

Sunlight Readable Open Frame Kit with LED Backlight



12.1" High Brightness 1600 nit LCD kit w/LED Backlight (Model: LOPH1210-Kit-LED)

The LOPH1210-Kit-LED is a 12.1" sunlight readable LCD module. The module consists of a ChiMei G121X1-L01 TFT color LCD panel and a VHB (very high brightness) LED backlight. At the full brightness setting, the LCD screen luminance can reach 1,600 Cd/m² (nits).

At this level, the total backlight power consumption is only 13Watts, which is about half the power required of a CCFL backlight at the same screen brightness. With 1,600 nits screen brightness, the display is highly readable under bright ambient lighting, including direct outdoor sunlight. Also, the ChiMei G121X1-L01 is an industrial LCD with an extremely wide operating temperature range, from -30 to +70oC, making this LCD module specifically suitable for demanding outdoor applications.

Specifications:

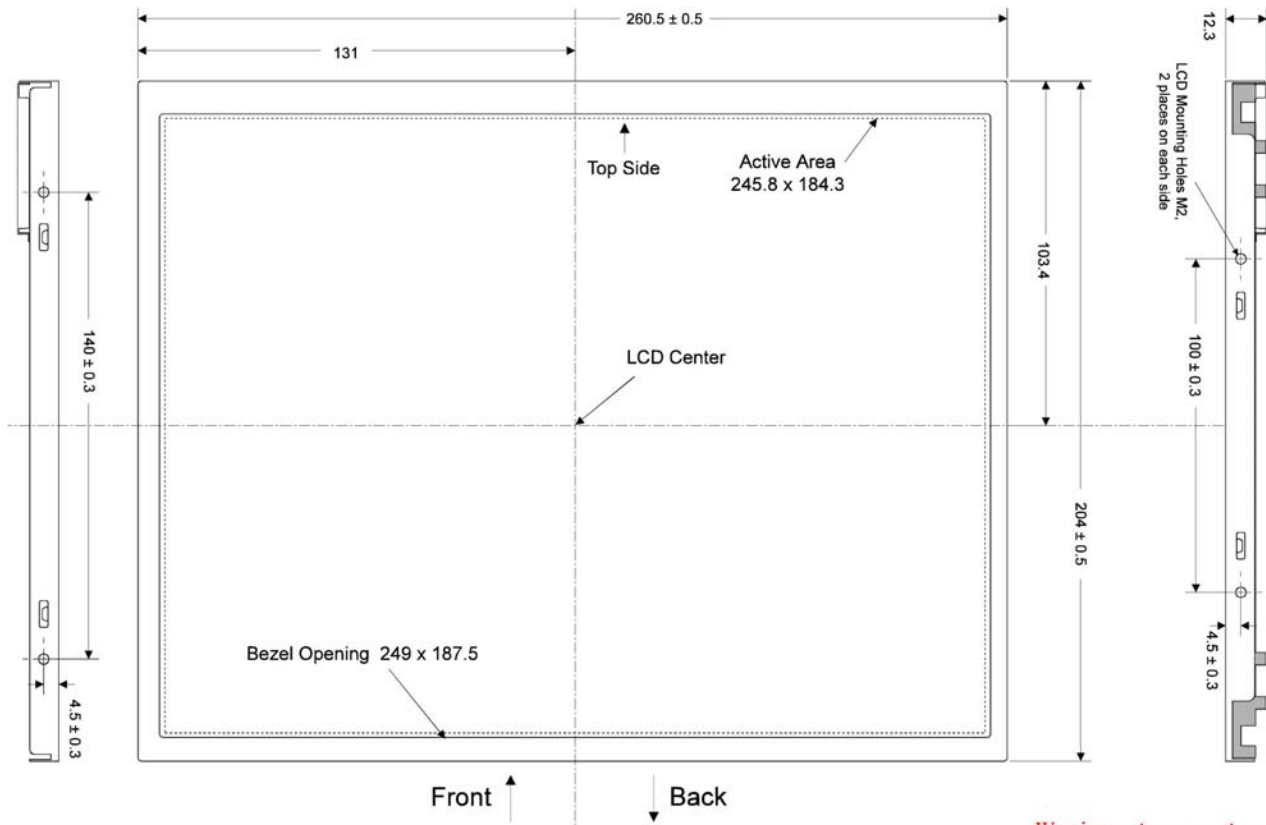
Parameters	Typical Value	Units	Conditions
LCD Screen Luminance	1600	Cd/m ²	LCD in ON state (normally Black)
Luminance Uniformity	20% or better		Note 3
Backlight Power Consumption	13	Watts	Total power to the LED driver board
Screen Luminance Dimming Ratio	500:1		With LD200 LED driver board
Typical LCD Contrast Ratio	750:1		White vs. Black (measured in the dark along the normal direction)
Typical Viewing Angles			
3:00 directions	80	Degrees	Contrast ratio ≥ 10
9:00 direction	80	Degrees	Contrast ratio ≥ 10
6:00 direction	80	Degrees	Contrast ratio ≥ 10
12:00 direction	80	Degrees	Contrast ratio ≥ 10
LCD Screen Chromaticity (x, y)			
White	(0.298, 0.328)		Measured at the normal direction
Red	(0.557, 0.371)		Measured at the normal direction
Green	(0.331, 0.543)		Measured at the normal direction
Blue	(0.145, 0.111)		Measured at the normal direction
Response Speed			
Rise time	6	msec	White to Black, 10% - 90% transition
Fall time	17	msec	Black to White, 10% - 90% transition
LCD Module Weight	850	Grams	

