

Certified Digital Signage Display Expert (DSDE) DSDE912





Certified Digital Signage Display Expert (DSDE) Course Code- DSDE912



Duration: 2 Months (8 Weeks, 2 sessions/week, 2 hours/session) **Objective**: Equip participants with hands-on skills to design, assemble, program, and maintain P6/P10 RGB LED commercial signboards, including metal structure fabrication, LED module setup.

Course Fee: Tk 22,000.00

Week 1: Introduction to software configuration, and WiFibased monitoring and control RGB LED Signboards

- Session1: Overview of LED Signboards
 - o Introduction to P6 and P10 LED modules (pixel pitch, resolution, applications)
 - o Components: LED modules, power supplies, control cards, metal frames
 - Market applications (advertising, retail, events)





- Session 2: Basics of Electronics for LED Displays
 - o Understanding voltage, current, and power requirements
 - Introduction to RGB LED drivers and circuits
 - Safety practices in handling electrical components
- Session 3: Tools and Materials
 - Overview of tools: soldering iron, multimeter, crimping tools, etc.
 - o Sourcing materials: LED modules, connectors, cables, and metal frames
 - Hands-on: Inspecting and testing P6/P10 LED modules

Week 2: Metal Structure Design and Fabrication

- Session 4: Designing the Metal Frame
 - Basics of mechanical design for signboards (size, weight, durability)
 - o Design Software for frame design
 - Material selection: Aluminum, steel, or composite frames
- Session 5: Fabrication Techniques
 - Basics on assembling metal frames
 - Mounting considerations for indoor/outdoor installations
- Session 6: Weatherproofing and Structural Integrity
 - Sealing techniques for outdoor signboards
 - o Load-bearing calculations and stress testing

Week 3: P6/P10 LED Module Setup

- Session 7: Understanding LED Modules
 - Anatomy of P6/P10 modules: pixel arrangement
 - Power and data connections for LED panels
 - Hands-on: Connecting and testing a single LED module
- Session 8: Assembling LED Panels
 - Wiring multiple LED modules into a display panel
 - Power supply selection and load balancing
 - Hands-on: Creating a small multi-module display
- Session 9: Troubleshooting LED Modules
 - Common issues: dead pixels, flickering, color mismatch
 - Using multimeters and diagnostic tools
 - Hands-on: Diagnosing and fixing module faults





Week 4: Power Systems and Electrical Integration

- Session 10: Power Supply Design
 - Calculating power requirements for P6/P10 displays
 - Selecting appropriate power supplies (5V, high-current)
 - Hands-on: Connecting power supplies to LED panels
- Session 11: Electrical Safety and Efficiency
 - Grounding, surge protection, and heat management
 - Cable management and connectors
 - Hands-on: Building a safe power distribution system
- Session 12: Backup Power Solutions
 - Introduction to UPS and battery backups
 - o Power redundancy for critical installations
 - Hands-on: Integrating a backup power system

Week 5: Control Systems and Software Configuration

- Session 13: Introduction to LED Control Cards
 - Overview of control cards
 - Data flow: From PC to control card to LED modules
 - Hands-on: Setting up a control card with LED modules
 - Session 14: Software for LED Programming
 - Installing and using LED control software
 - o Configuring display parameters: resolution, brightness, refresh rate
 - Hands-on: Creating a basic text display
- Session 15: Creating Visual Content
 - Designing animations, videos, and scrolling text
 - Supported file formats (AVI, MP4, GIF)
 - Hands-on: Programming a multimedia display sequence

Week 6: WiFi Monitoring and Control

- Session 16: WiFi-Enabled Control Systems
 - Introduction to WiFi-enabled control cards
 - Setting up a local network for remote control





- Hands-on: Configuring a WiFi module for LED control
- Session 17: Cloud-Based Monitoring
 - o Using cloud platforms for remote display management
 - o Real-time monitoring: brightness, temperature, and error alerts
 - Hands-on: Setting up cloud-based monitoring
- Session 18: Security and Maintenance
 - Securing WiFi connections (passwords, encryption)
 - Routine maintenance: Cleaning, firmware updates
 - Hands-on: Performing a full system diagnostic

Week 7: Final Assembly and Testing

- Session 19: Full Signboard Assembly
 - Integrating metal frame, LED panels, power, and control systems
 - Ensuring alignment and uniformity
 - o Hands-on: Assembling a complete signboard
- Session 20: System Testing
 - o Testing display quality, color accuracy, and brightness
 - Stress testing for continuous operation
 - Hands-on: Running a 24-hour test cycle
- Session 21: Installation Techniques
 - Wall mounting, pole mounting, or hanging installations
 - Considerations for accessibility and maintenance
 - Hands-on: Simulating an on-site installation

Week 8: Project and Certification

- Session 22: Final Project Planning
 - Designing a commercial-grade P6/P10 signboard
 - Creating a project blueprint (structure, electrical, software)
 - o Group discussion: Project feasibility and challenges
- Session 23: Final Project Execution
 - Hands-on: Building the complete signboard
 - Programming custom content with WiFi control
 - Testing and debugging
- Session 24: Presentation and Certification
 - Project presentation: Demo of the working signboard
 - o Exam





Learning Outcomes

- Design and fabricate metal structures for LED signboards
- Assemble and troubleshoot P6/P10 RGB LED displays
- Configure control systems and program visual content
- Implement WiFi-based monitoring and remote control
- Install and maintain commercial LED signboards

Prerequisites

- Basic knowledge of electronics and mechanical assembly
- Familiarity with computers and software installation
- No prior LED display experience required

For more info please call 01883113570