



LS600

0.4kw~75kw

English version

# SPACE VECTOR INVERTERS



Comply with:

-  Environmentally-friendly technology
-  Power-saving technology
-  Innovative technology

CE Approval





We have been a professional manufacturer in producing AC motor Speed Controller, high performance electronic clutch and other related accessories since 1985. With an extensive worldwide distribution network, our products are highly approved and recognized by customers throughout the market.

We have honorably received ISO 9001:2000 international quality certification in 2002. We are commitment to offer excellent and stable quality and performance on our products. We are also capable for any OEM or ODM cooperation by Customer's request.

We are grateful for your long-term support and look forward to expanding our business in the future.

## LS600 Series Inverters

### IGBT Space vector inverters

Voltage Range :  
200V~240V 1P/3P  
380V~460V 3P

Capacity Range :  
0.4KW~75KW



### LS800 Series — Flux vector inverters

VF, VF+PG feedback, Sensorless control,  
Flux vector control

Voltage Range : 200V~240V 1P/3P  
380V~460V 3P

Capacity Range : 0.4KW~225KW



### ESD Series — DC Brush-less Servo Drive

Voltage Range : 200V~240V 1P/3P

Capacity Range : 0.4KW~5.5KW



### LS200A — Space vector inverter Analogic control

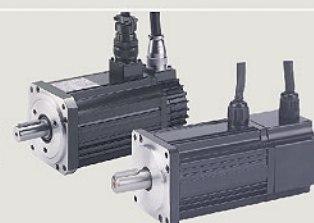
Voltage Range : 200V~240V 1P  
Capacity Range : 0.4KW~1.5KW



