

## Data Sheet

# iCon500 Neos Series

## Videowall Processing System

The Vistrol iCON500 Neos Series is a high-performance video wall controller designed for LCD and LED video wall systems. The platform utilises a pure hardware FPGA-based architecture, enabling real-time, deterministic video processing with seamless signal switching and stable image output suitable for continuous operation.

The iCON500 Neos Series supports arbitrary window layouts, including free stretching, scaling, roaming, and picture-in-picture (PiP). All window composition and video processing functions are executed in dedicated hardware processing pipelines, ensuring consistent performance regardless of layout complexity and eliminating reliance on an operating system for video processing.

The system features a modular and scalable chassis design, allowing flexible configuration based on current requirements and straightforward expansion as operational needs evolve. A single controller is capable of supporting video walls of up to 144 display outputs, making the platform suitable for command-and-control centres, data centres, control rooms, meeting facilities, and visualisation environments where reliability, operational continuity, and system scalability are mandatory.

The iCON500 Neos Series is engineered for 24/7 operation and is suitable for deployment in mission-critical environments requiring high system availability, predictable performance, and long-term operational stability.



## ✓ Features

### 1. Multi-Layer Window Processing

The iCON500 Neos Series is available with two FPGA-based chassis mainboard configurations, supporting either 2-layer or 4-layer multi-window processing per display output. Each window can be freely stretched, scaled, repositioned, and displayed in picture-in-picture, with all operations processed in hardware to ensure stable, real-time performance.

### 2. Integrated IP Video Decoding

The system supports native decoding of H.264 and H.265 IP video streams, enabling direct display of IP camera feeds and network video sources on the video wall without the requirement for third-party external decoders.

### 3. 4K@60Hz Signal Acquisition

The iCON500 Neos Series supports 4K ultra-high-definition input signals at 60Hz, providing high-resolution image acquisition and smooth motion rendering for detailed visualisation applications.

#### 4. Multi Video Wall Management

A single controller is capable of managing up to four independent video walls. Input sources can be shared and deployed across multiple video walls simultaneously, allowing flexible visual distribution across different operational zones.

#### 5. Optional Live Signal Preview and Video Wall Mirroring

The system optionally supports real-time preview of live input sources and mirroring of the full video wall output to a dedicated preview display. This feature allows operators and supervisors to monitor content without direct line-of-sight to the main video wall, enhancing situational awareness in complex control environments.

#### 6. Multiple Control Methods

The iCON500 Neos Series provides multiple operator control interfaces to facilitate integration and management in diverse operational environments:

- Front panel touchscreen for local system configuration and operation
- RS232 and LAN interfaces for integration with existing control and automation systems
- Web-based GUI for remote monitoring and control

These control options allow operators to configure, monitor, and manage the video wall controller in accordance with operational requirements and system architecture.

#### 7. Scrolling Text Function

The system includes a built-in scrolling text function for displaying notifications, alerts, or informational messages. Text font, colour, and scrolling speed can be configured without the need for additional hardware or software.

#### 8. Text Overlay Function

Text overlays can be applied directly onto input sources to support source identification and operational clarity, particularly in complex, multi-source video wall environments.

#### 9. Flexible Input Interface Support

The iCON500 Neos Series supports a wide range of input interfaces via modular input cards, including:

- **Digital Video Inputs:** DVI, HDMI, DisplayPort (DP), SDI
- **Analog Video Inputs:** VGA, YPbPr, CVBS
- **Network / IP Inputs:** IP streams (RTSP, HTTP, ONVIF etc.)

This ensures compatibility with both legacy and modern signal sources commonly found in control room and enterprise environments.

#### 10. Redundant Power Supply Support

The system supports optional redundant power supplies, enabling continued operation in the event of a power module failure and enhancing overall system availability for mission-critical deployments.

