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PDTS : Dual Axis Panel Mount Display And Tilt Switch

Features

- 4 Digit LED Display. High contrast with wide viewing angle, and adjustable brightness
- Dual axis simultaneous display
- Programmable alarm function with 2 individually programmable relay outputs
- Compatible with many of our inclinometer sensors
- Display resolution adjustable with 0, 1, 2 or 3 decimal places)
- USB interface with free Windows based application for monitoring angle and configuration
- Sturdy low profile aluminium Housing
- Designed for panel mounting. IP65 sealed from front side when mounted with gasket and clamps supplied.
- Operating temperature -40 to +85°C
- RoHS compliant

Description

The PDTS display is a high quality low cost display unit for displaying angle in both X and Y axis (pitch and roll) to the operator. It can interface with many of our inclinometer sensors depending on the requirements for the application.

The high contrast LED display is viewable in low light and direct sunlight, and the LED brightness is adjustable. It is designed to be panel mounted and is supplied with a sealing gasket and hardware for mounting on plates between 1mm and 10mm thick.

As well as displaying angle it also has a built in tilt switch functionality. The two on board relays can be configured to operate when a certain angle is exceeded in the X or Y axis (or both), in either the positive or negative direction (or both). It is highly configurable with adjustable threshold, hysteresis and delay.

There is a USB interface to allow the angle to be monitored or logged on a PC. The devices can be factory configured for OEM applications, or user configured using the simple Windows based configuration application supplied free of charge with this product. When connected the USB interface will supply power to the display and sensor.

DC Power is supplied to the display, which in turn will provide power to the sensor, simplifying the wiring requirements. Connection is via spring release terminal block for simple and secure wiring.

Specifications

General	
Voltage Supply	12-30Vdc
Power Draw	4W (max)
Size	72 x 72 x 23 mm
Weight	350 g
Connections	Quick release 0.1" pitch terminal blocks.
Sensor Interface	
Type	RS232 Full Duplex
Speed	38400bps (adjustable)
Parity	None
Stop Bits	1
Protocol	Level Developments Simplified Protocol
Supply to Sensor	14Vdc 50mA (max)
Relay Outputs (Tilt Switch Function)	
Number of Relays	2
Output type	Double Pole Single Throw
Switching Voltage	220Vdc (max) 250Vac (max)
Switching Current	2A Max
Switching Power	60W (max)
USB Interface	
Connector Type	Micro USB

