

*Green Innovators of Innovation*

[www.ls-is.biz](http://www.ls-is.biz)



Variable Frequency Drive

## LS Inverter Series

iE5 / iC5 / iG5A / iS5 / iS7 / iP5A / iV5

**LS IS**



# Take another look!

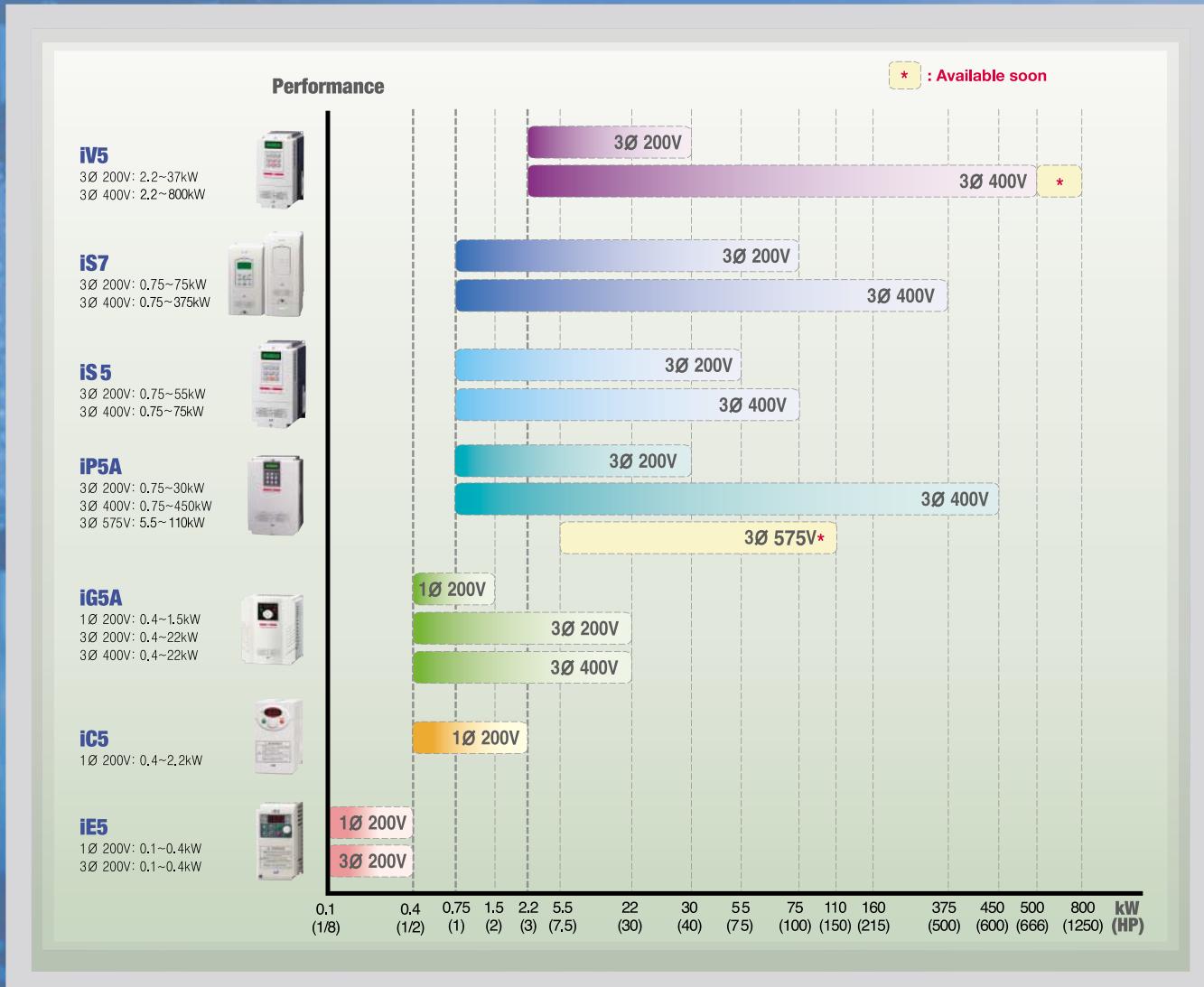
**Simplicity-Precision, Flexibility-Standardization and  
Easy to use-Diversity are the inherent qualities of  
LS Variable Frequency Drives.**

**As an one-stop drive solution provider,  
LS is ready to offer its own competitive solutions  
into the general power transmission industry.**





RoHS



## Contents

- iE5 ..... 4
- iV5 ..... 10
- iC5 ..... 5
- Comparison ..... 11
- iG5A ..... 6
- Option list ..... 13
- iS5 ..... 7
- Dynamic Braking Unit list ..... 14
- iS7 ..... 8
- External resistor list ..... 14
- iP5A ..... 9



# iE5

Variable Frequency Drive / Inverter

User friendly micro size slim VFD

1 phase 0.1~0.4kW(0.1~0.5HP), 200~230V

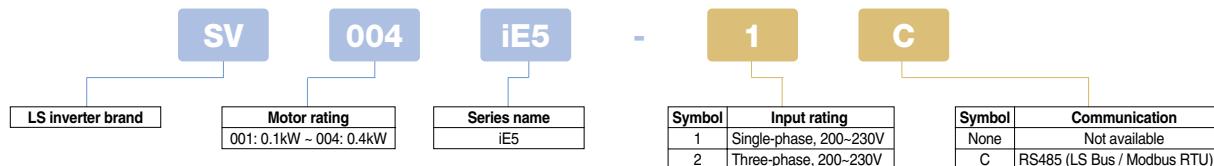
3 phase 0.1~0.4kW(0.1~0.5HP), 200~230V

- V/f control
- Compact size:  $68 \times 128 \times 85\text{mm}$  ( $2.7 \times 5 \times 3.3$  inch)
- 0.1 ~ 200Hz frequency output
- 1 ~ 10kHz carrier frequency
- Fault history: Last 3 faults
- IP20 enclosure
- RS485 (LS Bus / Modbus RTU) communication (Built-in option)
- DC Injection braking
- Selectable manual/automatic torque boost
- Selectable PNP/NPN input signal
- PI control
- Up-Down & 3-Wire operation
- Automatic restart after instantaneous power failure
- Built-in potentiometer
- Monitoring & commissioning PC based software tool (Drive View)
- Parameter copy unit



CE cULus

## Model Number



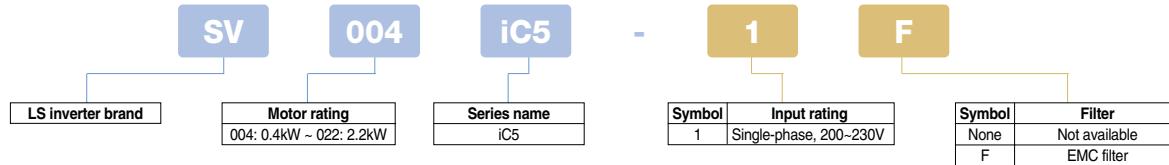
## General specification

| Model number: SV□□□iE5-□ |                                      | 001-1  | 002-1                                  | 004-1 | 001-2 | 002-2                                 | 004-2 |
|--------------------------|--------------------------------------|--|--|-------|-------|---------------------------------------|-------|
| Motor rating             | [HP]                                 | 0.13   | 0.25                                   | 0.5   | 0.13  | 0.25                                  | 0.5   |
|                          | [kW]                                 | 0.1  | 0.2                                    | 0.4   | 0.1   | 0.2                                   | 0.4   |
| Output rating            | Capacity                             | [kVA]  | 0.3                                    | 0.6   | 0.95  | 0.3                                   | 0.6   |
|                          | Current                              | [A]  | 0.8                                    | 1.4   | 2.5   | 0.8                                   | 1.6   |
|                          | Voltage                              | [V]  | Three-phase 200 ~ 230V                 |       |       |                                       |       |
|                          | Frequency                            | [Hz]   | 0.1 ~ 200Hz                            |       |       |                                       |       |
| Input rating             | Voltage                              | [V]  | Single-phase 200 ~ 230V ( $\pm 10\%$ ) |       |       | Three-phase 200 ~ 230V ( $\pm 10\%$ ) |       |
|                          | Frequency                            | [Hz]   | 50 ~ 60Hz ( $\pm 5\%$ )                |       |       |                                       |       |
|                          | Current                              | [A]  | 2.0                                    | 3.5   | 5.5   | 1.2                                   | 2.0   |
| Weight                   | [kg]                                 | 0.44   | 0.46                                   | 1.68  | 0.43  | 0.45                                  | 0.67  |
| Control Spec             | Control method                       | V/f, Slip compensation   |  |       |       |                                       |       |
|                          | Speed reference resolution           | Digital command: 0.01Hz / Analog reference: 0.1Hz (Max freq., 60Hz)  |  |       |       |                                       |       |
|                          | Frequency accuracy                   | Digital command: 0.01% of Max output freq. / Analog signal command of 0.1% of Max output freq.   |  |       |       |                                       |       |
|                          | V/f curve                            | Linear, Squared V/f  |  |       |       |                                       |       |
|                          | Overload capacity                    | 150% for 1 minute  |  |       |       |                                       |       |
|                          | Torque boost                         | Auto & manual torque boost   |  |       |       |                                       |       |
| Operation                | Keypad Display                       | 4 digit, 7 segment LED   |  |       |       |                                       |       |
|                          | Operation method                     | Keypad / Terminal / Communication  |  |       |       |                                       |       |
|                          | Frequency setting                    | Analog: 0 to 10V / 0 to 20mA / Potentiometer / Digital: Keypad   |  |       |       |                                       |       |
|                          | Operation function                   | PI control / Up-Down operation / 3-Wire operation  |  |       |       |                                       |       |
| Input signal             | Multi-function terminal<br>(P1 ~ P5) | PNP / NPN selectable<br>5 points (programmable)  |  |       |       |                                       |       |
|                          |                                      |  |  |       |       |                                       |       |
| Output signal            | Multi-function relay                 | Fault output & inverter status output (N.O., N.C.) Less than AC 250V, 0.3A / Less than DC 30V 1A   |  |       |       |                                       |       |
|                          | Analog output                        | 0 to 10Vdc (less than 10mA): frequency / current / voltage / DC voltage selectable   |  |       |       |                                       |       |
| Protection               | Inverter trip                        | Over voltage / Low voltage / Over current / Ground fault / Inverter overload / Overload trip / Inverter overheat / Condenser overload / Output phase open / Frequency command loss / Hardware fault / etc. |  |       |       |                                       |       |
|                          | Inverter alarm                       | Stall prevention   |  |       |       |                                       |       |
| Enclosure                |                                      | IP20   |  |       |       |                                       |       |
| Option                   | Communication, copy unit             | RS485(LS Bus / Modbus RTU), Parameter copy unit  |  |       |       |                                       |       |



- EMC filter - class A (Built-in option)
- Selectable V/f, sensorless vector control
- Motor parameter Auto-tuning
- 150% torque at 0.5Hz
- 0.1 ~ 400Hz frequency output
- 1 ~ 15kHz carrier frequency
- 0 ~ 10Vdc analog input
- IP20 enclosure
- Selectable manual/automatic torque boost
- Built-in potentiometer
- Selectable PNP/NPN Input signal
- Fault history: Last 5 faults
- Enhanced process PID control
- Up-Down & 3-Wire operation
- Modbus RTU communication (optional)
- 8 programmable I/O
- Parameter copy unit
- Monitoring & commissioning PC based software tool (Drive View)

## Model Number



## General specification

| Model number: SV□□□iC5-□ |                                   | 004-1  | 008-1                                  | 015-1 | 022-1 |
|--------------------------|-----------------------------------|--|--|-------|-------|
| Motor rating             | [HP]                              | 0.5  | 1                                      | 2     | 3     |
|                          | [kW]                              | 0.4  | 0.75                                   | 1.5   | 2.2   |
| Output rating            | Capacity                          | [kVA]  | 0.95                                   | 1.9   | 3     |
|                          | Current                           | [A]  | 2.5                                    | 5     | 8     |
|                          | Voltage                           | [V]  | Three-phase 200 ~ 230V                 |       |       |
|                          | Frequency                         | [Hz]   | 0.1 ~ 400Hz                            |       |       |
| Input rating             | Voltage                           | [V]  | Single-phase 200 ~ 230V ( $\pm 10\%$ ) |       |       |
|                          | Frequency                         | [Hz]   | 50 ~ 60Hz ( $\pm 5\%$ )                |       |       |
|                          | Current                           | [A]  | 5.5                                    | 9.2   | 16    |
| Weight                   | [kg]                              | 0.87   | 0.89                                   | 1.79  | 1.85  |
| Control Spec             | Control method                    | V/f, Slip compensation, Sensorless vector  |  |       |       |
|                          | Speed reference resolution        | Digital command: 0.01Hz / Analog reference: 0.06Hz (Max freq., 60Hz)   |  |       |       |
|                          | Frequency accuracy                | Digital command: 0.01% of Max output freq. / Analog signal command of 0.1% of Max output freq.   |  |       |       |
|                          | V/f curve                         | Linear, Squared, User custom V/f   |  |       |       |
|                          | Overload capacity                 | 150% for 1 minute, 200% for 30 seconds   |  |       |       |
|                          | Torque boost                      | Auto & manual torque boost   |  |       |       |
| Operation                | Keypad Display                    | 3 digit, 7 segment LED   |  |       |       |
|                          | Operation method                  | Keypad / Terminal / Communication  |  |       |       |
|                          | Frequency setting                 | Analog: 0 to 10V / 4 to 20mA / Potentiometer / Digital: Keypad   |  |       |       |
|                          | Operation function                | PID control / Up-Down operation / 3-Wire operation   |  |       |       |
| Input signal             | Multi-function terminal (P1 ~ P5) | PNP / NPN selectable<br>5 points (programmable)  |  |       |       |
| Output signal            | Multi-function relay              | (N.O., N.C.) Less than AC 250V, 0.3A / Less than DC 30V 1A   |  |       |       |
|                          | Multi-function open collector     | DC24V (less than 50mA)   |  |       |       |
|                          | Analog output                     | 0 to 10Vdc (less than 10mA): frequency / current / voltage / DC voltage selectable   |  |       |       |
| Protection               | Inverter trip                     | Over voltage / Low voltage / Over current / Ground fault / Inverter overheat / Output phase open / Inverter overload<br>Overload trip / Communication error / Frequency command loss / Hardware fault / Fan fault / etc. |  |       |       |
|                          | Inverter alarm                    | Stall prevention, Overload   |  |       |       |
| Enclosure                |                                   | IP20   |  |       |       |
| Option                   | Communication, copy unit          | Modbus RTU, Parameter copy unit  |  |       |       |



