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# Variable Speed Drives



Specialised Air Motors & Transmission (SAMT) - incorporating TONSON - was founded in 1966 and provides efficient solutions and equipment to all major industries including mining, chemical, food, paper, plastic, power transmission, manufacturing and pharmaceutical.

**Our commitment to you is best service, quick lead times and very competitive prices.**

### **Innovation & Quality**

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Specialised Air Motors & Transmission is committed to providing clever solutions for all hazardous environments and continues to develop smart ways to meet requirements from all different industries; our products meet CE standards ISO9002, ISO9001 and patents are registered globally including USA, Taiwan and China.

Unlike other conventional methods our products mainly use air instead of electricity as the source of power. This eliminates the chance of electricity shock and fire, which are the most crucial factors for industries involved in chemical, flammable or volatile contents.

Specialised Air Motors & Transmission products include air/electric motors, air/electric mixers and air fans which are engineered to meet the highest standards featuring 100% explosion-proof, low air consumption, light weight, high torque, reversible step less speed control, easy maintenance and various mounting methods. And can be used in very harsh conditions such as humidity, high temperature and flammable environments.

### **Products & Services**

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SAMT's other popular products include Pressure Tanks up to 200L (with and without integrated mixer), spray guns, pneumatic double diaphragm pumps, vertical pumps, magic drum carriers, non-spark drum openers, propellers, plus many more exciting and innovative products.

We also have the technical capability and expertise to provide complete power transmission solutions to meet your specific requirements, including full engineering assistance with design, selection and site installation. We also specialise in the supply of all types of Industrial gearboxes including Helical, Worm, Bevel-Helical, Bevel, screw jacks and planetary. All are interchangeable with other internationally recognised brands.

SAMT can also customise any product to suit your specific requirements and will investigate the possibilities of developing new products to satisfy your special specifications.





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## SS800 E Series-Mini Inverter

Compact Size Design, Small Appearance, Easy to Operate.



### Product Specification

| Items                  |                                         | SS800 E                                                                                                                                                                                                                                                                           |
|------------------------|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Power Supply           | Rated voltage, Frequency                | One-phase/Three-phase AC 220V 50/60Hz;                                                                                                                                                                                                                                            |
|                        | Voltage Range                           | 220V: 170V~240V; 380V:330V~440V                                                                                                                                                                                                                                                   |
| Output                 | Voltage Range                           | 220V: 0~220V; 380V:0~380V                                                                                                                                                                                                                                                         |
|                        | Frequency Range                         | 0.10~400.00Hz                                                                                                                                                                                                                                                                     |
| Control method         |                                         | V/F control, Space vector control.                                                                                                                                                                                                                                                |
| Indication             |                                         | Operating status/Alarm definition/interactive guidance: eg, frequency setting, the output frequency/current, DC bus voltage, the temperature and so on.                                                                                                                           |
| Control Specifications | Output Frequency Range                  | 0.10Hz~400.00Hz                                                                                                                                                                                                                                                                   |
|                        | Frequency Setting Resolution            | Digital input : 0.1 Hz, analog input: 0.1% of maximum output frequency                                                                                                                                                                                                            |
| Control Specifications | Output Frequency Accuracy               | 0.1Hz                                                                                                                                                                                                                                                                             |
|                        | V/F Control                             | Setting V/F curve to satisfy various load requirements.                                                                                                                                                                                                                           |
|                        | Torque Control                          | Auto increase: auto raise torque by loading condition; Manual increase:enable to set 0.0~20.0% of raising torque.                                                                                                                                                                 |
|                        | Multifunctional Input Terminal          | Four multi-function input terminals, realizing functions including fifteen section speed control, program running, four-section acceleration/ deceleration speed switch, UP/DOWN function and emergency stop and other functions                                                  |
|                        | Multifunctional Output Terminal         | 1 multi-function output terminals for displaying of running, zerospeed, counter, external abnormality, program operation and other information and warnings.                                                                                                                      |
|                        | Acceleration/ deceleration Time Setting | 0~999.9s acceleration/deceleration time can be set individually.                                                                                                                                                                                                                  |
| Other Functions        | PID Control                             | Built-in PID control                                                                                                                                                                                                                                                              |
|                        | RS485                                   | Standard RS485 communication function (MODBUS)                                                                                                                                                                                                                                    |
|                        | Frequency Setting                       | Analog input:0 to 10V, 4 to 20mA can be selected;<br>Digital input: Input using the setting dial of the operation panel or RS485or UP/DOWN.<br>Note: AVI terminals can be used to select an analog voltage input (0-10V) and analog current input (4-20mA) through the switch J2. |

| Items                       |                              | SS800 E                                                          |
|-----------------------------|------------------------------|------------------------------------------------------------------|
| Other Functions             | Multi-speed                  | Four multifunction input terminals, 15 section speed can be set  |
|                             | Automatic voltage regulation | Automatic voltage regulation function can be selected            |
|                             | Counter                      | Built-in 2 group of counters                                     |
| Protection/Warning Function | Overload                     | 150%, 60second (Constant torque)                                 |
|                             | Over Voltage                 | Over voltage protection can be set.                              |
|                             | Under Voltage                | Under voltage protection can be set.                             |
|                             | Other Protections            | Output shortcircuit, over current, and parameter lock and so on. |
| Environment                 | Ambient Temperature          | -10°C to 40°C (non-freezing)                                     |
|                             | Ambient Humidity             | Max. 95% (non-condensing)                                        |
|                             | Altitude                     | Lower than 1000m                                                 |
|                             | Vibration                    | Max. 0.5G                                                        |
| Structure                   | Cooling Mode                 | Forced air cooling                                               |
|                             | Protective Structure         | IP 20                                                            |
| Installation                | Mode                         | Wall-mounted or standard 35MM rail mounting                      |

## Specification

Unit: mm

| Model | Power Output (KW) | Capacity (KVA) | Current Output (A) | Input current (A) | Motor Equipped (KW) |
|-------|-------------------|----------------|--------------------|-------------------|---------------------|
|-------|-------------------|----------------|--------------------|-------------------|---------------------|

1PH AC220V ±15% 50/60Hz

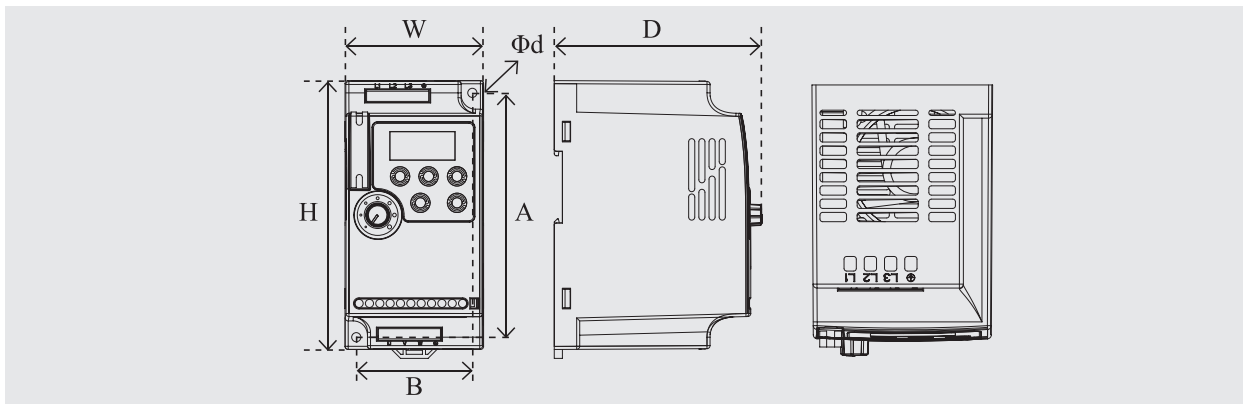
|            |      |     |      |       |      |
|------------|------|-----|------|-------|------|
| SS800-0.4  | 0.4  | 1.0 | 2.5  | 3.75  | 0.4  |
| SS800-0.75 | 0.75 | 2.0 | 5.0  | 7.50  | 0.75 |
| SS800-1.5  | 1.5  | 2.8 | 7.0  | 10.50 | 1.5  |
| SS800-2.2  | 2.2  | 4.2 | 11.0 | 16.5  | 2.2  |

