EM760 Series Inverter

Three-phase AC 200V-240V 0.75kW-45kW
340V-460V 0.75kW-630kW
520V-690V 18.5kW-500kW

The EM760 series inverter is a high-performance vector control inverter launched by SINEE, applicable to three-phase AC asynchronous motors and permanent magnet synchronous motors; drive control technologies, such as the improved vector VF control technology (VVF), speed sensorless vector control technology (SVC) and speed sensor vector control technology (FVC); speed output and torque output; Wi-Fi access and background software debugging; expansions such as I/O expansion cards, communication bus expansion cards and PG cards.

Features of the EM760 series inverter:

1.Standard built-in C3 filter to meet the high requirements of electromagnetic compatibility
2.Built-in DC reactor to reduce input current distortion and increase the power factor
3.Standard LCD panel, easy to operate
4.Supports up to 3000Hz hight frequency output for driving high-speed motors
5:Mainstream bus expansion card:Modbus RTU,Modbus TCP,ProfiNET,Profibus-DP,CANopen,EtherCAT,EtherNET/IP
6.PG cards: OC, differential, UVW, resolver PG card, sine and cosine PG card
7.Support STO SIL3 Function

Model and Product List

EM760 -4R0G/5R5P-3B

① ② ③ ④⑤

1 2 3 4 5

EM760:
High-performance series

Null:
Installation in cabinet
C: Cabinet type

Identification	Compatible motor type
G	Heavy load type
P	Light load type

COMPATIBLE LOAD POWER

OR7	4R0	···	018	···
0.75kW	4.0kW	···	18.5kW	···

Voltage level

2: Three-phase 220V
3: Three-phase 380V
6: Three-phase 660V

B: Built-in braking unit
Null: Without braking unit
BS:Built-in braking unit and STO function
S:STO function

Product List

RATED VOLTAGE OF POWER SUPPLY:
THREE-PHASE AC 200V TO 240V

Model	Applicable motor power (kW)	Rated output current (A)
EM760-0R7G/1R5P-2B	0.75/1.5	4.2/5.6
EM760-2R2G/3R0P-2B	2.2/3.0	9.4/12
EM760-4R0G/5R5P-2B	4.0/5.5	17/20
EM760-5R5G/7R5P-2B	5.5/7.5	25/32
EM760-7R5G/9R0P-2B	7.5/9.0	32/38
EM760-011G/015P-2B	11/15	45/59
EM760-015G/018P-2B	15/18.5	60/73
EM760-018G/022P-2/2B	18.5/22	75/87
EM760-022G/030P-2/2B	22/30	90/106
EM760-030G/037P-2/2B	30/37	110/145
EM760-037G/045P-2	37/45	150/169
EM760-045G/055P-2	45/55	176/208

Product List

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

Model	Applicable motor power (kW)	Rated output current (A)
EM760-0R7G/1R5P-3B	0.75/1.5	2.5/4.2
EM760-1R5G/2R2P-3B	1.5/2.2	4.2/5.6
EM760-2R2G/3R0P-3B	2.2/3.0	5.6/7.2
EM760-4R0G/5R5P-3B	4.0/5.5	9.4/12
EM760-5R5G/7R5P-3B	5.5/7.5	13/17
EM760-7R5G/9R0P-3B	7.5/9.0	17/20
EM760-011G/015P-3B	11/15	25/32
EM760-015G/018P-3B	15/18.5	32/38
EM760-018G/022P-3B	18.5/22	38/44
EM760-022G/030P-3B	22/30	45/59
EM760-030G/037P-3/3B	30/37	60/73
EM760-037G/045P-3/3B	37/45	75/87
EM760-045G/055P-3/3B	45/55	90/106
EM760-055G/075P-3/3B	55/75	110/145
EM760-075G/090P-3/3B	75/90	150/169
EM760-090G/110P-3	90/110	176/208
EM760-110G/132P-3	110/132	210/248
EM760-132G/160P-3	132/160	253/298
EM760-160G/185P-3	160/185	304/350
EM760-200G/220P-3	200/220	380/410
EM760-220G/250P-3	220/250	426/456
EM760-250G/280P-3	250/280	465/510
EM760-280G/315P-3	280/315	520/573
EM760-315G/355P-3	315/355	585/640
EM760-355G/400P-3	355/400	650/715
EM760-400G/450P-3	400/450	725/810
EM760C-450G/500P-3	450/500	820/900
EM760C-500G/560P-3	500/560	900/1010
EM760C-560G/630P-3	560/630	1010/1140

