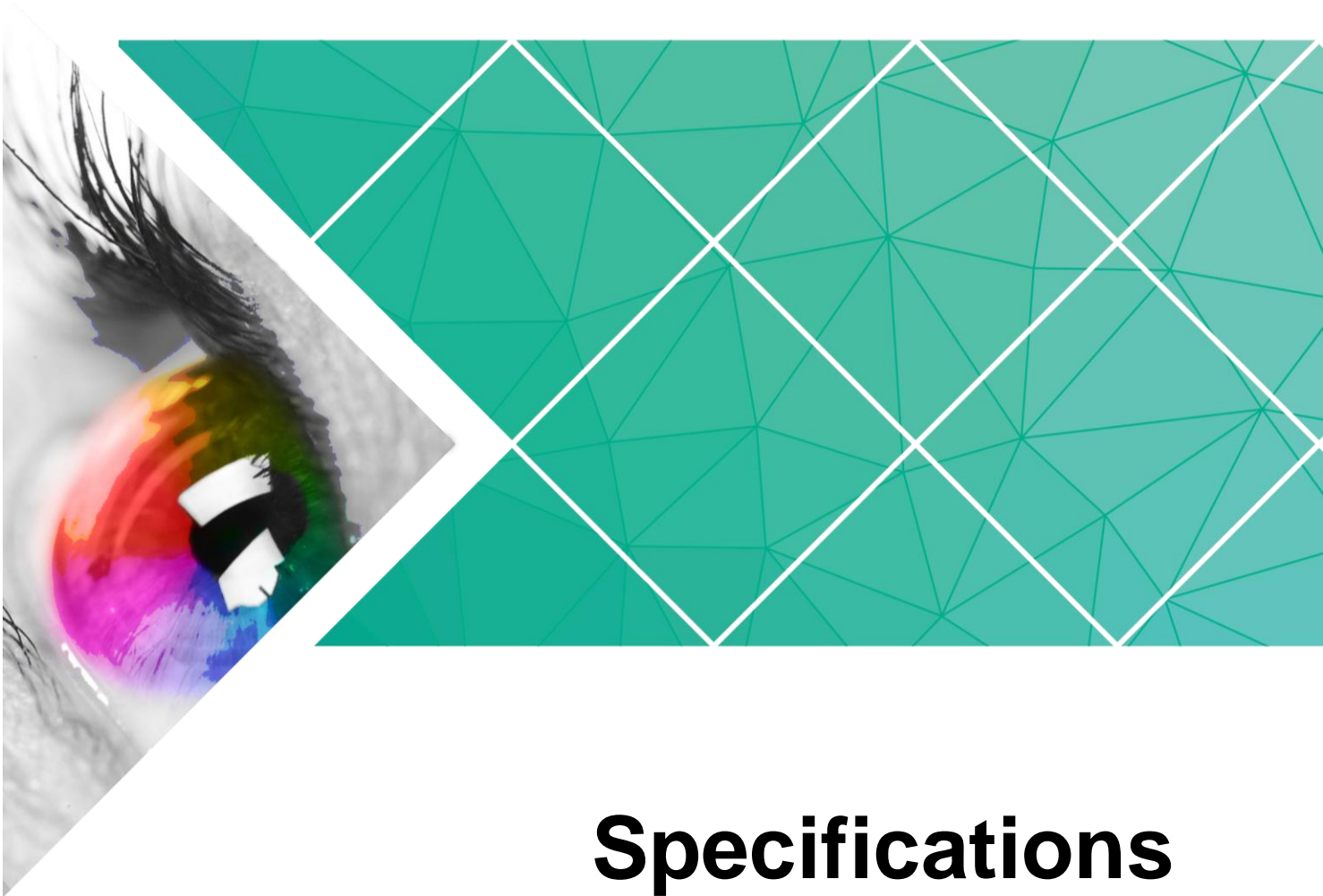


# N9

# Seamless Switcher




# Specifications

Document Version: V1.0.1  
Document Number: NS160100326

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## Change History

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| Version | Release Date | Description                         |
|---------|--------------|-------------------------------------|
| V1.0.1  | 2019-06-17   | Updated the input card description. |
| V1.0.0  | 2019-03-07   | First release                       |

# 1 Overview

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The N9 is a high-performance seamless switcher that integrates video processing, screen mosaic, transition effects and multi-screen display capabilities. With powerful video signal receiving and processing abilities, the N9 supports up to 4Kx2K@60Hz video input. Using high-performance video processing technologies, it is capable of processing and outputting ultra-high quality images. The N9 supports 9 video inputs, 7 layers and up to 4 group of DVI connectors for mosaic output. A single N9 unit can load an up to 8KK screen, and multiple N9 units can be cascaded for output.

