Shihlin Electric

SS2 series
0.4-5.5KW

High Quality

Innovation

Industrial Upgrading

High Tech

Compact Design Vector Control
SS2 Series Inverter
(0.4KW-5.5KW)

Superior performance just for you

ISO 14001 ISO 9001
BSMI BSMI
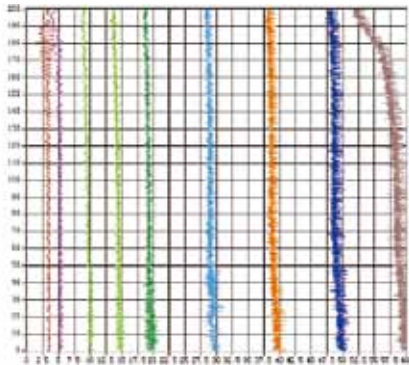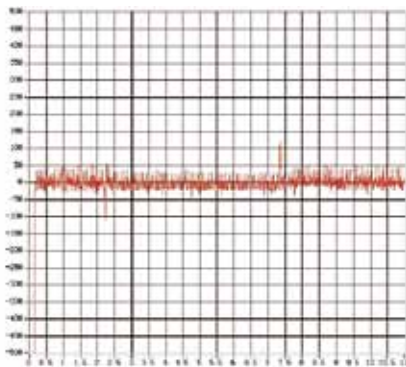REGISTERED REGISTERED

Product Features

♦ General flux vector control technique

- A 32-bit RISC CPU for high-speed computation.
- Starting torque, 150%3Hz

- Speed accuracy is within 1% (0%~100% loading changes)

- Motor parameter auto-tuning function
- Stalling protection level reaches to 250%.

♦ High performance and function

- The maximum output frequency up to 650Hz
- Soft-PWM functions for eliminating motor noises and preventing the temperature of inverter module too high.
- Built-in energy-saving control function, the inverter will control the output voltage automatically in order to reduce the output power losses when the inverter is running.
- Cooling fan operation method is selectable.

♦ Triangular wave function (traverse)

- This is suitable for operations that need traversing and winding movements such as textile operations.
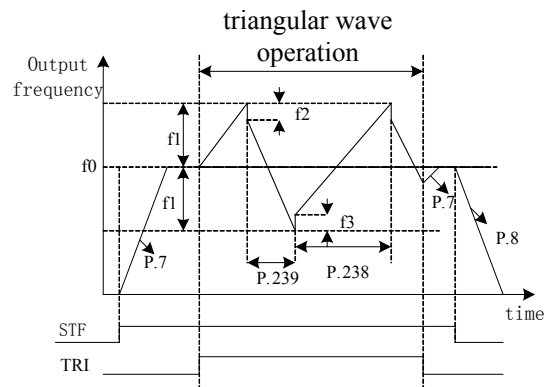
f0 : Setting value of frequency
f1 : Generated amplitude for
    setting frequency (f0×P.235)
f2 : Compensation from acceleration
    to deceleration   (f1×P.236)
f3 : Compensation from deceleration
    to acceleration   (f1×P.237)

♦ Built-in proportion linkage function
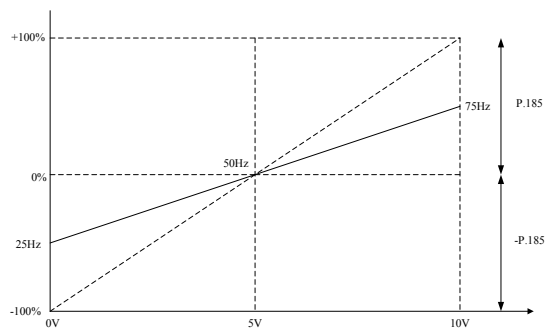
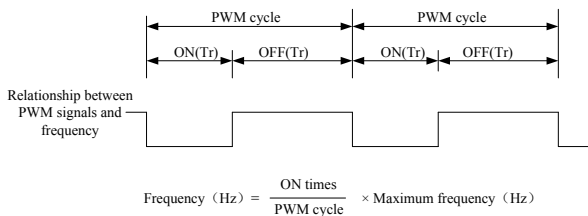

♦ PID feedback control function
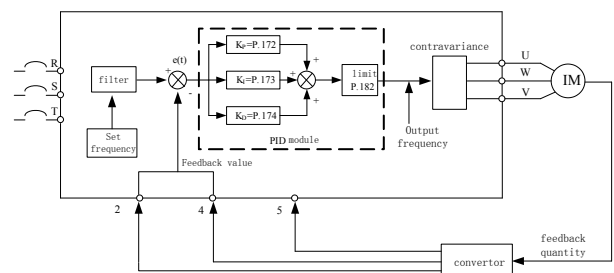
Product Features
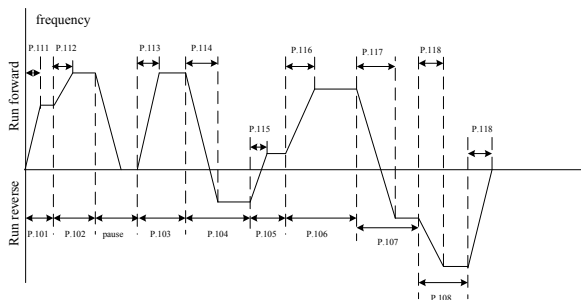
♦ Build in frequency and parameter setting knob

♦ PWM control function

• The operating frequency can be controlled with the PWM signals output from PLC.

$$Frequency\ (Hz) = \frac{ON\ times}{PWM\ cycle} \times Maximum\ frequency\ (Hz)$$

