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Control
VFD

Kinco VFD Catalog

- FV100 Series
- CV100 Series
- CV20 Series
- Industry Specific VFD



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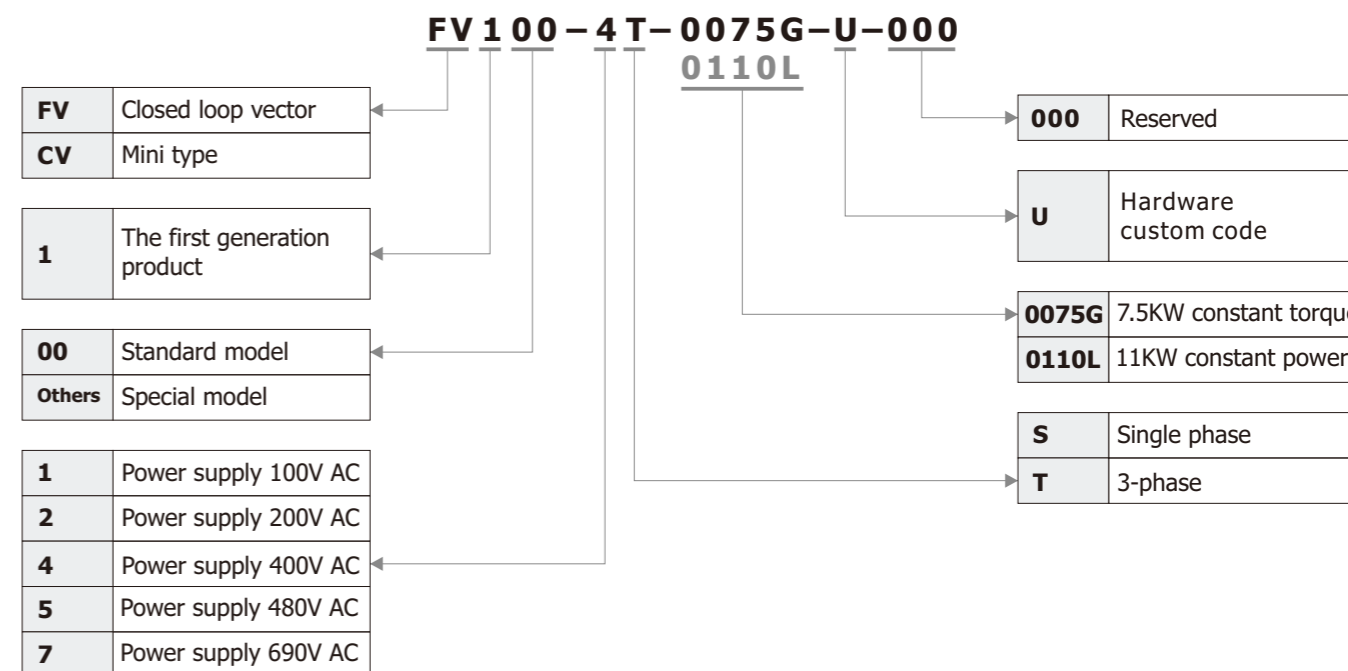
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FV100 Series



Selection Guide



Technical Specification

| Item | Description |
|---|---|
| Input | |
| Rated Voltage/frequency | 4T: 3-phase, 380V~440V AC, 50Hz/60Hz; 2T: 3-phase, 200V~240V, 50Hz/60Hz; 2S: Single-phase, 200V~240V, 50Hz/60Hz |
| Applicable voltage range | 4T: 320V~460V AC; 2T/2S:180V~260V; Voltage unbalancedness: <3%. Frequency tolerance:±5%. |
| Output | |
| Rated voltage | 0~Rated input voltage |
| Frequency | 0Hz~300Hz (Customized 0Hz~3000Hz) |
| Overload capacity | G Type:150% 1 minute, 180% 10 seconds; L type :110% 1 minute, 150% 1 second |
| Control characteristics | |
| Control method | Vector control without PG.Vector control with PG, V/F control |
| Modulation system | Space vector PWM modulation |
| Starting Torque | 0.5Hz: 150% of rated torque(Vector control without PG), 0.5Hz: 200% of rated torque(Vector control with PG) |
| Frequency accuracy | Digital setting: Max. frequency×±0.01% Analog setting: Max. frequency×±0.2% |
| Frequency resolution | Digital setting: 0.01Hz. Analog setting: Max. frequency×0.05% |
| Torque boost | Manual torque boost: 0%~30.0% |
| V/F pattern | 4 patterns:1 pattern is V/F curve setting by users. 3 patterns are drop torque characters curve (2.0 power,1.7 power,1.2 power) |
| Acceleration/Deceleration curve | Linear acceleration/deceleration. Four kinds of acceleration/deceleration time are optional |
| DC braking | Braking starting frequency: 0.00~60.00Hz Braking time: 0.0~10.0s Braking current: 0.0~100.0% |
| Auto current limit | Auto limit the current during operation to prevent frequent overcurrent trip. |
| Customized function | |
| Jogging | Jogging frequency range: 0.00Hz~50.00Hz. Jogging acceleration/deceleration time: 0.1~60.0s. |
| Multiple speed operation | Implement multiple speed operation by digital inputs. |
| Operation function | |
| Operation command | Keypad setting, Terminal setting, Communication setting |
| Frequency command | Keypad setting, Analog input, Pulse input, Communication setting |
| Auxiliary frequency setting | Implement flexible auxiliary frequency trim and frequency synthesis. |
| Pulse output | 0~100KHz pulse output. |
| Analog output | 2 channels analog output(0/4~20mA or 0/2~10V). |
| Operation panel | |
| LED Display | Display setting frequency, output frequency, output voltage, output current and so on, about 20 parameters. |
| Parameters copy | Copy parameters by operation panel. |
| Keys lock and function selection | Lock part of keys or all the keys. Define the function of part of keys. |
| Protection function | |
| Open phase protection(optional), overcurrent protection, overvoltage protection, undervoltage protection, overheat protection, overload protection and so on. | |
| Environment | |
| Operating site | Indoor, installed in the environment free from direct sunlight, dust, corrosive gas, combustible gas, oil mist, steam and drip. |
| Altitude | Derated above 1000m, the rated output current shall be decreased by 10% for every rise of 1000m |
| Ambient temperature | -10℃~40℃, derated at 40℃~50℃. |
| Humidity | 5%~95%RH, non-condensing. |
| Vibration | Less than 5.9m/s ² (0.6g) |
| Storage temperature | -40℃~70℃ |
| Structure | |
| Protection class | IP20 |
| Cooling method | Air cooling, with fan control. |
| Installation method | Wall-mounted |
| Effeciency | 45kW or below: ≥93%; 55kW or above: ≥95% |

General Product Series

FV100-4T-□□□□G 3-phase 380V AC constant torque VFD

| Model | 0007 | 0015 | 0022 | 0037 | 0055 | 0075 | 0110 | 0150 | 0185 | 0220 | 0300 | 0370 | 0450 | |
|---------------------------------|----------------------------|---|------|------|------|------|------|------|------|------|--------------------|------|---------------------|----|
| FV100-4T-□□□□G | | | | | | | | | | | | | | |
| The power of suitable motor(kW) | 0.75 | 1.5 | 2.2 | 3.7 | 5.5 | 7.5 | 11 | 15 | 18.5 | 22 | 30 | 37 | 45 | |
| Output | Voltage(V) | 3-phase 0~rated input voltage | | | | | | | | | | | | |
| | Rated current(A) | 2.3 | 3.7 | 5.5 | 8.8 | 13 | 17 | 25 | 32 | 37 | 45 | 60 | 75 | 90 |
| | Overload capacity | 150% 1 Minute, 180% 10 Seconds | | | | | | | | | | | | |
| Input | Rated voltage/frequency | 3-phase 380V~440V AC; 50Hz/60Hz | | | | | | | | | | | | |
| | Allowable voltage range | 320V~460V AC; Voltage unbalancedness:≤3%; Allowable frequency fluctuation:±5% | | | | | | | | | | | | |
| | Rated current(A) | 3.4 | 5.0 | 5.8 | 10.5 | 14.5 | 20.5 | 26 | 35 | 38.5 | 46.5 | 62 | 76 | 92 |
| Brake unit | Built-in | | | | | | | | | | Built-in(optional) | | External brake unit | |
| Protection class | IP20 | | | | | | | | | | | | | |
| Cooling method | Air cooling Cooling by fan | | | | | | | | | | | | | |

| Model | 0550 | 0750 | 0900 | 1100 | 1320 | 1600 | 1850 | 2000 | 2200 | 2500 | 2800 | 3150 | 3550 | 4000 | |
|---------------------------------|-------------------------|---|------|------|------|------|------|------|------|------|------|------|------|------|------|
| FV100-4T-□□□□G | | | | | | | | | | | | | | | |
| The power of suitable motor(kW) | 55 | 75 | 90 | 110 | 132 | 160 | 185 | 200 | 220 | 250 | 280 | 315 | 355 | 400 | |
| Output | Voltage(V) | 3-phase 0~rated input voltage | | | | | | | | | | | | | |
| | Rated current(A) | 110 | 152 | 176 | 210 | 252 | 304 | 350 | 380 | 426 | 470 | 520 | 600 | 650 | 690 |
| | Overload capacity | 150% 1 Minute, 180% 10 Seconds | | | | | | | | | | | | | |
| Input | Rated voltage/frequency | 3-phase 380V~440V AC; 50Hz/60Hz | | | | | | | | | | | | | |
| | Allowable voltage range | 320V~460V AC; Voltage unbalancedness:≤3%; Allowable frequency fluctuation:±5% | | | | | | | | | | | | | |
| | Rated current(A) | 113 | 157 | 180 | 220 | 240 | 320 | 326* | 352* | 385* | 437* | 491* | 580* | 624* | 670* |
| Brake unit | External brake unit | | | | | | | | | | | | | | |
| Protection class | IP20 | | | | | | | | | | | | | | |
| Cooling method | Cooling by fan | | | | | | | | | | | | | | |

* 185KW above models standard equip with DC reactor externally.

FV100-4T-□□□□L 3-phase 380V AC constant power VFD

| Model | 0015 | 0022 | 0037 | 0055 | 0075 | 0110 | 0150 | 0185 | 0220 | 0300 | 0370 | 0450 | 0550 | |
|---------------------------------|----------------------------|---|------|------|------|------|------|------|------|------|--------------------|------|---------------------|-----|
| FV100-4T-□□□□L | | | | | | | | | | | | | | |
| The power of suitable motor(kW) | 1.5 | 2.2 | 3.7 | 5.5 | 7.5 | 11 | 15 | 18.5 | 22 | 30 | 37 | 45 | 55 | |
| Output | Voltage(V) | 3-phase 0~rated input voltage | | | | | | | | | | | | |
| | Rated current(A) | 3.7 | 5.5 | 8.8 | 13 | 17 | 25 | 32 | 37 | 45 | 60 | 75 | 90 | 110 |
| | Overload capacity | 115% 1 Minute, 160% 0.5 Second | | | | | | | | | | | | |
| Input | Rated voltage/frequency | 3-phase 380V~440V AC; 50Hz/60Hz | | | | | | | | | | | | |
| | Allowable voltage range | 320V~460V AC; Voltage unbalancedness:≤3%; Allowable frequency fluctuation:±5% | | | | | | | | | | | | |
| | Rated current(A) | 5.0 | 5.8 | 10.5 | 14.5 | 20.5 | 26 | 35 | 38.5 | 46.5 | 62 | 76 | 92 | 113 |
| Brake unit | Built-in | | | | | | | | | | Built-in(optional) | | External brake unit | |
| Protection class | IP20 | | | | | | | | | | | | | |
| Cooling method | Air cooling Cooling by fan | | | | | | | | | | | | | |

| Model | 0750 | 0900 | 1100 | 1320 | 1600 | 1850 | 2000 | 2200 | 2500 | 2800 | 3150 | 3550 | 4000 | 4500 | |
|---------------------------------|-------------------------|---|------|------|------|------|------|------|------|------|------|------|------|------|------|
| FV100-4T-□□□□L | | | | | | | | | | | | | | | |
| The power of suitable motor(kW) | 75 | 90 | 110 | 132 | 160 | 185 | 200 | 220 | 250 | 280 | 315 | 355 | 400 | 450 | |
| Output | Voltage(V) | 3-phase 0~rated input voltage | | | | | | | | | | | | | |
| | Rated current(A) | 152 | 176 | 210 | 252 | 304 | 350 | 380 | 426 | 470 | 520 | 600 | 650 | 690 | 775 |
| | Overload capacity | 115% 1 Minute, 160% 0.5 Second | | | | | | | | | | | | | |
| Input | Rated voltage/frequency | 3-phase 380V~440V AC; 50Hz/60Hz | | | | | | | | | | | | | |
| | Allowable voltage range | 320V~460V AC; Voltage unbalancedness:≤3%; Allowable frequency fluctuation:±5% | | | | | | | | | | | | | |
| | Rated current(A) | 157 | 180 | 220 | 240 | 320 | 336 | 352* | 385* | 437* | 491* | 580* | 624* | 670* | 755* |
| Brake unit | External brake unit | | | | | | | | | | | | | | |
| Protection class | IP20 | | | | | | | | | | | | | | |
| Cooling method | Cooling by fan | | | | | | | | | | | | | | |

* 200KW above models standard equip with DC reactor externally.