The N9 can work with NovaStar's C1 event controller and brand-new V-Can smart control software, to realize richer screen mosaic effects and easier operation.

Thanks to the powerful capabilities of receiving and processing a variety of video signals, the N9 can be widely used in various scenarios, such as intermediate and high-end rental, stage control, media centers, big conference sites, exhibition sites and concert control centers.

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# 2 Features

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- Compatible with industry-standard video input connectors in the market
  - DP 1.2 connector: 3840x2160@60Hz
  - DP 1.1 connector: 3840x2160@30Hz
  - HDMI 1.3 connector: 1920x1080@60Hz
  - DVI connector: 1920x1080@60Hz
  - 3G-SDI connector: 1920x1080@60Hz
- 4 groups (2 connectors in each group) of DVI connectors for mosaic output  
Each group includes a main connector and a backup connector. A maximum of 4 connectors can be used for mosaic output. The mosaic layout can be 4x1, 1x4 or 2x2. The maximum loading capacity can reach 8,800,000 pixels and the maximum mosaic width can be up to 8192 pixels.  
Supports 4 single-link connectors or 2 dual-link connectors for mosaic output.
- Multiple layer display
  - Up to 7 layers supported at the same time. Max. resolution of each layer can be up to 4Kx2K. Cross connector output is supported.
  - Layer cloning, layer mirroring and Z-order layer sorting are supported.
- Customized BKG settings  
You can load an image file from the control computer or C1 event controller, or you can also capture an input source image displayed on the screen as the BKG image.
- Input source cropping supported
- Easy mosaic and custom mosaic
- EDID management supported  
Supports input resolution management for DVI, HDMI and DP connectors.
- Display control and transition effects
  - Allows you to black out or freeze the screen by simply clicking one button.
  - Supports setting of transition effect and effect duration.
- HDMI connector for output monitoring
  - Supports monitoring of all input sources, PVW and PGM.
  - Supports displaying of input resolution and frame rate.
- 2 x Aux output

- 32 × preset  
A total of 32 user presets can be created and saved as templates which can be used directly and conveniently.
- Multiple operation modes  
You can operate the N9 via its front panel, the V-Can smart control software or C1 event controller.
- Genlock synchronization or synchronization with any input source, achieving output vertical synchronization

# 3 Appearance

## Front Panel



| No. | Button               | Function   |
|-----|----------------------|--|
| 1   | Input source buttons | Indicate input source status. <ul style="list-style-type: none"> <li>• On: The input source is accessed but not in use.</li> <li>• Dim: The input source is accessed and in normal use.</li> <li>• Off: The input source is not accessed or abnormal.</li> </ul>   |
| 2   | LCD screen           | Display the current device status and settings menu.   |
|     | Knob                 | <ul style="list-style-type: none"> <li>• On the home screen, press the knob to enter the operation menu screen.</li> <li>• On the operation menu screen, rotate the knob to select a menu item, and press the knob to confirm the selection or enter the submenu.</li> <li>• When a menu item with parameters is selected, you can rotate the knob to adjust the parameters. Please note that after adjustment, you need to press the knob again to confirm the adjustment.</li> </ul> |
|     | BACK button          | Press the button to exit the current menu or cancel the operation.   |

| No. | Button        | Function   |
|-----|---------------|--|
|     | TAKE button   | Send PVW to PGM.   |
|     | TEST button   | Enter the test patterns menu.  |
| 3   | Layer buttons | <p>Press a layer button to open the corresponding layer and enter the layer settings menu</p> <ul style="list-style-type: none"> <li>• On: Layer is open.</li> <li>• Flashing: Settings menu of the corresponding layer is opened and being edited.</li> <li>• Off: Layer is closed.</li> <li>• On the home screen, hold down a layer button to close the layer.</li> <li>• BKG: Open or close the BKG.</li> </ul> |
| 4   | Preset button | Press it to enter the preset menu. A total of 32 presets can be loaded, saved and cleared, etc.  |
|     | Fn button     | A custom function button   |

