APTER POWER PRODUCT REFERENCE MANUAL

3BHB020720R0002-5SHY3545L0016

PCS6000 4500 V 91 mm IGCT

ENGINEERING LENS	SERIALIZED HIGH-POWER SEMICONDUCTOR REPLACEMENT
SYSTEM	ABB PCS6000 power conversion
SOURCE CONTROL	Manufacturer-published information only

This original Apter Power manual explains serialized high-power semiconductor replacement using only the manufacturer source named inside the document.

Manufacturer	ABB
Prepared by	Apter Power
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1. Product Identity and System Role

3BHB020720R0002-5SHY3545L0016 is an ABB integrated gate-commutated thyristor identified in the PCS6000 service manual as the old-type 4500 V, 91 mm IGCT. It is a serialized power semiconductor used in the converter power section.

The IGCT switches high converter current under gate-unit control to form the commanded power-conversion waveform; correct clamping, cooling, gate connection, insulation, and serialization records are essential to safe converter operation.

Model Configuration

Field	Verified information
Complete model	3BHB020720R0002-5SHY3545L0016
Manufacturer	ABB
Product description	PCS6000 4500 V 91 mm IGCT
System	ABB PCS6000 power conversion

Product-Specific Design Focus

serialized high-power semiconductor replacement

2. Technical Specifications and Evidence Boundary

Only values supported by the named ABB source are stated. Where the complete ordering code is absent from public data, the field is explicitly marked for verification.

Parameter	Verified value
Manufacturer	ABB
Component	IGCT, old type
Voltage class	4500 V
Wafer / package size	91 mm
Product number	5SHY3545L0016
SAP number	3BHB020720R0002
Official new-generation replacement	5SHY4045L0006 / 3BHB030310R0001

Evidence Note

Use the complete 3BHB020720R0002-5SHY3545L0016 identity. ABB identifies this as the old-type IGCT and documents 5SHY4045L0006 / 3BHB030310R0001 as the one-to-one new-generation replacement. Follow the PCS6000 service procedure. Values not published in the cited ABB source are intentionally not inferred.

3. Functions, Applications and Matched Components

Core Functions

- The IGCT switches high converter current under gate-unit control to form the commanded power-conversion waveform; correct clamping, cooling, gate connection, insulation, and serialization records are essential to safe converter operation.
- Preserves the documented role within ABB PCS6000 power conversion.
- Supports model-specific engineering review without substituting unverified third-party data.

Application Areas

Application	System role
ABB PCS6000 power conversion	Maintains the documented serialized high-power semiconductor replacement role in a correctly matched installation.
Process and machine automation	Supports the control, communication, power, safety, measurement, or protection duty stated in the official source for this exact or verified family identity.
Lifecycle-controlled maintenance	Requires complete-code, nameplate, host-system, and project verification before replacement or recommissioning.

Compatible Components

- ABB PCS6000 converter power section documented for this serialized IGCT
- Correct gate unit, clamp assembly, heat sink, cooling circuit, and insulation components
- ABB field procedure and serialization update required after replacement

Lifecycle Status

ABB identifies this as the old-type IGCT and documents 5SHY4045L0006 / 3BHB030310R0001 as the one-to-one new-generation replacement. Follow the PCS6000 service procedure.

4. Installation Precautions

- Match every character of 3BHB020720R0002-5SHY3545L0016 to the physical nameplate before work.
- Use the exact ABB manual, wiring drawing, and safety instructions for the installed revision.
- De-energize and apply the required lockout, discharge, ESD, and stored-energy controls before removal.
- Back up firmware, parameters, controller project, calibration, and network settings where applicable.
- Verify supply, signal type, polarity, grounding, shielding, connector pinout, load, and environmental limits.
- Commission with the manufacturer test procedure and record results before returning equipment to service.

DECISION GATE - Verify before installation
Use the complete 3BHB020720R0002-5SHY3545L0016 identity. ABB identifies this as the old-type IGCT and documents 5SHY4045L0006 / 3BHB030310R0001 as the one-to-one new-generation replacement. Follow the PCS6000 service procedure. Values not published in the cited ABB source are intentionally not inferred.
Controlling records: physical nameplate, current ABB document, and host-system drawings.

5. Official Source and Use Notice

Official manufacturer source

ABB PCS6000 Service Manual 3BHS600000 E80 Rev F, serialized power components table.

https://library.e.abb.com/public/e8e12ee61aec4742b149b8b8bbda577d/3BHS600000_E80_RevF_Service_Manual_PCS6000.pdf

Apter Power product page

https://www.apterpower.com/ABB/3bhb020720r0002-5shy3545l0016

Use Notice

This is an original Apter Power model-specific reference prepared from the ABB source named above. It is not a ABB publication and does not replace the original data sheet, nameplate, certificate, installation drawing, safety instructions, or machine-builder documentation.

ASK FOR QUOTE

For availability and a model-specific quotation, visit www.apterpower.com or contact sales13@apterpower.com.