

81001-451-61-R

Single 1500 A SGCT

INSTALLATION, INTERFACE AND VALIDATION WORKBOOK

Allen-Bradley 81001-451-61-R is the exact manufacturer-listed single 1500 a sgct for the documented installed system.

STEP	GATE	ENGINEERING PURPOSE
01	IDENTIFY	Confirm article, host and hardware
02	ISOLATE	Secure power and stored energy
03	CONNECT	Restore documented interfaces
04	VALIDATE	Prove diagnostics and function

WORKBOOK PURPOSE

Field-ready identity, isolation, connection, commissioning and closeout records for this exact Allen-Bradley article.

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Installation Readiness Gate

Complete the identity, host-system and isolation checks before disturbing the installed hardware.

- 1

Confirm Allen-Bradley 81001-451-61-R, the 1500 A marking and 1-device supply configuration before work.
- 2

Isolate the medium-voltage input and follow the documented discharge and lockout sequence.
- 3

Use ESD-safe handling and protect the semiconductor surfaces and gate connection points.
- 4

Record the installed orientation, hardware, clamping arrangement and connection positions before removal.

Pre-Work Evidence

EVIDENCE ITEM	RECORDED VALUE
Complete article marking	81001-451-61-R
Host / carrier	Allen-Bradley PowerFlex 7000
Primary system role	Uses the official 1500 A SGCT execution
Acceptance boundary	Complete controlled drive tests before returning the motor system to automatic service.
Source record	PowerFlex 7000 Medium Voltage AC Drives Troubleshooting Guide

WORK AUTHORIZATION RECORD

Work order: _____

Drawing / revision: _____

Checked by: _____

Date: _____

Isolation and Access Register

CONTROL POINT	ENGINEER RECORD
Incoming supply	Isolated / proved
Stored energy	Discharged / proved
Field connections	Identified / protected
ESD control	Established / recorded

Pre-Work Documentation

DOCUMENT	ENGINEER RECORD
Connection photograph	Reference / file
Configuration backup	Reference / revision
Diagnostic baseline	Reference / result

Connection and Installation Sequence

INSTALLATION PRINCIPLE

Install only after the medium-voltage drive is isolated and the stored energy is proven discharged. Preserve the installed device position, cooling arrangement, gate connections and mechanical clamping record, then complete the manufacturer commissioning sequence before motor operation.

- 1 Inspect the cooling path and adjacent power components without transferring identity from another drive execution.
- 2 Reproduce the documented gate and power connections with the approved hardware arrangement.
- 3 Energize only through the PowerFlex 7000 commissioning sequence and monitor diagnostics.
- 4 Complete controlled drive tests before returning the motor system to automatic service.

Connection Record

CONNECTION GROUP	AS-FOUND / AS-LEFT RECORD	STATUS
Power / field connection	Reference / terminal	Checked
Signal / interface	Reference / connector	Checked
Ground / shield	Reference / point	Checked
Accessory / carrier	Reference / part	Checked

MODEL-SPECIFIC RELEASE LIMIT

Confirm Allen-Bradley 81001-451-61-R, the complete PowerFlex 7000 or MV SMC Flex host identity, installed hardware execution, board or semiconductor position, connectors, wiring, grounding, cooling path, firmware or configuration where applicable, companion components and controlled commissioning results before service.

Interface Acceptance Criteria

ACCEPTANCE ITEM	REQUIRED EVIDENCE
Identity	81001-451-61-R
Host match	Allen-Bradley PowerFlex 7000
Connection proof	Reproduce the documented gate and power connections with the approved hardware arrangement.
Configuration proof	Energize only through the PowerFlex 7000 commissioning sequence and monitor diagnostics.

Commissioning and Acceptance Record

Record each controlled verification step before the equipment returns to automatic operation.

NO.	ACCEPTANCE CHECK	RESULT	RECORD
1	Article and host identity	PASS / FAIL	Initial / date
2	Mechanical installation	PASS / FAIL	Initial / date
3	Power and field wiring	PASS / FAIL	Initial / date
4	Grounding and shielding	PASS / FAIL	Initial / date
5	Configuration restoration	PASS / FAIL	Initial / date
6	Signal or power-path response	PASS / FAIL	Initial / date
7	Diagnostics and alarms	PASS / FAIL	Initial / date
8	Final functional release	PASS / FAIL	Initial / date

Engineering Notes

RECORD AREA	ENGINEER ENTRY
As-found condition	
Corrective action	
As-left configuration	
Outstanding restriction	
Release authorization	

CONTROLLED COMMISSIONING

Complete controlled drive tests before returning the motor system to automatic service.

Diagnostics and Release Log

EVENT	ENGINEERING RECORD
Initial energization	Result / observation
Interface or signal response	Result / observation
Alarm and diagnostic review	Result / observation
Functional release	Name / date

ACCEPTANCE AND RELEASE EVIDENCE

PowerFlex 7000 converter maintenance Restores the documented SGCT position in the medium-voltage converter power section.	Planned semiconductor replacement Uses the exact 1500 A and 1-device supply configuration during controlled maintenance.
Drive power-stack restoration Returns the approved power-electronics assembly to its documented component identity.	Post-repair functional verification Supports controlled checks of gate connections, cooling condition and drive diagnostics.

Maintenance Verification and Closeout

PowerFlex 7000 converter maintenance

Restores the documented SGCT position in the medium-voltage converter power section.

Planned semiconductor replacement

Uses the exact 1500 A and 1-device supply configuration during controlled maintenance.

Drive power-stack restoration

Returns the approved power-electronics assembly to its documented component identity.

Post-repair functional verification

Supports controlled checks of gate connections, cooling condition and drive diagnostics.

Related Engineering Pages

MODEL	ENGINEERING ROLE	APTER POWER PAGE
Allen-Bradley 1771-NIS-B	Allen-Bradley product	View Allen-Bradley 1771-NIS-B page
Allen-Bradley 1771-NIS-C	Allen-Bradley product	View Allen-Bradley 1771-NIS-C page
Allen-Bradley 1756-ENBT-A	Allen-Bradley product	View Allen-Bradley 1756-ENBT-A page
Allen-Bradley 1756-OA16I	Allen-Bradley product	View Allen-Bradley 1756-OA16I page
Allen-Bradley 2711-T10C8	Allen-Bradley product	View Allen-Bradley 2711-T10C8 page
Allen-Bradley PN-173122-PN-200959	Allen-Bradley product	View Allen-Bradley PN-173122-PN-200959 page
Allen-Bradley 2711P-K12C4A8	Allen-Bradley product	View Allen-Bradley 2711P-K12C4A8 page
Allen-Bradley 1336-WB035	Allen-Bradley product	View Allen-Bradley 1336-WB035 page

MANUFACTURER SOURCE RECORD

PowerFlex 7000 Medium Voltage AC Drives Troubleshooting Guide
7000-TG002L-EN-P, February 2020

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