### Rear Panel

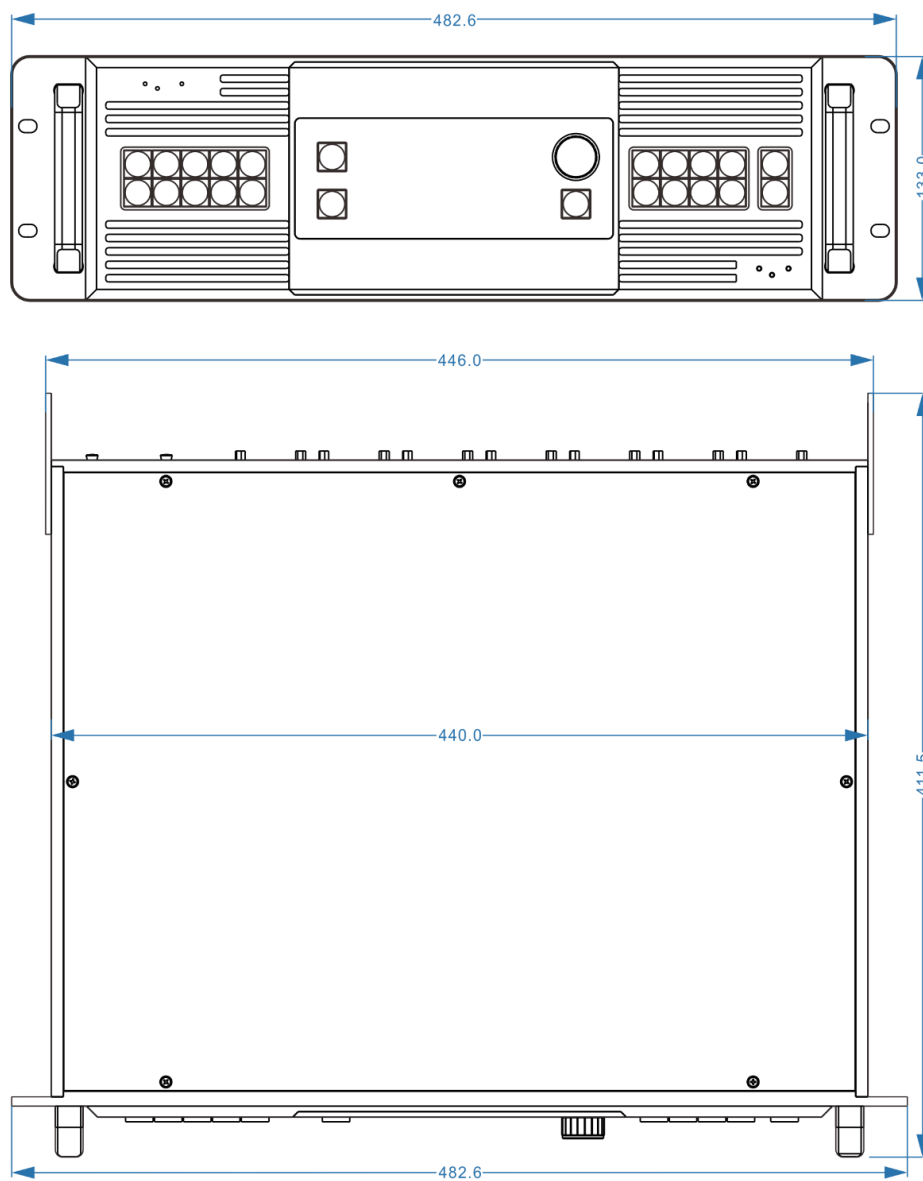


| Input   |  |
|---------|--|
| INPUT-1 | <p>DP 1.1 connector</p> <p>Supports 3840x2160@30Hz video source input (downward compatible) and custom resolutions.</p>  |
| INPUT-2 | <p>HDMI 1.3 connectors</p> <p>Support 1920x1080@60Hz video source input, any input resolution that conforms to VESA standard and custom resolutions.</p>                   |
| INPUT-3 | <p>HDMI 1.3 connectors</p> <p>Support 1920x1080@60Hz video source input, any input resolution that conforms to VESA standard and custom resolutions.</p>                   |
| INPUT-4 | <p>DVI connectors</p> <p>Supports 1920x1080@60Hz video source input (downward compatible), any input resolution that conforms to VESA standard and custom resolutions.</p> |
| INPUT-5 | <p>DVI connectors</p> <p>Supports 1920x1080@60Hz video source input (downward compatible), any input resolution that conforms to VESA standard and custom resolutions.</p> |
| INPUT-6 | <p>DVI connectors</p> <p>Supports 1920x1080@60Hz video source input (downward compatible), any input resolution that conforms to VESA standard and custom resolutions.</p> |
| INPUT-7 | <p>DVI connectors</p> <p>Supports 1920x1080@60Hz video source input (downward compatible), any input resolution that conforms to VESA standard and custom resolutions.</p> |



|                       |  |
|-----------------------|--|
