



Virtec Instruments Inc.

EM700 Series Mini Inverter for Ventilation



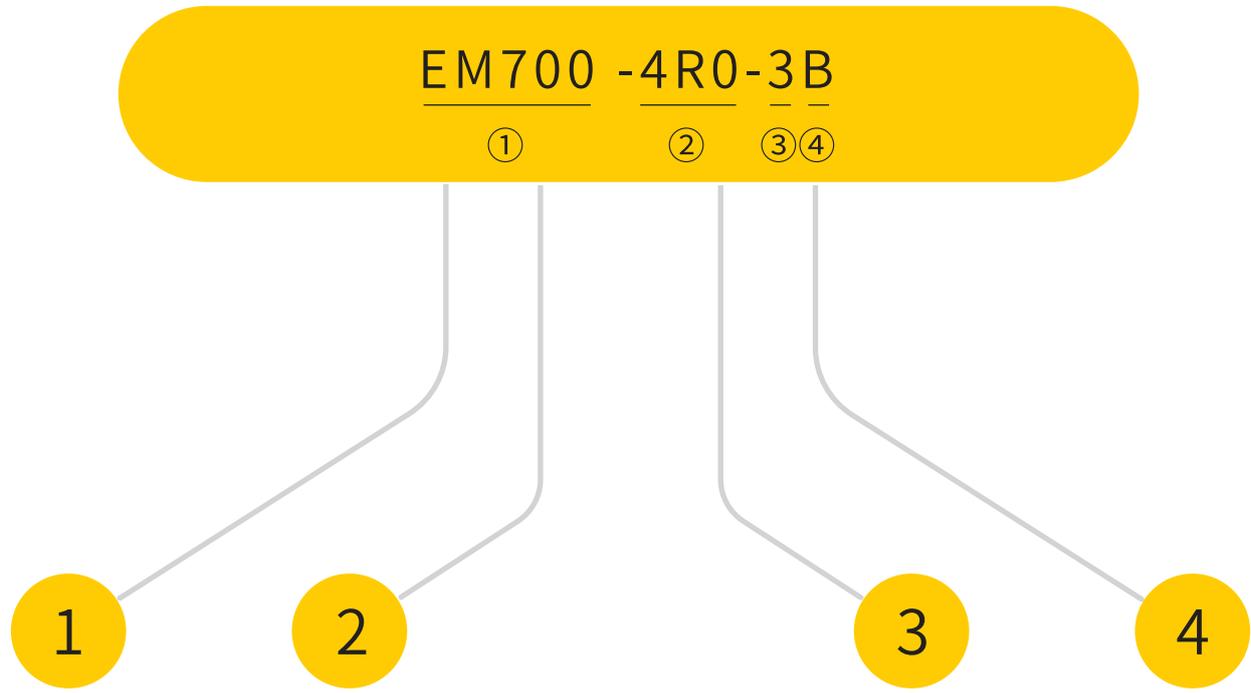
Single/three-phase

Single/three-phase 200V-240V 0.4-2.2kW
Three-phase 340-460V 0.75-7.5kW

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



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
None: Without braking unit

Applicable Motor Power (kW)

