DS-DT90V-09HDPSI16NO/U
16-Port V Series LED Controller

The DS-DT90V-09HDPSI16NO/U LED controller is used with the full-color LED display. It provides seamless splicing display of large screens of any size. It is suitable for multiple occasions, such as conference rooms, studios, stadiums, airport stations, banks, advertisements, and home cinemas.

- Equip a full-color 4.5-inch LCD screen with 854 × 480 resolution for real-time device status monitoring and easy maintenance.
- Adopt a 2U standard rack-mount industrial-grade chassis design.
- Provide multiple front-panel buttons for adjusting display brightness, switching input sources, changing scenes, and locking the display.
- Support 9 video inputs including 1 × DP1.2, 3 × HDMI2.0, 1 × 12G-SDI, and 4 × HDMI1.3 interfaces.
- Deliver resolutions up to 4096 × 2160@60Hz via HDMI2.0 and DP1.2, and 1920 × 1080@60Hz via HDMI1.3.
- Offer 4 video loop-out channels: 3 × HDMI2.0 and 1 × 12G-SDI, all supporting 4096 × 2160@60Hz.
- Output images in RGB and YUV444 lossless quality.
- Support 16 Ethernet port outputs with a total load capacity of up to 10.4 MP. For a single device, the maximum resolution supported is 16384×16384 pixels, and each network port has a maximum load capacity of 0.65 MP.
- Accept HDMI embedded audio and provide 3.5mm audio input/output interfaces.
- Allow full-screen or custom scaling, free switching, and splicing of video signals.
- Support signal source windowing and roaming functions.
- Support 1 subtitle with customizable color, font, size, scroll speed, and image overlay.
- Enable video wall editing and visual window management.
- Save up to 10 user-configurable scenes and recall one scene at a time for convenient operation.
- Display up to 11 windows: 7 source windows (3×4K + 4×2K layers), 2 image windows, 1 scrolling text window, and 1 background window, all freely adjustable except the background window.
- Incorporate HDCP 2.2 for high-bandwidth digital content protection.
- Allow custom EDID configuration.
- Support dual backup of the power supplies and dual backup of LED controller network ports.
- Support flexible cabling without rectangular frame restrictions.
- Support the operation through the client or the LED controller web page.

- Support configuring background image for display.
- Support configuring device startup logo.
- Support display dehumidification functionality.
- Support remote control operation with an on-screen UI menu.
- Support adjusting output parameters such as brightness, contrast, and hue.
- Support pixel-level display calibration to eliminate color differences and enhance display quality.
- Support changing the display mode, including general, text, advertisement, video, cinema, security, and etc.
- Support color temperature adjustment modes including standard, warm color, and cold color, with customizable color temperature settings.
- Support eye protection mode to reduce viewer eye strain.
- Deliver a 7680Hz high refresh rate with nanosecond response time for smooth video playback.
- Support monitoring load relationships between the device and LED display.
- Support locating display abnormalities during operation.
- Support checking device status, memory, CPU usage, temperature, and network port utilization.
- Support detecting abnormal cabinet voltage, cabinet temperature, and device temperature.
- Support connecting to the central control device and IoT device through RS-485 port.
- Support docking device command and managing device by using the control network port and the protocols such as OTAP.
- Support using the control network port to connect to the multi-function card to realize environment temperature detection, environment humidity detection, and the cooperation between the human presence sensor and display control.
- Adapt to frame rates from 25Hz to 120Hz for image capture.
- Operate via a knob for menu selection, parameter adjustment, and confirmation.
- Provide 4 × 10G optical ports supporting video control mode and fiber-optic conversion mode.
- Support HDR10 with compatible receiving cards for enhanced color accuracy and detail.
- Support 3D display via the built-in 3D interface, transmitter, and 3D glasses.
- Provide a standard Genlock interface with loop-through support for synchronization signals.
- Support 1 × USB 2.0 port.

