SGD 21-B

PanelPilot Compatible
E-paper Dot Matrix Display



- 2.1" e-paper dot matrix display.
- Use PanelPilot B software to setup and customise the display.
- 6 voltmeter configurations included for free.
- Reflective e-paper technology is sunlight readable and ultra low power.
- Two alarms available for configuration during software set-up.
- Configurable digital I/O pin.
- IP54 rating on front panel.
- Wide operating voltage of 4 – 9V d.c.

Lascar's SGD 21-B is a low cost, ultra low power, sunlight readable, single channel voltmeter with a sleek monochrome e-paper dot matrix display.

The display works with free PanelPilot B configuration software (available for Windows 7, 8 and 10) providing six analogue and digital voltmeter Apps which can then be customised to suit individual applications. Elements of each configuration that can be changed in software include custom labels, scaling and alarms. A splashscreen can be added to display on power-up.

Once the App is complete, upload it to the SGD 21-B display using the CABLE USB A-SIL5. Panel or enclosure installation of the display is simple, using a panel fixing clip to mount the display.



**Six configurations are available to customise and upload. Colours of each display can also be inverted if required.*

Specifications

	Minimum	Typical	Maximum	Unit
Accuracy		0.05	0.1	%
Linearity			±1	Count
Sample rate		2		Samples / second
Operating temperature range	0 (+32)		+40 (+104)	°C (°F)
Measurement range*	0		1.25	V d.c.
Input leakage current		±0.1	±40	nA
Supply voltage	4		9	V d.c.
Supply current		3		mA

*Or up to 30V with the use of on-board scaling resistors; for higher voltages external scaling resistors can be used.

Included in the Box

Standard Display (Panel meter, fixing kit, quick start guide)	**SGD 21-B**

Accessories

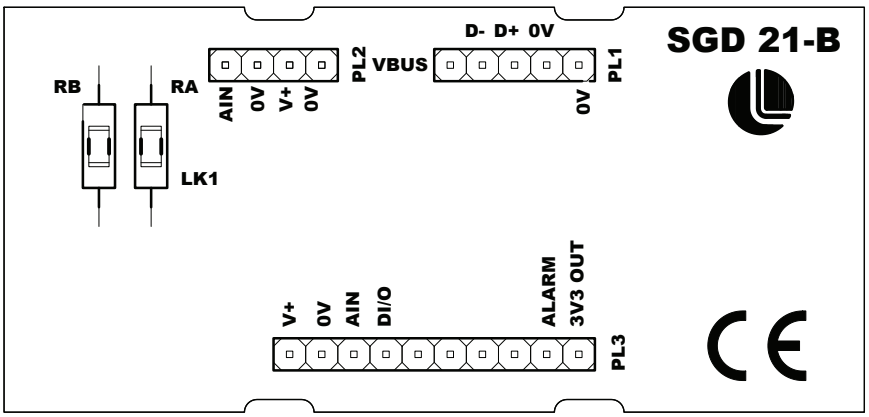
USB Cable	**CABLE USB A-SIL5**

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Pin-out

USB (PL1)
VBUS: USB supply
D-: Negative USB data bus connection
D+: Positive USB data bus connection
0V: Ground
0V: Ground

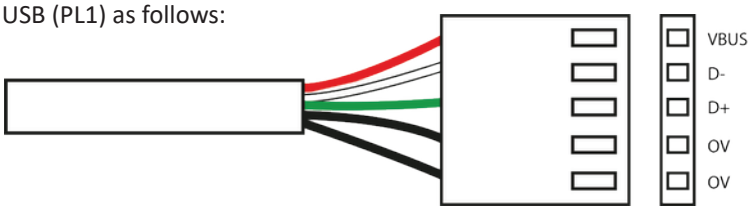


Basic (PL2)
AIN: Analogue Input Voltage
0V: Ground
V+: Power Supply Connection
0V: Ground

Advanced (PL3)
V+: Power Supply Connection
0V: Ground
AIN: Analogue Input Voltage
DI/O: Digital Input or Output (See digital configurations)
ALARM: Open Collector Alarm Output
3V3 OUT: 3.3V supply generated on board

USB Cable Connection

Accessory CABLE USB A-SIL5 should be connected to USB (PL1) as follows:



Scaling Resistors

Two resistors may be used to alter the full scale reading of the meter. See table to the right.

