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s w i t c h e s

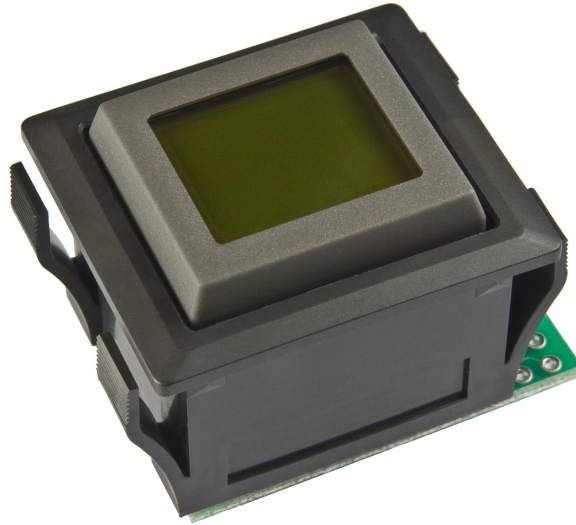7850 East Gelding Drive • Scottsdale, AZ 85260-3420

IS-S0108 Single Switch System
Revision C

NKK SWITCHES
7850 E. Gelding Drive
Scottsdale, AZ 85260

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Purpose and Applications

The Single Switch System is a plug and play indicator device for use in an application with little to no technical or engineering know-how needed to install and operate. When ordering the device a customer would list what images, labels and actions they want to see. The device would then be preloaded with the images, actions and responses ready to be used. The customer would simply need to install the device into their application via connector or soldering. Please contact us with your application. If the IS-S0108 can not meet your application, we can design a device to meet your requirement.

The Single Switch System can be used in many applications. It excels in displaying measurements such as music volume, water flow, or illumination level. It can be used in a bank of displays where many measurements have to be viewed at once or it can display each measurement one by one when panel space is tight. It could have many images for displaying a continuous stream of information or it could be hooked up to a single measurement device with only a few associated images. The images could just be a series of numeric displays or a graphical dial gauge. With the Red/Green/Amber back lighting it can show important statuses or changes at a glance so an operator can know if an action is required. Output commands could be sent out automatically based on user defined input levels. Its panel mount design allows for easy installation. The switch can be used to cycle through a list of measurement displays, or toggle between two different modes, or as an on/off switch.

Possible Applications:
- Display predefined images based on status of up to 8 total inputs.
- Display the status of up to 4 analog gauges as bar graphs, percents, or predefined images.
- Use it as a counter to display a number of events.
- Use it as a timer to display the duration of an event.
- Change colors based on inputs then automatically toggle other devices based on defined values.
- Display different statuses by pressing the switch.
- Use some of digital input/output lines to turn off or on a device based on the status of input/outputs or timer or counter.

Examples:
- A Single Switch System is hooked up to a device that drops jellybeans into a bag and a counting sensor. When the Single Switch System counts out a fixed number of beans it then toggles another device to seal the bag, move it out of the way and get the next bag.
- A Single Switch System is used as an egg timer where it is hooked up to a heating element that when the switch is pressed the egg is cooked until the timer ends then the heating element is switched off. It could also be hooked up to a temperature senor to know that the egg is correctly cooked.
- A Single Switch System is hooked up to a motor controller and a load sensor. When the load becomes too high the Single Switch System flashes red alerting the operator that an action is required and sends a shut down signal to the motor controller.

