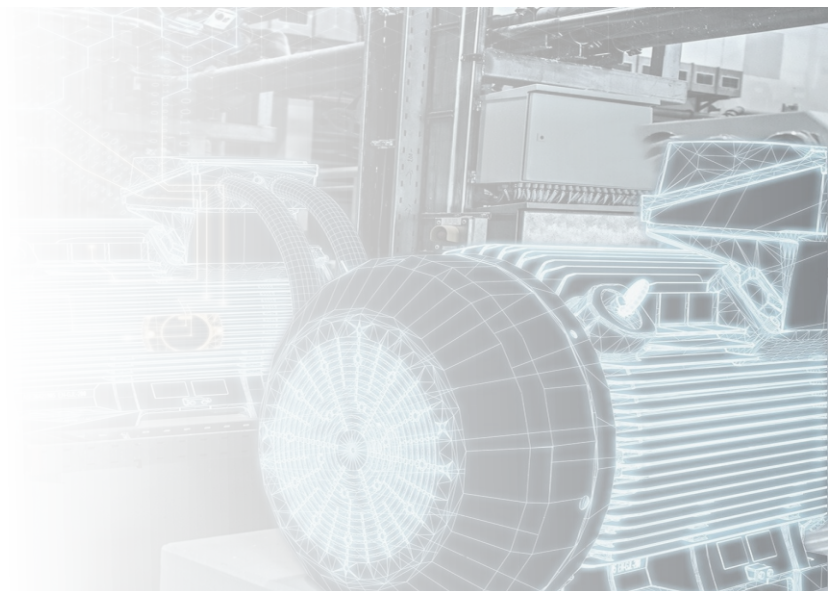


# ATSEL - FD100

Compact & Powerful AC Drives  
1HP 0.75KW to 5HP 3.7KW

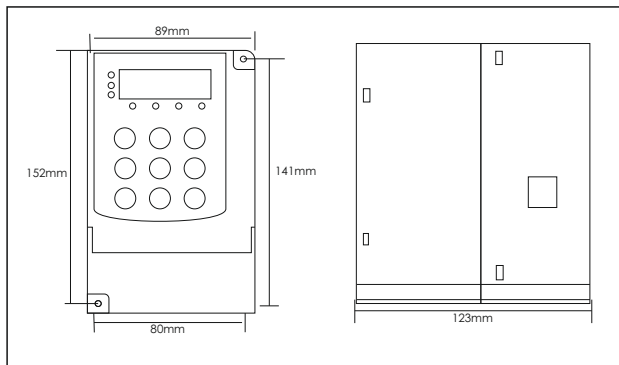
**selec**<sup>®</sup>  
Creating Best Value



## Specifications

|                        |                                   |                                                                                |
|------------------------|-----------------------------------|--------------------------------------------------------------------------------|
| Power supply           | Rated input voltage/ frequency    | Single Phase 220V 50Hz/60Hz, 3 Phase 415V 50Hz/60Hz.                           |
|                        | Permissible voltage fluctuation   | 187V to 253V for 1 phase & 320 to 460V for 3 Phase                             |
|                        | Permissible frequency fluctuation | ±5%                                                                            |
| Control Characteristic | Control mode                      | Space Vector SVPWM and Flux Vector Control                                     |
|                        | Frequency Control range           | 0.1 ~ 400 Hz.                                                                  |
|                        | Frequency Accuracy                | Digital setting 0.01%, Analog instruction 0.1% (Max frequency)                 |
|                        | Frequency resolution              | Digital instruction 0.1Hz, Analog instruction 0.1 Hz.                          |
|                        | Accelerated / decelerated time    | 0.0 ~ 3600 Sec. Four accelerate/decelerate time settings available             |
|                        | Multi Speed running               | Built-in program                                                               |
|                        | Built-in PI                       | Easy to set up a simple Automatic control system                               |
|                        | Built-in Counter                  | Automatically Controlled Production line can be achieved                       |
|                        | Overload Capacity                 | G Type - 150% rated current for 1 min. P type - 120% rated current for 1 min   |
|                        | Braking torque                    | About 20% (with brake resistor is about 150%)                                  |
|                        | V/F mode                          | 3 preset V/F mode and V/F program                                              |
|                        | Automatic Energy Saving Operation | Changes the V/F curve according to the load to save energy                     |
|                        | Automatic Voltage Regulation      | Regulates the voltage automatically whenever there is a change in grid voltage |
| Operation Function     | Operation Commands                | Keypad and External terminals                                                  |
|                        | Frequency Setting                 | Digital setting, Analog Voltage setting, Analog Current setting                |
|                        | Input Signal                      | Forward/Reverse, Jogging selection, Multi Speed Control, Regular Stopping      |
|                        | Output signal                     | Fault Alarm Output (250V/2A Contact), Open Collector Output                    |
| Protection Functions   |                                   | Over Current, Over Voltage, Under Voltage, Over heat, Overload, Phase loss     |
| Display                |                                   | Parameters setting, Running status and Fault display                           |
| Operating conditions   | Operating environment             | Temperature: -10 ~ +50 Degree C, Humidity: < 90%, No condensation, IP20        |
|                        | Operations Area                   | Indoor, <1000m altitude above sea level                                        |
|                        | Storage Temperature               | -20 ~ +60 Degree C                                                             |
|                        | Vibration                         | <5.9 m/s <sup>2</sup> (0.6g)                                                   |