### ESM Series — DC Brush-less Motor

Voltage Range : 200V~240V 3P

Capacity Range : 0.4KW~5.5KW



### LS100A — Space vector inverter Analogic control

Voltage Range : 200V~240V 1P  
Capacity Range : 60W~200W



### LSBR Series — Brake unit

Voltage Range : 200V~230V  
380V~460V

Capacity Range : 0.4KW~300KW



### EMC Filter

Voltage Range : 200V~260V 1P/3P  
380V~460V 3P

Capacity Range : 0.4KW~225KW



### LSBR Series — Brake resistors

Voltage Range : 100W~10KW

Resistance : 5Ω~500Ω



### LS AC input reactor

Voltage Range : 200V~260V 1P/3P  
380V~460V 3P

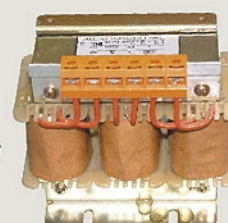
Capacity Range : 0.4KW~300KW



### LS AC output reactor

Voltage Range : 200V~260V 3P  
380V~460V 3P

Capacity Range : 0.4KW~300KW



### LS DC Bus choke

Voltage Range : DC 200V~800V

Capacity Range : 0.4KW~300KW



### LS — operate keypad with exterior cable



LS600 Model extension  
cable with operate keypad



Exterior cable  
with operation box



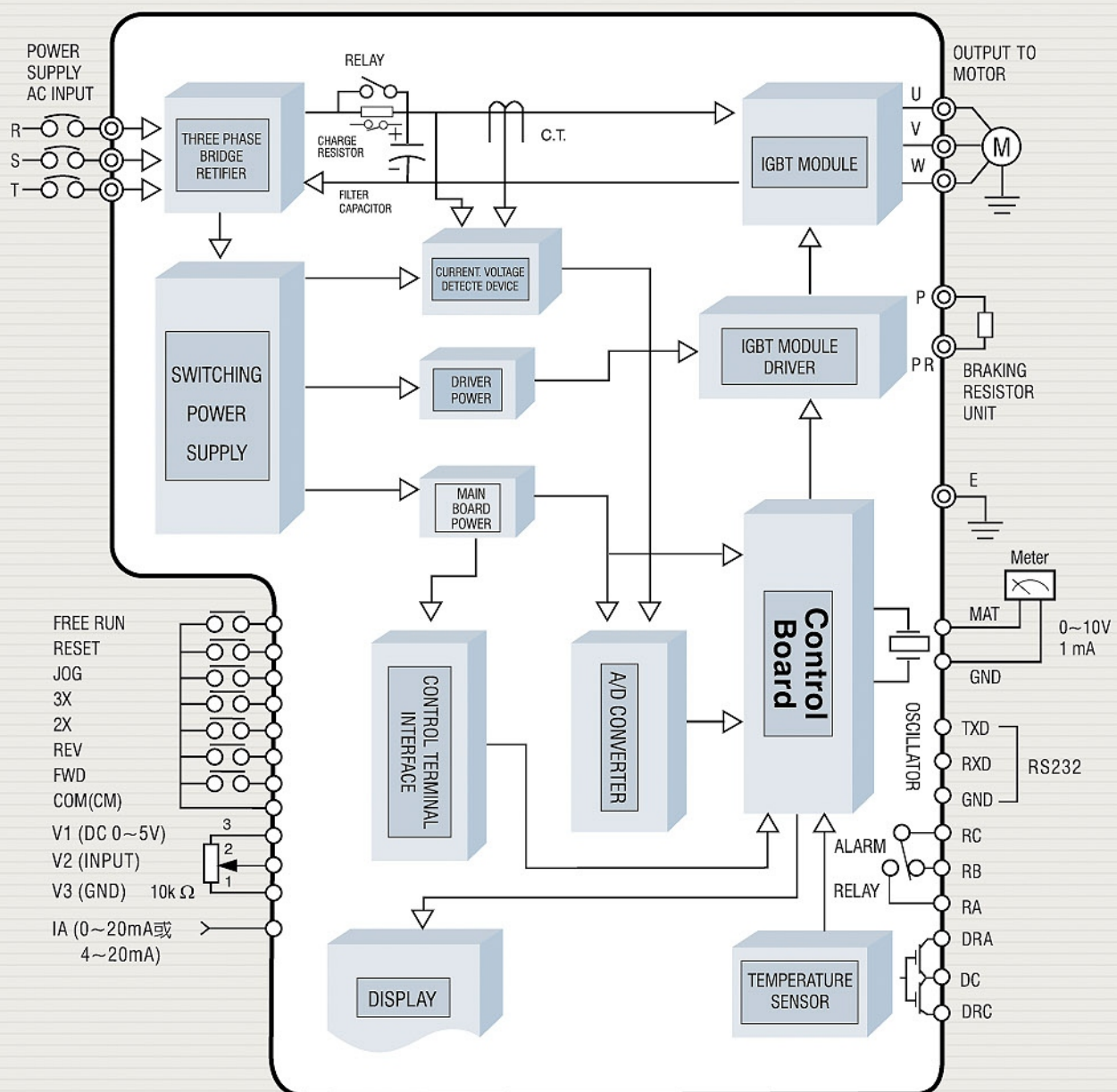
LS800 Model extension  
cable with operate keypad



## LS600

- Space vector:** space vector control of voltage. voltage is equally distributed automatically with low loss of output and high efficiency for energy saving.
- Silent design:** modulated IGBT, high carrier, high-speed change, and long life.
- High precision:** high speed operation of DSP, high precision and low error.
- Smooth current:** close to sine wave, smooth running of motor, no vibration and safety in operation.
- Small size:** space saving design for compact design, portable silent type.
- Interface:** equipped with RS-232 interface for automatic on-line operation with computer.
- Two-way mode:** digital/analogy mode can apply two-way or single-way operations simultaneously.