RATED VOLTAGE OF POWER SUPPLY:
THREE-PHASE AC 520V TO 690V

Model	Applicable motor power (kW)	Rated output current (A)
EM760-018G/022P-6B	18.5/22	28/35
EM760-022G/030P-6B	22/30	150/169
EM760-030G/037P-6B	30/37	35/42
EM760-037G/045P-6B	37/45	42/52
EM760-045G/055P-6B	45/55	52/63
EM760-055G/075P-6B	55/75	63/86
EM760-075G/090P-6B	75/90	86/95
EM760-090G/110P-6	90/110	95/120
EM760-110G/132P-6	110/132	120/147
EM760-132G/160P-6	132/160	147/175
EM760-160G/185P-6	160/185	175/200
EM760-185G/200P-6	185/200	200/221
EM760-200G/220P-6	200/220	221/235
EM760-220G/250P-6	220/250	235/270
EM760-250G/280P-6	250/280	270/300
EM760-280G/315P-6	280/315	300/330
EM760-315G/355P-6	315/355	330/380
EM760-355G/400P-6	355/400	380/426
EM760-400G/450P-6	400/450	426/465
EM760-450G/500P-6	450/500	465/540

Technical Specification

POWER SUPPLY

Item	Specification
Rated voltage of power supply	Three-phase 200V-10% to 240V +10%(Three-phase 220V) Three-phase 340V-10% to 460V+10% (Three-phase 380V) Three-phase 520V-15% to 690V+10% (Three-phase 660V) 50-60Hz ± 5%; voltage unbalance rate: <3%

OUTPUT

Item	Specification
Maximum output voltage	The maximum output voltage is the same as the input power voltage.
Rated output current	Continuous output of 100% rated current
Maximum overload current	G model: 150% rated current for 60s P model: 120% rated current for 60s (2kHz carrier; please derate for carriers above this level)

CONTROL FUNCTION

Item	Specification
Driving mode	V/F control (VVF) Speed sensorless vector control (SVC) Speed sensor vector control (FVC)
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 Analog input: 0.1% of maximum frequency
Speed control range	1:50（VVF）、1:200（SVC）、1:1000（FVC）
Speed control accuracy	±0.5%(VVF)、±0.2%(SVC)、±0.02%(FVC)
Acceleration and deceleration time	0.01 s to 600.00 s / 0.1 s to 6,000.0 s / 1 s to 60,000 s
Torque boost	Fixed torque boost curve, any V/F curve optional Support automatic torque boost and manual torque boost (0.0%-30.0%)
Starting torque	150%/3Hz（VVF）、150%/0.25Hz（SVC）、180%/0Hz（FVC）
Torque control accuracy	±5% rated torque (SVC), ±3% rated torque (FVC)
Self-adjustment of output voltage	When the input voltage changes, the output voltage will basically remain unchanged.
Automatic current limit	Output current is automatically limited to avoid frequent overcurrent trips.
DC braking	Braking frequency: 0.01 to maximum frequency Braking time: 0～30S Braking current: 0% to 100% of rated current
Signal input source	Communication, multi-speed, analog, high-speed pulse, etc.

