

# KNC-VFD-CV100-1S Series



## FEATURES

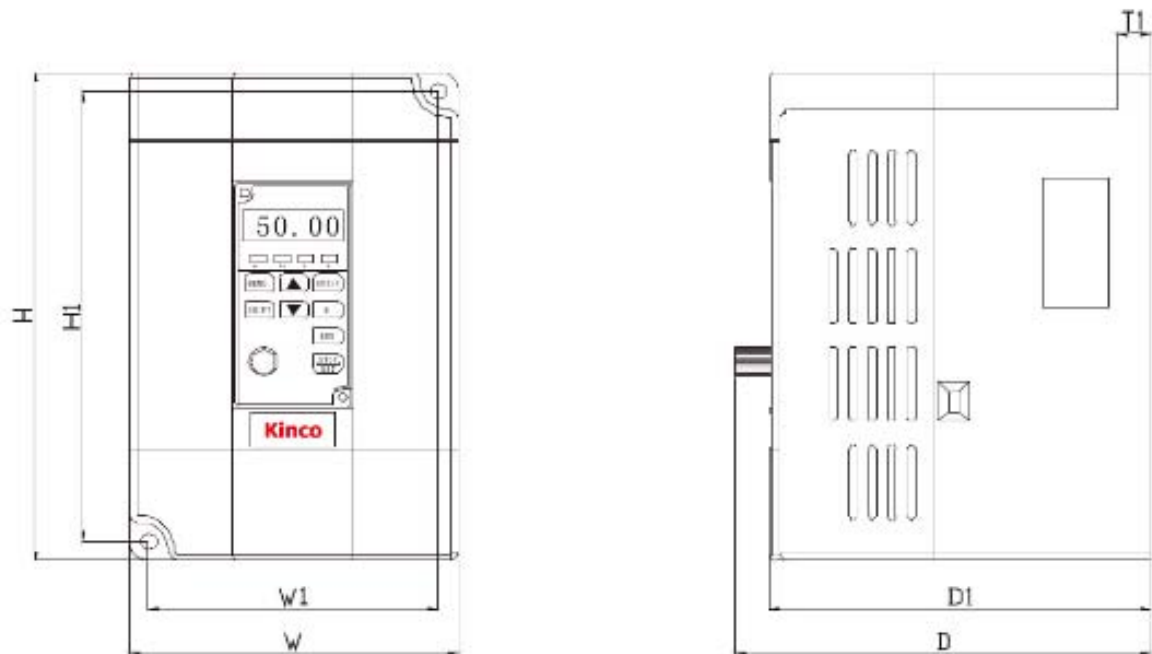
- Control Mode: V/F Control: Openloop Vector Control
- Auto torque boost and auto slip compensation function
- Built-in PID control
- Standard equipped Modbus (RS485 baud rate up to 4800-125000bps)
- Sleep/wake up function



## DESCRIPTION

The CV100-1S Series is a rugged line of AC Variable Frequency Drives for OEM and Industrial applications, combining high performance and cost efficiency into one powerful package. Available in input voltages of 120V and output voltages of 220V, which are capable of powering AC motors from 0.25 to 1.5Hp, these VFDs are great for normal duty and soft-start operation. These drives provide energy savings and increased efficiency, making them ideal for fan, pump, and HVAC applications. They are equipped with a number of different features such as momentary power loss restarts, flying starts, auto-acceleration/deceleration, and sensorless vector control. These features make the VFDs compatible with most AC motors and allow for flexibility within an application.

## DIMENSIONS



L011464

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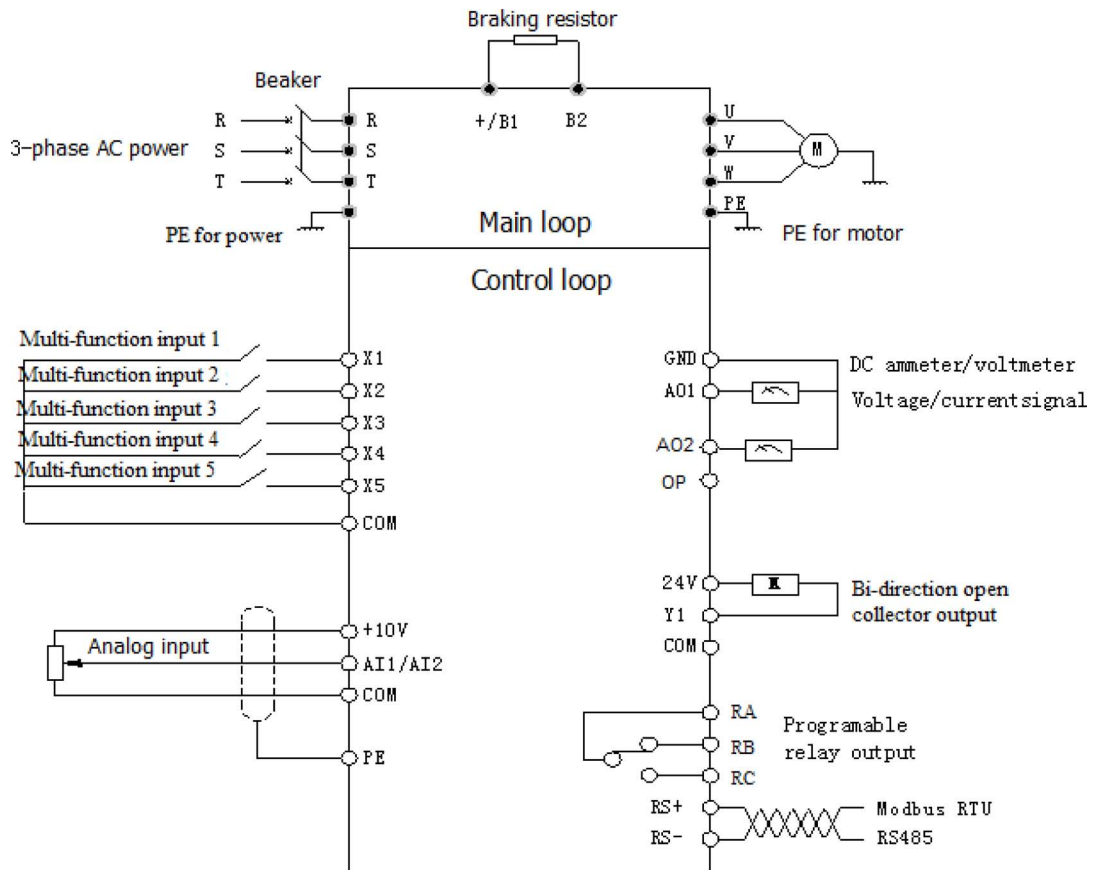


