

CHAPTER 2 STORAGE AND INSTALLATION

2.1 Storage

The AC drive should be kept in the shipping carton before installation. In order to retain the warranty coverage, the AC drive should be stored properly when it is not to be used over for an extended period of time. Some storage suggestions are:

- Store in a clean and dry location free from direct sunlight or corrosive fumes.
- Store within an ambient temperature range of -20°C to $+65^{\circ}\text{C}$.
- Store within a relative humidity range of 0% to 90% and non-condensing environment.
- Store within an air pressure range of 86 kPa to 106kPa.

2.2 Ambient Conditions

Operation	Air Temperature: -10°C to $+40^{\circ}\text{C}$ (14°F to 104°F), Relative Humidity: 0% to 90%, no condensation allowed Atmosphere pressure: 86 to 106 kPa Installation Site Altitude: below 1000m Vibration: Maximum 9.80 m/s^2 (1G) at less than 20Hz Maximum 5.88 m/s^2 (0.6G) at 20Hz to 50Hz
Storage	Temperature: -20°C to $+60^{\circ}\text{C}$ (-4°F to 140°F) Relative Humidity: Less than 90%, no condensation allowed Atmosphere pressure: 86 to 106 kPa
Transportation	Temperature: -20°C to $+60^{\circ}\text{C}$ (-4°F to 140°F) Relative Humidity: Less than 90%, no condensation allowed Atmosphere pressure: 86 to 106 kPa Vibration: Maximum 9.80 m/s^2 (1G) at less than 20Hz, Maximum 5.88 m/s^2 (0.6G) at 20Hz to 50Hz
Pollution Degree	2: good for a factory type environment.

2.3 Installation

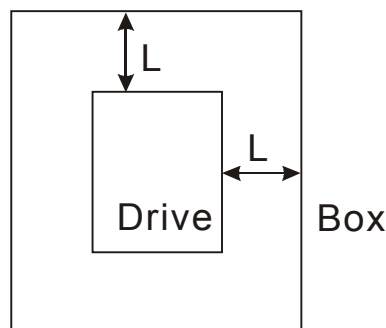
Improper installation of the AC drive will greatly reduce its life. Be sure to observe the following precautions when selecting a mounting location. **Failure to observe these precautions may void the warranty!**

- ◆ Do not mount the AC drive near heat-radiating elements or in direct sunlight.
- ◆ Do not install the AC drive in a place subjected to high temperature, high humidity, excessive vibration, corrosive gases or liquids, or airborne dust or metallic particles.
- ◆ Mount the AC drive vertically and do not restrict the air flow to the heat sink fins.

Non- Ventilated Enclosures

When selecting non-ventilated enclosures for the VFD-S series, please consider the following minimum distance (L) from the drive sides (other than the front or back covers) to the enclosure internal surfaces or box internal volume. Estimated operating temperature of drive will be lower than 40° C. (Box depth assumed as 8 in.)

Drive model S-series	Power (HP)	L (in)	Box Vol (cu.ft)
VFD002	0.25	10	3
VFD004	0.5	10	3
VFD007	1	10	3
VFD015	2	10	3
VFD022	3	12	4.7



Distance L from Drive to enclosure

2.4 Connections



DANGER

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Hazardous Voltage

Before accessing the AC drive:

- ◆ Disconnect all power to the AC drive.
- ◆ Wait ten minutes for DC bus capacitors discharge.

Any Electrical or mechanical modification to this equipment without prior written consent of Delta Electronics, Inc. will void all warranties and may result in a safety hazard in addition to voiding the UL listing.

Short Circuit Withstand:

The rated voltage of power system that is installed on AC drive must be equal to or less than 240 Volts (460V model is 480 Volts) and the current must be equal to or less than 5000A RMS.

General Wiring Information

Applicable Codes

All VFD-S AC drives are Underwriters Laboratories, Inc. (UL) and Canadian Underwriters Laboratories (cUL) listed, and therefore comply with the requirements of the National Electrical Code (NEC) and the Canadian Electrical Code (CEC).

