

Hot Shot Coil Saver

P/N: CS-xx-yyy

Where: x = Holding power as a % of input power (Duty cycle)
y = Initial output time interval (mSec)



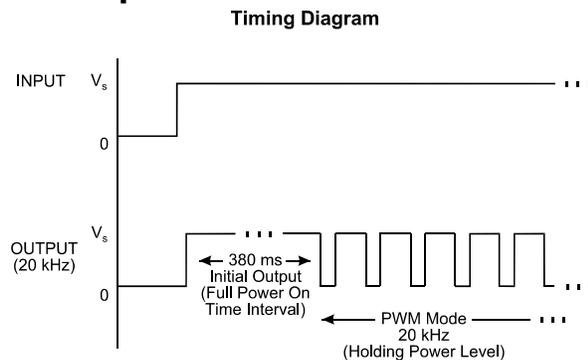
Function:

Permits accelerated shifting of two position (on/off) solenoid valves at full power and then operation of the valve at a holding level of power, saving energy. Can be used to improve the performance of a solenoid valve, e.g. this unit, rated at 50% holding power, permits a 12V power supply to operate a 6V solenoid, providing a temporary overdrive of 12V and a holding level of 6V for operation.

Features:

- Saves energy by reducing the holding current
- Output power is reduced to a % of the input power (factory modified to suit the application)
- Reduces unnecessary heating and stress on the valve
- Accepts supply voltages from 10 to 36VDC
- Full power output for a time interval specified by the application
- High initial output drive up to 4A
- Short circuit protected
- Reverse polarities do not damage equipment
- Advanced technology utilizing high frequency switching output
- Used with a cartridge or block style two position (on/off) solenoid

Description:



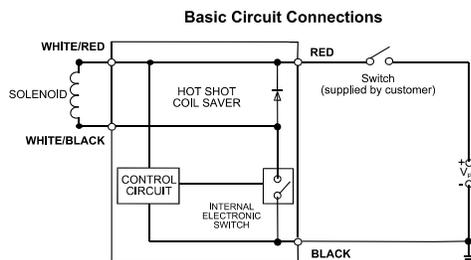
Conserve energy! Full power is applied for a short period of time to shift the solenoid valve. The unit switches to a holding mode with a reduced power level for operation of the valve.

The Hot Shot employs a pulse-width modulated (PWM) output to drive valves, solenoids and actuators. It is positioned between a 12V or 24VDC power supply and the solenoid valve. For a short period of time measured in milliseconds, full power is applied to the solenoid permitting temporary overdrive of a solenoid that is rated below supply voltage. After this time period, the unit switches to a hold mode with its reduced output (expressed as a % of input power) conserving power and reducing heat rise during the normal operation of the valve. Factory modifications permit an application specific initial output time interval and holding output. The design of the unit is optimized for three states (full power, hold and off).

Application: The Hot Shot Coil Saver drives electro-mechanical devices such as valves, solenoids and actuators used in mobile construction equipment and industrial processes. It can improve solenoid life by reducing the holding current to the amount required by the application.

Technical Specifications:

Operating voltage (power supply requirement)	10 to 36VDC nominal power supply ($\pm 10\%$ max. ripple)
Switching frequency	20 kHz
Maximum output current at full power on time	4A
Full power on time	380 ms (standard model) Factory modified (range of 50 milliseconds - 1 s) to accommodate specific applications. Tolerance $\pm 10\%$
Holding power specification	32% of input power (Duty cycle of standard model) Factory modified to within the range of 25 - 75% to accommodate specific applications
Electrical termination	Unterminated leadwires, 18 AWG, 48 inches long (For application specific requirements, contact the manufacturer.) The fuse between the power supply and the module should be sized to be larger than the rated coil.
Solenoid resistance selection (nominal)	Output (during full power on time): $I_{output} = V_{ps}/R_{coil}$ Output (during holding power mode): $I_{output} = (V_{ps}/R_{coil}) \times DC$ Where DC = duty cycle % (holding power specification)
Protection	IP67
Weight	0.30 lbs. (0.136 kg)
Operating conditions	-40 to +85°C (-40 to 185°F) 0 to 93% relative humidity
Dimensions (Alternate packaging available upon request.)	Encapsulated box (Lexan resin with metal lid) 50.64 x 69.88 x 16.42 mm (W x L x H) 1.99 x 2.75 x 0.65 inches



Connections:

Mount the unit using two screws or bolts (customer supplied).

The fuse between the power supply and the module should be sized to be larger than the rated coil.

Connect the red and black wires with a customer supplied termination to the power supply. Connect the white/red stripe and the white/black stripe wires to the load. **Note that the coil must be floating, isolated from ground.**

To minimize RF emissions keep the output wires as short as possible between the Hot Shot and solenoid.

To energize the solenoid using the Hot Shot function, the switch (supplied by customer) must be located at the module's input side.

Specifications are indicative and subject to change. Actual performance will vary depending on the application and operating conditions. Users should satisfy themselves that the product is suitable for use in the intended application. All our products carry a limited warranty against defects in material and workmanship. Please refer to our Warranty, Application Approvals/Limitations and Return Materials Process as described on www.axiomatic.com/service.html.

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