Model Specifications

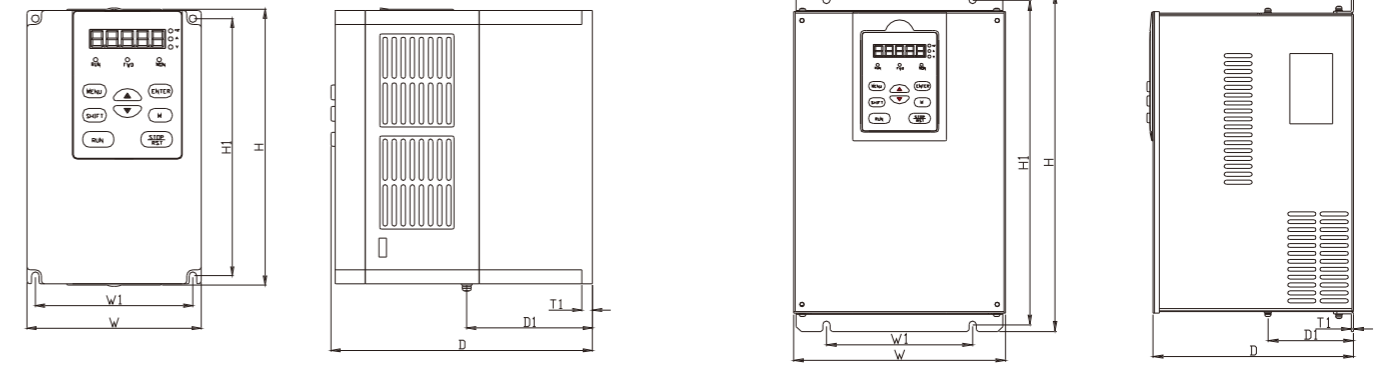
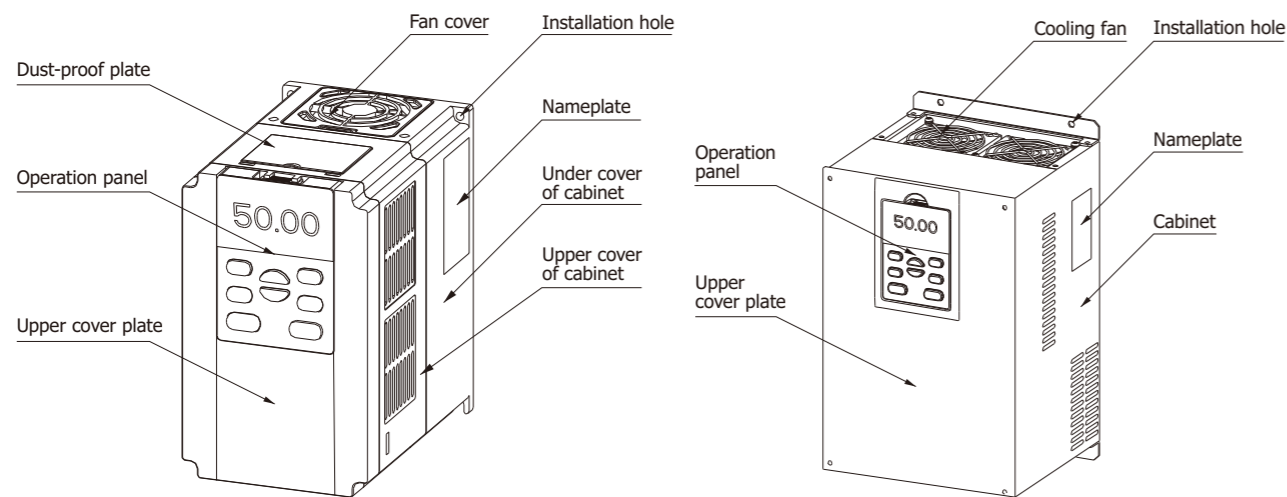
FV100-2S-□□□□G Single phase 220V AC constant torque VFD

| Model | 0004 | 0007 | 0015 | 0022 | 0037 | 0055 | 0075 | 0110 | 0150 | 0185 | 0220 | |
|---------------------------------|--------------------------------|--|------|------|------|------|------|------|-------------------|------|------|----|
| The power of suitable motor(kW) | 0.4 | 0.75 | 1.5 | 2.2 | 3.7 | 5.5 | 7.5 | 11 | 15 | 18.5 | 22 | |
| Output | 3-phase, 0~rated input voltage | | | | | | | | | | | |
| | Voltage(V) | 3-phase, 0~rated input voltage | | | | | | | | | | |
| | Rated current(A) | 2.5 | 4.0 | 7.5 | 10 | 16 | 24.5 | 30 | 46 | 60 | 75 | 85 |
| Input | Overload capacity | 150% 1 Minute; 180% 10 Seconds; 200% 0.5 Second; 10 minutes interval (inverse time limit speciality) | | | | | | | | | | |
| | Rated voltage/frequency | Single phase 200~240V AC; 50/60Hz | | | | | | | | | | |
| | Allowable voltage range | 180~260V AC; Voltage unbalancedness:≤3%; Allowable frequency fluctuation:±5% | | | | | | | | | | |
| Rated current(A) | 5.3 | 8.2 | 14.0 | 23 | 32 | 40 | 45 | 70 | 90 | 110 | 125 | |
| Brake unit | Built-in | | | | | | | | Built-in optional | | | |
| Protection class | IP20 | | | | | | | | | | | |
| Cooling method | Air Cooling Cooling by fan | | | | | | | | | | | |

FV100-2T-□□□□G 3-phase 220V AC constant torque VFD

| Model | 0004 | 0007 | 0015 | 0022 | 0037 | 0055 | 0075 | 0110 | 0150 | 0185 | 0220 | |
|---------------------------------|--------------------------------|--|------|------|------|------|------|------|-------------------|------|------|----|
| The power of suitable motor(kW) | 0.4 | 0.75 | 1.5 | 2.2 | 3.7 | 5.5 | 7.5 | 11 | 15 | 18.5 | 22 | |
| Output | 3-phase, 0~rated input voltage | | | | | | | | | | | |
| | Voltage(V) | 3-phase, 0~rated input voltage | | | | | | | | | | |
| | Rated current(A) | 2.5 | 4.0 | 7.5 | 10 | 16 | 24.5 | 30 | 46 | 60 | 75 | 85 |
| Input | Overload capacity | 150% 1 Minute; 180% 10 Seconds; 200% 0.5 Second; 10 minutes interval (inverse time limit speciality) | | | | | | | | | | |
| | Rated voltage/frequency | Single phase 200~240V AC; 50/60Hz | | | | | | | | | | |
| | Allowable voltage range | 180~260V AC; Voltage unbalancedness:≤3%; Allowable frequency fluctuation:±5% | | | | | | | | | | |
| Rated current(A) | 3.2 | 6.3 | 9 | 15 | 22 | 30 | 35 | 50 | 63 | 80 | 87 | |
| Brake unit | Built-in | | | | | | | | Built-in optional | | | |
| Protection class | IP20 | | | | | | | | | | | |
| Cooling method | Air Cooling Cooling by fan | | | | | | | | | | | |

