

# Super LCD Module Hardware Specification

The Super LCD Module is a RS232 based LCD, Analog Input, Analog Graphing, Digital I/O, and Digital Temperature Sensor module. This versatile and easy to use component is sure to find a home in any control or metering application.

## Key Features:

- Standard RS232 interface.
- Selectable Baud Rates 57600 or 9600 \*(custom baud rates available).
- 24X2 Character LCD\* (20X2 and 16X2 also available).
- Same height and width as standard 24x2 character display\* (for 24X2 module).
- Eight 10bit A/D converters\* (0-5v with other voltages available through configurable resistor network).
- Eight Digital I/O\* (each output can drive up to 25mA, ideal for relays or LEDs).
- Schmitt Trigger inputs on Digital I/O.
- 6 different graphing modes.
- Can graph up to four analog channels simultaneously.
- Each graph has a selectable suffix\* (Volts, Percent, Channel, or None).
- Graphs have selectable peak indicator with settable delay.
- Temperature sensor with 0.5 degree Celsius resolution.
- Ability to display temperature in degrees Celsius or Fahrenheit.
- Can be easily evaluated with Windows test program\* (provided).
- Default mode can be set to any of the text or graphing modes (factory default is Text Mode).

The Super LCD module is an easy to use module that can be controlled with a standard asynchronous RS232 based connection. The unit may be used without the presence of RS232 connection once the default mode is set. For example, if the sole purpose of the module was to display the voltages from four analog channels, the default mode could be set to graph mode 4 and then every time the unit powered up it would display the voltages of the four analog channels.

The connections of the module are as follows:

## JP4: Power/Temp connector

Pin 1→	5V
Pin 2→	GND
Pin 3→	TTL RX (only for custom applications)
Pin 4→	TTL TX (only for custom applications)
Pin 5→	Temp Sensor Data (external sensor may be used when removing the onboard sensor, contact us for details)
Pin 6→	GND

## JP7: Analog Input connector

Pin 1→	Analog Input 0
Pin 2→	Analog Input 1
Pin 3→	Analog Input 2
Pin 4→	Analog Input 3
Pin 5→	Analog Input 4
Pin 7→	Analog Input 5
Pin 6→	Analog Input 6
Pin 8→	Analog Input 7
Pin 9→	GND
Pin 10→	GND

## JP8: Digital I/O connector

Pin 1→	Digital I/O 0
Pin 2→	Digital I/O 1
Pin 3→	Digital I/O 2
Pin 4→	Digital I/O 3
Pin 5→	Digital I/O 4
Pin 6→	Digital I/O 5
Pin 7→	Digital I/O 6
Pin 8→	Digital I/O 7
Pin 9→	GND
Pin 10→	GND

## P2: RS232 connector

Pin 1→	N.C.
Pin 2→	N.C.
Pin 3→	TX
Pin 4→	N.C.
Pin 5→	RX
Pin 6→	N.C.
Pin 7→	N.C.
Pin 8→	N.C.
Pin 9→	GND

## SW1: Dipswitch settings (Configures module on power up)

Position1	Position2	Display Size
OFF	OFF	24x2
OFF	ON	20x2
ON	OFF	16x2
ON	ON	Reserved

Position 3 → ON = 9600, OFF = 57600

<b>Unit Technical Specifications</b>	
Operating Voltage (VDD)	5VDC
Internal Operating Voltage	5VDC
Operating Temperature	0 Degree Celsius to 50 Degrees Celsius
Start up time	<1S
Temperature Sensor Operating Temperature	-55 Degrees Celsius to 100 Degrees Celsius
Temperature Sensor Resolution	9bit or ½ degree Celsius @ 0 to 70 degrees Celsius
A to D sample interval	80mS
A to D software filter	Average of last 5 readings
A to D resolution	10bit or (+/- 5mV)
Minimum packet period (time between data packets)	100mS*
Physical Dimensions	1.420”H X 4.650”W X 0.997”D (backlight model, other models may vary)

\* unless storing a default mode, in which case a one second delay must be implemented before sending another packet.