INPUT/OUTPUT

Item	Specification
Reference power supply	10.5V±0.5V/20mA
Terminal control power	24V/200mA
Digital input termina	7 (standard X1 to X7) + 3 (extension card X8 to X10) digital multi-function inputs: X7 can be used as a high-speed pulse input terminal (F02.06 = 35/38/40); The remaining 9 channels (X1 to X6 and X8 to X10) can only be used as ordinary digital input terminals.
Analog input terminal	3 (standard AI1 to AI3) + 1 (extension card AI4) analog inputs: One AI1: support 0 to 10V or -10 to 10V, optional through function code F02.62; Two AI2/AI3: support 0 to 10V or 0 to 20mA or 4 to 20mA, through the function code F02.63, F02.64 is optional; One AI4: support 0 to 10V or -10 to 10V, optional through function code F02.65
Digital output terminal	2 (standard Y1/Y2) open-collector multi-function outputs + 2 (R1:EA/EB/EC and R2:RA/RB/RC) relay multi-function outputs + 2 (extension card) (R3: RA3/RC3 and R4: RA4/RC4) relay multi-function outputs Maximum output current of the collector: 50 mA; Relay contact capacity 250VAC/3A or 30VDC/1A, with EA-EC and RA-RC normally open, EB-EC and RB-RC normally closed; RA3-RC3, RA4-RC4 normally open
Analog output terminal	Two (M1/M2) multi-function analog output terminals, with output of 0 to 10V or 0 to 20mA or 4 to 20mA, optional through function codes F03.34 and F03.35

OPERATION PANEL

Item	Specification
LCD display	The LCD displays relevant information about the inverter.
Parameter copying	Parameter settings of the inverter can be uploaded and downloaded for fast parameter copying.

PROTECTION

Item	Specification
Protective Function	Short circuit, overcurrent, overvoltage, undervoltage, phase loss, overload, overheat, overspeed, load loss, external fault, etc.

USE CONDITIONS

Item	Specification
Location	Indoor, at an altitude of less than 1 km, free of dust, corrosive gases and direct sunlight
Applicable environment	-10℃ to +50℃, derating by 5% per 1℃ increase above 40℃, 20% to 90%RH (non-condensing)
Vibration	Less than 0.5g
Storage environment	-40℃～ +70℃
Installation method	Wall-mounted, floor-standing electrical control cabinet, through-wall

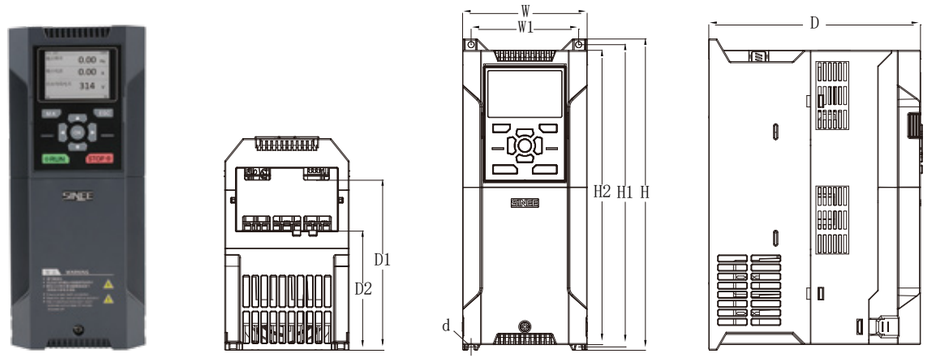
PROTECTION LEVEL

Item	Specification
Protection level	Standard IP21/IP20 (remove the plastic cover at the top of the plastic case)