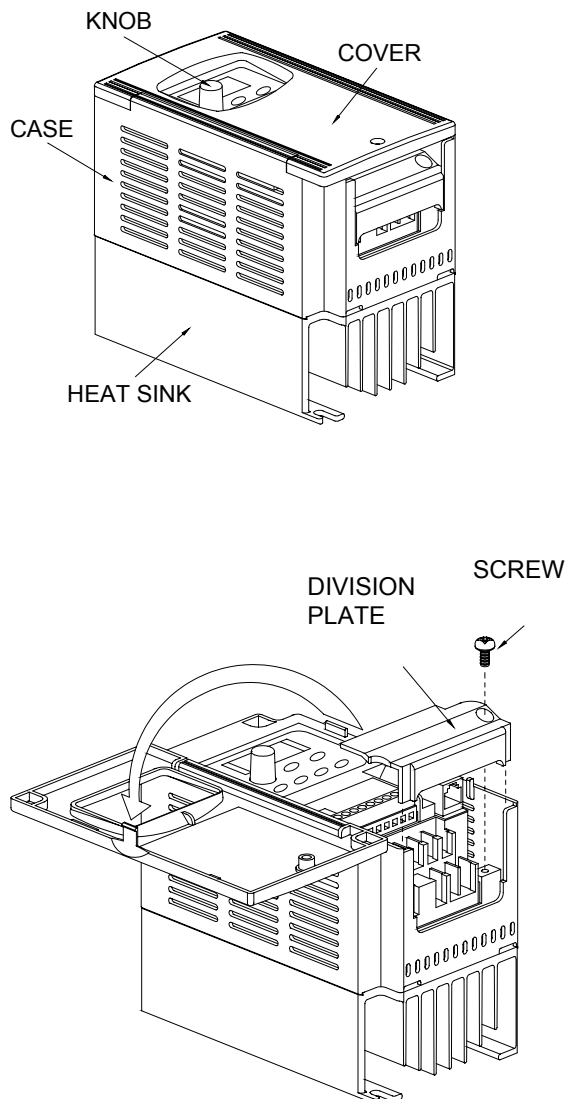
Installation intended to meet the UL and cUL requirements must follow the instructions provided in "**Wiring Notes**" as a minimum standard. Follow all local codes that exceed UL and cUL requirements. Refer to the technical data label affixed to the AC drive and the motor nameplate for electrical data.

The "Line Fuse Specification" in Appendix B, lists the recommended fuse part number for each S-Series part number. These fuses (or equivalent) must be used on all installations where compliance with U.L. standards is a required.

2.5 Environments

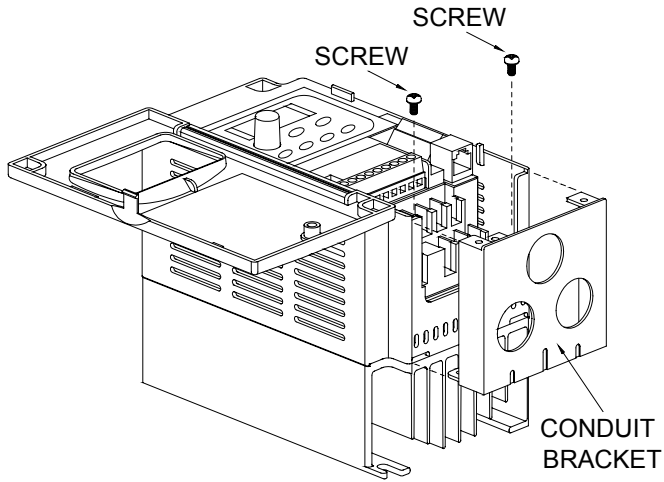
Avoid rain and moisture,
Avoid direct sunlight,
Avoid corrosive gases or liquids,
Avoid airborne dust or metallic particles,
Avoid vibration,
Avoid magnetic interference,
Environment temperature: $-10 \sim 50^{\circ}\text{C}$,
Environment humidity: below 90% RH,
Environment air pressure: 86 kpa \sim 106 kpa.

