3500/94M VGA Display Monitor

Datasheet

Cordant™

122M3217 Rev. N



Description

The Bently Nevada™ 3500/94M VGA module displays all 3500 machinery protection system information, including:

- System event list
- Alarm event list
- All module and channel data
- Alarm and OK status
- Nine custom display options

Use the 3500 Rack Configuration Software to configure up to nine custom screens. By default, one bar graph screen shows all of the 1X-filtered vibration measurements, while another shows the proximity transducer gap values.

You can organize custom screens into machine train groups. You can also organize system data into any pages on the custom screen.

System Components

The 3500/94M is comprised of:

- The 3500/94M VGA module
- An I/O module
- A 10" or 15" VGA touch screen display

You can mount the VGA display monitor using standard cables up to 6 m (20 ft) from a 3500 rack, or using a supported Keyboard Video Monitor (KVM) Extender, up to 10 km (6.2 miles) from the 3500 rack.

Baker Hughes

Touch Screen Displays

Use either the 10" and 15" Advantech VGA touch screen displays. These compact, durable displays are designed for excellent viewing quality in industrial applications.

The 10" Advantech display is certified for hazardous environments. Each display requires a separate power supply. The 3500 Rack Configuration Software supports both display drivers.

Reduce the Number of Displays

Using a standard cable and the optional Display Router Box, you can view data from up to four 3500 racks on one display.

The alarm and OK status is continually displayed in the upper right corner of the VGA display. A rack select button changes color to indicate if any rack connected to the Display Router Box is Not OK or in Alarm status.

Due to limitations imposed by the VGA standard, the Display Router Box must be located within 6 m (20 ft) of each connected 3500 rack. Longer cables are not recommended because they may degrade image quality. Noisy electronic environments also degrade image quality.

Access Data Remotely

If you need to display 3500 data at a greater distance, you have one option.

Distance from Display Router Box	Options	Notes
> 10 m to 10 km (33 ft to 6.2 mi)	Single-mode, fiber optic (SM FO) Keyboard Video Monitor (KVM) Extender	No loss in image quality. Not certified for hazardous locations. Must be installed in a safe area or in an approved enclosure.

The SM FO KVM receiver and transmitter are not certified for hazardous area installations. Both the receiver and the transmitter must be installed in a safe area or enclosed in an approved enclosure.

Specifications

3500/94M VGA Display Unit

Inputs	
Power consumption	4.6 W max.
High-speed network	Monitor status, data and values
RS232 port (I/0)	Touch controller data
Outputs	
OK LED	Indicates proper operation of the module
TX/RX LED	Indicates communications between other system modules
VGA port (I/O)	Analog red, green, blue and sync signals to the display
Front Port	24 Vdc Power out, VGA signal out, Touch commands in.

Environmental Limits

Operating Temperature	-20°C to 65°C (-22°F to 149°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	95%, non-condensing

Accessories and Spares

3500/94M Module Accessories and Spares

122M3217	3500/94M VGA Display Monitor Product Datasheet
122M3218	3500/94M VGA Display Module Operation and Maintenance Manual
184826-01	3500/94M Main module
190214-01	3500/94M Normal I/O module
190214-02	3500/94M Power-only I/O module for front-mount display

3500/94M Advantech 10" Display Accessories

For display monitor specifications, See Display Monitor Specifications on page 8.

120M8155-01	ANA-D3510-100-A1, Advantech 10” display. Does not include mounting screws.
Front Mounting Accessories and Spares	
122M3368-01	94M face mount for Advantech 10” display
122M4631-AA	Mounting standoff for face mount display with threaded mounting holes for 19" EIA rack. **AA**: mounting hole thread size. Choose one: **01** – M6 x 1 **02** – 10-32 **03** – M5 x 0.8
107M3696-01	3 ft (.91 m) v Video, serial, and power cable from front of rack-mounted 3500/94M Module to the 10" Advantech display. Note that cable assembly 119M6503-03 is also required from the 3500/94M IO Module (190214-02) to an industrial 24 VDC power supply.
119M6509-03	Power supply cable for 10" Advantech Display that connects the rear of a rack-mounted 3500/94M IO module (190214-02) to an industrial 24 VDC power supply. 10 ft (3.05 m). Note that cable assembly 107M3696-01 is also required from the front of the 3500/94M Module to the display.
02200794	24V DIN mount power supply with no cable
Other Mounting Accessories	
122M3369-01	94M rack mount for Advantech 10” display
122M3370-01	94M panel mount for Advantech 10” display
122M3371-01	94M independent mount for Advantech 10” display
119M6509-01	Power supply cable only for 10" Advantech Display that connects from the display to an industrial 24 VDC power supply. 10 ft (3.05 m).
119M6509-02	
161087-AA-00	VGA male-male cable for display to 3500/94M I/O **AA**: cable length. Choose one: **10** - 10 ft (3.05 m) **20** - 20 ft (6.1 m)