External Dimension

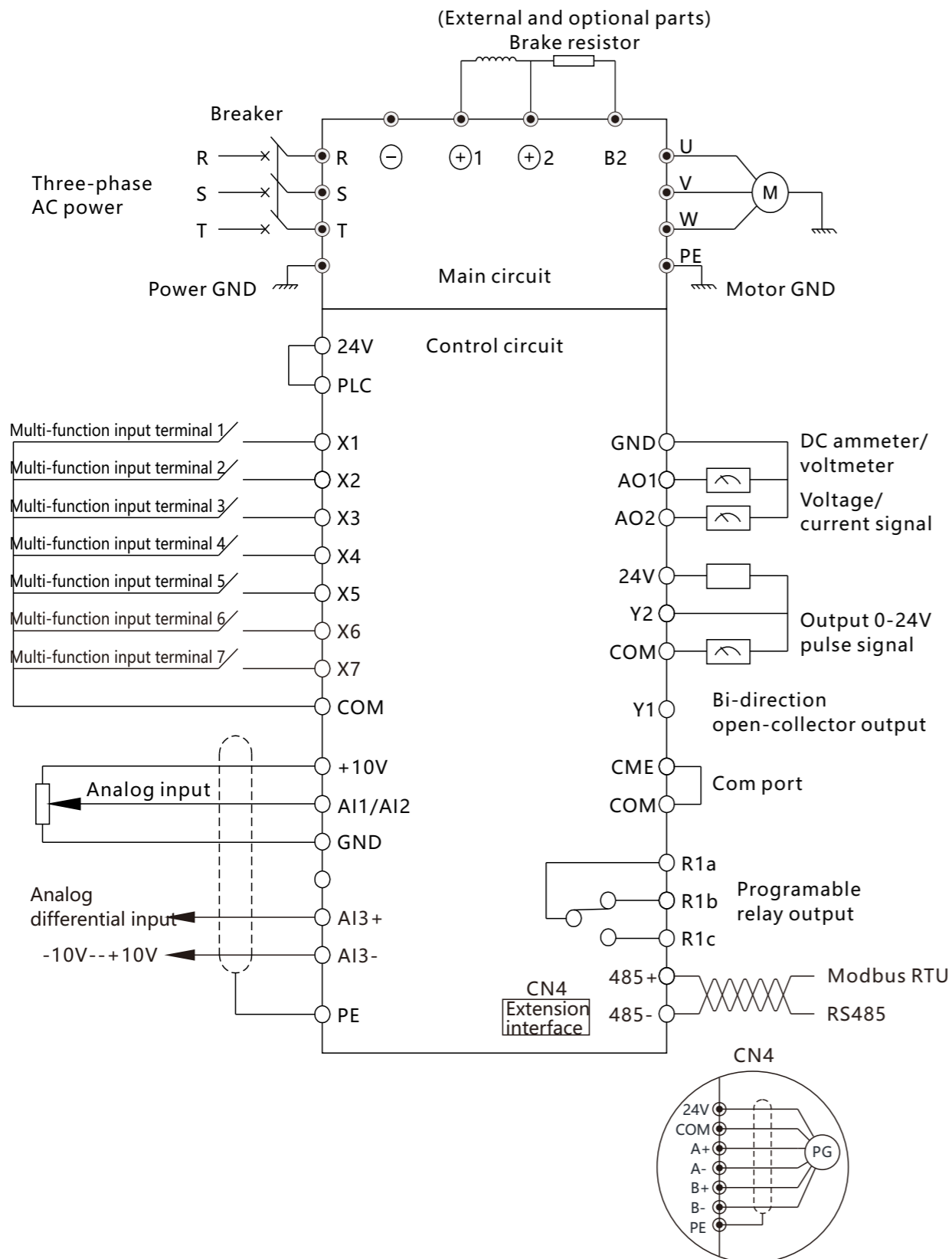


Power under FV100-2T/4T-0037G/0055L

FV100-4T-0055G/0075L ~ FV100-4T-4000G/4500L
FV100-2T-0055G ~ FV100-2T-0220G

| Models of Inverter (G: Constant torque load L: Draught fan and water pump load) | External dimension(mm) | | | | | | | | Weight (kg) |
|---|------------------------|------|-----|-----|------|-------|-----|-----------------------|-------------|
| | W | H | D | W1 | H1 | D1 | T1 | Installation hole "d" | |
| FV100-2S(2T)-0004G | | | | | | | | | |
| FV100-2S(2T)-0007G | | | | | | | | | |
| FV100-2S(2T)-0015G | | | | | | | | | |
| FV100-2S(2T)-0022G | | | | | | | | | |
| FV100-2S(2T)-0037G | | | | | | | | | |
| FV100-4T-0007G/0015L | 115 | 185 | 171 | 106 | 176 | 65 | 7 | 5 | 2 |
| FV100-4T-0015G/0022L | | | | | | | | | |
| FV100-4T-0022G/0037L | | | | | | | | | |
| FV100-4T-0037G/0055L | | | | | | | | | |
| FV100-2S(2T)-0055G | | | | | | | | | |
| FV100-2S(2T)-0075G | 165 | 274 | 193 | 110 | 264 | - | 2 | 6 | 6 |
| FV100-4T-0055G/0075L | | | | | | | | | |
| FV100-4T-0075G/0110L | | | | | | | | | |
| FV100-2S(2T)-0110G | | | | | | | | | |
| FV100-4T-0110G/0150L | 194 | 324 | 197 | 120 | 312 | - | 2 | 6 | 8 |
| FV100-4T-0150G/0185L | | | | | | | | | |
| FV100-4T-0185G/0220L | | | | | | | | | |
| FV100-2S(2T)-0150G | | | | | | | | | |
| FV100-2S(2T)-0185G | | | | | | | | | |
| FV100-2S(2T)-0220G | 297 | 451 | 224 | 200 | 433 | - | 3 | 7 | 18 |
| FV100-4T-0220G/0300L | | | | | | | | | |
| FV100-4T-0300G/0370L | | | | | | | | | |
| FV100-4T-0370G/0450L | | | | | | | | | |
| FV100-4T-0450G/0550L | 320 | 535 | 224 | 220 | 512 | 88.5 | 3 | 10 | 31 |
| FV100-4T-0550G/0750L | | | | | | | | | |
| FV100-4T-0750G/0900L | 373 | 649 | 262 | 240 | 628 | 102.5 | 3 | 10 | 42 |
| FV100-4T-0900G/1100L | 440 | 758 | 285 | 340 | 737 | 102 | 2.5 | 11 | 73 |
| FV100-4T-1100G/1320L | 430 | 780 | 330 | 280 | 755 | 168 | 3 | 11 | 76 |
| FV100-4T-1320G/1600L | | | | | | | | | |
| FV100-4T-1600G/1850L | | | | | | | | | |
| FV100-4T-1850G/2000L | 530 | 940 | 380 | 340 | 910 | 206 | 4 | 14 | 114 |
| FV100-4T-2000G/2200L | | | | | | | | | |
| FV100-4T-2200G/2500L | | | | | | | | | |
| FV100-4T-2500G/2800L | 690 | 1006 | 380 | 500 | 974 | 207 | 4 | 14 | 156 |
| FV100-4T-2800G/3150L | | | | | | | | | |
| FV100-4T-3150G/3550L | | | | | | | | | |
| FV100-4T-3550G/4000L | 810 | 1228 | 400 | 520 | 1196 | 209 | 4 | 14 | 225 |
| FV100-4T-4000G/4500L | | | | | | | | | |

Wiring Diagram of Product Terminal



Terminal Type of Main Loop's Input and Output

Terminal type

Suitable model : FV100-2S-0004G ~ FV100-2S-0037G

Machine Bottom **L N ⊖ B1 ⊕/B2 U V W PE**

Suitable model : FV100-2S-0055G ~ FV100-2S-0110G

Machine Bottom **L N ⊖ ⊕1 ⊕2/B1 B2 U V W PE**

Suitable model : FV100-2S-0150G ~ FV100-2S-0220G

Machine Bottom **B2 L N ⊖ ⊕ U V W PE**

Suitable model : FV100-2T-0004G ~ FV100-2T-0037G, FV100-4T-0007G/0015L ~ FV100-4T-0037G/0055L

Machine Bottom **R S T ⊖ ⊕/B1 B2 U V W PE**

Suitable model : FV100-4T-0055G/0075L ~ FV100-4T-0185G/0220L, FV100-2T-0055G ~ FV100-2T-0110G

Machine Bottom **R S T ⊖ ⊕1 ⊕2/B1 B2 U V W PE**

Suitable model : FV100-4T-0220G/0300L ~ FV100-4T-0450G/0550L, FV100-2T-0150G ~ FV100-2T-0220G

Machine Bottom **B2 R S T ⊖ ⊕ U V W PE**

Suitable model : FV100-4T-0550G/0750L ~ FV100-4T-0750G/0900L

Machine Top **R S T**

Machine Bottom **⊕1 ⊕2 ⊖ U V W PE**

Suitable model : FV100-4T-0900G/1100L ~ FV100-4T-1320G/1600L

Machine Top **R S T ⊖**

Machine Bottom **⊕1 ⊕2 U V W ⊖**

Suitable model : FV100-4T-1600G/1850L ~ FV100-4T-4000G/4500L

Machine Top **R S T ⊖**

Machine Bottom **⊕1 ⊕2 ⊖ U V W**

Descriptions of the main loop terminals

| Terminal name | Function description |
|---------------|---|
| L, N | Single phase 220v AC input terminal |
| R, S, T | 3-phase 380v AC input terminal |
| ⊖ | DC bus output terminal negative |
| ⊕1, ⊕2 | Reserved terminal for external DC reactor |
| ⊕2, ⊖ | Terminal for external brake unit |
| B1, B2 | Access terminal of brake resistor |
| U, V, W | 3-phase AC output terminal |
| PE, ⊕ | Earth terminal |

Control loop terminals arrange as followings:



Arrangement diagram of control terminals.

CNA Function Table of Connector Terminal

| Category | Terminal silk screen | Name | Description of terminal function | Specification |
|--------------------------------|----------------------|--|--|---|
| Shield | ⊕ +10 | Earth shield | GND for the shield layer of terminal. Shield layer of the analog signal cable, 485 communication cable, motor power cable can be connected here | Connect the PE terminal of internal main circuit |
| Power supply | GND | Power | Provide +10V reference power | Provide 5mA current at most |
| | | Power GND | GND for analog signal and +10 power supply | Internal isolation from COM and CME |
| Analog input | AI1 | Analog single-ended input AI1 | Receive the analog voltage or current single-ended input, they are selected by jumper AI1 (Reference ground:GND) | Input voltage range: -10V~+10V (Input resistor: 45kΩ) Resolution: 1/4000 Input current range: 0mA~20mA, Resolution: 1/2047Jumper to select |
| | AI2 | Analog single-ended input AI2 | Receive the analog voltage or current single-ended input, they are selected by jumper AI2 (Reference ground:GND) | |
| | AI3+ | Analog voltage differential input AI3+ or analog voltage single-ended input. | When connected to the analog voltage differential input, AI3+ is the same-phase input and AI3- is the inverted input; when connected to the analog voltage single-ended input, AI3+ is signal input, AI3- is GND (Reference ground: GND) | Input voltage range: -10V~+10V (Input resistor: 15kΩ) Resolution: 1/4000 |
| | AI3- | Analog voltage differential input AI3- or analog voltage single-ended input. | | |
| Analog output | AO1 | Analog output 1 | Providing analog voltage or current output, they are selected by the jumper AO1 (The default setting is output voltage) | Voltage output range: 0V~10V Current output range: 0/4~20mA |
| | AO2 | Analog output 2 | Providing analog voltage or current output, they are selected by the jumper AO2 (The default setting is output voltage) | Voltage output range: 0V~10V Current output range: 0/4~20mA |
| Communication | RS485+ RS485- | RS485 communication connector | RS485 difference signal positive RS485 difference signal negative | Standard RS485 communication connector (Use twisted-pair or shield cable please) |
| Multi-function input terminal | X1~X6 | Multi-function input terminal 1 | Can be defined as multi-function digital input terminal | Optocoupler isolation input Input resistor: R=3.3kΩ Maximum input frequency of X1~X6: 200kHz Maximum input frequency of X7: 100kHz Input voltage range: 2~30v |
| | X7 | Multi-function input terminal or pulse input | | |
| Multi-function output terminal | Y1 | Bi-direction open-collector output | Can be defined as multi-function digital output terminal (Com port: CME) | Optocoupler isolation output Maximum working voltage: 30v Maximum output current: 50mA |
| | Y2 | Open collector pulse output terminal | Can be defined as multi-function pulse signal output terminal (Com port: COM) | Maximum output frequency: 100kHz |
| Power supply | 24V | +24v power supply | Providing +24v power | Maximum output current: 200mA |
| Common port | PLC | Multi-function input common port | Common port of Multi-function input (Short cut with 24V in default) | Common port of X1~X7, PLC is isolated from 24V internally |
| | COM | Common port of 24V power supply | Three common ports in all, cooperate with other terminals | COM is isolated from CME and GND internally |
| | CME | Y1 output common port | Common port of multi-function output terminal Y1 | |
| Relay output terminal 1 | R1a | Relay output | Can be defined as multi-function relay output terminal | R1a-R1b : Normally closed , R1a-R1c : normally open Contact capacity : AC250V/2A (COSΦ = 1) AC250V/1A (COSΦ = 0.4) DC30V/1A Input voltage of relay output terminal 's overvoltage class is overvoltage class II |
| | R1b | | | |
| | R1c | | | |

| Accessory | Model | Function |
|--------------------|-----------|---|
| PG card | PG-LWA_XX | A/B/Z Open collector input; differential signal input; U, V, W encoder input, voltage:5V, 12V, 24V; with CANopen communication port |
| Water supply card | PFC01_A00 | Support up to 8 pumps |
| I/O extension card | PG-IO | Support extending 4*AI/4*DI/2*DO/1*relay output |



CV100 Mini Type Vector Inverter

Product Characteristics

- Control Mode: V/F control
- Carrier frequency up to 15KHz
- Auto torque boost and auto slip compensation function
- Built-in PID control
- Standard equipped Modbus(RS485 baud rate up to 38400bps)
- Sleep/wake up function

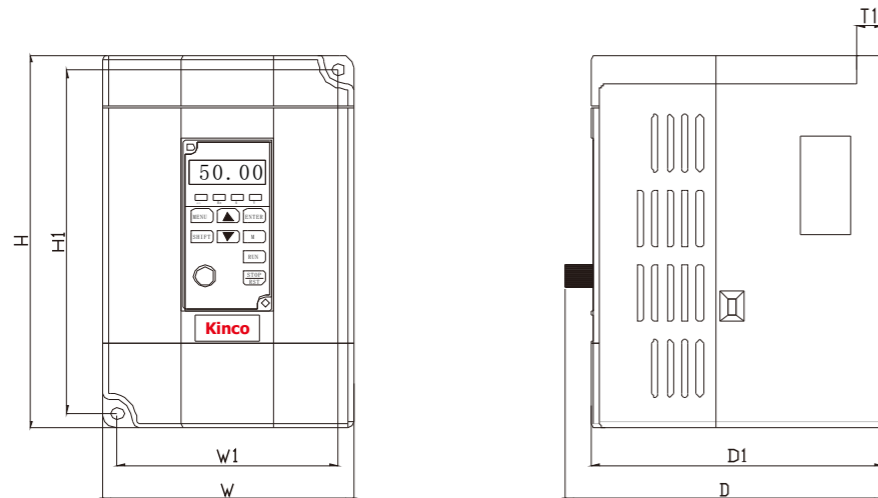
Technical Specification

| Items | Description | |
|------------------------------|----------------------------------|--|
| Input | Rated Voltage/ frequency | 4T: 3-phase, 380V~440V; 50Hz/60Hz; 2S: Single phase, 200V~240V; 50Hz/60Hz ; 1S: Single-phase, 100~120V; 50/60Hz |
| | Allowable voltage range | 4T: 320V~460V; 2S:180V~260V; 1S: 90~132V; Voltage unbalancedness:<3%; Frequency: ±5% |
| Output | Voltage | 2T/2S: 0~ Rated input voltage ; 1S: 0~twice of rated input voltage |
| | Frequency | 0Hz~300Hz (Customized 0Hz~2000Hz) |
| | Overload capacity | G Type: 150% rated current for 1 minute, 180% rated current for 10 seconds. |
| Main control characteristics | Control method | V/F control |
| | Starting torque | Auto torque rising |
| | Frequency accuracy | Digital setting: Max. frequency × ±0.01%; Analog setting: Max. frequency × ±0.2% |
| | Frequency resolution | Digital setting: 0.01Hz; Analog setting: Max. frequency×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 power, 1.7 power, 1.2 power) |
| | Acceleration/ Deceleration curve | Linear acceleration/deceleration. Four kinds of acceleration/deceleration time |
| Customized function | Auto current limit | Limit current during operation automatically to prevent frequent overcurrent trip. |
| | Operation command | Keypad setting, terminal setting, communication setting |
| | Frequency command | Digital setting, analog voltage setting, analog current setting. |
| | Auxiliary frequency setting | Implement flexible auxiliary frequency trim and frequency synthesis |
| Protection function | Analog output | 2 channel analog output (0/4~20mA or 0/2~10V). |
| | Protection function | Overcurrent protection, overvoltage protection, undervoltage protection, overheat protection, overload protection, missing phase protection (seletable) and so on. |
| Environment | 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 ² (0.6g) |
| | Storage temperature | -40°C~ +70°C |

