ABB 3HAC14549-3/10A

Complete Product Information

Product role

This rectifier belongs to the IRC5 robot-controller drive-power arrangement. Its R3 base assembly is selected with the associated capacitor and servo-drive configuration, while the supplied /10A marking remains part of the complete unit identity.

System distinction	Drive System 04 has separate power components; the integrated Main Drive Unit architecture of Drive System 09 is a different replacement context.
R3 pairing	The R3 configuration is reviewed with its C3 capacitor arrangement, rather than borrowing the R2/C4 pairing.
Revision identity	Keep /10A with the offered rectifier reference; it is not used here as an electrical-current rating.

Configuration and nearby choices

The offered 3HAC14549-3/10A retains the base R3 rectifier identity used in the documented IRC5 Drive System 04 arrangement. The R3 configuration pairs with a C3 capacitor unit, while the R2 arrangement uses a different capacitor selection. Comparing these assemblies as a set prevents a superficially similar rectifier from being accepted solely by connector appearance.

Operating relationship

Drive System 04 and Drive System 09 both perform robot drive functions, but their power architectures differ. In System 04 the rectifier, capacitor and axis-drive components are separate; System 09 combines the main robot drive functions in a Main Drive Unit. Determine the installed generation before selecting a spare or planning external-axis work.

Integration implications

Rectifier replacement involves the cabinet power circuit, inter-unit busbars and the surrounding drive arrangement. Depending on the installed EPS or SafeMove option, the axis-computer assembly can affect removal access. Restore connectors, busbars, mounting orientation and any displaced assemblies using the actual cabinet circuit diagram and approved repair procedure.

Technical data

Parameter	Value / condition
Drive-system generation	04
Base rectifier designation	DSQC 618_R3
Configured drive position	Z2

Technical data - continued

Parameter	Value / condition
Associated capacitor unit	DSQC 620_C3
Capacitor assembly reference	3HAC14551-2
Documented main-drive assembly	DSQC 617_3V3W
Main-drive reference	3HAC025338-006

Parameter applicability

The manual establishes the 3HAC14549-3 / DSQC 618_R3 base arrangement in Drive System 04. It does not define /10A electrical ratings; companion references describe the documented configuration, not supply contents.

Applications and compatibility

System 04 R3 maintenance

Use the offered rectifier within a verified R3 power arrangement, retaining the complete /10A marking and installed cabinet identity.

Capacitor coordination

Review the C3 capacitor assembly as part of the documented R3 configuration; do not transplant the R2/C4 pairing into the replacement record.

Drive-module service

In a Dual Cabinet Controller, locate the servo-drive components in the Drive Module; the single-cabinet access arrangement is different.

Option-dependent access

Account for the axis-computer access requirements when EPS or SafeMove hardware is installed before planning rectifier removal.

Installation precautions

Review field	Technical interpretation
Identify the drive generation	Confirm System 04 from the installed arrangement and controller documentation before selecting the repair procedure; System 09 unit instructions are not interchangeable.
Isolate all energy sources	Apply the IRC5 cabinet isolation and stored-energy procedure before disconnecting the rectifier or busbars. External equipment can remain energized after the robot mains are switched off.
Record the surrounding assemblies	Preserve the rectifier suffix, capacitor identity and main-drive configuration before dismantling the power section.

Installation precautions - continued

Review field	Technical interpretation
Plan option-board access	Check whether the installed EPS or SafeMove arrangement requires axis-computer removal for access, and retain all disturbed connections in the work record.
Restore the busbars correctly	Refit the rectifier in its intended orientation, reconnect inter-unit busbars and every disconnected connector before restoring displaced assemblies.
Prove the restored robot configuration	After approved reassembly, complete the controller-specific power-up and functional checks with the intended robot configuration; a mechanically fitted unit alone is not acceptance.

Lifecycle and replacement

Review field	Technical interpretation
Exact revision status	A current manufacturing/support phase for 3HAC14549-3/10A has not been established.
Installed-base boundary	Retain the Drive System 04 generation, R3/C3 assembly relationship and full /10A unit marking when requesting replacement support. A System 09 Main Drive Unit is a different architecture.
Supply planning	Apter Power supply is confirmed for the stated rectifier identity separately from ABB support or any engineering replacement decision.

Technical questions

Question	Engineering answer
Why must the drive-system generation be identified before replacing 3HAC14549-3/10A?	Drive System 04 uses separate rectifier, capacitor and drive assemblies, whereas System 09 integrates the main functions differently. Identify the actual generation before selecting access, cabling and replacement procedures.
Can an R2 rectifier be treated as an equivalent of 3HAC14549-3/10A?	The documented R2 and R3 arrangements use different capacitor selections. Compare the installed rectifier/capacitor/main-drive combination and complete unit marking rather than accepting a replacement from the shared DSQC family name.
Does the C3 capacitor reference mean it is supplied with 3HAC14549-3/10A?	No. It identifies the companion assembly in the documented R3 configuration. Confirm the offered physical scope separately; the rectifier reference does not include the capacitor, servo drives or cabinet wiring.

Technical questions - continued

Question	Engineering answer
How can EPS or SafeMove change access to 3HAC14549-3/10A?	For the documented System 04 repair, these installed options can require removal of the axis-computer unit before access to the drive components. Use the actual option-specific procedure and retain a record of all disturbed connections.
Where should 3HAC14549-3/10A be located in a Dual Cabinet Controller?	The System 04 repair description places the servo-drive power components in the Drive Module for the dual-cabinet arrangement. Match the cabinet layout and circuit diagram rather than applying a single-cabinet physical location blindly.
What must be restored around 3HAC14549-3/10A after refitting?	Restore the intended mounting orientation, attachment, inter-unit busbars and disconnected connectors, then refit an axis-computer assembly if it was removed. Prove the restored controller configuration before machine release.
Does the /10A portion of 3HAC14549-3/10A establish a 10 A output rating?	It remains part of the supplied unit marking. The available base-configuration evidence does not define it as a 10 A electrical rating, so circuit selection must use the delivered rating information and applicable cabinet documentation.
Why is switching off the robot mains insufficient by itself before servicing 3HAC14549-3/10A?	The cabinet can retain DC-link energy and external connected circuits can remain live. Apply the applicable isolation and stored-energy verification procedure to the actual power section before disconnecting busbars or connectors.

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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