Prepare for Installation

Warning! The ACS550 should only be installed by a qualified electrician.

Unpack the Drive

Note! Lift 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.

Tools Required

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

Collect Motor Data

Collect the following motor data from the motor nameplate for later use in the ACS550 startup:

- Voltage
- Nominal motor current
- Nominal frequency
- Nominal speed
- Nominal power

Drive Identification

ACS550-U1-08A8-4
U1 3~380...480V
I2N / I2hd 8.6/6.9 A
PN/Phd 5/3 Hp S/N 2030700001

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/Acronyms
U1 = Setup / parts for US install/Acronyms
Output current rating
See Ratings in User's Manual for details
Voltage rating
2 = 230 ... 240 VAC
4 = 380 ... 480 VAC
6 = 550 ... 600 VAC

Enclosure protection class/Options
No specification = IP 21 / UL Type 1 / NEMA 1
B055 = IP 54 / UL Type 12 / NEMA 12

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, and 25 mm (1 in) around the sides of the drive.

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

Remove the Front Cover

1. If hood is present, remove the screws (2) holding the hood in place.
2. If hood is present, slide hood up and off of the cover.
3. Loosen the captive screws around the edge of the corner.
4. Pull near the top to remove the cover.

Mount the Drive

The holes providing access to the drive mounting slots require rubber plugs.

Note! Lift the ACS550 by its metal chassis.

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).
3. Position the ACS550 and securely tighten in all four corners.
4. Reinstall the rubber plugs.

Drive® Low Voltage AC Drives

Quick Start Guide

ACS550-U1 Drives (1 to 200 Hp)
UL Type 12 / NEMA 12 / IP54

Overview

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

1. Unpack the drive.
2. Check for any damage.
3. Collect the contents against the order / shipping label.
4. Prepare for installation.
5. Unpack the drive.

Install the Wiring

General wiring

1. Cut the rubber cable seals as needed for the power, motor and control cables.

Wiring power

1. On the input power cable, strip the sheathing back far enough to route individual wires.
2. On the motor cable, strip the sheathing back far enough to expose the copper wire screen so that the screen can be twisted into a pig-tail. Keep the pig-tail short to minimize noise radiation. - 360° grounding under the clamp is recommended for the motor cable to minimize noise radiation. In this case, remove the sheathing at the cable clamp.
3. Route both cables through the clamps and tighten the clamps.
4. Connect the pig-tail created from the motor cable screen to the GND terminal.
5. Strip and connect the power/motor wires, and the power ground wire to the drive terminals. See Power connections below or, for more detail, see User's Manual.

Power connections

WARNING! For IT systems and corner grounded TN systems, disconnect the internal EMC filter by removing screws: EM1 and EM3 (frame sizes R1-R4), or F1 and F2 (frame sizes RS-R6).

Application

This guide provides a quick reference for installations involving ACS550-U1 drives, wiring conduit, and IP 54 / NEMA 12 / UL Type 12 enclosures.
1. Strip control cable sheathing and twist the copper screen into a pig-tail.
2. Route control cable(s) through clamp(s) and tighten clamp(s).
3. Connect the ground screen pig-tail for digital and analog I/O cables at X1-1. (Ground only at the drive end).
4. Connect the ground screen pig-tail for RS485 cables at X1-28 or X1-32. (Ground only at the drive end).
5. Strip the individual control wires and connect to the drive terminals. See Control connections below or, for more detail, see User’s Manual.

**Wiring the controls**

**ABB Standard Macro**

**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. When power is applied to the ACS550, the green LED comes on.

**Note!** Before increasing motor speed, check that the motor is running in the desired direction.

**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 the User’s Manual and manually enter any parameter changes desired.

**Reinstall the cover**

1. Align the cover and slide it on.
2. Tighten the captive screws around the edge of the cover.
3. Slide the hood down over the top of the cover (UL Type 12 only).
4. Install the two screws that attach the hood (UL Type 12 only).
5. Install the control panel.

**Note!** The control panel window must be closed to comply with IP54 / UL Type 12 / NEMA 12.

6. Optional: Add a lock (not supplied) to secure the control panel window.