

LFB Frequency Converter

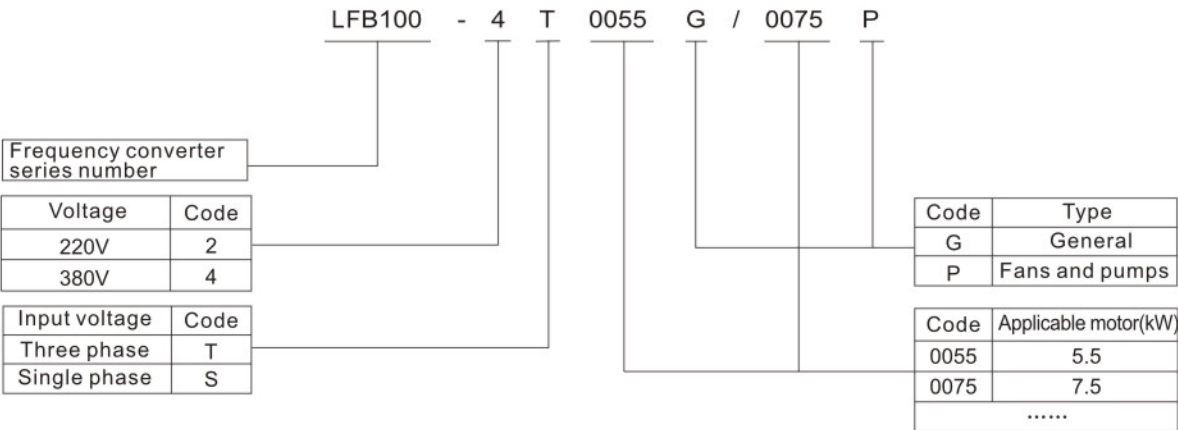


1. General

LFB100, LFB200 frequency converter use special control method to achieve driving with function of high torque, high precision and multi speed adjustment, it can meet the trend of high-performance of frequency converter. The anti-tripping performance is exceeding similar products and can used in environment of bad power grids,temperature and dust,and it greatly improve the reliability of product.

LFB100, LFB200 frequency converter is the revolutionary products which integrate the customer's general demand,special demand and industrial demand in first time.The multi application function can supply high level of integrate solution for equipment manufacturing customers,it can reduce the system costs and improve system reliability,and satisfy customer's demands of low noise,low. electromagnetic interference through optimization PWM control technology and integrated design of electromagnetic.

2. Type designation



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3. Specifications

- 1.Multi output frequency:0~650Hz(LFB100), 0~600Hz(LFB200)
- 2.Large starting torque:0.5Hz/180% rated torque (LFB100), 0.5Hz/150% rated torque (LFB200)
- 3.Advanced EMC design: Optimization of PCB technology to ensure the effective shielding loop of circuit,add decoupling filter and effective electric impulse reducing measures.
- 4.Advanced technology: adopting high-density multi-layer circuit board, and use the entire patch process SMD,the main circuit use thick film circuit technology to ensure the reliability.It have compact structure and elegant appearance
- 5.Perfect protection: as many as more than 20 kinds of fault protection can be achieved to a full range protection from the frequency converter to motor.

3.1 Environment and structure installation

Item		Description
Environment	Using place	Indoor without direct sunlight,dust,corrosive gases,combustible gases, oil mist,water vapor, water or salt.
	Altitude	< 1000m
	Ambient temperature	-10℃~+40℃(Use demoted if the ambient temperature is 40℃~50℃)
	Humidity	< 95%RH,no water condensation
	Vibration	< 9.5m/s (0.6g)
	Storage temperature	-40℃~+70℃
Structure	Protection level	IP20
	Cooling method	Forced air-cooled with fan control
Installation		Wall-mounted,installed equipment cabinet