♦ Programmed operation mode with manually operated

♦ Hardware protection design

• With input power phase failure protection, ground short circuit protection and output short circuit protection.
• Under circumstances of damaged motor insulation or erroneous wiring, to protect the output modules and reduce the failure rate.
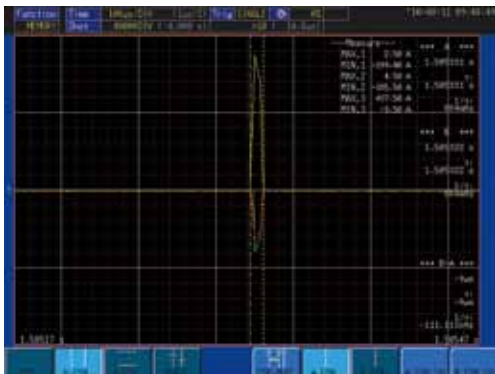
♦ Easy to install design

• Din rail design-Multiple inverters can be mounted side-by-side in the panel.

• Built-in standard RJ45 port for RS485 communication.
• Screwless terminal blocks designed

• The cooling fan is removable and easy to clean.
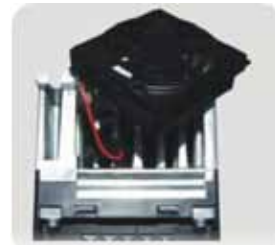
♦ Equipped with grid power frequency switching mechanism

• It provides automatic switch between the grid power and frequency conversion.
• If the motor is running at rated frequency, using grid power frequency has a much better efficiency.
• During the maintenance of the frequency inverter, in order not to stop the motor for a long time, it is recommended to also have a grid power supply circuit.
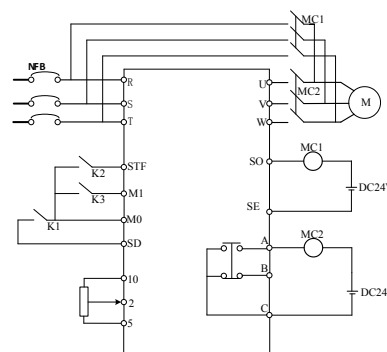
Electric Specifications

◆ 220V Series Single-Phase

Model SS2-021-□□□K		0.4K	0.75K	1.5K	2.2K
Applicable Motor Capacity	HP	0.5	1	2	3
	kW	0.4	0.75	1.5	2.2
Output	Rated output capacity kVA (Note)	0.95	1.5	2.5	4.2
	Rated output current A (Note)	2.7	4.5	8	11
	Over-current capability	150% 60 seconds; 200% 1 second (reverse time characteristics)			
	Maximum output voltage	3 Phase 200~240V AC			
Power Supply	Rated power voltage	Single phase 200~240V 50Hz / 60Hz			
	Power voltage permissible fluctuation	Single phase 170~264V 50Hz / 60Hz			
	Power frequency permissible fluctuation	±5%			
	Power source capacity kVA	1.5	2.5	3.5	6.4
Cooling Method		Nature cooling	Forced air cooling		
Weight (kg)		1.1	1.2	1.6	1.7

◆ 220V Series Three-Phase

Model SS2-023-□□□K		0.4	0.75	1.5	2.2	3.7
Applicable Motor Capacity	HP	0.5	1	2	3	5
	kW	0.4	0.75	1.5	2.2	3.7
Output	Rated output capacity kVA (Note)	1.2	2	3.2	4.2	6.7
	Rated output current A (Note)	3	5	8	11	17.5
	Over-current capability	150% 60 seconds; 200% 1 second (reverse time characteristics)				
	Maximum output voltage	3 Phase 200~240V AC				
Power Supply	Rated power voltage	3 Phase 200~240V 50Hz / 60Hz				
	Power voltage permissible fluctuation	3 Phase 170~264V 50Hz / 60Hz				
	Power frequency permissible fluctuation	±5%				
	Power source capacity kVA	1.5	2.5	4.5	6.4	10
Cooling Method		Nature cooling	Forced air cooling			
Weight (kg)		1.1	1.2	1.2	1.6	1.7

◆ 440V Series Three-Phase

Model SS2-043-□□□K		0.4	0.75	1.5	2.2	3.7	5.5
Applicable Motor Capacity	HP	0.5	1	2	3	5	7
	kW	0.4	0.75	1.5	2.2	3.7	5.5
Output	Rated output capacity kVA (Note)	1	2	3	4.6	6.9	9.2
	Rated output current A (Note)	1.5	2.6	4.2	6	9	12
	Over-current capability	150% 60 Seconds; 200% 1 Second					
	(reverse time characteristics)	Three-phase 380~480V					
Power Suppl	Rated power voltage	3 Phase 380~480V 50Hz / 60Hz					
	Power voltage permissible fluctuation	323~528V 50Hz / 60Hz					
	Power frequency permissible fluctuation	±5%					
	Power source capacity kVA	1.5	2.5	4.5	6.9	10.4	13.8
Cooling Method		Nature cooling	Forced air cooling				
Weight (kg)		1.1	1.1	1.2	1.6	1.7	1.7