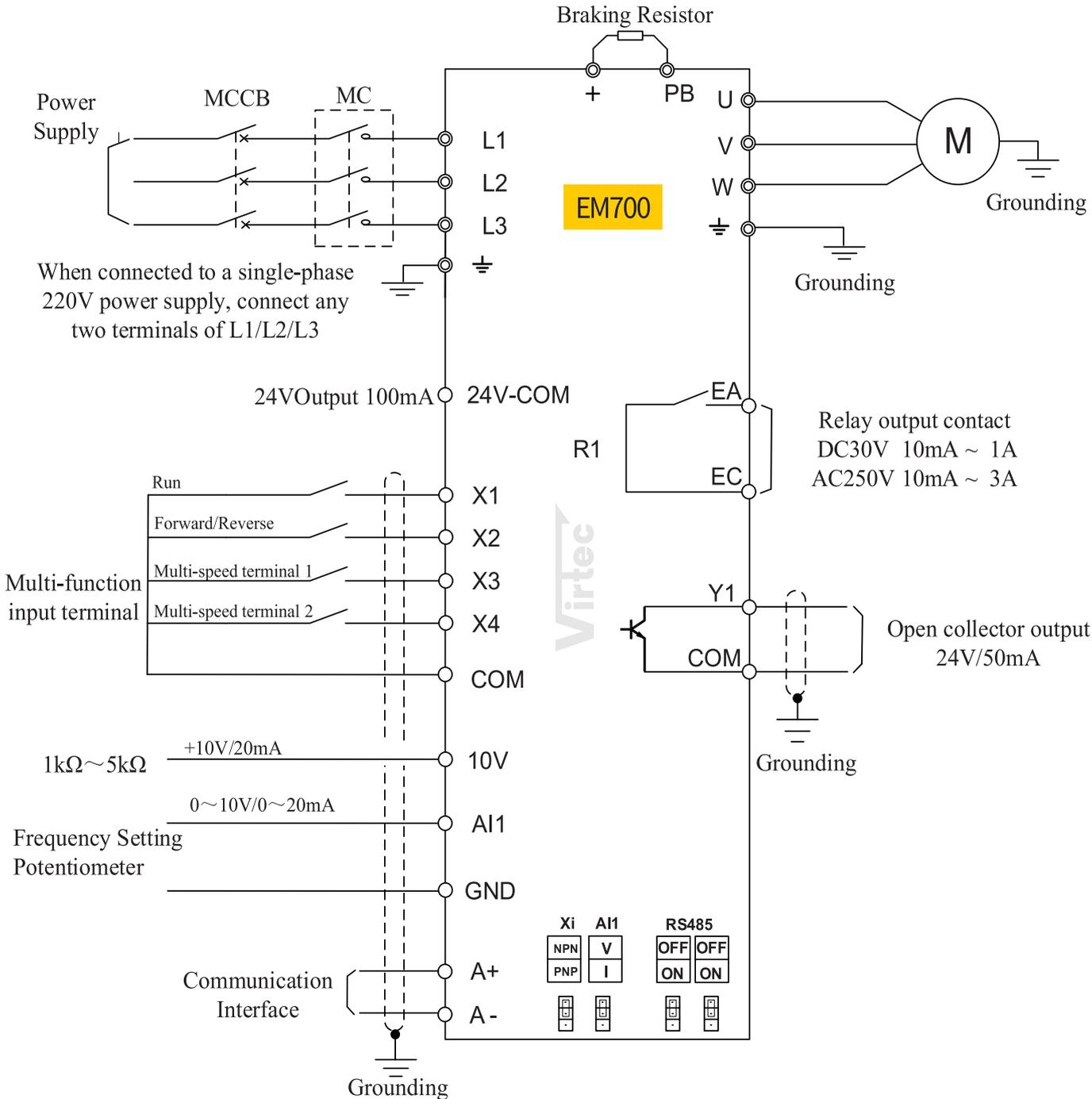
Product List

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

Model	Heavy Duty KW	Light Duty KW	Heavy Load Rated Output (A)	Light Load Rated Output (A)
EM700-0R4-2B	0.4	0.75	2.8	3.2
EM700-0R7-2B	0.75	1.5	4.8	5
EM700-1R5-2B	1.5	2.2	8	8.5
EM700-2R2-2B	2.2	3.7	10	11.5
EM700-0R7-3/3B	0.75	1.5	2.5	2.9
EM700-1R5-3/3B	1.5	2.2	4.2	4.6
EM700-2R2-3/3B	2.2	3	5.6	6.5
EM700-4R0-3/3B	4	5.5	9.4	10.5
EM700-5R5-3/3B	5.5	7.5	13	15.7

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

Standard Wiring Diagram of Control Circuit



EM700

Technical Specification



POWER SUPPLY

Item	Specification
Rated supply voltage	Three-phase 340V-10%~460V+10%
	Single-phase/three-phase 200V-10%~240V+10%
	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); Speed sensorless vector control (SVC);
Input	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), 1:200 (SVC)
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
Voltage/frequency characteristics	Rated output voltage is adjustable from 20% to 100%; Fundamental frequency 1Hz~600Hz/3000Hz adjustable
Torque boost	Fixed torque boost curve, Any V/F curve optional
Starting torque	150%/1Hz (VVF) 、 150%/0.25Hz (SVC)
Torque control accuracy	±5% rated torque (SVC)
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 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 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 Collector output maximum output current 50mA Relay contact capacity 250VAC/3A or 30VDC/1A 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 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