3.2 LFB100 general technical data

Item		Description
Input	Rated voltage,frequency	Three phase 380V~440V,50Hz/60Hz
	Allowed working voltage scope	Voltage: 320V~460V,voltage imbalance rate: <3%,frequency $\pm$ 5%
Output	Rated	Voltage: 380V
	Frequency	0Hz~65Hz
Main control performance	Overload performance	G type: 1 minute for 150% rated current,0.5 second for 200% rated current P type: 1 minute for 110% rated current,1 second for 150% rated current
	Speed adjust method	Flux Vector PWM regulator
	Speed adjust	scope1:100
	Starting torque	0.50Hz of 180% rated torque
	Working speed stable precision	$\leq \pm 5\%$ rated synchronous speed
	Frequency precision	Numerical setting: highest frequency $\times 0.01\%$, Simulation setting: highest frequency $\times \pm 0.02\%$,
	Frequency resolution	Numerical setting: 0.01Hz Simulation setting: highest frequency $\times 0.1\%$,

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Item		Description
Main control performance	DC breaking	Starting frequency: 0.2~60 Hz Breaking time:0~30s Breaking current:G type is 0.0~100%,P type is 0.0~80%
	Moving	Moving frequency scope:0.20Hz~50Hz,moving acceleration and deceleration time 0.1~60s selectable, moving interval time can be set.
	Multi-speed operation	Through build PLC or control terminal to achieve multi-speed operation
	Build PI	May constitute closed-loop control system easily
	Automatic energy-saving operation In	Accordance with load conditions, automatically optimizing the V / F curve to achieve energy-saving operation
	Automatic voltage regulation (AVR)	When the voltage changes, it can automatically maintain a constant output voltage
	Automatic current limiting	To run automatically during the current restrictions, to prevent frequent tripping over-current fault
	Automatic carrier wave adjustment	According to the load characteristics,automatic adjust the carrier wave frequency,this is optical
Customization function	Set length control	The converter will shutdown when reach the set length
	Droop control	Applicable to multiple converter shutdown
	Pitch adjustment	Adjust the pitch of working motor
	Instantaneous power down non-stop control	Through the bus voltage control to achieve uninterrupted operation when power-down instantaneously
	Bundled feature	Tied up the command channel and frequency given channel arbitrarily and switch synchronously
Operation function	Operating command channel	Operation panel,terminal and channeling given,can be switched through a variety of ways
	Frequency given channel	Digits,analog voltage,analog current,impulse and channeling given,can be switched through a variety of ways.
	Auxiliary frequency given	Support flexible frequency tuning and synthesizer
	Impulse output terminal	0~50Hz impulse square-wave output,can out put the setting frequency, output frequency and other physical value.
	Simulation terminal output	2 ways simulation signal output,can select 0/4~20mA or 0/2~10V, can out put the setting frequency,output frequency and other physical value.
Operation panel	LED display	Can show the setting frequency,output frequency,output voltage and output current and more than 20 dataA
	LCD display	Selectable part, can point operation contents use Chinese or English
	Data copy	Can fast copy the data through LCD operation panel
	Keys locked and function selection	Can lock the keys in part or in all, definite the role of some keys to prevent the wrong operation
Protection function		Protection of missing phase,overcurrent, overvoltage,undervoltage,overheating and overload.
Selectable parts		LCD operation panel,braking parts,remote control box, remote cable,communications bus adapter
Efficiency		45kW G and below =95%,55kW G and above =95%