## ✓ Technical Specifications

MODEL	iCON500-NE-02 Series	iCON500-NE-04 Series
Chassis Size	2U / 3U / 4U / 6.5U / 11U	2.5U / 4U / 6.5U / 11U
In / Out Interface Number	8x12 / 16x20 / 16x32 / 36x36 / 76x72 or 12x8 / 24x12 / 12x32 / 48x24 / 88x60	16x9 / 32x18 / 36x36 / 76x72 or 20x8 / 24x20 / 48x24 / 88x60
Input Interface Type	DVI / HDMI / DP / VGA / YPbPr / CVBS / SDI / IP	
Output Interface Type	HDMI / DVI	
Input Resolution	1920 x 1200 @ 60Hz 4092 x 2160 @ 60Hz	
Output Resolution	1920 x 1200 @ 60Hz	
Quantity of Windows	2 windows on each display unit (max)	4 windows on each display unit (max)
Power Consumption	2U: 100W 3U: 100W 4U: 150W 6.5U: 200W 11U: 350W	2.5U: 100W 4U: 150W 6.5U: 200W 11U: 350W
Power Supply	100–240V, 50–60Hz	
Working Temperature	–20°C ~ +70°C	
Humidity	10% ~ 90%	
Control Method	Front touch screen RS232 & LAN Web-GU	
RPSU Configuration Options	1+1 / 1+1 / 1+1 / 1+1 / 1+3	1+1 / 1+1 / 1+1 / 1+3

## ✓ Input/Output Configuration

Model	iCON500-NE-CHS2-2U
Chassis Size	2U Chassis
In/Out Config.(Max).	8x12 or 12x8

Model	iCON500-NE-CHS2-3U
Chassis Size	3U Chassis
In/Out Config.(Max).	16x20 or 24x12

Model	iCON500-NE-CHS2-4U
Chassis Size	4U Chassis
In/Out Config.(Max).	16x32 or 12x32 or 8x36(Fixed)

Model	iCON500-NE-CHS2-6.5U
Chassis Size	6.5U Chassis
In/Out Config.(Max).	36x36 or 48x24

Model	iCON500-NE-CHS2-2U
Chassis Size	11U Chassis
In/Out Config.(Max).	76x72 or 88x60

Model	iCON500-NE-CHS4-2.5U
Chassis Size	2.5U Chassis
In/Out Config.(Max).	16x9, 20x8 or 8x12

Model	iCON500-NE-CHS4-4U
Chassis Size	4U Chassis
In/Out Config.(Max).	32x18 or 40x12 or 24x20(Fixed)

Model	iCON500-NE-CHS4-6.5U
Chassis Size	6.5U Chassis
In/Out Config.(Max).	36x36 or 48x24

Model	iCON500-NE-CHS4-11U
Chassis Size	11U Chassis
In/Out Config.(Max).	76x72 or 88x60

## ✓ Input Cards



<b>Model</b>	<b>iCON500-NE-HD4H-I</b>
<b>Channel</b>	4-Channel
<b>Input Interface Type</b>	HDMI (Type A)
<b>Resolution</b>	1920 x 1200@60Hz



<b>Model</b>	<b>iCON500-NE-HD4D-I</b>
<b>Channel</b>	4-Channel
<b>Input Interface Type</b>	DVI (24+5pin)
<b>Resolution</b>	1920 x 1200@60Hz



<b>Model</b>	<b>iCON500-NE-4K1H-I</b>
<b>Channel</b>	1-Channel
<b>Input Interface Type</b>	HDMI (Type A)/DP 1.2
<b>Resolution</b>	3840 x 2160@60Hz



<b>Model</b>	<b>iCON500-NE-VGA4-I</b>
<b>Channel</b>	4-Channel
<b>Input Interface Type</b>	VGA (15-pin D-Sub)
<b>Format</b>	RGBHV/RGBS/RGsB/RsGsBs



<b>Model</b>	<b>iCON500-NE-IP2-I</b>
<b>Channel</b>	2-Channel
<b>Input Interface Type</b>	RJ-45 (IP Video)
<b>Format</b>	H.264 / H.265 / MPEG-4



<b>Model</b>	<b>iCON500-NE-SDI4-I</b>
<b>Channel</b>	4-Channel
<b>Input Interface Type</b>	BNC (SDI)
<b>Format</b>	SD / HD / 3G-SDI



<b>Model</b>	<b>iCON500-NE-BNC4-I</b>
<b>Channel</b>	4-Channel
<b>Input Interface Type</b>	BNC (Analog Video)
<b>Format</b>	NTSC / PAL / SECAM



<b>Model</b>	<b>iCON500-NE-RCA4-I</b>
<b>Channel</b>	4-Channel
<b>Input Interface Type</b>	RCA
<b>Format</b>	EIA-770.2a

## ✓ Output Cards



<b>Model</b>	<b>iCON500-NE-HD4H-2L-O</b>
<b>Channel</b>	4-Channel
<b>Output Interface Type</b>	HDMI (Type A)
<b>Resolution</b>	1920 x 1080 @60Hz (CHS2 only)



