

INDUSTRIAL AUTOMATION PRODUCT

81001-451-61-R

Single 1500 A SGCT

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

| IDENTITY      | VERIFIED VALUE                          |
|---------------|-----------------------------------------|
| Manufacturer  | Allen-Bradley                           |
| System family | Allen-Bradley PowerFlex 7000            |
| Part number   | 81001-451-61-R                          |
| Product role  | Uses the official 1500 A SGCT execution |
| Lifecycle     | Installed product record                |

DOCUMENT SCOPE

Exact-article identity, technical data, host role, installation checks, applications, precautions and engineering verification.

MODEL-SPECIFIC ENGINEERING NOTE

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.

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# Technical Specifications

Technical values below are limited to the named Allen-Bradley product record and directly applicable manufacturer documentation.

| PARAMETER      | VALUE  | PARAMETER             | VALUE          |
|----------------|--------|-----------------------|----------------|
| Device type    | SGCT   | Supplied device count | 1              |
| Current rating | 1500 A | Drive family          | PowerFlex 7000 |

## Verified Product Record

| DATA GROUP                 | VERIFIED VALUE                                                                                                                                                                                                                                                                                  |
|----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Installed host / carrier   | Allen-Bradley PowerFlex 7000                                                                                                                                                                                                                                                                    |
| Primary system role        | Uses the official 1500 A SGCT execution                                                                                                                                                                                                                                                         |
| Connection boundary        | 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. |
| Controlled acceptance duty | PowerFlex 7000 converter maintenance                                                                                                                                                                                                                                                            |

### ENGINEERING BOUNDARY

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.

## Pre-Installation Checks

- 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.

## Documented Service Record

| RECORD ITEM        | REQUIRED ENTRY                   |
|--------------------|----------------------------------|
| As-found article   | 81001-451-61-R                   |
| Installed host     | Allen-Bradley PowerFlex 7000     |
| Connection record  | Capture before removal           |
| Controlled release | Diagnostics and functional proof |

# System Role and Architecture

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

**FUNCTION 1**  
Uses the official 1500 A SGCT execution

**FUNCTION 2**  
Supplies 1 device under one exact spare-part number

**FUNCTION 3**  
Supports the PowerFlex 7000 power-electronics section

**FUNCTION 4**  
Retains device identity during controlled drive maintenance

## Matched System Components

| NO. | DOCUMENTED COMPONENT / ROLE                                                                                                                                                                                                                                                                     |
|-----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1   | Allen-Bradley PowerFlex 7000                                                                                                                                                                                                                                                                    |
| 2   | 1500 A                                                                                                                                                                                                                                                                                          |
| 3   | PowerFlex 7000 converter maintenance                                                                                                                                                                                                                                                            |
| 4   | 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. |

## System Integration Record

| INTEGRATION ITEM       | DOCUMENTED ROLE                                                                                                                                                                                                                                                                                 |
|------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Host identity          | Allen-Bradley PowerFlex 7000                                                                                                                                                                                                                                                                    |
| Interface role         | Uses the official 1500 A SGCT execution                                                                                                                                                                                                                                                         |
| Field / power context  | 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. |
| Commissioning evidence | Complete controlled drive tests before returning the motor system to automatic service.                                                                                                                                                                                                         |

## Installation and Connection Checks

- 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.

### MANUFACTURER SOURCE RECORD

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

# Applications and Engineering Context

**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.

## TECHNICAL NOTE

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.

## Model-Specific Acceptance Evidence

| CHECK              | ACCEPTANCE CONDITION                                                                     |
|--------------------|------------------------------------------------------------------------------------------|
| Identity           | 81001-451-61-R recorded                                                                  |
| Host / carrier     | Allen-Bradley PowerFlex 7000                                                             |
| Physical interface | Uses the official 1500 A SGCT execution                                                  |
| Configuration      | Energize only through the PowerFlex 7000 commissioning sequence and monitor diagnostics. |
| Functional proof   | Complete controlled drive tests before returning the motor system to automatic service.  |

## IMPORTANT NOTICE

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.

## Controlled Release Summary

| RELEASE ITEM     | MODEL-SPECIFIC CONDITION                                                                |
|------------------|-----------------------------------------------------------------------------------------|
| Article identity | 81001-451-61-R                                                                          |
| Approved role    | PowerFlex 7000 converter maintenance                                                    |
| Final validation | Complete controlled drive tests before returning the motor system to automatic service. |

# Engineering Precautions

- 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.
- 5

Inspect the cooling path and adjacent power components without transferring identity from another drive execution.
- 6

Reproduce the documented gate and power connections with the approved hardware arrangement.
- 7

Energize only through the PowerFlex 7000 commissioning sequence and monitor diagnostics.
- 8

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

## Related Products on Apter Power

| MODEL                         | SYSTEM ROLE           | APTER POWER PAGE                                        |
|-------------------------------|-----------------------|---------------------------------------------------------|
| Allen-Bradley 2711P-B10C4A9   | Allen-Bradley product | <a href="#">View Allen-Bradley 2711P-B10C4A9 page</a>   |
| Allen-Bradley 2711P-T12C4A8   | Allen-Bradley product | <a href="#">View Allen-Bradley 2711P-T12C4A8 page</a>   |
| Allen-Bradley 1752-L24BBBE    | Allen-Bradley product | <a href="#">View Allen-Bradley 1752-L24BBBE page</a>    |
| Allen-Bradley 1771-NOC-B      | Allen-Bradley product | <a href="#">View Allen-Bradley 1771-NOC-B page</a>      |
| Allen-Bradley 1783-BMS20CL    | Allen-Bradley product | <a href="#">View Allen-Bradley 1783-BMS20CL page</a>    |
| Allen-Bradley 2711P-T7C22D9P  | Allen-Bradley product | <a href="#">View Allen-Bradley 2711P-T7C22D9P page</a>  |
| Allen-Bradley 1756-A10-557042 | Allen-Bradley product | <a href="#">View Allen-Bradley 1756-A10-557042 page</a> |
| Allen-Bradley 1783-LMS8       | Allen-Bradley product | <a href="#">View Allen-Bradley 1783-LMS8 page</a>       |

## MANUFACTURER SOURCE RECORD

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