Model Specifications

| Model | CV100-1S-□□□□G | | | | CV100-2S-□□□□G | | | | | CV100-4T-□□□□G | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---------------------------------|--|------|------|------|------------------------------------|------|------|------|------|-------------------------------|------|------|------|------|------|--|----|--|--|--|-----|--|--|--|-----|--|--|--|-----|--|--|--|-----|--|--|--|------|--|--|--|------|--|--|--|
| | 0002 | 0004 | 0007 | 0011 | 0004 | 0007 | 0015 | 0022 | 0037 | 0007 | 0015 | 0022 | 0037 | 0055 | 0075 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| The power of suitable motor(KW) | 0.2 | 0.4 | 0.75 | 1.1 | 0.4 | 0.75 | 1.5 | 2.2 | 3.7 | 0.75 | 1.5 | 2.2 | 3.7 | 5.5 | 7.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Output | 3-phase, 0~twice of rated input voltage | | | | 3-phase, 0~ Rated input voltage | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 2.5 | | | | 4.0 | | | | 7.5 | | | | 10 | | | | 16 | | | | 2.3 | | | | 3.7 | | | | 5.5 | | | | 8.8 | | | | 13.0 | | | | 17.0 | | | |
| | 150% rated current for 1 minute, 180% rated current for 10 seconds; 10 minutes interval(inverse time limit speciality) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Input | Single-phase, 100~120V; 50/60Hz | | | | Single-phase, 200V~240V; 50Hz/60Hz | | | | | 3-phase, 380V~440V; 50Hz/60Hz | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 90V~132V; Voltage unbalancedness: <3%; Frequency: ±5% | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 180V~260V; Voltage unbalancedness: <3%; Frequency: ±5% | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 320V~460V; Voltage unbalancedness: <3%; Frequency: ±5% | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Rated current(A) | 6.0 | 9.0 | 18.0 | 25.0 | 5.3 | 8.2 | 14.0 | 23.0 | 32.0 | 3.4 | 5.0 | 5.8 | 10.5 | 14.5 | 20.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Brake unit | Built-in | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Protection class | IP20 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Cooling method | Cooling by fan | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

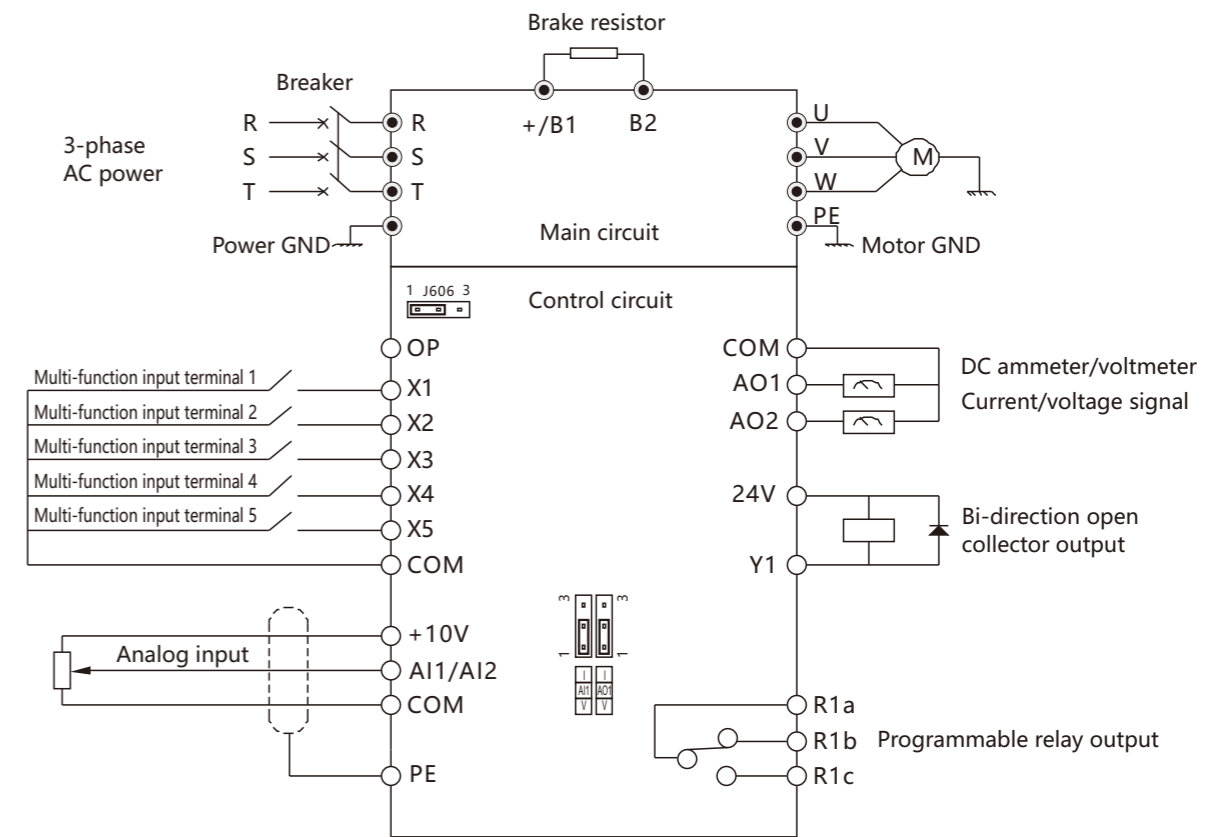
External Dimension : CV100-1S-0002G~CV100-1S-0011G、CV100-2S-0004G ~ CV100-4T-0075G/0110L



| Models of Inverter (G: Constant torque load L: Draught fan and water pump load) | External dimension(mm) | | | | | | | | Weight (kg) |
|---|------------------------|-----|-----|-------|-----|-----|----|-----------------------|-------------|
| | W | H | D | W1 | H1 | D1 | T1 | Installation hole "d" | |
| CV100-1S-0002G | 85 | 142 | 122 | 73 | 130 | 112 | 10 | 5 | 0.8 |
| CV100-1S-0004G | | | | | | | | | |
| CV100-1S-0007G | | | | | | | | | |
| CV100-1S-0011G | 101 | 152 | 127 | 89 | 140 | 117 | 10 | 5 | 1.0 |
| CV100-2S-0004G | 85 | 142 | 122 | 73 | 130 | 112 | 10 | 5 | 0.8 |
| CV100-2S-0007G | | | | | | | | | |
| CV100-2S-0015G | | | | | | | | | |
| CV100-2S-0022G | 101 | 152 | 127 | 89 | 140 | 117 | 10 | 5 | 1.0 |
| CV100-4T-0007G/0015L | | | | | | | | | |
| CV100-4T-0015G/0022L | | | | | | | | | |
| CV100-4T-0022G/0037L | 125 | 220 | 178 | 109.5 | 205 | 165 | 10 | 5.5 | 3.4 |
| CV100-2S-0037G | | | | | | | | | |
| CV100-4T-0037G/0055L | | | | | | | | | |
| CV100-4T-0055G/0075L | | | | | | | | | |
| CV100-4T-0075G/0110L | | | | | | | | | |

Wiring Diagram of Product Terminal

Applicable models : CV100-2S-0004G ~ CV100-4T-0075G/0110L



Terminal Type of Main Loop's Input and Output

| Terminal Type | Single -phase input(Top) | L | N | PE | PE | RS+ | RS- |
|--------------------|--------------------------|---|---|------|----|-----|-----|
| 3-phase input(Top) | R | S | T | PE | PE | RS+ | RS- |
| Bottom | U | V | W | +/B1 | B2 | | |

Descriptions of the main loop terminals

| Terminal name | Function description |
|---------------|--|
| L, N | Single phase 220V/110V AC input terminal |
| R, S, T | 3-phase 380V AC input terminal |
| +/B1, B2 | Access terminal of brake resistor |
| U, V, W | 3-phase AC output terminal |
| PE | Earth terminal |

Control loop terminals arrangement

| | | | | | | | | | | | | | | | | |
|----|----|----|-----|-----|------|----|----|----|----|----|----|-----|-----|----|-----|----|
| RA | RB | RC | AI1 | AI2 | +10V | X1 | X2 | X3 | X4 | X5 | Y1 | AO1 | AO2 | OP | COM | PE |
|----|----|----|-----|-----|------|----|----|----|----|----|----|-----|-----|----|-----|----|

CNA Function Table of Connector Terminal

| Category | Terminal silk screen | Name | Description of terminal function | Specification |
|--------------------------------|----------------------|------------------------------------|--|--|
| Shield | PE | Earth shield | GND for the shield layer of terminal. Shield layer of the analog signal cable , 485 communication cable , motor power cable can be connected here | Connect the PE terminal of internal main circuit |
| Power supply | +10 | +10V Power | Provide +10V reference power | Provide 5mA current at most |
| Communication | RS+ | RS485 communication connector | RS485 difference signal positive | Standard RS485 communication connector (Use twisted-pair or shield cable please) |
| | RS- | | RS485 difference signal negative | |
| Analog input | AI1 | Analog single-ended input AI1 | Receive the analog voltage or current single-ended input, they are selected by jumper AI1 (Reference ground:COM) | Input voltage range: -10V~+10V (Input resistor: 45kΩ) Resolution: 1/4000 Input current range: 0mA~20mA, Resolution: 1/2000(Jumper to select) |
| | AI2 | Analog single-ended input AI2 | Receive the analog voltage or current single-ended input, they are selected by jumper AI2 (Reference ground:COM) | |
| Analog output | AO1 | Analog output 1 | Providing analog voltage or current output, they are selected by the jumper AO1. The default setting is output voltage, see to description of function code A6.28. (Reference ground: COM) | Voltage output range: 0V~10V Current output range: 0/4~20mA |
| | AO2 | Analog output 2 | Providing analog voltage or current output, they are selected by the jumper AO2. The default setting is output voltage, refer to the function code A6.29 (Reference ground: GND) | |
| Multi-function input terminal | X1~ X5 | Multi-function input terminal | Can be defined as multi-function digital input terminal. Please see to description of function code A6.00~A6.04 (A6 group). | Optocoupler isolation input Input resistor: R=3.3kΩ Input voltage range of X1~X5: 2~30V |
| Multi-function output terminal | Y1 | Bi-direction open collector output | Can be defined as multi-function digital output terminal. Please see to description of function code A6.14 (A6 group) (Com port: COM) | Optocoupler isolation output Maximum working voltage: 30V Maximum output current: 50mA |
| Power supply | OP | +24v power supply | Providing +24V power | Maximum output current: 200mA |
| Common port | COM | Common port of 24V power supply | Cooperate with other terminals | |



Product Characteristics:

- Output frequency 0~300Hz
- V/F control and setable V/F curves
- Carrier frequency up to 6kHz
- Auto torque boost and auto slip compensation function
- Standard equipped Modbus(RS485 baud rate up to 19200bps)