Note 1: Please refer to ChiMei G121X1-L01 LCD Specification for detailed electrical specifications and general precautions.

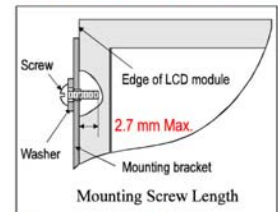
Note 2: All data is measured at 25o C ± 2oC ambient temperature.

Note 3: Uniformity = (Lmax - Lmin) / (Lmax + Lmin) where Lmax (Lmin) is the maximum (minimum) luminance measured using a 10mm diameter meter aperture over the LCD active area, except the last 10mm area from the edges.

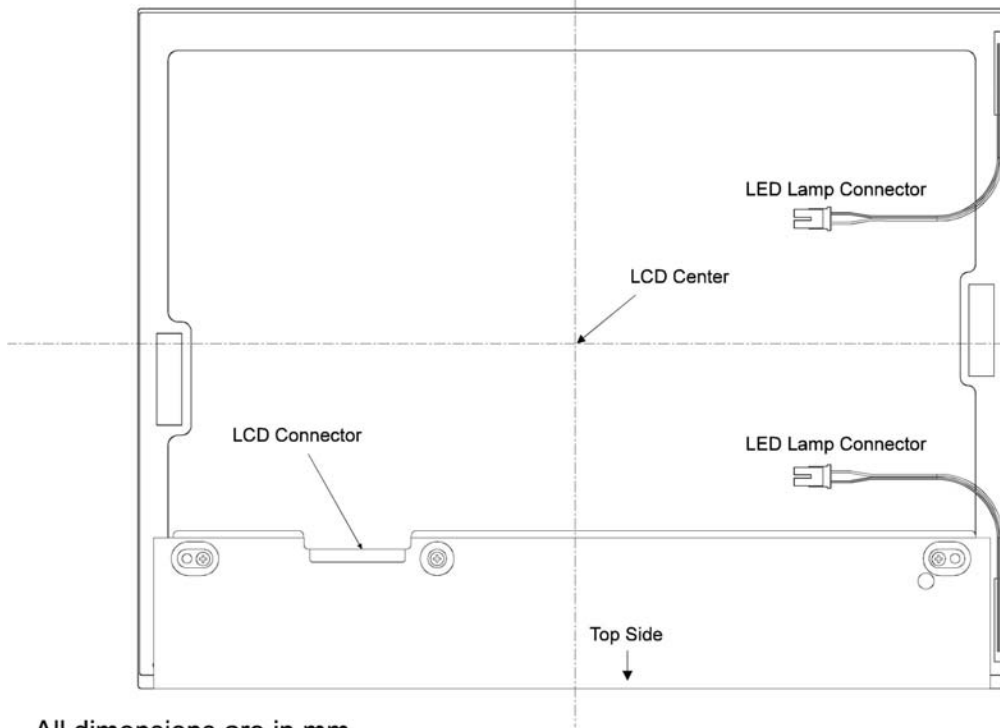
Mechanical Dimensions



Warning: using a mounting screw longer than shown below or tighten it with a torque exceeding 2.0 Kg-cm will severely damage the LCD module.



