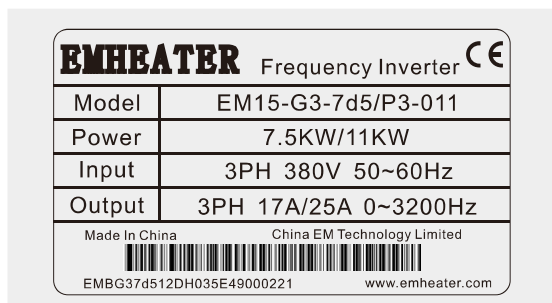


## 2. Product Information

### 2.1 Products Label and Model Designation

EM15 - G 3 - 7d5 / P 3 - 011

①      ② ③      ④      ⑤ ⑥      ⑦



①	EM15 Series Frequency Inverter
②, ⑤	Products Type: G: General use P: Fan&Pump
③, ⑥	Voltage range: 1: Single phase 220V 13: Single phase 220V to Three phase 380 2: Three phase 220V 3: Three phase 380V 4: Three phase 480V 5: Three phase 575V 6: Three phase 660V
④, ⑦	Adaptable motor: 7d5: 7.5KW ;011: 11KW

Diagram 2-1 Products Label and Designation rules

#### 2.1.1 Product appearance

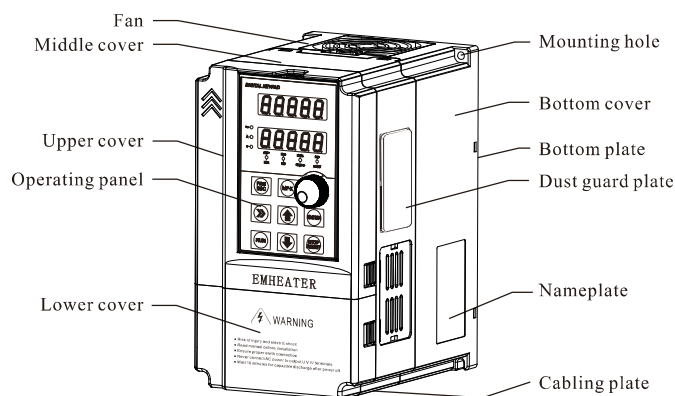


Diagram 2-2 Nameplate

The housing types of the EM15 models are listed in the following table:

	Plastic	Sheet metal
1PH 220V	0.75kW~2.2kW	--
3PH 220V	0.75kW~11kW	15kW~250kW
3PH 380V	0.75kW~22kW	30kW~500kW
3PH 480V	0.75kW~22kW	30kW~500kW