▪ Specification

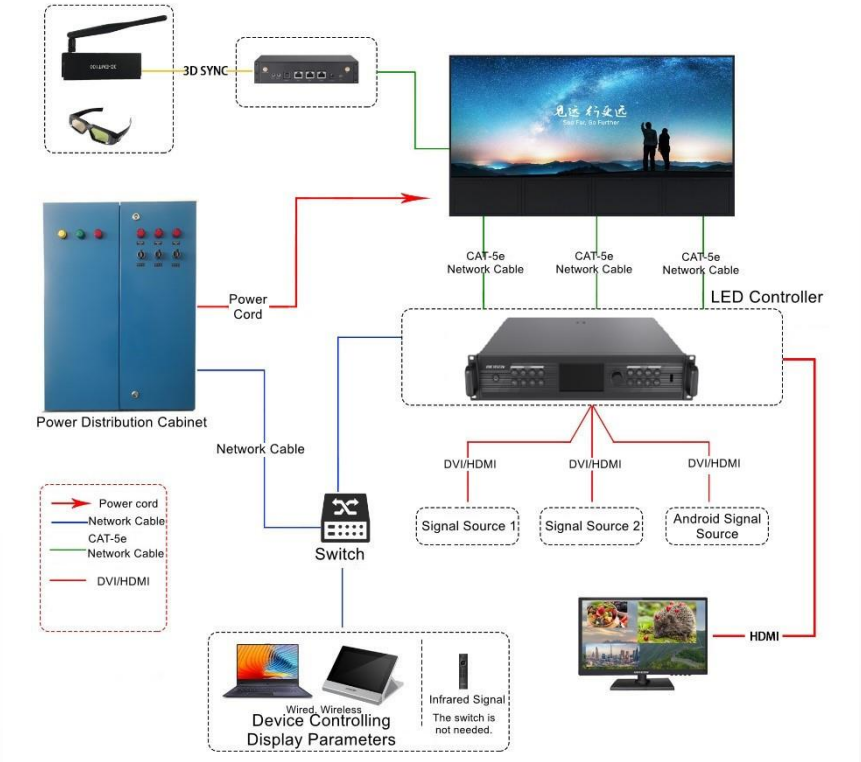
Product Model	
Product Model	DS-DT90V-09HDPSI16NO/U
Product Type	
Product Type	LED controller
Processing Performance	
Brightness Control	1 to 100 tunable (level-by-level white balance)
Input Frame Rate	25 Hz to 120 Hz
Grey Level	1024
Display Color	1 Gigapixel
Processing Depth	8 bit/10 bit
Image Scaling	Supported
Chassis	
Chassis Height	2 U
Chassis Width	442 mm(17.4 inch)
LED Controller Power	
Average Consumption	110 W
Interface	
Optical Interface	4 × 10G optical ports; The functionality of the optical interfaces varies depending on the optical port mode. In optical port transmit mode, OPT 1 to OPT 4 transmit data from Ethernet ports 1 to 8, 1 to 8 backup, 1 to 16, and 1 to 16 backup, respectively. In optical port receive mode, OPT 1 to OPT 4 serve as optical inputs and Ethernet ports serve as outputs. Supports both single-mode and multi-mode transceiver modules: Transmission distance of single-mode duplex transceiver module ≤ 10 km; Transmission distance of multi-mode duplex transceiver module ≤ 300 m
3D Interface	1 × 3D port; To achieve 3D effect, use this port together with a 3D transmitter and compatible 3D glasses. After enabling 3D effect, when the video source format is side-by-side, top-and-bottom, or front/back frame, the output load capacity of the device is halved.
USB Interface	1 × USB 2.0
Genlock Interface	Genlock interface supports Bi-Level, Tri-Level, and Blackburst. IN: Sync signal input. LOOP: Sync signal loop output. The Genlock input supports frame rates from 23.98 Hz to 60 Hz. Standard Genlock signal generators support cascading of up to 20 devices.
Serial Interface	1 × debugging port (4-pin connector)+ 2× RS-485 port (green Phoenix contact) Baud rate: 115200 Data bit: 8
Power	
Power Interface	1, 100 VAC to 240 VAC, 50/60 Hz
Network	
Control Network Port	2 × 10/100/1000 Mbps auto-sensing Ethernet port (RJ-45),Used for connecting to external networks, supporting multi-device network cascade management.

Video Wall	
Open Windows	Supports up to 7 video signal windows with source duplication (one-to-many). Maximum of 3 × 4K@60Hz + 4 × 2K@60Hz windows and duplication.
Layers per Device	Maximum support for 11 layers: 3 × 4K window + 4 × 2K window + 2 × split-screen window + 1 × subtitle window + 1 × background image window.
Scenes	10
Background Image	Supported (quantity: 1, max. resolution: 1920 × 1200, min. resolution: 640 × 480, format: JPG/JPEG)
Subtitles	1
Subtitle Width	32760
Subtitle Font	Supports Xiaomi font and custom font
General	
Screen	Screen type: LCD, dimension: 4.5 inch, resolution: 854 × 480
Working Temperature	0℃ to 50℃(32℉ to 122℉)
Storage Temperature	-10℃ to 50℃(14℉ to 122℉)
Storage Humidity	10% RH to 90% RH, no condensation
Working Humidity	10% RH to 90% RH, no condensation
Dimensions (W × H × D)	442 mm × 88 mm × 417 mm (17.40 inch × 3.46 inch × 16.42 inch) (excluding mounting ears)
Packaging Size (W × H × D)	642 mm × 180 mm × 587 mm (25.28 inch × 7.09 inch × 23.11inch)
Net Weight	5.9 kg (13.01 lb)
Gross Weight	8.42 kg (18.56 lb)
Packing List	1 × AC power cord, 2 × terminal block, 1 × regulatory compliance and safety information manual, 1 × RF remote control
Audio Input	
Audio Input Interface	Total 10: 3 × HDMI2.0+ 1× DP+4 × HDMI1.3+1 × line-in+1 × 12G-SDI
Video Input	
Video Input Interface Type	2-out-of-3 selection (2 × HDMI2.0, 1 × DP1.2) +1 × HDMI2.0+4 × HDMI1.3+1 × 12G-SDI
Video Input Interfaces	8
Max. Video Input Resolution	HDMI2.0/DP1.2/12G-SDI: 4K HDMI1.3: 1080P