Common Specifications

Control Method			SVPWM control, V/F control, facility vector control.
Output Frequency Range			0. 1~650Hz (The starting frequency setting range betwee 0 and 60Hz).
Frequency Resolution	Digital setting		If the frequency value is set below 100Hz, the resolution will be 0.01Hz. If the frequency value is set above 100Hz, the resolution will be 0.1Hz.
	Analog setting		When setting the signal DC 0~5V, the resolution will be 1/500; When setting the signal DC 0~10V or 4~20mA, the resolution will be 1/1000.
Output Frequency Accuracy	Digital setting		Maximum target frequency±0.01%.
	Analog setting		Maximum target frequency±0.5%.
Voltage / Frequency output Characteristics			Base voltage (P.19), base frequency (P.3) can be arbitrarily set. Constant torque model and variable torque model can be selected (P.14).
Start Torque			150% 3Hz, 200% 5Hz: when using the facility vector control.
Torque Boost			The torque boost setting range between 0 and 30% (P.0), auto boost, slip compensation.
Acceleration / Deceleration Curve Characteristics			The acceleration/deceleration time (P.7, P.8), resolution:0.01s/0.1s, switch by P.21. The setting range between 0.01 and 360s or 0.1~3600s for selection. Several acceleration/deceleration curve models are available for selection (P.29).
DC Braking			The DC braking action frequency range between 0 and 120Hz (P.10); the DC braking time is 0~60 Seconds (P.11); and the DC braking voltage is 0~30% (P.12). Linear braking and idling braking selection (P.71).
Stalling Protection			The stalling protection level can be set between 0 and 250% (P.22).
Target Frequency Setting			Operation panel setting, DC 0~5V signal setting, DC 0~10V signal setting, DC 4~20mA signal setting, two voltage input or one voltage and one current input are available for selection. Multi-speed stage level setting, communication setting.
PID Control			Please refer to P.170~P.183 in Chapter 5.
Multifunction Control Terminals			Motor starting (STF, STR), the second function (RT), '16-speed operation' (RL, RM, RH, REX), external thermal relay (OH), reset (RES), etc. (can be set by the user (P.80~P.84, P.86))
Multiple Output Terminals	Multi-function output terminals	SO，SE	P.40	Inverter running (RUN), output frequency detection (FU), Up to frequency (SU), overload detection (OL), zero current detection (OMD), alarm (ALARM), Section detection (PO1), Periodical detection (PO2), and Pause detection (PO3), Inverter output (BP), Commercial power-supply output (GP).
	Multi-function output relay	A，B，C	P.85	
	Analog output	AM，5		Multi-function DC (0~10V) Output: output frequency, output current (P.54).
Operation Panel	Running status monitoring			Output frequency monitoring, output current monitoring, and output voltage monitoring.
	HELP mode			Alarm history monitoring.
	LED indication lamp(6)			Run indication lamp, frequency monitoring indication lamp, voltage monitoring indication lamp, current monitoring indication lamp, mode switching indication lamp, and PU control indication lamp.
Communication Function	RS485			Internal RS485 communication, RJ-45 connector.
Protection Mechanism / Alarm function			Output short circuit protection,Over-current protection, (+/P)-(-/N)over-voltage protection, voltage too low protection, motor over heat protection (P.9), IGBT module over-heat protection, braking transistor abnormality protection, communication abnormality protection, etc.
Environmental Condition	Ambient temperature			-10 ~ +50℃ (non-freezing), installation side by side -10~ +40℃.
	Ambient humidity			Below 90%Rh (non-condensing)
	Storage temperature			-20 ~ +65℃
	Operating environment			Indoor, no corrosive gas, no flammable gas, no flammable dust
	Altitude and vibration			Below 1000 meters, below 5.9 m/s2 (0.6G).
	Grade of protection			IP20
	The degree of environmental pollution			2
	Class of protection			Class I
Certification			C E

Parameter List

Parameter number	Name	Setting range	Minimum setting unit	Default value	User setting value	Reference page
P.0	Torque boost	0~30%	0.1%	(Note)		P42
P.1	Maximum frequency	0~120Hz	0.01Hz	120Hz		P43
P.2	Minimum frequency	0~120Hz	0.01Hz	0Hz		P43
P.3	Base frequency	0~650Hz	0.01Hz	50Hz/60Hz (Note)		P44
P.4	Speed 1 (high speed)	0~650Hz	0.01Hz	60Hz		P45
P.5	Speed 2 (middle speed)	0~650Hz	0.01Hz	30Hz		P45
P.6	Speed 3 (low speed)	0~650Hz	0.01Hz	10Hz		P45
P.7	Acceleration time	0~360.00s/0~3600.0s	0.01s/0.1s	5s		P46
P.8	Deceleration time	0~360.00s/0~3600.0s	0.1s/0.01s	5s		P46
P.9	Electronic thermal relay capacity	0~500A	0.01A	0		P48
P.10	DC injection brake operation frequency	0~120Hz	0.01Hz	3Hz		P48
P.11	DC injection brake operation time	0~60s	0.1s	0.5s		P48
P.12	DC injection brake voltage	0~30%	0.1%	4%		P48
P.13	Starting frequency	0~60Hz	0.01Hz	0.5Hz		P49
P.14	Load pattern selection	0~13	1	0		P50
P.15	JOG frequency	0~650Hz	0.01Hz	5Hz		P53
P.16	JOG acceleration / deceleration time	0~360.00s/0~3600.0s	0.1s/0.01s	0.5s		P53
P.17	Input signal across terminal 4-5 selection	0~2	1	0		P78
P.18	High-speed maximum frequency	120~650Hz	0.01Hz	120Hz		P43
P.19	Base frequency voltage	0~1000V,9999	0.1V	9999		P44
P.20	Acceleration/deceleration reference frequency	1~650Hz	0.01Hz	50Hz/60Hz (Note)		P46
P.21	Acceleration/deceleration time increments	0,1	1	0		P46
P.22	Stall prevention operation level	0~250%	0.1%	200%		P53
P.23	Offset coefficient for Stall prevention operation level at double speed	0~200%, 9999	0.1%	9999		P53
P.24	Speed 4	0~650Hz, 9999	0.01Hz	9999		P45
P.25	Speed 5	0~650Hz, 9999	0.01Hz	9999		P45
P.26	Speed 6	0~650Hz, 9999	0.01Hz	9999		P45
P.27	Speed 7	0~650Hz, 9999	0.01Hz	9999		P45
P.28	Output frequency filtering constant	0~31	1	0		P54
P.29	Acceleration/deceleration pattern selection	0, 1, 2	1	0		P55
P.30	Regenerative function selection	0, 1	1	0		P56
P.31	Soft-PWM selection	0~2	1	0		P57
P.32	Serial communication Baud rate selection	0~3	1	1		P58
P.33	Communication protocol selection	0, 1	1	0		P58
P.34	Reserved					
P.35	Reserved					
P.36	Inverter station number	0~254	1	0		P58
P.37	Speed display	0~5000r/min	0.1r/min	0		P73
P.38	The maximum output frequency (the target frequency is set by the input signal across terminal 2-5)	1~650Hz	0.01Hz	50Hz/60Hz		P74