3PH AC380V ±15% 50/60Hz

|            |      |     |     |      |      |
|------------|------|-----|-----|------|------|
| SS800-0.75 | 0.75 | 2.2 | 2.7 | 4.05 | 0.75 |
| SS800-1.5  | 1.5  | 3.2 | 4.0 | 6.0  | 1.5  |
| SS800-2.2  | 2.2  | 4.0 | 5.0 | 7.5  | 2.2  |

## Dimension

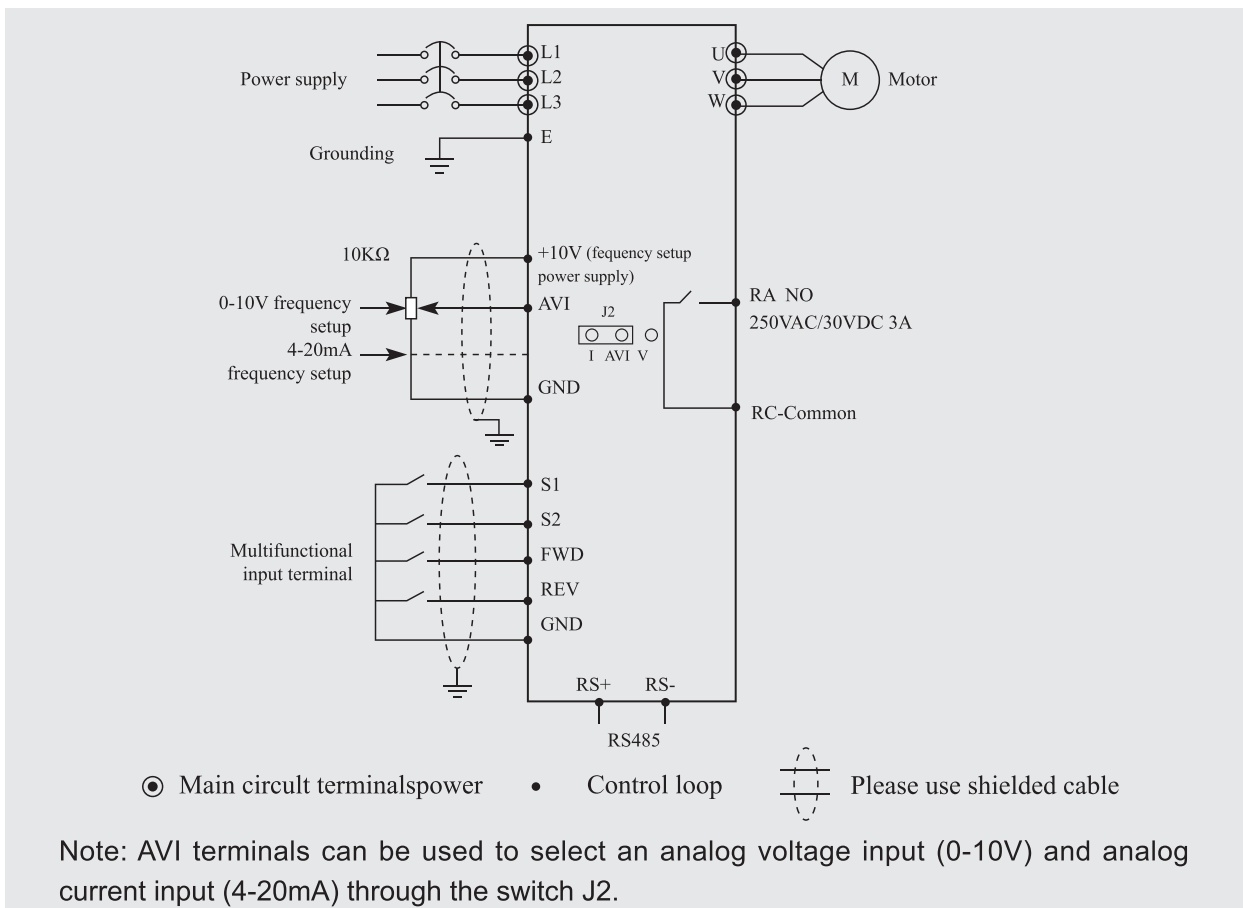
Unit: mm



| Model      | W  | H   | D     | A   | B  | Φd   |
|------------|----|-----|-------|-----|----|------|
| SS800-0.4  | 68 | 132 | 102   | 120 | 57 | Φ4.5 |
| SS800-0.75 |    |     |       |     |    |      |
| SS800-1.5  |    |     |       |     |    |      |
| SS800-2.2  | 72 | 142 | 112.2 | 130 | 61 | Φ4.5 |
| SS800-1.5  |    |     |       |     |    |      |
| SS800-2.2  |    |     |       |     |    |      |

