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*We reserve the right to change the information in this catalogue without prior notice.
**Features**

- **Modular Design**
  Modular structure and extension with optional cards

- **Standard MODBUS Protocol**
  Standard MODBUS Protocol via RS-485

- **Built-in EMI Filter**
  (230V 1-phase and 460V 3-phase)
  To reduce electromagnetic interference efficiently

- **Compact Design**
  Space saving and easy DIN rail mounting with optional DIN rail adapter

- **Optional Fieldbus Modules**
  Provide connection to a variety of networks, including Profinet, DeviceNet, LionWorks and CANopen

- **Flexible Extension**
  Via optional cards, such as I/O card, Relay card, PG (Encoder) card and USB card, to meet your application requirements

- **RFI-Switch for IT Mains**
  Removable “Y” capacitor to use with IT mains supplies.

- **Easy DC BUS Sharing**
  Multiple VFD-E can be connected in parallel to share the regenerative braking energy. In this way, over-voltage is prevented and the DC-bus voltage stabilized.

- **Complete Protection Function**
  High precision current detection, full overload protection (OL, O.L and OL2), over-voltage/over-current stall prevention, short-circuit protection, reset after fault, speed search function and motor overheat protection by PTC.

- **Removable Keypad**
  The standard keypad acts as status monitor. More functions, including parameter modification, RUN/STOP, speed change, and status display, via optional keypad

- **Power Range**
  1-phase 115V series: 0.2~0.75kW (0.25~1hp)
  1-phase 230V series: 0.2~2.2kW (0.25~3hp)
  3-phase 230V series: 0.2~7.5kW (0.25~20hp)
  3-phase 460V series: 0.4~22kW (0.50~30hp)

- **Built-in PLC Function**
  Easy to write PLC program without additional PLC

- **Side-by-side Installation (40℃)**
  High-efficiency cooling and flexible space

- **Easy Maintenance**
  Removable cooling fan for easy maintenance

**Application Cases**

- **Vacuum compressor**
  It reduces the large load of instant vacuum with VFD-E outstanding overload capacity.

- **Escalator**
  It not only saves energy with built-in PLC function and multi-step speed but also eliminates cost of external controller.
Application Fields

Conveyor and Transportation Machinery
- Conveyor belt
- Automatic doors
- Roller door
- Small elevator
- X-Y axis of traveling crane

Food Processing
- Dumpling maker
- Food mixer
- Noodle maker

Machine Tool/Metal Processing Machinery
- Grinder
- Drill
- Small lathe
- Milling machines
- Injection molding (clamp)

Wood Working Machinery
- 4 side planer
- Wood carver
- Wood working machine
- Simple cutting machine for wood working
- Spraying machine

Fan/Pump Equipment
- Building air conditioner
- Wastewater processing system
- Constant pressure water treatment system
- Water treatment pump
- Agricultural pump
- Temperature control of middle/large oven
- Air compressor
- Heat exchange fans
- Building water dispenser system
- Dryer’s windmill

Paper/Textile Machine
- Round weaver
- Cross weaver
- Ribbon weaver
- Printing press
- Industrial sewing machine
- Knitting machines

Others
- Ironing machine
- Pulverizer
- Treadmil
- Feeder
- Car washing machine
- Packing machine
- Centrifuge
- Liquid mixer
- Industrial washing machine
### Specifications