Display

The black and white display is a 2.19” E-paper display with a resolution of 250x122. Any splashscreen graphics that are uploaded to the meter are automatically converted to this specification but for optimal results should be designed in this format.

USB Cable Connection

Desc	Wire Colour
VBUS	Red
D-	White
D+	Green
0V	Black
0V	Black

Scaling Resistors

Maximum Input		Ra	Rb
6.25v	Note 1	1M	250K
12.6v	Note 1	1M	110K
21.4v	Note1	1M	62K
30.0v	Note 1	1M	43K
20mA		0R (LK1)	62R
200mA		0R (LK1)	6.2R
4-20mA	Note 2	0R (LK1)	62R

Note1: Ensure LK1 is cut if fitting Ra.
Note2: In software, Set point 1 = 1.24v (20mA) and Set point 2 = 0.248v (4mA).

PanelPilot B Software

Lascar’s PanelPilot B software is available for download free of charge from www.lascarelectronics.com/software. Easy to install and use, the configuration software runs under Windows 7, 8 and 10. The software is used to setup the appearance and operation of the App and then upload these settings to the display.

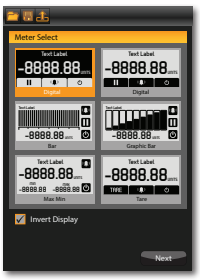
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The software allows the following parameters to be configured:

- Meter type
- Text labels (including unit labels)
- Input scaling / calibration (at two points)
- Decimal points (entered during scaling)
- Splashscreen image selection (to display a user image, such as a logo, when the meter is powered up)
- Digital pin

Create your application in 4 easy steps



1. Application Selection

Choose from 6 popular configurations including analogue and bar graph styles. Select colour style, either black on white or inverted.



2. Appearance & Splash Screen

Add custom text labels. Choose an image of your choice, such as a logo, that can be set-up to appear on power-up.



3. Scaling & Alarms

Select custom scaling options, alarm settings and digital pin configuration.

