

P-tec Corp. 2405 Commerce Circle Alamosa Co. 81101 www.p-tec.net	Tel:(800)688-0613 Tel:(719) 589 3122 Fax:(719) 589 3592 sales@p-tec.net	
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PC1202A-O (12x2) Character LCD Display

Features *12 Character, 2 Line *View Angle 12H or 6H *STN Gray, Yellow or Blue Fluid *Extended Temperature Range Available *RoHS Compliant	Absolute Maximum Ratings at T _A = 25°C				
	Item	Symbol	Min	Max	Unit
	Power Supply (Logic)	Vdd	-0.3	7.0	V
	Power Supply (LCD)	Vo	Vdd -15.0	Vdd +0.3	V
	Input Voltage	Vi	- 0.3	Vdd	V
	Operating Temperature (Standard)	Topr	0	50	°C
	Storage Temperature (Standard)	Tstg	- 20	70	°C
	Extended Operating Temperature	Topr	- 20	70	°C
	Extended Storage Temperature	Tstg	- 30	80	°C

Electrical Characteristics at T_A = 25°C, Vdd=5V±0.25V

Item	Symbol	Min	Typ	Max	Unit
Power Supply (Logic)	Vdd	4.5	5.0	5.5	V
Supply Current	Idd	2.0	—	—	mA
LCD Driving Voltage	Vdd -Vo	—	—	13.0	V
Input Voltage “H”	Vih	2.2	—	Vdd	V
Input Voltage “L”	Vil	—	—	0.6	V
Output Voltage “H”	Voh	2.4	—	—	V
Output Voltage “L”	Vol	—	—	0.4	V

Interface Pin Connection

No	Symbol	Function	No	Symbol	Function
1	Vss	Power Supply (GND)	9	DB2	Data Bus Line 2
2	Vdd	Power Supply (+5V)	10	DB3	Data Bus Line 3
3	Vo	Contrast Adjust	11	DB4	Data Bus Line 4
4	RS	Instruction/Register Select	12	DB5	Data Bus Line 5
5	R/W	Read/Write	13	DB6	Data Bus Line 6
6	E	Enable Signal	14	DB7	Data Bus Line 7
7	DB0	Data Bus Line 0	15	A	Power Supply for LED Backlight (+)
8	DB1	Data Bus Line 1	16	K	Power Supply for LED Backlight (-)

LED Backlight Specifications

Forward Voltage	Forward Current	Power Dissipation	Peak Wavelength
4.2V (Typ)	70mA (Typ)	294mW (Typ)	570nm (Typ)

Mechanical Specifications

Item	Overall Size	Viewing Area	Character Size	Character Pitch	Dot Size
Specifications	55.7W x 32.0H x 9.2T (BL13.5T)	45.0W x 15.5H	2.65W x 5.5H	3.2W x 6.2H	0.45W x 0.6H

All dimensions are in mm. Tolerance is ± 0.3 Unless otherwise specified

Technical drawing of a rectangular plate with dimensions and features. The drawing includes a top view and two side views.

Top View Dimensions:

- Overall width: 55.7 ± 0.5
- Overall height: 2.35
- Inner width: 51.0 ± 0.3
- Inner height: 45.0 (V.A.)
- Distance from inner width to outer width: 37.85 (A.A.)
- Distance from inner height to outer height: 3.65
- Distance from inner height to outer height: 1.00
- Distance from inner height to outer height: 11.7
- Distance from inner height to outer height: 15.5
- Distance from inner height to outer height: 24.7
- Distance from inner height to outer height: 30.0
- Distance from inner height to outer height: 32.0
- Distance from inner width to outer width: 1.50
- Distance from inner width to outer width: 18.96
- Distance from inner width to outer width: 31.20
- Distance from inner width to outer width: $16 - \varnothing 0.4$
- Distance from inner width to outer width: $P1.25 \times 15 = 19.25$
- Distance from inner width to outer width: $4 \times R1.25$

Side View Dimensions:

- Overall width: 10.0
- Overall height: 4.5 ± 0.5
- Distance from inner width to outer width: 1.60 ± 0.1

Front View Dimensions:

- Overall width: 14.0
- Overall height: 8.8 ± 0.5
- Distance from inner width to outer width: 1.60 ± 0.1

The block diagram illustrates the connections for the LCD module. On the left, a vertical stack of pins is shown: VDD, VO, VSS, E, R/W, RS, DB0, and DB7. The first six pins (VDD through RS) are connected to a central 'Controller' block. The DB0 and DB7 pins are connected to an 8-bit data bus, represented by a diamond shape with the number 8 inside. From the Controller, three data buses emerge: a 16-bit bus to the 'LCD Panel', a 4-bit bus to the 'Driver', and a 20-bit bus from the 'Driver' to the 'LCD Panel'. The LCD Panel and Driver are connected to each other via a 20-bit bus.

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