Note: Support for standard 35 mm rail mounting

## SS800E Typical Wiring Diagram



## SS900 S Series-Mini Inverter

Compact size design, small Appearance, easy to operate



### Product Specification

| Items                        |                                         | SS900 S                                                                                                                                                                                                                         |
|------------------------------|-----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Power Supply                 | Rated voltage, Frequency                | One-phase/Three-phase AC 220V 50/60Hz;<br>Three-phase AC 380V 50/60Hz                                                                                                                                                           |
|                              | Voltage Range                           | 220V: 170V~240V; 380V: 330V~440V                                                                                                                                                                                                |
| Output                       | Voltage Range                           | 220V: 0~220V; 380V: 0~380V                                                                                                                                                                                                      |
|                              | Frequency Range                         | 0.10~400.00Hz                                                                                                                                                                                                                   |
| Control method               |                                         | V/F control, Space vector control.                                                                                                                                                                                              |
| Indication                   |                                         | Operating status/Alarm definition/interactive guidance: eg, frequency setting, the output frequency/current, DC bus voltage, the temperature and so on.                                                                         |
| Control Specifications       | Output Frequency Range                  | 0.10Hz~400.00Hz                                                                                                                                                                                                                 |
|                              | Frequency Setting Resolution            | Digital input : 0.01 Hz, analog input: 0.1% of maximum output frequency                                                                                                                                                         |
|                              | Output Frequency Accuracy               | 0.01Hz                                                                                                                                                                                                                          |
|                              | V/F Control                             | Setting V/F curve to satisfy various load requirements.                                                                                                                                                                         |
|                              | Torque Control                          | Auto increase: auto raise torque by loading condition; Manual increase:enable to set 0.0~20.0% of raising torque.                                                                                                               |
|                              | Multifunctional Input Terminal          | Six multi-function input terminals, realizing functions including fifteen section speed control, program running, four-section acceleration/deceleration speed switch, UP/ DOWN function and emergency stop and other functions |
|                              | Multifunctional Output Terminal         | 2 multi-function output terminals for displaying of running, zerospeed, counter, external abnormality, program operation and other information and warnings.                                                                    |
|                              | Acceleration/ deceleration Time Setting | 0~999.9s acceleration/deceleration time can be set individually.                                                                                                                                                                |
| Other Functions              | PID Control                             | Built-in PID control                                                                                                                                                                                                            |
|                              | RS485                                   | Standard RS485 communication function (MODBUS)                                                                                                                                                                                  |
|                              | Frequency Setting                       | Analog input:0 to 10V, 0 to 20mA can be selected;<br>Digital input: Input using the setting dial of the operation panel or RS485or UP/ DOWN.                                                                                    |
|                              | Multi-speed                             | Six multifunction input terminals, 15 section speed can be set                                                                                                                                                                  |
|                              | Automatic voltage regulation            | Automatic voltage regulation function can be selected                                                                                                                                                                           |
|                              | Counter                                 | Built-in 2 group of counters                                                                                                                                                                                                    |
| Protection/ Warning Function | Overload                                | 150%, 60second (Constant torque)                                                                                                                                                                                                |
|                              | Over Voltage                            | Over voltage protection can be set.                                                                                                                                                                                             |
|                              | Under Voltage                           | Under voltage protection can be set.                                                                                                                                                                                            |
|                              | Other Protections                       | Overheat ,output shortcircuit, over current, and parameter lock and so on.                                                                                                                                                      |
| Environment                  | Ambient Temperature                     | -10°C to 40°C (non-freezing)                                                                                                                                                                                                    |
|                              | Ambient Humidity                        | Max. 95% (non-condensing)                                                                                                                                                                                                       |
|                              | Altitude                                | Lower than 1000m                                                                                                                                                                                                                |
|                              | Vibration                               | Max. 0.5G                                                                                                                                                                                                                       |
| Structure                    | Cooling Mode                            | Forced air cooling                                                                                                                                                                                                              |
|                              | Protective Structure                    | IP 20                                                                                                                                                                                                                           |
| Installation                 | Mode                                    | Wall Mounted                                                                                                                                                                                                                    |

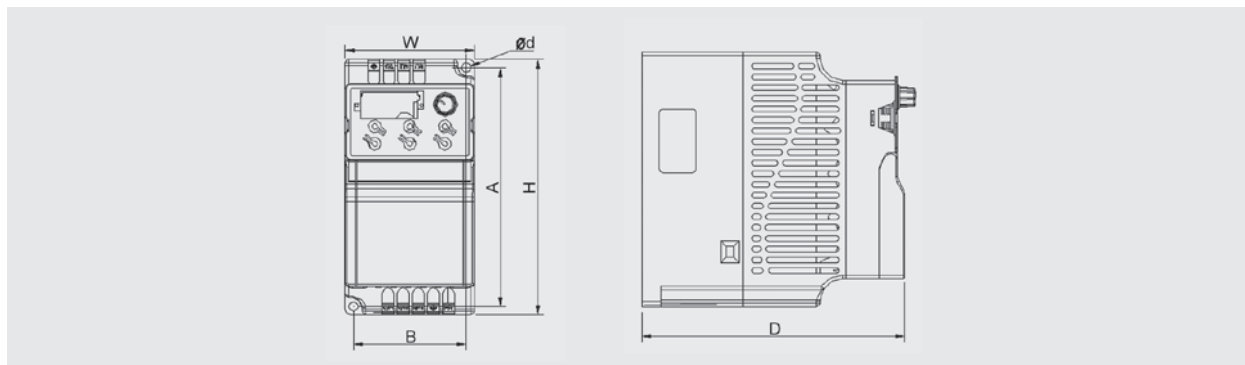
## Specification

Unit: mm

| Model                         | Rate output Power (kw) | Capacity (KVA) | Output Current (A) | Overload capacity (60s)(A) | Applicable motor (KW) |
|-------------------------------|------------------------|----------------|--------------------|----------------------------|-----------------------|
| 1PH AC220V $\pm 15\%$ 50/60Hz |                        |                |                    |                            |                       |
| SS900-0.4                     | 0.4                    | 1              | 2.2                | 3.75                       | 0.4                   |
| SS900-0.75                    | 0.75                   | 2              | 5                  | 7.5                        | 0.75                  |
| SS900-1.5                     | 1.5                    | 2.8            | 7                  | 10.5                       | 1.5                   |
| 3PH AC380V $\pm 15\%$ 50/60Hz |                        |                |                    |                            |                       |
| SS900-0.75                    | 0.75                   | 2.2            | 2.7                | 4.05                       | 0.75                  |
| SS900-1.5                     | 1.5                    | 3.2            | 4                  | 6                          | 1.5                   |
| SS900-2.2                     | 2.2                    | 4              | 5                  | 7.5                        | 2.2                   |
| SS900-3.7                     | 3.7                    | 6.8            | 8.6                | 12.9                       | 3.7                   |
| SS900-5.5                     | 5.5                    | 10             | 12.5               | 18.75                      | 5.5                   |
| SS900-7.5                     | 7.5                    | 14             | 17.5               | 21                         | 7.5                   |
| SS900-11                      | 11                     | 19             | 24                 | 36                         | 11                    |
| SS900-15                      | 15                     | 26             | 33                 | 45                         | 15                    |
| SS900-18.5                    | 18.5                   | 32             | 40                 | 60                         | 18.5                  |
| SS900-22                      | 22                     | 37             | 47                 | 70.5                       | 22                    |
| SS900-30                      | 30                     | 52             | 65                 | 97.5                       | 30                    |
| SS900-37                      | 37                     | 64             | 80                 | 120                        | 37                    |