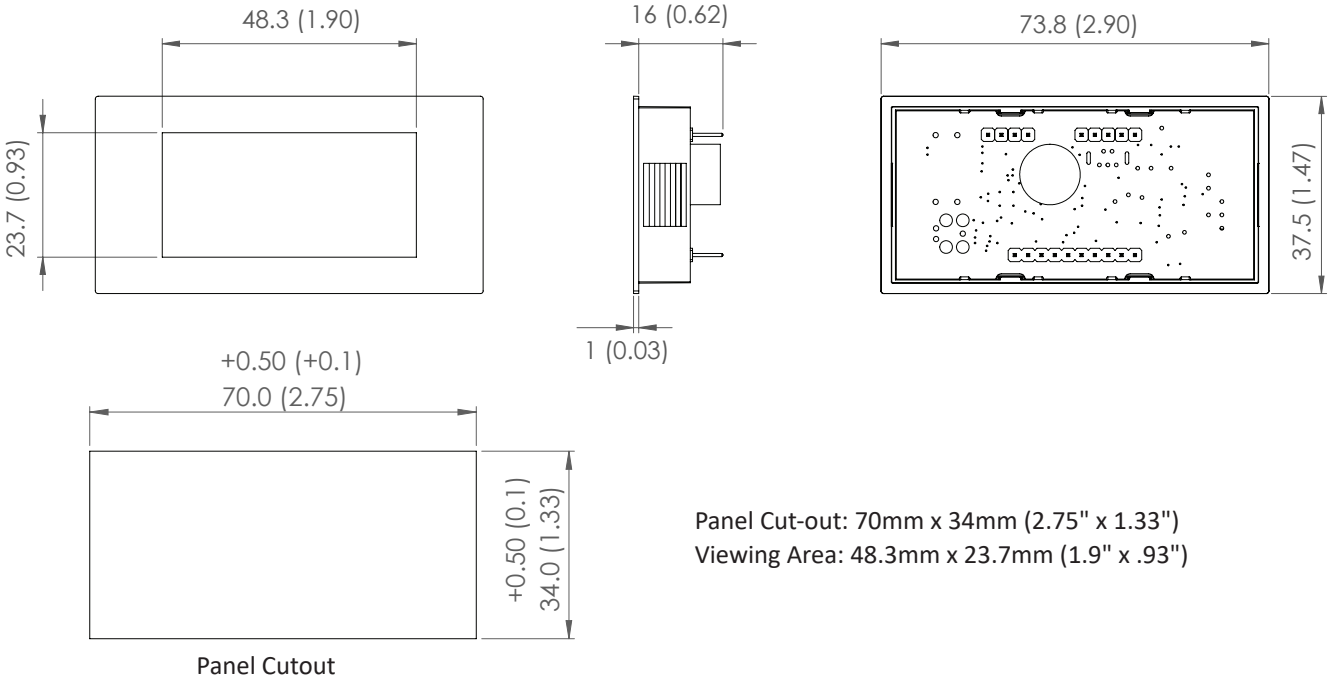


4. Set-up is complete

Connect your display to the PC and upload your configuration.

Dimensions

All dimensions in mm (inches)

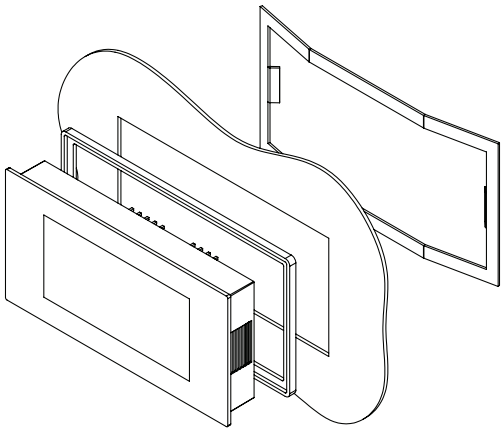


Panel Cutout

Panel Cut-out: 70mm x 34mm (2.75" x 1.33")
Viewing Area: 48.3mm x 23.7mm (1.9" x .93")

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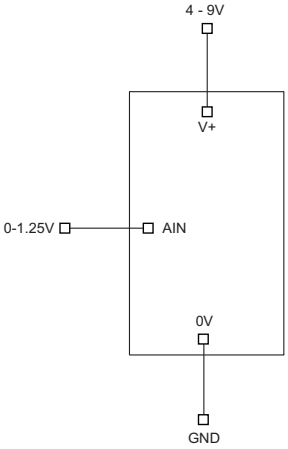
Panel Mounting

The SGD 21-B can be fitted into panels of up to 3mm deep. A silicone seal is included to improve fitting on thin panels, however the maximum panel thickness is reduced to 2mm when fitted. Panel cut-out is 70 x 34mm.

Note: The display is NOT protected against moisture from the rear of the panel.

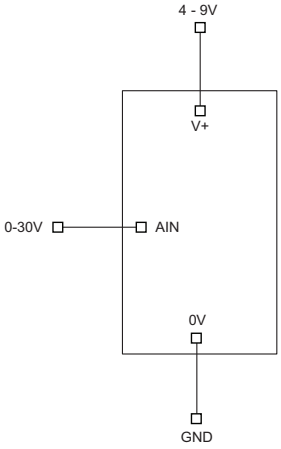
Various Operating Modes

No Scaling



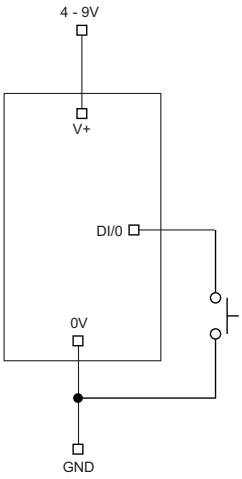
Ra = Not Fitted
Rb = Not Fitted
LK1 = Closed (uncut)

Scaling



Ra = 1M
Rb = 43K
LK1 = Cut (open circuit)

Digital In



Alarm