| INPUT-8               | DP 1.2 connector<br>Supports 3840×2160@30Hz video source input (downward compatible) and custom resolutions.                 |
| INPUT-9               | 3G-SDI connector<br>Supports 1920×1080@60Hz video source input (downward compatible).<br>Supports de-interlacing processing. |
|                       | SDI LOOP for SDI signal loop output  |
| <b>Output</b>         |  |
| HDMI                  | HDMI output connector, capable of monitoring 9 input sources, PVW and PGM  |
| DVI1-DL/PGM1          | DVI 1 output<br>If the output mode is set to dual link, this connector is DuallinkOut1.                                      |
| DVI2/PGM2             | DVI 2 output<br>If the output mode is set to dual link, this connector is invalid.   |
| DVI3-DL/PVW1          | DVI 3 output<br>If the output mode is set to dual link, this connector is DuallinkOut2.                                      |
| DVI4/PVW2             | DVI 4 output<br>If the output mode is set to dual link, this connector is invalid.   |
| HDMI1/HDMI2           | 2 Aux output connectors  |
| <b>Control</b>        |  |
| ETHERNET (RJ45)       | A control connector  |
| USB (Type-B)          | For the connection with control computer   |
| USB (Type-A)          | For cascading N9 units   |
| IN-Genlock-LOOP       | For synchronizing cascaded devices   |
| OPT OUTPUT            | 4 optical fiber connectors for controlling the VE7 video input expander  |
| <b>Power</b>          |  |
| AC100V-240V~, 50/60Hz | AC power connector   |

