

01 / IDENTIFY AND PLAN

Equipment covered

Bently Nevada 147663-01 is the 3500/94 VGA Display I/O module. It provides the rear-rack VGA display output and RS232 touchscreen-data interface used with the associated 3500/94 display system.

Record the installed hardware

System generation	3500/94 VGA Display
Rear I/O spare	147663-01
Main-module spare	145988-01
Main-module slot	One full-height front slot
I/O slot	One full-height rear slot
User guide	148636

Trace the display path

Rack	Rear I/O	Operator
3500/94 main module	147663-01 VGA + RS232	Supported touchscreen display

01 Establish the service boundary

Identify which local operator views will be unavailable during service and arrange the site work boundary before disconnecting the display path. Record module, display and cable identities. Follow the installed rack procedure for handling and replacement; do not infer permission to interrupt machinery protection from this display-interface guide.

02 Record the current configuration

Display type and language are selected using 3500 Rack Configuration Software. Other display data and the nine custom screens are configured locally. The supported display types use different touchscreen controllers, so a generic VGA picture alone does not establish touchscreen compatibility.

03 Confirm replacement identity

Use the exact 147663-01 I/O identification and the 3500/94 main-module generation. The newer 3500/94M has separate documentation; similar display naming does not establish an interchangeable I/O spare.

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02 / CHECK DISPLAY AND CABLING

Connections to identify

Video path	VGA analog RGB and synchronization
Touch-return path	RS232 controller data
Display selection	Supported type and matching touch controller
External display power	Separate power supply
Optional router	Four rack inputs; one selected display path

04 Plan the direct cable route

The standard installation can place the display up to 10 m (33 ft) from the rack. For best image quality, the manufacturer recommends staying within 25 ft because the video driver is optimized for that range. The recommended distance and maximum standard reach are different constraints and should remain distinct in the installation record.

05 Check display supply and mounting

The external display needs its own power supply. Select the supply and mounting arrangement for the exact display execution, rather than assuming that the I/O connector provides display power. Outdoor displays may need a protective hood against direct sunlight. Display-specific approvals and environmental limits require separate verification.

06 Inspect video and touch paths

Check the VGA and RS232 cable identities, connector condition and route before reconnection. Keep the two signal paths labelled. Avoid connector strain and route cables according to the installed equipment procedure; do not infer pin assignments from cable appearance.

Explore related monitoring products

Bently Nevada 3500/93 135785-02	Related monitoring product; verify system and function
Bently Nevada 3500/22M 138607-01	Related monitoring product; verify system and function

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03 / CONFIGURE ROUTER OR EXTENDER

07 Verify router placement

The optional display router connects as many as four racks to a shared display. The operator views one selected rack at a time; rack address and alarm status remain visible at the upper right. Keep the router within 6 m (20 ft) of every connected rack and verify the selected rack before navigating or interpreting its data.

08 Assess KVM suitability

A KVM extender can increase display separation to 305 m (1000 ft), but picture quality degrades and the longer path is more susceptible to noise. Use it only when standard cabling is inadequate. The extender is for indoor use and is not rated for potentially hazardous areas; it is not Class I Division 2 or NEMA 4X equipment.

Listed cable and accessory examples

148637-01	VGA display cable, 20 ft
148638-01	Serial touchscreen cable, 25 ft
149356-01	Display router box
103M7873-01	KVM extender kit
148350-0250	CAT5 PVC cable, 250 ft
148350-0500	CAT5 PVC cable, 500 ft
148350-1000	CAT5 PVC cable, 1000 ft

09 Confirm the selected path

For a routed installation, document the rack addresses and each video/serial connection. With a KVM extension, record the extender and CAT5 route separately from the direct VGA/RS232 segments. Review local electrical noise conditions before accepting a long display path.

Explore related monitoring products

Bently Nevada 3500/50E

Related monitoring product; verify system and function

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04 / RESTORE DISPLAY AND TOUCH

Software baseline to review

Host Firmware Minimum	Revision P
Rack Configuration Minimum	Version 4.8
Operator Display Minimum	Version 2.21
Data Acquisition Minimum	Version 1.22

10 Check configuration consistency

Display type and language are selected using 3500 Rack Configuration Software. Other display data and the nine custom screens are configured locally. The supported display types use different touchscreen controllers, so a generic VGA picture alone does not establish touchscreen compatibility.

11 Verify the video image

After restoring the equipment under the site procedure, inspect text, colours, synchronization and readability at the actual cable length. Investigate instability or degradation before considering the display ready for operator use.

12 Test touchscreen response

Confirm that required touchscreen controls respond to the intended screen locations. If an image is present but touch fails, check the separate RS232 route, controller selection and display configuration rather than treating the VGA signal as proof of a complete connection.

13 Verify data and rack identity

The 3500/94 can display System Event and Alarm Event lists, module and channel data, a 3300-style rack view, API 670 rack views and a quick view of channels in alarm. Nine custom screens can group data such as 1X measurements, gap values or machine-train channels. The Main Menu is accessed from the touchscreen.

Explore related monitoring products

Bently Nevada 3500/32 125712-01

Related monitoring product; verify system and function

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05 / ACCEPT AND HAND OVER

Commissioning acceptance record

Identity	147663-01 and legacy 3500/94 confirmed
Connections	VGA and RS232 paths identified
Configuration	Correct display type, controller and language
Image	Readable stable picture at actual cable reach
Touch	Expected response across required controls
Routing	Intended rack selected and identified
Handover	Events, alarms and custom screens reviewed

How far can the display be placed from the rack using 147663-01?

The standard display system supports up to 10 m (33 ft). A location within 25 ft is recommended for best image quality; exceeding that recommended distance can degrade the picture.

14 Preserve the configuration record

Record the selected display type, language, custom screen assignments, software baseline and cable route. In multi-rack systems, include the router mapping and test each intended rack selection. Retain any unresolved image or touch issue as an open commissioning item.

Explore related monitoring products

Bently Nevada 3500/20	Related monitoring product; verify system and function
Bently Nevada 3500/40M	Related monitoring product; verify system and function

Manufacturer reference

3500/94 VGA Display, Datasheet 148635 Rev. V: system architecture and screens pp. 1-2; VGA, RS232 and rack interfaces p. 3; software, distance and KVM constraints p. 5; 147663-01 and associated parts p. 6. Manufacturer-authored document obtained from a mirror. Field checks in this guide supplement the installed user guide 148636 and site procedure.

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