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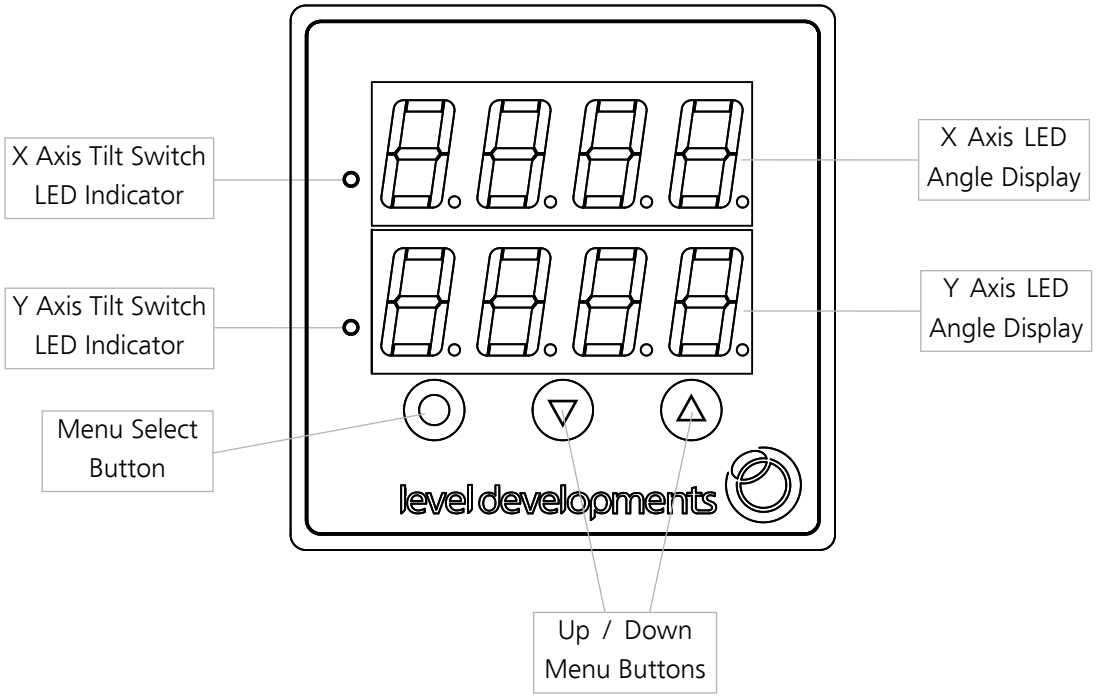
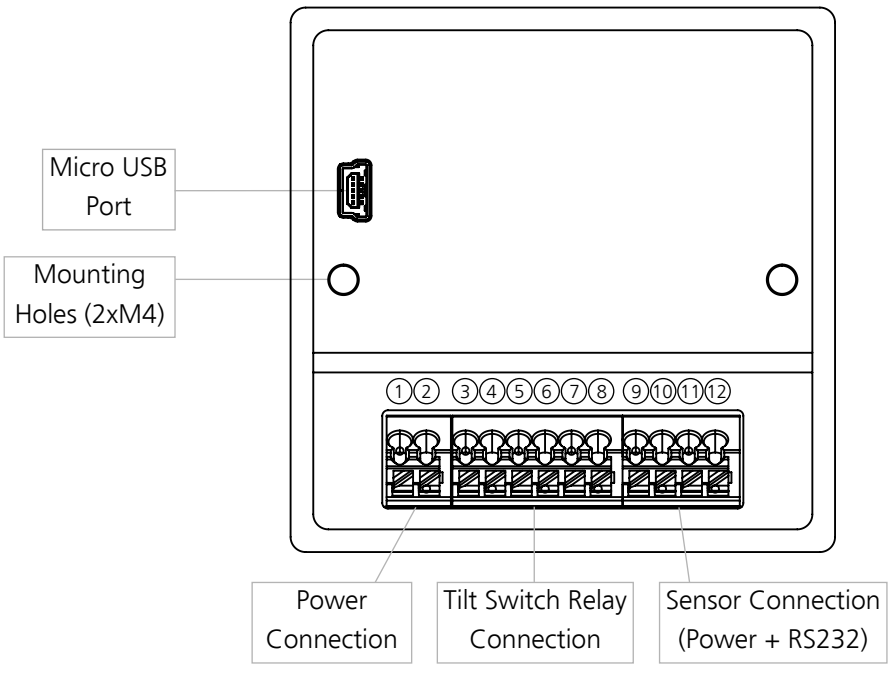
Product Features