# iG5A

Variable Frequency Drive / Inverter

**Powerful & compact sensorless vector control VFD**

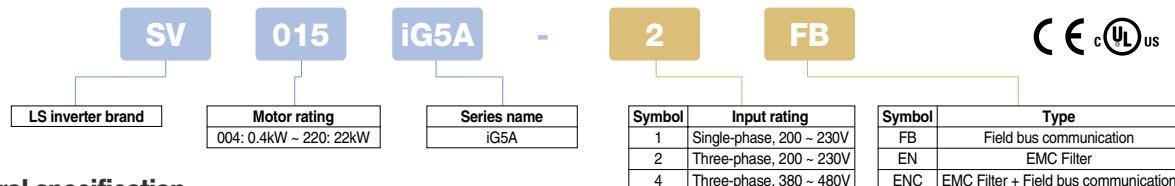
1 phase 0.4~1.5kW(0.5~2HP), 200~230V  
3 phase 0.4~22kW(0.5~30HP), 200~230V  
3 phase 0.4~22kW(0.5~30HP), 380~480V

- Selectable V/f, sensorless vector control
- Motor parameter Auto-tuning
- Powerful torque at overall speed range
- 0.1 ~ 400Hz frequency output
- 1 ~ 15kHz carrier frequency
- 15% ~ +10% input voltage margin
- Fault history: Last 5 faults
- 0~10Vdc / -10~+10Vdc analog input
- IP20 enclosure, UL Type 1 (Option)
- Selectable manual/automatic torque boost
- Selectable PNP/NPN input signal
- 2nd motor control and parameter setting

- Built-in Dynamic braking transistor as standard
- Enhanced process PID control
- Built-in RS485 (LS Bus / Modbus RTU) communication
- Cooling fan On/Off control & Easy change
- Remote control using external keypad \* RJ45 cable(Optional)
- Upgraded functions: Sleep & Wake-up (Energy savings)  
KEB (Kinetic Energy Buffering) protection  
Low leakage PWM algorism
- Monitoring & commissioning PC based software tool (Drive View)
- Footprint EMC Filter (Option)
- Communication options
  - DeviceNet, EtherNet, Profibus-DP, CANOpen



## Model Number



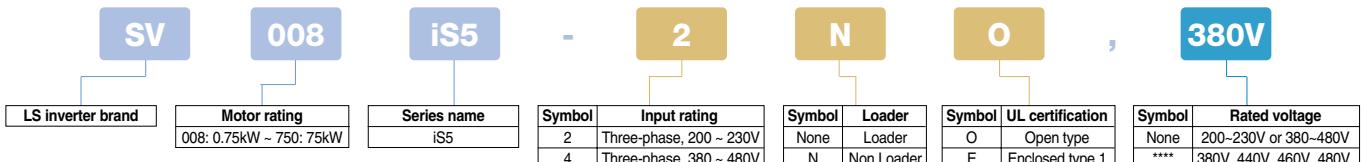
## General specification

| Model number: SV□□□iG5A-1□ |  | 004   |                                    |      | 008  |      |      | 015  |      |      |      |      |      |
|----------------------------|--|---|------------------------------------|------|------|------|------|------|------|------|------|------|------|
| Motor rating               | [HP]   | 0.5   |                                    |      | 1    |      |      | 2    |      |      |      |      |      |
|                            | [kW]   | 0.4   |                                    |      | 0.75 |      |      | 1.5  |      |      |      |      |      |
| Output rating              | Capacity   | [kVA]   | 0.95                               |      | 1.9  |      |      | 3.0  |      |      |      |      |      |
|                            | Current  | [A]   | 2.5                                |      | 5    |      |      | 8    |      |      |      |      |      |
|                            | Voltage  | [V]   | Three-phase 200~230V               |      |      |      |      |      |      |      |      |      |      |
|                            | Frequency  | [Hz]  | 0.1~400Hz                          |      |      |      |      |      |      |      |      |      |      |
| Input rating               | Voltage  | [V]   | Single-phase 200~230V (+10%, -15%) |      |      |      |      |      |      |      |      |      |      |
|                            | Frequency  | [Hz]  | 50~60Hz (±5%)                      |      |      |      |      |      |      |      |      |      |      |
| Weight                     | [kg]   | 0.77  |                                    |      | 1.12 |      |      | 1.84 |      |      |      |      |      |
| Model number: SV□□□iG5A-2□ |  | 004   | 008                                | 015  | 022  | 037  | 040  | 055  | 075  | 110  | 150  | 185  | 220  |
| Motor rating               | [HP]   | 0.5   | 1                                  | 2    | 3    | 5    | 5.4  | 7.5  | 10   | 15   | 20   | 25   | 30   |
|                            | [kW]   | 0.4   | 0.75                               | 1.5  | 2.2  | 3.7  | 4.0  | 5.5  | 7.5  | 11   | 15   | 18.5 | 22   |
| Output rating              | Capacity   | [kVA]   | 0.95                               | 1.9  | 3    | 4.5  | 6.1  | 6.5  | 9.1  | 12.2 | 17.5 | 22.9 | 33.5 |
|                            | Current  | [A]   | 2.5                                | 5    | 8    | 12   | 16   | 17   | 24   | 32   | 46   | 60   | 74   |
|                            | Voltage  | [V]   | Three-phase 200~230V               |      |      |      |      |      |      |      |      |      |      |
|                            | Frequency  | [Hz]  | 0.1~400Hz                          |      |      |      |      |      |      |      |      |      |      |
| Input rating               | Voltage  | [V]   | Three-phase 200~230V (+10%, -15%)  |      |      |      |      |      |      |      |      |      |      |
|                            | Frequency  | [Hz]  | 50~60Hz (±5%)                      |      |      |      |      |      |      |      |      |      |      |
| Weight                     | [kg]   | 0.76  | 0.77                               | 1.12 | 1.84 | 1.89 | 1.89 | 3.66 | 3.66 | 9.00 | 9.00 | 13.3 | 13.3 |
| Model number: SV□□□iG5A-4□ |  | 004   | 008                                | 015  | 022  | 037  | 040  | 055  | 075  | 110  | 150  | 185  | 220  |
| Motor rating               | [HP]   | 0.5   | 1                                  | 2    | 3    | 5    | 5.4  | 7.5  | 10   | 15   | 20   | 25   | 30   |
|                            | [kW]   | 0.4   | 0.75                               | 1.5  | 2.2  | 3.7  | 4.0  | 5.5  | 7.5  | 11   | 15   | 18.5 | 22   |
| Output rating              | Capacity   | [kVA]   | 0.95                               | 1.9  | 3    | 4.5  | 6.1  | 6.5  | 9.1  | 12.2 | 18.3 | 22.9 | 34.3 |
|                            | Current  | [A]   | 1.25                               | 2.5  | 4    | 6    | 8    | 9    | 12   | 16   | 24   | 30   | 39   |
|                            | Voltage  | [V]   | Three-phase 380~480V               |      |      |      |      |      |      |      |      |      |      |
|                            | Frequency  | [Hz]  | 0.1~400Hz                          |      |      |      |      |      |      |      |      |      |      |
| Input rating               | Voltage  | [V]   | Three-phase 380~480V (+10%, -15%)  |      |      |      |      |      |      |      |      |      |      |
|                            | Frequency  | [Hz]  | 50~60Hz (±5%)                      |      |      |      |      |      |      |      |      |      |      |
| Weight                     | [kg]   | 0.76  | 0.77                               | 1.12 | 1.84 | 1.89 | 1.89 | 3.66 | 3.66 | 9.00 | 9.00 | 13.3 | 13.3 |
| Control Spec               | Control method   | V/f, Slip compensation, Sensorless vector   |                                    |      |      |      |      |      |      |      |      |      |      |
|                            | Speed reference resolution   | Digital command: 0.01Hz / Analog reference: 0.06Hz (Max freq., 60Hz)  |                                    |      |      |      |      |      |      |      |      |      |      |
|                            | Frequency accuracy   | Digital command: 0.01% of Max output freq. / Analog signal command of 0.1% of Max output freq.  |                                    |      |      |      |      |      |      |      |      |      |      |
|                            | V/f curve  | Linear, Squared, User custom V/f  |                                    |      |      |      |      |      |      |      |      |      |      |
|                            | Overload capacity  | 150% for 1 minute   |                                    |      |      |      |      |      |      |      |      |      |      |
|                            | Torque boost   | Auto & manual torque boost  |                                    |      |      |      |      |      |      |      |      |      |      |
| Operation                  | Keypad Display   | 4 digit, 7 segment LED  |                                    |      |      |      |      |      |      |      |      |      |      |
|                            | Operation method   | Keypad / Terminal / Communication   |                                    |      |      |      |      |      |      |      |      |      |      |
|                            | Frequency setting  | Analog: 0 to 10V / -10 to 10V / 0 to 20mA / Digital: Keypad   |                                    |      |      |      |      |      |      |      |      |      |      |
|                            | Operation function   | PID control / Up-Down operation / 3-Wire operation  |                                    |      |      |      |      |      |      |      |      |      |      |
| Input signal               | Multi-function terminal (P1 ~ P8)  | PNP / NPN selectable<br>8 points (programmable)   |                                    |      |      |      |      |      |      |      |      |      |      |
| Output signal              | Multi-function relay   | (N.O., N.C.) Less than AC250V, 0.3A / Less than DC 30V 1A   |                                    |      |      |      |      |      |      |      |      |      |      |
|                            | Multi-function open collector  | DC24V (less than 50mA)  |                                    |      |      |      |      |      |      |      |      |      |      |
|                            | Analog output  | 0 to 10Vdc (less than 10mA): frequency / current / voltage / DC voltage selectable  |                                    |      |      |      |      |      |      |      |      |      |      |
| Protection                 | Inverter trip  | Over voltage / Low voltage / Over current / Over Current 2 / Ground fault / Inverter overheat / Output phase open / OInverter overload / Overload trip / Communication error / Frequency command loss / Hardware fault / Fan fault / Brake error / etc. |                                    |      |      |      |      |      |      |      |      |      |      |
|                            | Inverter alarm   | Stall prevention, Overload  |                                    |      |      |      |      |      |      |      |      |      |      |
| Enclosure                  | IP20, NEMA1 (Optional)   |   |                                    |      |      |      |      |      |      |      |      |      |      |
| Option                     | Cable, conduit kit   | Remote cable(2M/3M/5M) plus external keypad, Conduit kit for NEMA 1   |                                    |      |      |      |      |      |      |      |      |      |      |
|                            | Communication  | DeviceNet, EtherNet, CANOpen, Profibus-DP   |                                    |      |      |      |      |      |      |      |      |      |      |
| Others                     | Built-in Dynamic braking transistor, Built-in RS485(LS Bus / Modbus RTU) |   |                                    |      |      |      |      |      |      |      |      |      |      |



- Selectable V/f, Sensorless vector, Sensored vector control (Optional)
- Built-in process PID control
- Optimum acceleration & deceleration for a maximum torque
- APP parameter group for special operations:  
Traverse, Multi Motor Control, DRAW
- Multi-function I/O terminal:  
Input: 27 functions / Output: 21 functions
- Multi Motor Control (Up to 4 motors: Optional)
- Motor parameter Auto-tuning
- Parameter Read/Write function using a detachable LCD Keypad
- 8 Preset speeds
- Extension I/O boards (Optional): Sub-A, Sub-B, Sub-C
- Communication options:  
Modbus RTU, Profibus-DP, DeviceNet, RS485(LS Bus), Fnet(LS PLC link)
- Built-in Dynamic braking transistor (Up to 7.5kW[10HP])
- Monitoring & commissioning PC based software tool (Drive View)

