

VFD-EL Instruction Sheet

Multiple Function/Micro Type AC Motor Drives

Before installation, please read this instruction sheet thoroughly. Keep this instruction sheet at hand and distribute to all users for reference.

To ensure the safety of operators and equipment, only qualified personnel familiar with AC motor drive are to do installation, start-up and maintenance. Always read this instruction sheet thoroughly before using VFD-EL series AC Motor Drive, especially the WARNING, DANGER and CAUTION notes. Failure to comply may result in personal injury and equipment damage. If you have any question, please contact your dealer.

Please notice the following warning, danger and caution notes when using this product.

- DANGER**
 - ✓ VFD-EL series is used only to control variable speed of 3-phase induction motors, NOT for 1-phase motors or other purpose. A charge may still remain in the DC-link capacitors with hazardous voltages before the READY LED is OFF, even if the power has been turned off. Please do not touch the internal circuits and components.
 - ✓ There are highly sensitive MOS components on the printed circuit boards. These components are especially sensitive to static electricity. To prevent damage to these components, do not touch the circuit boards before taking anti-static precautions.
- WARNING**
 - ✓ A charge may still remain in the main circuit terminals with hazardous voltages even if the AC motor drive is stop.
 - ✓ When the source of operation command is set to the external terminals, it may cause the motor to run immediately after applying power and may cause personal injury.
- CAUTION**
 - ✓ DO NOT install the AC motor drive in a place subjected to high temperature, direct sunlight, high humidity or liquids.
 - ✓ The AC motor drive must be put in the environment with the surrounding temperature from -20°C to +60°C and relative humidity from 0% to 90% (no condensation allowed).
 - ✓ If the AC motor drive is stored for more than 3 months, the temperature should not be higher than 30°C. Storage longer than one year is not recommended, it could result in the degradation of the electrolytic capacitors.
 - ✓ When the motor cable between AC motor drive and motor is too long, the layer insulation of the motor may be damaged. Please use a frequency inverter duty motor or add an AC output reactor to prevent damage to the motor. Refer to appendix B Reactor for details.
 - ✓ The rated voltage for 230V models AC motor drive must be ≤ 240V (≤ 120V for 115V models; ≤ 480V for 460V models) and the short circuit must be ≤ 5000A RMS (≤ 10000A RMS for the ≥ 40hp (30kW) models).

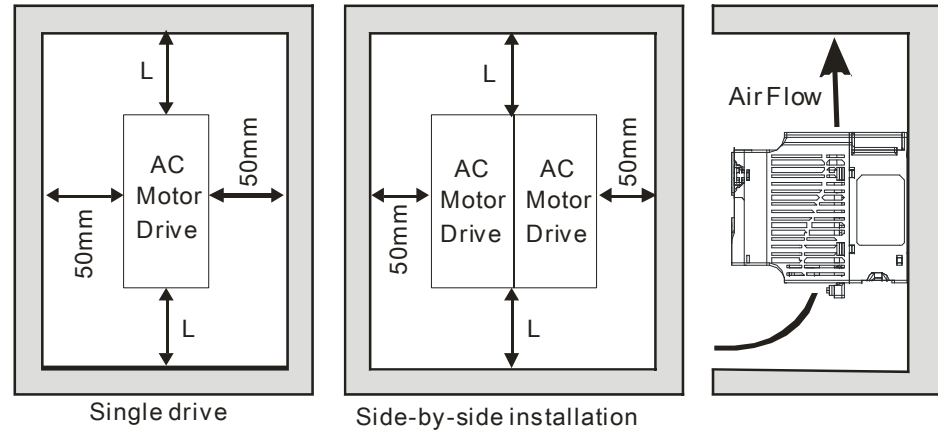
Product Appearance



Terminals	Descriptions
R/L1, S/L2, T/L3	AC line input terminals (1-phase/3-phase)
U/T1, V/T2, W/T3	AC drive output terminals for connecting 3-phase induction motor
+B1, B2	Connections for brake resistors (refer to appendix B.1 for details)
+B1, -	Connections for external brake units (BUE series) (refer to BUE series manual for details)
⊕ E	Earth connection, please comply with local regulations