Front View

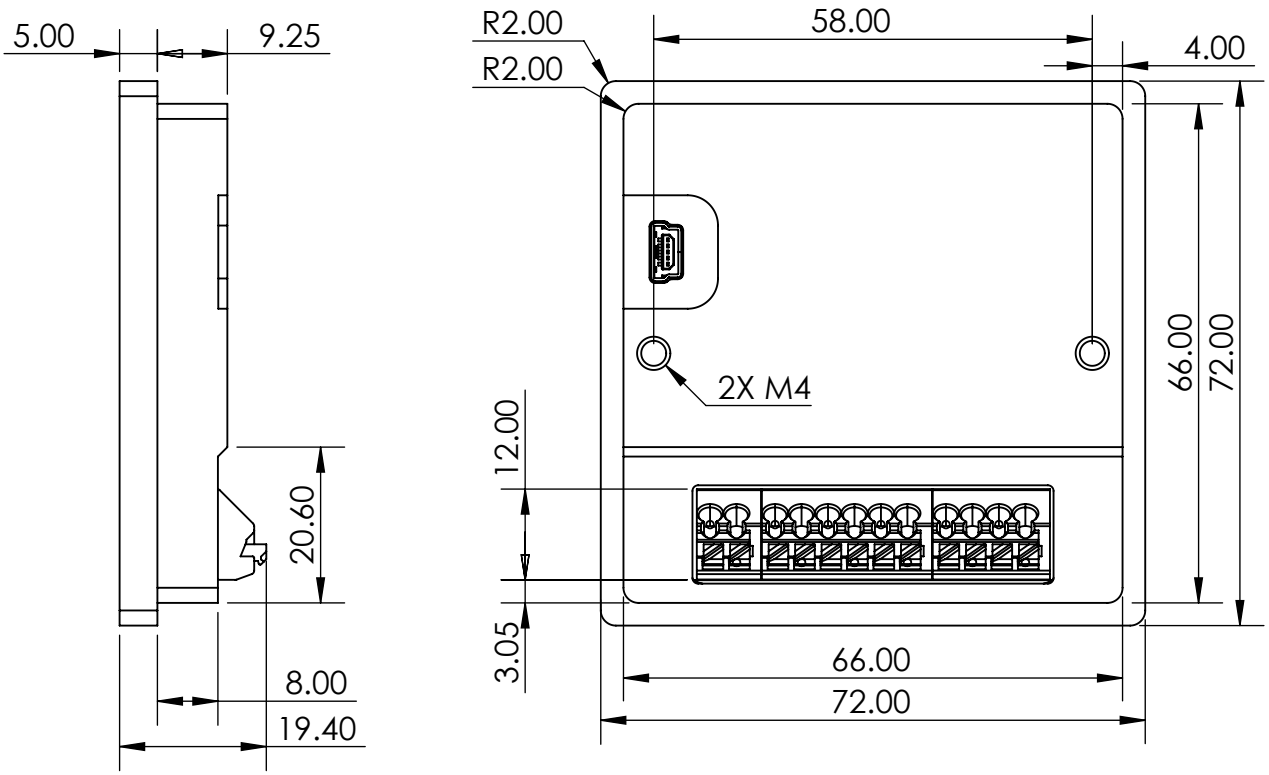


Rear View



Pin	Function
1	Supply GND
2	Supply +ve
3	X Axis Relay COM
4	X Axis Relay NO
5	X Axis Relay NC
6	Y Axis Relay COM
7	Y Axis Relay NO
8	Y Axis Relay NC
9	Sensor RS232 Rx
10	Sensor RS232 Tx
11	Sensor Supply +ve
12	Sensor GND

