

# SLANVERT

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# LSD100

[www.slanvert.com](http://www.slanvert.com)

series solid-state soft starter

Hope Senlan Science and Technology Holding Corp.,Ltd.

[www.slanvert.com](http://www.slanvert.com) [www.chinavvfv.com](http://www.chinavvfv.com)



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Hope Senlan Science and Technology Holding Corp.,Ltd.

# C COMPANY INFO



Hope Senlan Science & Technology Corp., Ltd. is a national key high-tech enterprise dedicated to the research and development of energy conservation, environment protection, drive control, new energy, intelligent equipment and air purification system, and the design, development, production, sale and service of related products. It is a leading enterprise specialized in transmission control technology research in China. It is a well-known industrial automation control system equipment R&D and manufacturing base in China.

Since its establishment, the Company has adhered to the "science and technology-oriented" concept, implemented the brand strategy, and created a brand path that features "brand created by science and technology, improved by quality, and popularized by service". The Company has passed the ISO 9001:2015 international quality system certification, ISO 14001:2015 environmental management system certification, ISO 45001:2018 occupational health and safety management system certification, and intellectual property management system certification, fully implemented ERP information management, owned an independent intellectual property system composed of more than 100 patents and proprietary technologies, and developed SB70, HOPE800, Hope530, Hope130, SBH, and VFPS series drive control products and industrial automation products such as special power supplies, photovoltaic inverters, new energy vehicles and intelligent equipment (including robots) on this basis. With strong professional system integration capabilities, the Company customizes integrated solutions for its customers as per different requirements on industrial customer segmentation. The Company's drive control products have won lots of honors, such as Gold Medal of the Fourth China Science & Technology Exposition and Gold Medal of China Fair of Inventions & Technologies, been listed in the National Torch Program Project, National Innovation Fund Project and National Key & New Product Project, and obtained the European CE certification, American UL certification and Russian EAC certification. Our products are widely applied in many fields, such as metallurgy, machinery, building materials, chemical industry, petroleum, biochemistry, pharmacy, municipal works, electric power, light industry, equipment manufacturing, military work, etc., which bring great economic and social benefits. The Company has, for that matter, been recognized as the "2018 Chengdu 100 Key New Economic Cultivation Enterprises" by the Chengdu New Economic Development Commission.

With rapid development over the past two decades, the company now has a strong marketing and service network covering China, Asia, Europe and America, providing high-quality products and services for its customers. At present, the company ranks the top in terms of sales volume, market share and technical level in the electrical automation industry. In 2007, the company obtained the title "Chinese Famous Brand" granted by the General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China. In 2005~2012, the company's drive control products were chosen as "Domestic Well-known Inverter in China" by Chinese Association of Automation for seven years in a row. In 2008, 2009, 2011, 2013, 2014, 2016, 2019 and 2021, the company was awarded "the Most Influential Brand in China Electrical Appliance Industry" by China Electrical Equipment Industrial Association. In December 2013, the registered trademark "Hope Senlan" was identified as "Chinese Well-known Trademarks" by the SAIC. In April 2015, Hope Senlan was respectively awarded as the "Satisfactory Benchmarking Enterprise of the Users of Chinese Electrical Appliance Industry" and the "Leading Brand in Chinese Electrical Appliance Industry" respectively by China Electrical Equipment Industrial Association. In April 2016, the company's "Integrated Solution for Variable Frequency Drive of Extra-long Belt Conveyor" won the title "Top Ten Most Influential Automation Engineering Projects of 2015". In May 2016, Hope Senlan's SB200, SB70, HOPE800 and EPS power supply series were listed in the "2016 Chengdu Famous and Excellent Rail Transit Product Catalog". In March 2017, Hope Senlan was awarded the product title "Sichuan Famous Brand" issued by the People's Government of Sichuan Province. In April 2017, Hope Senlan won the "Sichuan Provincial Well-known Trademark" issued by Sichuan Provincial Administration for Industry and Commerce; Hope Senlan's "Integration Solution for Frequency Conversion Renovation of Feed Pump of Large-scale Thermal Power Generating Boiler" was awarded as the "2016 Top Ten Most Valuable Solutions"; and the company's "Intelligent Port VFPS Series Ship Shore-based Power Supply Solution" is awarded as "2016 Top Ten Most Influential Engineering Projects". In December 2017, Hope Senlan won the "Chengdu Shuangliu District Government Quality Award" issued by the government of Shuangliu District, Chengdu and was awarded the title "Sichuan Provincial Site Management Star Rating Five-star Site" issued by the Sichuan Association for Quality. It participated as a major member in the preparation and amendment of the national standards and IEC standards for adjustable speed electrical drive systems. In 2014, 2019 and 2020, the company was chosen as "Advanced Standardization Work Unit" by the National Technical Committee on Variable Frequency Regulating Speed Equipment of Standardization Administration of China. In 2014-2022, the company was awarded as "China's Top 10 Automation Companies of the Year" by the Chinese Association of Automation. On July 19, 2021, Hope Senlan was listed in the third batch of "Little Giant" enterprises featuring expertise, precision, specialty, and innovation of the Ministry of Industry and Information Technology. In April 2022, the Jiangsu Jintan Salt Cave Compressed Air Energy Storage Project was awarded the "2022 Most Influential Engineering Project".

