

# EM700 Series Economical Frequency Inverter

Single/three-phase 200V-240V 0.4-2.2kW

Three-phase 340-460V 0.75-9.0kW

The EM700 series inverter, launched by SINEE, is a high-reliability, compact general-purpose inverter. The EM700 supports three-phase AC asynchronous motors.

EM700 series frequency inverter have the following features:

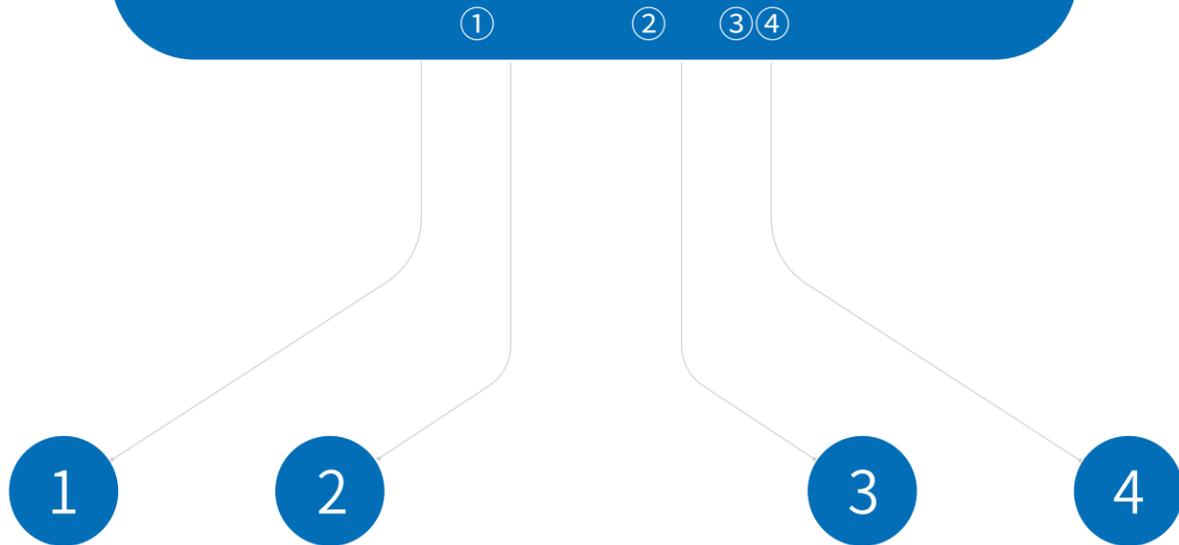
1. Compact size, supports side-by-side installation;
2. Pluggable main power terminals for quick installation and maintenance
3. 50°C ambient temperature, no need to derate;
4. Support digital potentiometer speed adjustment, fast and accurate speed adjustment;
5. Complete protection functions: multiple protections such as short circuit, overcurrent, overvoltage, overload, and overheating.



# Model and Product List

# Standard Wiring Diagram of Control Circuit

## EM700 -4R0-3B



**Product Series**  
EM700: EM700 Inverter

**Adapted Load Power**

|        |       |       |       |       |
|--------|-------|-------|-------|-------|
| OR7    | 1R5   | 2R2   | 4R0   | 5R5   |
| 0.75kW | 1.5kW | 2.2kW | 4.0kW | 5.5kW |

