Allen-Bradley 81004-286-52-R

01 Function and selected configuration

Product function

Allen-Bradley 81004-286-52-R restores a defined matched group in the drive switching structure. Device matching, optical gating and diagnostic feedback must be assessed together at the affected power assembly.

Selected configuration

This matched pair contains 2 devices in the 400 A SGCT class. The matching identity applies to the group and must remain traceable during replacement. Neither multiplying the device count nor comparing current markings establishes the complete drive rating or an alternative assembly.

Functional path

DPM / optical interface	Optical gate command	400 A matched pair	Diagnostic return

Device current class	400 A
Matched group	2 SGCT devices
Control path	Optical gate command and diagnostic feedback

The drive compares feedback around a gate event during its Offline diagnostic sequence. Feedback remaining low directs a feedback-loss investigation; feedback remaining high directs a gating-loss investigation. The physical device position, firing-card indications and optical path help distinguish these cases.

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02 Technical operating envelope

Device technology	SGCT
Device class	400 A
Matched device count	2
Assembly form	matched pair

Command transmission	Fiber-optic
Diagnostic return	Fiber-optic
Offline gate-supply window	19.6-20.4 V

Electrical conditions listed for diagnostics apply to the installed firing circuit. No independent blocking voltage or complete drive current rating is assigned.

Signal interpretation

The auxiliary supply window is a diagnostic condition, not an independent SGCT blocking-voltage rating.

Interface boundary

A defective SGCT need not measure as a complete short; use the prescribed resistance and gating procedures together.

Which optical path is checked when feedback from 81004-286-52-R remains high after gating?

Check the gate-command path, its optical connections and the DPM-to-OIB connection under the Gating Loss procedure. Unchanged high feedback differs from unchanged low feedback.

How should the firing-card supply connections of 81004-286-52-R be assessed?

Verify both the associated nominal 20 V supply and the seating of power connectors at each affected device. A healthy source does not prove a sound connection at the firing card.

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03 System integration and applications

Matched assembly replacement

Retain the 400 A class and 2-device matching relationship in the approved power structure.

Gate-command diagnosis

Trace the optical command path when feedback stays high after gating.

Feedback-path recovery

Correlate device state and optical return when feedback remains low.

Controlled drive restoration

Complete resistance, driver, gating and restart checks before motor operation.

System and supply context

The matched pair requires the corresponding PowerFlex 7000 power assembly. Gate supplies, optical boards and other drive hardware are separate unless itemized.

Application boundary

Use the complete spare identity and affected device positions to select the repair. Current class alone does not establish interchangeability.

Why is 81004-286-52-R distinct from a two-piece order of single SGCTs?

Its part identity includes a matched two-device relationship. Quantity alone does not prove that two separately sourced singles form the specified pair.

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04 Engineering selection decisions

Which current class identifies the pair supplied as 81004-286-52-R?

It is a matched pair of 400 A SGCT devices for the PowerFlex 7000 spare-parts system.

Does 81004-286-52-R define whether the installed position is in the inverter or rectifier?

The spare identity establishes device class and matched form. Use the installed drive assembly and phase/device designation to determine the actual position; do not infer it from the pair count.

Why is motor-filter-capacitor condition relevant to a feedback-loss investigation around 81004-286-52-R?

The drive diagnostic guidance includes a non-operational motor filter capacitor as a possible cause. Resolve that condition, particularly before synchronous-transfer operation.

What proves recovery of each device path in 81004-286-52-R?

Compare the drive fault position, gate-driver indication, controlled gating response and returned feedback for both devices. Keep the pair identity and test results together.

Check auxiliary power	Verify the firing source and seated connections.
Interpret resistance carefully	A nonzero resistance alone does not prove device health.

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05 Configuration boundary and references

Lifecycle and support

The current manufacturing and factory-support phase of 81004-286-52-R is not confirmed. Apter Power availability is assessed separately from manufacturer lifecycle status.

Replacement assessment

Retain the 400 A matched pair and match the installed drive assembly. Do not infer voltage capability or substitution from device count.

Document roles

Use the original manufacturer excerpt for its preserved technical tables and drawings. This product brief explains selection and system context. The separate installation guide covers preparation, connection, tests and handover; it does not replace manufacturer instructions.

Technical basis

Rockwell Automation PowerFlex 7000 Troubleshooting Guide, 7000-TG002L-EN-P, February 2020.

Related product navigation

- Allen-Bradley 81001-451-61-R
- Allen-Bradley MOX720-P4668E 80026-518-01

These are related references, not confirmed substitutes or an automatically approved assembly.

Product enquiries