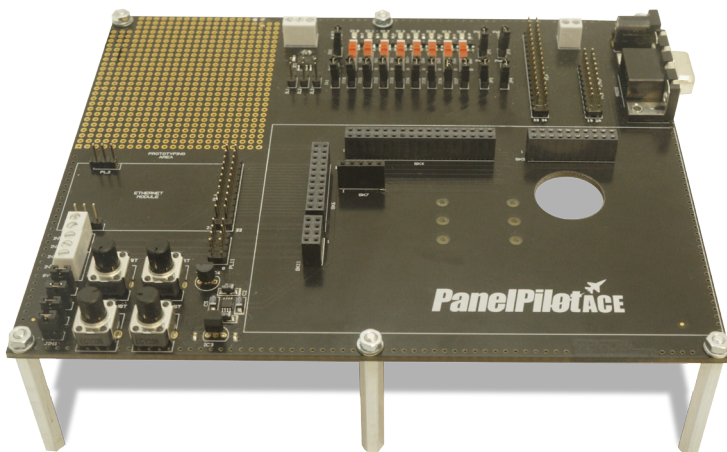# SGD 43-A DK+

4.3" PanelPilotACE Compatible Development Kit and Display

PanelPilotACE

SGD 43-A-DK+ is a development kit for the SGD 43-A PanelPilotACE compatible display. The development board itself provides switches, dials, LEDs and screw terminal connections to quickly connect to and test all of the input/ouput functionality of the SGD 43-A.

The SGD 43-A-DK+ is a PanelPilotACE development kit. The kit includes a 4.3" PanelPilotACE display, a USB cable and a development board which provides connections to all of the input/output functionality of the display. This includes LED's and switches for digital I/O's, four potentiometers to generate analogue inputs, variable brightness LED's for PWM outputs and a prototyping area for testing circuitry. Connections are also available for the display's RS232, SPI and I²C functionality which will be made available for use in a future software update.

Please consult the SGD 43-A technical data sheet for further information.

Specifications

Analogue Inputs	4 x analogue inputs each with ±5Vd.c. analogue dial and screw terminals for external inputs
Digital Input/Outputs	8 x digital I/O's each with input switch, status LED and pin headers to connect external circuitry
PWM Outputs	4 x PWM outputs each with LED indication and pin headers to connect external circuitry
Alarm Outputs	2 x alarm outputs with status LED and pin headers to connect external circuitry
Serial Bus Connections	RS232 serial connector and pin headers for SPI and I²C serial bus.*
Supply	5 to 30V d.c. (300mA typical at 5V d.c.)
Outside Dimensions	181 x 147x 64 mm (dimension of development board with SGD 43-A connected)

* Hardware capability, but not available in software at launch

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SGD 43-A DK+
4.3" PanelPilotACE Compatible Development Kit and Display

PanelPilotACE

PanelPilotACE Design Studio

Making Industrial User Interface Design Simple

The design software provides a number of building blocks which allow users to drag-and-drop elements onto the screen to quickly create advanced user interfaces. From background images to text elements, analogue style meters, touch-screen navigation elements and even complex logic statements, users can build up multi-screen interfaces without needing to write a line of code.

There is a library of pre-defined elements such as meters, buttons and switches, and users can create their own content by combining elements or importing graphics in a number of formats (including jpg, png, tif, bmp and gif). The software includes support for transparency and multiple-layers.

Hardware interfacing is similarly intuitive, with hardware elements being dragged into a function builder where associations with graphical elements (such as a needle on a meter) can be defined. Here users can determine scaling for analogue inputs, define alarm triggers, behaviours for digital inputs and outputs and configure PWM outputs. Previewing and Uploading Projects

