Bently Nevada 146031-01

Technical Reference and Engineering Data

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 Exact identity and system role

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
Ethernet interfaces	1 copper interface
Supported Ethernet	10Base-T and 100Base-TX
Connector	RJ-45
Cable category	Shielded Category 5
Fiber interfaces	0
Standard cable lengths	1.8 to 97.5 m in listed assemblies

System position

146031-01 provides one shielded 10Base-T/100Base-TX RJ-45 interface behind a 3500/22M TDI front module; it is a rear I/O component rather than a standalone Ethernet gateway.

Lifecycle and installed-base context

Exact spare listing	Bently Nevada lists 146031-01 as the 3500/22M 10Base-T/100Base-TX rear I/O module in current product documentation.
Rack support	Support planning must retain the paired TDI front module, rear-slot position, rack communication settings and shielded copper network path.
Supply boundary	Apter Power availability applies to the offered rear I/O module and is separate from the lifecycle of the complete 3500 rack.

02 Verified technical data

Ethernet interfaces	1 copper interface
Supported Ethernet	10Base-T and 100Base-TX
Connector	RJ-45
Cable category	Shielded Category 5

Additional engineering data

Fiber interfaces	0
Standard cable lengths	1.8 to 97.5 m in listed assemblies
Rack position	Rear I/O slot
Front-module pairing	1 TDI front module

Applicability boundary

The exact part number is identified as the copper Ethernet I/O module for the 3500/22M TDI. Network configuration depends on the installed rack and System 1 design.

03 Integration and engineering interpretation

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.

Technical notes

Rack relationship	Install 146031-01 in the rear I/O position paired with the matching 3500/22M TDI front module.
Network relationship	Use the shielded Category 5 10Base-T/100Base-TX copper link, preserve rack addressing and prove host communication after replacement.
Technical reference	Bently Nevada 3500/22M Transient Data Interface Module Datasheet 161581 Rev. AC.

Interpretation boundaries

Probe-only limit	Do not present complete-system range, scale or linearity as a standalone output of 146031-01.
Target influence	Material, geometry, finish and nearby conductive surfaces can change the installed response.
Length influence	Probe lead and extension cable form part of the calibrated electrical relationship.
Temperature influence	Apply component temperature limits at their actual locations and compare with process transients.
Mechanical influence	Thread engagement, rigidity, target travel and cable support affect repeatability and service life.
Acceptance rule	Use the approved machine baseline and maintenance procedure for the final as-left decision.

04 Diagnostic decisions and support record

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.

Verified source

Bently Nevada 3500/22M Transient Data Interface Module Datasheet 161581 Rev. AC

Related product references

Related product	330500-00-01
Related product	330980-70-CN
Related product	330930-040-03-00
Related product	84661-96

Engineering contact

Discuss the exact marking and installed application with Apter Power.
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Acceptance 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.

Controlled acceptance 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.

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.