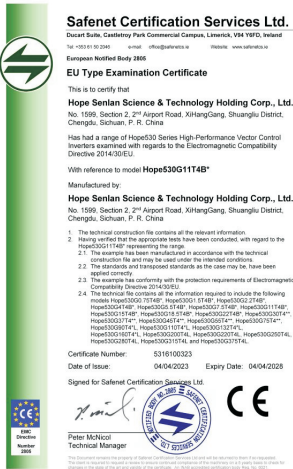
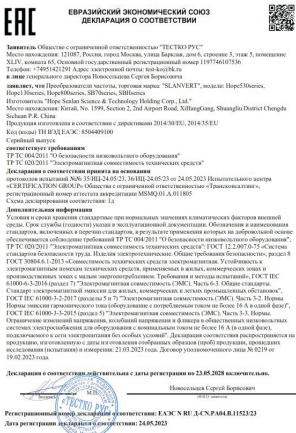
Adhering to the business philosophy of "excellence without borders, hope infinite", and looking into the future, the company's development goal is to become the world's most leading-edge R&D and manufacturing base for the industrial automation control system, develop Hope Senlan into an internationally renowned brand, and become an internationally leading enterprise in the fields of energy conservation, environment protection, drive control, new energy and intelligent equipment!

Welcome to visit our website [http://www.slanvert.com\(English\)](http://www.slanvert.com(English))  
to know more about us and our products



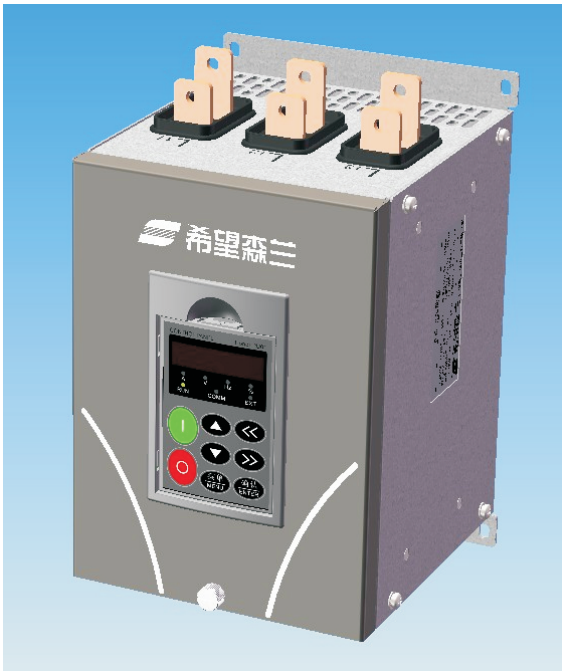
Qualification List

- UL Certificate
- ISO9001 international quality system certified
- ISO14001 environmental management system certified
- ISO45001 occupational health and safety management system
- Russian EAC certification
- EU CE certified



Product Overview

The LSD100 series solid-state soft starter is a new generation of low noise and high-performance soft starters, with a wide scope of application. Therefore, this enables it to provide a solution platform and integrated solutions for various industry needs, which has great value in reducing system costs and improving system reliability. Customers can also conduct secondary development according to their own needs.