## 2.2 Technical Specifications

Input & Output	<ul style="list-style-type: none"> <li>● <b>Input Voltage:</b> 220V/380V/480V/575V/660V±15%</li> <li>● <b>Input Frequency:</b> 47~63Hz</li> <li>● <b>Input Frequency Resolution:</b> 0.01Hz (Digital setting); maximum frequency×0.025% (Analog setting)</li> <li>● <b>Output Voltage:</b> 0~Rated input voltage</li> <li>● <b>Output Frequency:</b> 0~320Hz(SFC); 0~3200Hz (V/F)</li> </ul>
Technical Performance	<ul style="list-style-type: none"> <li>● <b>Control Mode:</b> Sensor-less vector control(SVC); Closed-loop vector control (FVC); Voltage/Frequency (V/F) control</li> <li>● <b>Carrier Frequency:</b> 0.5kHz~16kHz</li> <li>● <b>Startup Torque:</b> G type: 0.5Hz/150% (FVC); 0Hz/180%(FVC); P type: 0.5Hz/100%</li> <li>● <b>Speed Range:</b> 1:100(SVC);1:1000(FVC)</li> <li>● <b>Speed Stability Accuracy:</b> ±0.5%(SVC);±0.02%(FVC)</li> <li>● <b>Torque Control Accuracy:</b> ±5%(FVC)</li> <li>● <b>Overload Capacity:</b> G type:150% rated current 60s; 180% rated current 3s; P type: 120% rated current 60s;150% rated current 3s.</li> <li>● <b>Torque Boost:</b> Auto boost; Manual boost 0.1%~30.0%</li> <li>● <b>DC braking:</b> 0.00Hz~maximum frequency (DC braking frequency); 0.0s~36.0s(Braking time); 0.0%~100.0%( Braking trigger current value)</li> </ul>
Individualized Functions	<ul style="list-style-type: none"> <li>● <b>Built-in Simple PLC / Multiple Speeds:</b> It realizes up to 16 speeds via the simple PLC function or combination of DI terminal states.</li> <li>● <b>Built-in PID:</b> It realizes closed loop control system easily.</li> <li>● <b>Auto voltage regulation (AVR):</b> It can keep constant output voltage automatically when the mains voltage fluctuation</li> <li>● <b>Overvoltage/ Overcurrent Stall Control:</b> The current and voltage are limited automatically during the running process so as to avoid frequently tripping due to overvoltage / over current.</li> <li>● <b>Rapid Current Limit:</b> To avoid frequently over current faults of the frequency inverter.</li> <li>● <b>Torque Limit and Control:</b> It can limit the torque automatically and prevent frequently over current tripping during the running process. Torque control can be implemented in the VC mode.</li> <li>● <b>High Performance:</b> Control of asynchronous motor is implemented through the high-performance current vector control technology.</li> <li>● <b>Virtual I/O:</b> Five groups of virtual DI/DO can realize simple logic control.</li> <li>● <b>Timing Control:</b> Time range: 0.0~6500.0 minutes</li> <li>● <b>Motor Overheat Protection:</b> The optional I/O extension card enables AI3 to receive the motor temperature sensor input (PT100, PT1000) so as to realize motor overheat protection.</li> <li>● <b>Multiple Encoder Types:</b> It supports differential encoder, open-collector encoder</li> <li>● <b>Protection Mode:</b> Motor short-circuit detection after power-on, input/output phase loss protection, over current and overvoltage protection, less voltage protection, overheat protection and overload protection,etc</li> </ul>
External Interface	<ul style="list-style-type: none"> <li>● <b>Running Command Giving:</b> key panel; Control terminals; Serial communication port; You can switch between these giving in various ways.</li> <li>● <b>Frequency Giving:</b> There are 10 kinds frequency giving: digital setting, analog voltage setting, analog current setting, pulse setting and serial communication port setting.</li> <li>● <b>Programmable Digital Input:</b> 6 digital input (DI) terminals, one of which supports up to 100 kHz high-speed pulse input</li> <li>● <b>Programmable Analog Input:</b> 3 analog input (AI) terminals, AI1,AI2 support 0V~10 V or 0mA~20mA input, AI3 support -10V~+10V</li> <li>● <b>Programmable Open Collector Output:</b> 1 FMP output terminal, that supports 0~100 kHz square wave signal output (Can be used as DO output)</li> <li>● <b>Programmable Analog Output:</b>2 analog output (AO) terminals, both of them supports 0mA~20mA current output and 0V~10V voltage output.</li> <li>● <b>Relay Output:</b> 2 relay output terminal (2.2KW and below only have 1 relay output terminal)</li> </ul>
Environment	<ul style="list-style-type: none"> <li>● <b>Installation Location:</b> Indoor, no direct sunlight, dust, corrosive gas, combustible gas, oil smoke, vapour, drip or salt.</li> <li>● <b>Altitude:</b> Lower than 1000m</li> <li>● <b>Ambient Temperature:</b> -10°C~ +40°C (de-rated if the ambient temperature is between 40°C and 50°C)</li> <li>● <b>Humidity:</b> Less than 95%RH, without condensing</li> <li>● <b>Vibration:</b> Less than 5.9 m/s<sup>2</sup> (0.6 g)</li> <li>● <b>Storage Temperature:</b> -20°C ~ +60°C</li> </ul>

## 2.3 Model and Technical data

Model	Power Capacity (KVA)	Input Current (A)	Output Current (A)	Adaptable Motor	
				KW	HP
<b>Single phase 220V 50/60Hz</b>					
EM15-G1-d75	1.5	8.2	4	0.75	1
EM15-G1-1d5	3	14	7	1.5	2
EM15-G1-2d2	4	23	9.6	2.2	3
<b>Three phase 220V 50/60Hz</b>					
EM15-G2-d75	3	5	3.8	0.75	1
EM15-G2-1d5	4	5.8	5.1	1.5	2
EM15-G2-2d2	5.9	10.5	9	2.2	3
EM15-G2-004	8.9	14.6	17	3.7	5
EM15-G2-5d5	17	26	25	5.5	7.5
EM15-G2-7d5	21	35	32	7.5	10
EM15-G2-011	30	46.5	45	11	15
EM15-G2-015	40	62	60	15	20
EM15-G2-018	57	76	75	18.5	25
EM15-G2-022	69	92	91	22	30
EM15-G2-030	85	113	112	30	40
EM15-G2-037	114	157	150	37	50
EM15-G2-045	134	180	176	45	60
EM15-G2-055	160	214	210	55	75
EM15-G2-075	231	307	304	75	100
<b>Three phase 380V 50/60Hz</b>					
EM15B-G3-d75/P3-1d5	1.5/3	5/5.8	2.1/3.8	0.75/1.5	1/2
EM15B-G3-1d5/P3-2d2	3/4	5.8/10.5	3.8/5.1	1.5/2.2	2/3
EM15B-G3-2d2/P3-004	4/5.9	10.5/14.6	5.1/9	2.2/3.7	3/5
EM15-G3-004/P3-5d5	5.9/8.9	14.6/20.5	9/13	3.7/5.5	5/7.5
EM15-G3-5d5/P3-7d5	8.9/11	20.5/26	13/17	5.5/7.5	7.5/10
EM15-G3-7d5/P3-011	11/17	26/35	17/25	7.5/11	10/15
EM15-G3-011/P3-015	17/21	35/38.5	25/32	11/15	15/20
EM15-G3-015/P3-018	21/24	38.5/46.5	32/37	15/18.5	20/25
EM15-G3-018/P3-022	24/30	46.5/62	37/45	18.5/22	25/30
EM15-G3-022/P3-030	30/40	62/76	45/60	22/30	30/40
EM15-G3-030/P3-037	40/57	76/92	60/75	30/37	40/50
EM15-G3-037/P3-045	57/69	92/113	75/91	37/45	50/60
EM15-G3-045/P3-055	69/85	113/128	91/112	45/55	60/75
EM15-G3-055/P3-075	85/114	128/157	112/150	55/75	75/100
EM15-G3-075/P3-090	114/134	157/180	150/176	75/90	100/125
EM15-G3-090/P3-110	134/160	180/214	176/210	90/110	125/150
EM15-G3-110/P3-132	160/192	214/256	210/253	110/132	150/200
EM15-G3-132/P3-160	192/231	256/307	253/304	132/160	200/250
EM15-G3-160/P3-200	231/250	307/385	304/377	160/200	250/280
EM15-G3-200/P3-220	250/280	385/430	377/426	200/220	280/300