COOLING METHOD

Item	Specification
Cooling method	Forced air cooling

Dimension



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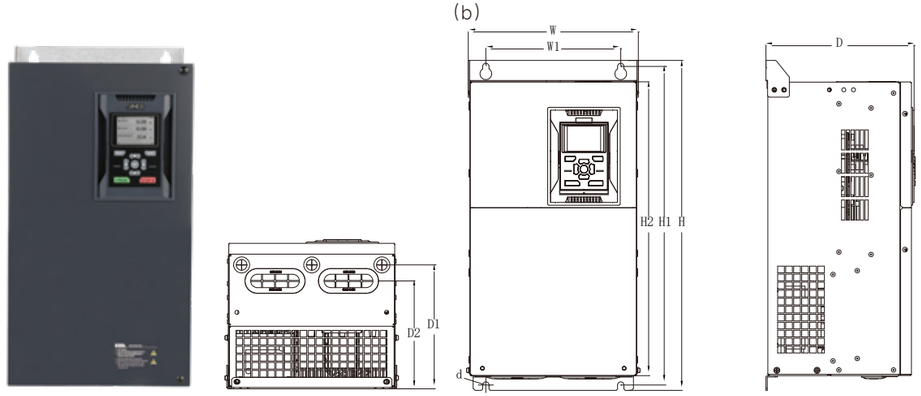

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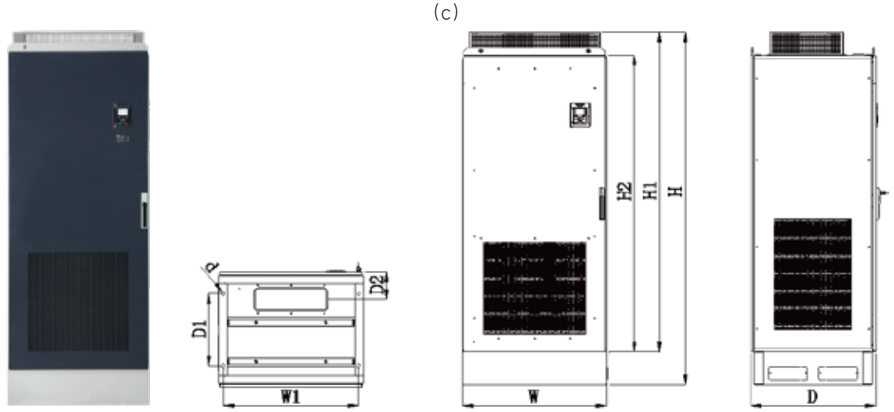

