Note! This guide does not provide detailed installation, safety or operation instructions. See the ACH550 User's Manual for complete information.

1. Prepare for Installation

Warning! The ACH550 should ONLY be installed by a qualified electrician.

Unpack the Drive

Note! Lift ACH550 by its chassis and not by its cover.

1. Unpack the drive.

2. Check for any damage.

3. Check the contents agains 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, drill, and conduit hole punch (R5 and R6, IP 54 / UL Type 12 drives only).
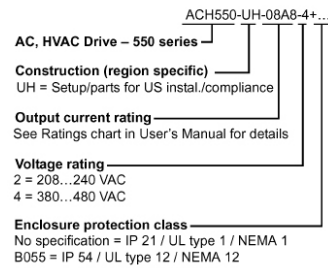
Collect Motor Data

Collect the following motor data from the motor nameplate for later use in the ACH550 startup:

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

Drive Identification

ACH550-UH-08A8-4

U_1 3~ 380...480 V
I_{2N} 8.8 A / 6.9 A
P_N 5 HP Ser. no. *2030700001*

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

ACH550-UH-08A8-4+...

AC, HVAC Drive – 550 series

Construction (region specific)
UH = Setup/parts for US instal./compliance

Output current rating
See Ratings chart in User's Manual for details

Voltage rating
2 = 208...240 VAC
4 = 380...480 VAC

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

2. 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.
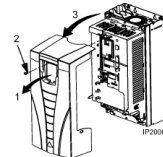
1. Mark the mounting points.

2. Drill the mounting holes.
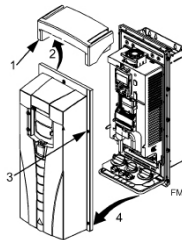
3. Remove the Front Cover

IP 21 / UL Type 1

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

IP 54 / UL Type 12

1. If hood is present: Remove screws (2) holding hood in place.

2. If hood is present: Slide hood up and off of the cover.

3. Loosen the capitve screws around the edge of the cover.

4. Remove the cover.

4. Mount the Drive

IP 21 / UL Type 1

Note! Lift the ACH550 by its metal chassis.

1. Position the ACH550 onto the mounting screws or bolts and securely tighten in all four corners.
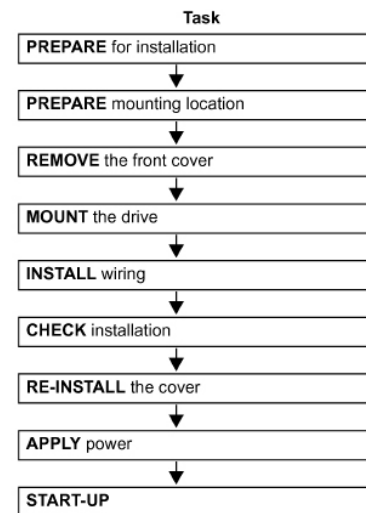
DriveIT Low Voltage AC Drives
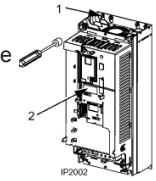
Quick Start Guide

ACH550-UH Drive

Overview

The installation of the ACH550 adjustable speed AC drive follows the outline below.

Task
PREPARE for installation
PREPARE mounting location
REMOVE the front cover
MOUNT the drive
INSTALL wiring
CHECK installation
RE-INSTALL the cover
APPLY power
START-UP

Application

This guide provides quick reference for installing ACH550-UH drives.

2. Non-English speaking locations: Add a warning sticker in the appropriate language over the existing warning on the top of the module.

IP 54 / UL Type 12
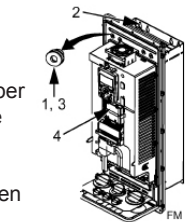
Note! Lift the ACH550 by its metal chassis.

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

1. As required for access, remove the rubber plugs. Push plugs out from the back of the drive.

2. Position the ACH550 and securely tighten in all four corners.

3. Re-install rubber plugs.

4. Non-English speaking locations: Add a warning sticker in the appropriate language over the existing warning on the top of the module.
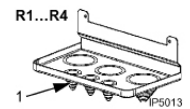
5. Install the Wiring

Note! Use separate conduit runs for input power, motor and control wiring.
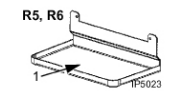
General Wiring - IP 21 / UL Type 1

1. Install thin-wall conduit clamps (not supplied) in the conduit/gland box.

2. Install conduit/gland box.
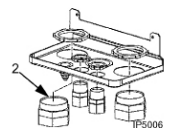
General Wiring - IP 54 / UL Type 12

1. Depends on frame size:
   Frame sizes R1 - R4: Remove and discard the cable seals where conduit will be installed. (The cable seals are coneshaped, rubber seals on the bottom of the drive.

   Frame sizes R5 - R6: Use punch to create holes for conduit connections as needed.
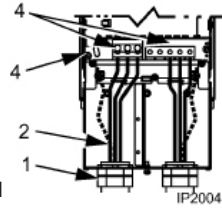
2. For each conduit run, install water tight conduit connectors (not supplied).
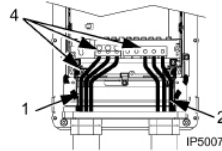
R1...R4
R5, R6

Wiring Power - IP 21 / UL Type 1

1. Connect conduit runs to box.

2. Route input power and motor wiring through separate conduits.

3. Strip wires.

4. Connect power, motor, and ground wires to the drive terminals. For details, see "Power Connections" in the User's Manual.