## Dimensions

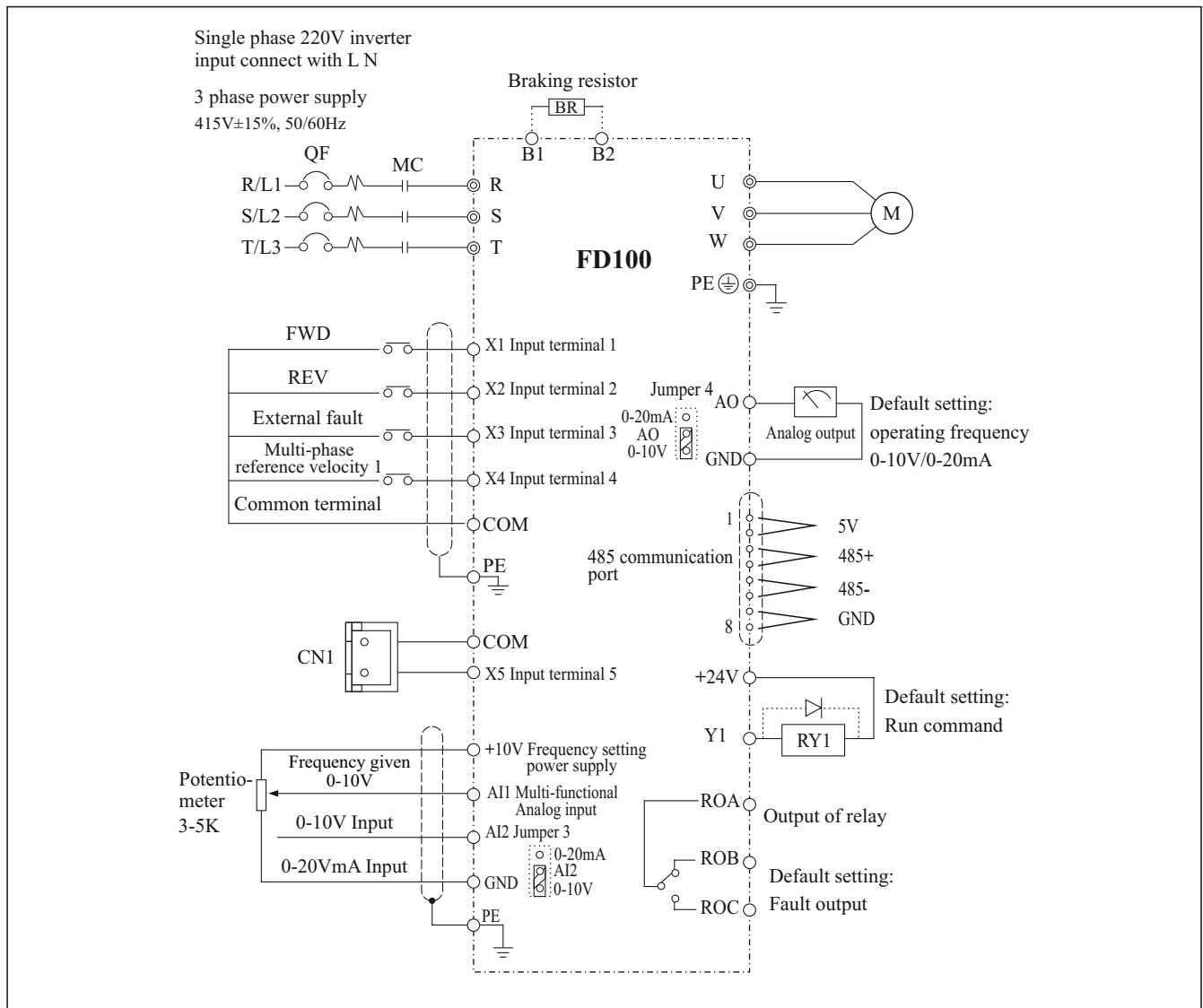


| Product Code                                                              | Mounting Dimension |           | Dimension   |           |            | Pore Diameter | Weight |
|---------------------------------------------------------------------------|--------------------|-----------|-------------|-----------|------------|---------------|--------|
|                                                                           | length (mm)        | wide (mm) | length (mm) | wide (mm) | depth (mm) | (mm)          | (kg)   |
| FD100-1-010-C-CE                                                          | 141                | 80.5      | 152         | 89        | 123        | φ5.2          | 1.2    |
| FD100-1-020-C-CE                                                          |                    |           |             |           |            |               |        |
| FD100-1-030-C-CE                                                          |                    |           |             |           |            |               |        |
| FD100-3-010-C-CE                                                          |                    |           |             |           |            |               |        |
| FD100-3-020-C-CE                                                          |                    |           |             |           |            |               |        |
| FD100-3-030-C-CE                                                          |                    |           |             |           |            |               |        |
| FD100-3-050-C-CE                                                          |                    |           |             |           |            |               |        |
| 1 HP ~ 3HP Keyboard installation dimension : length = 115mm, width = 85mm |                    |           |             |           |            |               |        |

## FD100 control loop terminal instruction

| Class                   | Sign | Terminal Name                   | Terminal instruction and factory reset                                   |
|-------------------------|------|---------------------------------|--------------------------------------------------------------------------|
| Multi-functional Inputs | X1   | Multifunction input terminal 1  | Default : Forward Rotate / Stop                                          |
|                         | X2   | Multifunction input terminal 2  | Default : Reserve Rotate / Stop                                          |
|                         | X3   | Multifunction input terminal 3  | Default : External fault Input                                           |
|                         | X4   | Multifunction input terminal 4  | Default : Multi-Step & Speed Mode 1                                      |
|                         | X5   | Multifunction input terminal 5  | Default: Multi-Step & Speed Mode 2                                       |