SPECIFICATIONS

| Part # | W   | H   | D   | W1 | H1  | D1  | T1 |
|--------|-----|-----|-----|----|-----|-----|----|
| 0002G  | 85  | 142 | 122 | 73 | 130 | 112 | 10 |
| 0004G  | 85  | 142 | 122 | 73 | 130 | 112 | 10 |
| 0007G  | 85  | 142 | 122 | 73 | 130 | 112 | 10 |
| 0011G  | 101 | 152 | 127 | 89 | 140 | 117 | 10 |

|                                | CV100-1S-0002  | CV100-1S-0004 | CV100-1S-0007 | CV100-1S-0011 |
|--------------------------------|--|---------------|---------------|---------------|
| Max Power (HP)                 | 0.25   | 0.50          | 1             | 1.5           |
| Max Power (W)                  | 200  | 400           | 750           | 1100          |
| Input Voltage (V)              | Single-Phase, 100-120V; 50/60Hz                                    |               |               |               |
| Output Voltage (V)             | 3 Phase, Twice the Input Voltage                                   |               |               |               |
| Rated Input Current (A)        | 6.0  | 9.0           | 18.0          | 25.0          |
| Rated Output Current (A)       | 2.5  | 4.0           | 7.5           | 10            |
| Overload Capacity              | 150% Rated Current for 1 Minute, 180% Rated Current for 10 Seconds |               |               |               |
| Rated Output Voltage/Frequency | 0V~Input Voltage; 0Hz ~ 300Hz                                      |               |               |               |
| Brake Unit                     | Built-In   |               |               |               |
| Protection Class               | IP20   |               |               |               |
| Cooling Method                 | Air Cooling, with Fan Control                                      |               |               |               |

WIRING DIAGRAM



L011464

| Main Control Characteristics    |   |
|---------------------------------|---|
| Control Method                  | Vector Control Without PG, V/F Control  |
| Modulation Mode                 | Space Vector PWM Modulation   |
| Starting Torque                 | 0.5 Hz: 150% Rated Torque   |
| Frequency Accuracy              | Digital Setting: Max. Frequency x $\pm 0.01\%$ ; Analog Setting: Max. Frequency x $\pm 0.2\%$                         |
| Frequency Resolution            | Digital Setting: 0.01Hz; Analog Setting: Max. Frequency x 0.05%   |
| Torque Boost                    | Manual Torque Boost: 0%-30.0%   |
| V/F Pattern                     | 4 Patterns: 1 V/F Curve Mode Set by User and 3 Kinds of Torque-Derating Modes (2.0 Order, 1.7 Order, 1.2 Order)       |
| Acceleration/Deceleration Curve | Linear Acceleration/Deceleration. Four Kinds of Acceleration/Deceleration   |
| Auto Current Limit              | Limit Current During Operation Automatically to Prevent Frequent Overcurrent Trip                                     |
| Customized Functions            |   |
| Operation Command               | Keypad Setting, Terminal Setting, Communication Setting.  |
| Frequency Command               | Keypad Setting, Analog Input, Communication Setting.  |
| Auxiliary Frequency Setting     | Implement Flexible Auxiliary Frequency Trim and Frequency Synthesis   |
| Analog Output                   | 1 Channel Analog Output (0/4~20mA or 0/2~10V)   |
| Protection Function             | Open Phase Protection (Optional), Over Current, Over Voltage, Under Voltage, Overheat, Over Load Protections and more |
| Environmental                   |   |
| Altitude                        | Derated Above 1000m, The Rated Output Current Shall be Decreased by 10% for Every Rise of 1000m                       |
| Ambient Temperature             | -10°C~ + 40°C (Derated at 40°C~50°C)  |
| Humidity                        | 5%~95%RH, Non-Condensing  |
| Vibration                       | Less Than 5.9m/s <sup>2</sup> (0.6g)  |
| Storage Temperature             | -40°C~ + 70°C   |