### BLOCK DIAGRAM OF INVERTERS



**M** : Without isolate, **N** : With isolate, Not show **M**、**N** all With isolate

| Model                         |                           | LS800<br>-40-5N                                           | LS600<br>-4001N | LS600<br>-4002N | LS600<br>-4003N | LS600<br>-4005 | LS600<br>-4007 | LS600<br>-4010 | LS600<br>-4015 | LS600<br>-4020 | LS600<br>-4025 | LS600<br>-4030 | LS600<br>-4040 | LS600<br>-4050 | LS600<br>-4060 | LS600<br>-4075 | LS600<br>-4100 |
|-------------------------------|---------------------------|-----------------------------------------------------------|-----------------|-----------------|-----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| Max. Motor(kw)                |                           | 0.4                                                       | 0.75            | 1.5             | 2.2             | 3.7            | 5.5            | 7.5            | 11             | 15             | 18.5           | 22             | 30             | 37             | 45             | 55             | 75             |
| Capacity (KVA)                |                           | 1.4                                                       | 2.0             | 3.2             | 4.2             | 7.0            | 9.5            | 13             | 18             | 23.5           | 29             | 33             | 46             | 53             | 68             | 84             | 110            |
| Rated Current(A) of Inverters |                           | 1.8                                                       | 3.2             | 4.5             | 7.0             | 9.0            | 12             | 17             | 23             | 30             | 38             | 43             | 58             | 70             | 85             | 110            | 150            |
| Dimension Chart               |                           | A                                                         | A               | A               | A               | B              | C              | C              | C              | D              | D              | D              | E              | E              | F              | F              | F              |
| Power Source                  | Rated voltage & Frequency | Three phase 380V / 400V / 415V / 440V / 460V / 50Hz, 60Hz |                 |                 |                 |                |                |                |                |                |                |                |                |                |                |                |                |
|                               | All voltage variance      | ± 10%                                                     |                 |                 |                 |                |                |                |                |                |                |                |                |                |                |                |                |

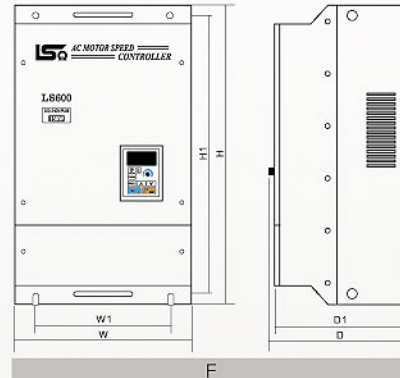
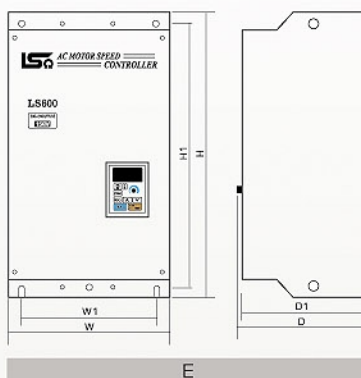
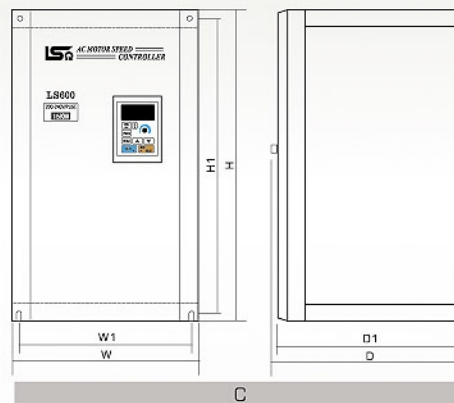
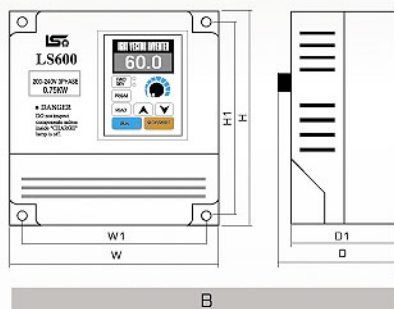
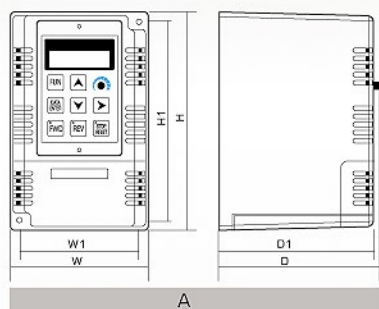