|                         | COM  | Common Terminal                 | Multi-functional input common terminal +24V Power reference ground       |
| Analog Input            | AI1  | Analog input 1                  | 0~10V input                                                              |
|                         | AI2  | Analog input 2                  | 0~10V input or 0~20mA input (J4 switch for selection)                    |
|                         | +10V | Analog preset Power Source      | 10V DC 10mA (potentiometer 3~5KΩ)                                        |
|                         | GND  | Analog ground for reference     | Analog input, Output reference ground                                    |
| Multi-functional Output | Y1   | Multifunction Output terminal 1 | Default: Running Status                                                  |
|                         | ROA  | Relay output                    | Default: Fault Output                                                    |
|                         | ROB  | ROA - ROB Normally Closed       |                                                                          |
|                         | ROC  | ROA - ROC Normally Open         |                                                                          |
| Analog Output           | AO   | Analog output terminal          | 0~10V or 0~20mA output (J5 switch for selection) GND as reference ground |
| Analog Output           | +24V | +24V power supply               | +24VDC 100mA. COM is power from ground                                   |
| Communication           | 485+ | RS 485 Positive terminal        | RS485 Communication with Modbus Protocol                                 |
|                         | 485- | RS 485 Negative terminal        |                                                                          |

## 3-2-1 Standard wiring diagram for FD100



## Ordering Information

| Product Code     | Description                        | Output Current | Certification |
|------------------|------------------------------------|----------------|---------------|
| FD100-1-010-C-CE | 1 Phase 220V, 1HP 0.75 KW          | 5A             | CE            |
| FD100-1-020-C-CE | 1 Phase 220V, 2HP 1.5 KW           | 7A             | CE            |
| FD100-1-030-C-CE | 1 Phase 220V, 3HP 2.2 KW           | 11A            | CE            |
| FD100-3-010-C-CE | 3 Phase 415V, 1HP 0.75 KW          | 2.5A           | CE            |
| FD100-3-020-C-CE | 3 Phase 415V, 2HP 1.5 KW           | 3.7A           | CE            |
| FD100-3-030-C-CE | 3 Phase 415V, 3HP 2.2 KW           | 5.1A           | CE            |
| FD100-3-050-C-CE | 3 Phase 415V, 5HP 3.7 KW           | 9A             | CE            |
| AC-FD200-0-1-1   | Extension cable & mounting bracket | ---            | ---           |

**Applications :** Economic one, Suitable for fans, pumps, Conveyor, Food & drink packaging machinery, Industrial washing machine and most general industries etc.

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