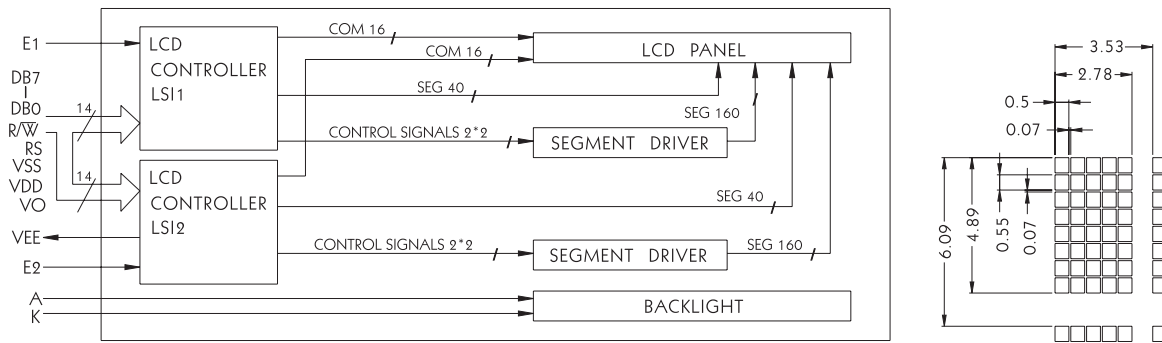
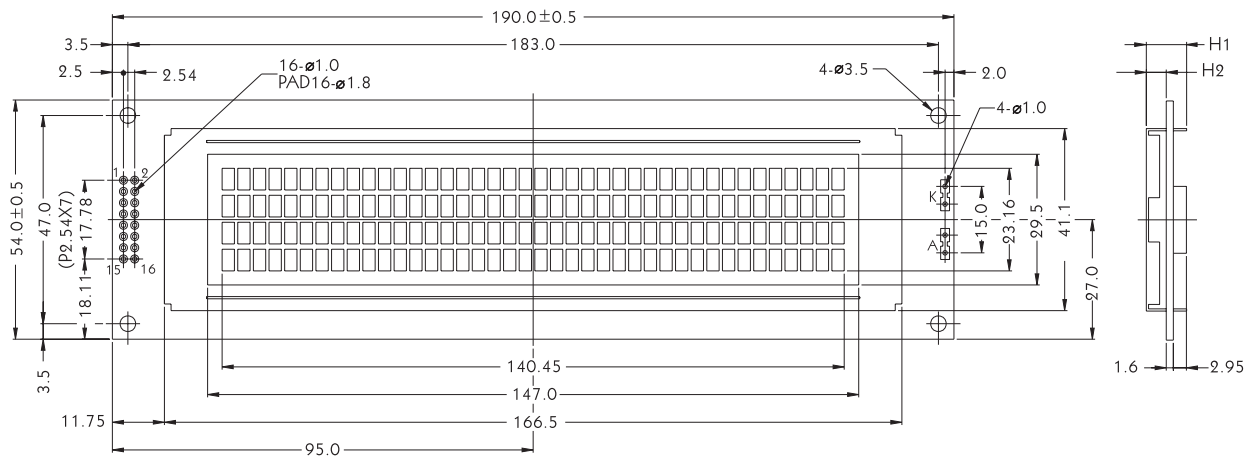




OUTLINE DIMENSION & BLOCK DIAGRAM



The tolerance unless classified $\pm 0.3\text{mm}$

MECHANICAL SPECIFICATION

Overall Size	190.0 * 54.0	Module	H2 / H1
View Area	147.0 * 29.5	W/O B/L	4.5 / 9.1
Dot Size	0.50 * 0.55	EL B/L	4.5 / 9.1
Dot Pitch	0.57 * 0.62	LED B/L	9.0 / 13.6

PIN ASSIGNMENT

Pin no.	Symbol	Function
1	DB7	Data bus line
2	DB6	Data bus line
3	DB5	Data bus line
4	DB4	Data bus line
5	DB3	Data bus line
6	DB2	Data bus line
7	DB1	Data bus line
8	DB0	Data bus line
9	E1	Enable 1
10	R/W	Data read / write
11	RS	Register select signal
12	Vo	Contrast Adjust
13	Vss	Power supply (GND)
14	Vdd	Power supply (+5V)
15	E2	Enable 2
16	Vee	Negative voltage

ABSOLUTE MAXIMUM RATING

Item	Symbol	Conditions	Min.	Max.	Unit
Power Supply Voltage	Vdd-Vss	—	0	7	V
LCD Driving Supply Voltage	Vdd-Vee	—	0	13	V
Input Voltage	Vin	—	-0.3	Vdd+0.3	V
Operating Temperature	Topr	Nor.	0	50	°C
Storage Temperature	Tstg	Nor.	-20	+70	°C

ELECTRICAL CHARACTERISTICS (Vdd = +5V, Ta = 25°C)

Item	Symbol	Conditions	Min.	Typ.	Max.	Unit
Logic Supply Voltage	Vdd	—	4.5	5	5.5	V
"H" Input Voltage	V _{IH}	—	2.2	—	—	V
"L" Input Voltage	V _{IL}	—	—	—	0.6	V
"H" Output Voltage	V _{OH}	—	2.4	—	—	V
"L" Output Voltage	V _{OL}	—	—	—	0.4	V
Supply Current	I _{dd}	—	2	—	—	mA
LCD Driving Voltage	V _{LCD}	Vdd-V _o	—	—	—	V

REMARK

LCD option: STN, TN, FSTN

Backlight Option: LED, EL Backlight feature, other Specs not available on catalog is under request.