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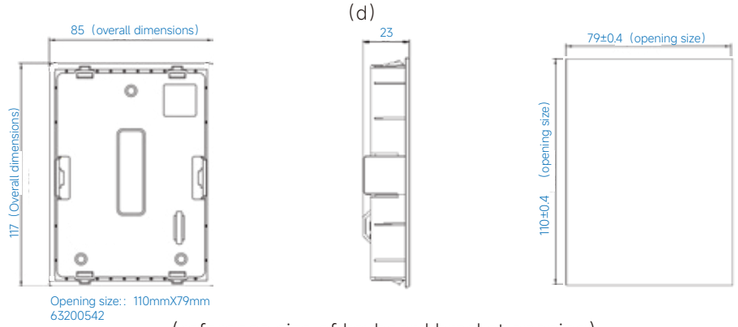
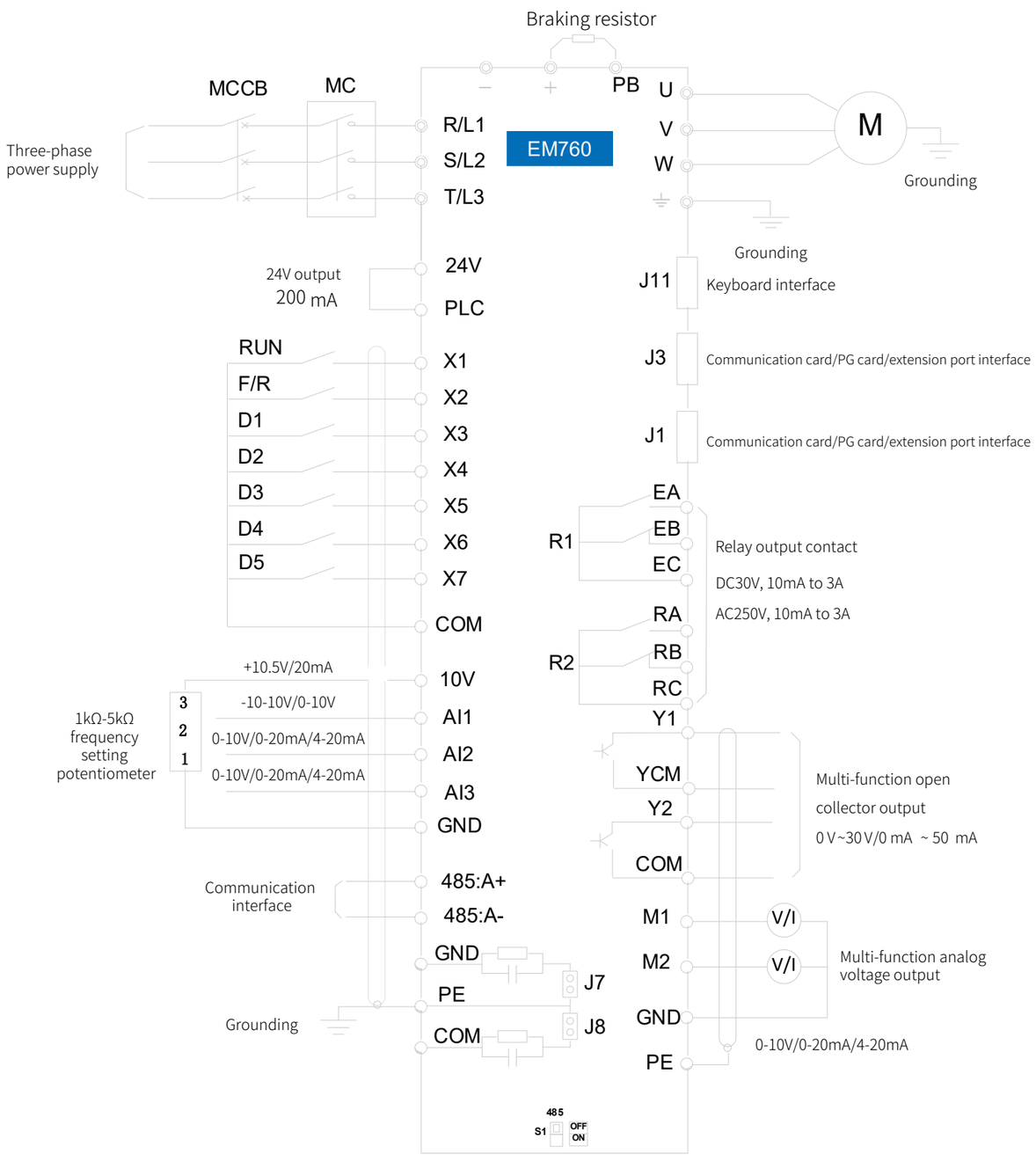


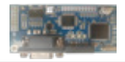
(reference size of keyboard bracket opening)