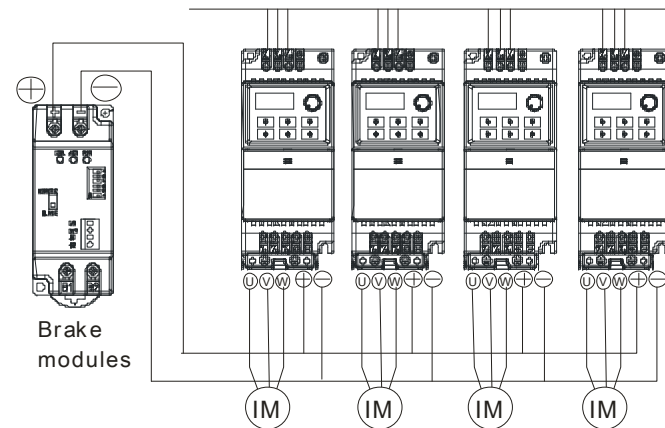
Minimum Mounting Clearances

For Frame A: L is 120mm
For Frame B,C,D: L is 150mm



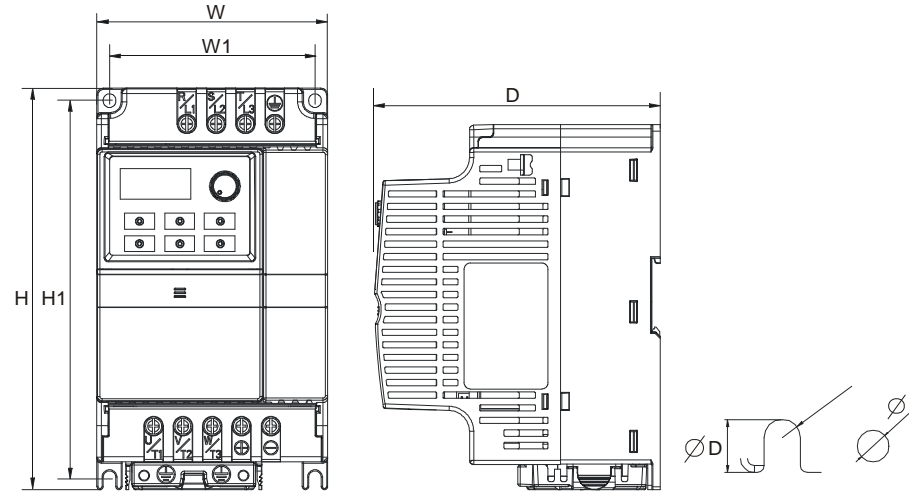
DC-bus Sharing: Connecting the DC-bus of the AC Motor Drives in Parallel

power should be applied at the same time
(only the same power system can be connected in parallel)
Power 208/220/230/380/440/480 (depend on models)



For frame A and B, terminal + (-) is connected to the terminal + (-) of the brake module.

Dimensions



Frame	W	W1	H	H1	D	Ø	ØD
A	72.0[2.83]	59.0[2.32]	174.0[6.86]	151.6[5.97]	136.0[5.36]	5.4[0.21]	2.7[0.11]
B	100.0[3.94]	89.0[3.50]	174.0[6.86]	162.9[6.42]	136.0[5.36]	5.4[0.21]	2.7[0.11]

NOTE

Frame A: VFD002EL11A/21A/23A, VFD004EL11A/21A/23A/43A, VFD007EL21A/23A/43A, VFD015EL23A/43A,
Frame B: VFD007EL11A, VFD015EL21A, VFD022EL21A/23A/43A, VFD037EL23A/43A

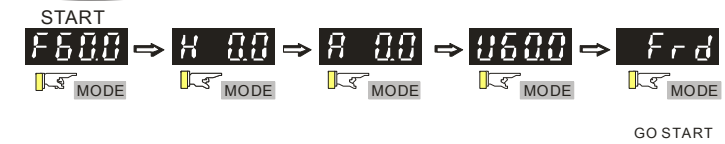
KEP-LE02 Digital Keypad



- ① Status Display
Displays the driver's current status.
- ② LED Display
Indicates frequency, voltage, current, user defined units and etc.
- ③ Potentiometer
For master Frequency setting.
- ④ RUN Key
Starts AC drive operation.
- ⑤ UP and DOWN Key
Sets the parameter number and changes the numerical data, such as Master Frequency.
- ⑥ MODE
Change between different display mode.
- ⑦ STOP/RESET
Stops AC drive operation and reset the drive after fault occurred.
- ⑧ ENTER
Used to enter/modify programming parameters

Operation Flow Chart

Setting Mode



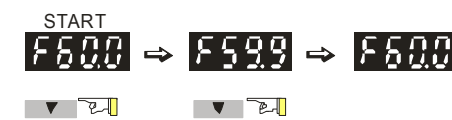
NOTE: In the selection mode, press MODE to set the parameters.

Setting parameters



NOTE: In the parameter setting mode, you can press MODE to return the selecting mode.

To shift data



Setting direction (When the source of operation command is set to the digital keypad)

