CDS TECHNICAL GUIDE

Brief Intro to Industrial Display Interfaces and Protocols

Introduction

Industrial display technologies form the foundation of modern embedded, automation, medical, and transportation systems. As device intelligence increases, so does the demand for reliable, high-performance visual interfaces...

Technology Overview

TFT-LCD Architecture
Thin-Film Transistor Liquid Crystal Displays (TFT-LCDs) remain the dominant technology...

Embedded Display Modules
Crystal Display Systems Limited provides complete embedded solutions...

For detailed specifications, visit Industrial display technologies form the foundation of modern embedded, automation, medical, and transportation systems. As device intelligence increases, so does the demand for reliable, high-performance visual interfaces...

www.crystal-display.com

Some Examples of Technology Specifications

Typical industrial-grade TFT displays include:
- Resolution: 480×272 to 1920×1080
- Brightness: 500–1500 cd/m²
- Operating Temperature: –30 °C to +85 °C
- Viewing Angle: 80/80/80/80°
- Interfaces: LVDS, eDP, HDMI, MIPI DSI
- Touch Options: PCAP, resistive
- Backlight Lifetime: Up to 70,000 h

Some Interface Options and Protocols

LVDS
Low-Voltage Differential Signaling (LVDS) provides high-noise immunity...

eDP
Embedded DisplayPort supports high-bandwidth...

HDMI
Often used in media players and SBCs...

MIPI DSI
Widely used in compact, low-power devices...

Some Application Scenarios

- Industrial automation HMI panels

- Medical imaging displays

- Transportation signage

- Ruggedized portable terminals

Integration Guidelines

Mechanical Integration
Ensure adequate mounting, and CDS can help your team with such considerations

Electrical Integration
Match the interface to meet your application requirements.

Environmental Considerations
Consider the use of IP-rated enclosures where appropriate.

Download product technical datasheets at www.crystal-display.com

Some Troubleshooting Considerations

The above points highlight common issues, including signal integrity, that need to be considered when designing displays, touchscreens, and embedded computing products.

Conclusion

This guide provides engineers with a brief overview of the technical challenges with displays, but should you need more information, please contact our technical support team

For further assistance, contact Crystal Display Systems Technical Support via www.crystal-display.com

Want More Information? Contact Us Now

Need any additional information?

If you need any assistance with pricing information, technical support or require any additional information our team would be more than happy to assist

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Note: Monitor images are for marketing purposes only and you should refer to the mechanical diagrams for accurate dimensions and designs