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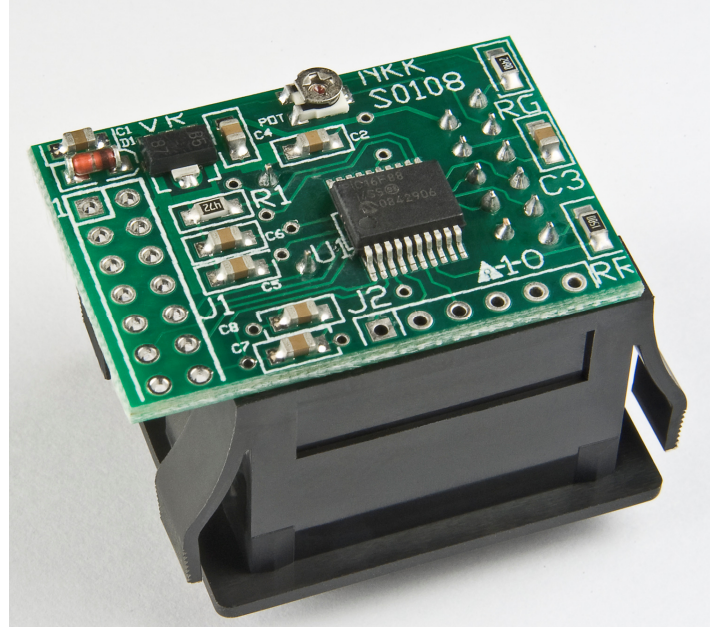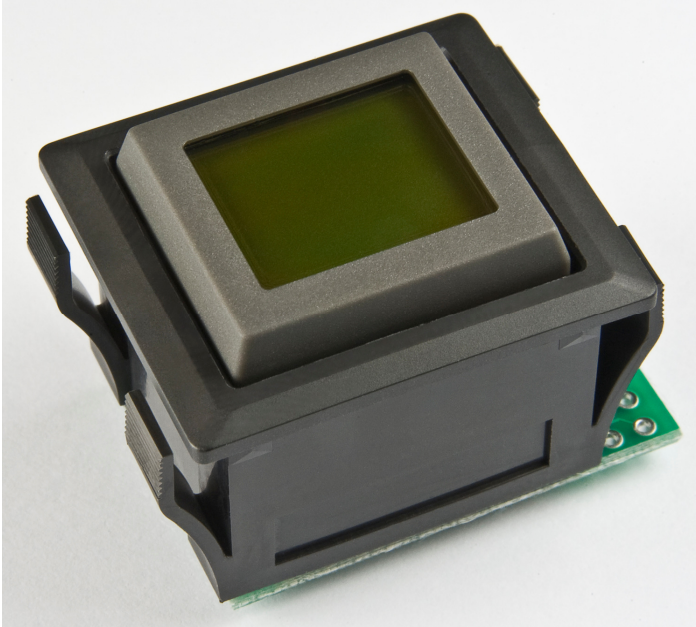7850 East Gelding Drive • Scottsdale, AZ 85260-3420

General System Features

The Single Switch System is useful in many applications where complex information needs to be displayed while minimizing design and installation time and complexity. The firmware is written based on customer requirements. **Contact Hassan Sajadi at 877-228-9655 or engineering@nkkswitches.com for application consultation.**

Features:
- 36x24 pixel graphic LCD.
- Can display 3 lines of 6 characters each.
- Multiple backlight color mode of operation. Red, Green, Amber and various blinking.
- Panel Mount for easy installation.
- Single pole momentary switch.
- Firmware is written based on customer requirements.
- The connection to application can be via direct soldering or a connector.
- Up to 8 digital input/outputs.
- Up to 4 analog to digital converters.
- I2C, SPI, or UART configurations are available upon request.

Board photos

Part Number Attributes: IS-S0108X-XX

IS-S0108	X-XX
Base part number	Unique for each application

Each application would have a unique part number.

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Hardware

WARNING: These products are ESD sensitive. The ESD handling procedures must be followed.

The Single Switch System incorporates an IS15ABCP4CF in the Panel Mount housing soldered to a small controller PCB.

Power Requirement: 9 to 15V
Controls Overview:
    POT: Contrast adjusts the contrast of the LCD.
    J1: Application Interface Header is a 7x2 unpopulated .1"x .1" header location for application connections.

Pin Description:
Pin 1 & 2: VCC Voltage can be a minimum of 9V to a maximum of 15V but must remain constant once the contrast pot is set.