## Model Number



## General specification

| Model number: SV□□□iS5-2□ |                             | 008   | 015  | 022 | 037 | 055 | 075 | 110  | 150  | 185  | 220  | 300  | 370  | 450 | 550 |     |
|---------------------------|-----------------------------|---|--|-----|-----|-----|-----|------|------|------|------|------|------|-----|-----|-----|
| Motor rating              | [HP]                        | 1   | 2  | 3   | 5   | 7.5 | 10  | 15   | 20   | 25   | 30   | 40   | 50   | 60  | 75  |     |
|                           | [kW]                        | 0.75  | 1.5  | 2.2 | 3.7 | 5.5 | 7.5 | 11   | 15   | 18.5 | 22   | 30   | 37   | 45  | 55  |     |
| Output rating             | Capacity                    | [kVA]   | 1.9  | 3   | 4.5 | 6.1 | 9.1 | 12.2 | 17.5 | 22.9 | 28.5 | 33.5 | 46   | 55  | 68  |     |
|                           | Current                     | [A]   | 5  | 8   | 12  | 16  | 24  | 32   | 46   | 60   | 74   | 88   | 122  | 146 | 180 |     |
|                           | Voltage                     | [V]   | Three-phase 200 ~ 230V   |     |     |     |     |      |      |      |      |      |      |     |     |     |
| Input rating              | Frequency                   | [Hz]  | 0.1 ~ 400Hz (Sensorless control: 0.1~300Hz, Sensored control: 0.1~120Hz) |     |     |     |     |      |      |      |      |      |      |     |     |     |
|                           | Voltage                     | [V]   | Three-phase 200 ~ 230V (±10%)  |     |     |     |     |      |      |      |      |      |      |     |     |     |
|                           | Frequency                   | [Hz]  | 50 ~ 60Hz (±5%)  |     |     |     |     |      |      |      |      |      |      |     |     |     |
| Weight                    | [kg]                        | 4.6   | 4.6  | 4.8 | 4.9 | 7.5 | 7.7 | 13.8 | 14.3 | 19.4 | 20.0 | 42.0 | 42.0 | 61  | 61  |     |
| Model number: SV□□□iS5-4□ |                             | 008   | 015  | 022 | 037 | 055 | 075 | 110  | 150  | 185  | 220  | 300  | 370  | 450 | 550 | 750 |
| Motor rating              | [HP]                        | 1   | 2  | 3   | 5   | 7.5 | 10  | 15   | 20   | 25   | 30   | 40   | 50   | 60  | 75  | 100 |
|                           | [kW]                        | 0.75  | 1.5  | 2.2 | 3.7 | 5.5 | 7.5 | 11   | 15   | 18.5 | 22   | 30   | 37   | 45  | 55  | 75  |
| Output rating             | Capacity                    | [kVA]   | 1.9  | 3   | 4.5 | 6.1 | 9.1 | 12.2 | 17.5 | 22.9 | 29.7 | 34.3 | 45   | 56  | 68  | 82  |
|                           | Current                     | [A]   | 2.5  | 4   | 6   | 8   | 12  | 16   | 24   | 30   | 39   | 45   | 61   | 75  | 91  | 110 |
|                           | Voltage                     | [V]   | Three-phase 380 ~ 480V   |     |     |     |     |      |      |      |      |      |      |     |     |     |
| Input rating              | Frequency                   | [Hz]  | 0.1 ~ 400Hz (Sensorless control: 0.1~300Hz, Sensored control: 0.1~120Hz) |     |     |     |     |      |      |      |      |      |      |     |     |     |
|                           | Voltage                     | [V]   | Three-phase 380 ~ 480V (±10%)  |     |     |     |     |      |      |      |      |      |      |     |     |     |
|                           | Frequency                   | [Hz]  | 50 ~ 60Hz (±5%)  |     |     |     |     |      |      |      |      |      |      |     |     |     |
| Weight                    | [kg]                        | 4.7   | 4.7  | 4.8 | 4.9 | 7.7 | 7.7 | 13.9 | 14.4 | 20   | 20   | 45   | 45   | 63  | 63  | 68  |
| Control Spec              | Control method              | Sensorless vector, Sensored vector, V/f   |  |     |     |     |     |      |      |      |      |      |      |     |     |     |
|                           | Speed reference resolution  | Digital command: 0.01Hz (less than 100Hz), 0.1Hz (greater than 100Hz) / Analog reference: 0.03Hz (Max freq., 60Hz)  |  |     |     |     |     |      |      |      |      |      |      |     |     |     |
|                           | Frequency accuracy          | Digital command: 0.01% of Max output freq. / Analog signal command of 0.1% of Max output freq.  |  |     |     |     |     |      |      |      |      |      |      |     |     |     |
|                           | V/f curve                   | Linear, Squared, User custom V/f  |  |     |     |     |     |      |      |      |      |      |      |     |     |     |
|                           | Overload capacity           | 150% for 1 minute, 200% for 0.5 second  |  |     |     |     |     |      |      |      |      |      |      |     |     |     |
|                           | Torque boost                | Auto & manual(0 ~ 15%) torque boost   |  |     |     |     |     |      |      |      |      |      |      |     |     |     |
| Operation                 | Keypad Display              | 32 characters LCD keypad / 4 digit, 7 segment LED keypad  |  |     |     |     |     |      |      |      |      |      |      |     |     |     |
|                           | Operation method            | Keypad / Terminal / Communication   |  |     |     |     |     |      |      |      |      |      |      |     |     |     |
|                           | Frequency setting           | Analog: 0 to 10V / 4 to 20mA / Additional port for Sub-board(0~10V) / Digital: Keypad   |  |     |     |     |     |      |      |      |      |      |      |     |     |     |
|                           | Operation function          | DC braking / Frequency limit / Frequency jump / Second function / Second Function / Slip compensation / Reverse rotation prevention / Auto restart / Inverter By-pass / Auto-Tuning / PID control   |  |     |     |     |     |      |      |      |      |      |      |     |     |     |
| Input signal              | Sart signal                 | Forward / Reverse   |  |     |     |     |     |      |      |      |      |      |      |     |     |     |
|                           | Multi-step                  | Up to 8 speeds can be set (Use Multi-function terminal)   |  |     |     |     |     |      |      |      |      |      |      |     |     |     |
|                           | Multi-step Accel/Decel time | 0~6,000 sec, Up to 8 types can be set and selected for each setting (Use Multi-function terminal)   |  |     |     |     |     |      |      |      |      |      |      |     |     |     |
|                           | Emergency stop              | Interrupts the Output from Inverter   |  |     |     |     |     |      |      |      |      |      |      |     |     |     |
|                           | JOG                         | JOG operation   |  |     |     |     |     |      |      |      |      |      |      |     |     |     |
|                           | Auto operation              | Operates from Internal sequence by setting Multi-function terminal (5 way * 8 Step)   |  |     |     |     |     |      |      |      |      |      |      |     |     |     |
|                           | Fault reset                 | Trip status is removed when Protection function is active   |  |     |     |     |     |      |      |      |      |      |      |     |     |     |
| Output signal             | Operating status            | Frequency detection level / Overload alarm / Stalling / Over voltage / Low voltage / Inverter overheat / Run / Stop / Constant speed / Inverter By-pass / Speed search / Auto-operation step / Auto-operation sequence  |  |     |     |     |     |      |      |      |      |      |      |     |     |     |
|                           | Fault output                | Contact output (30A, 30C, 30B) - AC250V 1A, DC30V 1A  |  |     |     |     |     |      |      |      |      |      |      |     |     |     |
|                           | Indicator                   | Output frequency / Output current / Output voltage(0~10V) / DC voltage / Output torque selectable   |  |     |     |     |     |      |      |      |      |      |      |     |     |     |
| Protection                | Inverter trip               | Over voltage / Low voltage / Over current 1, 2 / Fuse open / Ground fault / Inverter overheat / Electronic thermal / Output phase open / overload / External Fault A, B / Over speed / Communication Error / Frequency command loss / Hardware fault / M/C fail / etc |  |     |     |     |     |      |      |      |      |      |      |     |     |     |
|                           | Inverter alarm              | Stall prevention / Overload / Temperature sensor fault  |  |     |     |     |     |      |      |      |      |      |      |     |     |     |
| Enclosure                 |                             | IP20(7.5~7.5kW[1~10HP]), IP00(11~75kW[1~100HP])   |  |     |     |     |     |      |      |      |      |      |      |     |     |     |
| Option                    | Board, cable, keypad        | LCD Keypad, Remote cable(2M/3M/5M), Sub-A board(Extension I/O), Sub-B board(Encoder I/O), Sub-C board(Extension I/O: current input), MMC board  |  |     |     |     |     |      |      |      |      |      |      |     |     |     |
|                           | Communication               | RS485(LS Bus), Modbus RTU, DeviceNet, Profibus-DP, Fnet   |  |     |     |     |     |      |      |      |      |      |      |     |     |     |
| Others                    |                             | Built-in Dynamic braking transistor(0.75~7.5kW[1~10HP])   |  |     |     |     |     |      |      |      |      |      |      |     |     |     |



# iS7

Variable Frequency Drive / Inverter

## High Torque Performance and Precise VFD

3 phase 200V : 0.75~75kW(1~100HP), 200~230V

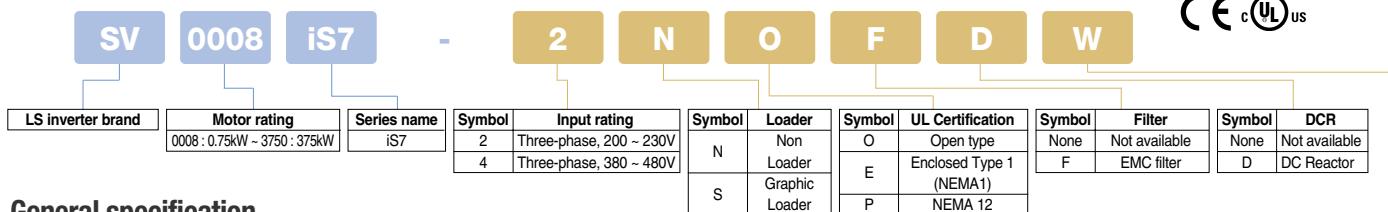
3 phase 400V : 0.75~375kW(1~500HP), 380~480V

- Constant torque / Variable torque dual rating
- Selectable V/f, V/f PG, sensorless vector, sensored vector
- 150 MIPS(million instructions per second) high speed DSP
- High performances & functions:
  - Droop control (automatic torque balance)
  - KEB (Kinetic Energy Buffering) protection
  - Ride Through (LV Trip Delay) protection
  - Under Load Trip protection
  - PMSM sensorless vector function
  - Power brake & Flux Brake function
  - Static motor parameter Auto-tuning\*
- Easy to control: Easy Start Mode, User & Macro group, Multi Function Key

- 2<sup>nd</sup> motor sensorless control and parameter setting
- Available IP54 enclosure(0.75~22kW[1~30HP]) as built-in option
- Built-in RS485(LS Bus / Modbus RTU) communication
- Built-in Dynamic braking transistor (0.75~22kW[1~30HP])
- Available EMC Filter & DC Reactor as built-in option
- EMC Filter(0.75~22kW[1~30HP]) / DC Reactor(0.75~160kW[1~215HP])
- Wide graphic LCD keypad (6 different languages)
- PLC board (optional):
  - Master-K platform: 14 max. inputs & 7 max. outputs
- Extension I/O boards (Optional):
  - 11 max. inputs & 6 max outputs
- Communication boards (Optional):
  - Profibus-DP, DeviceNet, Modbus TCP, Rnet, LonWorks, CANopen
- Monitoring & commissioning PC based software tool (Drive View)