Parameter List

Parameter number	Name	Setting range	Minimum setting unit	Default value	User setting value	Reference page
P.39	The maximum output frequency (the target frequency is set by the input signal across terminal 4-5)	1~650Hz	0.01Hz	50Hz/60Hz (Note)		P78
P.40	Multi-function output terminal pattern	0~10	1	0		P79
P.41	Up-to-frequency sensitivity	0~100%	0.1%	10%		P82
P.42	Output frequency detection for forward rotation	0~650Hz	0.01Hz	6Hz		P82
P.43	Output frequency detection for reverse rotation	0~650Hz, 9999	0.01Hz	9999		P82
P.44	Second acceleration time	0~360.00s/ 0~3600.0s,9999	0.01s/0.1s	9999		P46
P.45	Second deceleration time	0~360.00s/ 0~3600.0s,9999	0.01s/0.1s	9999		P46
P.46	Second torque boost	0~30%,9999	0.1%	9999		P42
P.47	Second base frequency	0~650Hz, 9999	0.01Hz	9999		P44
P.48	Data length	0, 1	1	0		P58
P.49	Stop bit length	0, 1	1	0		P58
P.50	Parity check selection	0, 1, 2	1	0		P58
P.51	CR and LF selection	1, 2	1	1		P58
P.52	Number of communication reties	0~10	1	1		P58
P.53	Communication check time interval	0~999.8s, 9999	0.1s	9999		P58
P.54	AM terminal function selection	0~4	1	0		P83
P.55	Frequency monitoring reference	0~650Hz	0.01Hz	50Hz/60Hz (Note)		P83
P.56	Current monitoring reference	0~500A	0.01A	Related output current		P83
P.57	Retry coasting time	0~30s, 9999	0.1s	9999		P84
P.58	Retry voltage rising time	0~60s	0.1s	10s		P84
P.59	Reserved					
P.60	Input signal filtering constant	0~31	1	31		P85
P.61	Remote setting function selection	0~3	1	0		P86
P.62	Zero current detection level	0~200%, 9999	0.1%	5%		P88
P.63	Zero current detection time	0.05~60s, 9999	0.01s	0.5s		P88
P.64	Pulse output selection	0.05~60s, 9999	1	0		P79
P.65	Retry selection	0~4	1	0		P88
P.66	Stall prevention operation reduction level starting frequency	0~650Hz	0.01Hz	50Hz/60Hz (Note)		P53
P.67	Number of retries at alarm occurrence	0~10	1	0		P88
P.68	Retry waiting time	0~360s	0.1s	6s		P88
P.69	Retry accumulation times	0	0	0		P88
P.70	Special regenerative brake duty	0~30%	0.1%	0		P56
P.71	Idling braking and linear braking selection	0, 1	1	1		P89
P.72	Carrier frequency	1~15	1	5		P90
P.73	Voltage signal selection	0, 1	1	0		P74
P.74	10X output selection	0~10	1	0		P79
P.75	Stop or Reset function selection	0~1	1	1		P91
P.76	Reversed					

