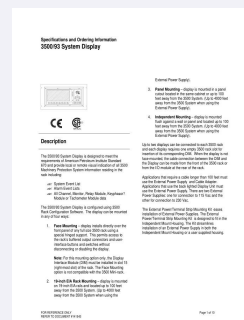


FIELD INSTALLATION QUICK GUIDE

Installation Instructions

3500/93 135799-02

Display Interface Module



PRODUCT	3500/93 135799-02
DOCUMENT TYPE	Installation Instructions
PRODUCT FUNCTION	Display Interface Module
OFFICIAL SOURCE	Bently Nevada 3500/93 publication 141543-01

Use this guide with the complete manufacturer documentation and the controlled site procedure. Isolate all energy sources, preserve the exact model identity and verify every connection before energising.

01 PRE-INSTALLATION VERIFICATION

- Confirm the complete 3500/93 135799-02 identification and the documented display interface module configuration.
- Record the installed position, connector orientation, cable routing, grounding and adjacent equipment before removal.
- Isolate electrical, pneumatic and stored energy sources using the approved site procedure.
- Use the official drawing and terminal information shown on the following page; do not infer connections from appearance.
- Inspect the replacement unit, mating hardware and environmental conditions before installation.

RACK, DISPLAY AND I/O CONNECTIONS

Official manufacturer installation material reproduced from Bently Nevada 3500/93 publication 141543-01. The drawings retain their original aspect ratio and technical meaning.

Specifications and Ordering Information 3500/93 System Display



Description

The 3500/93 System Display is designed to meet the requirements of American Petroleum Institute Standard 675 and provide local or remote visual indication of all 3500 Machinery Protection System information reading in the rack including:

- System Event List
- Alarm Event Lists
- All Channel Monitor, Relay Module, Keyphasor® Module or Touchscreen Module data

The 3500/93 System Display is configured using 3500 Rack Configuration Software. The display can be mounted in any of four ways:

1. **Face Mounting** – display installs directly over the front panel of any full size 3500 rack using a special hinged support. This permits access to the rack's buffered output connectors and user interface buttons and switches without disconnecting or disabling the display.

Note: For this mounting option only, the Display Interface Module (DIM) must be installed in slot 15 (right-most slot) of the rack. The Face Mounting option is not compatible with the 3500 Mini-rack.

2. **19-inch EIA Rack Mounting** – display is mounted on 19-inch EIA rails and located up to 100 feet away from the 3500 System. (Up to 4000 feet away from the 3500 System when using the

External Power Supply).

3. **Panel Mounting** – display is mounted in a panel cabinet located in the same cabinet or up to 100 feet away from the 3500 System. (Up to 4000 feet away from the 3500 System when using the External Power Supply).

4. **Independent Mounting** – display is mounted flush against a wall or panel and located up to 100 feet away from the 3500 System. (Up to 4000 feet away from the 3500 System when using the External Power Supply).

Up to two displays can be connected to each 3500 rack and each display requires one empty 3500 rack slot for insertion of its corresponding DIM. When the display is not face-mounted, the cable connection between the DIM and the Display can be made from the front of the 3500 rack or from the I/O module at the rear of the rack.

Applications that require a cable longer than 100 feet must use the External Power Supply and Cable Adapter. Applications that use the back lighted Display Unit must use the External Power Supply. There are two External Power Supplies: one for connection to 115 Vac and the other for connection to 220 Vac.

The External Power/Terminal Strip Mounting Kit uses installation of External Power Supplies. The External Power/Terminal Strip Mounting Kit is designed to fit in the Independent Mount Housing. The Kit encompasses installation of an External Power Supply in both the Independent Mount Housing or a user supplied housing.

FOR REFERENCE ONLY
REFER TO DOCUMENT #141543

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Specifications

Inputs	
Power Consumption:	15.5 watt maximum (Display Unit & Display Interface Module); 5.6 watt maximum (-01 Display Unit); 12.0 watt maximum (-02 Display Unit).
Data Types:	Collects data, such as current values and current alarm status, via a high speed internal network.
Outputs	
Display Interface Module	
OK LED:	Indicates when the Display Interface Module is operating properly.
TX/RX LED:	Indicates when the Display Interface Module is communicating with other modules in the 3500 rack.
Display Unit	
Unit OK LED:	Indicates when the Display Unit is operating properly.
Rack OK LED:	Indicates rack is in OK status, all channels are OK.
Rack Alert LED:	Indicates rack is in Alert status, at least one channel is in Alert.
Rack Danger LED:	Indicates rack is in Danger status, at least one channel is in Danger.
OK LED (B):	Indicates displayed channel(s) above the LED is in OK status.
Alert LED (B):	Indicates displayed channel(s) above the LED is in Alert status.
Danger LED (B):	Indicates displayed channel(s) above the LED is in Danger status.

New Alarm LED: Indicates new alarm has been detected since the last acknowledgment.

Reflective 640 x 200 Dots LCD: Displays data in graphical and text format. LCD module is reflective FSTN dot matrix type without backlight. **Ambient white light is required for acceptable visibility.** Best visibility is under indirect sunlight conditions. LCD visibility decreases with corresponding decrease in ambient light level. LCD exhibits acceptable visibility under normal office lighting levels.

Transflective 640x200 Dots LCD: Displays data in graphical and text format. LCD module is transflective FSTN dot matrix type with white electroluminescent backlight.

Communication between the Display Unit and the Display Interface Module

Hardware: RS422 Interface.

Protocol: Supports Bently Nevada proprietary protocol and Modbus® protocol based on AED PH-MBUS-300 Rev. E Reference Manual.

Channel update rate: 1 second, typical.

Environmental Limits

Display Interface Module & I/O Module

Operating Temperature: -30°C to +65°C (-22°F to +150°F).

Storage Temperature: -40°C to +80°C (-40°F to +185°F).

Humidity: 95%, noncondensing.

Display Unit

Operating Temperature: -20°C to 65°C (-4°F to 149°F).

FOR REFERENCE ONLY
REFER TO DOCUMENT #141543

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INSTALLATION AND CONNECTION CHECKS

- Install the unit only in the documented mounting position with the specified companion hardware.
- Match every keyed connector, terminal, conductor, shield and protective-earth point to the official drawing.
- Maintain the documented separation, bend radius, torque, cooling clearance and environmental limits that apply to the product.
- Before energising, perform continuity, polarity, insulation and mechanical-retention checks appropriate to the circuit.
- Do not bypass interlocks, diagnostics, protective devices or approved safety functions during commissioning.

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INITIAL COMMISSIONING CHECKS

- Restore power or process connections in the approved sequence and observe startup diagnostics.
- Verify communications, channel status, sensor response, drive state or controller operation as applicable.
- Test the affected function at a safe operating point and confirm alarms, trips and feedback paths.
- Record the exact model, configuration, test results and final drawing references in the maintenance record.

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CONTROLLED DOCUMENTS

Official source	Bently Nevada 3500/93 publication 141543-01
Product record	3500/93 135799-02
Document	Amikon Installation Instructions
Support	INFO@AMIKON.CN