ACS550
Quick Start Guide
ACS550-01 Drives (0.75...160 kW), IP54 / UL Type 12 Enclosure

Overview
The installation of the ACS550 adjustable speed AC drive follows the outline below.

1. Unpack the drive.
2. Check for any damage.
3. Check the contents against the order / shipping label.

Check
- Motor compatibility – Motor type, nominal current, frequency and voltage range must match drive specifications.
- Suitable environment – Drive requires heated, indoor controlled environment that is suitable for the selected enclosure.
- Wiring – Follow local codes for wiring, circuit protection and EMC requirements.

Refer to User’s Manual and confirm that all preparations are complete.

Prepare the mounting location

1. Mark the mounting points using the template.
2. Drill the mounting holes.

Prepare the wiring

1. Cut the rubber cable seals as needed for the power, motor and control cables. The conical part of the seals must face downwards when inserted in the lead-through plate holes.

Install the wiring

1. Lift the ACS550 by its metal chassis.
2. Pull the drive out of the enclosure.
3. Remove any shipping materials and/or stickers.
4. Read and follow the warnings and instructions on the ACS550 drive and its accessories.

Tools required
Screwdrivers, wire stripper, tape measure, mounting screws or bolts and drill.

Prepare for installation

WARNING! The ACS550 should ONLY be installed by a qualified electrician.

Collect motor data
Collect the following data from the motor nameplate for later use in the ACS550 startup:
- Voltage __________________________
- Nominal motor current ______________
- Nominal frequency _________________
- Nominal speed ____________________
- Nominal power ____________________

Collect data from the motor nameplate

1. Voltage ____________ V
2. Nominal current ___________ A
3. Nominal frequency ___________ Hz
4. Nominal speed _____________ rpm
5. Nominal power _______________ kW

Install the drive

1. Lift the ACS550 by its chassis and not by its cover.
2. Drill the mounting holes.
3. Loosen the captive screws around the edge of the cover.
4. Remove the cover.

Mount the drive

1. As required for access, remove the rubber plugs. Push plugs out from the back of the drive.
2. RS & R6: Align the sheet metal hood (not shown) in front of the drive’s top mounting holes. (Attach as part of next step.)

Remove the front cover

1. If hood is present: Remove screws (2) holding hood in place.
2. If hood is present: Slide hood up and off the cover.
3. Loosen the captive screws around the edge of the cover.
4. Remove the cover.

Remove the rubber plugs

1. Push plugs out from the back of the drive.
2. Use the following chart to interpret the type code found on the drive label.

<table>
<thead>
<tr>
<th>Frame size</th>
<th>Tightening torque</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nm</td>
<td>lbf·ft</td>
</tr>
<tr>
<td>K1, K2</td>
<td>1.5</td>
</tr>
<tr>
<td>K3</td>
<td>3</td>
</tr>
<tr>
<td>K4</td>
<td>5</td>
</tr>
<tr>
<td>N0</td>
<td>10</td>
</tr>
<tr>
<td>K6</td>
<td>40</td>
</tr>
</tbody>
</table>

Note: Lift the ACS550 by its metal chassis.

4. Reinstall the rubber plugs.
5. Non-English speaking locations: Attach a warning sticker in the appropriate language over the existing warning on the top of the module.

Application
This guide provides a quick reference for installations involving: ACS550-01 drives, cable connections and IP54 / UL type 12 enclosures.

Note: This guide does not provide detailed installation, safety or operational instructions. See ACS550 User’s Manual for complete information.
### Optional braking

#### Frame size R1...R4

<table>
<thead>
<tr>
<th>Terminal labels</th>
<th>Brake options</th>
</tr>
</thead>
<tbody>
<tr>
<td>R1...R2</td>
<td>BRK+, BRK-</td>
</tr>
<tr>
<td>R3...R5</td>
<td>UDC+, UDC-</td>
</tr>
</tbody>
</table>

#### Frame size R5

<table>
<thead>
<tr>
<th>Terminal labels</th>
<th>Brake options</th>
</tr>
</thead>
<tbody>
<tr>
<td>R1...R5</td>
<td>BRK+, BRK-</td>
</tr>
<tr>
<td>R6...R9</td>
<td>UDC+, UDC-</td>
</tr>
</tbody>
</table>

#### Frame size R6

<table>
<thead>
<tr>
<th>Terminal labels</th>
<th>Brake options</th>
</tr>
</thead>
<tbody>
<tr>
<td>R1...R6</td>
<td>BRK+, BRK-</td>
</tr>
<tr>
<td>R7...R10</td>
<td>UDC+, UDC-</td>
</tr>
</tbody>
</table>

### Wiring the controls

1. Strip control cable sheathing and twist the copper shield into a bundle.
2. Route control cable(s) through clamp(s) and tighten clamp(s).
3. Connect the ground shield bundle for digital and analog I/O cables at X1-1. (Ground only at the drive end.)
4. Strip the individual control wires and connect to the drive terminals. Use a tightening torque of 0.4 N·m (0.3 lb·ft). See Control connections below or, for more detail, see User’s Manual.

### Control connections

- **X1**: ABB Standard macro
  - SC0: Signal cable shield (screen)
  - 2A1: Ext. freq. ref. 0.1...0 V DC
  - 3A1: Analog input com.
  - 4A1: Ref. voltage 10 V DC
  - 5A2: Not used
  - 6A1: Analog input com.
  - 7A1: Output freq.: 0...20 mA
  - 8A1: Output current: 0...20 mA

### Check installation

Before applying power, perform the following checks.

#### Environment conforms to specifications.
- The drive is mounted securely.
- Proper cooling space around the drive.
- Motor and driven equipment are ready for start.

#### Drive is properly grounded.
- Input power (mains) voltage matches the drive nominal input voltage.
- The input power (mains) terminals, U1, V1, W1, are connected and tightened as specified.
- The input power (mains) fuses are installed.

#### Motor is running in the desired direction.
- Motor cable is routed away from other cables.
- NO power factor compensation capacitors are in the motor cable.
- Control terminals are wired and tightened as specified.
- NO tools or foreign objects (such as drill shavings) are inside the drive.
- NO alternate power source for the motor is connected – no input voltage is applied to the output of the drive.

#### Interlocks are used.
- NO power factor compensation capacitors are in the motor cable.

#### Start-up

In start-up, enter motor data (collected earlier) and, if needed, edit parameters that define how the drive operates and communicates.

### Assistant Control Panel

The Start-up Assistant steps through typical start-up selections, and runs automatically upon the initial power up. At other times, use the steps below to run the Start-up Assistant.

1. Use the MENU key to access the Main menu.
2. Select ASSISTANTS.
3. Select Start-up Assistant.
4. Follow the screen instructions to configure the system.

### Basic Control Panel

The Basic Control Panel does not include the Start-up Assistant. Refer to section How to start up the drive in User’s Manual and manually enter any parameter changes desired.