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V1.3-2025.05

Simphoenix

SERVO DRIVE | VFD | PMSM | PLC | HMI

DL100 Series

Low-power General-purpose Inverter

SGS RoHS

www.simphoenix.com

Established in 2004, Shenzhen Simphoenix Electric Technology Co., Ltd. is committed to becoming an outstanding provider of automation products and solutions. The company specializes in the development, production, sales and service of industrial automation products, the main products are servo drive, inverter, permanent magnet synchronous motor, PLC, HMI and so on.

After more than twenty years of development, Simphoenix has become a well-known brand with complete product structure and strong r&d strength among domestic industrial automation brands.

DL100 series
low power general-purpose inverter

DL100 series is a small general-purpose inverter developed based on a new software and hardware platform to meet more market needs. It has the characteristics of small size, simple operation, complete protection functions, stable and reliable operation, and can be flexibly applied to various process sites.

Product Feature

High reliability

Based on new hardware platform, high reliability with stringent test

Intuitive real-time monitoring

Support the monitoring of nearly hundreds of parameters such as power, running time, input/output current and voltage, fault record in real time.

High frequency accuracy

The high frequency can reach 600.00Hz, and the frequency control accuracy is controlled within 0.1% to achieve high-precision control system requirements

Multi-speed operation

Programmable 7-segment speed operation, each segment's running time, acceleration/deceleration time, and running direction are independently adjustable

Multi-function input terminal

4 multi-function input terminals, up to 12 channel combinations, to achieve flexible

Communication protocol

Equipped with RS485 communication interface, standard MODBUS protocol can easily realize real-time communication with PLC, industrial computer and other equipment, and has the function of linkage and synchronization control

Multi-protection

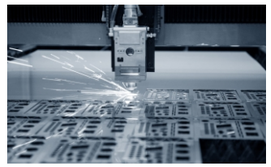
Multiple protection functions and fault checking mechanisms are convenient for later maintenance while ensuring long-term reliable operation of the inverter

Powerful self-adaptive capacity

Supports adaptive control technology, automatic voltage stabilization and current limiting functions, stable operation even in an environment with unstable grid voltage and current

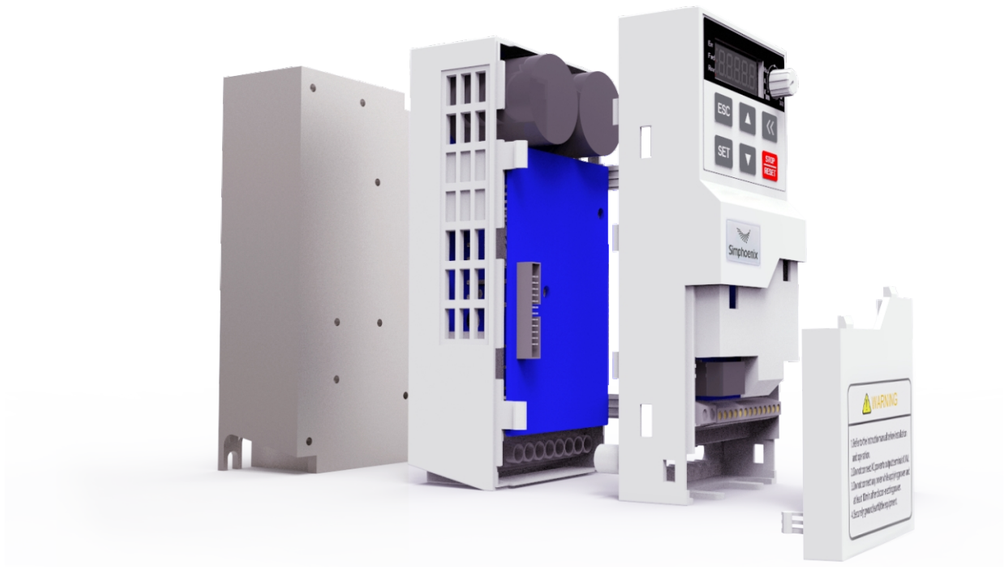
Application

Food machinery, engraving machines, machine tool applications, textile industry, packaging and transportation, centrifuges, etc.

Product Structure

- High space utilization and high power integration density
- Small size and thin thickness, meeting the needs of compact installation
- Independent air duct design to reduce the influence of dust and particles on internal components