Product Features

- High performance: the main control system adopts 32-bit DSP, which makes the motor starting performance more perfect and the starting current waveform smooth. Through core algorithm control, the motor starting torque can be maximized.
- High reliability: the core components are selected from mainstream domestic brands, and the control system is up to the EMC Level 4 standard; electrostatic discharge: air discharge 8KV, contact discharge 6KV; pulse group: power supply 2KV, terminal 1KV, RF electromagnetic field: 0.15MHZ-1G, 10v/m.
- Powerful functions: built-in RS485 communication interface, supporting national standard Modbus RTU protocol, with optional Profibus DP protocol, being able to start either through IO terminal signal or through communication.
- Complete protection: with automatic current-limiting function, frequent start protection function, overload protection function, overvoltage protection function, and imbalance protection function, etc., it can ensure a sound motor protection.
- Maintenance convenience: adopting a modular design scheme, it is easy to install and repair, with a compact structure that saves installation space. The user-friendly operation design interface is convenient for operation and maintenance, and the driver board and motherboard are integrated, resulting in higher cost-effectiveness.
- Executive standards: GBT 14048.6-2016 and IEC standards for users to conduct secondary development according to their own needs.

Product specification

Technical Characteristics

	Items	Item Description
Input	Rated voltage, frequency	Three-phase: 380V, 50Hz/60Hz
	Allowable range	Voltage fluctuation range: -15%~+10%, available for instantaneous -20%; frequency: ± 2%
	Control power supply	Single phase: 220V, allowable range: 160~250V
	Number of starting	≤8 times/hour
	Initial voltage	25~80%Ue
Basic specifications	Run command channel	Operation panel setting, control terminal setting, and communication setting
	Analog output	2-circuit analog signal outputs, 0/4-20mA programmable
	Digital input	3-circuit optional multifunctional digital input
	Digital output	3-circuit multifunctional relay output
	Communication	Internal RS485 communication interface supports Modbus-RTU protocol
Structure	Protection	Overcurrent, undervoltage, input/output phase loss, overheating, motor overload, external faults
	Optional	LCD screen, Profibus-DP
	Degree of protection	IP00
	Cooling mode	Natural cooling

Service environmental conditions

	Items	Item Description
Environment	Application site	With elevation below 1,000m, indoor, without direction sunshine, dust, corrosive gas, combustible gas, oil mist, water vapor, water drop, and salt mist, etc.
	Operating ambient temperature/humidity	-10~+40℃/20~90%RH, without condensation of droplets
	Storage temperature	-20~+60℃
	Vibration	<5.9m/s <sup>2</sup> (0.6g)
	Low temperature environment	Due to the characteristics of thyristors, when the ambient temperature is too low (below -20℃), it may cause the thyristors to not trigger normally and an ErrHo (open circuit of thermistor) fault will be alarmed

Relationship between Altitude and Output Derating

Altitude	Output current derating
1000-2000m	Derating by 1%
Below 2000m	Derating by 10%
2000-2500m	Derating by 15%
2500-3000m	Derating by 20%

- When the ambient temperature exceeds 40℃, the soft starter shall be derated by 2% for every 1℃ increase, and external forced heat dissipation must be added;
- In areas with an altitude exceeding 1000m, the thin air will cause the cooling effect of the soft starter to deteriorate, thus, it is necessary to derate by 1% for every 100m above sea level.



