Sunlight Readable Open Frame Kit with LED Backlight

15" High Brightness 1400 nit LCD kit w/LED Backlight (Model: LOPH1500-Kit-LED)

LOPH1500-Kit-LED is a 15" Sunlight Readable LCD module. The module consists of a ChiMei G150X1-L03 TFT color LCD panel and a VHB (very high brightness) LED backlight. The LOPH1500-Kit-LED module is in a universal package with the same mechanical dimensions as some other iTech's 15" LCD modules.

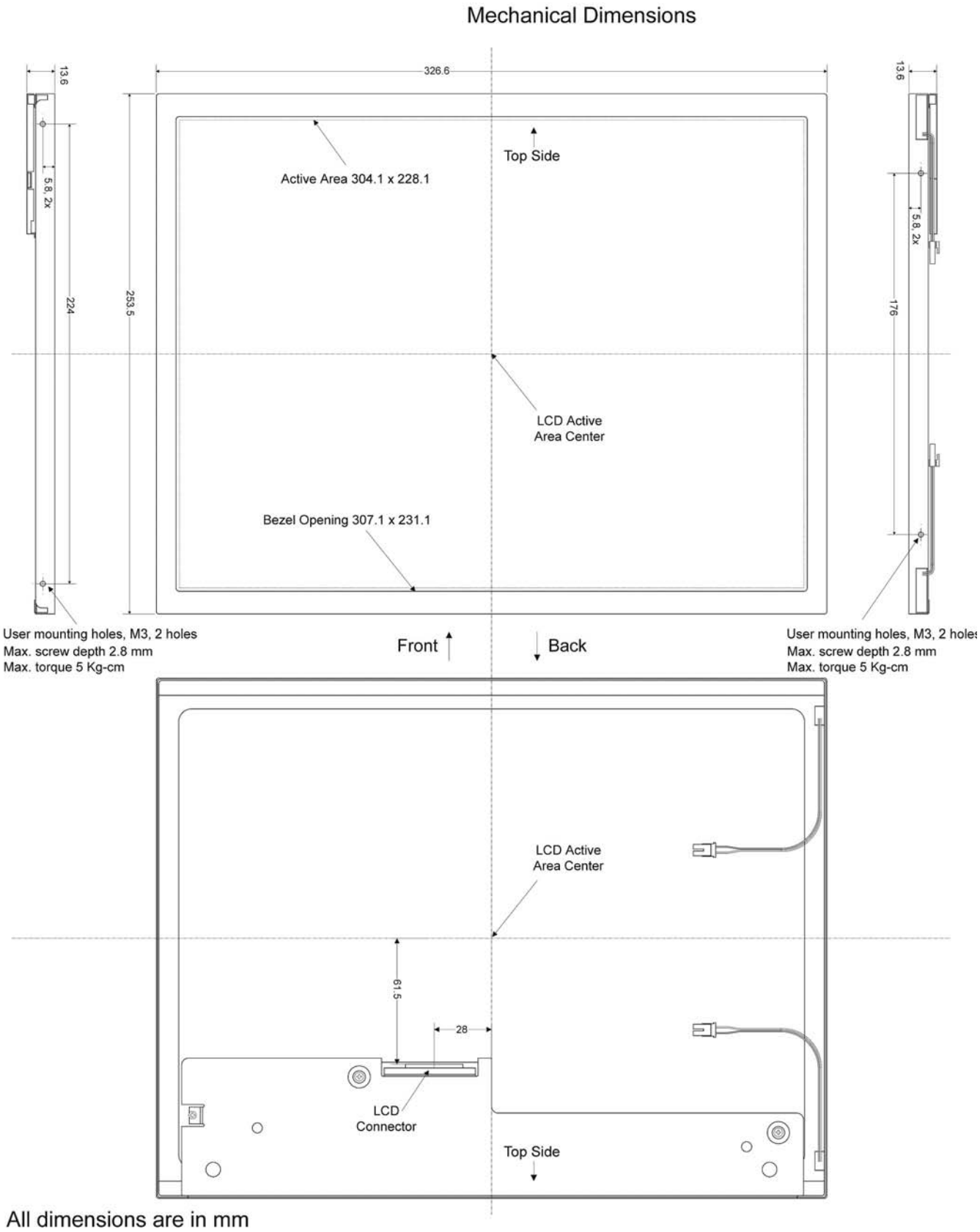
At the maximum backlight power of 18 Watts, the LOPH1500-Kit-LED delivers a high screen brightness of 1,400 Cd/m2 (nits). At this level, the display is highly readable under direct sunlight. In addition, it has an anti-reflective front polarizer that can maintain a good contrast ratio under very high ambient lighting. For applications in dark environments, the screen brightness can be adjusted down to less than 10 Cd/m2 without flickering.