## Model Number



## General specification

| Model number: SV□□□iS7-2□ | 008   | 015  | 022   | 037  | 055  | 075  | 110  | 150  | 185  | 220  | 0300 | 0370 | 0450 | 0550 | 0750 | Symbol | Application |      |      |      |      |      |      |      |     |     |
|---------------------------|---|--|---|------|------|------|------|------|------|------|------|------|------|------|------|--------|-------------|------|------|------|------|------|------|------|-----|-----|
| Motor rating              | [HP]  | 1  | 2   | 3    | 5    | 7.5  | 10   | 15   | 20   | 25   | 30   | 40   | 50   | 60   | 75   | 100    |             |      |      |      |      |      |      |      |     |     |
|                           | [kW]  | 0.75   | 1.5   | 2.2  | 3.7  | 5.5  | 7.5  | 11   | 15   | 18.5 | 22   | 30   | 37   | 45   | 55   | 75     |             |      |      |      |      |      |      |      |     |     |
| Output rating             | Capacity  | [kVA]  | 1.9   | 3    | 4.5  | 6.1  | 9.1  | 12.2 | 17.5 | 22.9 | 28.5 | 33.5 | 46   | 57   | 69   | 84     | 116         |      |      |      |      |      |      |      |     |     |
|                           | Current (CT)  | [A]  | 5   | 8    | 12   | 16   | 24   | 32   | 46   | 60   | 74   | 88   | 116  | 146  | 180  | 220    | 288         |      |      |      |      |      |      |      |     |     |
|                           | Current (VT)  | [A]  | 8   | 12   | 16   | 24   | 32   | 46   | 60   | 74   | 88   | 124  | 146  | 180  | 220  | 288    | 345         |      |      |      |      |      |      |      |     |     |
|                           | Voltage   | [V]  | Three-phase 200 ~ 230V  |      |      |      |      |      |      |      |      |      |      |      |      |        |             |      |      |      |      |      |      |      |     |     |
|                           | Frequency   | [Hz]   | 0.01 ~ 400Hz (Sensorless-1 control: 0.01~300Hz, Sensorless-2 or Sensored control: 0.01~120Hz) |      |      |      |      |      |      |      |      |      |      |      |      |        |             |      |      |      |      |      |      |      |     |     |
| Input rating              | Voltage   | [V]  | Three-phase 200 ~ 230V (-15% ~ +10%)  |      |      |      |      |      |      |      |      |      |      |      |      |        |             |      |      |      |      |      |      |      |     |     |
|                           | Frequency   | [Hz]   | 50 ~ 60Hz ( $\pm 5\%$ )   |      |      |      |      |      |      |      |      |      |      |      |      |        |             |      |      |      |      |      |      |      |     |     |
|                           | Current (CT)  | [A]  | 8.3   | 12.9 | 18.6 | 24   | 32.9 | 41.4 | 58   | 69   | 88   | 96   | 121  | 154  | 191  | 233    | 305         |      |      |      |      |      |      |      |     |     |
|                           | Current (VT)  | [A]  | 7   | 10.6 | 14.8 | 21.8 | 28   | 42   | 52   | 60   | 75   | 107  | 152  | 190  | 231  | 302    | 326         |      |      |      |      |      |      |      |     |     |
| Model number: SV□□□iS7-4□ | 008   | 015  | 022   | 037  | 055  | 075  | 110  | 150  | 185  | 220  | 300  | 370  | 450  | 550  | 750  | 900    | 1100        | 1200 | 1600 | 1850 | 2200 | 2800 | 3150 | 3750 |     |     |
| Motor rating              | [HP]  | 1  | 2   | 3    | 5    | 7.5  | 10   | 15   | 20   | 25   | 30   | 40   | 50   | 60   | 75   | 100    | 120         | 150  | 180  | 225  | 250  | 300  | 375  | 420  | 500 |     |
|                           | [kW]  | 0.75   | 1.5   | 2.2  | 3.7  | 5.5  | 7.5  | 11   | 15   | 18.5 | 22   | 30   | 37   | 45   | 55   | 75     | 90          | 110  | 132  | 160  | 185  | 220  | 280  | 315  | 375 |     |
| Output rating             | Capacity  | [kVA]  | 1.9   | 3    | 4.5  | 6.1  | 9.1  | 12.2 | 17.5 | 22.9 | 29.7 | 34.3 | 46   | 57   | 69   | 84     | 116         | 139  | 170  | 201  | 248  | 286  | 329  | 416  | 467 | 557 |
|                           | Current (CT)  | [A]  | 2.5   | 4    | 6    | 8    | 12   | 16   | 24   | 30   | 39   | 45   | 61   | 75   | 91   | 110    | 152         | 183  | 223  | 264  | 325  | 370  | 432  | 547  | 613 | 731 |
|                           | Current (VT)  | [A]  | 4   | 6    | 8    | 12   | 16   | 24   | 30   | 39   | 45   | 61   | 75   | 91   | 110  | 152    | 183         | 223  | 264  | 325  | 370  | 432  | 547  | 613  | 731 | 877 |
|                           | Voltage   | [V]  | Three-phase 380 ~ 480V  |      |      |      |      |      |      |      |      |      |      |      |      |        |             |      |      |      |      |      |      |      |     |     |
|                           | Frequency   | [Hz]   | 0.01 ~ 400Hz (Sensorless-1 control: 0.01~300Hz, Sensorless-2 or Sensored control: 0.01~120Hz) |      |      |      |      |      |      |      |      |      |      |      |      |        |             |      |      |      |      |      |      |      |     |     |
| Input rating              | Voltage   | [V]  | Three-phase 380 ~ 480V (-15% ~ +10%)  |      |      |      |      |      |      |      |      |      |      |      |      |        |             |      |      |      |      |      |      |      |     |     |
|                           | Frequency   | [Hz]   | 50 ~ 60Hz ( $\pm 5\%$ )   |      |      |      |      |      |      |      |      |      |      |      |      |        |             |      |      |      |      |      |      |      |     |     |
|                           | Current (CT)  | [A]  | 4.3   | 7.2  | 10.6 | 15.4 | 21   | 25.8 | 39   | 44   | 57   | 57   | 69   | 83   | 113  | 154    | 195         | 239  | 286  | 362  | 404  | 466  | 605  | 674  | 798 |     |
|                           | Current (VT)  | [A]  | 3.5   | 5.3  | 7.3  | 10.8 | 13.8 | 22.5 | 26   | 33   | 40   | 52.2 | 90   | 109  | 123  | 162    | 195         | 237  | 282  | 350  | 403  | 463  | 590  | 673  | 796 | 948 |
| Control Spec              | Control method  | V/f, V/f PG, Slip compensation, Sensorless-1 vector, Sensorless-2 vector, Sensored vector  |   |      |      |      |      |      |      |      |      |      |      |      |      |        |             |      |      |      |      |      |      |      |     |     |
|                           | Speed reference resolution  | Digital command: 0.01Hz / Analog referrence: 0.06Hz (Max freq., 60Hz)  |   |      |      |      |      |      |      |      |      |      |      |      |      |        |             |      |      |      |      |      |      |      |     |     |
|                           | Frequency accuracy  | Digital command: 0.01% of Max output freq. / Analog signal command of 0.1% of Max output freq.   |   |      |      |      |      |      |      |      |      |      |      |      |      |        |             |      |      |      |      |      |      |      |     |     |
|                           | V/f curve   | Linear, Squared, User custom V/f   |   |      |      |      |      |      |      |      |      |      |      |      |      |        |             |      |      |      |      |      |      |      |     |     |
|                           | Overload capacity   | CT(Heavy duty): 150% for 1 minute, VT(Normal duty): 110% for 1 minute  |   |      |      |      |      |      |      |      |      |      |      |      |      |        |             |      |      |      |      |      |      |      |     |     |
|                           | Torque boost  | Auto & Manual torque boost   |   |      |      |      |      |      |      |      |      |      |      |      |      |        |             |      |      |      |      |      |      |      |     |     |
| Operation                 | Keypad Display  | Wide graphic LCD keypad (available 6 languages)  |   |      |      |      |      |      |      |      |      |      |      |      |      |        |             |      |      |      |      |      |      |      |     |     |
|                           | Operation method  | Keypad / Terminal / Communication  |   |      |      |      |      |      |      |      |      |      |      |      |      |        |             |      |      |      |      |      |      |      |     |     |
|                           | Frequency setting   | Analog: 0 to 10V / -10 to 10V / 0 to 20mA / Digital: Keypad  |   |      |      |      |      |      |      |      |      |      |      |      |      |        |             |      |      |      |      |      |      |      |     |     |
|                           | Operation function  | PID control / Up-Down operation / 3-Wire operation / DC braking / Frequency limit / Second function / Slip compensation / Reverse rotation prevention / Auto restart / Inverter By-pass / Auto-tuning / Flying star / Energy buffering / Power braking / Flux braking / Low leakage / MMC / Easy start |   |      |      |      |      |      |      |      |      |      |      |      |      |        |             |      |      |      |      |      |      |      |     |     |
| Input signal              | Multi-function terminal (P1 ~ P8)   | PNP / NPN selectable<br>8 points (programmable)  |   |      |      |      |      |      |      |      |      |      |      |      |      |        |             |      |      |      |      |      |      |      |     |     |
| Output signal             | Multi-function relay  | (N.O., N.C.) Less than AC250V, 1A / Less than DC 30V 1A<br>DC24V (less than 50mA)  |   |      |      |      |      |      |      |      |      |      |      |      |      |        |             |      |      |      |      |      |      |      |     |     |
|                           | Multi-function open collector   | 0 to 10Vdc (less than 10mA): frequency / current / voltage / DC voltage selectable   |   |      |      |      |      |      |      |      |      |      |      |      |      |        |             |      |      |      |      |      |      |      |     |     |
| Protection                | Inverter trip   | Over current / Over voltage / Low current / External trip / Ground fault / Inverter overheat / I/O phase open / Overload / Communication error / Frequency command loss / Hardware fault / Fan fault / Pre-PID fault / No motor trip / External brake trip / etc.                                      |   |      |      |      |      |      |      |      |      |      |      |      |      |        |             |      |      |      |      |      |      |      |     |     |
|                           | Inverter alarm  | Stall prevention / Overload / Light load / Encoder connection error / Keypad command loss / Speed command loss   |   |      |      |      |      |      |      |      |      |      |      |      |      |        |             |      |      |      |      |      |      |      |     |     |
| Enclosure                 | IP00 (30~75kW, 200V/90~375kW, 400V), IP21 (0.75~22kW, 200V / 0.75~75kW, 400V), IP54 / NEMA12 (0.75~22kW, 200V/ 400; Optional) |  |   |      |      |      |      |      |      |      |      |      |      |      |      |        |             |      |      |      |      |      |      |      |     |     |
| Option                    | Board, Cable, Keypad Communication  | Graphic LCD keypad(IP21), Extension I/O, Isolation I/O, Encoder board, PLC board, Remote cable(2M/3M)<br>Profibus-DP, DeviceNet, Modbus TCP, Rnet, LonWorks, CANopen, EtherNet/IP  |   |      |      |      |      |      |      |      |      |      |      |      |      |        |             |      |      |      |      |      |      |      |     |     |
| Others                    | Built-in Dynamic braking transistor (0.75~22kW[1~30HP]), Built-in RS485(LS Bus / Modbus RTU)                                  |  |   |      |      |      |      |      |      |      |      |      |      |      |      |        |             |      |      |      |      |      |      |      |     |     |

\*Available soon



- Specialized functions for Fan & Pump:  
Advanced PID control (Pre-PID, Dual PID)  
Multi Motor Control function  
(Up to 4 motors: 5.5 ~ 90kW[7.5~125HP])
- Energy saving & High efficiency:  
Sleep & Wake-up function  
Flying Starting function  
Automatic energy saving function  
Flux Braking Algorithm
- Improved protection functions:  
Pre-heater function  
Low Leakage PWM  
Safety stop function

- Automatic carrier frequency change
- Selectable V/f, Sensorless vector control
- Long-life condenser & Simple framework
- Easy Start function
- Selectable PNP/NPN input signal
- Plug-in type control terminals
- Cooling fan On/Off control
- Built-in RS485(LS Bus) communication
- Communication boards (Optional):  
Modbus RTU, DeviceNet, Profibus-DP, LonWorks, BACnet, Modbus TCP\*, CANOpen, CC-Link
- Monitoring & commissioning PC based software tool (Drive View)
- DNV Certification

## Model Number

| SV                          | 055          | iP5A        | - | 2      | N                       | O      | L          | (CLASS) |                  |        |               |        |             |
|-----------------------------|--------------|-------------|---|--------|-------------------------|--------|------------|---------|------------------|--------|---------------|--------|-------------|
| LS inverter brand           | Motor rating | Series name |   | Symbol | Input rating            | Symbol | Loader     | Symbol  | UL Certification | Symbol | DCR           | Symbol | Certificate |
| 008 : 0.75kW ~ 4500 : 450kW |              | iP5A        |   | 2      | Three-phase, 200 ~ 230V | None   | Loader     | O       | Open type        | None   | Not available | L      | DC Reactor  |
|                             |              |             |   | 4      | Three-phase, 380 ~ 480V | N      | Non Loader | E       | Enclosed Type 1  |        |               |        | DNV         |