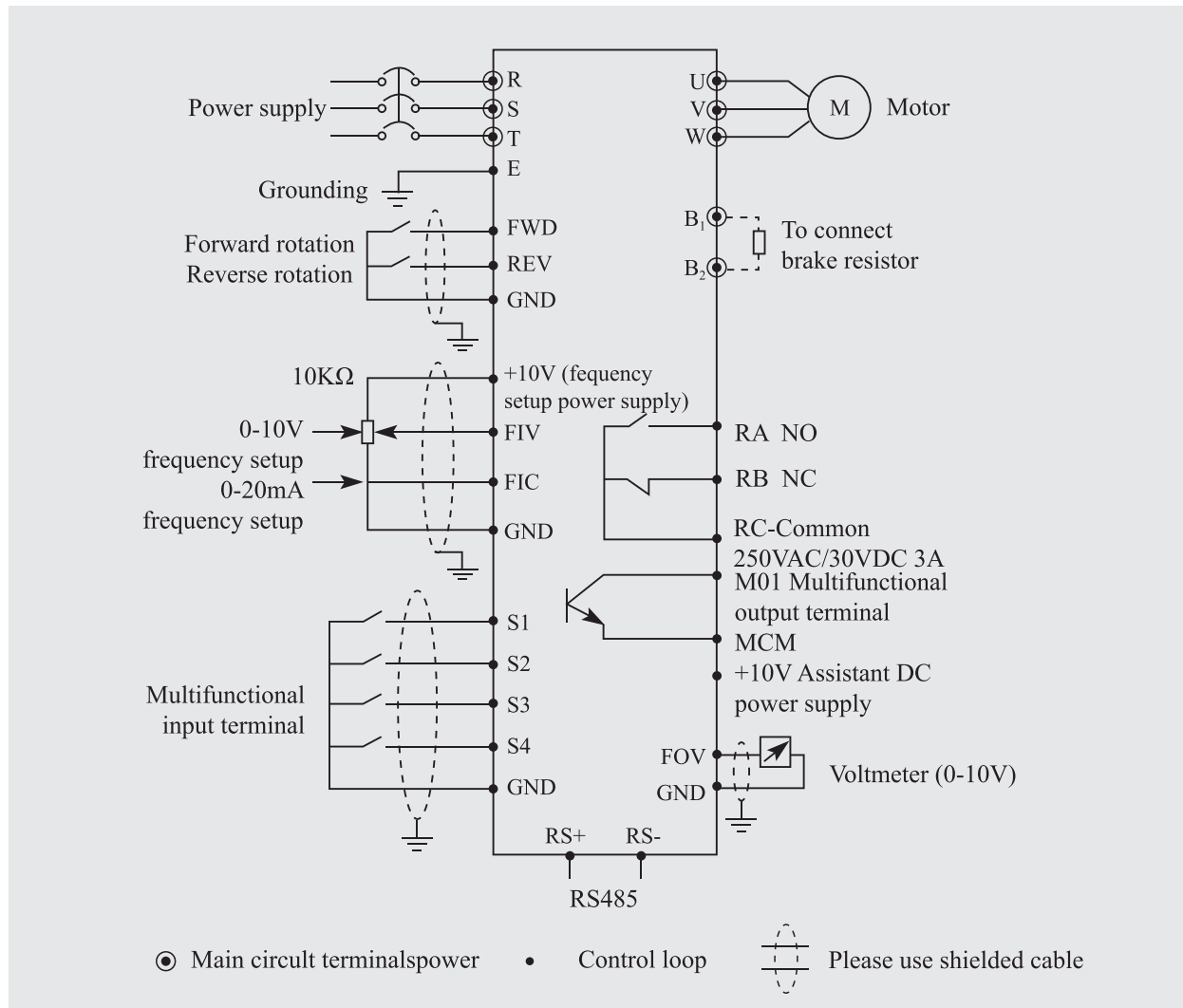
## Dimension

Unit: mm



| Model                              | Outline dimension (mm) |       |       | Installation size (mm) |       |    |
|------------------------------------|------------------------|-------|-------|------------------------|-------|----|
|                                    | W                      | H     | D     | A                      | B     | Ød |
| SS900-0.4 -- SS900-1.5             | 72.0                   | 142.0 | 152   | 132.7                  | 62.7  | 5  |
| SS900-2.2 -- SS900-3.7             | 100.0                  | 183.0 | 143   | 173.0                  | 90.0  | 5  |
| SS900-5.5 -- SS900-7.5             | 130.0                  | 260.0 | 184   | 250                    | 120   | 5  |
| SS900-0.4 -- SS900-2.2             | 72.0                   | 142.0 | 152.0 | 132.7                  | 62.7  | 5  |
| SS900-3.7<br>SS900-5.5             | 100.0                  | 183.0 | 143   | 173.0                  | 90.0  | 5  |
| SS900-7.5<br>SS900-11              | 130.0                  | 260.0 | 184   | 250                    | 120   | 5  |
| SS900-15<br>SS900-18.5<br>SS900-22 | 195.0                  | 280.0 | 179   | 266.0                  | 182.5 | 7  |
| SS900-30<br>SS900-37               | 245                    | 425   | 193   | 410.0                  | 180.0 | 7  |

## SS900 S Typical Wiring Diagram



## Target Market of SS900 S Series Inverter

**Food machinery**-Feeder, mixer, bag filling machines, pastry forming machine...

**Woodworking Machinery**-Polishing machine, grinding machine, carving machine...

**Textile Machinery**-winding machine, fabric inspection machine...

**Packaging Machinery**-Liquid filling machine, pharmaceutical filling machine...

**Other:** Stone cutting machine...

Blowing machine, Water-pump-house top/a fan to fill and exhaust gas, small

Pump for water supply

Printing equipment-offset

Conveyor belt-Small conveyor belt, common conveyor belt

Feeding equipment-Tool machine, winding machines, weaving machines equipment

Rubber and plastic industry-Sealing machine, various types of small machine

General business-Common household, air conditioning, automatic door

## SZ900 E Series-Mini Inverter vector control with open loop

Compact Size Design, Small Appearance, Easy to Operate.



### Product Specification

| Item               |                                       | SZ900 E                                                                                                                                                      |
|--------------------|---------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Standard functions | Control mode                          | Sensorless flux vector control (SFVC)<br>Voltage/Frequency (V/F) control                                                                                     |
|                    | Maximum frequency                     | Vector control: 0–320 Hz<br>V/F control: 0–3200Hz                                                                                                            |
|                    | Carrier frequency                     | 1–16 kHz<br>The carrier frequency is automatically adjusted based on the load features.                                                                      |
|                    | Input frequency resolution            | Digital setting: 0.01 Hz<br>Analog setting: maximum frequency x 0.025%                                                                                       |
|                    | Startup torque                        | G type: 0.5 Hz/150% (SFVC)<br>P type: 0.5 Hz/100%                                                                                                            |
|                    | Speed range                           | 1:100 (SFVC)                                                                                                                                                 |
|                    | Speed stability accuracy              | ± 0.5% (SFVC)                                                                                                                                                |
|                    | Torque control accuracy               | ± 5% (CLVC)                                                                                                                                                  |
|                    | Overload capacity                     | G type: 60s for 150% of the rated current, 3s for 180% of the rated current.<br>P type: 60s for 120% of the rated current, 3s for 150% of the rated current. |
|                    | Torque boost                          | Fixed boost<br>Customized boost 0.1%–30.0%                                                                                                                   |
|                    | V/F curve                             | Straight-line V/F curve<br>Multi-point V/F curve<br>N-power V/F curve (1.2-power, 1.4-power, 1.6-power, 1.8-power, square)                                   |
|                    | V/F separation                        | Two types: complete separation; half separation                                                                                                              |
|                    | Ramp mode                             | Straight-line ramp<br>S-curve ramp<br>Four groups of acceleration/deceleration time with the range of 0.0–6500.0s                                            |
|                    | DC braking                            | DC braking frequency: 0.00 Hz to maximum frequency<br>Braking time: 0.0–100.0s<br>Braking action current value: 0.0%–100.0%                                  |
|                    | JOG control                           | JOG frequency range: 0.00–50.00 Hz<br>JOG acceleration/deceleration time: 0.0–6500.0s                                                                        |
|                    | Onboard multiple preset speeds        | It implements up to 16 speeds via the simple PLC function or combination of X terminal states                                                                |
|                    | Onboard PID                           | It realizes process-controlled closed loop control system easily.                                                                                            |
|                    | Auto voltage regulation (AVR)         | It can keep constant output voltage automatically when the mains voltage changes.                                                                            |
|                    | Overvoltage/Overcurrent stall control | The current and voltage are limited automatically during the running process so as to avoid frequent tripping due to overvoltage/over current.               |
|                    | Torque limit and control              | It can limit the torque automatically and prevent frequent over current tripping during the running process.                                                 |
|                    | Instantaneous stop doesn't stop       | The load feedback energy compensates the voltage reduction so that the AC drive can continue to run for a short time.                                        |
|                    | Rapid current limit                   | It helps to avoid frequent over current faults of the AC drive.                                                                                              |
|                    | High performance                      | Control of asynchronous motor is implemented through the high-performance current vector control technology.                                                 |
|                    | Timing control                        | Time range: 0.0–6500.0 minutes                                                                                                                               |