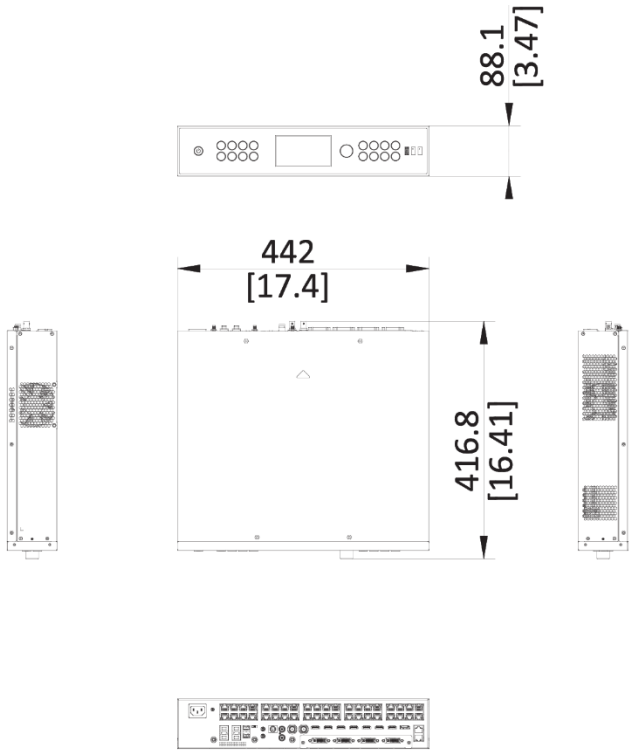
Video Input Resolution	HDMI2.0/DP1.2 port: Max. resolution: 4096 × 2160@60 Hz Min. resolution: 320 × 180@60 Hz Supports custom resolution. Total resolution should be no more than 8.84 MP@60 Hz Max. width: 144 to 8192, alignment: 2 alignment Max. height: 144 to 8192, alignment: 1 alignment Supports HDCP 2.2. Interlacing signal input is not supported. HDMI1.3 port: Max. resolution: 1920 × 1080@60 Hz Min. resolution: 320 × 180@60 Hz Supports custom resolution. Total resolution should be no more than 2.07 MP@60 Hz Max. width: 144 to 2048, alignment: 2 alignment Max. height: 144 to 2048, alignment: 1 alignment Supports HDCP 1.4. Interlacing signal input is not supported. 12G-SDI port: Supports input from ST-424 (3G), ST-292 (HD), and ST-259 (SD) standard video sources; Compliant with SMPTE 259M, SMPTE 274M, SMPTE 296M, SMPTE 425M-A, and SMPTE 425M-B protocols; Max. input resolution: 4096 × 2160@60Hz; Supports LOOP output and 10-bit video input; Input resolution and bit depth settings are not supported.
Video Input Processing Feature	DP1.2/HDMI2.0/12G-SDI processing depth: 8 bit/10 bit Sampling format: RGB: 444, YUV: 444, YUV: 422,Built-in HDMI1.3 processing depth: 8 bit Sampling format: RGB: 444, YUV: 444, YUV: 422
Video Output	
Max. Video Output Resolution	10.4 MP
Loading Capacity for Video Output to LED	Single port load 650000, Width 144 - 16384, Height 64 - 16384, Width must be a multiple of 2 and height must be a multiple of 1, Max. load cannot exceed 10.4 MP
LED Loading Interfaces	16
LED Loading Interface Type	RJ-45
Video Loop Output Interface	3-channel HDMI2.0+1-channel 12G-SDI loop output(Two HDMI ports correspond to 2-out-of-3 selection for signal loop outputs)
Video Loop Output Resolution	HDMI2.0/12G-SDI port: Max. resolution: 4096 × 2160@60 Hz Min. resolution: 320 × 180@60 Hz Supports custom resolution, total resolution not exceeding 8.84 MP@60 Hz. Max. width: 144 to 8192, width must be a multiple of 2. Max. height: 144 to 8192, height must be a multiple of 1. Supports HDCP2.2
Video Live View Output Interfaces	1
Type of Video Live View Output Interface	HDMI 1.3
Video Live View Output Resolution	1080p@60 Hz
Loading Mode	Single port load 0.65 MP
Audio Output	
Audio Output Interface	1 × 3.5 mm audio

Wireless	
Remote Control	Supported(RF remote control)
Device Parameters	
Button	8 buttons for 4K/2K video input signals; 8 function buttons: SCALE button: Full-screen scaling ESC button: Backspace LOCK button: Lock TEST button: Test image SCENE button: Scene switch for V series LED controller, program switch for P series LED controller Win button: Window button FN: Toggle button BLACK: Black screen button Up/Down/Left/Right: Multipurpose 0-9 number keys: Multipurpose
Front Panel	
Indicator	Uses the button indicator lights and switch indicator lights.
Power Switch	Button switch Steady On: Device is powered on and running. Off: Device is not powered on or not started.
knob	Uses the knob to select the menu, adjust the parameters and confirm the operation.

▪ Typical Application



▪ Dimension



Unit: mm [inch]

SCALE	1:2

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