Dimensions


5.00
9.25
20.60
8.00
19.40
R2.00
R2.00
58.00
4.00
66.00
72.00
2X M4
12.00
3.05
66.00
72.00
46.70
9.60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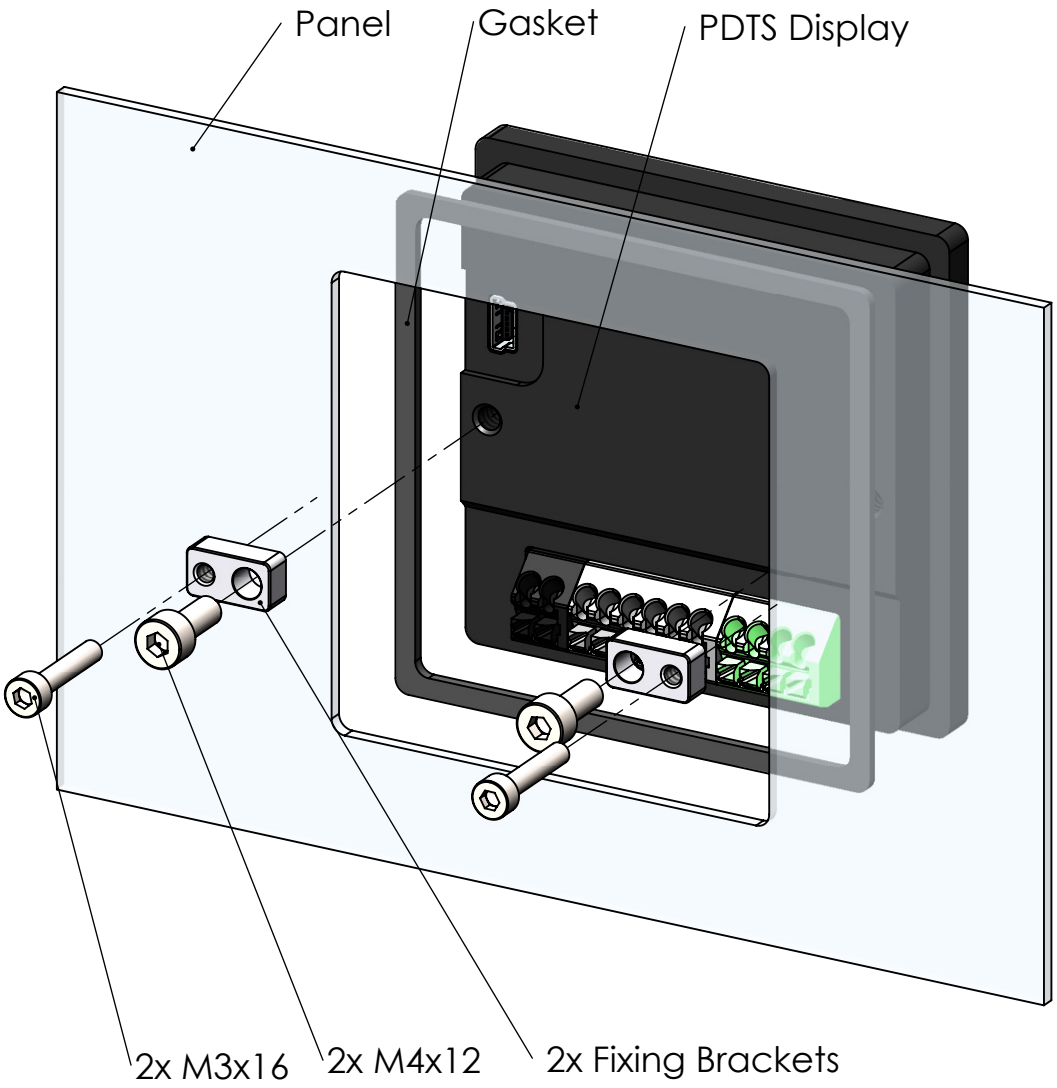
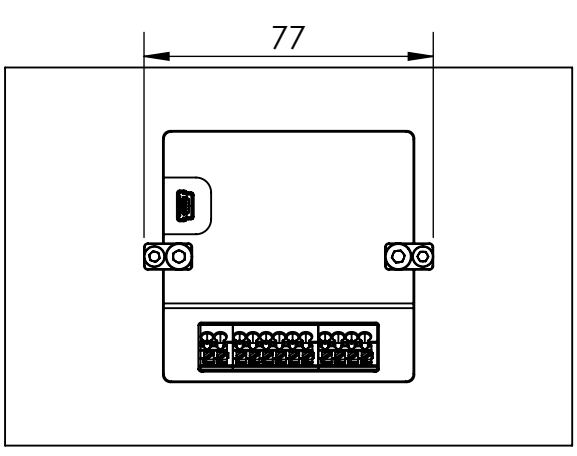
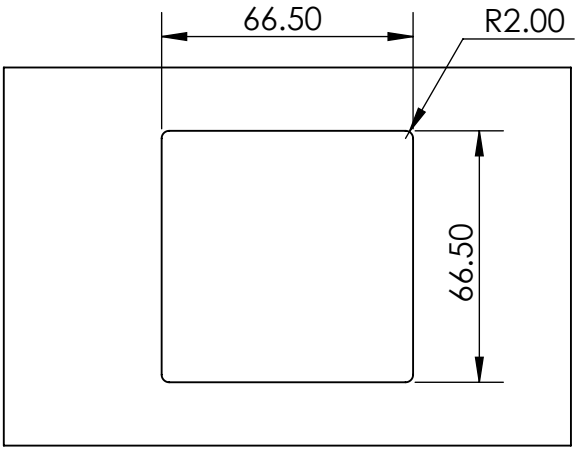
Panel Mounting



