

# SGD 28-M

## Panel Pilot Compatible Multifunction Graphics Meter

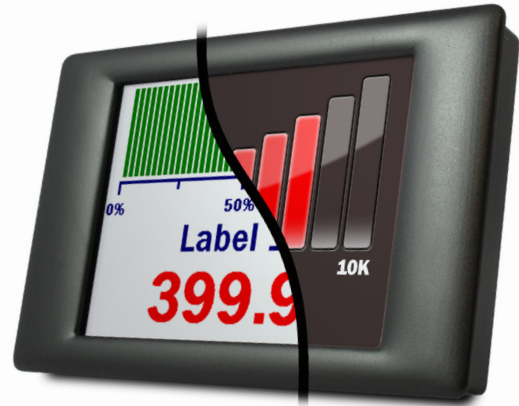
### ORDERING INFORMATION

Standard Panel Meter    SGD 28-M  
(Panel Meter, Software  
on CD, USB Cable)

### FEATURES

- 2.8" colour TFT screen
- Supplied with free Panel Pilot software, to setup and customise the display. Compatible with Windows XP, 2000, Vista and Windows 7 (32-bit)
- 6 types of meter included free
- Option to download other types of meter from the Lascar website
- Programmable with the USB interface
- Simple panel mounting solution
- Wide operating voltage of 4V – 30V d.c.
- Measures voltage from 0 – 40V d.c.

The SGD 28-M is a multifunction graphics meter with a 320 x 240 pixel colour display and USB programming interface. Using the supplied Windows compatible software package, it is possible to setup the meter, including the type of meter (i.e. 3¾ digit voltmeter, bar graph or analogue style meter), colours and input voltage scaling.



When setup is complete, the settings can be saved and the meter programmed using the supplied USB cable. Panel or enclosure installation of the finished meter is simple, using 4 screw terminals and a panel fixing clip.

### SPECIFICATIONS

	Minimum	Typical	Maximum	Unit
Linearity			±1	Count
Sample rate		3		Samples / second
Operating temperature range	0 (+32)		+40 (+104)	°C (°F)
Supply voltage	4		30	V d.c.
Measurement voltage (single ended only)*	0		40	V d.c.
Supply current @ 5V			110	mA

\* The SGD 28-M uses a programmable gain amplifier. The maximum signal voltage is defined in the software at the time of setup up to an absolute maximum of 40V d.c. Exceeding the maximum voltage specified in the software may result in permanent damage to the meter.

### SCREW TERMINAL FUNCTIONS

- V+      Positive power supply input (4V – 30V d.c.)
- 0V      0V power supply input
- IN1     Analogue voltage input 1 (maximum of 40V d.c.)
- IN2     Analogue voltage input 2 (maximum of 40V d.c.)

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### HARDWARE

#### Voltage Input

The SGD 28-M features 2 voltage inputs. Both inputs are fitted with a Programmable Gain Amplifier (PGA), which automatically selects the best input voltage range to give the highest resolution. The voltage range is extrapolated from the values entered in the Panel Pilot software. The maximum voltage input is 40V d.c.

#### Display

The display is a 2.4" TFT panel, with a resolution of 320 x 240 pixels and a 16-bit colour depth. Any graphics that are uploaded to the meter are automatically converted to this specification.

#### Panel Mounting

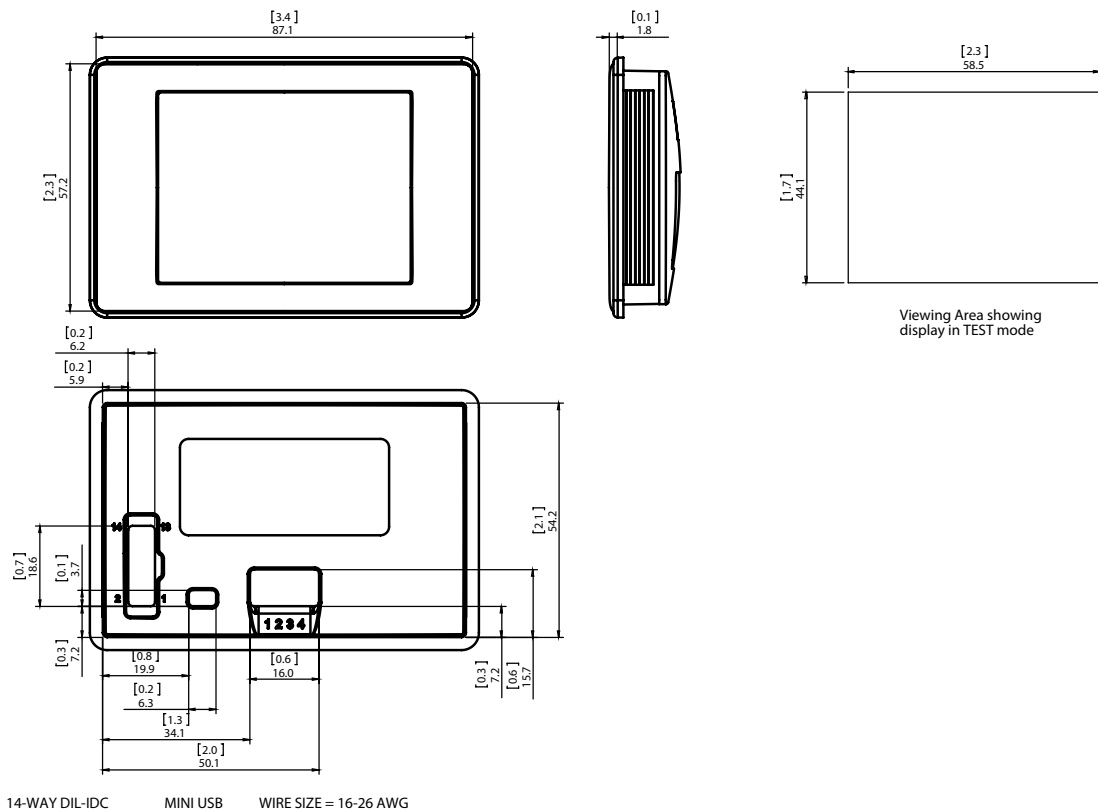
The meter can be fitted into panels of up to 3mm deep. A silicone seal is included, to improve fitting on thin panels, however the maximum panel thickness is reduced to 2mm when fitted. The meter is NOT protected against moisture or dust however.

