

General specifications

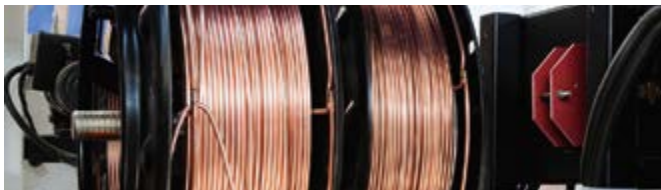
Function	(0.4kW – 2.2kW)	(4.0kW – 500kW)
Input voltage (V)	AC 1PH 220V (-15%) – 240V (+10%) AC 3PH 380V (-15%) – 440V (+10%)	AC 3PH 380V (-15%) – 440V (+10%)
Input current (A)	Refer to Rated value ND or LD	
Input frequency (Hz)	50Hz or 60Hz, allowed range: 47–63Hz	
Output voltage (V)	AC 3PH 0 - Input Voltage	
Output current (A)	Refer to Rated value ND or LD	
Output power (kW)	Refer to Rated value ND or LD	
Output frequency (Hz)	0–400Hz	
Speed control precision	±0.2% (SVC)	
Speed fluctuation	±0.3% (SVC)	
Torque response	<20ms (SVC)	
Torque control precision	10% (SVC)	
Starting torque	0.5Hz/150% (SVC)	0.25Hz/150% (SVC)
Overload capacity	150% of rated current: 1min (ND), 120% of rated current: 1min (LD) 180% of rated current: 10s (ND), 150% of rated current: 10s (LD) 200% of rated current: 1s (ND), 180% of rated current: 1s (LD)	
Frequency setup mode	Digital setting, analog setting, pulse frequency setting, multi-step, speed running setting, PID setting, MODBUS communication setting	
Automatic voltage regulation function	Keep the output voltage constant when grid voltage changes.	
Fault protection function	Fault protection function Provide over 30 kinds of fault protection functions: overcurrent, overvoltage, undervoltage, overtemperature, phase loss and overload, etc.	
Speed tracking restart function (Catch-on-the-fly)	-	Realize impact-free starting of the rotating motor
Analog input	2 inputs: 0–10V / 0–20mA and -10–10V	
Analog output	1 output: 0–10V / 0–20mA	
Digital input	4 common inputs, max. frequency: 1kHz; 1 high speed input, max. frequency: 50kHz	4 common inputs; max. frequency: 1kHz; 2 high-speed inputs; max. frequency: 50kHz
Digital output	1 high-speed pulse output; max. frequency: 50kHz 1 Y terminal open collector output	
Relay output	1 programmable relay output R01A NO, R01B NC, R01C common port 3A/AC250V, 1A/DC30V	2 programmable relay outputs R01A NO, R01B NC, R01C common port R02A NO, R02B NC, R02C common port 3A/AC250V, 1A/DC30V
Terminal analog input	Less than 20mV	
Terminal digital input resolution	Less than 2ms	
Degree of Protection	IP20	
Operating ambient temperature	-10–50°C, derating is required if the ambient temperature exceeds 40°C	
Speed regulation ratio	1:100 (SVC)	1:200 (SVC)
EMC filter	- Optional external filter fulfils IEC61800-3 C2	Built-in EMC filter fulfils IEC61800-3 C3 Optional external filter fulfils IEC61800-3 C2
Cooling mode	Air-cooling	
Installation mode	Wall and rail mountable	Support wall-mounting, floor-mounting and flange-mounting
Functional Safety	STO: SIL2	
Pollution level	Level 2	
Altitude	<1000m If the sea level is above 1000m, please derate 1% for every additional 100m.	
Brake unit	Brake unit up to 37kW, Optional brake unit from 45kW	
Certification	CE marking	