2.6 Installation Steps

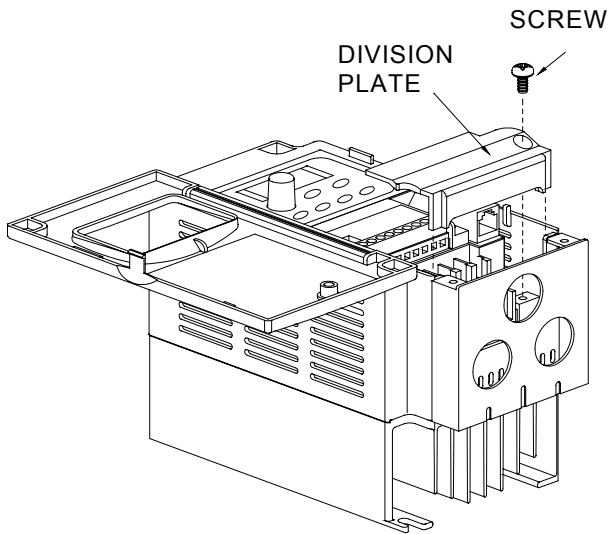


Installation Steps

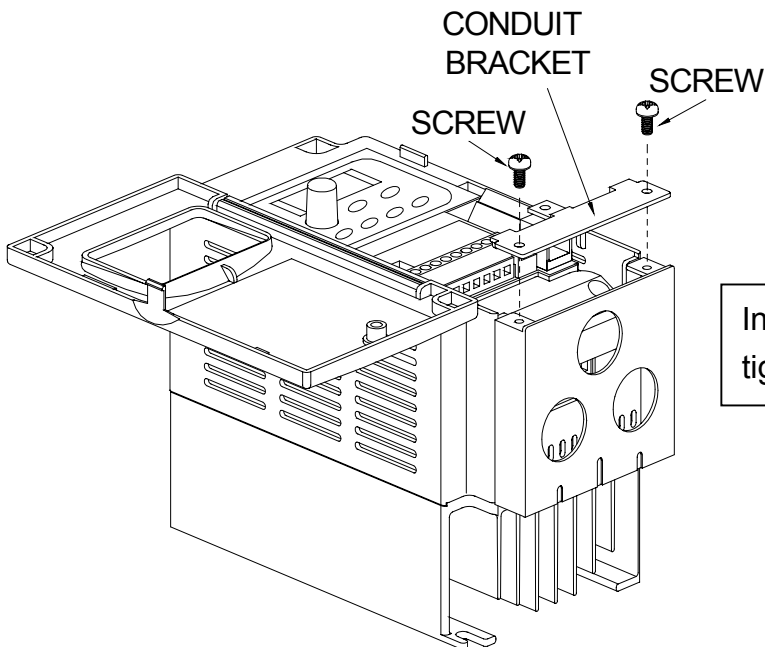
1. Remove front cover screw and open.
2. Remove Division Plate.
If using optional conduit bracket,
please refer to next page.
3. Connect AC Input Power and motor
leads. Never connect the AC drive
output terminals U/T1, V/T2, W/T3 to
main AC Input power.
4. Reinstall Division Plate.



For Optional Conduit Bracket:
 Make sure to fasten both screws on conduit bracket as shown in the drawing for safety grounding purpose. Bring all the wires out through the conduit bracket.
 Screw Torque: 5 to 6 kgf-cm
 (4.3 to 5.2 in-lbf)

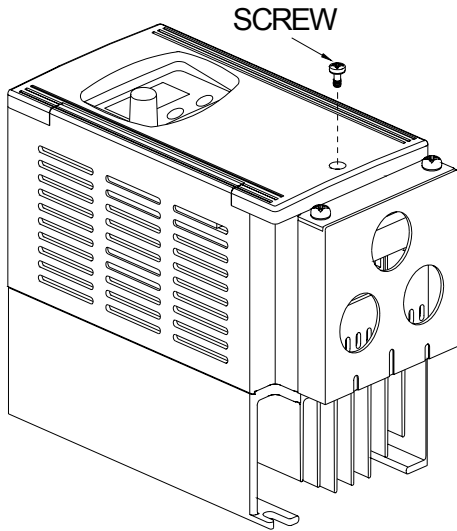


Reinstall Division Plate.
 Screw Torque: 5 to 6 kgf-cm
 (4.3 to 5.2 in-lbf)



Install Conduit Bracket cover and tighten screws.

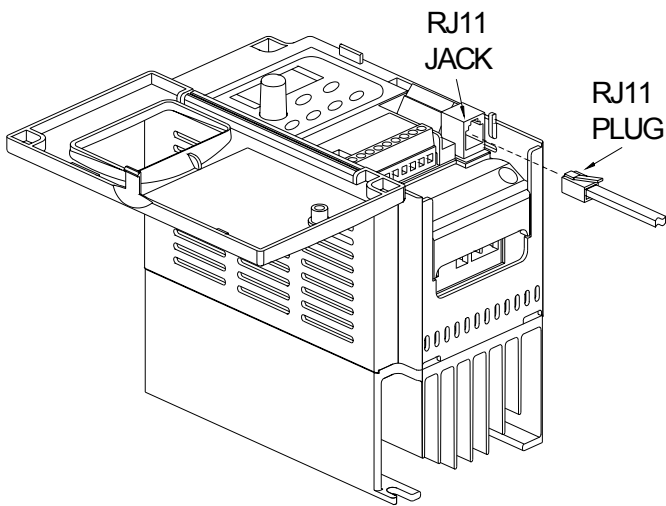
UL Enclosed Type



Close the cover and tighten screw as shown.

Screw torque: 5 to 6 kgf-cm
(4.3 to 5.2 in-lbf)

RS485



For additional communication:
Plug the communication keypad into the RJ11 jack for serial communication.