Parameter List

Parameter number	Name	Setting range	Minimum setting unit	Default value	User setting value	Reference page
P.77	Parameters write protection	0, 1, 2	1	0		P92
P.78	Selection of forward/ reverse rotation prevention	0, 1, 2	1	0		P92
P.79	Operation mode selection	0~8	1	0		P93
P.80	Multi-function terminal M0 function selection	0~40, 43	1	2		P93
P.81	Multi-function terminal M1 function selection	0~40, 43	1	3		P93
P.82	Multi-function terminal M2 function selection	0~41, 43	1	4		P93
P.83	Multi-function terminal STF function selection	0~40, 43	1	0		P93
P.84	Multi-function terminal STR function selection	0~40, 43	1	1		P93
P.85	Function selection for multi-function relay	0~10	1	5		P79
P.86	Multi-function terminal RES function selection	0~40, 43	1	30		P93
P.87	Reversed					
P.88	Reversed					
P.89	Slip compensation coefficient	0~10	1	0		P97
P.90	Reserved					
P.91	Frequency jump 1A	0~650Hz,9999	0.01Hz	9999		P98
P.92	Frequency jump 1B	0~650Hz,9999	0.01Hz	9999		P98
P.93	Frequency jump 2A	0~650Hz,9999	0.01Hz	9999		P98
P.94	Frequency jump 2B	0~650Hz,9999	0.01Hz	9999		P98
P.95	Frequency jump 3A	0~650Hz,9999	0.01Hz	9999		P98
P.96	Frequency jump 3B	0~650Hz,9999	0.01Hz	9999		P98
P.97	Reserved					
P.98	Middle frequency 1	0~650Hz	0.01Hz	3Hz		P50
P.99	Voltage output 1 at middle frequency	0~100%	0.1	10		P50
P.100	Minute/second selection	0, 1	1	1		P99
P.101	Runtime of section 1 in programmed operation mode	0~6000s	0.1s	0s		P99
P.102	Runtime of section 2 in programmed operation mode	0~6000s	0.1s	0s		P99
P.103	Runtime of section 3 in programmed operation mode	0~6000s	0.1s	0s		P99
P.104	Runtime of section 4 in programmed operation mode	0~6000s	0.1s	0s		P99
P.105	Runtime of section 5 in programmed operation mode	0~6000s	0.1s	0s		P99
P.106	Runtime of section 6 in programmed operation mode	0~6000s	0.1s	0s		P99
P.107	Runtime of section 7 in programmed operation mode	0~6000s	0.1s	0s		P99
P.108	Runtime of section 8 in programmed operation mode	0~6000s	0.1s	0s		P99
P.110	Operation panel frequency monitoring selection	0~4	1	0		P101
P.111	Acceleration/deceleration time of section 1	0~600s/0~6000s	0.01s/0.1s	0s		P99
P.112	Acceleration/deceleration time of section 2	0~600s/0~6000s	0.01s/0.1s	0s		P99
P.113	Acceleration/deceleration time of section 3	0~600s/0~6000s	0.01s/0.1s	0s		P99
P.114	Acceleration/deceleration time of section 4	0~600s/0~6000s	0.01s/0.1s	0s		P99
P.115	Acceleration/deceleration time of section 5	0~600s/0~6000s	0.01s/0.1s	0s		P99
P.116	Acceleration/deceleration time of section 6	0~600s/0~6000s	0.01s/0.1s	0s		P99
P.117	Acceleration/deceleration time of section 7	0~600s/0~6000s	0.01s/0.1s	0s		P99
P.118	Acceleration/deceleration time of section 8	0~600s/0~6000s	0.01s/0.1s	0s		P99
P.119	Reserved					

Parameter List

Parameter number	Name	Setting range	Minimum setting unit	Default value	User setting value	Reference page
P.120	The output signal delay time	0~3600s	0.1s	0s		P79
P.121	Run direction in each section	0~255	1	0		P99
P.122	Cycle selection	0~8	1	0		P99
P.123	Acceleration/deceleration time setting selection	0, 1	1	0		P99
P.131	Frequency of section 1	0~650Hz	0.01Hz	0Hz		P99
P.132	Frequency of section 2	0~650Hz	0.01Hz	0Hz		P99
P.133	Frequency of section 3	0~650Hz	0.01Hz	0Hz		P99
P.134	Frequency of section 4	0~650Hz	0.01Hz	0Hz		P99
P.135	Frequency of section 5	0~650Hz	0.01Hz	0Hz		P99
P.136	Frequency of section 6	0~650Hz	0.01Hz	0Hz		P99
P.137	Frequency of section 7	0~650Hz	0.01Hz	0Hz		P99
P.138	Frequency of section 8	0~650Hz	0.01Hz	0Hz		P99
P.139	Voltage signal bias	0%~100%	0.1%	0%		P74
P.140	Voltage signal gain	0.1%~200%	0.1%	100%		P74
P.141	Bias polarity of voltage signal and reverse motion of negative bias	0~11	1	0		P74
P.142	Speed 8	0~4650Hz	0.01Hz	0Hz		P45
P.143	Speed 9	0~650Hz, 9999	0.01Hz	9999		P45
P.144	Speed 10	0~650Hz, 9999	0.01Hz	9999		P45
P.145	Speed 11	0~650Hz, 9999	0.01Hz	9999		P45
P.146	Speed 12	0~650Hz, 9999	0.01Hz	9999		P45
P.147	Speed 13	0~650Hz, 9999	0.01Hz	9999		P45
P.148	Speed 14	0~650Hz, 9999	0.01Hz	9999		P45
P.149	Speed 15	0~650Hz, 9999	0.01Hz	9999		P45
P.150	Restart mode selection	0~22	1	0		P84
P.151	Zero-speed control function selection	0, 1	1	0		P102
P.152	Voltage instruction when zero-speed control	0~30%	0.1%	5%		P102
P.153	Communication error handling	0, 1	1	0		P58
P.154	Modbus protocol selection	0~5	1	4		P58
P.155	Over torque detection lelve	0~200%	0.1%	0%		P102
P.156	Over torque detection time	0~60s	0.1s	1		P102
P.157	External terminals filter function selection	0~200ms	1ms	4ms		P102
P.158	External terminal power enable	0, 1	1	0		P102
P.159	energy-saving control function	0, 1	1	0		P104
P.160	Reserved					
P.161	Multi-function display selection	0~13	1	0		P104
P.162	Middle frequency 2	0~650Hz, 99999	0.01Hz	99999		P50
P.163	Voltage output 2 at middle frequency	0~100%	0.1%	0		P50
P.164	Middle frequency 3	0~650Hz, 99999	0.01Hz	99999		P50
P.165	Voltage output 3 at middle frequency	0~100%	0.1%	0		P50
P.166	Middle frequency 4	0~650Hz, 99999	0.01Hz	99999		P50
P.167	Voltage output 4 at middle frequency	0~100%	0.1%	0		P50
P.168	Middle frequency 5	0~650Hz, 99999	0.01Hz	99999		P50
P.169	Voltage output 5 at middle frequency	0~100%	0.1%	0		P50
P.170	PID selection	0, 1, 2	1	0		P105
P.171	PID feedback control method selection	0, 1	1	0		P105

