

LC Active Matrix Liquid Crystal **LC640.480.33-AC** Full Color Display



Screen image courtesy of Liikkuva Systems

A high-performance color display for outdoor and high-ambient light applications

The ColorBrite™ LC640.480.33-AC is a high-brightness 10.4" VGA active matrix liquid crystal display (AMLCD). Designed to meet the demanding requirements of outdoor and high-ambient light applications, this display is ideal for gas pumps, outdoor information kiosks, and point of sale terminals. With a typical brightness of 1000 nits, this sunlight-readable display offers high contrast in bright environments, even through a low-transmission touchscreen.

The LC640.480.33-AC integrates superior backlight technology, inverters, and AMLCD glass into a high-performance display subsystem. By designing, testing, and qualifying the system in-house, Planar is able to provide a single set of reliable environmental and visual performance specifications for the display, not just for individual components.

A proven understanding of our industrial customers' application requirements and the inherent design tradeoffs with liquid crystal display technology allow Planar to provide unrivaled technical support and value-added services.

Product highlights:

- 10.4" VGA high-bright AMLCD
- 1,000 nit (sunlight readable)
- Automatic brightness adjustment
- Industry-standard TFT interface

Features and benefits:

- Integrated display subsystem
 - Inverter
 - Backlight (field replaceable)
- Complete system specifications
- 262K colors
- Wide viewing angle
- Planar support and customer service

Integrated Display Subsystem. As the leading provider of high-performance display systems for military avionics and other demanding industrial applications, Planar has more than a decade of experience in optimizing visual performance. This understanding of the unique demands of a sunlight-readable application led us to include several innovative features including:

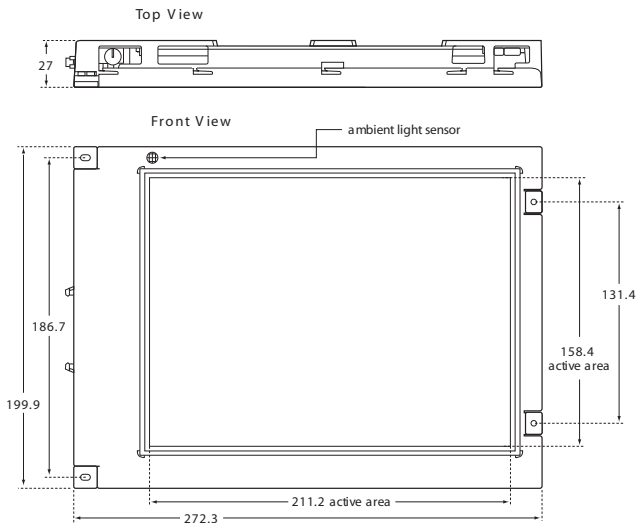
- ¥ automatic brightness adjustment that measures ambient light levels, adjusting the brightness and contrast for optimum image quality
- ¥ optional integrated anti-glare (AG) surface treatment
- ¥ field-replaceable backlight

Superior Technical Support and Customer Service. Planar's international team of application engineers bring a level of expertise and professionalism unrivaled in the display industry. They will help you turn your first display on, troubleshoot interfacing problems, and optimize the visual performance of your end product.

Product Enhancements and Value-added Services. To address the growing need for application-specific display solutions, Planar provides a range of environmental and visual performance enhancement options and value-added capabilities across the entire ColorBrite™ product line.

Value-added engineering services range from supplying custom cables and brackets for tiered solutions to complete display head assemblies that integrate touchscreens, interfaces, bezels, or enclosures. Planar has the capability, the flexibility, and the desire to be your complete display solutions partner.

Dimensions (all dimensions in millimeters)



LC640.480.33-AC

Preliminary Technical Specifications

Display Technology	Active matrix liquid crystal display (AMLCD)
Color	(≥5:1 contrast) 6 bit, 262K color
Viewing Angle	(≥5:1 contrast) H _{az} : +70° typ V _{ert} : +40°/-60° typical
Response Time	Rise 25 ms, Fall 45 ms typical
Areal Luminance	1000 cd/m ² (nits) typical
Contrast	@ 500 lux 150:1 typical @ 3000 lux 50:1 typical
Dimming Range	100:1 typical
Resolution	640 x 480 pixels
Pixel Pitch	0.33 mm x 0.33 mm
Display External Dimensions	272.3 x 199.9 x 27.0 mm (W x H x D) 0.9 kg
Display Active Area (W x H)	211.2 x 158.4 mm (10.4" diag)
Backlight	field replaceable CFL
Life	35 K hours typ to 50%
Supply Voltages	Display: +5 Vdc, Backlight: +12 Vdc
Power Consumption	32 W max (with backlight)
Temperature	Operating -10 to +70 °C (24 hours max) Operating survival -20 to +80 °C Storage -25 to +85 °C
Humidity (noncondensing)	Operating +40 °C 95%RH
Altitude (above sea level)	Operating to 10,000 feet
Shock operating	100 g 6 ms (3 on each of 6 surfaces)
Vibration operating	.02 g/ Hz (5 to 500 Hz)
Interface	TFT, CMOS logic
Options and Features	Locking connectors - Standard Anti-glare (AG) surface treatment Image flip (horizontal and vertical) - Standard

Product Certifications:
The LC640.480.33-AC display will not inhibit the end product from obtaining the following certifications:

Support and service: Planar is an international company with global manufacturing sites, sales network, and full application engineering support and service in the U.S. and Europe.