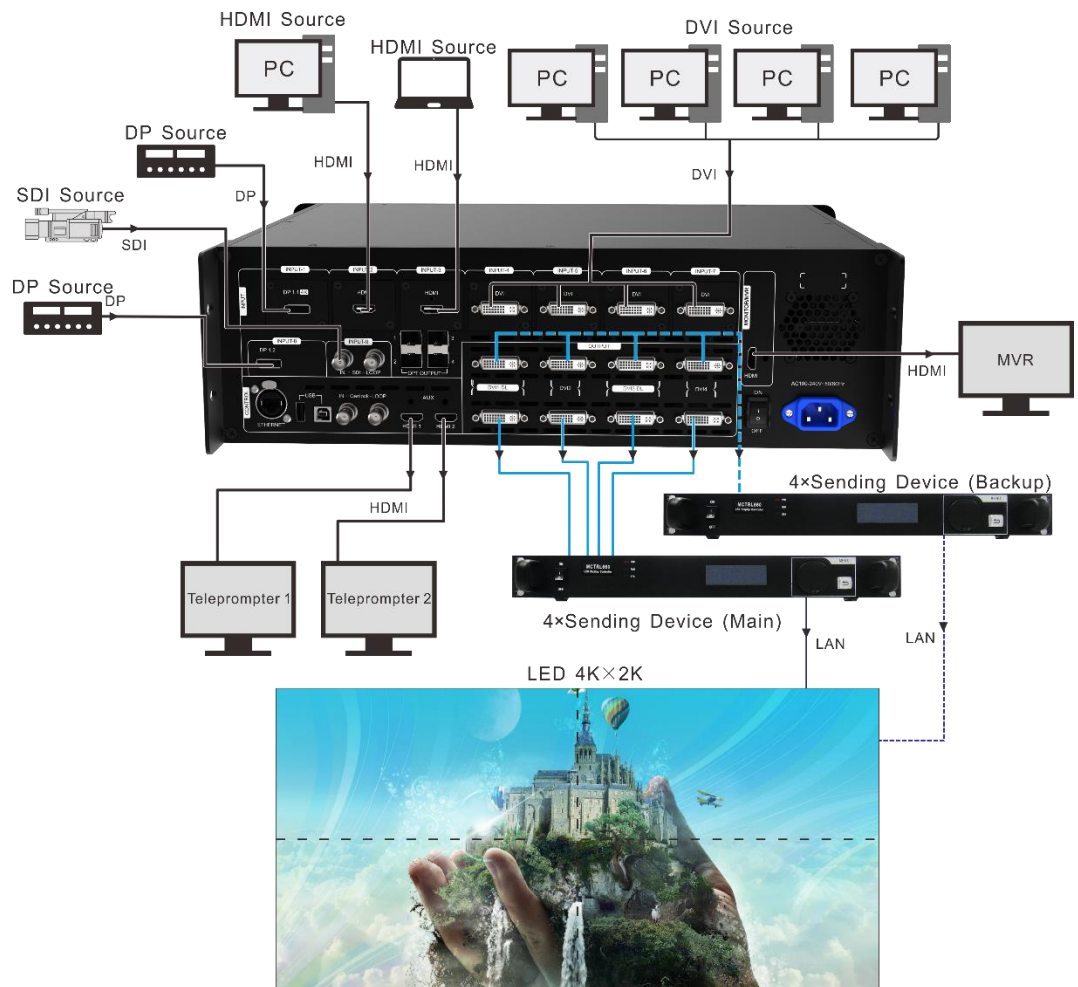
# 4 Dimensions



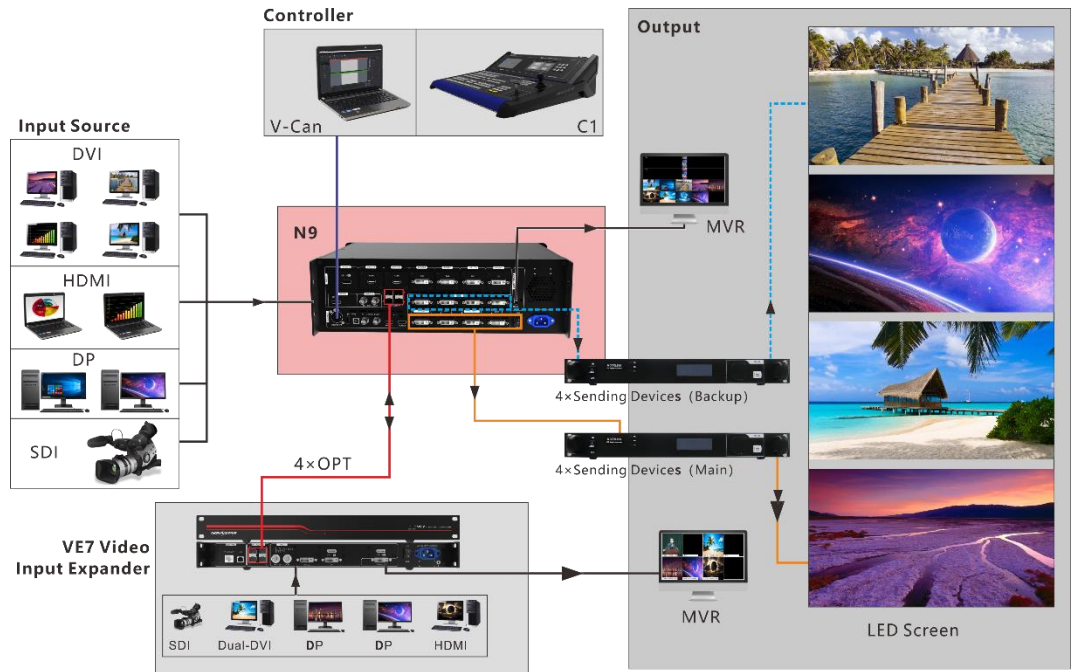
Unit: mm

# 5 Applications

N9 works independently



N9 works with V-Can/C1/VE7



# 6 Specifications

| Connector Specifications |                          |                          |
|--------------------------|--------------------------|--------------------------|
| Connector                | Resolution               |                          |
| DP 1.1                   | 800x600@50/60/75/120Hz   | 1920x1080@50/60/75/120Hz |
|                          | 1024x768@50/60/75/120Hz  | 1920x1200@/50/60/75Hz    |
|                          | 1280x720@50/60/75/120Hz  | 2048x640@50/60/75/120Hz  |
|                          | 1280x768@50/60/75/120Hz  | 2048x1152@/50/60/75Hz    |
|                          | 1280x800@50/60/75/120Hz  | 2048x1536@/50/60/75Hz    |
|                          | 1280x1024@50/60/75/120Hz | 2304x1152@/50/60/75Hz    |
|                          | 1366x768@50/60/75/120Hz  | 2560x816@50/60/75/120Hz  |
|                          | 1440x900@50/60/75/120Hz  | 2560x960@/50/60/75Hz     |
|                          | 1600x1200@50/60/75/120Hz | 2560x1600@/50/60Hz       |
|                          | 1680x1050@50/60/75/120Hz | 3840x1080@/50/60Hz       |
| DP 1.2                   | 800x600@50/60/75/120Hz   | 1920x1200@50/60/75/120Hz |
|                          | 1024x768@50/60/75/120Hz  | 1920x2160@50/60/75/120Hz |
|                          | 1280x720@50/60/75/120Hz  | 2048x640@50/60/75/120Hz  |
|                          | 1280x768@50/60/75/120Hz  | 2048x1152@50/60/75/120Hz |
|                          | 1280x800@50/60/75/120Hz  | 2048x1536@50/60/75/120Hz |
|                          | 1280x1024@50/60/75/120Hz | 2304x1152@50/60/75/120Hz |
|                          | 1364x768@50/60/75/120Hz  | 2560x816@50/60/75/120Hz  |