| Item                             |                                    | SZ900 E                                                                                                                                                                                                                               |
|----------------------------------|------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Standard functions               | Communication methods              | RS485                                                                                                                                                                                                                                 |
|                                  | Running command channel            | Given by the panel, control terminals, Serial communication port, can be switched by many ways                                                                                                                                        |
|                                  | Frequency source                   | 10 kinds of frequency source, given by Digital analog voltage, analog current, Pulse, serial port. can be switched by many ways                                                                                                       |
|                                  | Auxiliary frequency source         | 10 kinds of Frequency source, can easily realize Micro adjustment, frequency Synthesizer                                                                                                                                              |
| Input and output                 | Input terminals                    | 6 digital input terminals, one of which supports up to 100 kHz high-speed pulse input. 2 analog input terminal, one of which only supports 0–10 V voltage input and the other supports 0–10 V voltage input or 4–20 mA current input. |
|                                  | Output terminal                    | 1 digital output terminal<br>1 relay output terminal<br>1 analog output terminal : that supports 0–20 mA current output or 0–10 V voltage output                                                                                      |
| operation on the operation panel | LED display                        | It displays the parameters.                                                                                                                                                                                                           |
|                                  | Key locking and function selection | It can lock the keys partially or completely and define the function range of some keys so as to prevent mis-function.                                                                                                                |
|                                  | Protection mode                    | Motor short-circuit detection at power-on, output phase loss protection, over-current protection, over-voltage protection, under voltage protection, overheat protection and overload protection.                                     |
| Environment                      | Installation location              | Indoor, avoid direct sunlight, dust, corrosive gas, combustible gas, oil smoke, vapour, drip or salt.                                                                                                                                 |
|                                  | Altitude                           | Lower than 1000m (Lower the grades when using higher than 1000m)                                                                                                                                                                      |
|                                  | Ambient temperature                | -10°C ~40°C (Lower the grades if the ambient temperature is between 40°C and 50°C)                                                                                                                                                    |
|                                  | Humidity                           | Less than 95%RH, without condensing                                                                                                                                                                                                   |
|                                  | Vibration                          | Less than 5.9 m/s <sup>2</sup> (0.6 g)                                                                                                                                                                                                |
| Storage temperature              |                                    | -20°C~60°C                                                                                                                                                                                                                            |

## Specification

Unit: mm

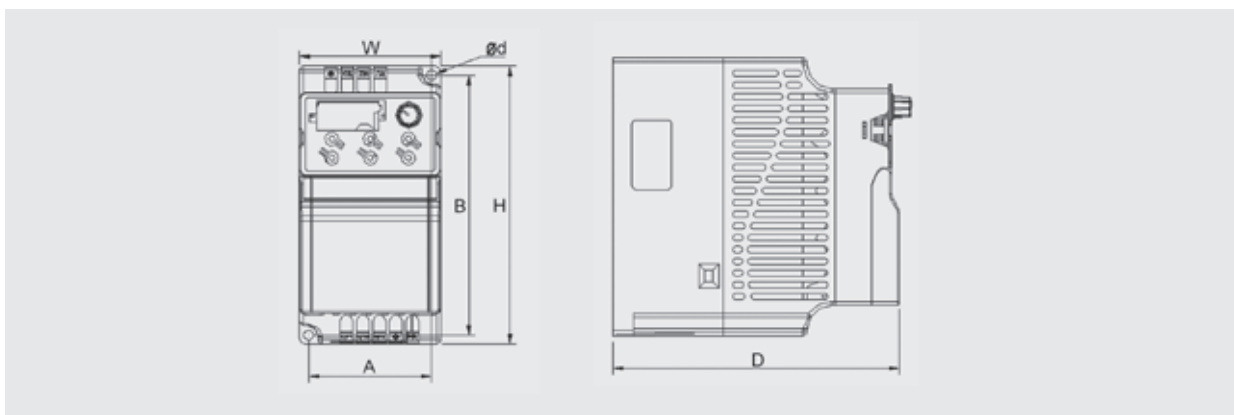
| Model                   | Rate output Power (kw) | Rated Input Current (A) | Rated Output Current (A) | Applicable motor (KW) |
|-------------------------|------------------------|-------------------------|--------------------------|-----------------------|
| 1PH AC220V ±15% 50/60Hz |                        |                         |                          |                       |
| SZ900-0.4               | 0.4                    | 5.4                     | 2.4                      | 0.4                   |
| SZ900-0.75              | 0.75                   | 7.2                     | 4.5                      | 0.75                  |
| SZ900-1.5               | 1.5                    | 10                      | 7.0                      | 1.5                   |
| SZ900-3.7               | 3.7                    | 16                      | 10.0                     | 3.7                   |
| SZ900-5.5               | 5.5                    | 21                      | 20                       | 5.5                   |
| SZ900-7.5               | 7.5                    | 31                      | 30                       | 7.5                   |
| 3PH AC380V ±15% 50/60Hz |                        |                         |                          |                       |
| SZ900-0.4               | 0.4                    | 3.4                     | 1.2                      | 0.4                   |
| SZ900-0.75              | 0.75                   | 3.8                     | 2.5                      | 0.75                  |
| SZ900-1.5               | 1.5                    | 5                       | 3.7                      | 1.5                   |
| SZ900-2.2               | 2.2                    | 5.8                     | 5.0                      | 2.2                   |
| SZ900-3.7/5.5           | 3.7/5.5                | 10.0/15.0               | 9.0/13.0                 | 3.7/5.5               |
| SZ900-5.5               | 5.5                    | 15                      | 13                       | 5.5                   |
| SZ900-7.5               | 7.5                    | 20                      | 17                       | 7.5                   |
| SZ900-11/15             | 11/15                  | 26/35                   | 25/32                    | 11/15                 |
| SZ900-15/18.5           | 15/18.5                | 35/38                   | 32/37                    | 15/18.5               |

| Model         | Rate output Power (kw) | Rated Input Current (A) | Rated Output Current (A) | Applicable motor (KW) |
|---------------|------------------------|-------------------------|--------------------------|-----------------------|
| SZ900-18.5/22 | 18.5/22                | 38/46                   | 37/45                    | 18.5/22               |
| SZ900-22/30   | 22/30                  | 46/62                   | 45/60                    | 22/30                 |
| SZ900-30/37   | 30/37                  | 62/76                   | 60/75                    | 30/37                 |
| SZ900-37/45   | 37/45                  | 76/90                   | 75/90                    | 37/45                 |
| SZ900-45/55   | 45/55                  | 90/105                  | 90/110                   | 45/55                 |
| SZ900-55      | 55                     | 105                     | 110                      | 55                    |
| SZ900-75      | 75                     | 140                     | 150                      | 75                    |
| SZ900-75/90   | 75/90                  | 140/160                 | 150/176                  | 75/90                 |
| SZ900-90/110  | 90/110                 | 160/210                 | 176/210                  | 90/110                |
| SZ900-110/132 | 110/132                | 210/240                 | 210/253                  | 110/132               |
| SZ900-132/160 | 132/160                | 240/290                 | 253/300                  | 132/160               |
| SZ900-160/185 | 160/185                | 290/330                 | 300/340                  | 160/185               |