Technical Specification

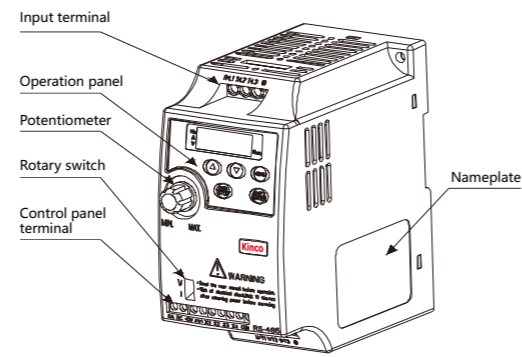
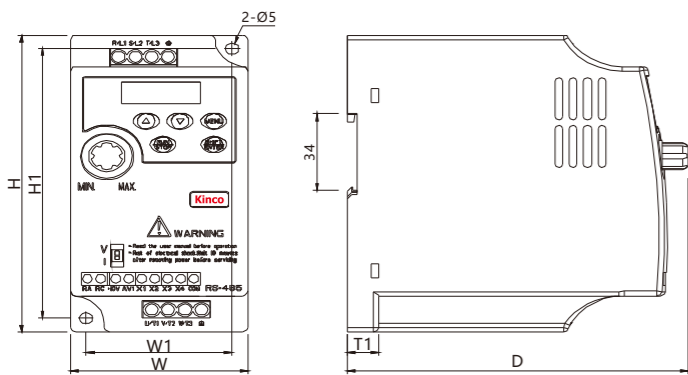
| Item | Description | |
|-------------------------|-----------------------------|---|
| Input | Rated voltage and frequency | 4T: 3-phase, 380~440VAC, 50Hz/60Hz ; 2S: Single-phase, 200~240V, 50Hz/60Hz ; 1S: Single-phase, 100~120V, 50/60Hz |
| | Allowable voltage range | 4T: 320V ~ 460V AC; 2S: 180V~260VAC; 1S: 90~132VAC; Voltage tolerance≤3%; Frequency: ±5% |
| Output | Rated voltage | 2S/4T: 0~Rated input voltage ; 1S: 0~twice of rated input voltage |
| | Frequency | 0Hz~300Hz (Customized 0Hz~800Hz) |
| | Overload capacity | 150% 1 minute, 180% for 1 second, 200% FOR 0.5 second |
| Control Characteristics | Control mode | V/F control |
| | Starting torque | 0.5Hz 150%rated torque |
| | Speed regulation range | 1 : 100 |
| | Speed stabilizing accuracy | ±0.5% |
| Basic Function | Operation Command | Operation Panel, Terminal, Communication Control, Support switching between these control channels. |
| | Starting mode | Start from starting frequency; Brake first and then start; Speed tracking. |
| | Stopping mode | Dec-to-stop; Coast-to-stop; Dec-to-stop+DC injection braking |
| | V/F pattern | 4 patterns: 1 V/F curve mode set by user and 3 kinds of torque-derating modes |
| Protection function | Acc/Dec curve | Linear Accn/Dec, S curve Acc/Dec |
| | | Overcurrent protection, overvoltage protection, miss phase protection, under-voltage protection, overheat protection, over-load protection, short circuit protection and so on. |
| Environment | Operating site | Indoor, installed in the environment free from direct sunlight, dust, corrosive gas, combustible gas, oil mist, steam and drip. |
| | 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 ² (0.6g) |
| Structure | Storage temperature | - 40°C ~ + 70°C |
| | Protection class | IP20 |
| Installation method | Cooling method | Air cooling, with fan control. |
| | | DIN-rail mounting and wall-mounting |
| Efficiency | | ≥93% |

Model Specifications

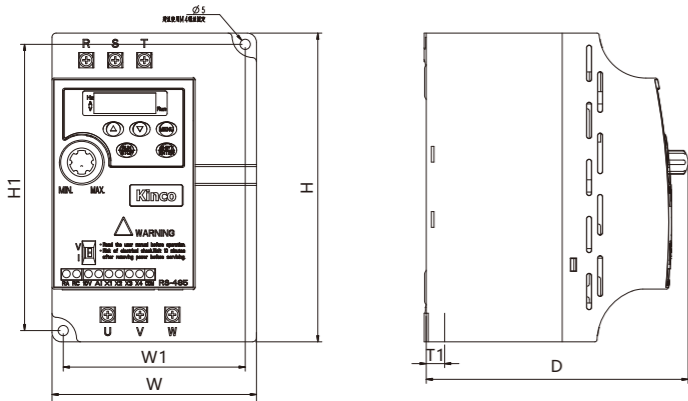
| Model | CV20-1S-□□□□G | | | CV20-2S-□□□□G | | | CV20-4T-□□□□G | | |
|---------------------------------|--|------|------|------------------------------------|------|------|----------------------------------|------|------|
| | 0002 | 0004 | 0007 | 0004 | 0007 | 0015 | 0007 | 0015 | 0022 |
| The power of suitable motor(kW) | 0.2 | 0.4 | 0.75 | 0.4 | 0.75 | 1.5 | 0.75 | 1.5 | 2.2 |
| Output | 3-phase, 0~rated input voltage | | | | | | | | |
| | Voltage (V) | | | | | | | | |
| | Rate current (A) | | | | | | | | |
| Input | Overload capacity | | | | | | | | |
| | 150% 1minute, 180% 1second, 200% 0.5second | | | | | | | | |
| | Rated Voltage/frequency | | | Single-phase, 200V~240V; 50Hz/60Hz | | | 3-phase, 380V~440V AC; 50Hz/60Hz | | |
| | Allowable voltage range | | | 90~132V | | | 180V~260V | | |
| | Rated current (A) | | | 6.0 9.0 18.0 | | | 5.3 8.2 14.0 | | |
| Protection class | IP20 | | | | | | | | |
| Cooling method | Air cooling | | | | | | | | |

External Dimension

CV20-1S-□□□□G, CV20-2S-□□□□G



CV20-4T-□□□□G



External Dimension

| Models of Inverter (G: Constant torque load L: Draught fan and water pump load) | External dimension (mm) | | | | | | | | Weight (kg) |
|---|-------------------------|-----|-----|----|-----|----|----|-----------------------|-------------|
| | W | H | D | W1 | H1 | D1 | T1 | Installation hole "d" | |
| CV20-1S-0002G | 68 | 132 | 131 | 56 | 120 | - | 12 | 5 | 0.8 |
| CV20-1S-0004G | | | | | | | | | |
| CV20-1S-0007G | | | | | | | | | |
| CV20-2S-0004G | | | | | | | | | |
| CV20-2S-0007G | | | | | | | | | |
| CV20-2S-0015G | 100 | 151 | 128 | 89 | 140 | - | 9 | 5 | 1.0 |
| CV20-4T-0007G | | | | | | | | | |
| CV20-4T-0015G | | | | | | | | | |
| CV20-4T-0022G | | | | | | | | | |

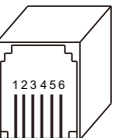
Terminal Description

Control board terminal arrangement

| | | | | | | | | | |
|----|----|------|-----|----|----|----|----|-----|--------|
| RA | RC | +10V | AV1 | X1 | X2 | X3 | X4 | COM | RS-485 |
|----|----|------|-----|----|----|----|----|-----|--------|

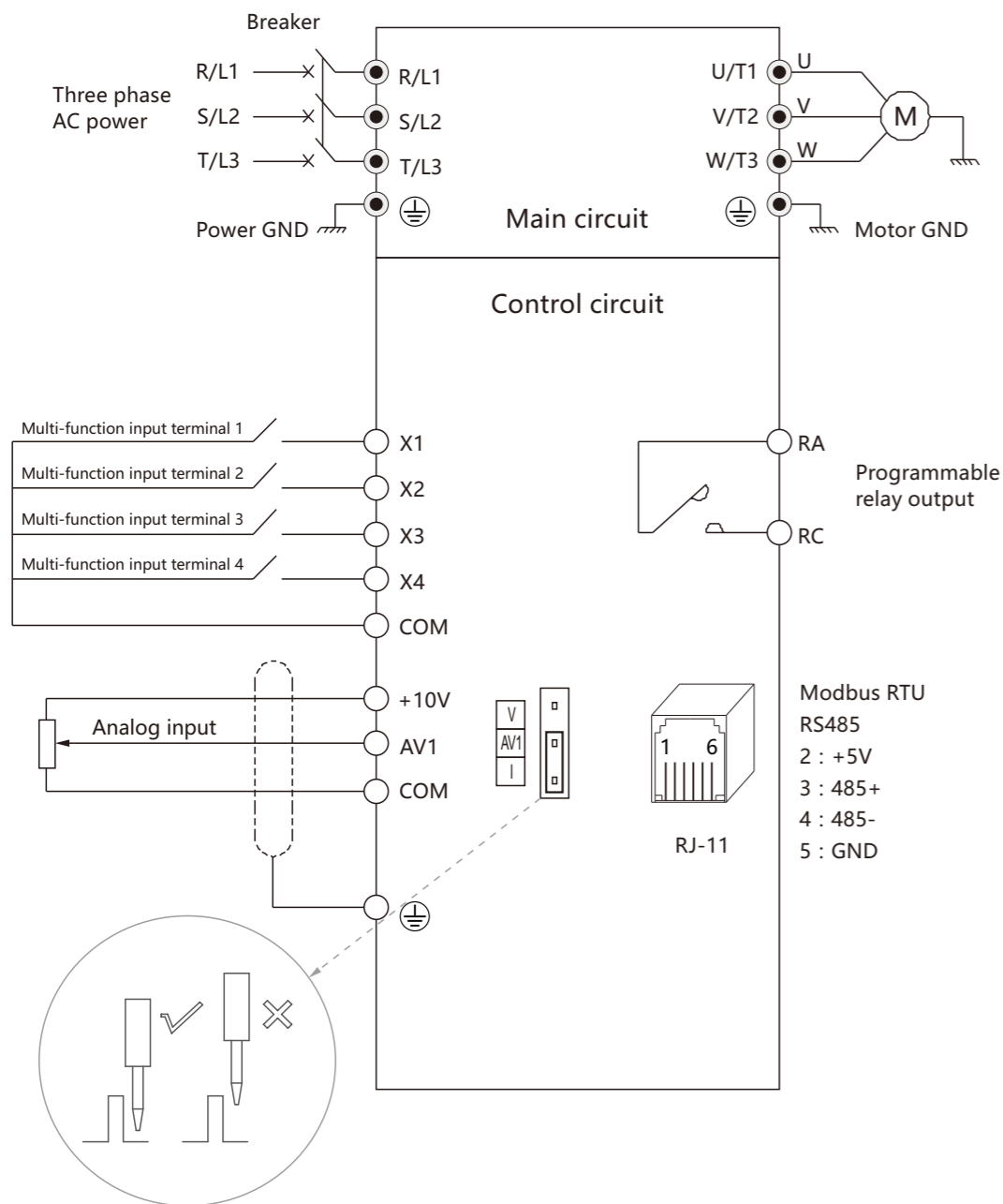
PIN definition of RS-485

| PIN | 1 | 2 | 3 | 4 | 5 | 6 |
|------------|-----|-----|------|------|-----|-----|
| Definition | N/A | +5V | 485+ | 485- | GND | N/A |



| Category | Terminal silk screen | Name | Description of terminal function | Specification |
|---------------|----------------------|--|---|--|
| Relay output | RA | Relay output | Can be defined as multi-function relay output terminal | RA - RC : Normally open ; Contact capacity : AC250V/2A(COSØ=1) AC250V1A(COSØ=0.4) ; DC30V/1A |
| | RC | | | |
| Power supply | +10V | +10V power supply | Providing +10V power | Maximum output current: 20mA |
| Analog input | AV1 | Analog input | Analog voltage/current input, Current/voltage signal type is selected by rotary switch on control board | Input voltage range: -10~+10V Resolution: 1/4000 |
| Digital input | X1 | Multi-function input terminal | Can be defined as multi-function digital input terminal | Optocoupler isolation input Input resistor:R=3.3kΩ Maximum input frequency:200kHz |
| | X2 | | | |
| | X3 | | | |
| | X4 | | | |
| Common port | COM | Common port of digital terminals and +10V power supply | Common port of digital input terminals and +10V power supply | |
| Communication | RS-485 | RS485 communication port | Modbus communication port,6-wire, 2-PIN type socket | Standard RS485 communication port, please use twisted shielded pair |

Terminal Description



| Specification | Description |
|---------------|--|
| Input | Rated voltage DC 24V, 48V |
| | Rated current Three-phase , 100~150A ; 0~300Hz |
| Output | Max. current Three-phase , 200~300A ; 0~300Hz |
| | Max. voltage Three-phase , 16V, 32V ; 0~301Hz |

EC Series-Electric Forklift Driver

Efficient walking and steering drive solution

Efficient walking and steering drive solution

1. Walking drive is compatible with synchronous motor resolver, synchronous motor encoder, and asynchronous motor encoder; Steering drive is compatible with DC brush motor and Brushless DC motor mode.
2. Support terminal communication, CANopen communication;
3. Various reserved I/O terminals, to meet system control requirements to the maximum extent.
4. Advanced PWM technology to ensure efficient use of batteries, reducing motor energy consumption and loss of torque conversion.
5. Modular design, profound product series to meet customization requirements.