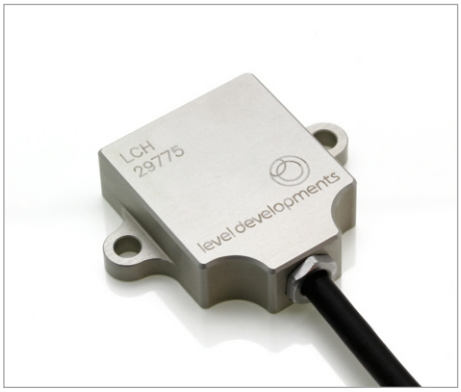




Cutout dimensions

Compatible Sensors

The display is compatible with all of our inclinometers that use the standard Level Developments communication protocol over RS232. These sensors include the models listed below:



LCH-45 Series

- Dual Axis, ±45°
- RS232 interface
- Low cost (<£25 for 1kpcs)
- Small size, 46 x 43.5 x 13.5mm
- Aluminium housing Sealed to IP65
- Braided screen 4 core PUR cable
- CE certified and RoHS compliant.

SOLAR-2 Series

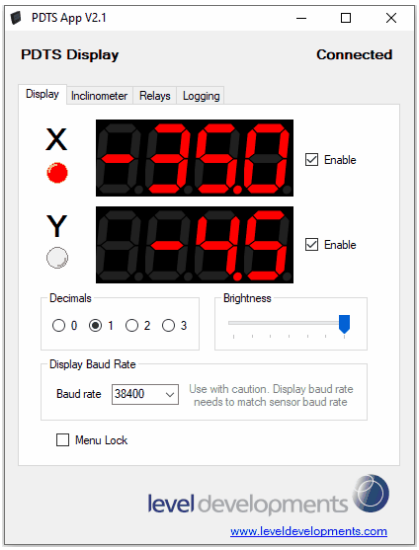
- Dual axis measurement range from ±5 to ±45°
- High resolution and accuracy
- Low temperature drift
- RS232 interface
- Tough sealed anodised aluminium housing (IP67)
- CE certified and RoHS compliant.
- Braided screen 4 core 3m PUR cable
- Small size, 75 x 37.5 x 12.5mm and light weight

VS Series

- Dual axis measurement range from ±5 to ±45°
- High resolution and accuracy
- Low temperature drift
- RS232 output interface
- Robust corrosion resistant anodised Aluminium housing sealed to IP67
- IP67 Sealed locking M9 connector
- Outputs isolated from supply (1500Vdc isolation)
- CE certified and RoHS compliant.

Configuration Application

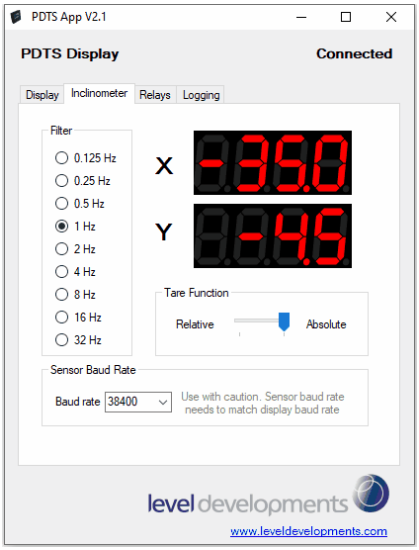
The device is supplied with a Windows based configuration application that can used to setup the device and display the angle. The display connects with a USB interface. It uses a the standard HID USB protocol so there is no need for any additional drivers as it utilises the standard Windows plug and play HID drivers. If another power supply is not connected the device and the attached sensor will be powered from the USB port