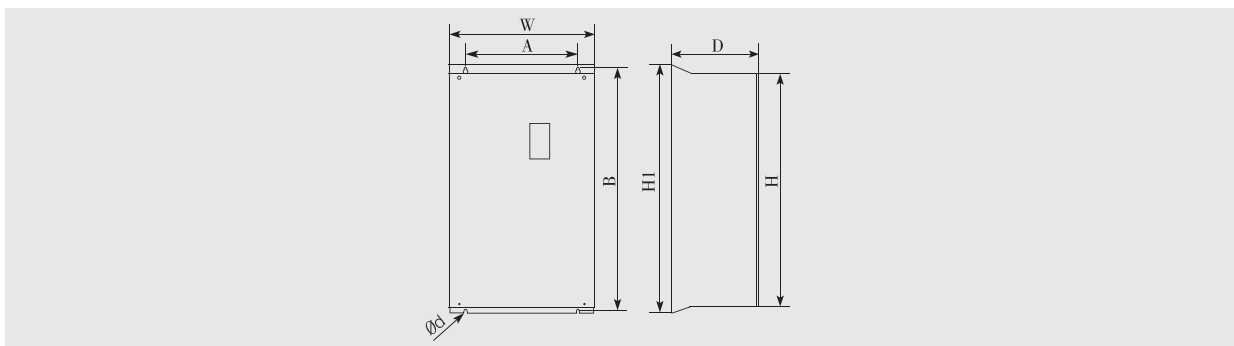
## Dimension

Unit: mm

(1)0.4--22kW



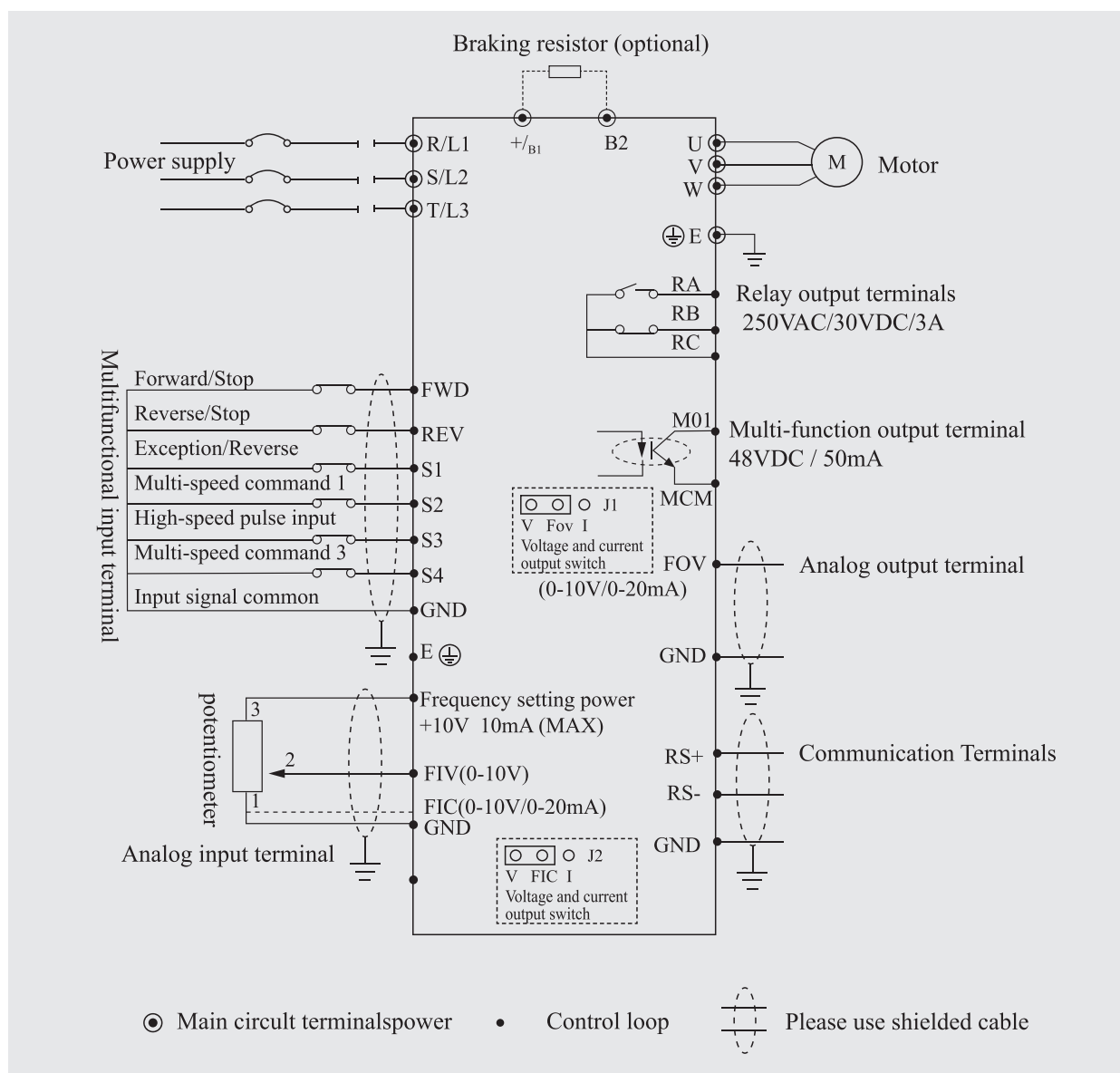
(2)30--160kW



| Model                  | Outline dimension (mm) |     |    |     | Installation size (mm) |       |    |
|------------------------|------------------------|-----|----|-----|------------------------|-------|----|
|                        | W                      | H   | H1 | D   | A                      | B     | Φd |
| SZ900-0.4 -- SZ900-1.5 | 72                     | 142 |    | 152 | 62.7                   | 132.7 | 5  |
| SZ900-2.2 -- SZ900-3.7 | 100                    | 183 |    | 143 | 90                     | 173   | 5  |
| SZ900-5.5 -- SZ900-7.5 | 130                    | 260 |    | 184 | 120                    | 250   | 5  |
| SZ900-0.4 -- SZ900-2.2 | 72                     | 142 |    | 152 | 62.7                   | 132.7 | 5  |
| SZ900-3.7 -- SZ900-5.5 | 100                    | 183 |    | 143 | 90                     | 173   | 5  |

| Model                          | Outline dimension (mm) |     |     |       | Installation size (mm) |     |    |
|--------------------------------|------------------------|-----|-----|-------|------------------------|-----|----|
|                                | W                      | H   | H1  | D     | A                      | B   | Φd |
| SZ900-7.5<br>SZ900-11          | 130                    | 260 |     | 184   | 120                    | 250 | 5  |
| SZ900-15/18.5<br>SZ900-22/30   | 195                    | 280 |     | 179   | 182.5                  | 266 | 7  |
| SZ900-30/37<br>SZ900-37/45     | 245                    | 390 | 425 | 193   | 180                    | 410 | 7  |
| SZ900-45/55<br>SZ900-55/75     | 300                    | 500 | 540 | 252   | 200                    | 522 | 9  |
| SZ900-75/90                    | 338                    | 546 | 576 | 256.5 | 270                    | 560 | 9  |
| SZ900-90/110<br>SZ900-110/132  | 338                    | 550 | 580 | 300   | 270                    | 564 | 9  |
| SZ900-132/160<br>SZ900-160/185 | 400                    | 675 | 715 | 310   | 320                    | 695 | 11 |