## COMMON CHARACTERISTICS

|                     |                                                   |                                                                                                                                                                                                                    |                                                                                                              |
|---------------------|---------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Control System      | Control Model                                     | Space Vector PWM adjusting control                                                                                                                                                                                 |                                                                                                              |
|                     | Overload Limited                                  | Nominal Output AMP. 150%, 0.1~20 Sec.                                                                                                                                                                              |                                                                                                              |
|                     | Signal of Frequency Setting                       | DC0~5V, DC0~10V(10k $\Omega$ ), 4 ~20mA(250 $\Omega$ ), 0~20mA(250 $\Omega$ )                                                                                                                                      |                                                                                                              |
|                     | Time for Speed Acc./Dec.                          | Individual Setting: 0.1~210 sec.                                                                                                                                                                                   |                                                                                                              |
|                     | Torque for Braking                                | About 20%(Plus braking resistance up to 150% built-in braking chip)                                                                                                                                                |                                                                                                              |
|                     | V/F Curve                                         | Automatic torque compensation or compensation by any V/F curve setting.                                                                                                                                            |                                                                                                              |
|                     | N <sup>2</sup> reduction Progressively Curve Line | 17 lines for usage of great inertia and high torque starting.                                                                                                                                                      |                                                                                                              |
|                     | Automatic Compensation Curve                      | Code selection "0", the parameter have 17 lines for 20% compensation selection.                                                                                                                                    |                                                                                                              |
|                     | Instantaneous Over Current                        | Speed Acc. Setting by motion current, Dec. protection setting by voltage                                                                                                                                           |                                                                                                              |
|                     | Range of Frequency Control                        | 0.5~240Hz                                                                                                                                                                                                          |                                                                                                              |
|                     | Frequency Precision                               | Digital Command : 0.1 %(-10 ~40°C)<br>Analog Command: 0.5%(25°C $\pm$ 10° C)                                                                                                                                       |                                                                                                              |
| Protection Function | Instantaneous Over Current                        | When over 200%, machine will stop immediately for protection. OC1 : Acc. Over current, OC2 : Rated Speed over current, OC3 : Dec. Over current.                                                                    |                                                                                                              |
|                     | Overload                                          | Over 150% current, output stopped in 0.1 to 20 Sec any set.                                                                                                                                                        |                                                                                                              |
|                     | Over-Voltage or Low-Voltage                       | DC Bus over voltage 400V or under 200V (1phase 170V) output stopped<br>DC Bus over voltage 800V or under 400V, output stopped,<br>OU1 : Acc. Over voltage, OU2 : Rated Speed over voltage, OU3 : Dec. Over voltage |                                                                                                              |
|                     | Low Power Protect                                 | Voltage less than DC 170V, in 15 ms stopping.                                                                                                                                                                      |                                                                                                              |
|                     | Over-heat                                         | protected by thermo-switch, include heating sink and charge Resistor.                                                                                                                                              |                                                                                                              |
|                     | Charging Indicating                               | DC Bus over voltage over 50V, charging lamp is on light                                                                                                                                                            |                                                                                                              |
| Rotation System     | Input                                             | Rotation                                                                                                                                                                                                           | Clock & anti-clock rotation or individual command on VR and keypad                                           |
|                     |                                                   | External Effect                                                                                                                                                                                                    | Warning signal for abnormal external effect to stop operation                                                |
|                     |                                                   | Recovery                                                                                                                                                                                                           | Upon removal of protection action signal                                                                     |
|                     |                                                   | Signal Control                                                                                                                                                                                                     | Eight point control(2x,3x Jog speed signal. speed search, free run, DC0~5V, DC0~10V, 4~20mA, 0~20mA input. ) |
|                     | Output                                            | Abnormal Contact                                                                                                                                                                                                   | Abnormal output contacts, Alarm Relay output, 1a/1b Max. Ac250V/3A                                           |
|                     |                                                   | Collector output                                                                                                                                                                                                   | Crystal open collector output terminals.<br>DC MAX. 24V/150mA, AC MAX. 250V/150mA                            |
|                     |                                                   | Analog output                                                                                                                                                                                                      | 0~10VDC/1mA analog output terminal.                                                                          |
|                     | Display                                           | LED Display                                                                                                                                                                                                        | LED for RUN/STOP, FWD/REV                                                                                    |
| Digital Operator    |                                                   | Setting for frequency, output frequency, direction of rotation, abnormal matter                                                                                                                                    |                                                                                                              |
| Environment         | Location                                          | Indoor, no corrosive gas or liquid and free from dust                                                                                                                                                              |                                                                                                              |
|                     | Ambient Temp.                                     | -10°C~50°C (No Freezing)                                                                                                                                                                                           |                                                                                                              |
|                     | Storage Temp.                                     | -15°C~50°C (Avoiding high temperature to damage capacitor in main line)                                                                                                                                            |                                                                                                              |
|                     | Humidity                                          | Below dew point, up to 90% RH                                                                                                                                                                                      |                                                                                                              |
|                     | Vibration                                         | Below 0.5G                                                                                                                                                                                                         |                                                                                                              |