Parameter List

Parameter number	Name	Setting range	Minimum setting unit	Default value		User setting value	Reference page
P.172	PID proportion Gain	1~100	1	20			P105
P.173	PID integration Gain	0~100s	0.1s	1s			P105
P.174	PID differential Gain	0~1000ms	1ms	0			P105
P.175	Abnormal deviation level	0~100%	0.1%	70%			P105
P.176	Exception duration time	0~600s	0.1s	0s			P105
P.177	Exception handling mode	0, 1,2	1	0			P105
P.178	Sleep detect deviation	0~100%	0.1%	0			P105
P.179	Sleep detect duration time	0~255s	0.1s	10s			P105
P.180	Revival level	0~100%	0.1%	90%			P105
P.181	Outage level	0~120Hz	0.01Hz	40Hz			P105
P.182	Upper integral	0~120Hz	0.01Hz	50Hz/60Hz (Note)			P105
P.183	Deceleration step length of pressure stability	0~10Hz	0.01Hz	0.5Hz			P105
P.184	Disconnection processing function of terminal 4-5	0~3	0	0			P108
P.185	Proportion linkage gain	0~100%	1	0			P109
P.187	FM calibration parameter	0~9998	1	220			P79
P.188	Software edition	---	---	---			P109
P.189	Default function	0, 1	0	60Hz 0 / 50Hz 1			P110
P.190	AM output bias	0~8192	1	0			P83
P.191	AM output gain	0~8192	1	625			P83
P.192	Minimum input voltage across terminal 2-5	0~10	0.01	0			P111
P.193	Maximum input voltage across terminal 2-5	0~10	0.01	0			P111
P.194	Frequency corresponds to the minimum input voltage across terminal 2-5	0~60Hz	0.01Hz	0Hz			P111
P.195	Frequency corresponds to the maximum input voltage across terminal 2-5	0~650Hz	0.01Hz	50Hz/60Hz (Note)			P111
P.196	Frequency corresponds to the minimum input current/voltage across terminal 4-5	0~60Hz	0.01Hz	0Hz			P112
P.197	Frequency corresponds to the maximum input currentvoltage across terminal 4-5	0~650Hz	0.01Hz	50Hz/60Hz (Note)			P112
P.198	Minimum input current/voltage across terminal 4-5	0~20	0.01	0			P112
P.199	Maximum input current/voltage across terminal 4-5	0~20	0.01	0			P112
P.223	Analog feedback bias pressure	0~100%	0.1	0%			P105
P.224	Analog feedback gain pressure	0~100%	0.1	100%			P105
P.225	Panel command	0~100%	0.1	20%			P105
P.229	Backlash compensation function selection	0~1	1	0			P113
P.230	The backlash compensation acceleration interrupt frequency	0~650Hz	0.01Hz	1Hz			P113
P.231	The backlash compensation acceleration interrupt time	0~360s	0.1s	0.5s			P113
P.232	The backlash compensation deceleration interrupt frequency	0~650Hz	0.01Hz	1Hz			P113
P.233	The backlash compensation deceleration interrupt time	0~360s	0.1s	0.5s			P113
P.234	Triangular wave function selection	0~2	1	0			P114
P.235	Maximum amplitude	0~25%	0.1%	10%			P114
P.236	Amplitude compensation for deceleration	0~50%	0.1%	10%			P114
P.237	Amplitude compensation for acceleration	0~50%	0.1%	10%			P114
P.238	Amplitude acceleration time	0~360s/0~3600s	0.01s/0.1s	10s			P114

Parameter List

Parameter number	Name	Setting range	Minimum setting unit	Default value	User setting value	Reference page
P.239	Amplitude deceleration time	0~360s/0~3600s	0.01s/0.1s	10s		P114
P.240	Auxiliary frequency function selection	0~6	1	0		P115
P.242	DC injection brake function before starting selection	0~1	1	0		P115
P.243	DC injection brake time before starting	0~60s	0.1s	0.5s		P115
P.244	DC injection brake voltage before starting	0~30%	0.1%	4%		P115
P.245	Cooling fan operation selection	0~3	0	0		P116
P.247	MC switch interlock time	0.1~100s	0.1s	1s		P116
P.248	Start waiting time	0.1~100s	0.1s	0.5s		P116
P.249	Automatic switchover frequency from inverter to bypass operation	0~60Hz,9999	0.01Hz	9999		P116
P.250	Automatic switchover frequency range from bypass to inverter operation	0~10Hz,9999	0.01Hz	9999		P116
P.287	Short circuit protection function selection	0~1	1	1		P119
P.288	Alarm history number	0~12	1	0		P119
P.289	Alarm code	---	---	0		P119
P.290	The latest alarm status selection	0~5	1	0		P119
P.291	The latest alarm status	---	---	0		P119
P.292	Accumulative motor operation time (minutes)	0~1439min	1min	0		P120
P.293	Accumulative motor operation time (days)	0~9998day	1day	0		P120
P.294	Decryption parameter	0~9998	1	0		P121
P.295	Password setup	2~9998	1	0		P121
P.300	Motor control mode selection	0~2	1	0		P121
P.301	Motor parameter auto-tuning function selection	0~3	1	0		P121
P.302	Motor rated frequency	0~160	0.01	0		P123
P.303	Motor level	0~8	1	4		P123
P.304	Motor rated voltage	0~440V	1 V	220/440V		P123
P.305	Motoe rated frequency	0~650Hz	0.01Hz	50Hz/60Hz (Note)		P123
P.306	Motor rated current	0~500A	0.01 A	Horsepower-based		P123
P.307	Motor rated rotation speed	0~65535 r/min	1 r/min	1410/1710 r/min(Note)		P123
P.308	Motor excitation current	0~500A	0.01 A	Horsepower-based		P123
P.309	Stator resistor	0~99.8Ω	1	Horsepower-based		P123
P.994	Parameter copy readout	Refer to Chapter 5	---	---		P124
P.995	Parameter copy write-in	Refer to Chapter 5	---	---		P124
P.996	Abnormal record deletion	Refer to Chapter 5	---	---		P124
P.997	Inverter reset	Refer to Chapter 5	---	---		P125
P.998	Restoring the parameters to the default values	Refer to Chapter 5	---	---		P125
P.999	Restoring some parameters to the default values	Refer to Chapter 5	---	---		P125

Note : The default value is determined by the set value of P.189. When P.189=0, the default value is 60Hz, which is applicable to 60Hz systems. When P.189=1, the default value is 50Hz, which is applicable to 50Hz systems.