## General specification

| Model number: SV□□□iP5A-2□     | 008  | 015  | 022 | 037 | 055 | 075  | 110  | 150   | 185   | 220   | 300   |      |      |      |       |       |      |      |      |      |      |      |      |      |     |     |  |
|--------------------------------|--|------|-----|-----|-----|------|------|-------|-------|-------|-------|------|------|------|-------|-------|------|------|------|------|------|------|------|------|-----|-----|--|
| Motor rating [kW]              | 1  | 2    | 3   | 5   | 7.5 | 10   | 15   | 20    | 25    | 30    | 40    |      |      |      |       |       |      |      |      |      |      |      |      |      |     |     |  |
| (Fan/Pump) [kW]                | 0.75   | 1.5  | 2.2 | 3.7 | 5.5 | 7.5  | 11   | 15    | 18.5  | 22    | 30    |      |      |      |       |       |      |      |      |      |      |      |      |      |     |     |  |
| Current [A]                    | 5  | 8    | 12  | 16  | 24  | 32   | 46   | 60    | 74    | 88    | 115   |      |      |      |       |       |      |      |      |      |      |      |      |      |     |     |  |
| Normal duty: 110% for 1 minute |  |      |     |     |     |      |      |       |       |       |       |      |      |      |       |       |      |      |      |      |      |      |      |      |     |     |  |
| Motor rating [kW]              | 0.5  | 1    | 2   | 3   | 5   | 7.5  | 15   | 15    | 20    | 25    | 30    |      |      |      |       |       |      |      |      |      |      |      |      |      |     |     |  |
| (General load) [kW]            | 0.4  | 0.75 | 1.5 | 2.2 | 3.7 | 5.5  | 7.5  | 11    | 15    | 18.5  | 22    |      |      |      |       |       |      |      |      |      |      |      |      |      |     |     |  |
| Current [A]                    | 2.5  | 5    | 8   | 12  | 17  | 23   | 33   | 44    | 54    | 68    | 84    |      |      |      |       |       |      |      |      |      |      |      |      |      |     |     |  |
| Heavy duty: 150% for 1 minute  |  |      |     |     |     |      |      |       |       |       |       |      |      |      |       |       |      |      |      |      |      |      |      |      |     |     |  |
| Output rating [kVA]            | 1.9  | 3.0  | 4.6 | 6.1 | 9.1 | 12.2 | 17.5 | 22.9  | 28.2  | 33.5  | 43.8  |      |      |      |       |       |      |      |      |      |      |      |      |      |     |     |  |
| Voltage [V]                    | Three-phase 200 ~ 230V   |      |     |     |     |      |      |       |       |       |       |      |      |      |       |       |      |      |      |      |      |      |      |      |     |     |  |
| Frequency [Hz]                 | 0.01 ~ 120Hz   |      |     |     |     |      |      |       |       |       |       |      |      |      |       |       |      |      |      |      |      |      |      |      |     |     |  |
| Input rating Voltage [V]       | Three-phase 200 ~ 230V (-15% ~ +10%)   |      |     |     |     |      |      |       |       |       |       |      |      |      |       |       |      |      |      |      |      |      |      |      |     |     |  |
| Frequency [Hz]                 | 50 ~ 60Hz (±5%)  |      |     |     |     |      |      |       |       |       |       |      |      |      |       |       |      |      |      |      |      |      |      |      |     |     |  |
| Weight Non DCR type [kg]       | 4.1  | 4.2  | 4.2 | 4.9 | 4.9 | 6    | 6    | 13    | 13.5  | 20    | 20    |      |      |      |       |       |      |      |      |      |      |      |      |      |     |     |  |
| Model number: SV□□□iP5A-4□     | 008  | 015  | 022 | 037 | 055 | 075  | 110  | 150   | 185   | 220   | 300   | 370  | 450  | 550  | 750   | 900   | 1100 | 1200 | 1600 | 2200 | 2800 | 3150 | 3750 | 4500 |     |     |  |
| Motor rating [kW]              | 1  | 2    | 3   | 5   | 7.5 | 10   | 15   | 20    | 25    | 30    | 40    | 50   | 60   | 75   | 100   | 125   | 150  | 175  | 215  | 300  | 350  | 400  | 500  | 600  |     |     |  |
| (Fan/Pump) [kW]                | 0.75   | 1.5  | 2.2 | 3.7 | 5.5 | 7.5  | 11   | 15    | 18.5  | 22    | 30    | 37   | 45   | 55   | 75    | 90    | 110  | 132  | 160  | 220  | 280  | 315  | 375  | 450  |     |     |  |
| Current [A]                    | 2.5  | 4    | 6   | 8   | 12  | 16   | 24   | 30    | 39    | 45    | 61    | 75   | 91   | 110  | 152   | 183   | 223  | 264  | 325  | 432  | 547  | 613  | 731  | 877  |     |     |  |
| Normal duty: 110% for 1 minute |  |      |     |     |     |      |      |       |       |       |       |      |      |      |       |       |      |      |      |      |      |      |      |      |     |     |  |
| Motor rating [kW]              | 0.5  | 1    | 2   | 3   | 5   | 7.5  | 10   | 15    | 20    | 25    | 30    | 40   | 50   | 60   | 75    | 100   | 125  | 150  | 175  | 215  | 300  | 350  | 400  | 500  | 600 |     |  |
| (General load) [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    | 90   | 110  | 132  | 160  | 220  | 280  | 315  | 375  | 450 |     |  |
| Current (Non DCR / DCR) [A]    | 1.25   | 2.5  | 4   | 6   | 8.8 | 12   | 16   | 22/24 | 28/30 | 34/39 | 44/45 | 61   | 75   | 91   | 110   | 152   | 183  | 223  | 264  | 325  | 432  | 547  | 613  | 731  | 873 |     |  |
| Heavy duty: 150% for 1 minute  |  |      |     |     |     |      |      |       |       |       |       |      |      |      |       |       |      |      |      |      |      |      |      |      |     |     |  |
| Output rating [kVA]            | 2.0  | 3.2  | 4.8 | 6.4 | 9.6 | 12.7 | 19.1 | 23.9  | 31.1  | 35.9  | 48.6  | 59.8 | 72.5 | 87.6 | 121.1 | 145.8 | 178  | 210  | 259  | 344  | 436  | 488  | 582  | 699  |     |     |  |
| Voltage [V]                    | Three-phase 380 ~ 480V   |      |     |     |     |      |      |       |       |       |       |      |      |      |       |       |      |      |      |      |      |      |      |      |     |     |  |
| Frequency [Hz]                 | 0.01 ~ 120Hz   |      |     |     |     |      |      |       |       |       |       |      |      |      |       |       |      |      |      |      |      |      |      |      |     |     |  |
| Input rating Voltage [V]       | Three-phase 380 ~ 480V (-15% ~ +10%)   |      |     |     |     |      |      |       |       |       |       |      |      |      |       |       |      |      |      |      |      |      |      |      |     |     |  |
| Frequency [Hz]                 | 50 ~ 60Hz (±5%)  |      |     |     |     |      |      |       |       |       |       |      |      |      |       |       |      |      |      |      |      |      |      |      |     |     |  |
| Weight Non DCR type [kg]       | 4.1  | 4.2  | 4.2 | 4.9 | 4.9 | 6    | 6    | 12.5  | 13    | 20    | 20    | 27   | 27   | 29   | 42    | 43    | 46   | 68   | 101  | 101  | 114  | 200  | 200  | 243  | 280 | 380 |  |
| Built-in DCR type [kg]         |  |      |     |     |     |      |      |       |       |       |       |      |      |      |       |       |      |      |      |      |      |      |      |      |     |     |  |
| Control Spec                   | Control method V/f, Slip compensation, Sensorless vector   |      |     |     |     |      |      |       |       |       |       |      |      |      |       |       |      |      |      |      |      |      |      |      |     |     |  |
|                                | Speed reference resolution Digital command: 0.01Hz (below 100Hz), 0.1Hz(over 100Hz) / Analog reference: 0.1Hz/60Hz   |      |     |     |     |      |      |       |       |       |       |      |      |      |       |       |      |      |      |      |      |      |      |      |     |     |  |
|                                | Frequency accuracy Digital command: 0.01% of Max output freq. / Analog signal command of 0.1% of Max output freq.  |      |     |     |     |      |      |       |       |       |       |      |      |      |       |       |      |      |      |      |      |      |      |      |     |     |  |
|                                | V/f curve Linear, Squared, User custom V/f   |      |     |     |     |      |      |       |       |       |       |      |      |      |       |       |      |      |      |      |      |      |      |      |     |     |  |
|                                | Overload capacity 110% for 1 minute, 120% for 1 minute(based on ambient 25°C)  |      |     |     |     |      |      |       |       |       |       |      |      |      |       |       |      |      |      |      |      |      |      |      |     |     |  |
|                                | Torque boost Auto & Manual(0 ~ 15%) torque boost   |      |     |     |     |      |      |       |       |       |       |      |      |      |       |       |      |      |      |      |      |      |      |      |     |     |  |
| Operation                      | Keypad Display 32 character LCD keypad   |      |     |     |     |      |      |       |       |       |       |      |      |      |       |       |      |      |      |      |      |      |      |      |     |     |  |
|                                | Operation method Keypad / Terminal / Communication   |      |     |     |     |      |      |       |       |       |       |      |      |      |       |       |      |      |      |      |      |      |      |      |     |     |  |
|                                | Frequency setting Analog 0 ~ 12V / -12V ~ 12V / 4 ~ 20mA or 0 ~ 20mA / Pulse / Ext - PID / Digital: Keypad   |      |     |     |     |      |      |       |       |       |       |      |      |      |       |       |      |      |      |      |      |      |      |      |     |     |  |
|                                | Operation function DC braking / Frequency limit / Frequency jump / Second function / Slip compensation / Reverse rotation prevention / Auto restart / Inverter By-pass / Auto-tuning / PID control / Flying star / Safety stop / Flux braking / Low leakage / Pre-PID / Dual-PID / MMC / Easy start / Pre-heater |      |     |     |     |      |      |       |       |       |       |      |      |      |       |       |      |      |      |      |      |      |      |      |     |     |  |
| Input signal                   | Sart signal Forward / Reverse  |      |     |     |     |      |      |       |       |       |       |      |      |      |       |       |      |      |      |      |      |      |      |      |     |     |  |
|                                | Multi-step Up to 8 speeds can be set including JOG (Use Programmable Digital Input terminal)   |      |     |     |     |      |      |       |       |       |       |      |      |      |       |       |      |      |      |      |      |      |      |      |     |     |  |
|                                | Multi-step Accel/Decel time 0.1-6,000 sec, Up to 4 types can be set (Use Multi-function terminal)  |      |     |     |     |      |      |       |       |       |       |      |      |      |       |       |      |      |      |      |      |      |      |      |     |     |  |
|                                | Accel/Decel curve : Linear, U curve, S curve   |      |     |     |     |      |      |       |       |       |       |      |      |      |       |       |      |      |      |      |      |      |      |      |     |     |  |
|                                | Emergency stop Interrupts the Output from Inverter   |      |     |     |     |      |      |       |       |       |       |      |      |      |       |       |      |      |      |      |      |      |      |      |     |     |  |
|                                | JOG operation JOG operation  |      |     |     |     |      |      |       |       |       |       |      |      |      |       |       |      |      |      |      |      |      |      |      |     |     |  |
|                                | Fault reset Trip status is removed when Protection function is active  |      |     |     |     |      |      |       |       |       |       |      |      |      |       |       |      |      |      |      |      |      |      |      |     |     |  |
| Output signal                  | Operating status Frequency detection level / Overload alarm / Stalling / Over voltage / Low voltage / Inverter overheating / Run / Stop / Constant speed / Inverter By-pass / Speed search   |      |     |     |     |      |      |       |       |       |       |      |      |      |       |       |      |      |      |      |      |      |      |      |     |     |  |
|                                | Fault output Contact output (3A, 3C, 3B) - AC250V 1A, DC30V 1A   |      |     |     |     |      |      |       |       |       |       |      |      |      |       |       |      |      |      |      |      |      |      |      |     |     |  |
|                                | Indicator Output frequency / Output current / Output voltage / DC Link voltage(Output voltage:0~10V)   |      |     |     |     |      |      |       |       |       |       |      |      |      |       |       |      |      |      |      |      |      |      |      |     |     |  |
| Protection                     | Inverter trip Over voltage / Low voltage / Over current 1, 2 / Ground fault / Inverter overheating / Electronic thermal / Output phase open / overload / External Fault A, B / Communication Error / Frequency command loss / Hardware fault / Option fault / etc  |      |     |     |     |      |      |       |       |       |       |      |      |      |       |       |      |      |      |      |      |      |      |      |     |     |  |
|                                | Inverter alarm Stall prevention / Overload / Temperature sensor fault  |      |     |     |     |      |      |       |       |       |       |      |      |      |       |       |      |      |      |      |      |      |      |      |     |     |  |
| Enclosure Option               | IP20/UL type 1(5.5~11kW[7.5~15HP]), IP00/UL open type(15~450kW[20~600HP])  |      |     |     |     |      |      |       |       |       |       |      |      |      |       |       |      |      |      |      |      |      |      |      |     |     |  |
|                                | Board, cable, keypad LCD Keypad, Remote cable(2M/3M/5M), Sub-E board(Current output)   |      |     |     |     |      |      |       |       |       |       |      |      |      |       |       |      |      |      |      |      |      |      |      |     |     |  |
|                                | Communication DeviceNet, Profibus-DP, Modbus TCP, Modbus RTU, Matasys N2, LonWorks, BACnet, CC-Link, CANopen   |      |     |     |     |      |      |       |       |       |       |      |      |      |       |       |      |      |      |      |      |      |      |      |     |     |  |

\*Available soon



# iV5

Variable Frequency Drive / Inverter

**High duty full flux vector control VFD**

3 phase 200V : 2.2~37kW(3~50HP), 200~230V

3 phase 400V : 2.2~500kW(1~666HP), 380~480V

DC input type : 5.5~500kW(7.5~666HP)

- Ultimate performance solution for System Drive
- Advanced Speed & Torque control  
(200% instantaneous torque: Max. 250%)
- Precious Speed & Position synchronization operation
- Static motor parameter Auto-tuning
- Draw / Droop / Process PID control
- Highly precious control through optional Sincos Encoder
- Synchronous motor sensorless control  
(SPM & IPM motors)
- Specialized functions for various applications
  - Load balance function
  - Diameter calculation / Taper function
  - Splicing / Inertia compensation function
  - Quick stop function

- Built-in Dynamic braking transistor (2.2~22kW[3~30HP])
- User-friendly LCD keypad (Detachable)
- Plug-in type control terminals
- Extension I/O boards (Optional):
  - EL I/O (for Elevator application)
  - Encoder division (open collector)
  - Synchronization option (Speed/Position control)
  - Sincos encoder
- Communication boards (Optional)
  - RS485(LS Bus / Modbus RTU)
  - Profibus-DP
  - DeviceNet
- Monitoring & commissioning PC based software tool  
(Drive View)



