

18.5-Inch FHD Optically Bonded LCD Display

The Keetronics 18.5-Inch FHD Optically Bonded LCD Display is a rugged display module designed for demanding industrial, defense, and mission-critical HMI applications. It combines a high-resolution 1920 × 1080 Full HD LCD panel with optical bonding, strengthened AR cover glass, and EMI protection for reliable visual performance in challenging environments.

The display provides 16.7 million true 8-bit colors, a 16:9 aspect ratio, and 750 cd/m² luminance after optical bonding for clear and bright image reproduction. The 89° viewing angle in all directions supports wide-area visibility, while the LVDS interface provides display connectivity.

The display assembly incorporates 2.8 mm AR strengthened cover glass and optical bonding. An integrated EMI protective mesh provides 360° electrical connectivity and grounding, with approximately 85% visibility, and is designed to support EMI/EMC requirements referenced to MIL-STD-461E/F.

Designed for demanding environments, the module supports an operating temperature range of -20°C to +70°C and a storage temperature range of -30°C to +80°C. The design is specified to meet referenced requirements for dust, shock, and vibration, including JSS 55555, MIL-STD-810D, and MIL-STD-810E, subject to complete-unit testing and validation.

The assembled display solution is suitable for rugged HMI systems, industrial equipment, defense electronics, control consoles, and other applications requiring a high-brightness Full HD display with optical bonding and EMI protection.

Key Features :

- 18.5-inch Full HD LCD with 1920 × 1080 resolution, 16.7M true 8-bit colors, and 750 cd/m² luminance
- Optical bonding with 2.8 mm AR strengthened cover glass for enhanced display integration
- EMI protective mesh with 360° electrical grounding and design support for MIL-STD-461E/F requirements
- Rugged environmental design with -20°C to +70°C operation and referenced dust, shock, and vibration requirements

Technical Specifications :

Product Code	Not specified
Display Type	18.5-Inch LCD
Resolution	1920 × 1080 RGB pixels
Aspect Ratio	16:9
Active Area	408.96 (H) × 230.04 (V) mm
Pixel Pitch	213 × 213 µm per triad
Display Color	16.7M (True 8-bit)
Contrast rug	1000:1
Luminance	750 cd/m² after optical bonding
Response Time	20 ms (Typical)
Viewing Angle	89° / 89° / 89° / 89°
Interface	LVDS
Cover Glass	2.8 mm AR Strengthened Glass
Overall Dimensions (W × H × D)	430.40 × 254.60 × 15.34 mm (±0.6 mm)
LED Life Time	70,000 hours
Optical Bonding	Yes
EMI Mesh	Yes, EMI protective mesh with 360° electrical connectivity and grounding; 85% visibility
Operating Temperature	-20°C to +70°C
Storage Temperature	-30°C to +80°C
Humidity	80% @ 50°C, non-condensing
EMI/EMC	EMI protective mesh with 360° electrical connectivity design to meet MIL-STD-461E/F
Dust	Design to be subjected to JSS 55555, Test No. 14, Duration: 1 hour
Shock	Design to meet MIL-STD-810D*
Vibration	Design to meet MIL-STD-810E*
Deliverables	Assembled 18.5-inch FHD LCD Display, Backlight Board, LVDS Cable, Backlight Cable