Wiring Diagram

3 φ Power input

NFB/MCCB   MC

A.C. reator

R/L1
S/L2
T/L3

U/T1
V/T2
W/T3

MOTOR

+/P
PR

Brade resistor

PC
RUN forward — STF
RUN reverse — STR
Reset — RES
Multi-seped 1 — M0
Multi-seped 2 — M1
Multi-seped 3 — M2
SD

Control terminals

A — RL — Red light
B — GL — Green light
C

VDC 30 V
VAC 230 V

1K Ω 2W and above

0～5V(10V) Input
4～20mA/ +
0～5V(10V) Input −

VR

10
2
4
5

Analog signal input

AM

Analog signal onput

Analog ammeter
DC0～10V

(Note5)
SO
SE

Multi-function output terminal

DC12～24V

8 ↑ 1

RJ-45 connector
Communication terminal for DU06 or PC

1, 2, 3: Reserve
4: DA-
5: DA+
6: DU06 detection signal
7: +5V
8: GND

Note:

- 1. In the above figure, the thickness of wire of the main circuit and the control circuit wiring or the ground wiring should be noted.
- 2. For the usage of the external thermal relay, please refer to P.80~P.84, P.86.
- 3. Make sure not to short circuit the PC and SD.
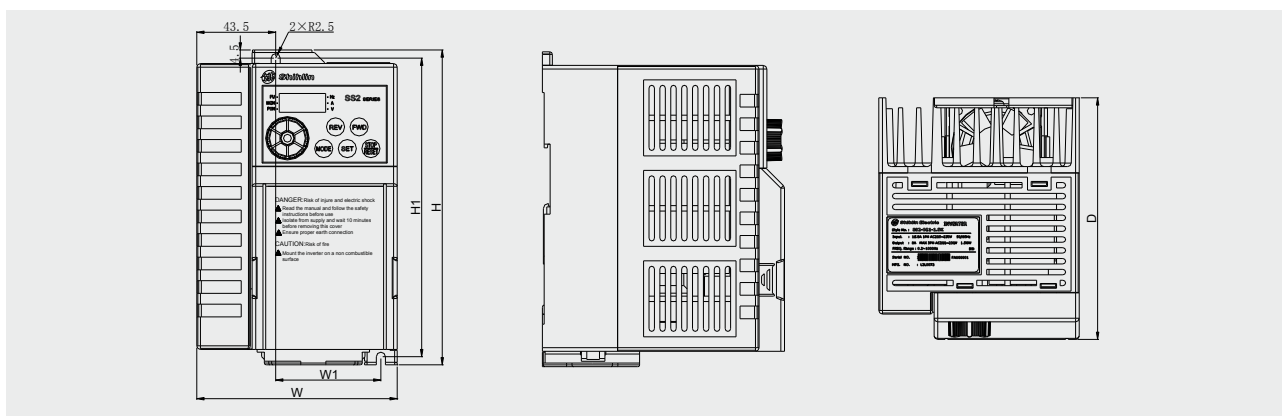- 4. The SO terminal can select to FM or 10X function, please refer to P.64, P.74.

Dimensions

◆ Frame A
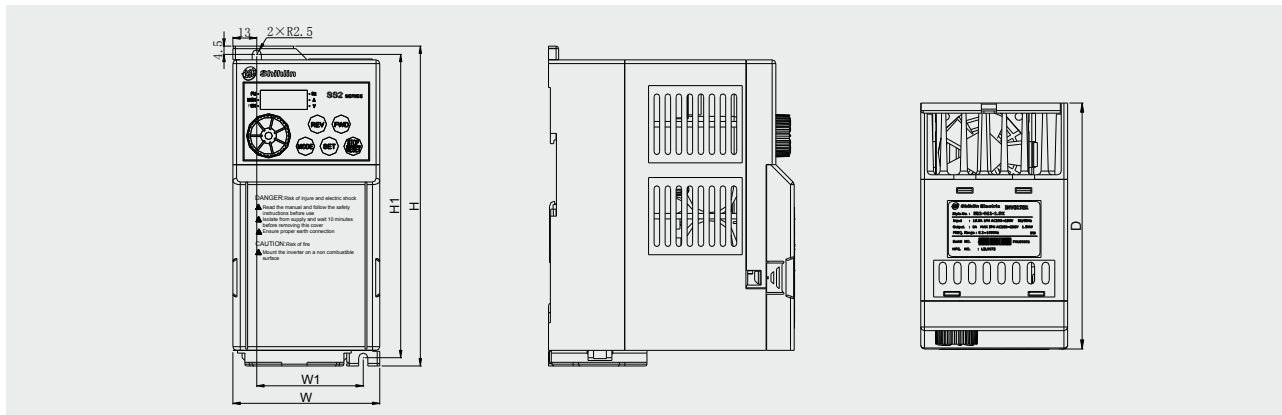
Model	H(mm)	H1(mm)	W(mm)	W1(mm)	D(mm)
SS2-021-0.4K	174	165	80	58	134
SS2-021-0.75K					
SS2-023-0.4K					
SS2-023-0.75K					
SS2-023-1.5K					
SS2-043-0.4K					
SS2-043-0.75K					
SS2-043-1.5K					