## Model Number

|                    |              |             |        |                         |        |                 |        |                |        |            |        |                      |
|--------------------|--------------|-------------|--------|-------------------------|--------|-----------------|--------|----------------|--------|------------|--------|----------------------|
| SV                 | 022          | iV5         | -      | 2                       | DB     | (MD)            | (DC)   | ,              | 380V   |            |        |                      |
| LS inverter brand  | Motor rating | Series name | Symbol | Input rating            | Symbol | Dynamic Brake   | Symbol | Cover type     | Symbol | Input type | Symbol | Rated voltage        |
| 022: 2.2kW - 370kW | [kW]         | iV5         | 2      | Three-phase, 200 ~ 230V | None   | Not available   | None   | Metallic cover | None   | AC Input   | None   | 200~230V or 380~480V |
|                    | [kW]         |             | 4      | Three-phase, 380 ~ 480V | DB     | Dynamic Braking | (MD)   | Mold cover*    | (DC)   | DC Input   | ****   | 380V, 460V, 480V*    |

## General specification

| Model number: SV□□□iV5-2□ | 022                 | 037                                 | 055 | 075 | 110  | 150  | 185  | 220  | 300  | 370 |    |
|---------------------------|---------------------|-------------------------------------|-----|-----|------|------|------|------|------|-----|----|
| Motor rating              | [HP]                | 3                                   | 5   | 7.5 | 10   | 15   | 20   | 25   | 30   | 40  | 50 |
|                           | [kW]                | 2.2                                 | 3.7 | 5.5 | 7.5  | 11   | 15   | 18.5 | 22   | 30  | 37 |
| Output rating             | Capacity            | 4.5                                 | 6.1 | 9.1 | 12.2 | 17.5 | 22.5 | 28.2 | 33.1 | 46  | 55 |
|                           | Current             |                                     |     |     |      |      |      |      |      |     |    |
|                           | Voltage             |                                     |     |     |      |      |      |      |      |     |    |
|                           | RPM                 |                                     |     |     |      |      |      |      |      |     |    |
| Input rating              | Voltage             | Three-phase 200 ~ 230V (+10%, -10%) |     |     |      |      |      |      |      |     |    |
|                           | Frequency           | 50 ~ 60Hz (±5%)                     |     |     |      |      |      |      |      |     |    |
| Weight                    | Mold cover type     | 6                                   | 6   | 7.7 | 7.7  | 13.7 | 13.7 | 20.3 | 20.3 | 28  | 42 |
|                           | [kg]                |                                     |     |     |      |      |      |      |      |     |    |
|                           | Metallic cover type |                                     |     |     |      |      |      |      |      |     |    |
|                           | [kg]                |                                     |     |     |      |      |      |      |      |     |    |

| Model number: SV□□□iV5-4□ | 022             | 037                                 | 055 | 075 | 110  | 150  | 185  | 220  | 300  | 370 | 450 | 550 | 750 | 900 | 1100 | 1320 | 1600 | 2200 | 2800 | 3150 | 3750 | 5000 |     |  |
|---------------------------|-----------------|-------------------------------------|-----|-----|------|------|------|------|------|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|-----|--|
| Motor rating              | [HP]            | 3                                   | 5   | 7.5 | 10   | 15   | 20   | 25   | 30   | 40  | 50  | 60  | 75  | 100 | 120  | 150  | 175  | 215  | 300  | 373  | 420  | 500  | 666 |  |
|                           | [kW]            | 2.2                                 | 3.7 | 5.5 | 7.5  | 11   | 15   | 18.5 | 22   | 30  | 37  | 45  | 55  | 75  | 90   | 110  | 132  | 160  | 220  | 280  | 315  | 375  | 500 |  |
| Output rating             | Capacity        | 4.5                                 | 6.1 | 9.1 | 12.2 | 18.3 | 22.9 | 29.7 | 34.3 | 46  | 57  | 70  | 85  | 116 | 140  | 170  | 200  | 250  | 329  | 416  | 468  | 557  | 732 |  |
|                           | Current         |                                     |     |     |      |      |      |      |      |     |     |     |     |     |      |      |      |      |      |      |      |      |     |  |
|                           | Voltage         |                                     |     |     |      |      |      |      |      |     |     |     |     |     |      |      |      |      |      |      |      |      |     |  |
|                           | RPM             |                                     |     |     |      |      |      |      |      |     |     |     |     |     |      |      |      |      |      |      |      |      |     |  |
| Input rating              | Voltage         | Three-phase 380 ~ 480V (+10%, -10%) |     |     |      |      |      |      |      |     |     |     |     |     |      |      |      |      |      |      |      |      |     |  |
|                           | Frequency       | 50 ~ 60Hz (±5%)                     |     |     |      |      |      |      |      |     |     |     |     |     |      |      |      |      |      |      |      |      |     |  |
| Weight                    | Mold cover type | 6                                   | 6   | 7.7 | 7.7  | 13.7 | 13.7 | 20.3 | 20.3 | 28  | 42  | 63  | 68  | 98  | 112  | 112  | 175  | 243  | 380  | 380  | 476  |      |     |  |
|                           | [kg]            |                                     |     |     |      |      |      |      |      |     |     |     |     |     |      |      |      |      |      |      |      |      |     |  |

| Model number: SV□□□iV5-4 (DC) | 055       | 075                          | 110  | 150  | 185  | 220  | 300  | 370  | 450  | 550 | 750 | 900 | 1100 | 1320 | 1600 | 2200  | 2800 | 3150 | 3750 | 500 |     |  |  |
|-------------------------------|-----------|------------------------------|------|------|------|------|------|------|------|-----|-----|-----|------|------|------|-------|------|------|------|-----|-----|--|--|
| Motor rating                  | [HP]      | 7.5                          | 10   | 15   | 20   | 25   | 30   | 40   | 50   | 60  | 75  | 100 | 120  | 150  | 175  | 215   | 300  | 373  | 420  | 500 | 666 |  |  |
|                               | [kW]      | 5.5                          | 7.5  | 11   | 15   | 18.5 | 22   | 30   | 37   | 45  | 55  | 75  | 90   | 110  | 132  | 160   | 220  | 280  | 315  | 375 | 500 |  |  |
| Output rating                 | Capacity  | 9.1                          | 12.2 | 18.3 | 22.9 | 29.7 | 34.3 | 46   | 57   | 70  | 85  | 116 | 140  | 170  | 200  | 250   | 329  | 416  | 468  | 557 | 732 |  |  |
|                               | Current   |                              |      |      |      |      |      |      |      |     |     |     |      |      |      |       |      |      |      |     |     |  |  |
|                               | Voltage   |                              |      |      |      |      |      |      |      |     |     |     |      |      |      |       |      |      |      |     |     |  |  |
|                               | RPM       |                              |      |      |      |      |      |      |      |     |     |     |      |      |      |       |      |      |      |     |     |  |  |
| Input rating                  | Voltage   | 380 ~ 480V<br>0 ~ 3600 [RPM] |      |      |      |      |      |      |      |     |     |     |      |      |      |       |      |      |      |     |     |  |  |
|                               | Frequency | DC 540 ~ 680V (+10%, -10%)   |      |      |      |      |      |      |      |     |     |     |      |      |      |       |      |      |      |     |     |  |  |
| Weight                        | Voltage   | 12                           | 12   | 24   | 24.5 | 25   | 25   | 38.5 | 38.5 | 50  | 50  | 55  | 79   | 79   | 98.5 | 154.5 | 206  | 343  | 343  | 466 |     |  |  |
|                               | [kg]      |                              |      |      |      |      |      |      |      |     |     |     |      |      |      |       |      |      |      |     |     |  |  |

|                  |                            |   |
|------------------|----------------------------|---|
| Control Spec     | Control method             | Sensored Vector (speed sensor)  |
|                  | Speed reference resolution | Digital command: 0.1rpm / Analog reference: ± 0.0005% of Max output freq.   |
|                  | Speed accuracy             | Digital command: ± 0.01(0~40°C) of Max output freq. / Analog signal reference: ± 0.02(25±10°C) of Max output freq.  |
|                  | Cut-off frequency of ASR   | 50Hz  |
|                  | Torque control accuracy    | 3%  |
|                  | Accel/Decel time           | 0.00~6000.0 sec   |
|                  | Accel/Decel combination    | 4 combinations of Accel/Decel time  |
|                  | Accel/Decel curve          | Linear / S curve  |
|                  | Frequency setting          | Analog: -10 to 10V / 4 to 20mA / Digital: Keypad  |
| Input signal     | Analog input               | 3 channels (A1, A2, A3): Extension I/O 2 channels (A4, A5)<br>-10 to 10V / 0 to 10V / 0 to 20mA / 20 to 40mA / (A3, A5)[Extension I/O]: Motor NTC/PTC selectable<br>Selectable among 15 different Multi-function analog inputs  |
|                  | Contact input              | A1, A5: NTC is available only with LG-OTIS motors (both of NTC and PTC are available in case of SV2800V5-SV3750V5)<br>FX, RX, BX, RST, P1-P7  |
| Output signal    | Analog output              | 2 channels (AO1, AO2)<br>-10 to 10V / 0 to -10V / 0 to 10V / 0 to 0V<br>Selectable among 40 different Multi-function analog outputs   |
|                  | Contact output             | Multi-function contact output: 2 channels (1A-1B, 2A-2B)<br>Fault contact output: 1 channel (30A-30C, 30B-30C)  |
|                  | Open collector             | 1 channel (OC1/EG)  |
| Protection       |                            | Over voltage / Over current / Low voltage / Inverter overheat / Inverter thermal malfunction / Motor overheat / Motor thermal malfunction / Overspeed / BX(Istantaneous IGBT gate block) / Fuse open / External fault / Encoder error / Electronic thermal / Overload / IGBT short / Communication error / etc. |
| Enclosure Option | Board Communication        | IP20 (2.2~22kW[3~30HP]; Mold cover* / 30~37kW[40~500HP]; Metallic cover), IP20 (2.2~22kW[3~30HP]; Metallic cover)<br>EL I/O (for Elevator application), Encoder division(open collector), Synchronization option(Speed/Position control), Sincos encoder<br>RS485(LS Bus / Modbus RTU), Profibus-DP, DeviceNet  |