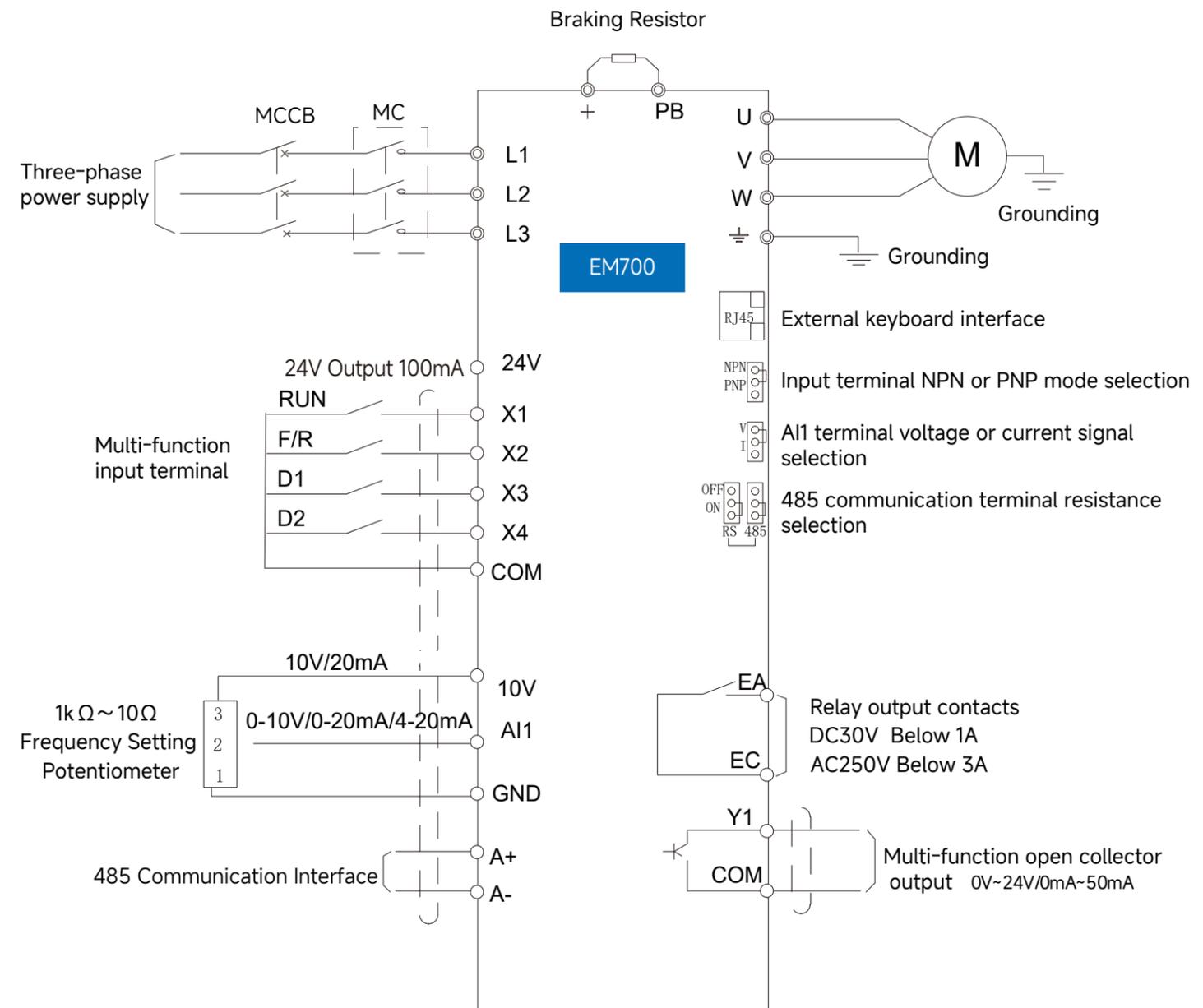
**Input Voltage level**  
2: Three-phase 220V  
3: Three-phase 380V  
B: Built-in braking unit  
Null: Without braking unit

### Product List

RATED VOLTAGE OF POWER SUPPLY:  
SINGLE-PHASE/THREE-PHASE  
AC 200V~240V

| Model          | Applicable motor power (kW) | Heavy load rated output current (A) | Light load rated output current (A) |
|----------------|-----------------------------|-------------------------------------|-------------------------------------|
| EM700-0R4-2B   | 0.4                         | 2.8                                 | 3.2                                 |
| EM700-0R7-2B   | 0.75                        | 4.8                                 | 5                                   |
| EM700-1R5-2B   | 1.5                         | 8                                   | 8.5                                 |
| EM700-2R2-2B   | 2.2                         | 10                                  | 11.5                                |
| EM700-0R7-3/3B | 0.75                        | 2.5                                 | 3                                   |
| EM700-1R5-3/3B | 1.5                         | 4.2                                 | 4.6                                 |
| EM700-2R2-3/3B | 2.2                         | 5.6                                 | 6.5                                 |
| EM700-4R0-3/3B | 4                           | 9.4                                 | 10.5                                |
| EM700-5R5-3/3B | 5.5                         | 13                                  | 15.7                                |
| EM700-7R5-3/3B | 7.5                         | 17                                  | 20.5                                |
| EM700-9R0-3/3B | 9.0                         | 20                                  | 23.6                                |

RATED VOLTAGE OF POWER SUPPLY:  
THREE-PHASE  
AC 340~460V



# EM700

## Technical Specification



### POWER SUPPLY

| Item                 | Specification   |
|----------------------|---|
| Rated supply voltage | Three-phase 340V-10%~460V+10%<br>Single-phase/three-phase 200V-10%~240V+10%<br>50~60Hz±5%, voltage imbalance rate <3% |



### OUTPUT

| Item                     | Specification  |
|--------------------------|--|
| Maximum output voltage   | The maximum output voltage is the same as the input supply voltage           |
| Output current rating    | 100% rated current continuous output   |
| Maximum overload current | 150% heavy load rated current for 60s; 120% light load rated current for 60s |