|                          | 1440x900@50/60/75/120Hz  | 2560x960@50/60/75/120Hz  |
|                          | 1600x1200@50/60/75/120Hz | 2560x1600@50/60/75/120Hz |
|                          | 1680x1050@50/60/75/120Hz | 3840x1080@50/60/75/120Hz |
| HDMI 1.3                 | 800x600@50/60/75/120Hz   | 1920x1080@50/60/75/120Hz |
|                          | 1024x768@50/60/75/120Hz  | 1920x1200@/50/60/75Hz    |
|                          | 1280x720@50/60/75/120Hz  | 2048x640@50/60/75/120Hz  |
|                          | 1280x768@50/60/75/120Hz  | 2048x1152@/50/60/75Hz    |
| DVI                      | 1280x800@50/60/75/120Hz  | 2048x1536@/50/60/75Hz    |

| Connector Specifications |  |
|--------------------------|--|
| Connector                | Resolution   |
|                          | 1280x1024@50/60/75/120Hz      2304x1152@/50/60/75Hz<br>1366x768@50/60/75/120Hz      2560x816@50/60/75/120Hz<br>1440x900@50/60/75/120Hz      2560x960@/50/60/75Hz<br>1600x1200@50/60/75/120Hz      2560x1600@/50/60Hz<br>1680x1050@50/60/75/120Hz      3840x1080@/50/60Hz |
| SDI                      | 3G-SDI, compatible with HD-SDI and SD-SDI signal<br>De-interlacing supported<br>576i@50Hz<br>480i@59.94Hz<br>1280x720p@23.98/24/25/29.97/30/50/59.94/60Hz<br>1920x1035i@59.94/60Hz<br>1920x1080i@50/59.94/60Hz<br>1920x1080p@23.98/24/25/29.97/30/50/59.94/60Hz          |
| Overall Specifications   |  |
| Power connector          | AC100V-240V~50/60Hz  |
| Operating environment    | Temperature: 0°C–60°C  |
|                          | Humidity: 10% RH–90% RH, non-condensing  |
| Dimensions               | 3U standard chassis<br>482.6 mm x 139.5 mm x 411.5 mm  |
| Package dimensions       | 550mm x 601mm x 189mm  |
| Power consumption        | 95 W   |
| Net weight               | 6.5 kg   |
| Total weight             | 20 kg  |