◆ Frame B

Model	H(mm)	H1(mm)	W(mm)	W1(mm)	D(mm)
SS2-021-1.5K	174	165	110.5	58	134
SS2-021-2.2K					
SS2-023-2.2K					
SS2-023-3.7K					
SS2-043-2.2K					
SS2-043-3.7K					
SS2-043-5.5K					

Accessories

◆ **DU06 operation panel**
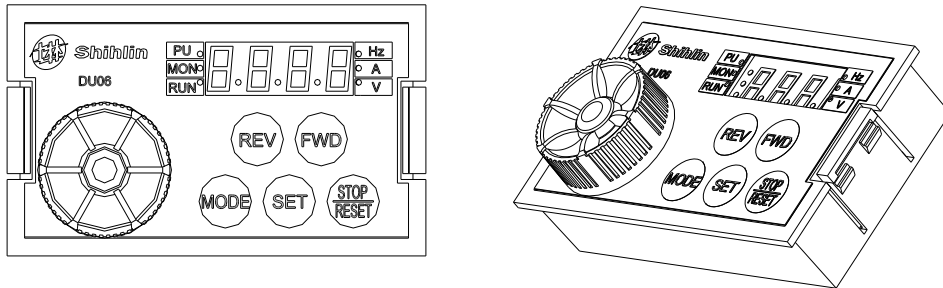
Description on the ordering code:

NO.	Model	Name
1	LNKDU06	DU06 operation panel

◆ **Outline drawing of DU06**

42.4

72

9.45 | 15.8

38.65

8.3 | 52.4

8.1

26.2

2×M3
Effective depth of screws hole 2.9mm
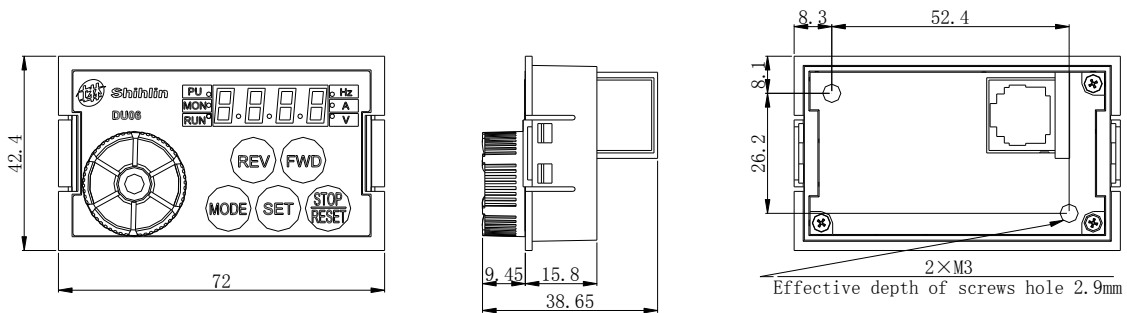
◆ **Screw installation of DU06**

〈Screw installation:panel cutting dimension drawing〉

33.7 | 19.3

unit: mm

5.1

Cutout Area

19.8

26.2

52.4

2−∅4
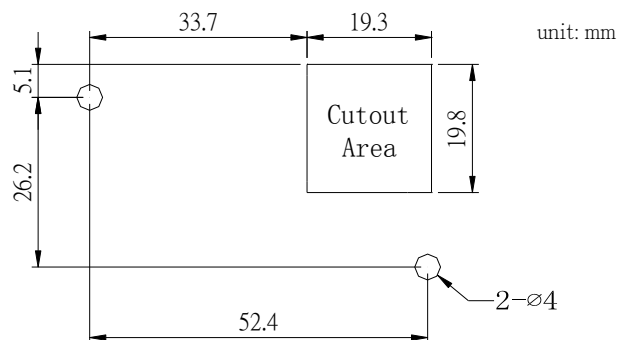
◆ **SS-CBL01/03/05T**
Transmission cable

◆ **Brake Resistor**

◆ **AC/DC Reactor**

Model Name Indication for Shinlin Inverter

SS2-021-0.4-KD

Model

Applicable motor：

021-0.4～2.2K
023-0.4～3.7K
043-0.4～5.5K

mark：
KD→with RJ45

Rated power voltage：
021→220V 1-PHASE
023→220V 3-PHASE
043→440V 3-PHASE

SE2-021-0.75K-DL

Model

Applicable motor：

021-0.4～2.2K
023-0.4～7.5K
043-0.4～11K

mark：
L→with filter

Rated power voltage：
021→220V 1-PHASE
023→220V 3-PHASE
043→440V 3-PHASE

mark：
D→with keypad

SF-020-7.5K / 5.5K-G

Model

Over-current capability: 120% / 60s

Applicable motor：
020-5.5～55K
040-5.5～160K

Over-current capability: 150% / 60s

Applicable motor：
020-5.5～45K
040-5.5～132K

Rated power voltage：
020→220V 3-PHASE
040→440V 3-PHASE

Shihlin Electric
Factory Automation Products

Human Machine Interface

Temperature Controller

Servo motor and drive

Inverter

Shihlin Electric & Engineering Corporation
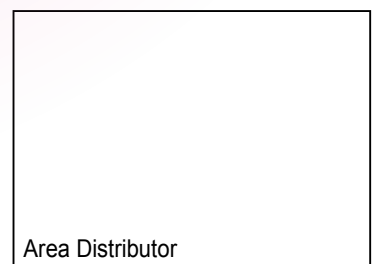
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