148638-AA	DB-9 male-female cable for display to 3500/94M I/O or 3500/94 Display Router Box. **AA**: cable length. Choose one: **01** - 10 ft (3.05 m) **02** - 25 ft (7.62 m)

3500/94M Advantech 15" Display Accessories

For display monitor specifications, See Display Monitor Specifications on page 8.

102M8950	FPM-8151, Class I, Division 2, 15" Advantech display. Includes screws and hardware for panel mounting.
Display Accessories and Spares	
104M3812-AA	19" EIA mounting plate for the FPM-8151H 15" display (9U rack mount) **AA**: panel color. Choose one: **01** RAL 7032 (Pebble Gray) **02** RAL 7035 (Light Gray)
161087-AA-00	VGA male-male cable for display to 3500/94M I/O **AA**: cable length. Choose one: **10** - 10 ft (3.05 m) **20** - 20 ft (6.1 m)
148638-AA	DB-9 male-female cable for display to 3500/94M I/O or 3500/94 Display Router Box. **AA**: cable length. Choose one: **01** - 10 ft (3.05 m) **02** - 25 ft (7.62 m)
119M6509-02	Power supply cable for 15" Advantech Display that connects from the display to an industrial 24 VDC power supply. 10 ft (3.05 m).
02200794	24V DIN mount power supply with no cable

3500/94M Display Router Box

149356-01	Display Router Box
Display Router Box Accessories and Spares	
149710-AA-BB	Split digital cable for display router box for router to 3500/94M I/O **AA**: cable length. Choose one: **10** – 10 ft (3.05 m) **20** – 20 ft (6.1 m) **BB:** connectors. Choose one: **00** Assembled I/O connector **01** Unassembled I/O connector
161087-AA-00	VGA male-male cable for display to 3500/94M I/O **AA**: cable length. Choose one: **10** - 10 ft (3.05 m) **20** - 20 ft (6.1 m)
148638-AA	DB-9 male-female cable for display to 3500/94M I/O or 3500/94 Display Router Box to Advantech display. **AA**: cable length. Choose one: **01** - 10 ft (3.05 m) **02** - 25 ft (7.62 m)
119M6509-04	Industrial DC power supply cable to 3500/94 router box 10 ft (3.05 m).

Single-Mode Fiber Optic (SM FO) KVM Extender

> The SM FO KVM receiver and transmitter are not certified for hazardous area installations. Both the receiver and the transmitter must be installed in a safe area or enclosed in an approved enclosure.

128M4539	Rose Electronics single 5V power supply SM FO KVM receiver
128M4540	Rose Electronics dual 5V power supply SM FO KVM receiver
128M4541	Rose Electronics single 5V power supply SM FO KVM transmitter
128M4542	Rose Electronics dual 5V power supply SM FO KVM transmitter
KVM SM FO Extender Accessories and Spares	
128M4543	Rose Electronics 19" EIA rack mount kit for SM FO KVM receiver or transmitter
128M4545	DVI-I to VGA cable for SM FO KVM transmitter to 3500/94M I/O or SM FO KVM receiver to display. 10 ft (3.05 m)
128M4552	SM FO patch cable 20 ft (6.1 m)
128M4548	SM FO cable 2000 ft (609.6 m)
128M4549	SM FO cable 4000 ft (1219.2 m)
128M4550	SM FO cable 6000 ft (1828.8 m)
128M4551	SM FO cable 8000 ft (2438.4 m)
192M9456	SM FO cable 500 ft (152.4 m)