



# 20 REASONS WHY THIN FILM EL (TFEL)

## Is Your Most Reliable Display Choice for Rugged Viewing Conditions



**DESERT HEAT  
TESTED.**

1. "Instant on" module performance as low as -50°C means no waiting time for display heaters to warm a TFT AMLCD.
2. No heaters required with TFEL means increased product reliability and eliminates image smear artifacts common with TFT AMLCDs used at low temperatures. Glass is functional to -100°C.
3. <1 ms response time for excellent waveform presentation across entire temperature range.
4. Unaffected by solar loading because glass performs to +100°C.
5. 85°C module operating temp, no fan required for cooling, thus increasing reliability.
6. EL glass has 250,000/hr MTBF to reduce your product's warranty costs.
7. 100,000/hr measured brightness with <15% reduction. Compare to TFT AMLCD technology that loses 15% brightness in a single year. TFT AMLCD with CCFL decays to 50% brightness in 50,000 hours or less.
8. Hermetically sealed glass and optional conformal coated circuit board outlasts all other flat panel technologies in moist or humid environments.
9. Integrated Contrast Enhancement (ICE™) delivers up to 1000:1 contrast ratio for daylight readability. Eliminates cost, time and hassle of bonding a TFT AMLCD for improved contrast.
10. Crisp, single color presentation decreases viewing time requirements to facilitate faster user perception. Ideal for healthcare, vehicle, and mission critical instrumentation.
11. 179° vertical and horizontal viewing angles enable multi-person, off axis viewing.
12. Battery power requirements comparable to backlit TFT LCD.
13. Wide dimming range, doesn't require an expensive, custom backlight inverter like TFT AMLCD.
14. Emissive pixel technology makes small text more legible than LCDs to increase perceptibility.
15. 200G shock durability increases the dependability of your product.
16. All solid-state, digital design eliminates backlight failures.
17. LCD compatible interface for easier integration.
18. Over 20 years of product life and still going strong! Long product life helps you omit redesigns triggered by component obsolescence.
19. RoHS for worldwide compliance. Mercury free product is better for the environment. Low EMI/EMC to ease certification of your product.
20. Worldwide and domestic technical support team.



**RUGGED, MULTI-PERSON  
MEDICAL USE.**



**ARCTIC COLD  
TESTED.**

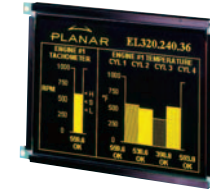
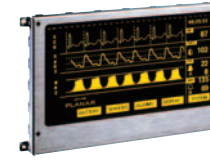


**DEPENDABILITY.  
VIBRATION TESTED.**



# EL - ELECTROLUMINESCENT DISPLAYS

Embedded Displays for Extreme Conditions.



