS-2 performs in these typical engine applications:

- Crank motor disconnect above normal cranking speeds
- Engine overspeed protection
- Engine underspeed protection
- Engine load control (e.g. wood chipper) stop feed when engine lugs below a set speed, enable feed when engine speed recovers

As an **equipment protection device**, DSS-2 demonstrates its versatility in several functions:

- PTO protection
- Magnetic brake retarder
- Shift inhibitor
- Bus door control

DSS-2 can also function as the following:

- Autocrank controller
- Glow plug controller

DESCRIPTION

Compact, yet powerful, DSS-2 combines the convenience of manual adjustments with the flexibility of a computer-based calibration tool. The two-channel electronic speed switch executes a variety of speed related functions including starter motor disable and engine overspeed protection. DSS-2 monitors engine rpm via a magnetic pickup (MPU) input and controls two independent relays. Once engine speed exceeds the user selected speed setpoint, the relay will go to the designated set condition.

DSS-2 has two multi-turn potentiometers for manual speed setpoint adjustment. A computer interface is provided for additional adjustments with the All-purpose Calibration Tool (ACT). For most applications, DSS-2 can be connected and adjusted with simple hand tools. For more advanced features, the calibration tool provides user-friendly access. Three indicator lamps permit system monitoring and diagnosis without use of additional tools.

As shipped, DSS-2 can be manually adjusted on most applications that supply a MPU frequency of 2500 to 5000 Hz. Optionally, the ACT may be attached to gain access to a number of user-adjustable features including:

- Frequency range (10-10,000 Hz)
- Normal and reverse mode operation
- Automatic, Manual or Latched reset
- Set condition on Engine Protection (EP) switch on
- Set condition on loss of speed signal
- Set condition on Start Switch (VER) off

- Digital technology for accuracy and reliability
- Versatility of a speed monitoring or equipment protection device
- Flexibility of either manual or PC-calibrated adjustments
- Easy attachment via Euro-style terminal
- Power input 9-30 Vdc
- CE marked
- Reverse polarity protection

SPECIFICATIONS

Woodward P/N: 8800-1001

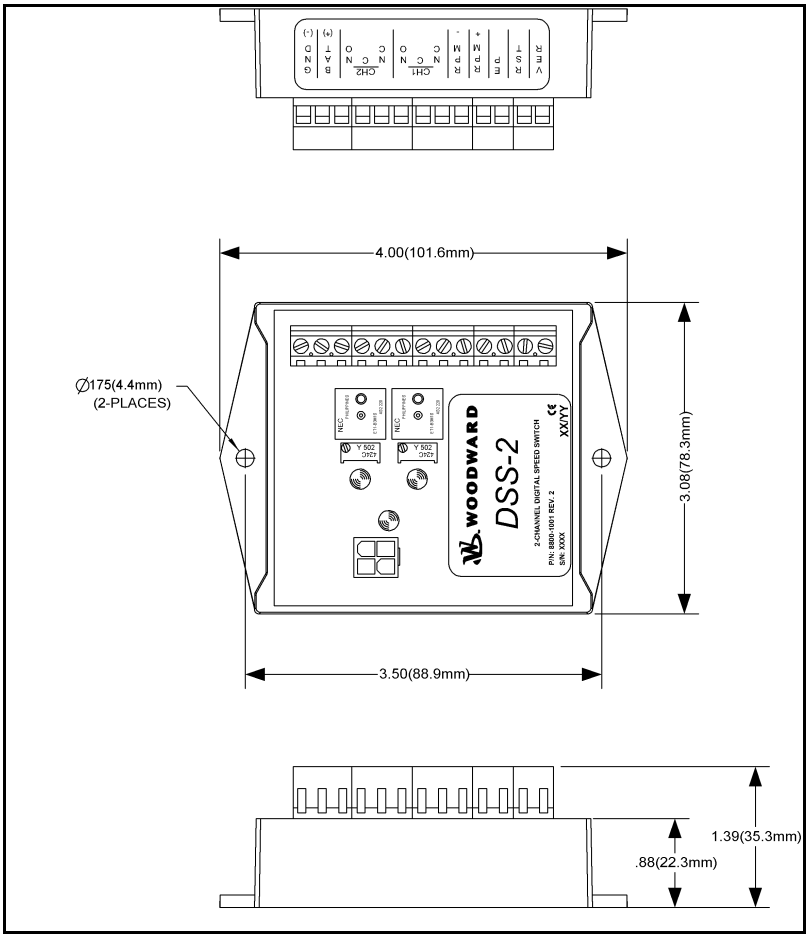
Electrical

Power Input	9-30 Vdc, Reverse polarity protected
Electromagnetic Compatibility	ISO 14982:1998/E
Operating Current: **Both Channels On:** **Both Channels Off:**	 12 V: 100 mA / 24 V: 100 mA 12 V: 50 mA / 24 V: 50 mA
Relay Contact Ratings @ 28 Vdc	Resistive Load: 1 to 10A Inductive Load: 1 to 8A