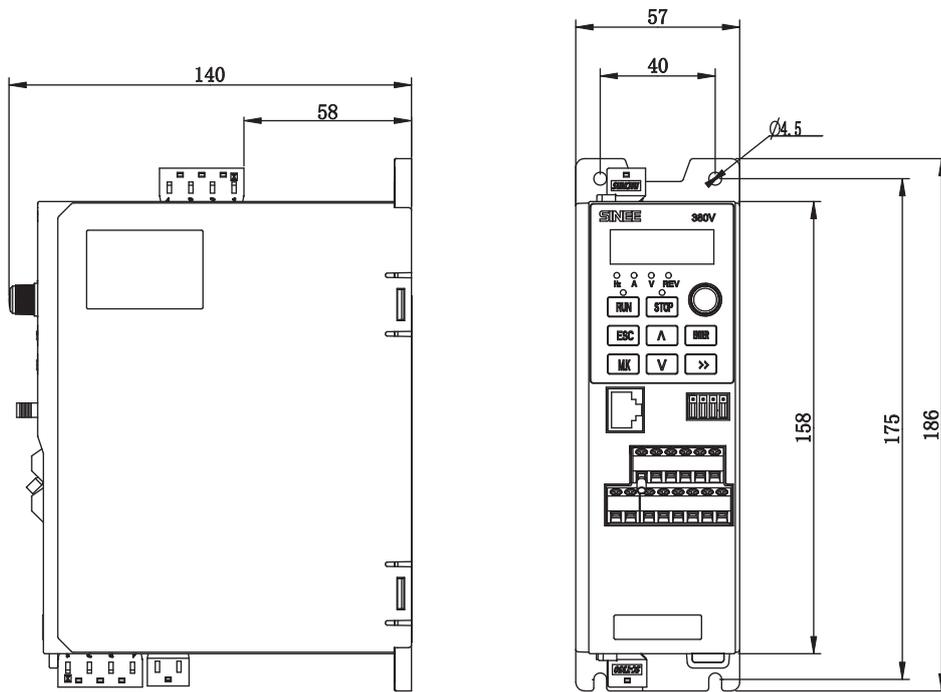
PROTECTION LEVEL

Item	Specification
Protection level	IP20

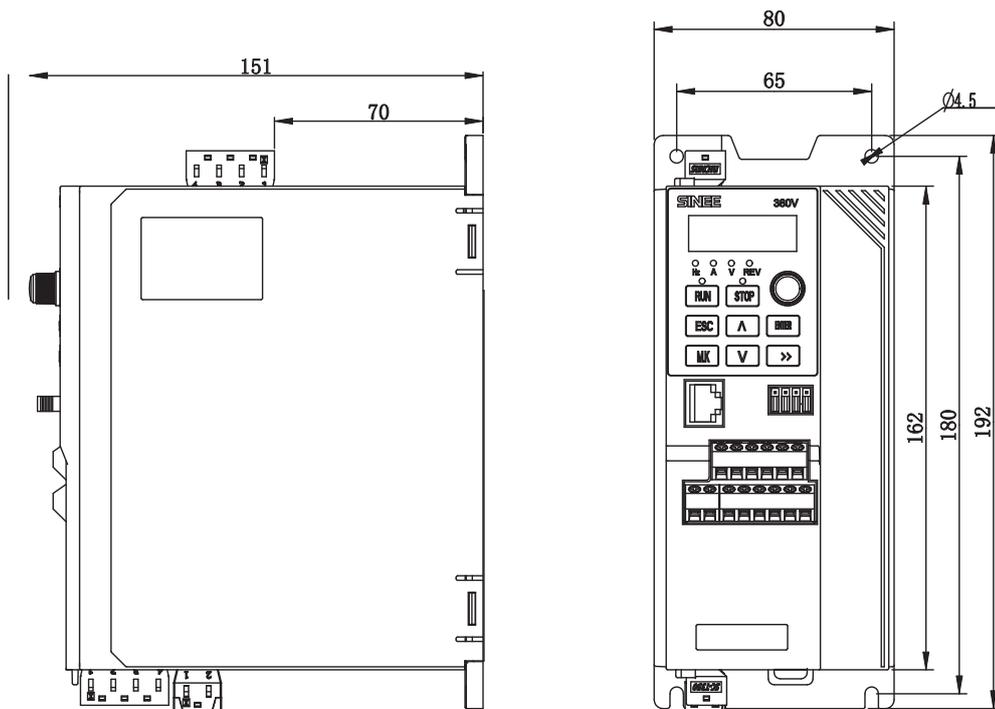
COOLING METHOD

Item	Specification
Cooling method	Forced air cooling

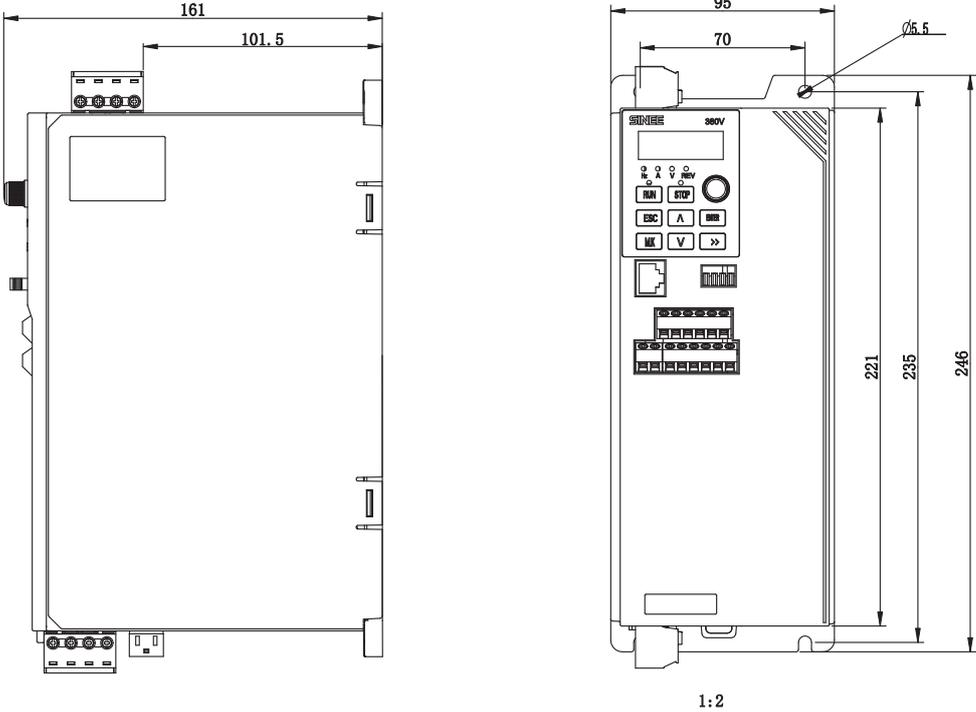
Dimension



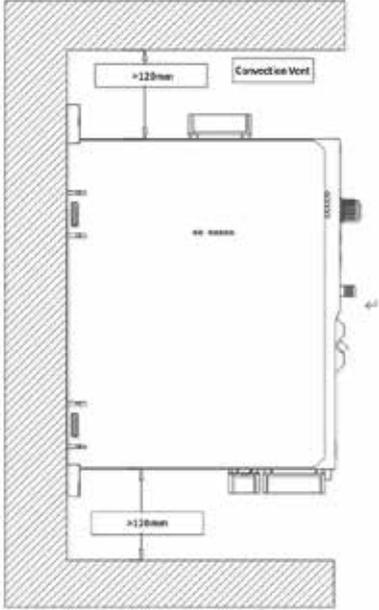
(a) E700-0R4-2B~EM700-0R7-2B/EM700-0R7-3B~EM700-1R5-3B Size



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



(c) E700-5R5-3B Size



EM700 installation direction and space



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