Specifications:

Parameters	Typical Value	Units	Conditions
LCD Screen Luminance	1400	Cd/m2	LCD in ON state (normally Black)
Luminance Uniformity	20% or better		Note 3
Backlight Power Consumption	18	Watts	Excluding LED driving board losses
Typical LCD Contrast Ratio	800:1		White vs. Black (measured in the dark along the normal direction)
Typical Viewing Angles			
3:00 - 9:00 directions	> ± 70	Degrees	Contrast ratio ≥ 10
6:00 - 12:00 directions	> ± 70	Degrees	Contrast ratio ≥ 10
3:00 to 9:00 direction	> ± 70	Degrees	Screen brightness ≥ 200 Cd/m2
6:00 to 12:00 direction	> ± 70	Degrees	Screen brightness ≥ 200 Cd/m2
LCD Screen Chromaticity (x, y)			
White	(0.310, 0.354)		Measured at the normal direction
Red	(0.594, 0.371)		Measured at the normal direction
Green	(0.320, 0.597)		Measured at the normal direction
Blue	(0.14, 0.110)		Measured at the normal direction
Response Speed			
Display Resolution	1,024 x 768		
Operating Temperature Range	-30 to 80	Degree C	
LCD Module Weight	1,000	Grams	

Note 1: Please refer to the ChiMei G150X1-L03 data sheet for detailed LCD electrical specifications and general precautions.
Note 2: All data are measured at 25°C ± 2°C ambient temperature.
Note 3: Uniformity = (Lmax - Lmin) / (Lmax + Lmin) where Lmax (Lmin) is the maximum (minimum) luminance measured with a 10mm diameter meter aperture over the LCD active area except for the last 10mm area from the edges.

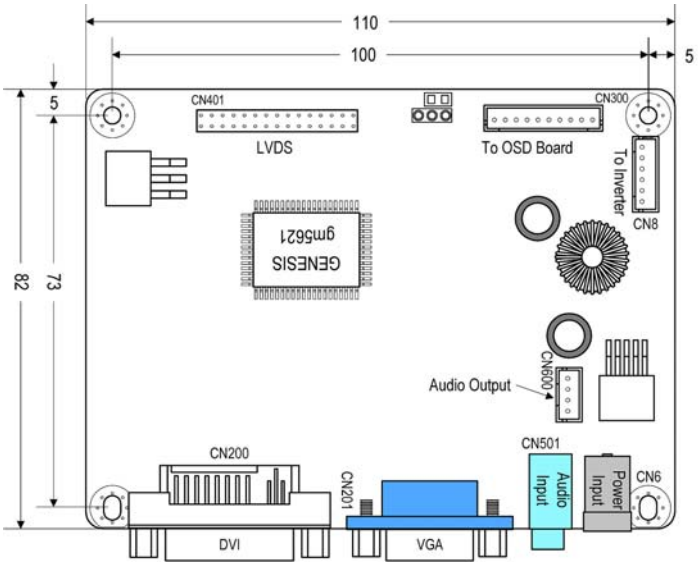
LOPH1500-Kit-LED Mechanical Drawings

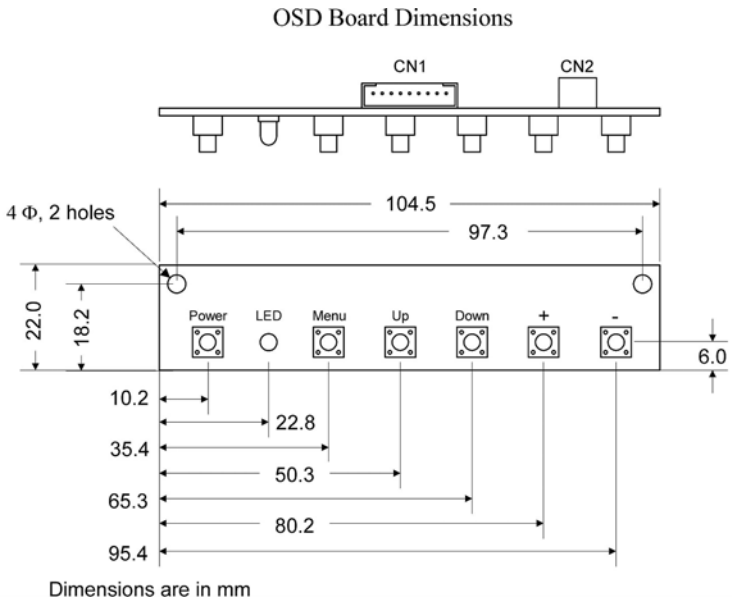


Controller Board MG21

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).





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.