Max. torque - 2.0 Kg-cm

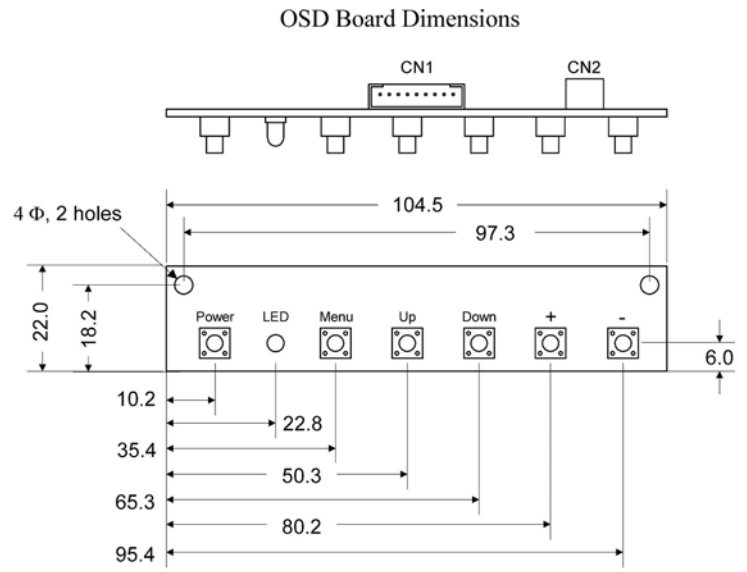
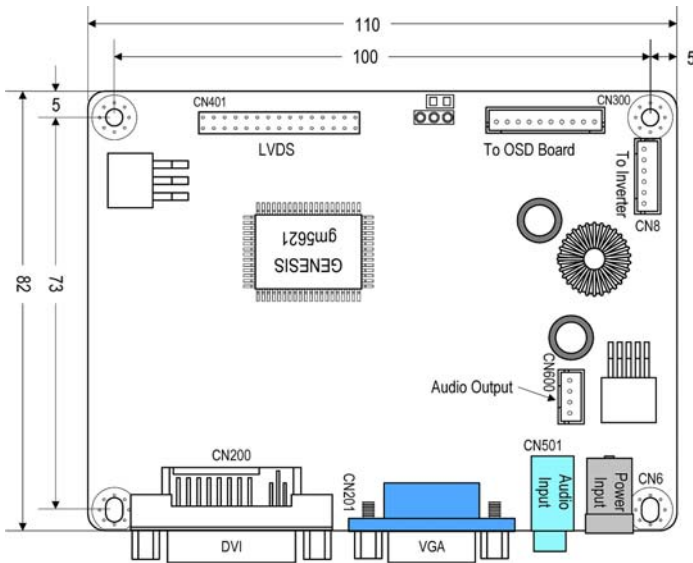


All dimensions are in mm

Controller Board MG21

MG21 is a compact size LCD controller with analog RGB (VGA) and DVI inputs. It uses the Genesis gm5621 chip and supports TFT LCD modules up to SXGA (1,280 x 1,024) native resolutions (1.31 MPixels) with 16,777,216 colors.

For video inputs beyond the SXGA (1280 x 1024) resolution, the MG21 down scales the input video to the native resolution of the LCD, and then displays the image over the screen. It supports video input all the way to WUXGA (1920 x 1200).

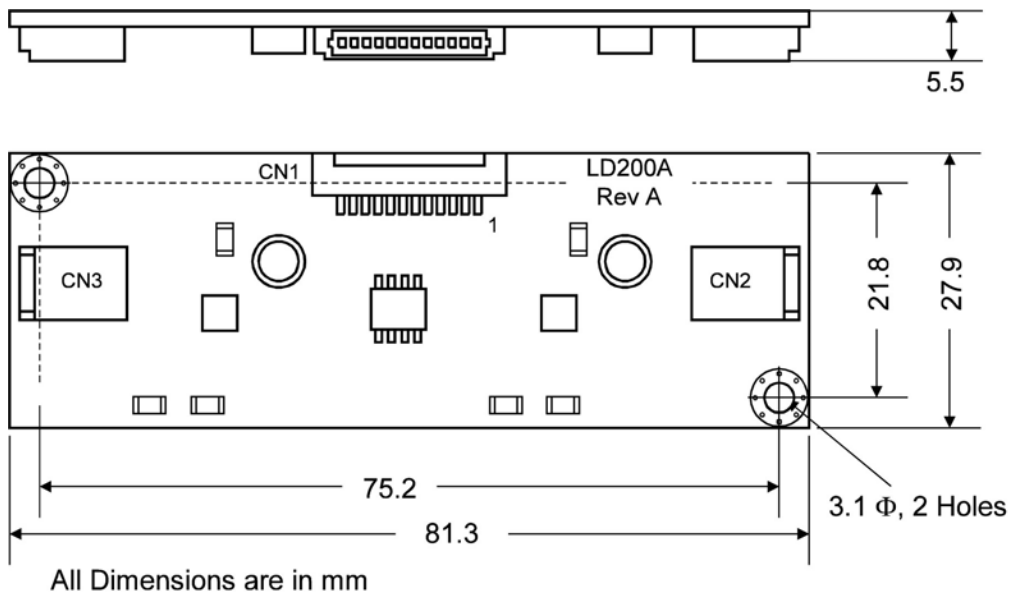


Dimensions are in mm

LED Driver LD200A

LD200A is a compact size, high efficiency LED driver board that operates the LED backlights in iTech 8.4" to 12.1" VHB (very high brightness) LCD modules. It can drive up to two LED strips with a maximum power of about 6 Watts per strip.

The LD200A operates at a 12V DC input voltage. The LCD screen brightness is controlled with a DC voltage that is in the same range as the dimming voltage (Vd) used in iTech Inverters. As a result, our standard dimming control circuits such as the ambient light sensor PS200 and the DP064 Digipot work seamlessly with the LD200A. Also, the brightness control LUT (look up table) in the BIOS code of iTech MG22 and MG21 LCD controller card work very well with the LD200A.



All Dimensions are in mm