

Cost-effective 8x13-inch display module offers high reliability, long life

The KDM1540S display features a high resolution 1680x1050 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:

- Custom 15.4-inch high-performance AMLCD
- Very high reliability
- Product longevity, not subject to commercial market trends
- Super-wide viewing angle
- Life-of-the-aircraft, solid-state LED light source with low cost of ownership
- LED array with built-in redundancy
- Low-weight design
- Compact packaging for additional LRU features
- Very low power consumption for increased LRU power budget
- Wide color gamut (50-percent NTSC for NVIS B)
- Virtually instant warm-up
- Built-in test (BIT)
- Redundancy and safety assurance for any safety-critical applications



In addition to the KDM1540S 8x13 module above, Esterline offers other KDM products in a range of standard sizes: 3AT1, 4x5, 6.25x6.25, and 6x8 inches.

KDM1540S standard-performance AMLCD module with LED backlight

Specifications

Available with optional heater and NVIS lighting

General

AMLCD	Custom high-resolution TN-TFT
Active area (H x V)	13.0 x 8.2 inches (331 x 207 mm)
Pixel arrangement	RGB stripe
Aspect ratio	16:10
Pixel format (H x V)	1680 x 1050 >128 dpi
Outline dimensions (max.)	14.0 x 9.2 x 1.0 inches (356 x 234 x 25 mm)
Weight (max.)	4.4 pounds (2.0 kg) (configuration dependent)
Design assurance level	DO-178B Level A/B optional DO-254 Level A/B optional
Touch screen	Optional
AMLCD heater	Optional

Optical

Backlight	White LED (NVIS Class B optional)
Gray shades (colors)	16.77 M, true 8 bit
Luminance (day max.)	>1000 cd/m ² , 290 fL, running at max. or calibrated to lower value
Luminance (night min.)	<0.04 fL (0.14 cd/m ²)
Viewing envelope (CR>8:1)	±60° H, ±60° V
Contrast ratio: dark ambient	>500:1 @ DEP
Contrast ratio: high ambient	>7:1 @ DEP, >2:1 over VE with 2,000 fL / 10,000 fc
Reflectance: specular	0.6% typical
Reflectance: diffuse	0.07% typical
Chromaticity	W 0.18 0.49 R 0.42 0.52 G 0.14 0.56 B 0.14 0.30

Interface

Display interface	Dual LVDS / serial
Voltage (backlight)	16.0 – 31.5 VDC
Power	Backlight: 28 VDC, 30 W max. AMLCD: 3.3 VDC, 3 W
Response time	(t _{on} + t _{off}) 16 ms at 25°C

Environmental

Environmental	DO-160G, MIL-STD-810G
MTBF (MIL-STD-217)	60,000 hours, 35°C AIC
Operating temperature	-40°C to +71°C (with optional heater)

Performance

Altitude	+55,000 ft (+16,900 m)
Vibration	0.04 g ² /Hz, 15 – 1000 Hz
Storage temperature	-55°C to +85°C
Life (min.)	100,000 hours

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