Naming Rule

DL100 −2 S 0007 (B)Q

Model	
DL100 series low power general−purpose inverter	

Voltage degrade	
4	AC-380V
2	AC-220V

Power phase number	
T	three phase
S	single phase

Derivative model	
B	with braking unit

Adapted motor power(kw)	
0004	0.4
0007	0.7
0015	1.5
...	...
0075	7.5

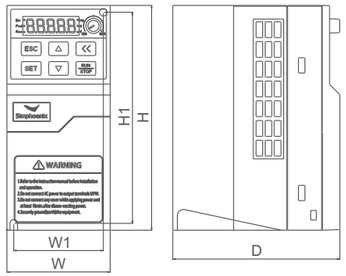
Specifications

Input	Rated voltage and freq.		Three phase（4T#）380V50/60Hz	Single phase（2S#）220V50/60Hz
	Allowable voltage range		380～415V±10%	220V±10%
Output	Voltage		0~input voltage	
	Frequency		0.00~600Hz	
	Overload capacity		110%--long time； 150%--1 min； 180%--2 sec	
Control method			VF control	
Control characteristics	Freq. setting resolution	Analog input	0.1% of maximum output frequency	
		Digital setting	0.01Hz	
	Freq. accuracy	Analog input	Within 0.1% of the maximum output frequency	
		Digital setting	Within 0.1% of the set output frequency	
	V/F curve (voltage freq characteristic)		The reference frequency is arbitrarily set at 5～600Hz, and the multi-node V/F curve is arbitrarily set	
	Torque boost		Manual setting: 0.0～20.0% of rated output;	
	Automatic current limit and pressure limit		Whether in the process of acceleration, deceleration or steady state operation, it automatically detects the stator current and voltage of the motor, and suppresses it within the allowable range according to a unique algorithm	
	Undervoltage suppression during operation		Especially for users with low grid voltage and frequent fluctuations in grid voltage, the system can maintain the longest possible operating time according to the unique algorithm and residual energy distribution strategy even if the voltage is lower than the allowable voltage range	
Typical function	Multi-speed control		7-segment programmable multi-speed control, 5 operating modes optional	
	Optional built-in PID controller		The internal integrated and optimized PID controller can realize simple closed-loop control.	
	RS485communication and linkage control		MODBUS protocol	
	Frequency setting	Analog input	DC voltage 0～10V，DC current 0～20mA（optional）	
		Digital input	Operation panel setting, potentiometer setting, RS485 interface setting, UP/DW terminal control, can also be combined with analog input for multiple settings	
	Output signal	Relay and OC output	1 OC output and 1 relay normally open output (TA/TC), up to 16 meaning options	
		Analog output	1 channel 0～10V voltage signal, upper and lower limits can be set separately	
	Automatic voltage regulation operation		Three modes of dynamic voltage regulation, static voltage regulation and unregulated voltage can be selected according to needs to obtain the most stable operation effect	
	Acceleration and deceleration time setting		0.01~600 Sec can be set continuously	
	Running function		Upper and lower limit frequency setting, reverse running limit, RS485 communication, frequency increase and decrease control, etc.	
Display	Operation panel display	Running status	Output frequency, output current, output voltage, motor speed, set frequency, module temperature, analog input and output, etc.	
		Alarming	The last 4 fault records, the output frequency, output current, output voltage, DC voltage, module temperature and other 5 operating parameter records at the time of the last fault trip	
Protection/alarm function			Overcurrent, overvoltage, undervoltage, overheating, short circuit, internal memory failure, etc.	
Environment	Temperature		Working environment temperature: -10°C to +45°C (no freezing) (45℃～50℃ derating use)	
	Environment		Indoor vertical installation, free from direct sunlight, no corrosive, flammable gas, no oil mist, dust, dripping water or salt, etc	
	Altitude		0~1000m， the load will be derated by 10% for every 1000m increase	
	Cooling method		Forced air cooling (2S0004 natural cooling, no fan)	
	Installiation		Wall-mounted (2S0004 must be installed vertically on the wall)	
	Pollution level		2	
	Vibration		＜6m/s²	
	Humidity		below 90%(no frost)	
	Protection level		IP20	

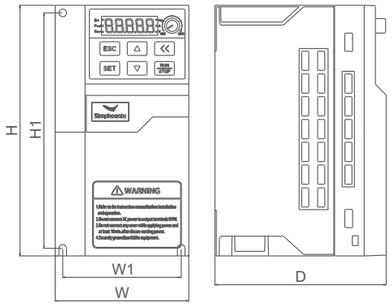
Model table

model No.	rated capacity（kVA）	rated output current（A）	adapted motor（kW）
DL100-2S0004(B)Q	1.1	3.0	0.4
DL100-2S0007(B)Q	1.9	5.0	0.75
DL100-2S0015(B)Q	2.9	7.5	1.5
DL100-2S0022(B)Q	3.8	10.0	2.2
DL100-2S0030(B)Q	5.3	14.0	3.0
DL100-2S0040(B)Q	6.3	16.5	4.0
DL100-4T0007(B)Q	1.6	2.5	0.75
DL100-4T0015(B)Q	3.0	4.5	1.5
DL100-4T0022(B)Q	3.6	5.5	2.2
DL100-4T0040(B)Q	6.3	9.5	4.0
DL100-4T0055(B)Q	8.6	13	5.5
DL100-4T0075(B)Q	11.2	17	7.5

Installation dimensions



Class I and II
DL100-2S0004(B)Q~DL100-2S0015(B)Q
DL100-4T0007(B)Q~ DL100-4T0015(B)Q



Class III
DL100-2S0022(B)Q~ DL100-2S0040(B)Q
DL100-4T0022(B)Q~ DL100-4T0075(B)Q

Model No. (three phase 380V)	Model No. (single phase 380V)	W1 (mm)	W (mm)	H1 (mm)	H (mm)	D (mm)	Screw specification
--	DL100-2S0004(B)Q	59	68	139	148	110	M4
DL100-4T0007(B)Q	DL100-2S0007(B)Q						
DL100-4T0015(B)Q	DL100-2S0015(B)Q						
DL100-4T0022(B)Q	DL100-2S0022(B)Q	78	88	155	165	113	M4
DL100-4T0040(B)Q	DL100-2S0030(B)Q						
DL100-4T0055(B)Q	DL100-2S0040(B)Q	99	109	199	209	135	M4
DL100-4T0075(B)Q	--						

System wiring diagram