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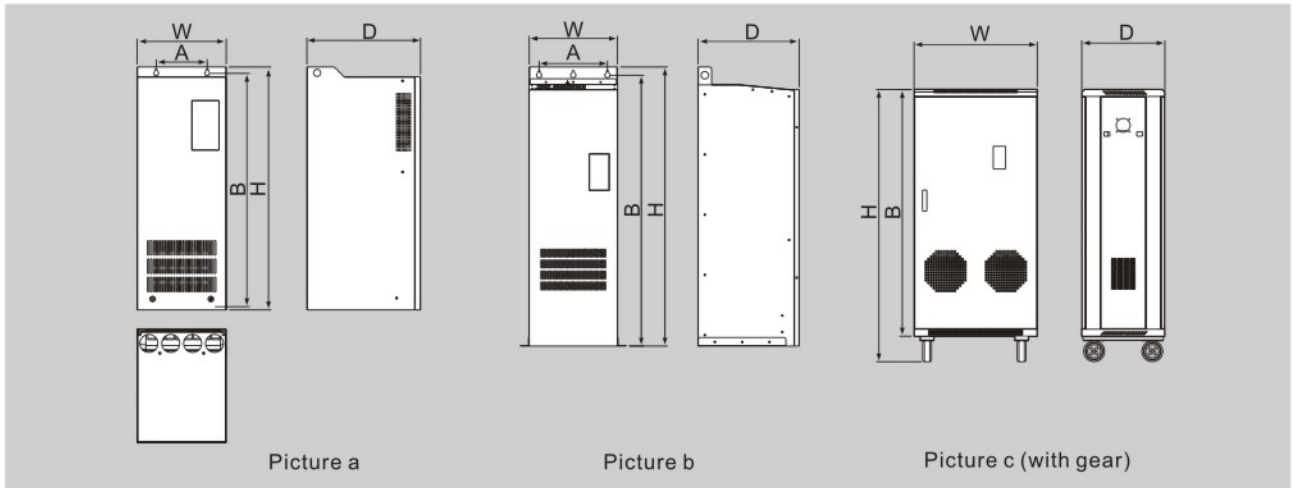
3.3 LFB200 general technical data

Item		Description
Input and output characteristics	Input voltage scope	380/220V±15%
	Input frequency scope	47~63Hz
	output voltage scope	0~rated output voltage
	output frequency scope	0~600Hz
Peripheral interface characteristics	Programmable digital input	4 ways input
	Programmable Analog Input	VI:0~10V input,CI: 0~10V or 0~20mA input
	Open Collector Output	1 way output
	Relay output 1	Way output
	Analog output 1	Way output,can select 0/4~20mA or 0~10V
Technical performance characteristics	Control method	No PG vector control,V/F control
	Overload capacity	60s for 150% rated current and 10s for 180% rated current
	Starting torque No.	PG vector control:0.5Hz for 150% rated torque
	Speed ratio No.	PG vector control:1:100
	Speed control precision	No PG vector control: ±0.5% highest speed
	Carrier wave frequency	0.5K~15.0kHz
Functions	Frequency	Setting method Digital setting ,analog setting ,serial communication
	Setting method	Setting,multi-speed,PID setting etc.
	PID control function	May constitute closed-loop control system easily
	Multi-speed control function	8 speed control
	Swinging frequency control function	Can achieve swinging frequency function with center frequency adjustable
	Instantaneous power down non-stop function	Through the bus voltage control to achieve uninterrupted operation when power -down instantaneously
	Speed tracking re-start function	Achieve non-impulse start for rotating motor
	JOG key function	Free multi-user-defined key
	Automatic voltage regulation	When the voltage changes, it can automatically maintain a constant output voltage
	Protect function	Protection of missing phase,overcurrent, overvoltage,undervoltage,overheating and overload.

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4. Overall and mounting dimensions(mm)