Wiring Power - IP 54 / UL Type 12

1. Route the power wiring through the conduit.

2. Route the motor wiring through separate conduit.

3. Strip the wires.

4. Connect the power, motor, and ground wires to the drive terminals. See "Power Connections" below or, for more detail, see User's Manual.
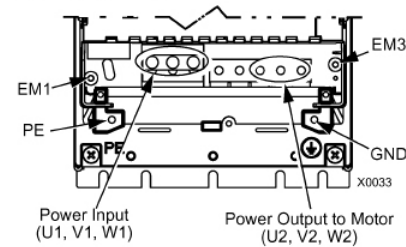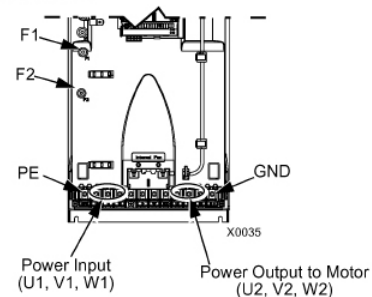
Power Connections

Warning! For floating networks remove screws at EM1 and EM3 on frame sizes R1 - R4. Remove screws at F1 and F2 on frame sizes R5 or R6.
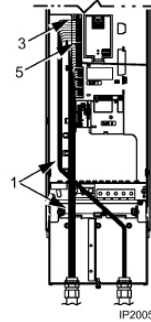
Frame Size R1...R4

EM3
EM1
PE
PE
GND
X0033
Power Input (U1, V1, W1)
Power Output to Motor (U2, V2, W2)

Frame Size R5

F1
F2
PE
GND
X0035
Power Input (U1, V1, W1)
Power Output to Motor (U2, V2, W2)

F2
F1
X0013
Power Input (U1, V1, W1)   PE   GND   Power Output to Motor (U2, V2, W2)
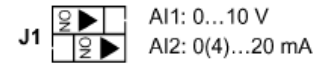
Wiring the Controls

1. Route the control cable(s) through separate coduit.

2. Strip the control cable sheathing and twist the copper screen into a pig-tail.

3. Connect the copper screen pig-tail for digital and analog I/O cables at X1-1. (Ground only at drive end)

4. Connect the ground screen pig-tail for RS485 cables at X1-28 or X1-32. (Ground only at drive end)

5. Strip and connect the individual control wires to the drive terminals. The following shows the default configuration. For details, or other configurations, see "Control Connections" in the User's Manual.

6. Install the conduit/gland box cover (1 screw).

Control Connections

X1		
1	SCR	Signal cable shield
2	AI1	Ext. freq. ref. 1: 4…20 mA
3	AGND	Analog input com.
4	10V	Ref. voltage 10 VDC
5	AI2	Not used
6	AGND	Analog input com.
7	AO1	Output freq.: 4…20 mA
8	AO2	Output current: 4…20 mA
9	AGND	Analog output com

10	24V	Aux. volt. output +24 VDC
11	GND	Aux. volt. common
12	DCOM	Digital input com. for all
13	DI1	Start/Stop: Active = start
14	DI2	Not used
15	DI3	Constant speed sel.[2]
16	DI4	Start enable: Active = enable
17	DI5	Not used
18	DI6	Not used

19	RO1C	Relay output 1
20	RO1A	Default operation:
21	RO1B	Ready = 19/21 connected
22	RO2C	Relay output 2
23	RO2A	Default operation:
24	RO2B	Running = 22/24 connected
25	RO3C	Relay output 3
26	RO3A	Default operation:
27	RO3B	Fault(-1) =25/27 connected (Fault => 25/26 connected)

Note 1. Jumper setting:

J1   AI1: 0…10 V
AI2: 0(4)…20 mA

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

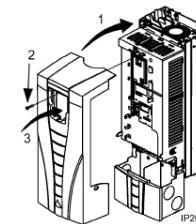| DI3	Output
0	Reference through AI1
1	CONSTANT SPEED 1 (1202)

6. Check Installation

Before applying power, perform the following checks.

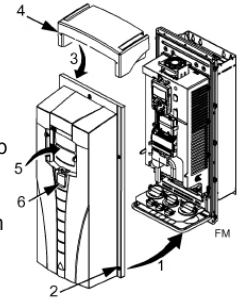| ✔	Check
	Installation environment conforms to the drive's specifications for ambient conditions.
	The drive is mounted securely.
	Space around the drive meets the drive's specifications for cooling.
	The motor and driven equipment are ready for start.
	For floating networks: The internal RFI filter is disconnected.
	The drive is properly grounded.
	The input power voltage matches the drive nominal input voltage range.
	The input power connections at U1, V1, and W1 are connected and tightened as specified.
	The input power branch circuit protection is installed.
	The motor connections at U2, V2, and W2 are connected and tightened as specified.
	The input power, motor and control wiring are routed in separate conduit runs.
	NO power factor compensation capacitors are in the motor cable.
	The control connections are connected and tightened as specified.
	NO tools or foreign objects (such as drill shavings) are inside the drive.
	NO alternate power source for the motor (such as a bypass connection) is connected – no voltage is applied to the output of the drive.

7. Re-Install the Cover

IP 21 / UL Type 1

1. Align the cover and slide it on.

2. Tighten the captive screw.

3. Re-install the control panel.

IP 54 / UL Type 12

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.

4. Install the two screws that attach the hood.

5. Re-install the control panel.

Note! The control panel window must be closed to comply with IP 54 / UL Type 12.

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

8. Apply Power

Always re-install the front cover before turning power on.

Warning! The ACH550 will start up automatically at power up, if the external run command is on.

1. Apply input power.
When power is applied to the ACH550, the green LED comes on.

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

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

Assitant 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 acces the menu list.

2. Select Assistants.

3. Select Start-up Assistants.

4. Follow the screen instuctions 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 the Diagnostic section of the User's manual.