#### Voltage Class

<table>
<thead>
<tr>
<th>Voltage Class</th>
<th>115V</th>
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<td>Model Number</td>
<td>VFD-E</td>
</tr>
<tr>
<td>Model Number</td>
<td>E002</td>
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<tr>
<td>Rated Output Capacity (kVA)</td>
<td>0.6</td>
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<tr>
<td>Rated Output Current (A)</td>
<td>1.6</td>
</tr>
<tr>
<td>Maximum Output Voltage (V)</td>
<td>3-phase proportional to input voltage</td>
</tr>
<tr>
<td>Output Frequency (Hz)</td>
<td>0.1~600Hz</td>
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<tr>
<td>Carrier Frequency (kHz)</td>
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<td>Rated Input Current (A)</td>
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<td>Rated Voltage/Frequency</td>
<td>Single-phase 100-120V, 50/60Hz</td>
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<td>Voltage Tolerance</td>
<td>±15% (90-132V)</td>
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<tr>
<td>Frequency Tolerance</td>
<td>≤ 5% (47-63Hz)</td>
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<tr>
<td>Cooling Method</td>
<td>Natural Cooling</td>
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<td>Weight (kg)</td>
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#### Voltage Class

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<td>E007</td>
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<td>Rated Output Current (A)</td>
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<tr>
<td>Maximum Output Voltage (V)</td>
<td>3-phase proportional to input voltage</td>
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<tr>
<td>Output Frequency (Hz)</td>
<td>0.1~600Hz</td>
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<tr>
<td>Carrier Frequency (kHz)</td>
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<td>Rated Input Current (A)</td>
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<td>Rated Voltage/Frequency</td>
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<td>Voltage Tolerance</td>
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<td>Frequency Tolerance</td>
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<tr>
<td>Cooling Method</td>
<td>Natural Cooling</td>
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<td>Weight (kg)</td>
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#### Voltage Class

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<td>E007</td>
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<td>Rated Output Current (A)</td>
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<tr>
<td>Maximum Output Voltage (V)</td>
<td>3-phase proportional to input voltage</td>
</tr>
<tr>
<td>Output Frequency (Hz)</td>
<td>0.1~600Hz</td>
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<tr>
<td>Carrier Frequency (kHz)</td>
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<td>Rated Voltage/Frequency</td>
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<tr>
<td>Voltage Tolerance</td>
<td>±15% (342-529V)</td>
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<tr>
<td>Frequency Tolerance</td>
<td>≤ 5% (47-63Hz)</td>
</tr>
<tr>
<td>Cooling Method</td>
<td>Natural Cooling</td>
</tr>
<tr>
<td>Weight (kg)</td>
<td>1.2</td>
</tr>
</tbody>
</table>

#### Control System
- SPWM (Sinusoidal Pulse Width Modulation) Control (V/f or sensorless vector control)
  - Frequency Setting Resolution: 0.01Hz
  - Output Frequency Resolution: 0.01Hz
- Torque Characteristics: Including the auto-torque/auto-slip compensation, starting torque can be 150% at 0.8Hz
- Overload Endurance: 150% of rated current for 1 minute
- Skid Frequency: 0.1~600 seconds (2 independent setting of Accel/Decel times)
- Stall Prevention Level: Setting 250 to 2550% of rated current
- DC Braking: Operation frequency 0.1~800 Hz, output 0~100% of rated current
- Regenerated Braking Torque: Approx. 20% (up to 125% possible with optional brake resistor or externally mounted brake unit, 1.15hp models [built-in brake choppers])
- V/f Pattern: Adjustable V/f pattern
  - Setting by a 4D
- Operation Setting Signal: Multi-function input
  - External Signal: KeyPad
  - External Signal: KeyPad
  - Operation Setting Signal: Set by RUN and STOP

#### Operating Characteristic
- Multi-function Input Signal:
  - Multi-step selection 0 to 15, cog, scroll, add, subtract, cancel switch, counter, external Base Block (NC, NO), auxiliary motor control in parallel, AC/DC/AC/VFD selections, drive reset, UPS, DOWN key settings, source/ground (N/P/NP) selection
  - Multi-function Output Indication:
    - AG drive operating, frequency attainment, non-zero frequency, Base Block, fault indication, local/remote indication, auxiliary motor output, drive ready, output alarm, emergency stop and status selection of input terminals (NC/NO)
  - Analog Output Signal:
    - Output frequency output

#### Alarm Output Contact
- Contact will be made when drive malfunctions (1 Form C change-over contact or for open collector output)

