ABB 3HAC14549-3/10A

Engineering Installation and Acceptance Guide

Work scope

Restore the R3 power section within the installed System 04 architecture. Keep the rectifier, capacitor, busbars and option-dependent access sequence in one work record.

R3 rectifier
System 04

+

C3 capacitor
Separate assembly

+

Servo drives
Installed configuration

Functional context; use the actual connection diagram for wiring and pin assignments.

01 Identify the R3 installation as an assembly relationship

Stage or observation	Action and acceptance evidence
Full unit marking	Keep 3HAC14549-3/10A with the delivered rectifier record. The suffix remains an identity field, not an assumed current rating.
Drive generation	Establish System 04 before dismantling. System 09 combines the main power functions differently and is not the procedural basis for this R3 configuration.
Companion capacitor	The documented R3 arrangement uses DSQC 620_C3 / 3HAC14551-2. Compare the actual capacitor identification instead of accepting the R2/C4 pairing from a nearby configuration.
Main drive relationship	Retain the documented DSQC 617_3V3W main-drive assembly identity together with the installed robot configuration. The rectifier is only one part of that power section.
Cabinet form	Identify single versus dual cabinet. In the dual-cabinet controller the servo-drive components are in the Drive Module; access photographs must describe the actual cabinet.

02 Plan removal without losing the surrounding configuration

Stage or observation	Action and acceptance evidence
Energy isolation	Follow the actual IRC5 mains, stored-energy and external-circuit isolation procedure. External voltage can remain live after robot power is disconnected.
Option-dependent access	Determine whether an EPS or SafeMove arrangement requires the axis computer to be removed for access to the System 04 drive units.
Connector record	Identify all connectors to the unit and photograph their positions before disconnecting them. Keep displaced option/axis-computer connections in the same work record.

02 Plan removal without losing the surrounding configuration - continued

Stage or observation	Action and acceptance evidence
Busbar removal	The documented repair sequence removes the busbar between units before removing the selected assembly. Preserve the original connection arrangement and associated hardware.
Mechanical removal	Remove the attachment screws and withdraw the selected unit using the approved procedure. Compare the offered unit marking and physical interfaces before refitting.

03 Restore and prove the complete power section

Stage or observation	Action and acceptance evidence
Mounting and orientation	Refit the rectifier in its intended position and orientation and secure the attachment. Retention requirements follow the approved repair/cabinet documentation.
Inter-unit connections	Reconnect all busbars and every connector disturbed during removal. A fitted rectifier with an incomplete busbar connection is not a restored power section.
Displaced assemblies	Refit the axis computer if it was removed and restore its option-specific connections before cabinet power-up.
Wrong generation proposed	Stop the substitution review if a System 09 integrated unit is being offered as a mechanical equivalent. Resolve the architecture change as an engineering project.
Different suffix or capacitor	Keep the proposed change open until the complete marking and installed capacitor/drive combination have been reconciled. Connector similarity is insufficient.
Release evidence	Record the as-fitted R3 identity, capacitor and main-drive references, restored connections and the accepted controller/robot functional result under the applicable commissioning procedure.

Technical basis

IRC5 Product Manual 3HAC021313-001 Revision P

Related product references

Brand and complete reference	Selection role; not automatic substitution
ABB DSQC 620_C3 3HAC14551-2	Capacitor assembly in the documented R3 configuration; separate physical assembly.
ABB DSQC 617_3V3W 3HAC025338-006	Documented main-drive assembly; system context rather than an automatic rectifier substitute.

Engineering contact



Discuss the complete unit and installed application with Apter Power.
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