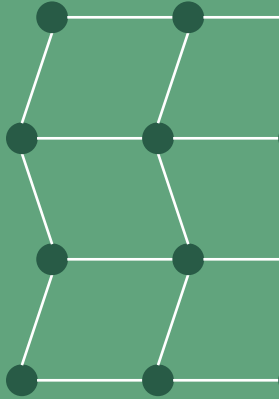


MANUFACTURER-SOURCE TECHNICAL REFERENCE

ABB NBRA-657C 59006410

NBRA-657C Braking-Duty and Resistor Integration Guide

ABB NBRA-657C Braking Chopper



DOCUMENT SCOPE

Independent Apter Power manual compiled only from the cited ABB manufacturer sources. No product photograph is included.

Product / lookup identity	ABB NBRA-657C 59006410
Reference number	59006410
Document basis	Published ABB product records, PDFs, and manuals listed on page 3



Product page

<https://www.apterpower.com/ABB/nbra-657c-c2-a059006410>
Apter Power contact

sales13@apterpower.com | +86 180 3023 5313

Motor regeneration, DC-link switching, SAFUR energy conversion, and thermal path

ABB NBRA-657C, product ID 59006410, is a braking chopper used in documented ACS510/ACS550 drive braking configurations; ABB's official product page names the exact item Braking chopper NBRA-657C. During motor regeneration, the chopper provides the switching path that connects the engineered brake resistor to the drive DC circuit so regenerated electrical energy can be converted to heat instead of allowing the DC-link voltage to rise without control.

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| 01 | Power Path: Switches regenerated DC-link energy into the connected brake resistor during braking; it is a power-electronic braking component, not a field I/O or communication module. |
| 02 | Energy Conversion: The resistor converts regenerated electrical energy to heat. Resistor resistance, pulse energy, and continuous dissipation must match the exact ABB host-drive table. |
| 03 | Published Field Signals: The reviewed exact product page and selection tables do not publish user process-signal inputs, network protocols, or analog measurement channels for NBRA-657C. |
| 04 | Host Dependency: Braking capacity and resistor selection are system values determined by the complete drive type, supply, resistor, ambient, installation, and duty cycle, not by the chopper model alone. |

ACS510/ACS550 host-dependent resistor rows and chopper-variant boundaries

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|----|---|
| 01 | Verification Status: EXACT_MODEL_AND_PRODUCT_ID_VERIFIED |
| 02 | Exact Mapping: ABB's global product page maps product ID 59006410 to NBRA-657C and names it Braking chopper NBRA-657C. ABB ACS510/ACS550 tables identify NBRA-657C for specified 380-480 V frame-R6 drive types and pair it with different SAFUR resistor assemblies according to the exact drive rating. |
| 03 | Lifecycle Status: ABB maintains a global product page for 59006410 and current ABB documents still identify NBRA-657C in ACS510/ACS550 braking tables. The reviewed exact sources do not print an Active, Classic, Limited, or Obsolete phase; do not invent one. |

Host type, R6 frame, duty calculation, minimum resistance, cabling, cooling, and stop tests

01	Only qualified electrical personnel may work on the drive or braking circuit. Disconnect all supplies, wait the ABB-specified discharge time, and verify absence of voltage.
02	Verify product ID 59006410 and the exact NBRA-657C suffix on the physical ABB label.
03	Select the chopper and resistor from the exact ACS510/ACS550 drive-type row; never use a resistor below the documented minimum resistance.
04	Do not mix the 4 ohm SAFUR125F500 and 2.7 ohm SAFUR200F500 pairings between drive ratings.
05	Calculate braking power, energy per 400 seconds, continuous heat dissipation, and duty cycle before commissioning.
06	Install the braking resistor outside the drive module where it can cool; resistor surfaces and exhaust air can become very hot.

Identity and release controls

Verification Status	EXACT_MODEL_AND_PRODUCT_ID_VERIFIED
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Official ABB sources

ABB NBRA-657C product page	https://www.abb.com/global/en/products/59006410
ACS5X0-07 drives hardware manual	https://library.e.abb.com/public/d23e5fc2fb484b5784767a3214d144d3/ACS5X0-07%20EN.pdf
ABB ACS550-01 product catalog	https://library.e.abb.com/public/77c2e5d219914b1aacf5d7de473ec78b/ACS550_Catalogue_3ABD00012152_CN_RevO_20160923Final.pdf
ABB ACS510-01 product catalog	https://library.e.abb.com/public/08599d1676564859b1ef12f2250679ca/3ABD00017602_catalog_ZH_ACS510_H_A4.pdf