Prepare for installation

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

Unpack the drive

**Note:** Lift the ACS550 by its chassis and not by its cover.

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.

Drive identification

<table>
<thead>
<tr>
<th>Model</th>
<th>Voltage (V AC)</th>
<th>Nominal motor current (A)</th>
<th>Nominal frequency (Hz)</th>
<th>Nominal speed (rpm)</th>
<th>Nominal power (kW)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACS550-01-08A8-4+J404+…</td>
<td>380…480</td>
<td>3.0</td>
<td>50</td>
<td>1500</td>
<td>4.0</td>
</tr>
</tbody>
</table>

Use the following chart to interpret the type code found on the drive label.

AC, Standard Drive – 550 series

Construction (region specific)

- 01 = Setup/parts for IEC install/compliance
- 02 = Setup/parts for US install/compliance

Output current rating

See Ratings in User’s Manual for details

Voltage rating

- 0 = 208…240 V AC
- 4 = 380…480 V AC
- 5 = 500…600 V AC

Options

- Examples of options:
  - 005 = IP54 / UL type 12
  - 040 = No control panel
  - 404 = ACS-CP-C Basic Control Panel

**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 ____________________

**Tools required**

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

Prepare the mounting location

The drive requires a smooth, vertical, solid surface, free from heat and moisture, with free space for air flow – 200 mm (8 in) above and below.

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

Remove the front cover

1. Remove the control panel, if attached.
2. Loosen the captive screw at the top.
3. Pull near the top to remove the cover.

Mount the drive

1. Position the ACS550 and use screws or bolts to securely tighten all four corners.

Note: Lift the ACS550 by its metal chassis.

Prepare the wiring

**Wiring power**

1. Open the appropriate knockouts in the gland box.
2. Install the cable clamps for the power/motor cables.
3. On the input power cable, strip the sheathing back far enough to route individual wires.
4. On the motor cable, strip the sheathing back far enough to expose the copper wire shield so that the shield can be twisted into a bundle. Keep the bundle not longer than five times its width to minimize noise radiation.

5. Install the wiring

6. Connect the bundle created from the motor cable shield to the GND terminal.

7. Strip and connect the power/motor wires and the power ground wire to the drive terminals using the torques given in the table below. See User’s Manual below or, for more detail, see User’s Manual.

8. **APPLICATION**

   - Use the following frame size tightening torque table below or, for more detail, see User’s Manual.

9. Install conduit/gland box and tighten the cable clamps.

**WARNING!** To disconnect the internal EMC filter, remove the screws marked with “*” and replace the screws marked with “+” with the provided polyamide screws, depending on the frame size.
Power connections

**Frame size R1…R4**

- Power input (U1, V1, W1)
- Power output to motor (U2, V2, W2)

**Frame size R5**

- F1
- F2
- EM3
- GND
- Power input (U1, V1, W1)
- Power output to motor (U2, V2, W2)

**Frame size R6**

- EM3
- GND
- Power input (U1, V1, W1)
- Power output to motor (U2, V2, W2)

---

**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 and connect the individual control wires to the drive terminals. Use a tightening torque of 0.4 N·m (0.3 lb·ft).

---

**WARNING!** The maximum voltage for digital inputs is 30 V.

**Check installation**

Before applying power, perform the following checks.

- Property conforms to specifications.
- The drive is mounted securely.
- Proper cooling space around the drive.
- The motor and driven equipment are ready for start.
- For IT systems and corner grounded TN systems: The internal EMC filter is disconnected (see the table in Wiring power).
- The 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.
- The motor terminals, U2, V2, W2, are connected and tightened as specified.
- Motor cables are 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.

---

**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.

---

**Apply power**

Always reinstall the front cover before turning power on.

**WARNING!** The ACS550 will start up automatically at power up, if the external run command is on.

---

1. Apply input power.
2. Select ASSISTANTS.
3. Select Start-up Assistant.
4. Follow the screen instructions to configure the system.

---

**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.

---

**Note:** For common parameters and menu items, use the Help key to display descriptions.

If you encounter alarms or faults, use the Help key or refer to chapter Diagnostics in User’s Manual.

---

**Reinstall the cover**

1. Align the cover and slide it on.
2. Tighten the captive screw.
3. Install the control panel.

---

**Power output to motor**

(U1, V1, W1)

(U2, V2, W2)

---

**Diagnostics**

<table>
<thead>
<tr>
<th>Terminal labels</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>J1 PE</td>
<td>Reference through A1</td>
</tr>
<tr>
<td>J2 GND</td>
<td>Not used</td>
</tr>
<tr>
<td>J3 RO1C</td>
<td>Ramp pair: Active = 2nd ramp pair</td>
</tr>
</tbody>
</table>

**Note 1.** Jumper setting (two switch types possible):

- J1 PE or J1 GND
- A1: 0…10 V
- A2: 0(4)…20 mA

**Note 2.** Code: 0 = open, 1 = connected