\*Available soon

# Comparison

Variable Frequency Drive / Inverter

| Model Series                   | iE5                     |                         | iC5                 | iG5A                 |                      |                      | iS5                 |                           |
|--------------------------------|-------------------------|-------------------------|---------------------|----------------------|----------------------|----------------------|---------------------|---------------------------|
| <b>Input Phase</b>             | Single-phase            |                         | Three-phase         | Single-phase         |                      | Three-phase          | Three-phase         |                           |
| <b>Voltage Range</b>           | 200~230V                |                         | 200~230V            | 200~230V             |                      | 380~480V             | 200~230V            | 380~480V                  |
| <b>Motor rating</b>            | 0.1~0.4kW<br>0.13~0.5HP | 0.1~0.4kW<br>0.13~0.5HP | 0.4~2.2V<br>0.5~3HP | 0.4~1.5kW<br>0.5~2HP | 0.4~22kW<br>0.5~30HP | 0.4~22kW<br>0.5~30HP | 0.75~55kW<br>1~75HP | 0.75~75kW<br>1~100HP      |
| <b>Constant Torque</b>         | Standard                |                         | Standard            | Standard             |                      |                      | Standard            |                           |
| <b>Variable Torque</b>         |                         |                         |                     |                      |                      |                      |                     |                           |
| <b>Control method</b>          | V/f                     | Standard                |                     | Standard             |                      |                      | Standard            |                           |
|                                | Sensorless Vector       |                         |                     | Standard             |                      |                      | Standard            |                           |
|                                | Sensored Vector         |                         |                     |                      |                      |                      | Standard            |                           |
| <b>Enclosure</b>               | IP00                    |                         |                     |                      |                      |                      | Standard            | Standard                  |
|                                |                         |                         |                     |                      |                      |                      | 11~22kW<br>15~30HP  | 11~75kW<br>15~100HP       |
|                                | IP20                    | Standard                |                     | Standard             | Standard             |                      |                     | Standard                  |
|                                |                         | 0.1~0.4kW               |                     | 0.4~2.2kW            | 0.4~22kW             |                      |                     | 0.75~7.5kW                |
|                                |                         | 0.13~0.5HP              |                     | 0.5~3HP              | 0.5~30HP             |                      |                     | 1~10HP                    |
|                                | IP21                    |                         |                     |                      |                      |                      |                     |                           |
|                                | IP54                    |                         |                     |                      |                      |                      |                     |                           |
|                                | UL Type 1               |                         |                     |                      | Option               |                      |                     |                           |
|                                |                         |                         |                     |                      | 0.4~22kW             |                      |                     |                           |
|                                |                         |                         |                     |                      | 0.5~30HP             |                      |                     |                           |
| <b>Keypad</b>                  | Type                    | Fixed type              |                     | Fixed type           | Fixed type           |                      |                     | Detachable type           |
|                                | Built-in                | 0.1~0.4kW               |                     | 0.4~2.2kW            | 0.4~22kW             |                      |                     | 30~55kW<br>40~75HP        |
|                                |                         | 0.13~0.5HP              |                     | 0.5~3HP              | 0.5~30HP             |                      |                     | 30~75kW<br>40~100HP       |
|                                | Option                  |                         |                     |                      |                      |                      |                     | 0.75~22kW<br>1~30HP       |
| <b>Remote cable</b>            | 2 meters                |                         |                     |                      | Option               |                      |                     | Option                    |
|                                | 3 meters                |                         |                     |                      | Option               |                      |                     | Option                    |
|                                | 5 meters                |                         |                     |                      | Option               |                      |                     | Option                    |
| <b>Braking transistor</b>      |                         |                         |                     |                      | Standard             |                      |                     | Standard                  |
|                                |                         |                         |                     |                      | 0.4~22kW             |                      |                     | 0.75~7.5kW                |
|                                |                         |                         |                     |                      | 0.5~30HP             |                      |                     | 1~10HP                    |
| <b>EMC Filter</b>              |                         |                         |                     | Built-in Option      |                      |                      |                     | Footprint Filter* note 1) |
|                                |                         |                         |                     | 0.4~2.2kW            | 0.4~4kW              |                      |                     |                           |
|                                |                         |                         |                     | 0.5~3HP              | 0.5~5.4HP            |                      |                     |                           |
| <b>DC Reactor</b>              |                         |                         |                     |                      |                      |                      |                     |                           |
| <b>RS485(LS Bus)</b>           | Standard                |                         |                     |                      | Standard             | Standard* note 2)    | Option              |                           |
| <b>Modbus RTU</b>              | Standard                |                         | Option              |                      | Standard             | Standard* note 2)    | Option              |                           |
| <b>Modbus TCP</b>              |                         |                         |                     |                      |                      | Option* note 3)      |                     |                           |
| <b>DeviceNet</b>               |                         |                         |                     |                      |                      | Option* note 4)      | Option              |                           |
| <b>Profibus-DP</b>             |                         |                         |                     |                      |                      |                      | Option              |                           |
| <b>Fnet(LS PLC link)</b>       |                         |                         |                     |                      |                      |                      | Option              |                           |
| <b>Rnet</b>                    |                         |                         |                     |                      |                      |                      |                     |                           |
| <b>LonWorks</b>                |                         |                         |                     |                      |                      |                      |                     |                           |
| <b>CANopen</b>                 |                         |                         |                     |                      |                      | Standard* note 3&4)  |                     |                           |
| <b>BACnet</b>                  |                         |                         |                     |                      |                      |                      |                     |                           |
| <b>EtherNet/IP</b>             |                         |                         |                     |                      |                      | Standard* note 3)    |                     |                           |
| <b>CC-Link</b>                 |                         |                         |                     |                      |                      |                      |                     |                           |
| <b>MMC(Mult Motor Control)</b> |                         |                         |                     |                      |                      |                      | Option              |                           |
| <b>Encoder</b>                 |                         |                         |                     |                      |                      |                      | Option              |                           |
| <b>Sincos encoder</b>          |                         |                         |                     |                      |                      |                      |                     |                           |
| <b>PLC</b>                     |                         |                         |                     |                      |                      |                      |                     |                           |
| <b>Extension I/O</b>           |                         |                         |                     |                      |                      |                      | Option              |                           |
| <b>Elevator I/O</b>            |                         |                         |                     |                      |                      |                      |                     |                           |
| <b>Synchronization I/O</b>     |                         |                         |                     |                      |                      |                      |                     |                           |

Note1) SV□□□□iG5A-4EN-4EN or ENC

Note2) SV□□□□iG5A-FB and ENC

Note3) SV□□□□iG5A-FB

Note4) SV□□□□iG5A-ENC



# Comparison

Variable Frequency Drive / Inverter

| Model Series                    | iS7                 |  | iP5A                                     |                                  | iV5                                     |                                  |
|---------------------------------|---------------------|--|--|----------------------------------|---|----------------------------------|
| <b>Input Phase</b>              | Three-phase         |  | Three-phase                              |                                  | Three-phase                             |                                  |
| <b>Voltage Range</b>            | 200~230V            | 380~480V                               | 200~230V                                 | 380~480V                         | 200~230V                                | 380~480V                         |
| <b>Motor rating</b>             | 0.75~22kW<br>1~30HP | 0.75~375kW<br>1~500HP                  | 5.5~30kW<br>7.5~40HP                     | 5.5~450kW<br>7.5~600HP           | 2.2~37kW<br>3~50HP                      | 2.2~375kW<br>3~666HP             |
| <b>Constant Torque</b>          | Standard            |  | Standard                                 |                                  | Standard                                |                                  |
| <b>Variable Torque</b>          | Standard            |  | Standard                                 |                                  | Standard                                |                                  |
| <b>Control method</b>           | V/f                 | Standard                               | Standard                                 | Standard                         | Standard                                |                                  |
|                                 | Sensorless Vector   | Standard                               | Standard                                 | Standard                         | Standard                                |                                  |
|                                 | Sensored Vector     | Option                                 |  |                                  | Standard                                |                                  |
| <b>Enclosure</b>                | <b>IP00</b>         | Standard<br>30~75kW<br>40~100HP        | Standard<br>90~375kW<br>125~500HP        | Standard<br>15~30kW<br>20~40HP   | Standard<br>15~450kW<br>20~600HP        | Standard<br>2.2~22kW<br>3~30HP   |
|                                 | <b>IP20</b>         |  |  | Standard<br>5.5~11kW<br>7.5~15HP |   | Standard<br>5.5~22kW<br>7.5~30HP |
|                                 | <b>IP21</b>         | Standard<br>0.75~22kW<br>1~30HP        | Standard<br>0.75~75kW<br>1~100HP         |                                  |   |                                  |
|                                 | <b>IP54</b>         | Built-in Option<br>0.75~22kW<br>1~30HP |  |                                  |   |                                  |
|                                 | <b>UL Type 1</b>    | Option<br>0.75~75kW<br>1~100HP         | Standard<br>5.5~11kW<br>7.5~15HP         | Standard<br>5.5~11kW<br>7.5~15HP |   |                                  |
| <b>Keypad</b>                   | <b>Type</b>         | Detachable type                        |  | Detachable type                  |   | Detachable type                  |
|                                 | <b>Built-in</b>     | 90~160kW<br>125~215HP                  |  | 37~450kW<br>50~600HP             |   | 2.2~370kW<br>3~500HP             |
|                                 | <b>Option</b>       | 0.75~75kW<br>1~100HP                   |  | 7.5~40HP                         |   | 5.5~30kW                         |
| <b>Remote cable</b>             | <b>2 meters</b>     | Option                                 |  | Option                           |   |                                  |
|                                 | <b>3 meters</b>     | Option                                 |  | Option                           |   |                                  |
|                                 | <b>5 meters</b>     |  |  | Option                           |   |                                  |
| <b>Braking transistor</b>       |                     | Standard<br>0.75~22kW<br>1~30HP        |  |                                  |   | Standard<br>2.2~22kW<br>3~30HP   |
| <b>EMC Filter</b>               |                     | Built-in Option<br>0.75~22kW<br>1~30HP |  |                                  |   |                                  |
| <b>DC Reactor</b>               |                     | Built-in Option<br>0.75~22kW<br>1~30HP | Built-in Option<br>0.75~160kW<br>1~215HP |                                  | Built-in Option<br>15~280kW<br>20~350HP |                                  |
| <b>RS485(LS Bus)</b>            |                     | Standard                               |  | Standard / Option                |   | Option                           |
| <b>Modbus RTU</b>               |                     | Standard                               |  | Option                           |   | Option                           |
| <b>Modbus TCP</b>               |                     | Option                                 |  | Option                           |   |                                  |
| <b>DeviceNet</b>                |                     | Option                                 |  | Option                           |   | Option                           |
| <b>Profibus-DP</b>              |                     | Option                                 |  | Option                           |   | Option                           |
| <b>Fnet(LS PLC link)</b>        |                     |  |  |                                  |   |                                  |
| <b>Rnet</b>                     |                     | Option                                 |  |                                  |   |                                  |
| <b>LonWorks</b>                 |                     | Option                                 |  | Option                           |   |                                  |
| <b>CANopen</b>                  |                     | Option                                 |  |                                  |   |                                  |
| <b>BACnet</b>                   |                     |  |  | Option                           |   |                                  |
| <b>EtherNet/IP</b>              |                     | Option                                 |  |                                  |   |                                  |
| <b>CC-Link</b>                  |                     | Option                                 |  |                                  |   |                                  |
| <b>MMC(Mulit Motor Control)</b> |                     | Standard                               |  | Standard                         |   |                                  |
| <b>Encoder</b>                  |                     | Option                                 |  |                                  |   | Standard                         |
| <b>Sincos encoder</b>           |                     |  |  |                                  |   | Option                           |
| <b>PLC</b>                      |                     | Option                                 |  |                                  |   |                                  |
| <b>Extension I/O</b>            |                     | Option                                 |  |                                  |   |                                  |
| <b>Elevator I/O</b>             |                     |  |  |                                  |   | Option                           |
| <b>Synchronization I/O</b>      |                     |  |  |                                  |   | Option                           |

\* Available soon

# Option list

Variable Frequency Drive / Inverter

| Series                   | Option                            | Description   |
|--------------------------|-----------------------------------|---|
| iC5                      | SV-iC5 Modbus RTU                 | iC5 Modbus communication card   |
|                          | SV-iC5 Copy Unit                  | iC5 Copy Unit   |
| iG5A                     | SV-iG5A REMOTE CABLE 2M           | 2 meter connection cable between inverter and keypad plus fixture   |
|                          | SV-iG5A REMOTE CABLE 3M           | 3 meter connection cable between inverter and keypad plus fixture   |
|                          | SV-iG5A REMOTE CABLE 5M           | 5 meter connection cable between inverter and keypad plus fixture   |
|                          | NEMA OPTION 1 (SV004/008iG5A-2/4) | Conduit Kit for NEMA 1 (iG5A 0.4~0.75kW)  |
|                          | NEMA OPTION 2 (SV015iG5A-2/4)     | Conduit Kit for NEMA 1 (iG5A 1.5kW)   |
|                          | NEMA OPTION 3 (SV022~040iG5A-2/4) | Conduit Kit for NEMA 1 (iG5A 2.2~4kW)   |
|                          | NEMA OPTION 4 (SV055/075iG5A-2/4) | Conduit Kit for NEMA 1 (iG5A 5.5~7.5kW)   |
|                          | NEMA OPTION 5 (SV110/150iG5A-2/4) | Conduit Kit for NEMA 1 (iG5A 11~15kW)   |
|                          | NEMA OPTION 6 (SV185/220iG5A-2/4) | Conduit Kit for NEMA 1 (iG5A 18.5~22kW)   |
|                          | SV-iS5 LCD KEYPAD                 | LCD display keypad for iS5  |
| iS5                      | SV-iS5/iP5A REMOTE CABLE(2M)      | 2 meter connection cable between inverter and keypad  |
|                          | SV-iS5/iP5A REMOTE CABLE(3M)      | 3 meter connection cable between inverter and keypad  |
|                          | SV-iS5/iP5A REMOTE CABLE(5M)      | 5 meter connection cable between inverter and keypad  |
|                          | SV-iS5 SUB BOARD A                | Extension I/O module, 3 multi-functional inputs and 3 outputs   |
|                          | SV-iS5 SUB BOARD B                | Encoder pulse input and output module   |
|                          | SV-iS5 SUB BOARD C                | Extension I/O module, 3 inputs, 1 output and 2 analog meter outputs   |
|                          | SV-iS5/iP5A SUB BOARD E           | Current output board (Only available in case that the dedicated O/S is installed)   |
|                          | SV-iS5 MMC                        | Multi Motor Control board   |
|                          | SV-iS5/iH RS485                   | RS485(LS Bus) communication board   |
|                          | SV-iS5 MODBUS                     | Modbus RTU communication board  |
| iS7                      | SV-iS5/iP5A/iV5 DEVICENET         | DeviceNet communication board   |
|                          | SV-iS5 F-NET                      | LS PLC link board   |
|                          | SV-iS5/iP5A/iV5 PROFIBUS          | Profibus DP communication board   |
|                          | SV-iS7 LCD KEYPAD                 | Graphic LCD display keypad for iS7 (128x64 COG, 11 Rubber Key, 3 LED, IP21)- Multi Languages (English, Italian, Spanish, Russian, Turkish, Arabic)* |
|                          | SV-iS7 REMOTE CABLE(2M)*          | 2 meter connection cable between inverter and keypad  |
|                          | SV-iS7 REMOTE CABLE(3M)*          | 3 meter connection cable between inverter and keypad  |
|                          | SV-iS7 ISOLATION I/O              | Insulated I/O module, 8 multi-functional inputs and 2 output  |
|                          | SV-iS7 EXTENSION I/O              | Extension I/O module, 3 multi-functional inputs and 3 output  |
|                          | SV-iS7 ENCODER                    | Encoder board for closed loop control   |
|                          | SV-iS7 PROFIBUS-DP                | Profibus-DP communication board   |
| iP5A                     | SV-iS7 PLC                        | PLC card (MK120S Platform)  |
|                          | SV-iS7 R-net                      | Rnet communication board  |
|                          | SV-iS7 Modbus TCP                 | 100M BASE-TX, 10M BASE-T support  |
|                          | SV-iS7 DEVICENET                  | DeviceNet Communication board   |
|                          | SV-iS7 LONWORKS                   | LonWork Communication board   |
|                          | SV-iS7 CANopen                    | CanOpen communication board   |
|                          | SV-iP5A LCD KEYPAD                | LCD display keypad for iP5A   |
|                          | SV-iP5A LonWork Extension         | LonWorks communication board  |
|                          | SV-iP5A BACNet                    | BACnet communication board  |
|                          | SV-iP5A/iV5 RS485/Modbus-RTU      | RS485(LS Bus / Modbus RTU) communication board  |
| iV5                      | SV-iS5/iP5A/iV5 DEVICENET         | DeviceNet communication board   |
|                          | SV-iS5/iP5A/iV5 PROFIBUS          | Profibus-DP communication board   |
|                          | SV-iS5/iP5A SUB BOARD E           | Current output board  |
|                          | SV-iS5/iP5A REMOTE CABLE(2M)      | 2 meter connection cable between inverter and keypad  |
|                          | SV-iS5/iP5A REMOTE CABLE(3M)      | 3 meter connection cable between inverter and keypad  |
|                          | SV-iS5/iP5A REMOTE CABLE(5M)      | 5 meter connection cable between inverter and keypad  |
|                          | SV-iP5A MODBUS TCP*               | Modbus TCP communication card   |
|                          | SV-iV5 EL I/O                     | I/O interface board for Elevator application  |
|                          | SV-iV5 ENC_DIV(OC)                | Encoder division board (Open collector)   |
|                          | SV-iV5 SYNC I/O                   | Synchronization operation board (Speed/Positioning control)   |
| SV-iS5/iP5A/iV5 PROFIBUS | SV-iS5/iP5A/iV5 PROFIBUS          | Profibus-DP communication board   |
|                          | SV-iS5/iP5A/iV5 DEVICENET         | DeviceNet communication board   |
|                          | SV-iP5A/iV5 RS485/Modbus-RTU      | RS485(LS Bus / Modbus RTU) communication board  |
|                          | SV-iV5 Sincos Encoder             | Sincos encoder signal input board   |