Specifications	W	W1	H	H1	H2	D	D1	D2	d	appearance
EM760-0R7G/1R5P-3B	95	82	230	222	218	171	132	96	4.5	(b)
EM760-0R7G/1R5P-2B										
EM760-1R5G/2R2P-3B										
EM760-2R2G/3R0P-3B										
EM760-2R2G/3R0P-2B										
EM760-4R0G/5R5P-3B										
EM760-5R5G/7R5P-3B	110	95	275	267	260	187	146	105	5.5	
EM760-4R0G/5R5P-2B										
EM760-7R5G/9R0P-3B										
EM760-011G/015P-3B	140	124	297	289	280	207	163	120	5.5	
EM760-5R5G/7R5P-2B										
EM760-7R5G/9R0P-2B										
EM760-015G/018P-3B										
EM760-018G/022P-3B	190	171	350	340	330	220	173	128	7	
EM760-011G/015P-2B										
EM760-022G/030P-3B										
EM760-030G/037P-3/3B	254	200	484	465	440	221	180.5	158	9.5	(c)
EM760-015G/018P-2B										
EM760-037G/045P-3/3B										
EM760-018G/022P-2/2B										
EM760-018G/022P-6B										
EM760-022G/030P-6B										
EM760-030G/037P-6B										
EM760-045G/055P-3/3B	304	240	548	524	480	266	225	193	9.5	
EM760-022G/030P-2/2B										
EM760-055G/075P-3/3B										
EM760-030G/037P-2/2B										
EM760-037G/045P-6B										
EM760-045G/055P-6B										
EM760-055G/075P-6B										
EM760-075G/090P-3/3B	324	230	635	613	570	264	223	190	11.5	
EM760-037G/045P-2										
EM760-075G/090P-6B										
EM760-090G/110P-6										
EM760-090G/110P-3	339	270	621	600	578	296	243	243	11.5	
EM760-045G/055P-2										
EM760-110G/132P-3										
EM760-110G/132P-6										
EM760-132G/160P-6										
EM760-132G/160P-3	422	320	786	758	709	335	270	256	11.5	
EM760-160G/185P-3										
EM760-160G/185P-6										
EM760-185G/200P-6										
EM760-200G/220P-6										
EM760-200G/220P-3	441	320	1025	989	942	358	/	285	11.5	
EM760-220G/250P-3										
EM760-220G/250P-6										
EM760-250G/280P-6										
EM760-280G/315P-6										
EM760-250G/280P-3	560	450	1204	1171	1100	404	/	333	13	
EM760-280G/315P-3										
EM760-315G/355P-6										
EM760-355G/400P-6										
EM760-315G/355P-3	660	443	1597	1567	1504	434	375.5	323.5	13	
EM760-355G/400P-3										
EM760-400G/450P-3										
EM760-400G/450P-6										
EM760-450G/500P-6										
EM760C-450G/500P-3	805	756	2145	1945	1804	700	440	165	13	(d)
EM760C-500G/560P-3										
EM760C-560G/630P-3										

Standard Wiring Diagram of Control Circuit



Options of EM760 series inverter

Select accessories	Name & Model	Function	Photo
Communication card	EM760-CM-C1	This communication card is required for CANopen bus communication. Connect the inverter to CANopen bus for bus communication.	
	EM760-CM-TP1	MODBUS TCP communication card, supports MODBUS TCP slave protocol, can connect up to two clients	
	EM760-CM-EC1	EtherCAT Communication card	
	EM760-CM-P1	Profibus DP Communication card	
	EM760-CM-PN2	Supports Profinet-IO protocol	
IO expansion card	EM760-IO-A1	The IO expansion card is used for expansion to 3 multi-function digital inputs, 2 relay outputs and 4 analog inputs, supporting PT100/PT1000/PTC/KTY84 and other common motor temperature sensors, respectively.	
PG card	EM760-PG-OD1	It can be used with differential (line drive) output encoder, open collector output encoder and push-pull complementary output encoder. The optional output voltage is 5V and 12V (5V by default).	
	EM760-PG-OD2	It can be used with differential (line drive) output encoder, open collector output encoder, push-pull complementary output encoder, and has the function of frequency dividing output. Its output is the NPN open collector output. The optional output voltage is 5V and 12V (5V by default).	
	EM760-PG-R1	Rotary transformer PG card	
	EM760-PG-U1	UVW differential input PG card	
	EM760-PG-S1	Sincos encoder PG card	
Others	LED two-row keyboard	Support double-line display of two inverter status parameters at the same time. One parameter can be changed by operating the left and right key. Users can perform parameter setting, status monitoring, start/stop and fault query.	
	WIFI module		
	Energy consumption braking unit BR100-045 BR100-160 BR100-200 BR100-315 BR100-400 BR100-220-6	It has the functions of 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.	