### BASIC CONTROL FUNCTIONS

| Item                               | Specification   |
|------------------------------------|---|
| Driving mode                       | V/F control(VVF);SVC (Optional)   |
| Input mode                         | Frequency (speed) input, torque input   |
| Start and stop control mode        | Keyboard, control terminal (two-line control and three-line control), communication                                 |
| Frequency control range            | 0.00~600.00Hz/0.0~3000.0Hz  |
| Input frequency resolution         | Digital input: 0.01Hz/0.1Hz; Analog input: 0.1% of maximum frequency  |
| Speed range                        | 1:50 (VVF)  |
| Speed control accuracy             | ±0.2% rated synchronous speed   |
| Acceleration and deceleration time | 0.01s to 600.00s/0.1s to 6000.0s/1s to 60000s   |
| Torque boost                       | Fixed torque boost curve, any V/F curve optionalSupport automatic torque boost and manual torque boost (0.0%-30.0%) |
| Starting torque                    | 150%/1Hz (VVF)  |
| Output voltage self-adjusting      | As the input voltage changes, the output voltage remains basically the same   |
| Automatic current limiting         | Automatically limit output current to avoid frequent overcurrent protection actions                                 |
| DC braking                         | Braking frequency: 0.01~maximum frequency Braking time: 0~30S<br>Braking current: 0%~150% rated current             |
| Signal input source                | Communication, multi-speed, analog, etc.  |



### INPUT AND OUTPUT FUNCTIONS

| Item                    | Specification   |
|-------------------------|---|
| Reference power supply  | 10V/20mA  |
| Terminal control power  | 24V/100mA   |
| Digital input terminal  | 4 digital multi-function inputs: X1~X4  |
| Analog input termin     | 1 analog input<br>1 channel (AI1) voltage source 0~10V, 0~5V input or current source 4~20mA input optional  |
| Digital output terminal | 1 open collector multi-function output and 1 relay multi-function output<br>Collector output maximum output current 50mA<br>Relay contact capacity 250VAC/3A or 30VDC/1A<br>EA-EC normally open |



### KEYBOARD

| Item        | Specification  |
|-------------|--|
| LED display | LED digital tube displays relevant information of the inverter |



### PROTECTION

| Item                | Specification   |
|---------------------|---|
| Protective function | Short circuit, overcurrent, overvoltage, undervoltage, phase loss, overload, overheating, load loss and external protection, etc. |



### CONDITIONS OF USE

| Item                   | Specification   |
|------------------------|---|
| Installation place     | Indoors, the altitude is less than 1 km, no dust, no corrosive gases and no direct sunlight. When the altitude exceeds 1,000 meters, the usage will be derated by 1% for every 100 meters higher, and the maximum usage altitude is 3,000 meters. |
| Applicable environment | -10°C~+50°C, 5%~95%RH (no condensation). When the ambient temperature exceeds 50°C, derating is required. The derating is derated by 3% for every 1°C increase. The maximum operating ambient temperature is 60°C                                 |
| Vibration              | Less than 0.5g  |
| Storage environment    | -40°C~+70°C   |
| Installation method    | Wall-mounted, cabinet installation  |



### PROTECTION LEVEL

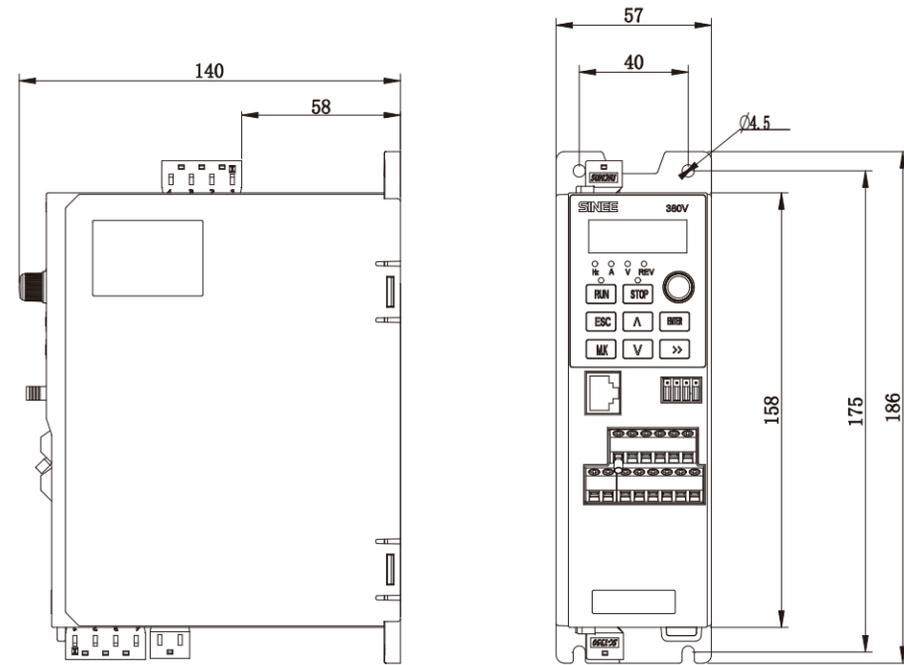
| Item             | Specification |
|------------------|---------------|
| Protection level | IP20          |



