Bently Nevada 146031-01

Engineering Installation, Diagnostic and Acceptance Guide

Bently Nevada 146031-01 is a 3500/22m 10base-t/100base-tx i/o module for the Bently Nevada 3500/22M Transient Data Interface platform. The complete marking must be matched to the installed hardware, wiring and configuration before replacement.

01 Work package

Complete model	146031-01
Product type	3500/22M 10Base-T/100Base-TX I/O module
Manufacturer	Bently Nevada
Technical source	Bently Nevada 3500/22M Transient Data Interface Module Datasheet 161581 Rev. AC

Field decisions

1 Establish identity

Capture the full marking, installed companion components and baseline before disconnection.

2 Inspect interfaces

Verify mounting, cable, connector, armor, approval and environmental boundaries.

3 Fit the exact chain

Preserve the documented probe-cable-Proximitor or sensor-monitor relationship.

4 Prove response

Use the approved stopped-machine and operating acceptance procedure.

5 Record as left

Save markings, configuration, test values and operating observations.

Pre-work evidence

Installed drawing	Record the drawing, machine location and channel designation that govern 146031-01.
Probe marking	Capture the complete order identity and any tag or revision visible on the delivered item.
Mechanical reference	Record thread or sleeve datum, insertion depth, lock position and expected target travel.
Cable identity	Confirm lead construction, connector condition, routing, strain relief and electrical-length relationship.
Companion electronics	Record the matching extension cable, Proximitor or signal conditioner and monitor channel.

02 Interface and configuration map

I/O module part number	146031-01
Associated front module	3500/22M Transient Data Interface
Ethernet media	Copper
Supported Ethernet	10Base-T and 100Base-TX
Connector	RJ-45 shielded Category 5 cabling
Fiber interface	None on -01 selection
Network role	Rear I/O network interface for the 3500/22M TDI
Rack position	Rear I/O slot paired with the 3500/22M front module
Alternative copper version	146031-03, gold-plated variant in current spare list
Fiber alternative	146031-02, 100Base-FX
Configuration ownership	Rack/TDI and System 1 network project
Cable limit	Use approved Ethernet cable length and plant-network design
Replacement boundary	Do not substitute fiber and copper variants without network redesign
Functional proof	Verify link, rack communication and transient-data availability

Chain controls

Target condition	Confirm target material, width, runout surface and clearance from nearby conductive material.

Static baseline	Record stopped-machine gap or bias and compare it with the approved maintenance baseline.
Operating baseline	Record monitor indication and expected response after the complete channel is returned to service.

03 Installation workflow

Confirm the complete identity

Match every field of 146031-01 with the approved spare-parts record before installation.

Control electrostatic exposure

Use grounded handling, antistatic packaging and protected work surfaces for exposed electronics.

Verify the host interface

Confirm connector keying, slot assignment, supply and companion hardware before energizing.

Preserve configuration evidence

Record switches, firmware, parameters, terminal assignments and as-found diagnostics before removal.

Inspect environmental condition

Check contamination, corrosion, ventilation, vibration and cabinet temperature before fitting the replacement.

Prove the installed function

Complete the manufacturer and site acceptance procedure, then retain the as-left result with the maintenance record.

Application checks

3500 rack Ethernet communication

Connect a 3500/22M TDI to the approved copper plant network.

System 1 data transfer

Carry rack data to configured condition-monitoring software.

Transient data access

Support communication required for transient and steady-state data collection.

TDI rear-I/O replacement

Restore an exact copper interface without changing rack or network media.

Controlled sequence

01 Isolate	Place the monitored machine and channel in the approved maintenance state; prove the required isolation.
02 Photograph	Capture 146031-01, the installed datum, connector, route and companion-component markings.
03 Measure	Record mechanical position and the applicable stopped-machine electrical reading before removal.
04 Compare	Check delivered identity, interfaces and evidence against the approved drawing and spare-parts record.
05 Install	Fit without twisting the lead; preserve thread engagement, target clearance, bend radius and strain relief.
06 Set point	Establish the operating gap or datum only with the approved stopped-machine procedure.
07 Prove	Compare local reading, monitor indication and controlled operating response with the accepted baseline.
08 Handover	Record as-left values, photographs, deviations, responsible technician and release approval.

04 Diagnostic decision table

How should the network connection of 146031-01 be documented before replacement?	Record the rack and slot, RJ-45 cable label, switch port, network settings and System 1 communication path before disconnecting the module.
What should be checked if 146031-01 has link but System 1 receives no data?	Review TDI status, network identity, switch configuration, routing or firewall policy and the System 1 rack definition before replacing hardware.
Why cannot 146031-02 automatically replace 146031-01?	The -02 module is 100Base-FX fiber while -01 is 10/100Base-TX copper; the cable plant and network interface are different.
How is 146031-01 accepted after installation?	Verify link at both ends, stable rack communication, correct network identity and successful live and transient data transfer to the approved host.
What evidence should be recorded before replacing 146031-01?	Capture the complete nameplate, installed slot or mounting position, companion hardware, wiring identifiers and the accepted operating baseline for the 3500/22m 10base-t/100base-tx i/o module.
How should an intermittent fault around 146031-01 be isolated?	Separate field wiring, connector, supply, grounding, configuration and host-system causes. Reproduce the symptom under a controlled test and change only one variable at a time.
What configuration evidence should be retained after commissioning 146031-01?	Retain the hardware identity, firmware or parameter record where applicable, channel assignment, as-left measurements, alarm or diagnostic state and the approved functional-test result.
When should 146031-01 be rejected during incoming inspection?	Quarantine the item if the complete marking, connector keying, board revision, protective coating, terminal condition or required companion hardware differs from the approved replacement record.

