

## Cost-effective 6x8-inch display module delivers high reliability, low power draw

The KDM1040S display module features a high-resolution 1024x768 AMLCD and life-of-the-aircraft LED backlight designed for standard avionics ambient-lighting applications. Display module specifications are provided on the back of this sheet. Advantages include:

- Cost effectiveness
- Very high reliability
- Life-of-the-aircraft, solid-state LED light source with low cost of ownership
- LED array with built-in redundancy
- Low weight
- Compact packaging for additional LRU features
- Low operating temperature
- Very low power consumption for increased LRU power budget
- No high voltage in drive circuitry, eliminating the risk of shock
- Virtually instant warm-up
- Full night-vision compliance optional (NVIS Class B)
- Vivid primary colors
- Super-wide viewing angle



*In addition to the KDM1040S 6x8 module above, Esterline offers other KDM products in a range of standard sizes: 3AT1, 4x5, 6.25x6.25, and 8x13, inches.*

## KDM1040S standard-performance AMLCD module with LED backlight

# Specifications

Available with optional NVIS lighting

### General

AMLCD	MVA-TFT with heater
Active area (H x V)	8.3 x 6.2 inches (210.4 x 157.6 mm)
Pixel arrangement	RGB stripe
Pixel format (H x V)	1024 x 768
Resolution	> 123 color groups per inch
Outline dimensions (max.)	9.18 x 7.33 x 1.50 inches (233 x 186 x 38 mm)
Weight (max.)	3.5 pounds (1600 g)
Orientation	Landscape and portrait
AMLCD heater	Automatically controlled

### Optical

Backlight	RGB LED (NVIS Class B Option)				
Display mode	Normally black				
Gray shades (colors)	16.2 M				
Luminance (max.)	240 fL (820 cd/m <sup>2</sup> )				
Luminance (min.)	0.04 fL (0.14 cd/m <sup>2</sup> )				
Viewing envelope (CR>10:1)	±60° H, ±60° V				
Contrast ratio: dark ambient	> 500:1 @ DEP, >10:1 over VE				
Contrast ratio: high ambient	> 10:1 @ DEP, >4:1 over VE				
Reflectance: specular	0.61% typical				
Reflectance: diffuse	0.07% typical				
Chromaticity		NVIS		Non-NVIS	
	W	0.200	0.475	0.200	0.475
	R	0.433	0.530	0.490	0.522
	G	0.110	0.558	0.087	0.559
	B	0.125	0.287	0.121	0.300

### Interface

Display interface	LVDS / RS232
Voltage (backlight)	16.0 – 31.5 VDC
Power	Backlight: 28 VDC, 25 W AMLCD: 3.3 VDC, 3 W
Response time	(t <sub>on</sub> + t <sub>off</sub> ) 25ms @ 35°C

### Environmental

Environmental	DO-160E, MIL-STD-810E
MTBF (MIL-STD-217)	30,000 hours, 35°C AIC
Operating temperature	-40°C to +55°C continuous +71°C half hour +85°C emergency
Warm up from -40°C	< 1 minute functional < 5 min. full performance

### Performance

Altitude	+55,000 ft (+16,900 m)
Vibration	0.04 g <sup>2</sup> /Hz, 15 – 1000 Hz
Clearing point	>95°C
Storage temperature	-55°C to +85°C
Life (min.)	20,000 hours

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