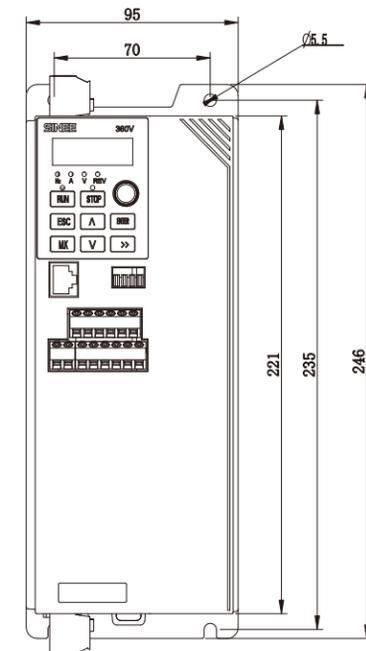
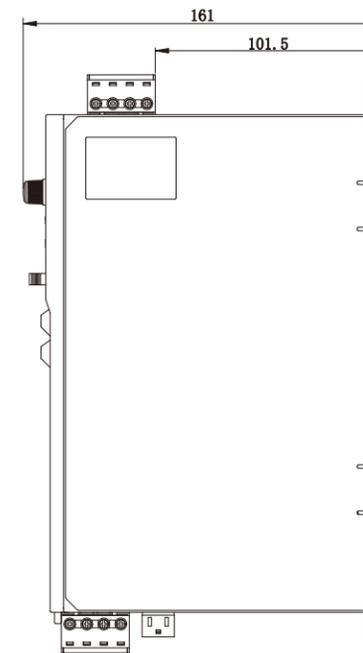
### COOLING METHOD

| Item           | Specification      |
|----------------|--------------------|
| Cooling method | Forced air cooling |

