

Model SGC-400 Isolated Low-Side Driver

FEATURES

- converts low-level signal to a high current drive control signal
- optically-isolated digital input, two ranges: 5V or 28V amplitude
- low-side drive, power MOSFET output, up to 50W pulsed, designed to drive inductive loads
- high bandwidth, DC to 25kHz, suitable for switching and PWM applications
- low power consumption (< 25 mA)
- output LED indicator
- output protected with easily accessible, standard mini-blade fuse
- signal conditioning unit, small form factor
- I/O connection using screw-down terminal strip
- RoHS, lead-free

DESCRIPTION

The Model SGC-400 Isolated Low-Side Driver from Applied Processor and Measurement, Inc. provides a high current, low side drive output from a low level digital signal from an embedded system, PC, data acquisition and control system digital output, or PLC digital output. The SGC-400 is intended for general purpose solenoid and actuator drive applications where only a low level digital signal is available. The low level digital signal may be a simple on/off switch control, or, a pulsed signal since the SGC-400 is capable of DC to 25kHz I/O bandwidth. The input is optically isolated from the output driver.

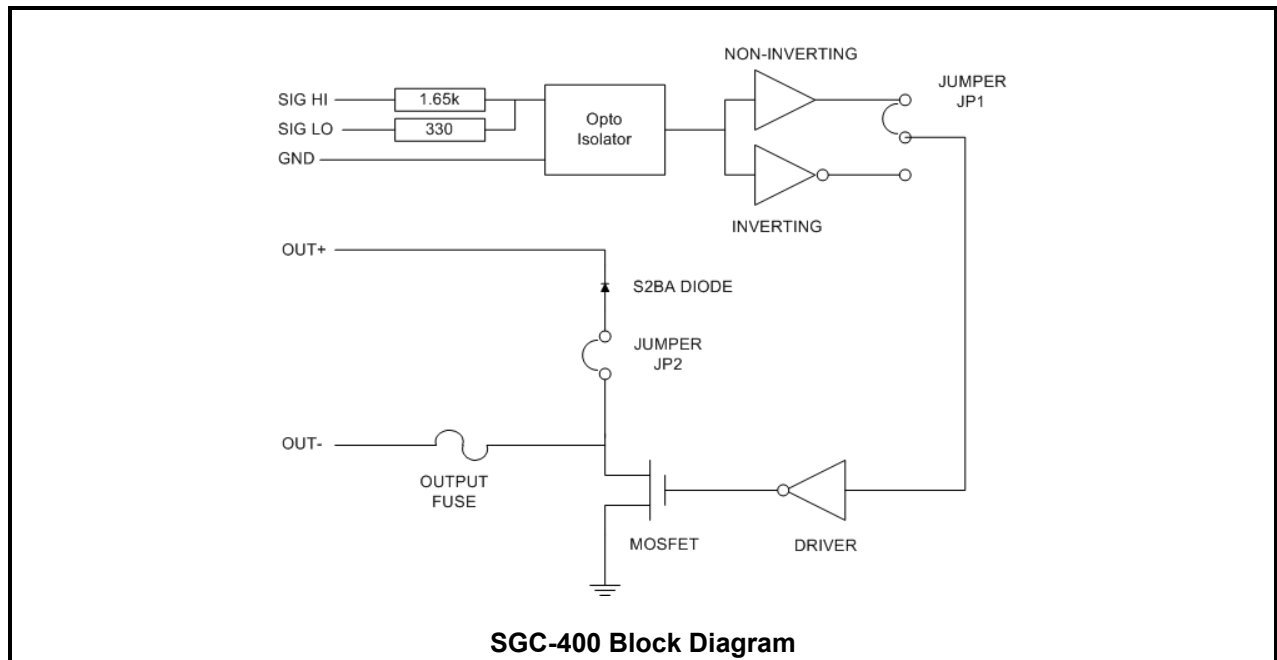
A block diagram of the SGC-400 is shown below. There are 2 input pins, low and high input level, limited for the proper current for the opto-isolation diode input. The low level signal input is for digital logic levels of 3.3V or 5V. The high level signal input is for PLC, automotive, and control system levels of 12V, 24V or 28V DC. An LED on the SGC-400 indicates the driving state of the output, providing visual feedback.

The output is a low-side drive configured power MOSFET capable of operating to 50W pulsed. The output is fuse protected using a standard mini-blade fuse. The fuse is accessible by removing the front cover of the unit. The controller may be powered using any 9 to 28 V DC power source and may be powered using the same supply as the load to be switched with the SGC-400 output.



APPLICATIONS

- PLC interface, process instrumentation, PC control interface, high-speed current switching, bounceless alternative for relay contact
- solenoid, actuator driver, lighting systems
- general purpose high current driver for industrial control applications



There are two jumpers internal to the SGC-400. JP1 allows signal inversion from input to output. JP2 provides connection to an on-board diode for inductive solenoid kickback. The jumpers are accessible by removing the front cover of the unit.

SPECIFICATIONS

- Operating Voltage: 9 to 28 V DC
- Power Consumption: 20 mA typical (with output signal LED on)
- Input, optically isolated from power input and load control output
 - max current on either input is 20mA
 - switch current for opto-isolator: 5mA typical
 - SIGHI, internal 1.65k ohm resistor, max voltage at input: 28V
 - SIGLO, internal 330 ohm resistor, max voltage at input: 7V
- Output: open drain power MOSFET, maximum power dissipation 50W
 - up to 4A @ 12V, pulsed, must operate within safe area of IRLR2905
 - built-in fuse on output, standard mini-blade, 4A supplied
 - output operating voltage: 32V maximum, 1V minimum
 - frequency: DC to 25kHz
- Operating Temperature: -40 °C to 60 °C
- Connectors: screw-down wire-clamp terminal blocks, 14AWG max
- Size: 3.625 in. x 2.25 in. x 1.375 in., maximum including I/O connectors
- Packaging: plastic enclosure, DIN mounting option available
- Warranty: 1 year, for manufacturing defects

ORDERING INFORMATION

Order Number: SGC-400	- Isolated Low-Side Driver
Order Number: SGC-400-DIN	- Isolated Low-Side Driver, DIN mountable