## SZ900 E Typical Wiring Diagram



# SS2100 S IP65 series Intelligent Frequency Inverter



## Product Specification

| Items                  |                                        | SS2100 S                                                                                                                                                                                                                        |
|------------------------|----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Power Supply           | Rated voltage, Frequency               | 1PH 220V50/60Hz<br>3PH 380V50/60Hz                                                                                                                                                                                              |
|                        | Voltage Range                          | 220V: 170--240V<br>380V: 330--440V                                                                                                                                                                                              |
| Output                 | Voltage Range                          | 220V: 0--220V<br>380V: 0--380V                                                                                                                                                                                                  |
|                        | Frequency Range                        | 0.10~400.00Hz                                                                                                                                                                                                                   |
| Control method         |                                        | V/F control, Space vector control.                                                                                                                                                                                              |
| Indication             |                                        | Operating status/Alarm definition/interactive guidance: eg, frequency setting, the output frequency/current, DC bus voltage, the temperature and so on.                                                                         |
| Control Specifications | Output Frequency Range                 | 0.10Hz~400.00Hz                                                                                                                                                                                                                 |
|                        | Frequency Setting Resolution           | Digital input : 0.1 Hz, analog input: 0.1% of maximum output frequency                                                                                                                                                          |
|                        | Output Frequency Accuracy              | 0.1Hz                                                                                                                                                                                                                           |
|                        | V/F Control                            | Setting V/F curve to satisfy various load requirements.                                                                                                                                                                         |
|                        | Torque Control                         | Auto increase: auto raise torque by loading condition; Manual increase:enable to set 0.0~20.0% of raising torque.                                                                                                               |
|                        | Multifunctional Input Terminal         | Six multi-function input terminals, realizing functions including fifteen section speed control, program running, four-section acceleration/ deceleration speed switch, UP/DOWN function and emergency stop and other functions |
|                        | Multifunctional Output Terminal        | 2 multi-function output terminals for displaying of running, zerospeed, counter, external abnormity, program operation and other information and warnings.                                                                      |
|                        | Acceleration/deceleration Time Setting | 0~999.9s acceleration/deceleration time can be set individually.                                                                                                                                                                |
| Other Functions        | PID Control                            | Built-in PID control                                                                                                                                                                                                            |
|                        | RS485                                  | Standard RS485 communication function (MODBUS)                                                                                                                                                                                  |
|                        | Frequency Setting                      | Analog input:0 to 10V, 0 to 20mA can be selected;<br>Digital input: Input using the setting dial of the operation panel or RS485or UP/DOWN.                                                                                     |
|                        | Multi-speed                            | Six multifunction input terminals, 15 section speed can be set                                                                                                                                                                  |
|                        | Automatic voltage regulation           | Automatic voltage regulation function can be selected                                                                                                                                                                           |
|                        | Counter                                | Built-in 2 group of counters                                                                                                                                                                                                    |

# SS2100 S IP65 series Intelligent Frequency Inverter

| Items                       |                      | SS2100 S                                                                   |
|-----------------------------|----------------------|----------------------------------------------------------------------------|
| Protection/Warning Function | Overload             | 150%, 60second (Constant torque)                                           |
|                             | Over Voltage         | Over voltage protection can be set.                                        |
|                             | Under Voltage        | Under voltage protection can be set.                                       |
|                             | Other Protections    | Overheat ,output shortcircuit, over current, and parameter lock and so on. |
| Environment                 | Ambient Temperature  | -10°C to 40°C (non-freezing)                                               |
|                             | Ambient Humidity     | Max. 95% (non-condensing)                                                  |
|                             | Altitude             | Lower than 1000m                                                           |
|                             | Vibration            | Max. 0.5G                                                                  |
| Structure                   | Cooling Mode         | Forced air cooling or Natural cooling                                      |
|                             | Protective Structure | IP65                                                                       |
| Installation                | Mode                 | Wall Mounted                                                               |

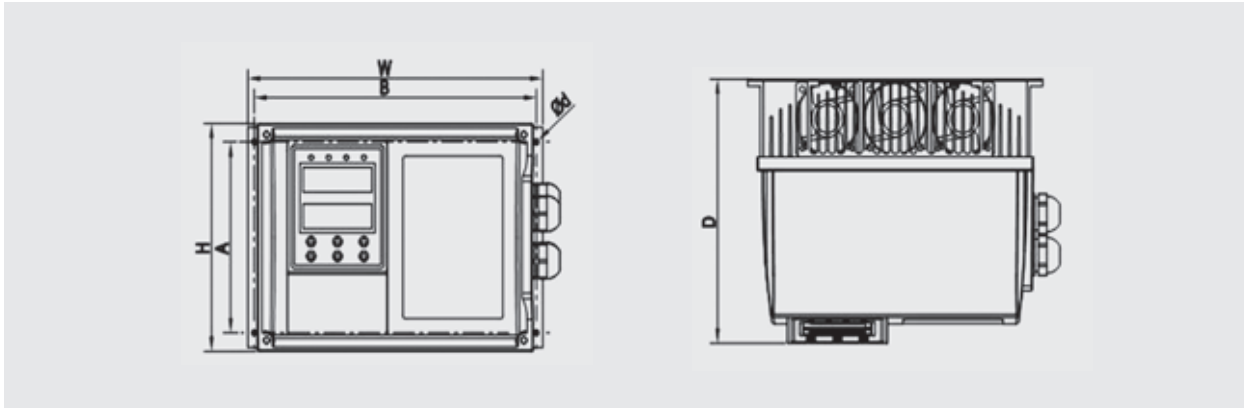
## Specification

Unit: mm

| Model       | Suitable Motor | Output Current | Assembly Dimension(mm) |     |     |     |     |    |
|-------------|----------------|----------------|------------------------|-----|-----|-----|-----|----|
|             |                |                | W                      | H   | D   | A   | B   | b  |
| SS2100-0.75 | 0.75KW         | 5              |                        |     |     |     |     |    |
| SS2100-1.5  | 1.5KW          | 7              | 188                    | 122 | 134 | 105 | 178 | M4 |
| SS2100-2.2  | 2.2KW          | 11             |                        |     |     |     |     |    |
| SS2100-0.75 | 0.75KW         | 2.7            |                        |     |     |     |     |    |
| SS2100-1.5  | 1.5KW          | 4              | 188                    | 122 | 134 | 105 | 178 | M4 |
| SS2100-2.2  | 2.2KW          | 5              |                        |     |     |     |     |    |
| SS2100-3.7  | 3.7KW          | 8.6            |                        |     |     |     |     |    |
| SS2100-5.5  | 5.5KW          | 12.5           |                        |     |     |     |     |    |
| SS2100-7.5  | 7.5KW          | 17.5           |                        |     |     |     |     |    |
| SS2100-11   | 11KW           | 24             | 235                    | 154 | 179 | 129 | 225 | M4 |