# Dimension

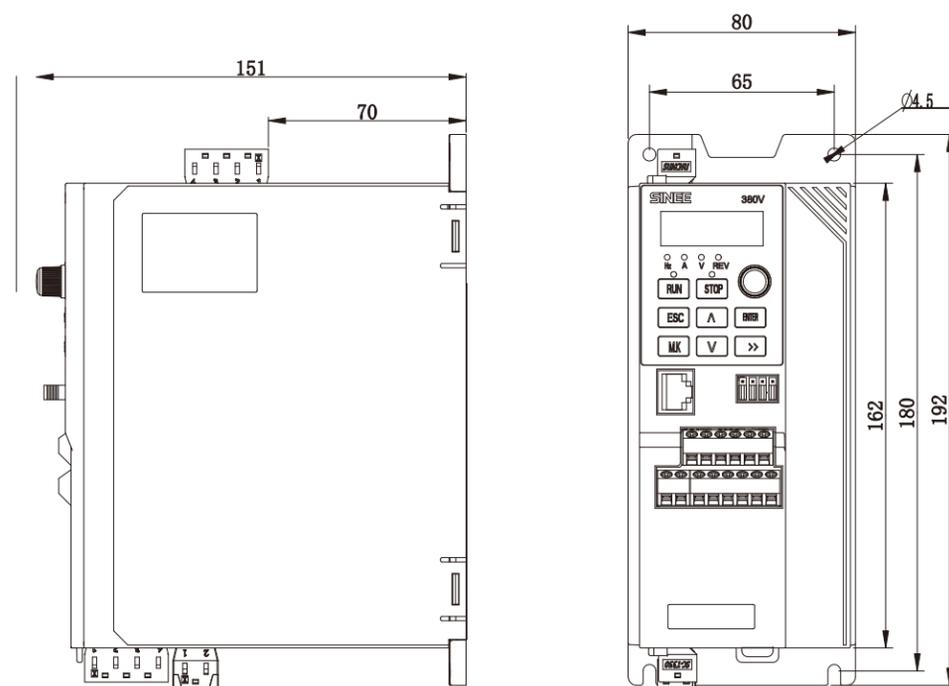


(a) E700-0R4-2B~EM700-0R7-2B/EM700-0R7-3B~EM700-1R5-3B Size

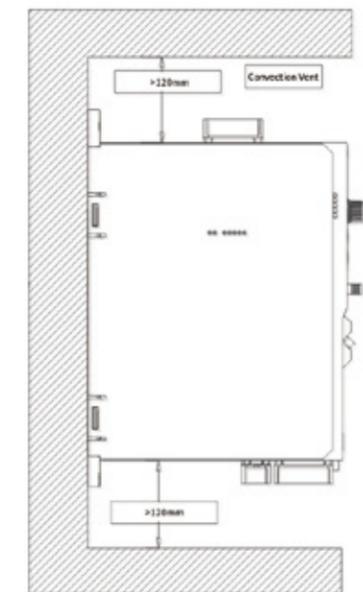


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(c) E700-5R5-3B Size



(b) E700-1R5-2B~EM700-2R2-2B/EM700-2R2-3B~EM700-4R0-3B Size



EM700 installation direction and space

# BR100 Series Energy Consumption Braking Unit

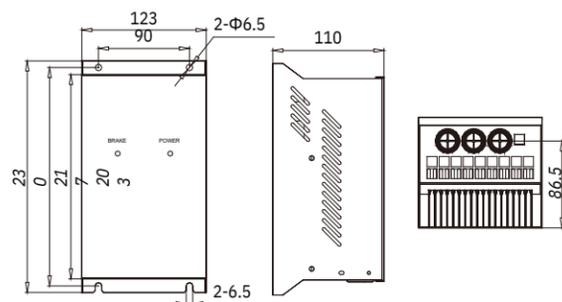
The BR100series braking unit has the stable and reliable working performance and protection against over-temperature and braking resistor short circuit, and can be used for inverter-driven lifting equipment, centrifuges, washing machines, spin dryers, and rapid parking. It can change the electric energy generated by the motor in the power generation state into the thermal energy to be used by the braking resistor. In addition, it is easy to use and compatible with inverters of various brands.

| Model and specification | Application                | Minimum Resistance (Ω) | Average Braking Current I (avA) | Peak Current I <sub>m</sub> (axA) | Applicable Inverter Power (kW) |
|-------------------------|----------------------------|------------------------|---------------------------------|-----------------------------------|--------------------------------|
| BR100-045               | Energy consumption braking | 10                     | 45                              | 75                                | 18.5~45                        |
| BR100-160               |                            | 6                      | 75                              | 150                               | 55~160                         |
| BR100-200               |                            | 5                      | 100                             | 200                               | 160~200                        |
| BR100-315               |                            | 3                      | 120                             | 300                               | 220~315                        |
| BR100-400               |                            | 3                      | 200                             | 400                               | 315~400                        |
| BR100-220-6             |                            | 6                      | 120                             | 200                               | 160~250                        |

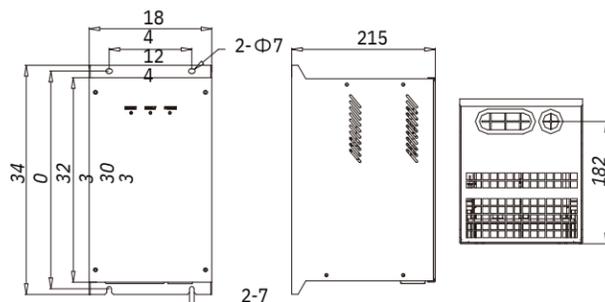


Note: With the minimum resistance, the BR100 braking unit can work continuously at the braking frequency  $D \leq 33\%$ . In the case of  $D > 33\%$ , it should work intermittently; otherwise, the over-temperature protection fault may occur.

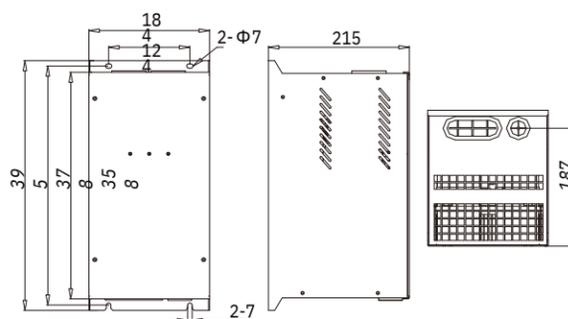
## Product model and size



Dimensions of BR100-045 braking unit



Dimensions of BR100-160\BR100-200 braking unit



Dimensions of BR100-315\BR100-400 braking unit



Dimensions of BR100-220-6 braking unit