Mechanical

Operating Temperature	-40°F to +185°F (-40°C to 85°C)
Vibration	4 G's from 40 to 2000 Hz
Shock	10 G's @ 45 Hz
Housing	UV, chemical resistant. UL 94 V-O flame retardant. Encapsulated for reliability in harsh environments
Terminations	Euro-style terminal block
Calibration	Manual or with PC-based All-purpose Calibration Tool / ACT [SA-5206]
Weight:	0.38 lbs (0.17 kg)

DIMENSIONS

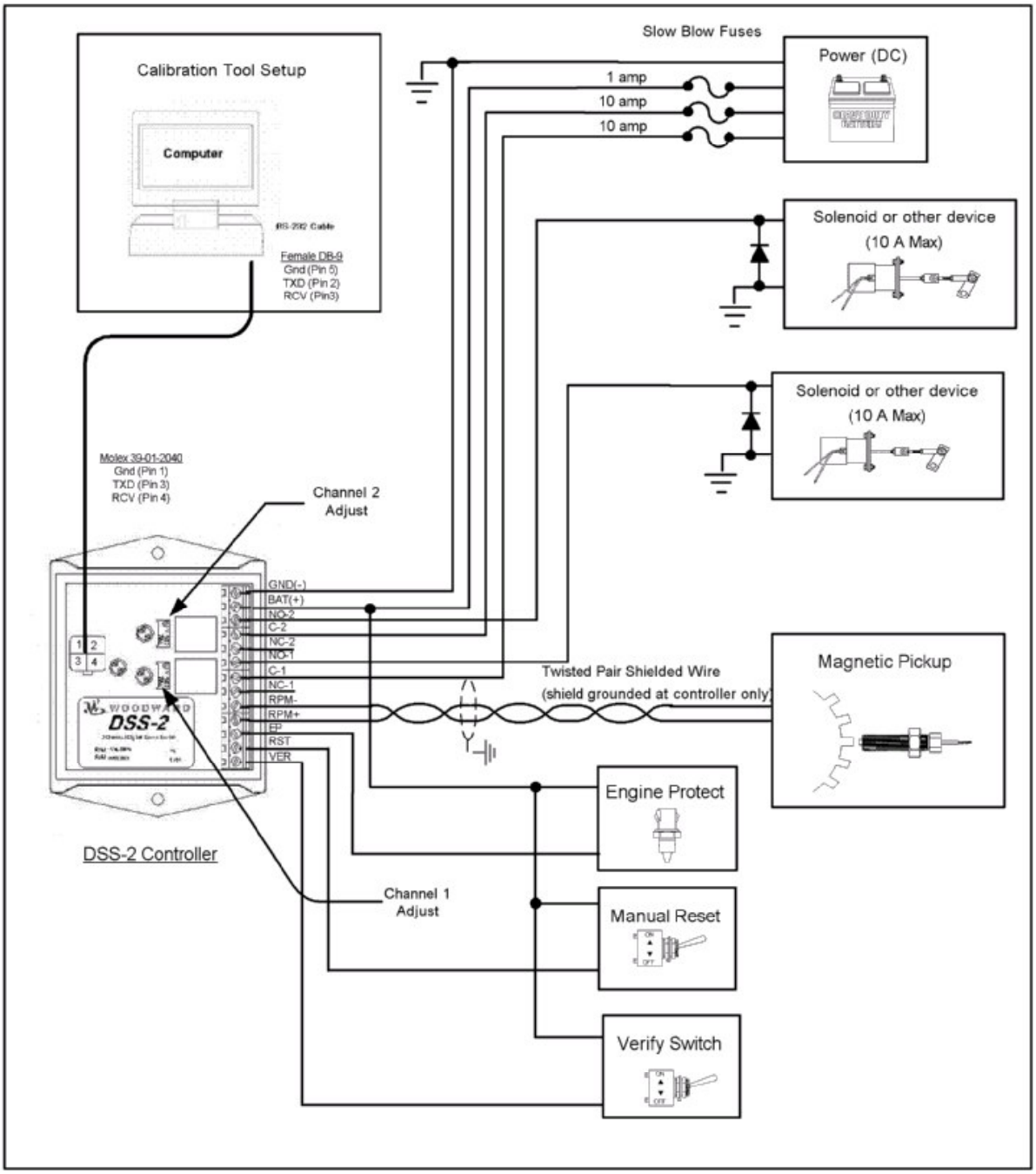


WIRING

Controller Pinout

Use the diagram below to connect the DSS-2 controller to battery power, the mag pickup, loads, switches and ACT.

NOTE
All cabling for the DSS-2 controller is limited to less than 3m (9.84'). Power cabling is limited to less than 10m (32.8') in total length. The wiring diagram below shows specific cable types required.



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REGULATORY COMPLIANCE

European Compliance for CE Marking

EMC Directive
Declared to 89/336/EEC COUNCIL DIRECTIVE of 03 May 1989 on the approximation of the laws of the Member States relating to electromagnetic compatibility. See user's manual for specific details.

EMC Limitations
All cabling for these controllers is limited to less than 3m (9.84').

Power cabling is limited to less than 10m (32.8') in total length.

See wiring diagram for specific cable types required.

RELATED DOCUMENTATION

36598 User Manual
36599 Application Note