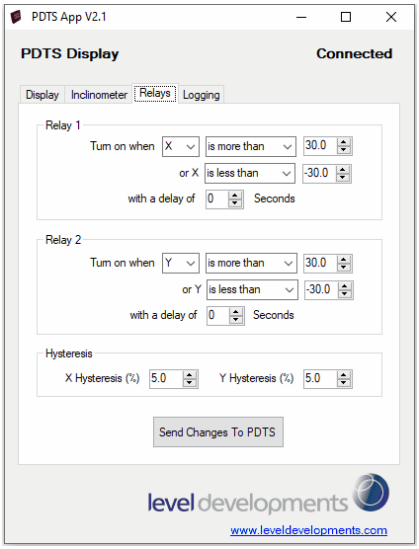


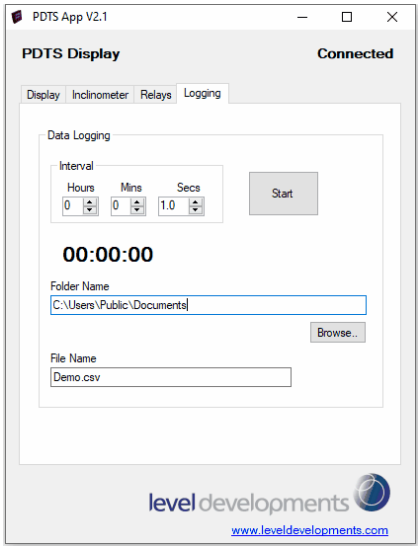
Using this application it is possible to configure:

- LED Brightness
- Number of decimals shown on display
- Lock (disable) the front panel buttons
- Adjust the sensor Frequency Response
- Adjust the sensor baud rate
- Set (and cancel) relative zero position
- Adjust X and Y axis tilt switch threshold
- Adjust X and Y axis tilt switch hysteresis
- Adjust X and Y axis relay switch modes
- Adjust X and Y axis tilt switch delay (before operation)

The configuration changes are stored permanently in the display or in the sensor as the changes are made, and will be remembered after a power cycle.







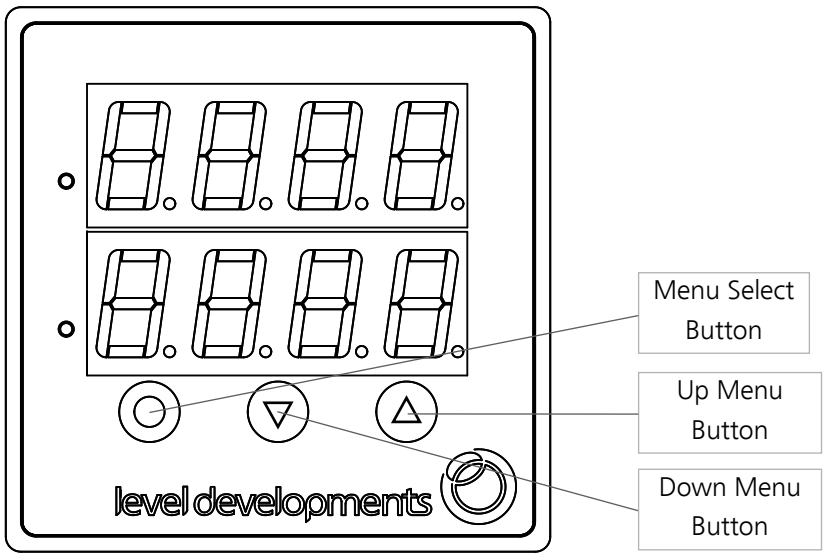
The application is available to download free of charge from the our web site. To download, visit the PDTS product page and follow the link in the software section:

Software

PC Software for configuration, viewing and logging Data (ZIP 732 kB)

Front Panel Menu Operation

The device has three buttons on the front panel:



Using this front panel buttons it is possible to set and cancel the relative zero (tare). For more detailed control and configuration of the device it is necessary to use the free Windows application and the USB interface.

Set and Cancel Relative Zero (Tare)

- To enter the menu, press and hold the menu button for 4 seconds
- Use the up and down arrow keys to switch the tare on or off
- Press the menu key again for 4 seconds to exit the menu and return to normal display mode
- The tare is stored in the sensor, and will be remembered by the sensor after power down.

The front panel menu buttons can be disabled using the Windows USB configuration application.