Model Description

EC3001-40Z0110A-I--****

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨

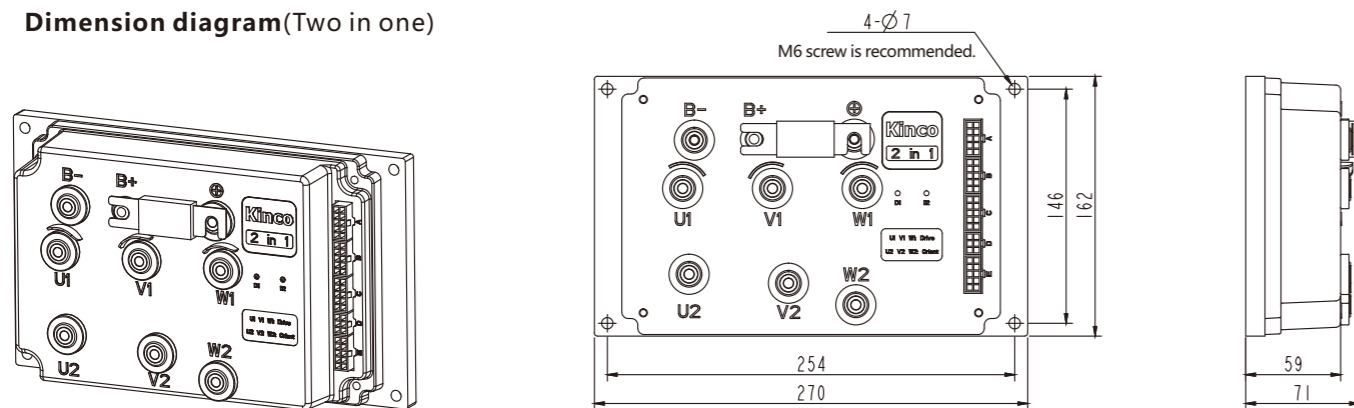
- ① Kinco Electric Forklift Drive
- ② Driver generation : 3 (1st generation)
5 (2nd generation)
- ③ Structure : 0 (Sheet metal shell)
1 (Die-casting shell)
2 (Injection molded shell)
- ④ Moduler Type: 00(No accessories)
01(Main motor drive)
02(Steering drive)
03(Air pump motor drive)
04(DC to DC inverter)
05(Main motor drive+steering dirve)
- ⑤ Rated voltage:40Z: 400VDC input
(Rounding rule:
366VDC:37Z)
- ⑥ Capacity:0110 : 11kW
1100 : 110kW
- ⑦ Cooling method : A (Cooling by fan)
L (Liquid cooling)
N (Air cooling)
- ⑧ Power moduler type : I (IGBT)
M (mos)
- ⑨ Custom code

Specification

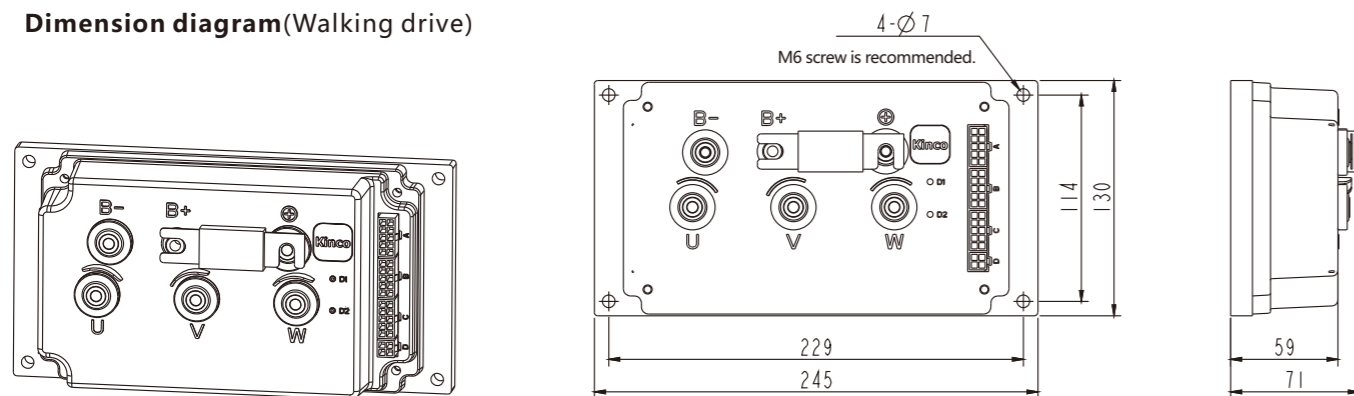
| Model | Rated power | Input voltage | Max.current | Drive type | Drive type |
|-------------------|-------------|---------------|-------------|------------------------|------------------------|
| EC3001-02Z0022N-M | 2.2kW | 24V | 300A | Walking drive | Walking drive |
| EC3001-05Z0022N-M | 2.2kW | 48V | 200A | Walking drive | Walking drive |
| EC3001-02Z0037N-M | 3.7kW | 24V | 300A | Walking drive | Walking drive |
| EC3001-05Z0037N-M | 3.7kW | 48V | 200A | Walking drive | Walking drive |
| EC3002-02Z0008N-M | 0.8kW | 24V | 50A | Steering drive | Steering drive |
| EC3002-05Z0008N-M | 0.8kW | 48V | 50A | Steering drive | Steering drive |
| EC3005-02Z0022N-M | 2.2kW | 24V | 300A | Walking+Steering drive | Walking+Steering drive |
| EC3005-05Z0022N-M | 2.2kW | 48V | 200A | Walking+Steering drive | Walking+Steering drive |
| EC3005-02Z0037N-M | 3.7kW | 24V | 300A | Walking+Steering drive | Walking+Steering drive |
| EC3005-05Z0037N-M | 3.7kW | 48V | 200A | Walking+Steering drive | Walking+Steering drive |

External Dimension

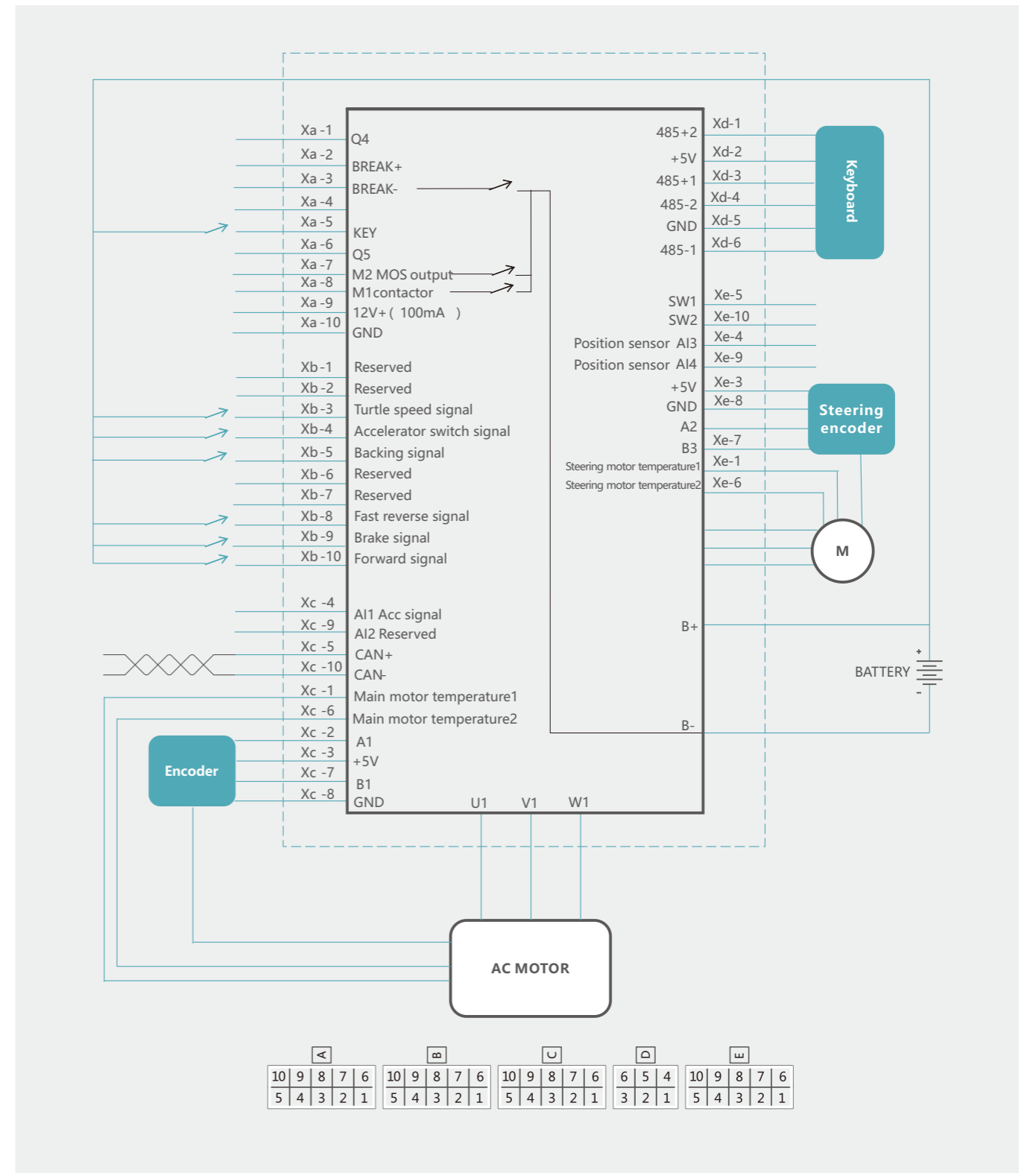
Dimension diagram(Two in one)



Dimension diagram(Walking drive)



Wiring Diagram of Product Terminal (Two in one)





Technical specification

| Item | Description | |
|--------|-------------------------|---|
| Input | Rated voltage/Frequency | Three-phase , 380V ~ 440V ; 50Hz/60Hz |
| | Allowable voltage | Voltage : 320V ~ 460V ; |
| | Operating range | Voltage unbalancedness : < 3% ; Frequency : ±5% |
| Output | Rated DC bus voltage | 531V |
| | Frequency | 50Hz ~ 6000Hz |

Output frequency : 50Hz~6000Hz

KincoHP 100 Series Medium Frequency Power Supply

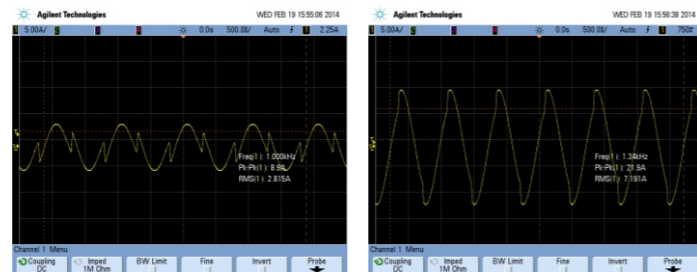
Excellent medium frequency power supply solution for Ozone generator

Product Characteristic

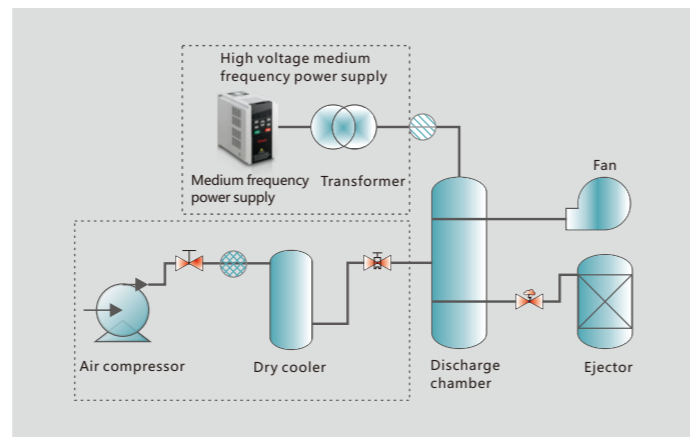
The new MF(Medium frequency) power supply has adaptive frequency function compared with the traditional MF power supply. The output frequency of the traditional MF power supply is set manually. Usually, the frequency is too high or low, which leads to low power supply efficiency and shortens the service life of the power supply in severe cases.