\* Available soon



# Dynamic Braking Unit list

Variable Frequency Drive / Inverter

| Model name                  | Specifications   |
|-----------------------------|--|
| <b>Dynamic Braking Unit</b> | : Based on 150% torque for 100 seconds                     |
| SV150DBU-2                  | Brake unit for 11 to 15kW, 230V / 10%ED                    |
| SV220DBU-2                  | Brake unit for 18.5 to 22kW, 230V / 10%ED                  |
| SV037DBH-2(NEW)             | Brake unit for 30 to 37kW, 230V / 10%ED                    |
| SV150DBU-4                  | Brake unit for 11 to 15kW, 400V / 10%ED                    |
| SV220DBU-4                  | Brake unit for 18.5 to 22kW, 400V / 10%ED                  |
| SV037DBH-4(NEW)             | Brake unit for 30 to 37kW, 400V / 10%ED                    |
| SV075DBH-4(NEW)             | Brake unit for 45 to 75kW, 400V / 10%ED                    |
| SV150DBU-2U                 | Brake unit for 11 to 15kW, 230V / 10%ED (UL, cUL listed)   |
| SV220DBU-2U                 | Brake unit for 18.5 to 22kW, 230V / 10%ED (UL, cUL listed) |
| SV370DBU-2U                 | Brake unit for 30 to 37kW, 230V / 10%ED (UL, cUL listed)   |
| SV550DBU-2U                 | Brake unit for 45 to 55kW, 230V / 10%ED (UL, cUL listed)   |
| SV150DBU-4U                 | Brake unit for 11 to 15kW, 400V / 10%ED (UL, cUL listed)   |
| SV220DBU-4U                 | Brake unit for 18.5 to 22kW, 400V / 10%ED (UL, cUL listed) |
| SV370DBU-4U                 | Brake unit for 30 to 37kW, 400V / 10%ED (UL, cUL listed)   |
| SV550DBU-4U                 | Brake unit for 45 to 55kW, 400V / 10%ED (UL, cUL listed)   |
| SV750DBU-4U                 | Brake unit for 75kW, 400V / 10%ED (UL, cUL listed)         |
| SV750DB-4*                  | Brake unit for 45 to 75kW, 400V / 100%ED (CE marked)       |
| SV2200DB-4*                 | Brake unit for 160 to 220kW, 400V / 100%ED (CE marked)     |

\* Available soon

# External resistor list

Variable Frequency Drive / Inverter

| Model name                      | Specifications                 |
|---------------------------------|--------------------------------|
| <b>External brake resistors</b> | : Based on 5% ED (Enable duty) |
| MCRA 120 W 100 OHM J            | 120 watt, 100 ohm resistor     |
| MCRA 120 W 50 OHM J             | 120 watt, 50 ohm resistor      |
| MCRA 120 W 40 OHM J             | 120 watt, 40 ohm resistor      |
| MCRA 200 W 100 OHM J            | 200 watt, 100 ohm resistor     |
| MCRA 200 W 160 OHM J            | 200 watt, 160 ohm resistor     |
| MCRA 200 W 200 OHM J            | 200 watt, 200 ohm resistor     |
| MCRB 300 W 100 OHM J            | 300 watt, 100 ohm resistor     |
| MCRB 400 W 200 OHM J            | 400 watt, 200 ohm resistor     |
| MCRB 400 W 160 OHM J            | 400 watt, 160 ohm resistor     |
| MCRB 400 W 100 OHM J            | 400 watt, 100 ohm resistor     |
| MCRB 400 W 50 OHM J             | 400 watt, 50 ohm resistor      |
| MCRB 400 W 40 OHM J             | 400 watt, 40 ohm resistor      |
| MCRB-ST 0.6 KW 130 OHM J        | 600 watt, 130 ohm resistor     |
| MCRB-ST 0.6 KW 33 OHM J         | 600 watt, 33 ohm resistor      |
| MCRM-ST 0.8 KW 20 OHM J         | 800 watt, 20 ohm resistor      |
| MCRM-ST 1.0 KW 85 OHM J         | 1 kW, 85 ohm resistor          |
| MCRM-ST 1.2 KW 60 OHM J         | 1.2 kW, 60 ohm resistor        |
| MCRM-ST 1.2 KW 15 OHM J         | 1.2 kW, 15 ohm resistor        |
| MCRM-ST 2.0 KW 40 OHM J         | 2 kW, 40 ohm resistor          |
| MCRM-ST 2.4 KW 30 OHM J         | 2.4 kW, 30 ohm resistor        |
| MCRM-ST 2.4 KW 10 OHM J         | 2.4 kW, 10 ohm resistor        |
| MCRM-ST 2.4 KW 8 OHM J          | 2.4 kW, 8 ohm resistor         |
| MCRM-ST 3.6 KW 20 OHM J         | 3.6 kW, 30 ohm resistor        |
| MCRM-ST 3.6 KW 5 OHM J          | 3.6 kW, 5 ohm resistor         |

# Memo

Variable Frequency Drive / Inverter

## *Green Innovators of Innovation*



### Safety Instructions

- For your safety, please read user's manual thoroughly before operating.
- Contact the nearest authorized service facility for examination, repair, or adjustment.
- Please contact a qualified service technician when you need maintenance.  
Do not disassemble or repair by yourself!
- Any maintenance and inspection shall be performed by the personnel having expertise concerned.

## LSIS Co., Ltd.

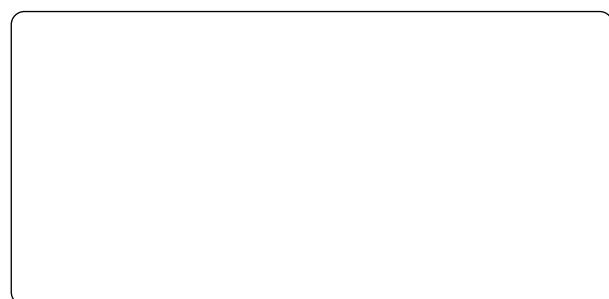
© 2003.4 LSIS Co.,Ltd. All rights reserved.

[www.lsis.biz](http://www.lsis.biz)

### ■ HEAD OFFICE

Korea Gyeonggi-do Anyang-si dongan-gu  
LS-ro 127 (Hogye-dong)

|                   |  |
|-------------------|--|
| ■ Middle East     | +82-2-2034-4901 / <a href="mailto:bonseongk@lsis.biz">bonseongk@lsis.biz</a> |
| ■ Europe & Africa | +82-2-2034-4376 / <a href="mailto:ywsohn@lsis.biz">ywsohn@lsis.biz</a>       |
| ■ Asia Pacific    | +82-2-2034-4645 / <a href="mailto:sungkyup@lsis.biz">sungkyup@lsis.biz</a>   |



Specifications in this catalog are subject to change without notice due to continuous product development and improvement.

### ■ Global Network

- **LSIS (Middle East) FZE >> Dubai, U.A.E.**  
Address: LOB 19 JAFZA VIEW TOWER Room 205, Jebel Ali Freezone P.O. Box 114216, Dubai, United Arab Emirates  
Tel: 971-4-886 5360 Fax: 971-4-886-5361 e-mail: [jungyongl@lsis.biz](mailto:jungyongl@lsis.biz)
- **Dalian LSIS Co., Ltd. >> Dalian, China**  
Address: No.15, Liaohexi 3-Road, Economic and Technical Development zone, Dalian 116600, China  
Tel: 86-411-8273-7777 Fax: 86-411-8730-7566 e-mail: [lixk@lsis.com.cn](mailto:lixk@lsis.com.cn)
- **LSIS (Wuxi) Co., Ltd. >> Wuxi, China**  
Address: 102-A, National High & New Tech Industrial Development Area, Wuxi, Jiangsu, 214028, P.R.China  
Tel: 86-510-8534-6666 Fax: 86-510-522-4078 e-mail: [xuhg@lsis.com.cn](mailto:xuhg@lsis.com.cn)
- **LSIS-VINA Co., Ltd. >> Hanoi, Vietnam**  
Address: Nguyen Khe - Dong Anh - Ha Noi - Viet Nam  
Tel: 84-4-882-0222 Fax: 84-4-882-0220 e-mail: [srjo@lsisvina.com](mailto:srjo@lsisvina.com)
- **LSIS-VINA Co., Ltd. >> Hochiminh , Vietnam**  
Address: 41 Nguyen Thi Minh Khai Str. Yoco Bldg 4th Floor, Hochiminh City, Vietnam  
Tel: 84-8-3822-7941 Fax: 84-8-3822-7942 e-mail: [spark@lsisvina.com](mailto:spark@lsisvina.com)
- **LSIS Shanghai Office >> Shanghai, China**  
Address: Room E-G, 12th Floor Huamin Empire Plaza, No.726, West Yan'an Road Shanghai 200050, P.R. China  
Tel: 86-21-5237-9977 (609) Fax: 89-21-5237-7191 e-mail: [jinkh@lsis.com.cn](mailto:jinkh@lsis.com.cn)
- **LSIS Beijing Office >> Beijing, China**  
Address: B-Tower 17FL,Beijing Global Trade Center B/D. No.36, BeiSanHuanDong-Lu, DongCheng-District, Beijing 100013, P.R. China  
Tel: 86-10-5825-6025.7 Fax: 86-10-5825-6026 e-mail: [cuixiaorong@lsis.com.cn](mailto:cuixiaorong@lsis.com.cn)
- **LSIS Guangzhou Office >> Guangzhou, China**  
Address: Room 1403,14F,New Poly Tower, Zhongshan Liu Road,Guangzhou, P.R. China  
Tel: 86-20-8326-6764 Fax: 86-20-8326-6287 e-mail: [linsz@lsis.biz](mailto:linsz@lsis.biz)
- **LSIS Chengdu Office >> Chengdu, China**  
Address: Room 1701 17Floor, huaminhanjian international Building, No1 Fuxing Road Chengdu, 610041, P.R. China  
Tel: 86-28-8670-3101 Fax: 86-28-8670-3203 e-mail: [yangcf@lsis.com.cn](mailto:yangcf@lsis.com.cn)
- **LSIS Qingdao Office >> Qingdao, China**  
Address: 7840,Haixin Guangchang Sheny Building B, No.9, Shandong Road Qingdao 26600, P.R. China  
Tel: 86-532-8501-6568 Fax: 86-532-583-3793 e-mail: [lirj@lsis.com.cn](mailto:lirj@lsis.com.cn)
- **LSIS NETHERLANDS Co.Ltd >> Qingdao, Netherlands**  
Address: 1st, Floor, Tupolevlaan 48, 1119NZ Schiphol-Rijk, The Netherlands  
Tel: 31-20-654-1420 Fax: 31-20-654-1429 e-mail: [junshickp@lsis.biz](mailto:junshickp@lsis.biz)
- **LSIS Gurgaon Office >> Gurgaon ,India**  
Address: 109 First Floor, Park Central, Sector-30, Gurgaon- 122 002, Haryana, India