#### Advanced Connector

A 16-way pin header is fitted to the rear of the meter for expansion and advanced interface options. These include alarm outputs, I2C and SPI inputs, that will be implemented in future applications.

### MOUNTING METHOD

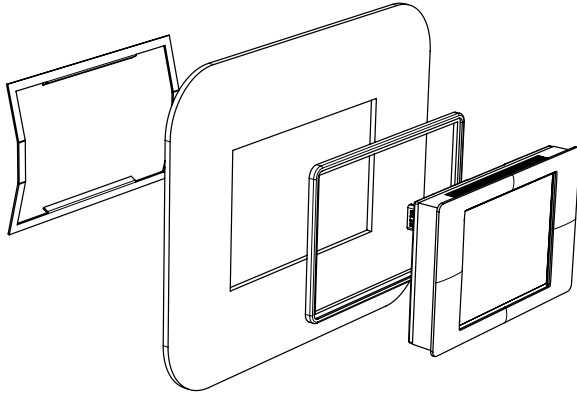
DIMENSIONS All dimensions in mm [inches]



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### MOUNTING METHOD



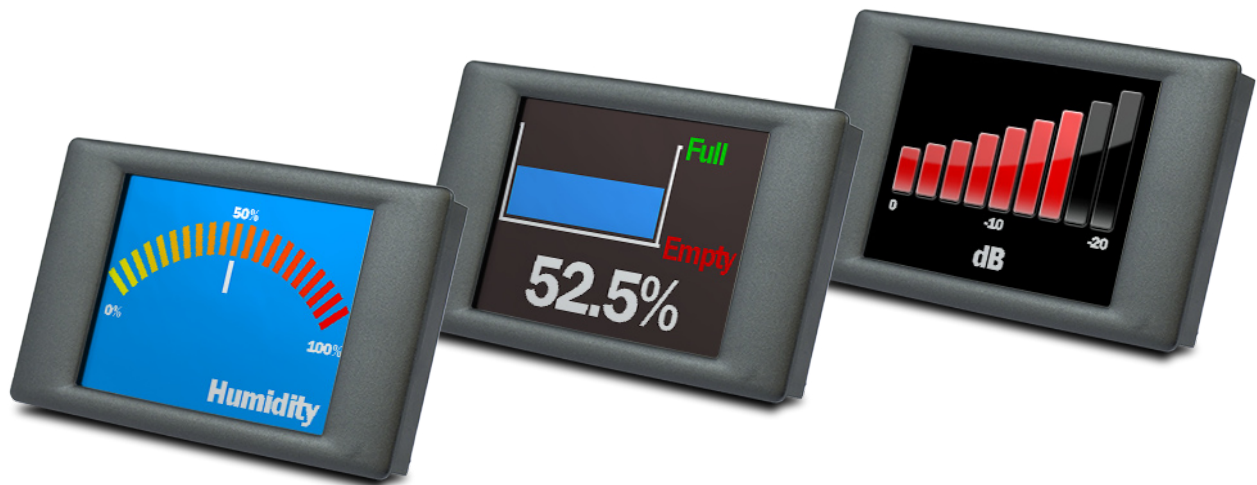
### PANEL PILOT SOFTWARE

Lascar's Panel Pilot software is supplied free of charge with each display. Easy to install and use, the control software runs under Windows 2000, XP (Home and Professional Editions), Vista (32-bit) and Windows 7. The software is used to setup the appearance and operation of the meter and then upload these settings to the meter.

6 types of meter are supplied with the software. Additional meters will be made available via the Lascar Electronics website, in the future.

The software allows the following parameters to be configured:

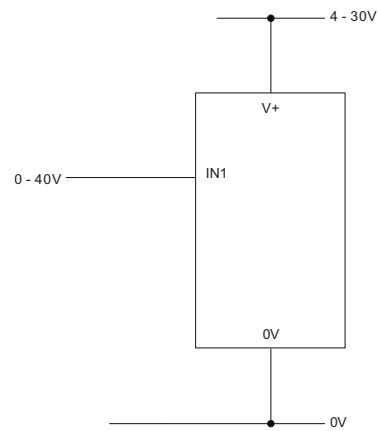
- Meter type
- Text labels (including units and graph labels)
- Background, graph segment and text colours
- Input scaling / calibration (at two points)
- Splashscreen image selection (to display a user image, such as a logo, when the meter is powered up)



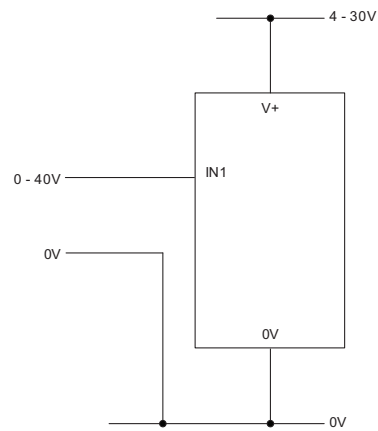
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### VARIOUS OPERATING MODES



Measuring a voltage source with a common signal and supply ground



Measuring a floating voltage source