The new MF power supply can find the resonant frequency point of the load through its own unique algorithm, so that the power supply efficiency is the highest.

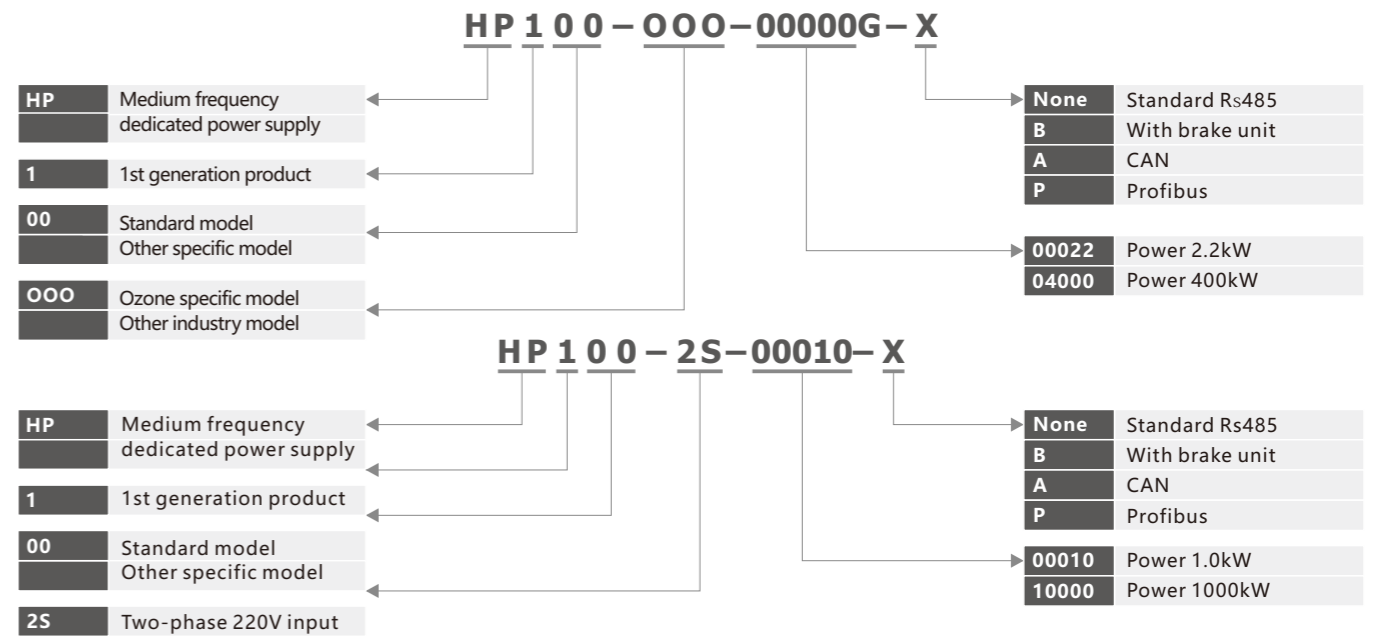
1. Output frequency range:50Hz~6000Hz;
2. Perfect control algorithm to make the current more stable at MF output;
3. Improve power efficiency based on load adaptive frequency output;
4. Short circuit protection, over voltage protection, over current protection, under voltage protection, over heat protection and so on. Rich protection features make the equipment run more stable and safer;
5. Can be set as constant voltage source or constant current source output, wider range of application;
6. Standard equipped with RS485 port.



1. When the output frequency is less than the load resonance frequency. The current waveform is obviously missing. The output current is small, and the internal power module is hot.
 2. When the output frequency is equal to the load resonance frequency. The current waveform is not obviously missing. The output current is large, and the power supply efficiency is high.



HP100 Series Model Description



HP100 Series Specification

| Model | 00007 | 00015 | 00022 | 00037 | 00055 | 00075 | 00110 | 00150 | 00185 | 00220 | |
|-----------------------|-------------------------|--|-------|-------|-------|----------------|-------|-------|-------|-------|-------|
| HP100-2S-□□□□G | | | | | | | | | | | |
| Output | Voltage(V) | Two-phase 0~320V | | | | | | | | | |
| | Rated current(A) | 4.0 | 7.5 | 10.0 | 16.0 | 24.5 | 30.0 | 46.0 | 60.0 | 75.0 | 85.0 |
| | Overload capacity | 115% 1minute , 160% 0.5second | | | | | | | | | |
| Input | Rated voltage/Frequency | Single phase 220V~240V ; 50Hz/60Hz | | | | | | | | | |
| | Allowable voltage range | Voltage : 180V~260V ; unbalancedness : 3% ; Frequency : ± 5% | | | | | | | | | |
| | Rated current(A) | 8.2 | 14.0 | 23.0 | 32.0 | 40.0 | 45.0 | 70.0 | 90.0 | 110.0 | 125.0 |
| Protection class | IP20 | | | | | | | | | | |
| Cooling method | Air cooling | | | | | Cooling by fan | | | | | |

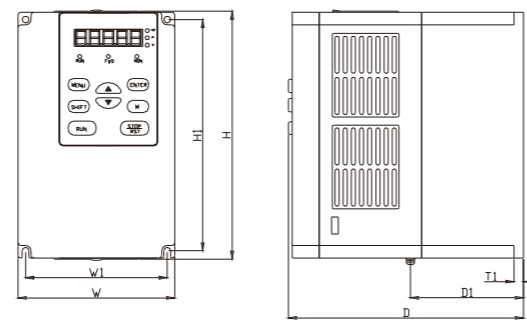
| Model | 00007 | 00015 | 00022 | 00037 | 00055 | 00075 | 00110 | 00150 | 00185 | 00220 | 00300 | 00370 | 00450 | 00550 | 00750 | 00900 | 01100 | |
|------------------------|-------------------------|--|-------|-------|-------|-------|-------|-------|-------|----------------|-------|-------|-------|-------|-------|-------|-------|-------|
| HP100-000-□□□□G | | | | | | | | | | | | | | | | | | |
| Output | Voltage(V) | Two-phase 0~540V | | | | | | | | | | | | | | | | |
| | Rated current(A) | 3.7 | 5.5 | 8.8 | 13.0 | 17.0 | 25.0 | 32.0 | 37.0 | 45.0 | 60.0 | 75.0 | 90.0 | 110.0 | 152.0 | 176.0 | 210.0 | 253.0 |
| | Overload capacity | 115% 1minute , 160% 0.5second | | | | | | | | | | | | | | | | |
| Input | Rated voltage/Frequency | Single phase 380V~440V ; 50Hz/60Hz | | | | | | | | | | | | | | | | |
| | Allowable voltage range | Voltage : 320V~460V ; unbalancedness : 3% ; Frequency : ± 5% | | | | | | | | | | | | | | | | |
| | Rated current(A) | 3.4 | 5.0 | 5.8 | 10.5 | 14.5 | 20.5 | 26.0 | 35.0 | 38.5 | 46.5 | 62.0 | 76.0 | 92.0 | 113.0 | 157.0 | 180.0 | 214.0 |
| Protection class | IP20 | | | | | | | | | | | | | | | | | |
| Cooling method | Air cooling | | | | | | | | | Cooling by fan | | | | | | | | |

HP100 Series Specification

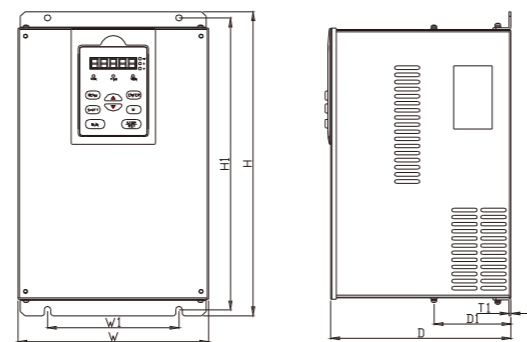
| Model | 01320 | 01600 | 01850 | 02000 | 02200 | 02500 | 02800 | 03150 | 03550 | 04000 | 05000 | 06000 | 07000 | 08000 | 09000 | 10000 | 20000 |
|-------------------------------|--|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|--------|--------|--------|--------|--------|--------|
| HP100-000-□□□□□G | | | | | | | | | | | | | | | | | |
| Output Voltage(V) | Two-phase 0~540V | | | | | | | | | | | | | | | | |
| Rated current(A) | 368.0 | 385.0 | 400.0 | 450.0 | 500.0 | 555.0 | 632.0 | 700.0 | 780.0 | 950.0 | 1100.0 | 1250.0 | 1400.0 | 1550.0 | 1675.0 | 1800.0 | 3600.0 |
| Overload capacity | 115% 1minute , 160% 0.5second | | | | | | | | | | | | | | | | |
| Input Rated voltage/Frequency | Single phase 380V~440V ; 50Hz/60Hz | | | | | | | | | | | | | | | | |
| Allowable voltage range | Voltage : 320V~460V ; unbalancedness : <3% ; Frequency : ±5% | | | | | | | | | | | | | | | | |
| Rated current(A) | 232.0 | 282.0 | 326.0 | 352.0 | 385.0 | 437.0 | 491.0 | 580.0 | 624.0 | 670.0 | 830.0 | 1000.0 | 1167.0 | 1350.0 | 1396.0 | 1600.0 | 3000.0 |
| Protection class | IP20 | | | | | | | | | | | | | | | | |
| Cooling method | Cooling by fan | | | | | | | | | | | | | | | | |

HP100 Series External Dimension

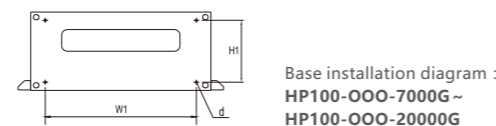
| Model | Dimension(mm) | | | | | | | | Weight (kg) |
|-----------------|---------------|------|-----|-----|------|-------|-----|---------------------|-------------|
| | W | H | D | W1 | H1 | D1 | T1 | Installation hole d | |
| HP100-2S-0007G | | | | | | | | | |
| HP100-2S-0015G | | | | | | | | | |
| HP100-2S-0022G | | | | | | | | | |
| HP100-2S-0037G | | | | | | | | | |
| HP100-000-0007G | 115 | 185 | 171 | 106 | 176 | 65 | 7 | 5 | 2 |
| HP100-000-0015G | | | | | | | | | |
| HP100-000-0022G | | | | | | | | | |
| HP100-000-0037G | | | | | | | | | |
| HP100-2S-0055G | | | | | | | | | |
| HP100-2S-0075G | | | | | | | | | |
| HP100-000-0055G | 165 | 274 | 193 | 110 | 264 | - | 2 | 6 | 6 |
| HP100-000-0075G | | | | | | | | | |
| HP100-2S-0110G | | | | | | | | | |
| HP100-000-0110G | | | | | | | | | |
| HP100-000-0150G | 194 | 324 | 197 | 120 | 312 | - | 2 | 6 | 8 |
| HP100-000-0185G | | | | | | | | | |
| HP100-2S-0150G | | | | | | | | | |
| HP100-2S-0185G | | | | | | | | | |
| HP100-2S-0220G | | | | | | | | | |
| HP100-000-0220G | 297 | 451 | 224 | 200 | 433 | 89 | 3 | 7 | 18 |
| HP100-000-0300G | | | | | | | | | |
| HP100-000-0370G | | | | | | | | | |
| HP100-000-0450G | 320 | 535 | 224 | 220 | 512 | 88.5 | 3 | 10 | 31 |
| HP100-000-0550G | | | | | | | | | |
| HP100-000-0750G | 372 | 649 | 262 | 240 | 628 | 102.5 | 3 | 10 | 42 |
| HP100-000-0900G | 440 | 758 | 285 | 340 | 737 | 102 | 2.5 | 11 | 73 |
| HP100-000-1100G | | | | | | | | | |
| HP100-000-1320G | 430 | 780 | 330 | 280 | 755 | 168 | 3 | 11 | 76 |
| HP100-000-1600G | | | | | | | | | |
| HP100-000-1850G | 530 | 940 | 380 | 340 | 910 | 206 | 4 | 14 | 114 |
| HP100-000-2000G | | | | | | | | | |
| HP100-000-2200G | | | | | | | | | |
| HP100-000-2500G | 690 | 1006 | 380 | 500 | 974 | 207 | 4 | 14 | 156 |
| HP100-000-2800G | | | | | | | | | |
| HP100-000-3150G | | | | | | | | | |
| HP100-000-3550G | | | | | | | | | |
| HP100-000-4000G | 810 | 1228 | 400 | 520 | 1196 | 209 | 4 | 14 | 225 |
| HP100-000-5000G | | | | | | | | | |
| HP100-000-6000G | | | | | | | | | |