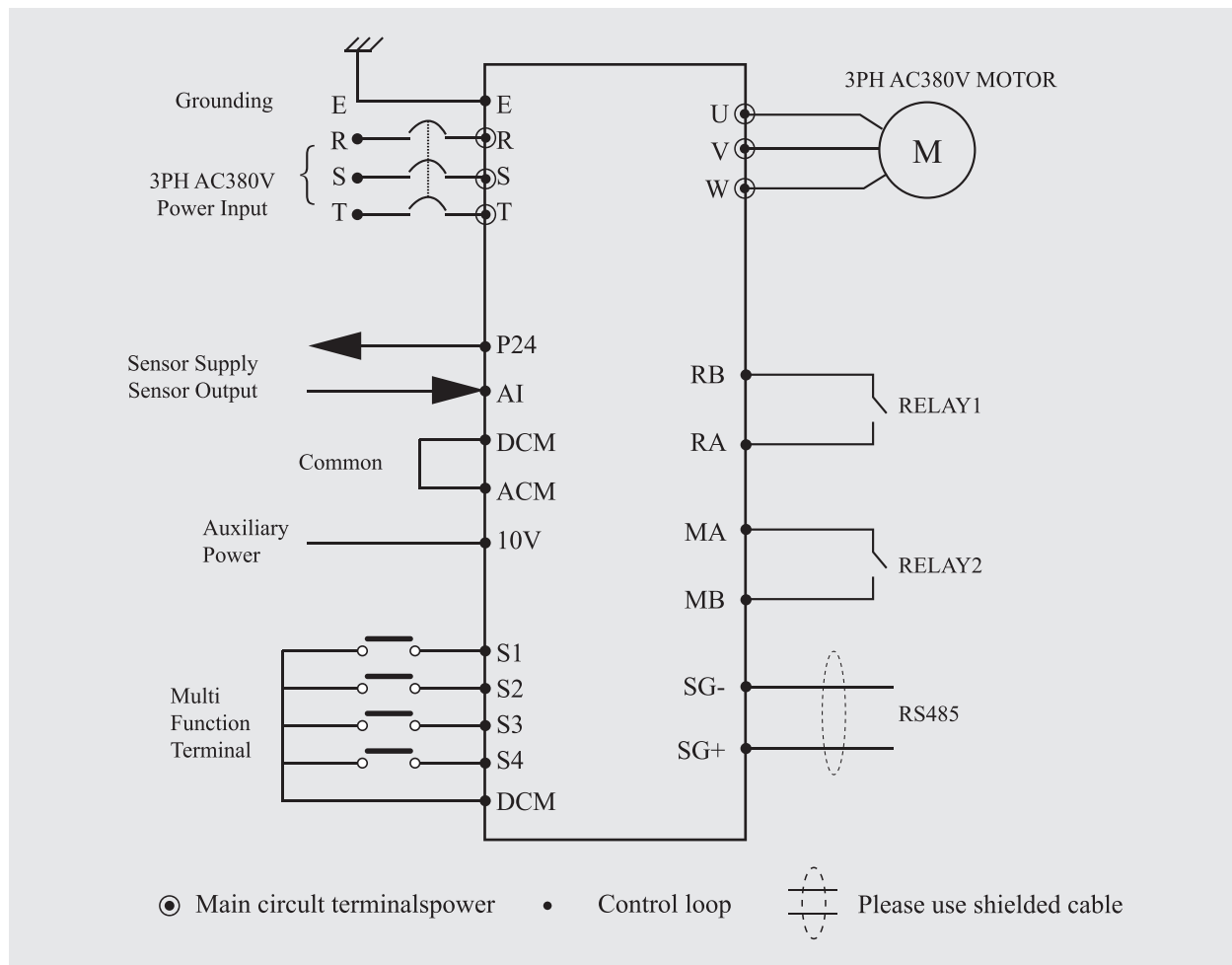
## Dimension

Unit: mm

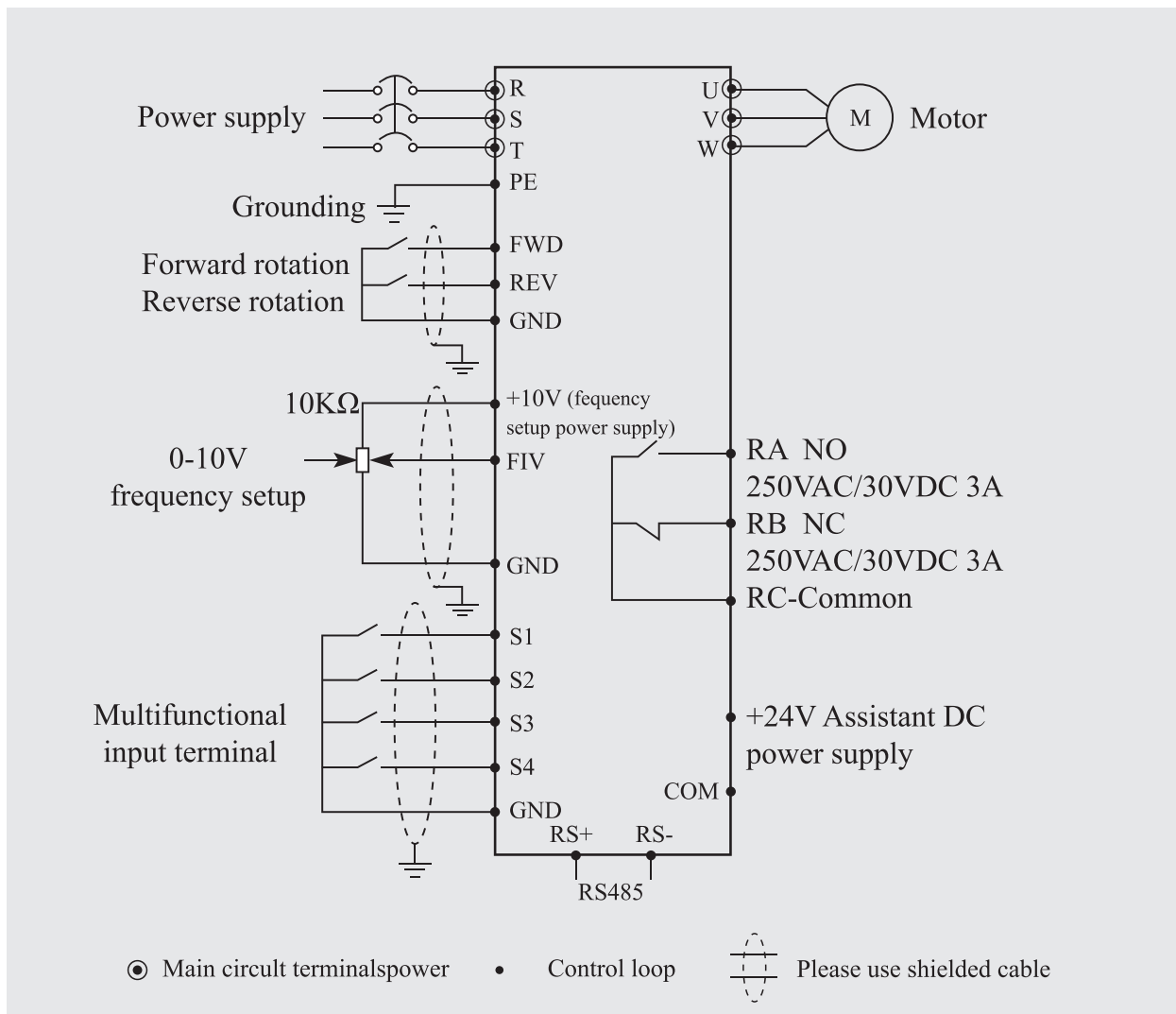


## SS2100 S Typical Wiring Diagram

(1) 0.75--2.2kW



(2) 3.7--11kW



## Advantage

**Big savings on installation:** With a built in RFI filter, the SS2100S IP65 inverter can be positioned close to the motor which cuts the cost of shielded motor cables. Choose the version with integrated insulator to simplify your external connections.

**Big performance:** The SS2100S IP65 is a modern sensorless vector inverter with 200% overload capacity, a wide range of supply and fieldbus options, and excellent I/O.

**Big advantages of easy handling:** The SS2100S IP65 inverters integrate the EPM memory module - a simple plug in chip that stores all the drive settings. The EPM module can be programmed off-line and the settings transferred from drive to drive in seconds. In the unlikely event that a drive fails, the EPM guarantees you minimum downtime.



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