The software includes a 'Preview in Emulator' function which emulates the hardware inputs/outputs allowing users to test their projects prior to upload. Projects are uploaded to the SGD 43-A via USB.
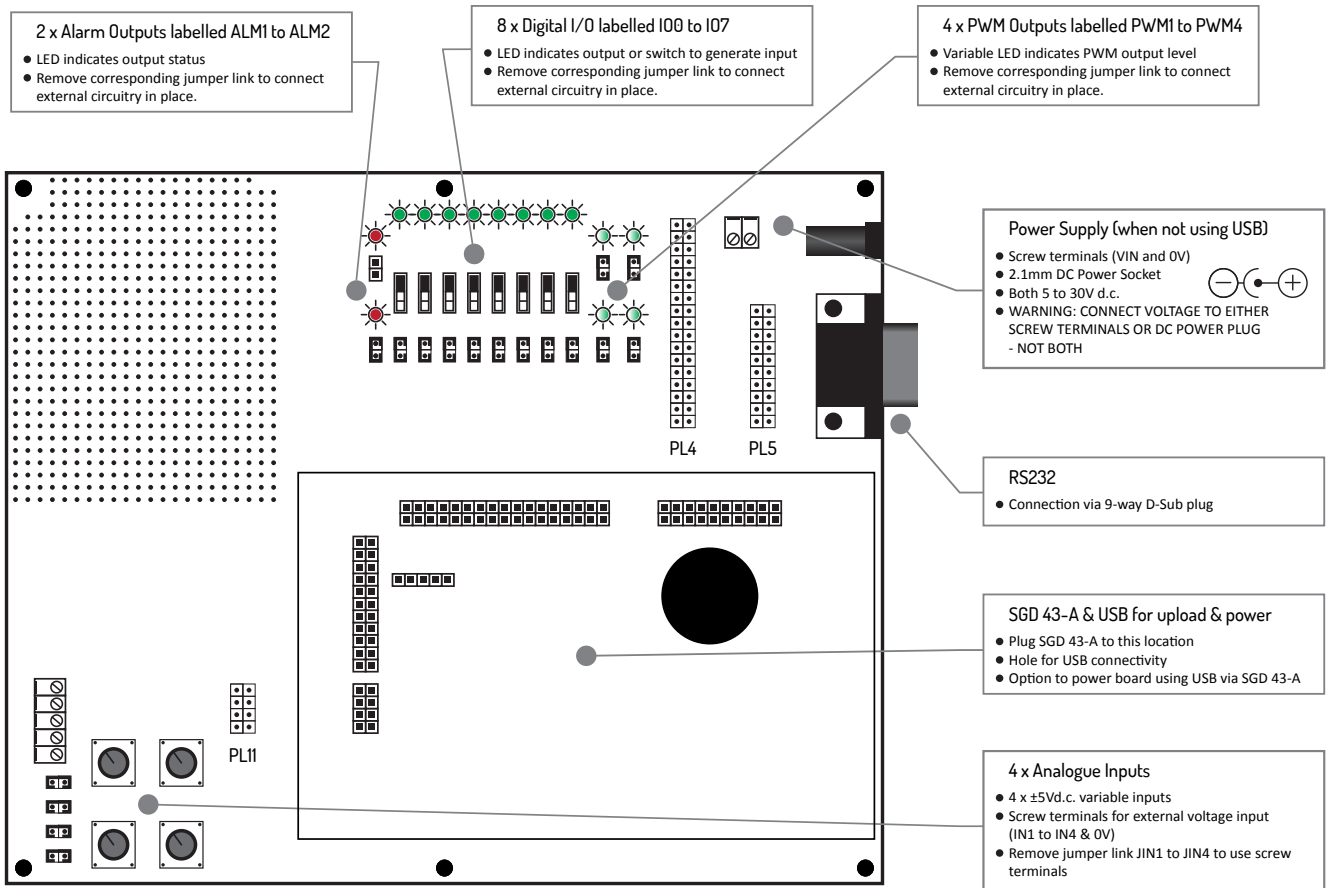
PanelPilotACE Design Studio is compatible with Windows XP, Vista, 7 and 8 and can be downloaded free from www.panelpilot.com.

SGD 43-A DK+
4.3" PanelPilotACE Compatible Development Kit and Display

PanelPilotACE

Connections

2 x Alarm Outputs labelled ALM1 to ALM2
- LED indicates output status
- Remove corresponding jumper link to connect external circuitry in place.

8 x Digital I/O labelled IO0 to IO7
- LED indicates output or switch to generate input
- Remove corresponding jumper link to connect external circuitry in place.

4 x PWM Outputs labelled PWM1 to PWM4
- Variable LED indicates PWM output level
- Remove corresponding jumper link to connect external circuitry in place.

Power Supply (when not using USB)
- Screw terminals (VIN and 0V)
- 2.1mm DC Power Socket
- Both 5 to 30V d.c.
- WARNING: CONNECT VOLTAGE TO EITHER SCREW TERMINALS OR DC POWER PLUG - NOT BOTH

RS232
- Connection via 9-way D-Sub plug

SGD 43-A & USB for upload & power
- Plug SGD 43-A to this location
- Hole for USB connectivity
- Option to power board using USB via SGD 43-A

4 x Analogue Inputs
- 4 x ±5Vd.c. variable inputs
- Screw terminals for external voltage input (IN1 to IN4 & 0V)
- Remove jumper link JIN1 to JIN4 to use screw terminals

PL4   PL5

PL11

The main connection is that of the SGD 43-A supplied as part of the SGD 43-A-DK+ development kit. The board can be powered directly by connecting a USB cable to the rear of the display. Whilst connected the USB will provide power to both the display and the development board.

When providing power externally using either the screw terminals or 2.1mm DC power plug do not connect more than one external supply as this could damage one or both of these.

The pin-outs for PL4, PL5 and PL11 can be found on the SGD 43-A data sheet together with further application information relevant when connecting external circuitry via the development board.

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