Application Fields

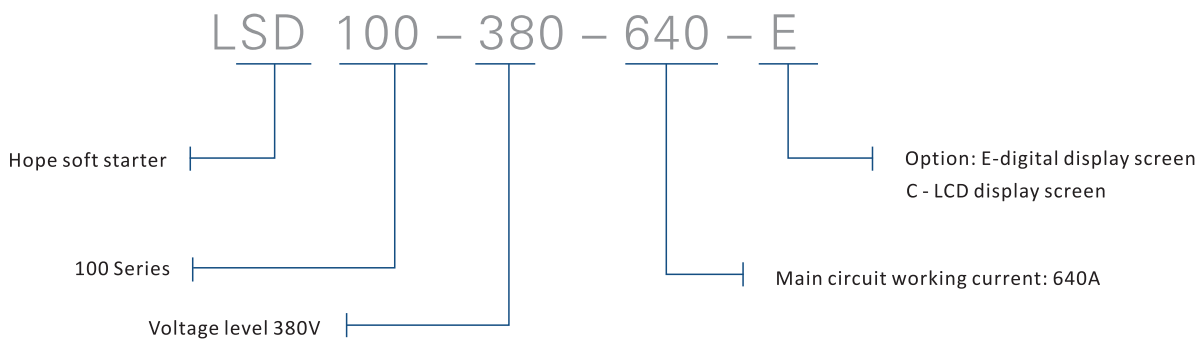
It is widely used in various industries such as metallurgy, petroleum, chemical, electric power, building materials, mining, municipal, military, light industry, and textile, etc

Water pump - to utilize the soft stop function to alleviate water hammering of the pump when stopped, saving system maintenance costs.

Ball grinding mill - to utilize voltage ramping start to reduce gear torque wear, reducing maintenance workload, and saving time and cost.

Compressor - to utilize current limiting to achieve smooth starting, reduce motor heating and prolonging service life.

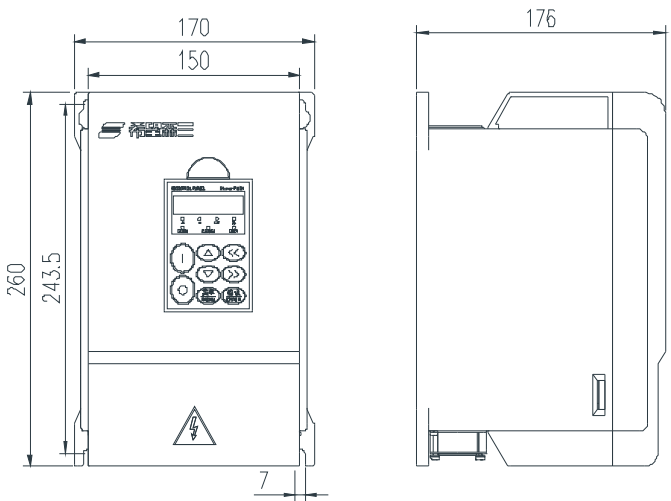
Model description



See following table for rated value of LSD100 series frequency converter

Soft starter model	Rated current Ie (A)	Adaptive motor (kW)	Soft starter model	Rated current Ie (A)	Adaptive motor(kW)
LSD100-380-40-E	40	22	LSD100-380-200-E	200	110
LSD100-380-54-E	54	30	LSD100-380-250-E	250	132
LSD100-380-68-E	68	37	LSD100-380-300-E	300	160
LSD100-380-80-E	80	45	LSD100-380-360-E	360	200
LSD100-380-100-E	100	55	LSD100-380-500-E	500	250
LSD100-380-135-E	135	75	LSD100-380-640-E	640	315
LSD100-380-160-E	160	90	—	—	—

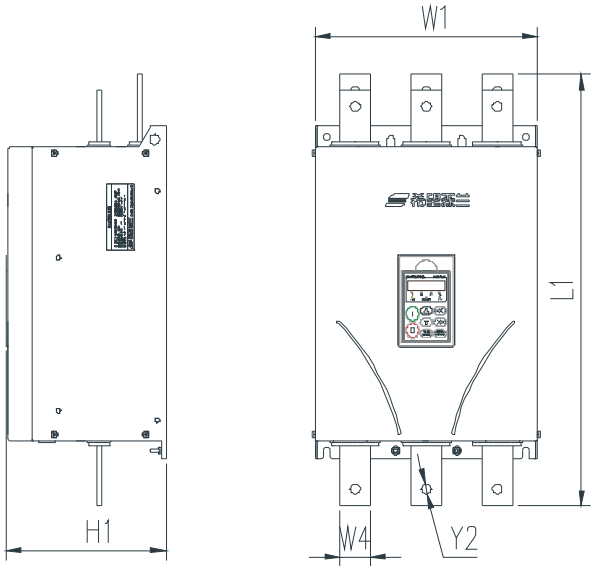
The outline diagram of LSD100: 40~100KW cabinet is as follows