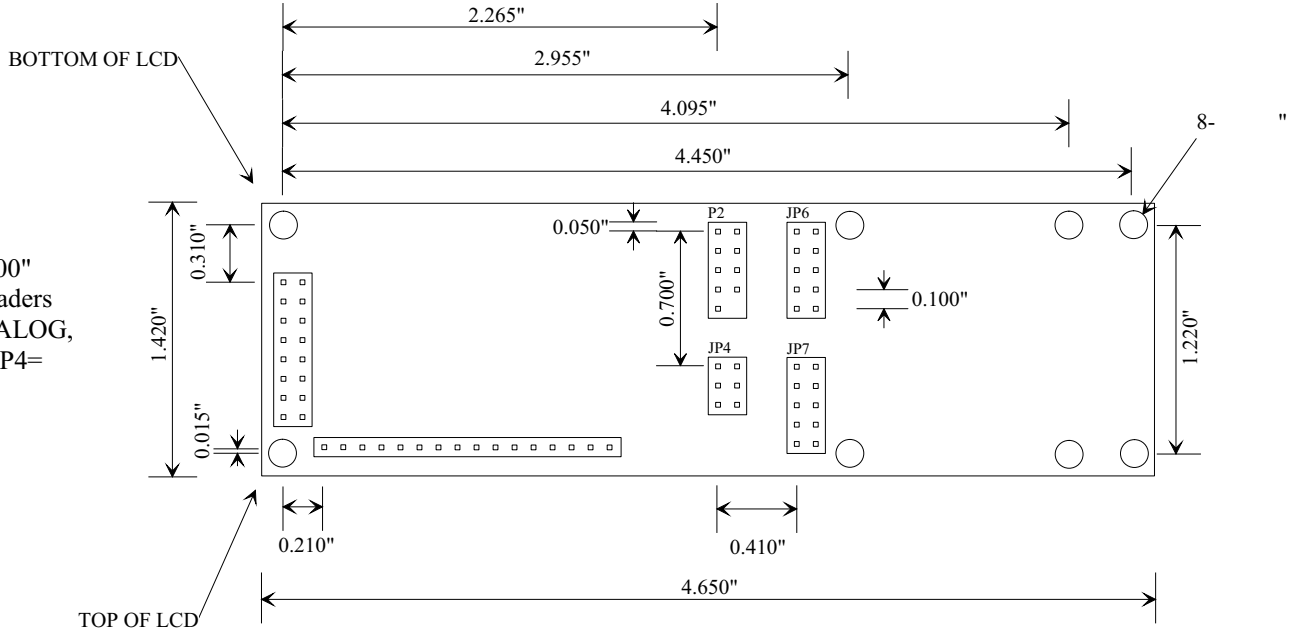
<b>Absolute Maximum Ratings</b>	
Voltage on any digital I/O pin with respect to VDD	-0.3 V to (VDD +0.3 V)
Maximum output current sunk by any digital I/O pin.	25mA
Maximum output current sourced by any digital I/O pin.	25mA
Maximum current sunk by all digital I/O pins	200mA
Maximum current sourced by all digital I/O pins	200mA
Voltage on any analog input with respect to VDD	-0.3 V to VDD
Analog input current	5mA

# MECHANICAL SPECIFICATIONS

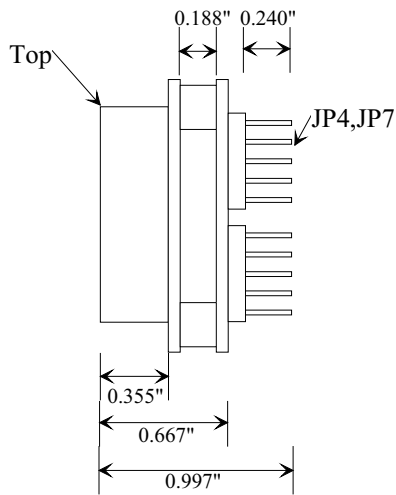
Please note: Mounting hole locations and size are defined by the module type. This drawing defines the holes based on the 24 character by 2 line LCD, Polytronix PC-240202 .

## Back Side View Of Super LCD Module

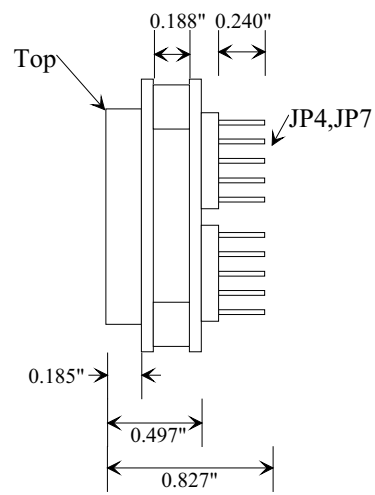
All connectors are .100"  
 Spaced, Sqr. Post Headers  
 P2=RS232, JP8=ANALOG,  
 JP7=DIGITAL I/O, JP4=  
 POWER/MISC



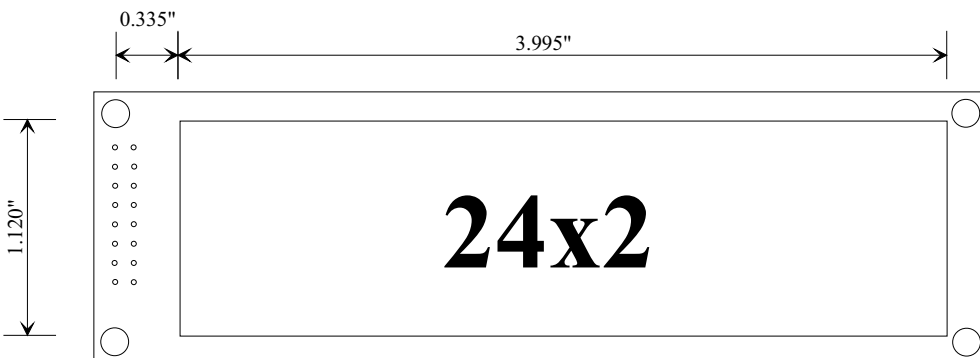
## LED Backlight



## No Backlight



## Front Side View Of Super LCD Module



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**Mechanical DWG**  
24X2 version of the  
Super LCD

REV

**A**

TPG