Pin 3 & 4: Ground.

Pin 5: VDD voltage is 5V. It is generated by the onboard voltage regulator. The maximum current drawn can not exceed 10 mA.

Pin 10: Switch status. It has a weak pull up. The pin goes to Ground when switch is pressed.

Pins 8,9,13 & 14: Can be set up as digital input /output or as analog input for analog to digital converter. These pins have 0.1 uF capacitor to Ground each. The analog input must be in the range of 0 to 5 V.
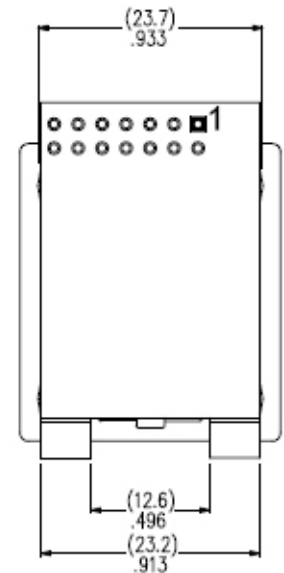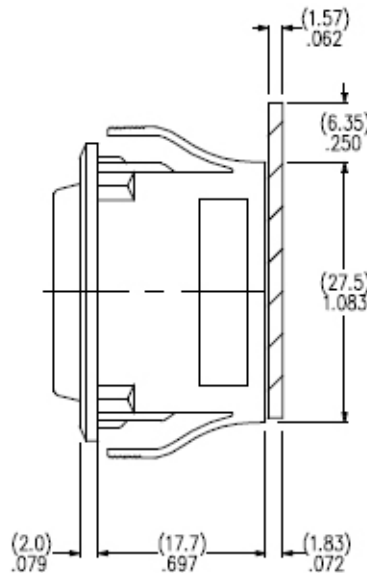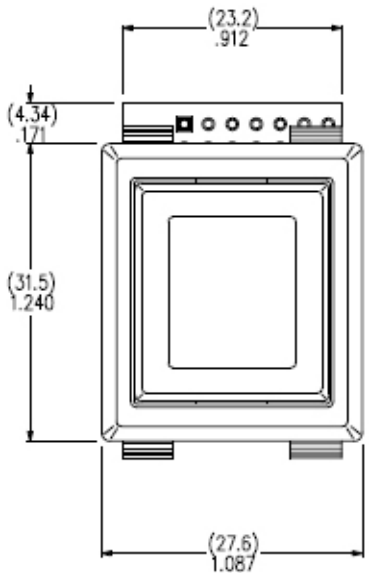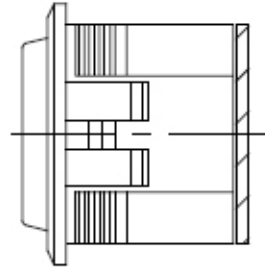
Pin 7: Can be set up as digital input/output. This pin has a 4.7k pull down resistor.

Pin 6,11 &12: Can be set up as digital input/out put.

Application Interface Header (J1) pin call outs:

Pin	Function
1	VCC
2	VCC
3	GND
4	GND
5	5V
6	Digital I/O
7	Digital I/O
8	Digital I/O or Analog Input
9	Digital I/O or Analog Input
10	Switch Status
11	Digital I/O
12	Digital I/O
13	Digital I/O or Analog Input
14	Digital I/O or Analog Input

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Dimensions:

PANEL CUTOUT:

Panel Thickness
1.5mm ~ 4.0mm
(.059" ~ .157")

In place of creating a small radius inside the cutout, the radii can extend beyond the cutout and the Bezel would still cover them

4X R.015"~.020" Max

(29.0) +(0.3)/-(0.0)
1.145 +.012/-.000

(23.7) +(0.3)/-(0.0)
.935 +.012/-.000

4X R.03

4X R.03

Bezel of Panel Mount Housing

Cutout

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