#### Operation Functions
- Built-in PLC, AVR, base/scroll/3-Curve, over-voltage/over-current stall prevention, 5 fault records, reverse inhibition, momentary power loss restart, DC braking, auto-torque/auto-slip compensation, auto-tuning, adjustable carrier frequency, output frequency limits, parameter lock/reset, vector control, PID control, external counter, MODBUS communication, alarm reset, alarm reset and warning, power-saving, sleep/wake function, fault control, set/2nd frequency source selection, 1st/2nd frequency source combination, N/P/N selection

#### Protection Functions
- Over voltage, over current, under voltage, under current, external fault, overload, ground fault, overheating, electronic thermal, IGBT short circuit protection

#### Display Keypad
- 6-key, 7-segment LED with 4-digit, 5 status LEDs, master frequency, output frequency, output current, custom units, parameter values for setup and lock, faults, RUN, STOP, RESET, FWD/REV

#### Built-in EMI Filter
- For 230V 1-phase and 460V 3-phase models

#### Enclosure Rating
- IP20

#### Pollution Degree
- 2

#### Ambient Temperature
- -10°C to +50°C (40°C for side-by-side mounting) Non-Condensing and not frozen

#### Storage/Transportation Temperature
- -20°C to 60°C

#### Ambient Humidity
- Below 90% RH (non-condensing)

#### Vibration
- 9.89665m/s² (2g) or less at 50Hz, ≤ 8.96m/s² (0.2g) at 20Hz to 50Hz

#### Approvals
- CE
- UL/CUL
- TUV

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**Note:** The above specifications are based on the provided image and may not include all details available in the original document. For complete and accurate information, the original document should be consulted.
### Dimensions

<table>
<thead>
<tr>
<th>Model</th>
<th>W</th>
<th>W1</th>
<th>H</th>
<th>H1</th>
<th>D</th>
<th>F</th>
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</thead>
<tbody>
<tr>
<td>VFD002E11A1/11C</td>
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<td>VFD004E11A1/11C</td>
<td>72.0</td>
<td>(2.83)</td>
<td>60.0</td>
<td>(2.36)</td>
<td>142.0</td>
<td>(5.60)</td>
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<tr>
<td>VFD004E21A2/12C</td>
<td>120.0</td>
<td>(4.72)</td>
<td>152.0</td>
<td>(6.00)</td>
<td>5.2</td>
<td>(0.20)</td>
</tr>
</tbody>
</table>

### New Models
- VFD-E-T: Built-in brake chopper for frame A
- VFD-E-P: Plate drive
- VFD-E-C: Built-in CANopen communication

### Accessories

#### Optional Cards
- **EME-R3AA**
  - Relay card (3 form A/NO contacts)
- **EME-R2CA**
  - Relay card (2 form C/Change-over contacts)
- **EME-33A**
  - I/O card (photocoupler 3in+3out)
- **EME-A22A**
  - Anglag I/O Card (12 bit)
- **EME-PG01**
  - Pt card
- **CME-USB01**
  - Second communication card (USB1.1)

#### Fieldbus Modules
- **DeviceNet**
- **Profinet**
- **LonWorks**
- **CANopen**

#### Others
- **Keypad for communication (VFD-PU06)**
- **Zero phase reactor**
- **Keypad cable**
- **Grounding plate**
- **DIN rail (Width 35mm)**
- **Brake unit**
- **AC fan**
- **DC fan**
- **EMI input filter**
- **AC reactor**

### Table

<table>
<thead>
<tr>
<th>Model</th>
<th>W</th>
<th>W1</th>
<th>H</th>
<th>H1</th>
<th>D</th>
<th>F</th>
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<th>H</th>
<th>H1</th>
<th>D</th>
<th>F</th>
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<td>89.0</td>
<td>(3.51)</td>
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<td>(6.86)</td>
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<td>(6.38)</td>
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