HP100-000-0007G ~ HP100-000-0037G

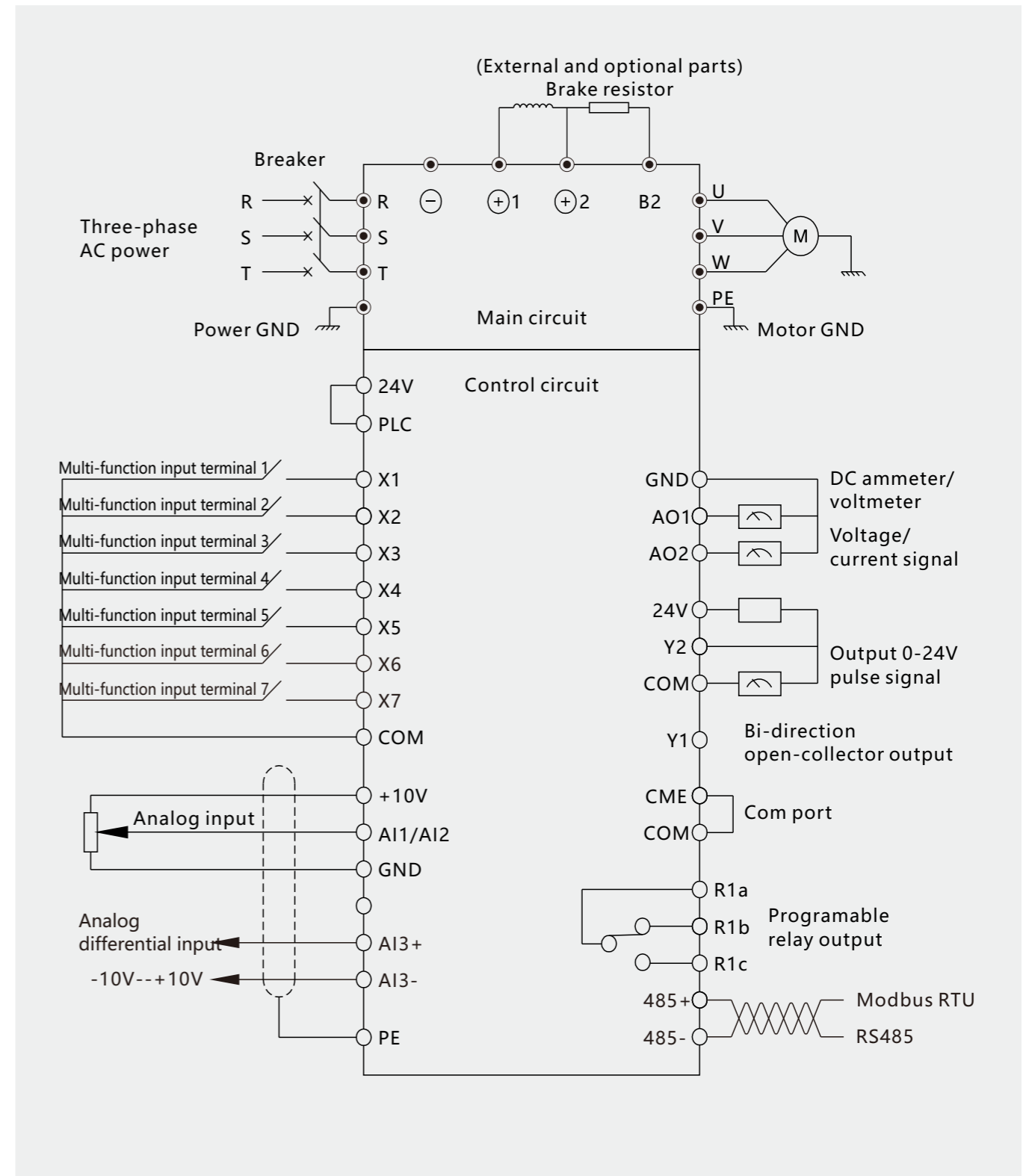


HP100-000-0055G ~ HP100-000-6000G



Base installation diagram :
HP100-000-7000G ~
HP100-000-20000G

HP100 Series Wiring Diagram of Product Terminal



Kinco Power Inverter



Product Characteristic

- Pure sine wave output .
- Input and output isolation design.
- The fan is controllable according to temperature and load.
- Output frequency 50Hz/60Hz optional.
- Output voltage 220/230/240Vac optional.
- LED display running status in real time.
- Input protection(Over current/Over voltage/Under voltage protection).
- Output protection(Over temperature/Over current/Short circuit/Over load protection).

Power Inverter Model Description

PI100 - 2 - 2000 - 000

Series name
PI100 : Power Inverter

DC voltage
2 : 24V 4 : 48V

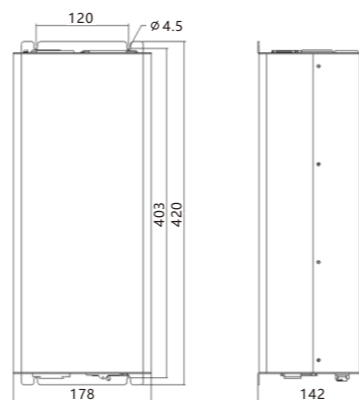
Custom
000 : Custom code

Capacity
2000 : 2KVA

Technical Specification

| Model | | PI100-2-2000 | PI100-2-4000 | PI100-4-2000 | PI100-4-4000 |
|---------------------|-------------------------|------------------------------|----------------|----------------|----------------|
| Battery input | Voltage DC | 24V | 24V | 48V | 48V |
| | Voltage range | 21.5V~31V | 21.5V~31V | 43V~62V | 43V~62V |
| | No-load current | ≤0.5A | ≤0.5A | ≤0.5A | ≤0.5A |
| | Max. efficiency | 90% | 90% | 90% | 90% |
| Photovoltaic output | Charge voltage | 27.6V | 27.6V | 55.2V | 55.2V |
| | Floating charge voltage | 31.2V | 31.2V | 62.4V | 62.4V |
| | Max. charge current | 10A | 20A | 10A | 20A |
| Output | Voltage AC | 220/230/240Vac | 220/230/240Vac | 220/230/240Vac | 220/230/240Vac |
| | Voltage range | ±5% | ±5% | ±5% | ±5% |
| | Rated capacity | 2000VA | 4000VA | 2000VA | 4000VA |
| | Instantaneous capacity | 3000VA | 6000VA | 3000VA | 6000VA |
| | Rated power | 1000W | 2000W | 1000W | 2000W |
| | Overload capacity | 2400VA/1min | 4800VA/1min | 2400VA/1min | 4800VA/1min |
| | Frequency | 50/60Hz | 50/60Hz | 50/60Hz | 50/60Hz |
| | Protection | Input under voltage | 21.5V | 21.5V | 43V |
| Input over voltage | 31V | 31V | 62V | 62V | |
| Over current | 7.5A | 15A | 7.5A | 15A | |
| Over load | 6A | 12A | 6A | 12A | |
| Short circuit | 10A | 20A | 10A | 20A | |
| Over temperature | 70°C | 70°C | 70°C | 70°C | |
| Control/display | LED indicator | Run/Under voltage/Error | | | |
| | LED | Input voltage/Output voltage | | | |
| Environment | Operating temperature | -20°C~+40°C | | | |
| | Storage temperature | -30°C~+70°C | | | |
| | Humidity | 10%~95% RH | | | |
| Other | Dimension D*W*H | 400×180×150mm | | | |
| | Weight | 7.5kg | 8kg | 7.5kg | 8kg |

External Dimension



Kinco Inverter Brake Resistor Selection

| VFD Model | Brake unit | Braking resistor | | | | |
|----------------------|------------|---------------------|-------|-----------------|----------------|-------|
| | | Standard resistance | Qty. | Min. resistance | Standard power | |
| FV100-2S/2T-0004G | Built-in | 200Ω | 1 | 100Ω | 100W | |
| FV100-2S/2T-0007G | | 150Ω | 1 | 100Ω | 150W | |
| FV100-2S/2T-0015G | | 150Ω | 1 | 100Ω | 150W | |
| FV100-2S/2T-0022G | | 50Ω | 1 | 35Ω | 400W | |
| FV100-2S/2T-0037G | | 45Ω | 1 | 35Ω | 450W | |
| FV100-2S/2T-0055G | | 50Ω | 1 | 25Ω | 1600W | |
| FV100-2S/2T-0075G | | 40Ω | 1 | 25Ω | 2000W | |
| FV100-2S/2T-0110G | | 27.2Ω | 1 | 20Ω | 2000W | |
| FV100-4T-0007G/0015L | | 750Ω | 1 | 125Ω | 110W | |
| FV100-4T-0015G/0022L | | 400Ω | 1 | 100Ω | 260W | |
| FV100-4T-0022G/0037L | | 250Ω | 1 | 100Ω | 320W | |
| FV100-4T-0037G/0055L | | 150Ω | 1 | 66.7Ω | 550W | |
| FV100-4T-0055G/0075L | | 100Ω | 1 | 66.7Ω | 800W | |
| FV100-4T-0075G/0110L | | 75Ω | 1 | 66.7Ω | 1070W | |
| FV100-4T-0110G/0150L | | 50Ω | 1 | 25Ω | 1600W | |
| FV100-4T-0150G/0185L | | 40Ω | 1 | 25Ω | 2000W | |
| FV100-4T-0185G/0220L | | 32Ω | 1 | 20Ω | 4800W | |
| FV100-2S/2T-0150G | | Built-in (Optional) | 20Ω | 1 | 14Ω | 2000W |
| FV100-2S/2T-0185G | | | 16Ω | 1 | 14Ω | 4800W |
| FV100-2S/2T-0220G | | | 13.6Ω | 1 | 10Ω | 4800W |
| FV100-4T-0220G/0300L | 27.2Ω | | 1 | 20Ω | 4800W | |
| FV100-4T-0300G/0370L | 20Ω | | 1 | 14Ω | 6000W | |
| FV100-4T-0370G/0450L | 16Ω | | 1 | 14Ω | 9600W | |
| FV100-4T-0450G/0550L | 15Ω | | 1 | 13.6Ω | 9600W | |
| FV100-4T-0550G/0750L | 20Ω | | 2 | 13.6Ω | 6000W*2 | |
| FV100-4T-0750G/0900L | 20Ω | | 2 | 13.6Ω | 9600W*2 | |
| FV100-4T-0900G/1100L | 18Ω | | 3 | 13.6Ω | 9600W*3 | |
| FV100-4T-1100G/1320L | External | 18Ω | 3 | 13.6Ω | 6000W*3 | |
| FV100-4T-1320G/1600L | | 10Ω | 1 | 4Ω | 30KW | |
| FV100-4T-1600G/1850L | | 8Ω | 1 | 4Ω | 30KW | |
| FV100-4T-1850G/2000L | | 6Ω | 1 | 4Ω | 30KW | |
| FV100-4T-2000G/2200L | | 5Ω | 1 | 4Ω | 30KW | |

Notes:

1. The resistance of brake resistor should be bigger than the liminal value. The selection is calculated basing on braking time 10S. For applications in industries such as crane and oil field, long braking time is required, the resistance should be magnified for several times according to actual situations.
2. Avoid using ripple resistors: 1) Ripple resistor possesses negative temperature characteristic. After working for some time, the resistance of ripple resistor decreases with temperature rising. The brake unit will be easy to explore if resistance is too small; 2) The parasitic inductance of ripple resistor is large, which may cause brake unit broken easily; Aluminum Power Resistors are recommended. Please select larger resistance for ripple resistors.
3. If brake resistor power is smaller than the listed standard power, the brake resistor will burn up easily. The larger the brake resistor power is, the less the possibility there is brake resistor burn-out.
4. For 55KW/75KW/90KW inverters, there are two brake resistors in parallel, the equivalent resistance is 12000W 10Ω, 19200W 6.8Ω respectively; For 110KW/132KW inverters, there are 4 brake resistors paired up in parallel, then connected in series, the equivalent resistance is 24000W 5Ω; For 160KW inverter, there are 6 brake resistors paired up in parallel, then connected in series, the equivalent resistance is 36000W 4.5Ω.
5. CV20 does not has brake unit.