Release review

Installation relationship	Install in the rear I/O position paired with the matching 3500/22M TDI front module.
Network boundary	Use the approved 10Base-T/100Base-TX copper network and preserve configured rack communication.
Technical reference	Bently Nevada 3500/22M Transient Data Interface Module Datasheet 161581 Rev. AC.

Engineering questions

How should the network connection of 146031-01 be documented before replacement?	Record the rack and slot, RJ-45 cable label, switch port, network settings and System 1 communication path before disconnecting the module.
What should be checked if 146031-01 has link but System 1 receives no data?	Review TDI status, network identity, switch configuration, routing or firewall policy and the System 1 rack definition before replacing hardware.
Why cannot 146031-02 automatically replace 146031-01?	The -02 module is 100Base-FX fiber while -01 is 10/100Base-TX copper; the cable plant and network interface are different.
How is 146031-01 accepted after installation?	Verify link at both ends, stable rack communication, correct network identity and successful live and transient data transfer to the approved host.
What evidence should be recorded before replacing 146031-01?	Capture the complete nameplate, installed slot or mounting position, companion hardware, wiring identifiers and the accepted operating baseline for the 3500/22m 10base-t/100base-tx i/o module.
How should an intermittent fault around 146031-01 be isolated?	Separate field wiring, connector, supply, grounding, configuration and host-system causes. Reproduce the symptom under a controlled test and change only one variable at a time.
What configuration evidence should be retained after commissioning 146031-01?	Retain the hardware identity, firmware or parameter record where applicable, channel assignment, as-left measurements, alarm or diagnostic state and the approved functional-test result.
When should 146031-01 be rejected during incoming inspection?	Quarantine the item if the complete marking, connector keying, board revision, protective coating, terminal condition or required companion hardware differs from the approved replacement record.

Acceptance and support

Retain the full marking, installed-chain identities, test readings and approved machine configuration. Confirm the exact offered item and included scope in the written quotation.

Discuss the exact marking and installed application with Apter Power.
sales13@apterpower.com | +86 18030235313

Verified related product references

Related product	330930-040-03-00
Related product	84661-96
Related product	330102-00-28-10-02-05
Related product	330104-00-16-10-02-00

Commissioning record template

Installed asset	Machine, bearing, channel or cabinet reference
Companion identities	Probe, cable, sensor, interface or monitor markings
Mechanical datum	Mounting reference, reach, alignment or sealing condition
Electrical datum	Chain length, connector, shield, supply or input assignment
Before-work baseline	Gap, bias, vibration, continuity or channel observation
As-left result	Final measured value and functional proof
Approval basis	Applicable drawing, control requirement or site procedure
Handover	Technician, date, revision and maintenance-record location

Escalation triggers

Identity conflict	Stop if the complete marking, suffix, revision or approval identity differs from the approved record.
Host mismatch	Escalate if the rack, carrier, backplane, terminal unit or controller assignment is not documented for 146031-01.
Interface damage	Do not energize with bent contacts, damaged insulation, loose retainers, contamination or heat discoloration.
Environmental breach	Review any exposure beyond the documented temperature, vibration, humidity, contamination or enclosure boundary.
Unapproved substitution	Do not transfer ratings or compatibility from an adjacent order code without manufacturer evidence.
Configuration conflict	Stop if hardware settings, firmware, channel assignment or project configuration disagree with the installed record.
Unstable measurement	Investigate noise, drift, intermittent status or inconsistent readings before replacing another component.
Failed functional proof	Keep the asset in the approved maintenance state until the complete acceptance sequence is passed and recorded.

Evidence package

Nameplate evidence	Overall and close photographs showing 146031-01, revision, approval and serial details where present.
Installation evidence	Views of the rack position, mechanical datum, terminal assignment, cable route and strain relief.
Configuration evidence	Export or screenshots identifying the approved hardware assignment and parameters without exposing credentials.
Baseline evidence	As-found readings with units, test conditions, machine state and the instrument used.
Inspection evidence	Connector, contact, insulation, fastener, contamination and heat-condition observations.
Functional evidence	As-left readings and the controlled input, output or channel response used for acceptance.
Change evidence	Any wiring, setting, firmware or mechanical change linked to its approved work reference.
Release evidence	Technician, reviewer, date, asset reference and the maintenance-record location for traceability.

Evidence quality controls

Traceability	Each value is tied to 146031-01, the asset location, test state, instrument and date.
Repeatability	The same approved method and comparable operating state are used for before-and-after readings.
Resolution	Recorded precision does not exceed the capability of the instrument or source document.
Reference state	Stopped, energized, loaded and process-running observations are clearly distinguished.
Change control	Every changed setting, connection or mechanical datum has an approved reason and reviewer.
Retention	Evidence remains accessible with the maintenance record for future troubleshooting and replacement review.