Bently Nevada 81545-01

Engineering Installation, Diagnostic and Acceptance Guide

Epoxy-sealed signal input relay module documented for the dual-channel Bently Nevada 3300/48 Case Expansion Monitor.

01 Work package

Complete model	81545-01
Product type	epoxy-sealed signal input relay module
Manufacturer	Bently Nevada
Technical source	Bently Nevada 3300/48 Case Expansion Monitor manual copy, signal-input relay module parts and wiring pages

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 approved cabinet, rail, slot, terminal, cable and system references that govern 81545-01.
Complete marking	Capture the complete order identity and every revision or approval marking on the delivered item.
Mechanical reference	Record mounting position, fasteners, connector orientation, access clearance and support points.
Electrical interfaces	Confirm supply, signal, bus, terminal and protective-conductor assignments against the installed drawing.
Configuration state	Record jumpers, switches, addresses, firmware or project settings that apply to this hardware.

Selected order-code snapshot

Service identity	Epoxy-sealed signal input relay module listed for the 3300/48 Case Expansion Monitor.
Host path	Interfaces the monitor's dual LVDT signal wiring with recorder and alarm-relay circuits.
Replacement limit	Match the exact 81545-01 relay construction and installed terminal mapping.

Evidence boundary

The manual copy directly lists 81545-01 and the applicable 3300/48 wiring context. Host-monitor values are labeled as such and are not presented as standalone module ratings.

Initial quality controls

Traceability	Each value is tied to 81545-01, 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.

02 Interface and configuration map

Module class	Signal input relay module
Relay construction	Epoxy sealed
Documented host	3300/48 Case Expansion Monitor
Host signal channels	2 LVDT inputs
Associated recorder outputs	Channel A and Channel B
Associated alarm contacts	Alert and Danger relay contacts
Host input impedance	230 kohm per LVDT input
Host transducer power	+15 V DC and -15 V DC

Application checks

3300/48 service

Maintain the signal and relay interface in a documented Case Expansion Monitor installation.

Dual LVDT channel

Preserve Channel A and Channel B field wiring and recorder-output assignments.

Alarm relay interface

Restore alert and danger contact wiring exactly as recorded for the installed monitor.

Legacy spare management

Keep the epoxy-sealed 81545-01 identity separate from no-relay and hermetically sealed options.

Interpretation boundaries

Product boundary	Apply the listed facts to 81545-01 and the documented Bently Nevada 3300 monitor service hardware context only.
Interface boundary	Connector, terminal, bus, cable and companion-device assignments must match the installed drawing.
Electrical boundary	Use exact-model values only; system-level ratings remain conditional on the complete installed configuration.
Configuration boundary	Switches, jumpers, addresses, firmware and project settings must be reconciled before energization.
Diagnostic boundary	Interpret indicators and fault states together with measured inputs, outputs and host-system status.
Acceptance rule	Use the approved system baseline and maintenance procedure for the final as-left decision.

System verification controls

Traceability	Each value is tied to 81545-01, 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.

Technical notes

Construction selection	Use the epoxy-sealed 81545-01 option only where the installed parts record calls for it.
Channel relationship	Keep LVDT, recorder and alarm-contact wiring separated by channel and function.
Acceptance focus	Prove both measurement channels and every required alert/danger contact through the host monitor.

03 Installation workflow

Verify the host monitor

Confirm the installed 3300 monitor model and complete module marking before removal.

Record both channels

Label Channel A and Channel B LVDT and recorder wiring separately.

Record relay contacts

Photograph alert and danger contact wiring and the intended normal state.

Protect board connectors

Use ESD controls and inspect contacts for corrosion, contamination or bent pins.

Do not swap relay construction

Do not replace the epoxy-sealed module with another relay option without approved host documentation.

Prove the monitor loop

Test both LVDT channels, recorder outputs and alarm contacts before release.

Controlled sequence

01 Isolate	Place the monitored machine and channel in the approved maintenance state; prove the required isolation.
02 Photograph	Capture 81545-01, 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.

Release review

Construction selection	Use the epoxy-sealed 81545-01 option only where the installed parts record calls for it.
Channel relationship	Keep LVDT, recorder and alarm-contact wiring separated by channel and function.
Acceptance focus	Prove both measurement channels and every required alert/danger contact through the host monitor.

Installation evidence package

Nameplate evidence	Overall and close photographs showing 81545-01, 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.

04 Diagnostic decision table

What relay construction is identified for 81545-01?	The 3300/48 service parts list identifies 81545-01 as the epoxy-sealed relay version of the signal input relay module.
Which monitor documents 81545-01 in the reviewed manual?	The reviewed service manual lists it for the Bently Nevada 3300/48 Case Expansion Monitor.
How is 81545-01 distinguished from 81544-01 and 81546-01?	81544-01 is the no-relay option, 81545-01 uses epoxy-sealed relays and 81546-01 uses hermetically sealed relays.
What wiring must be recorded before removing 81545-01?	Record both LVDT inputs, Channel A/B recorder outputs and alert/danger relay-contact conductors.
Do the host input values make 81545-01 a standalone monitor?	No. The documented channel impedance and transducer supply belong to the 3300/48 host-monitor interface.
What connector checks apply to 81545-01?	Inspect board-edge and mating contacts for contamination, corrosion, heat damage and bent or recessed contacts under ESD control.
When should 81545-01 be withheld from service?	Withhold it if relay construction, host identity, terminal mapping or channel-test results differ from the installed record.
How should 81545-01 be accepted after replacement?	Prove both LVDT readings, both recorder outputs and every required alert and danger contact using the host monitor test procedure.

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 81545-01.
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 quality controls

Traceability	Each value is tied to 81545-01, 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.

05 Acceptance, handover and support

Release the channel only after the exact marking, installed-chain identities, mechanical datum, electrical baseline and controlled operating proof have all been recorded.

As-left verification worksheet

Exact delivered marking	81545-01; photograph and record any additional label detail.
Installed asset reference	Machine, bearing, train, channel and drawing identifiers.
Mechanical as found	Reach, lock position, gap reference, cable route and connector support.
Static reading as found	Gap, bias, continuity or channel value appropriate to the installed system.
Companion identities	Extension cable, Proximitor or conditioner and monitor channel markings.
Mechanical as left	Final reach, lock position, target clearance and route protection.
Static reading as left	Final gap, bias, continuity or channel value with test conditions.
Operating proof	Monitor response and machine observation accepted by the responsible authority.
Deviation record	Any difference from drawing or baseline, disposition and approval reference.
Release signatures	Technician, reviewer, operations owner and date.

Lifecycle status

Installed-base status	81545-01 is a legacy service module documented for the 3300/48 Case Expansion Monitor.
Variant distinction	The service list separates epoxy-sealed 81545-01 from no-relay 81544-01 and hermetically sealed 81546-01.
Replacement boundary	Host model, terminal map, relay construction and complete channel test must agree before release.

Available unit details

Offered hardware	One 81545-01 epoxy-sealed signal input relay module.
Documented host role	Signal and relay interface for a 3300/48 dual-LVDT monitor installation.
Separate scope	Monitor chassis, transducers, field wiring and recorder/alarm circuits are separate unless itemized.

Verified related product references

Related product	Bently Nevada 330104-00-16-10-02-00
Related product	Bently Nevada 330500-00-01
Related product	Bently Nevada 330980-70-CN
Related product	Bently Nevada 330930-040-03-00

Engineering contact

Discuss the exact marking and installed application with Apter Power.
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