ABB AINT-14C

Engineering Installation, Diagnostic and Acceptance Guide

ABB AINT-14C is a main-circuit interface board for the ABB ACS800-67 converter module architecture. The complete marking must be matched to the installed hardware, wiring and configuration before replacement.

01 Work package

Complete model	AINT-14C
Product type	main-circuit interface board
Manufacturer	ABB
Technical source	ABB ACS800-67 Wind Turbine Converters Hardware Manual

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 AINT-14C.
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

Board designation	AINT-14C
ABB drawing position	A42
Documented function	Main circuit interface board
Converter family	ACS800-67
Grid-side converter use	Documented in grid-side converter module
Rotor-side converter use	Documented in rotor-side converter modules
Optical-link context	PPCS fiber links to converter control architecture
Associated control boards	RMIO/RDCU and AMC/NDCU arrangements by converter section
Associated gate-driver path	Interface to documented AGDR gate-driver boards
Installation location	Internal converter-module assembly
Board-level I/O ratings	Use installed circuit diagram; not inferred
Replacement boundary	Match converter side, board revision and fiber/connector map

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 AINT-14C 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

Grid-side converter interface

Link control electronics with the documented grid-side power stage.

Rotor-side converter interface

Serve the documented rotor-side converter modules.

PPCS optical communication

Carry directional optical control and feedback channels.

Power-stage maintenance

Replace the exact board while preserving gate-driver and control connections.

Controlled sequence

01 Isolate	Place the monitored machine and channel in the approved maintenance state; prove the required isolation.
02 Photograph	Capture AINT-14C, 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 optical channels of AINT-14C be recorded?	Label each transmitter and receiver fiber by channel and destination, then photograph the routing before removal.
What should be checked if AINT-14C reports a converter-side communication fault?	Inspect fiber seating and direction, control-board status, local power, gate-driver connections and the configured converter section.
Why must the installed converter side be known before replacing AINT-14C?	ABB uses the board in grid-side and rotor-side assemblies whose companion boards and channel maps differ.
What is the safe acceptance sequence for AINT-14C?	Verify power-off continuity and optical routing, energize control power, clear diagnostics and follow the approved converter test before enabling the power stage.
What evidence should be recorded before replacing AINT-14C?	Capture the complete nameplate, installed slot or mounting position, companion hardware, wiring identifiers and the accepted operating baseline for the main-circuit interface board.
How should an intermittent fault around AINT-14C 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 AINT-14C?	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 AINT-14C 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	Restore AINT-14C at position A42 with the exact grid-side or rotor-side connector and optical-link map.

System boundary	Use only in the ABB converter configuration and connector arrangement documented for the installed unit.
Technical reference	ABB ACS800-67 Wind Turbine Converters Hardware Manual.

Engineering questions

How should the optical channels of AINT-14C be recorded?	Label each transmitter and receiver fiber by channel and destination, then photograph the routing before removal.
What should be checked if AINT-14C reports a converter-side communication fault?	Inspect fiber seating and direction, control-board status, local power, gate-driver connections and the configured converter section.
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What configuration evidence should be retained after commissioning AINT-14C?	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 AINT-14C 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.
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Verified related product references

Related product	BCU-12 3AUA0000110430
Related product	ZINT-571 3AUA0000077333
Related product	CI858K01 3BSE018135R1
Related product	PM511V16 3BSE011181R1

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 AINT-14C.
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 AINT-14C, 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 AINT-14C, 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.