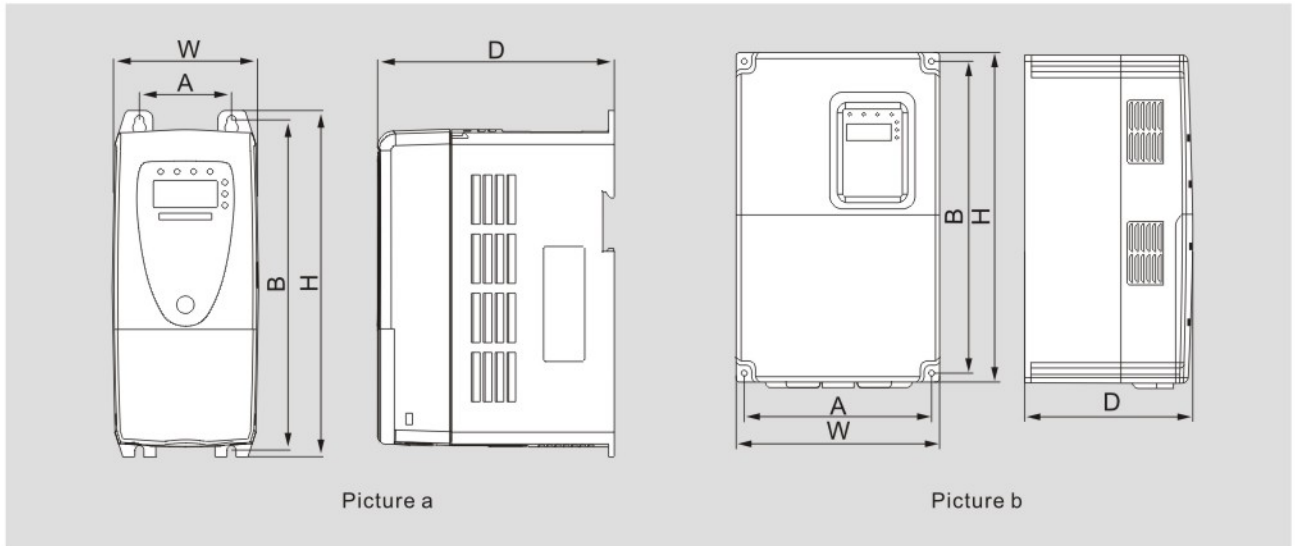
4.1 LFB100 frequency converter



Type G: Constant torque P: Fans and pumps load Applicable power	Applicable power(kW)	A (mm)	B (mm)	H (mm)	W (mm)	D (mm)	Picture number	Approximate weight(kg)
LFB100-4T0055G/0075P	5.5/7.5	202	288	300	216	205	Picture a	7.5
LFB100-4T0075G/0110P	7.5/11							
LFB100-4T0110G/0150P	11/15							
LFB100-4T0110G/0185P	15/18.5	254	364	390	280	240	Picture a	10
LFB100-4T0185G/0220P	18.5/22							
LFB100-4T0220G/0300P	22/30							
LFB100-4T0300G/0370P	30/37	140	550	566	225	305	Picture a	18
LFB100-4T0370G/0450P	37/45							
LFB100-4T0450G/0550P	45/55							
LFB100-4T0550G/0750P	55/75	160	700	715	245	330	Picture a	30
LFB100-4T0750G/0900P	75/90							
LFB100-4T0900G/1100P	90/110							
LFB100-4T1100G/1320P	110/132	250	1065	1110	325	398	Picture b	100
LFB100-4T1320G/1600P	132/160							
LFB100-4T1600G/1850P	160/185							
LFB100-4T1850G/2000P	185/200	250	1170	1205	325	520	Picture b	100
LFB100-4T2000G/2200P	200/220							
LFB100-4T2200G/2500P	220/250							
LFB100-4T2500G/2800P	250/280	250	1310	1450	600	505	Picture c	150
LFB100-4T2800G/3150P	280/315							
LFB100-4T3150G/3500P	315/350							
LFB100-4T3500G/4000P	350/400	250	1450	1620	630	530	Picture c	190

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4.2 LFB200 frequency converter



Type G:Constant torque P:Fans and pumps load Applicable power	Applicable power(kW)	A (mm)	B (mm)	H (mm)	W (mm)	D (mm)	Picture number	Approximate weight(Kg)
LFB200-2S0004G	0.4	58	197	212	90	147	Picture a	<2.5
LFB200-2S0007G	0.75							
LFB200-2S0015G	1.5							
LFB200-2S0022G	2.2							
LFB200-2T0007G	0.75	58	197	212	90	147	Picture a	<2.5
LFB200-2T0015G	1.5							
LFB200-2T0022G	2.2							
LFB200-2T0040G	4.0							
LFB200-2T0055G	5.5	130	238	250	140	157	Picture b	<5
LFB200-4T0007G	0.75							
LFB200-4T0015G	1.5							
LFB200-4T0022G	2.2							
LFB200-4T0040G/0055P	4.0/5.5	130	238	250	140	157	Picture b	<5
LFB200-4T0055G/0075P	5.5/7.5							