Mounting dimension: 260 x 150 (Ø 7)

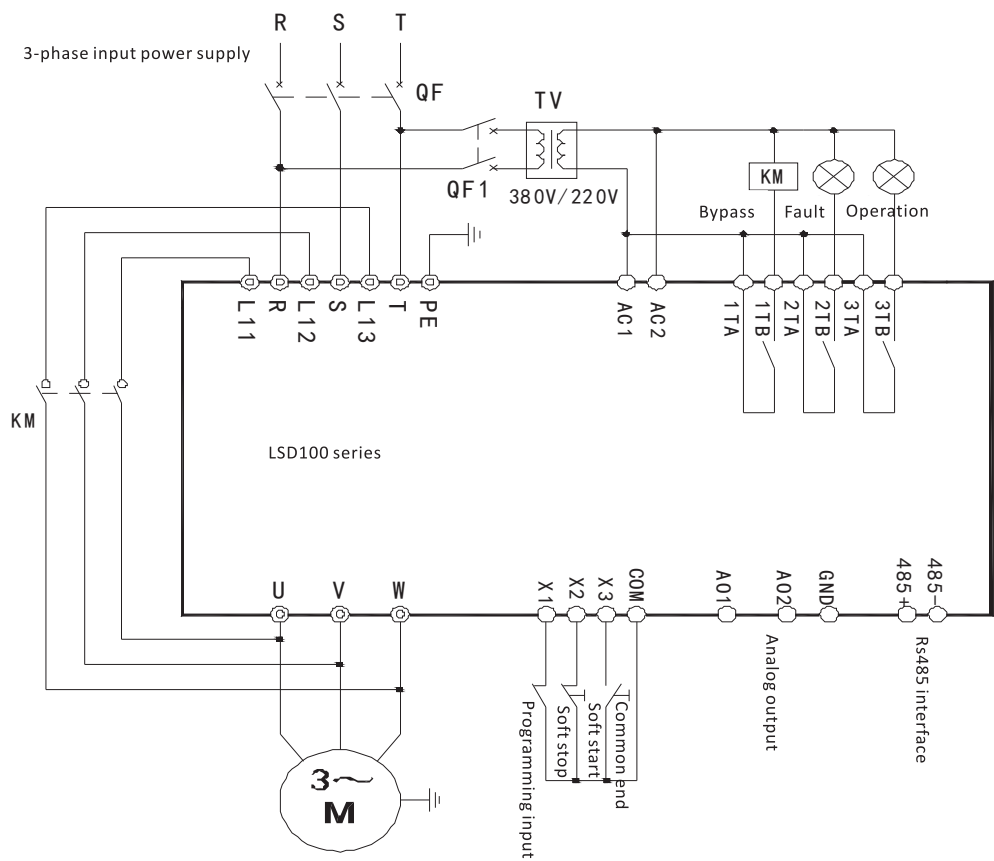
The outline diagram of the LSD100: 135~640KW iron case cabinet model is as follows

Specification of soft starter	H1	L1	W1	W4	Y2	Reset (kg)
135A~300A	200	530	260	40	13	19.8
360A~640A	210	564	290	40	13	25



Wiring diagram

The basic operation wiring connection is as follows:



Description on major loop terminal function

Terminal symbol	Terminal name	Explanation
R、S、T	Input power terminal	Connect to 3-phase power supply
L11、L12、L13	Bypass terminal	U、V、W Connect one end of the contactor and the other end of the contactor to U、V, and W
U、V、W	Output terminal	Connect with 3-phase motor
PE	Grounding terminal	The grounding terminal of the soft starter housing must be grounded

Marketing & Service Network

Hope Senlan has a strong marketing and service network that covers 31 areas in China (including province, city and autonomous region), Asia, Europe and the Americas, and has set up branches in Indonesia, Malaysia, Vietnam, Singapore and Hong Kong, providing users with the unique "Senlan Steward Type Services", including pre-sales technical consultation, scheme design, installation & commissioning during the sale, after-sales training, repair and maintenance. The professional sales and service teams of Hope Senlan will be always at your service!