**REMARK :** Largest motor is standard three-phase, 4-pole induction motor

# OUTSIDE DIMENSION CHART UNIT: m/m



| Size Area |                  |              | W     | W1  | H     | H1  | D   | D1  | Net Weight (Kg) | Gross Weight (Kg) | Measurement | Fix Screw |
|-----------|------------------|--------------|-------|-----|-------|-----|-----|-----|-----------------|-------------------|-------------|-----------|
| Model     |                  |              |       |     |       |     |     |     |                 |                   |             |           |
| A         | LS600-20-5SM     | LS600-2001SM | 114.2 | 101 | 172.1 | 159 | 146 | 136 | Approx. Weight  |                   | 0.2         | M4        |
|           | LS600-2002SM     | LS600-2003SM |       |     |       |     |     |     |                 |                   |             |           |
|           | LS600-20-5SN     | LS600-2001SN |       |     |       |     |     |     |                 |                   |             |           |
|           | LS600-2002SN     | LS600-2003SN |       |     |       |     |     |     |                 |                   |             |           |
|           | LS600-20-5N      | LS600-2001N  |       |     |       |     |     |     |                 |                   |             |           |
|           | LS600-2002N      | LS600-2003N  |       |     |       |     |     |     |                 |                   |             |           |
|           | LS600-40-5N      | LS600-4001N  |       |     |       |     |     |     |                 |                   |             |           |
|           | LS600-4002N      | LS600-4003N  |       |     |       |     |     |     |                 |                   |             |           |
|           |                  |              |       |     |       |     |     |     |                 |                   |             |           |
| B         | LS600-20-5       | LS600-2001   | 148   | 128 | 152   | 138 | 142 | 132 | Approx. Weight  |                   | 0.3         | M4        |
|           | LS600-2002       | LS600-4001   |       |     |       |     |     |     |                 |                   |             |           |
|           | LS600-4002       | LS600-20-5S  |       |     |       |     |     |     |                 |                   |             |           |
|           | LS600-2001S      | LS600-2002S  |       |     |       |     |     |     |                 |                   |             |           |
| C         | LS600-2003       | LS600-2005   | 148   | 128 | 202   | 189 | 166 | 155 | 2.6             | 3.0               | 0.4         | M4        |
|           | LS600-4003       | LS600-4005   |       |     |       |     |     |     |                 |                   |             |           |
| C         | LS600-7.5HP~15HP |              | 188   | 173 | 304   | 284 | 178 | 170 | 2.3             | 2.7               | 0.3         | M4        |
| D         | LS600-2007       | LS600-2010   | 202   | 185 | 333   | 313 | 196 | 186 | 10.0            | 12                | 1.0         | M6        |
|           | LS600-2015       | LS600-4007   |       |     |       |     |     |     |                 |                   |             |           |
|           | LS600-4010       | LS600-4015   |       |     |       |     |     |     |                 |                   |             |           |
| E         | LS600-2020       | LS600-2025   | 250   | 226 | 425   | 402 | 226 | 216 | 18.0            | 20.6              | 1.7         | M6        |
|           | LS600-2030       | LS600-4020   |       |     |       |     |     |     |                 |                   |             |           |
|           | LS600-4025       | LS600-4030   |       |     |       |     |     |     |                 |                   |             |           |
| F         | LS600-2040       | LS600-2050   | 290   | 236 | 562   | 535 | 215 | 205 | 21.0            | 26.4              | 3.0         | M6        |
|           | LS600-4040       | LS600-4050   |       |     |       |     |     |     |                 |                   |             |           |
| F         | LS600-2060       | LS600-2075   | 356   | 236 | 670   | 645 | 285 | 275 | 41.0            | 47.4              | 4.9         | M8        |
|           | LS600-4060       | LS600-4075   |       |     |       |     |     |     |                 |                   |             |           |
|           | LS600-4100       |              |       |     |       |     |     |     |                 |                   |             |           |



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