

Digital Displays

Higher brightness, tighter pixel pitch, and 24/7 operation are increasing heat density inside compact display enclosures. Without proper cooling, heat degrades performance, reliability, and lifespan. Simply put: better airflow means better displays.

Where the Heat Comes From

Primary heat sources include:

- Power supplies and drivers
- LED modules or LCD backlighting
- Control boards and processors
- Communication modules

As brightness increases, so does thermal load, often in enclosures with limited passive cooling.

Risks of Poor Thermal Design

- Overheating and premature component failure
- LED brightness loss and color shift
- Reduced MTBF
- Higher service and warranty costs

Cooling Strategies

Effective thermal management focuses on:

- **Forced Air Cooling**
Removes and exhausts heat from the enclosure
- **Airflow Optimization**
Ensures consistent intake and exhaust paths
- **Targeted Cooling**
Directs airflow to high-heat components

Orion Fans Solutions for Digital Displays

- **AC Fans**
High airflow for large, outdoor systems
Use case: Billboards, stadium displays
- **DC Fans**
Compact, efficient, and speed-controlled
Use case: Indoor displays, kiosks
- **EC Fans**
Energy-efficient with smart speed control
Use case: Premium or critical applications
- **Fan Trays**
Scalable, uniform airflow for large formats
Use case: LED walls and video panels

