ENH104XLM-170 10.4" XGA AMLCD Display with Max-Vu™

Enhanced Performance for Outdoor Viewability

The WEDC ENH104XLM-170 color TFT LCD provides improved optical performance and increased environmental robustness based on the enhancement of a standard BOE Hydis HT10X21-311 color active matrix LCD module. The incorporation of WEDC's proprietary Max-Vu™ process increases the contrast and optical performance of the stock display. The ENH104XLM-170 comes with a 1.1mm AR/AG cover glass.

The enhanced module is composed of a color TFT LCD panel, driver ICs, control circuit and power supply circuit and a backlight unit. Graphics and text can be displayed on a 1024 x 768 pixel panel with 262,144 colors by supplying appropriate data signals and timing signals using LVDS, +3.3V supply voltage for the TFT panel and supply voltage for the backlight. The TFT LCD panel used for this module is a low-reflection and high color saturation type. The module offers a wide viewing angle with a brightness if 170 cd/m2 (typical). The backlight-driving DC/AC inverter is not built into this module.

WEDC's ENH104XLM-170 meets the environmental specifications of the stock BOE Hydis HT10X21-311 display. WEDC provides a full one year warranty to the enhanced performance product.

Performance Features

- Optically bonded AR/AG Cover Glass
- High Contrast Ratio/High Aperture Ratio
- Higher Brightness per Watt
- LVDS Interface
- RoHS Compliant

Applications

- Tablet PC
- Instrumentation
- Test & Measurement
- Office Automation

Product Versions

- 170 nit – 1.1mm AR/AG Cover Glass
- Digitizer option

Display Characteristics

- Display Format: 1024 Pixels (H) x 768 Pixels (V)
- Active Viewing Area: 210.43mm (H) x 157.82mm (V)
- Pixel Configuration: RGB Vertical Stripe
- Pixel Pitch: 0.2055mm (H) x 0.2055mm (V)
- Display Mode: Normally Black

Viewing Angle

- Typical: 80/80/80/80 CR>10

Luminance

- Typical: 170 cd/m2

Response Time

- Typical: 40ms

Operating Temperature

- Topa 0°C to +50°C (Ambient)

Storage Temperature

- Tstg -20°C to +60°C

When looking for a high-efficiency enhanced display system to integrate into your high-end product application, start with White Electronic Designs. Our people, processes and products are committed to the design, development and delivery of advanced display technology that expands possibilities in ways that consistently translate to success. And that's just the beginning .... Call **503.690.2460** or visit **www.whiteedc.com**.

WHITE ELECTRONIC DESIGNS

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Backlight Specification

The backlight system is an edge-lighting type with 1 CCFL (Cold Cathode Fluorescent Lamp).
The characteristics of the lamp are shown in the following table.

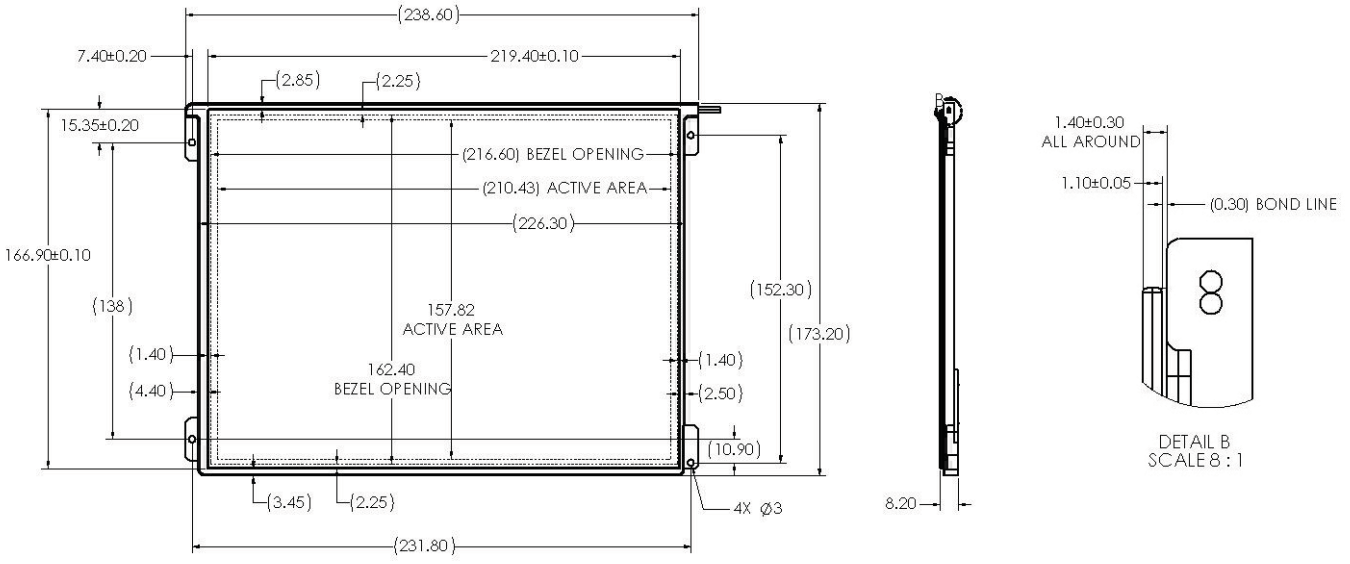
Parameter	Symbol	Min.	Typ.	Max.	Unit	Remark
Lamp Current	I_L	2.0	5.0	6.0	mArms	
Lamp Voltage	V_{BL}	–	520	–	V_{RMS}	
Lamp Frequency	F_L	40	60	80	kHz	
Kick-off Voltage	V_S	–	–	950	Vrms	T_A = 25°C
		–	–	1150	Vrms	T_A = 0°C
Lamp Life Time	L_L	10,000	–	–	Hour	I_{BL} = 2.0~6.0 mA

Absolute Maximum Ratings

Parameter	Symbol	Condition	Ratings	Unit	Remark
Logic Input Voltage	V_{IN}	T_A = 25°C	-0.3 ~ V_{DD}+0.3	V	Note 1
Supply Voltage	V_{DD}	T_A = 25°C	-0.3 ~ +4	V	
Storage Temperature	T_{STG}	–	-20 ~ +60	°C	
Operating Temperature	T_{OPA}	–	0 ~ +50	°C	

Note 1: Humidity 90% RH Max. (TA > 40°C)
Maximum wet-bulb temperature at 39°C or less. (TA > 40°C)
No condensation.

Mechanical Drawing



Ordering Information

Model	Part Number	Description
ENH104XLM-170	100-0024-01	1.1mm AR/AG Glass Lamination

White Electronic Designs (NASDAQ: WEDC) delivers sophisticated multi-chip semiconductor packages, high-efficiency memory devices, enhanced flat panel display systems and build-to-print electromechanical assemblies that address the unique size, performance and quality requirements for technology creators in diverse market segments. Providing advanced embedded component solutions for defense, aerospace, high-performance computing and industrial applications that have specific design and operational requirements has established White Electronic Designs as a trusted resource and valued partner. Headquartered in Phoenix, Arizona, White Electronic Designs operates world-class development and production centers in Arizona, Oregon and China.

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