Model	Power Capacity (KVA)	Input Current (A)	Output Current (A)	Adaptable Motor	
				KW	HP
EM15-G3-220/P3-250	280/355	430/468	426/465	220/250	300/370
EM15-G3-250/P3-280	355/396	468/525	465/520	250/280	370/400
EM15-G3-280/P3-315	396/445	525/590	520/585	280/315	400/420
EM15-G3-315/P3-355	445/500	590/665	585/650	315/355	420/500
EM15-G3-355	500	665	650	355	500
EM15-G3-400	560	785	725	400	530
EM15-G3-450	630	883	820	450	600
EM15-G3-500	800	920	860	500	660
<b>Three phase 480V 50/60Hz</b>					
EM15B-G4-d75/P4-1d5	1.5/3	5/5.8	2.1/3.8	0.75/1.5	1/2
EM15B-G4-1d5/P4-2d2	3/4	5.8/10.5	3.8/5.1	1.5/2.2	2/3
EM15B-G4-2d2/P4-004	4/5.9	10.5/14.6	5.1/9	2.2/3.7	3/5
EM15-G4-004/P4-5d5	5.9/8.9	14.6/20.5	9/13	3.7/5.5	5/7.5
EM15-G4-5d5/P4-7d5	8.9/11	20.5/26	13/17	5.5/7.5	7.5/10
EM15-G4-7d5/P4-011	11/17	26/35	17/25	7.5/11	10/15
EM15-G4-011/P4-015	17/21	35/38.5	25/32	11/15	15/20
EM15-G4-015/P4-018	21/24	38.5/46.5	32/37	15/18.5	20/25
EM15-G4-018/P4-022	24/30	46.5/62	37/45	18.5/22	25/30
EM15-G4-022/P4-030	30/40	62/76	45/60	22/30	30/40
EM15-G4-030/P4-037	40/57	76/92	60/75	30/37	40/50
EM15-G4-037/P4-045	57/69	92/113	75/91	37/45	50/60
EM15-G4-045/P4-055	69/85	113/128	91/112	45/55	60/75
EM15-G4-055/P4-075	85/114	128/157	112/150	55/75	75/100
EM15-G4-075/P4-090	114/134	157/180	150/176	75/90	100/125
EM15-G4-090/P4-110	134/160	180/214	176/210	90/110	125/150
EM15-G4-110/P4-132	160/192	214/256	210/253	110/132	150/200
EM15-G4-132/P4-160	192/231	256/307	253/304	132/160	200/250
EM15-G4-160/P4-200	231/250	307/385	304/377	160/200	250/280
EM15-G4-200/P4-220	250/280	385/430	377/426	200/220	280/300
EM15-G4-220/P4-250	280/355	430/468	426/465	220/250	300/370
EM15-G4-250/P4-280	355/396	468/525	465/520	250/280	370/400
EM15-G4-280/P4-315	396/445	525/590	520/585	280/315	400/420
EM15-G4-315/P4-355	445/500	590/665	585/650	315/355	420/500
EM15-G4-355	500	665	650	355	500
EM15-G4-400	560	785	725	400	530
EM15-G4-450	630	883	820	450	600
EM15-G4-500	800	920	860	500	660

### Appendix III

Model	Output Current (A)	Adaptable Motor		Appearance and installing dimension(mm)					
		KW	HP	W	W1	H	H1	D	Φd
<b>1 phase 220V input &amp; 3 phase 380V output</b>									
EM15-G13-d75	2.1	0.75	1	118	106.5	185	175.5	157	Φ4.5
EM15-G13-1d5	3.8	1.5	2						
EM15-G13-2d2	5.1	2.2	3						
EM15-G13-004	9	3.7	5						
EM15-G13-5d5	13	5.5	7.5	160	148	247	235	177	Φ5.5
EM15-G13-7d5	17	7.5	10						
EM15-G13-011	25	11	15	220	205	320	305	198	Φ5.5
EM15-G13-015	32	15	20						
EM15-G13-018	37	18.5	25						