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MODEL <small>- All resolutions for EL displays are indicated by the model number.</small>	Part Number	Diagonal Size	Pixel Pitch	Brightness Typical @ Max. Frame Rate	Power Typical @ Max. Frame Rate	Operating Temperature	Video Interface	Other Features	
EL160.80.50	996-0267-15LF	3.5 in (8.93 cm)	0.5 mm	107 cd/m <sup>2</sup> (240Hz)	4.4 W (240Hz)	-50~ +85 °C	4 bit LCD	Standard product, Dimming capability, IN w/locking connector, ET w/conformal coating	
EL160.120.39	996-0303-00LF	3.1 in (7.79 cm)	0.39 mm	70 cd/m <sup>2</sup> (150Hz)	3.0 W (150Hz)	-50~ +85 °C	4 bit LCD	Dimming, locking connector	
EL240.128.45	996-0301-01LF	4.8 in (12.2 cm)	0.45 mm	130 cd/m <sup>2</sup> (240Hz)	5.8 W (240Hz)	-50~ +85 °C	8 bit uP	Built-in SED1335 controller, dimming, locking connector	
EL320.240	FA3	997-3377-00LF	4.9 in (12.4 cm)	.012 in (.31 mm)	85 cd/m <sup>2</sup> (325Hz)	4.7 W (325Hz)	4 bit TFT	Red/Green/Yellow multi-color, 16 colors, dimming, locking connector, FA3 w/conformal coating	
EL320.240.36	996-0273-01LF	5.7 in (14.4 cm)	0.36 mm	50 cd/m <sup>2</sup> (120Hz)	7.1 W (120Hz)	-50~ +85 °C	4 bit LCD	Standard product, Anti-glare film, AG w/locking connector, Dimming, IN w/anti-glare film, Locking connector, dimming, ET w/conformal coating	
EL320.240.36	HB	996-0292-00LF	5.7 in (14.4 cm)	0.36 mm	150 cd/m <sup>2</sup> (247Hz)	5.5 W (247Hz)	4 bit LCD	High bright, dimming, locking connector, broad input voltage, No mounting ears, conformal coating, HB w/only top mounting ears	
EL320.256	F6	996-5076-00LF	4.8 in (12.2 cm)	0.3 mm	77 cd/m <sup>2</sup> (60Hz)	4.0 W (60Hz)	-50~ +85 °C	1 or 2 bit LCD	Non-ICE, dimming, broad input voltage, F6 w/ICE
EL480.240	PR2	996-0247-02LF	6.4 in (16.4 cm)	0.305 mm	50 cd/m <sup>2</sup> (120Hz)	6.5 W (120Hz)	-50~ +85 °C	4 bit LCD	ICEBrite, PR2 w/conformal coating
EL512.256	H2	997-3214-00LF	8.6 in (21.8 cm)	0.38 mm	65 cd/m <sup>2</sup> (70Hz)	6.0 W (70Hz)	-50~ +85 °C	1 or 2 bit LCD	Dimming, broad input voltage, H2 w/aluminum frame, H2 w/steel frame, Dimming, Broad input voltage
EL640.200	SK	996-0290-01LF	8.9 in (22.6 cm)	0.33 mm x 0.396 mm	81 cd/m <sup>2</sup> (240Hz)	7.6 W (240Hz)	-50~ +85 °C	4 bit (Buffered) 8 bit (Non-buffered)	ICEBrite, two modes (buffered and non-buffered) dimming, and locking connector, SK w/conformal coating
EL640.400	C2	997-3217-00LF	9.1 in (23 cm)	0.3 mm	53 cd/m <sup>2</sup> (70Hz)	11.0 W (70Hz)	-50~ +85 °C	1 or 2 bit LCD	Non-ICE, dimming, wide input voltage, C2 w/aluminum frame, Non-ICE, dimming, wide input voltage, Non-ICE, dimming, wide input voltage, aluminum frame, CD3 w/aluminum frame
EL640.400	CB1 FRA	996-5073-00LF	9.1 in (23 cm)	0.3 mm	53 cd/m <sup>2</sup> (70Hz)	11.0 W (70Hz)	-50~ +85 °C	1 or 2 bit LCD	Non-ICE, dimming, +5 and +12V input voltage, aluminum frame, CB series display w/a VH of 24V, Nominal input, includes frame, Dimming, +5 and +12V input, aluminum frame
EL640.480	AF1	996-0270-00LF	6.4 in (16.2 cm)	0.2 mm	65 cd/m <sup>2</sup> (120Hz)	4.5 W (120Hz)	-50~ +85 °C	8 bit LCD	ICEBrite, dual panel interface, AF1 w/anti-glare film, AF1 w/extended temperature, locking connector, dimming
EL640.480	AG1	996-0269-00LF	8.1 in (20.5 cm)	0.26 mm	55 cd/m <sup>2</sup>	6.5 W (120Hz)	-50~ +85 °C	8 bit LCD	ICEBrite, dual panel interface, AG1 w/anti-glare film, Extended temperature, wide input voltage, AG1 ET w/conformal coating
EL640.480	AM1	966-0268-00LF	10.4 in (26.4 cm)	0.33 mm	55 cd/m <sup>2</sup> (120Hz)	11.0 W (120Hz)	-50~ +85 °C	8 bit LCD	ICEBrite, dual panel interface, AM1 w/anti-glare film, Extended operating temperature, AM8 ET w/conformal coating, ICEBrite, dimming, 24V option, low profile, dual panel interface.
EL640.480	AA1	996-5088-00	10.4 in (26.4 cm)	0.33 mm	21 cd/m <sup>2</sup> (70Hz)	10.0 W (70Hz)	-50~ +85 °C	4 bit LCD	Multi-color: 8 colors + black, dimming, improved EMI
EL640.480	A4 SB	996-5083-02	10.4 in (26.4 cm)	0.33 mm	56 cd/m <sup>2</sup> (60Hz)	15.6 W (65Hz)	-50~ +85 °C	4 or 8 bit LCD	Non-ICE, 16 level gray scale, dimming, A4 SB w/improved EMI, A4 SB w/ICE, AD4 SB w/improved EMI

## Notes:

- The "LF" suffix on part numbers indicates that the product is in compliance with the EU RoHS requirements. Those products without this suffix are not compliant.
- For special applications where lead-free solder presents reliability concerns, some products may be available with leaded solder. Please consult your Planar sales contact.