<b>Model</b>	<b>iCON500-NE-HD4H-4L-O</b>
<b>Channel</b>	4-Channel
<b>Output Interface Type</b>	HDMI (Type A)
<b>Resolution</b>	1920 x 1080 @60Hz (CHS4 only)



<b>Model</b>	<b>iCON500-NE-HD4D-2L-O</b>
<b>Channel</b>	4-Channel
<b>Output Interface Type</b>	DVI (24+5 pin)
<b>Resolution</b>	1920 x 1080 @60Hz (CHS2 only)



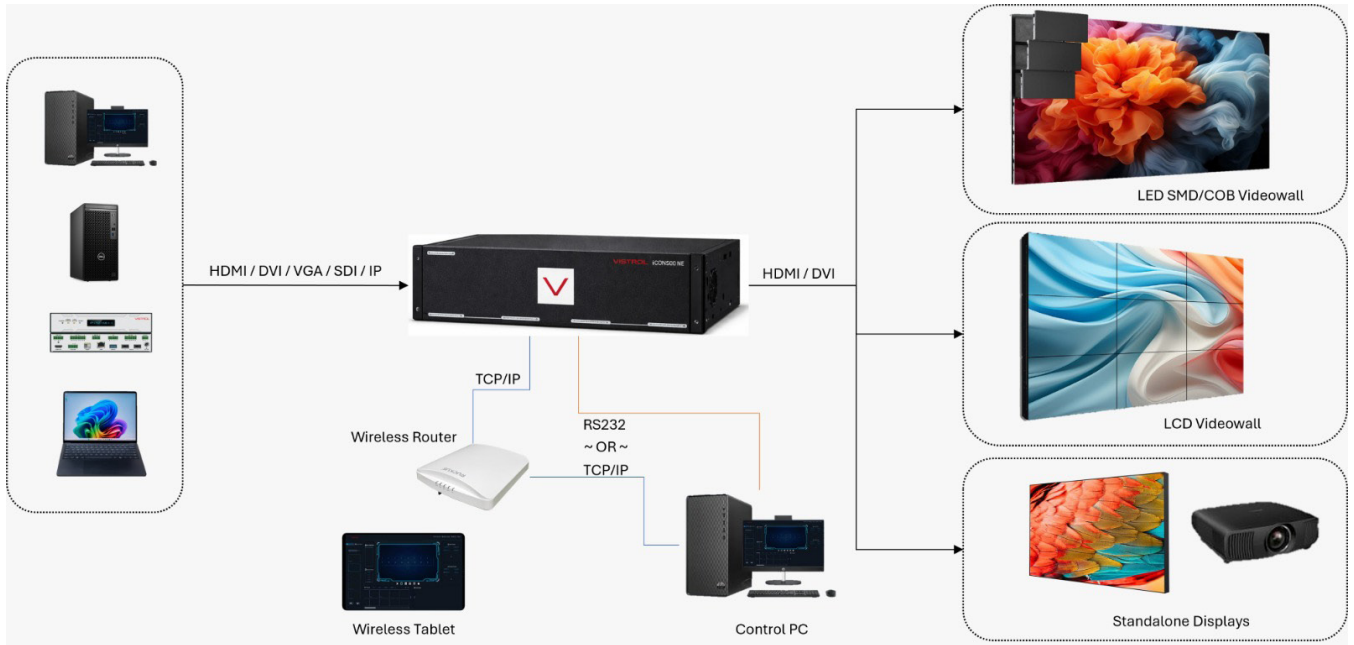
<b>Model</b>	<b>iCON500-NE-HD4D-4L-O</b>
<b>Channel</b>	4-Channel
<b>Output Interface Type</b>	DVI (24+5 pin)
<b>Resolution</b>	1920 x 1080 @60Hz (CHS4 only)

## ✓ Redundant Power Supply Module



<b>Model</b>	<b>iCON500-NE-RPSU-2U</b>	<b>iCON500-NE-RPSU-2.5U</b>	<b>iCON500-NE-RPSU-3U</b>	<b>iCON500-NE-RPSU-4U</b>	<b>iCON500-NE-RPSU-6.5U</b>	<b>iCON500-NE-RPSU-11U</b>
<b>Power Supply</b>	100–240V, 50–60Hz					
<b>Power Plug Type</b>	UK (others upon request)					

# ✓ Sample System Configuration



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