Standard specifications

Model name S1-*****		00032SFE	00055SFE	00100SFE	00130SFE	00032HFE	00055HFE	00073HFE	00125HFEF	00170HFEF	00230HFEF
Degree of Protection		IP20									
Applicable motor capacity (4 poles) (kW)	LD	0.75	1.10	2.20	3.00	1.10	2.20	3.00	5.50	7.50	11.0
	ND	0.40	0.75	1.50	2.20	0.75	1.50	2.20	4.00	5.50	7.50
Rated capacity (kVA)	LD	0.74	1.27	2.30	3.00	2.21	3.80	5.05	8.65	12.80	15.92
	ND	0.58	0.97	1.73	2.30	1.70	2.90	3.80	6.60	9.70	12.8
Rated AC input voltage		AC 1PH 220V (-15%) – 230V (+10%)					AC 3PH 380V (-15%) – 440V (+10%)				
Rated output current (A)	LD	3.20	5.50	10.0	13.0	3.20	5.50	7.30	12.5	17.0	23.0
	ND	2.50	4.20	7.50	10.0	2.50	4.20	5.50	9.50	14.0	18.5
Overload current rating	LD	120% 60sec / 150% 10s / 180% 1s									
	ND	150% 60sec / 180% 10s / 200% 1s									
Rated output voltage		AC 3PH: 230 or 400V (proportional to input voltage)									
Starting torque (ND)		0.50Hz/150% (SVC) (ND)							0.25Hz/150% (SVC) (ND)		
Regenerative braking		Brake unit up to 37kW, Optional brake unit from 45kW									
Minimum resistance value (Ω)		42	42	30	21	240	170	130	80	60	47
H (height) (mm)		160	160	185	185	185	185	185	186	256	256
W (width) (mm)		80	80	80	80	80	80	80	126	146	146
D (depth) (mm)		123.5	123.5	140.5	140.5	140.5	140.5	140.5	201	192	192
Weight (kg)		0.9	0.9	1.2	1.2	1.0	1.0	1.0	2.5	2.5	3.0

Model name S1-*****HFEF		00320	00380	00450	00600	00750	00920	01150	01500	01700	02150
Degree of Protection		IP20									
Applicable motor capacity (4 poles) (kW)	LD	15.0	18.5	22.0	30.0	37.0	45.0	55.0	75.0	90.0	110.0
	ND	11.0	15.0	18.5	22.0	30.0	37.0	45.0	55.0	75.0	90.0
Rated capacity (kVA)	LD	22.1	26.3	31.1	41.5	51.9	63.7	79.6	103.8	118.0	148.8
	ND	17.3	22.1	26.3	31.1	41.5	51.9	63.7	79.6	103.8	124.6
Rated AC input voltage		AC 3PH 380V (-15%) – 440V (+10%)									
Rated output current (A)	LD	32.0	38.0	45.0	60.0	75.0	92.0	115.0	150.0	170.0	215.0
	ND	25.0	32.0	38.0	45.0	60.0	75.0	92.0	115.0	150.0	180.0
Overload current rating	LD	120% 60sec / 150% 10s / 180% 1s									
	ND	150% 60sec / 180% 10s / 200% 1s									
Rated output voltage		AC 3PH: 230 or 400V (proportional to input voltage)									
Starting torque		0.25Hz/150% (SVC) (ND)									
Regenerative braking		Brake unit up to 37kW, Optional brake unit from 45kW									
Minimum resistance value (Ω)		31	23	19	17	17	11.7	6.4	6.4	6.4	4.4
H (height) (mm)		320	320	340.6	340.6	400	400	560	560	554	554
W (width) (mm)		170	170	200	200	250	250	282	282	338	338
D (depth) (mm)		220	220	208	208	223	223	258	258	330	330
Weight (kg)		6.0	6.0	8.5	8.5	16.0	16.0	25.0	25.0	25.0	41.0



Model name S1-****HFEF		02600	03050	03400	03800	04250	04800	05300	06000	06500	07200	08600
Degree of Protection		IP20										
Applicable motor capacity (4 poles) (kW)	LD	132.0	160.0	185.0	200.0	220.0	250.0	280.0	315.0	350.0	400.0	500.0
	ND	110.0	132.0	160.0	185.0	200.0	220.0	250.0	280.0	315.0	350.0	400.0
Rated capacity (kVA)	LD	179.9	211.1	235.3	263.0	294.1	332.2	366.8	415.2	449.8	498.2	595.1
	ND	148.8	179.9	211.1	235.3	263.0	294.1	332.2	366.8	415.2	449.8	498.2
Rated AC input voltage		AC 3PH 380V (-15%) – 440V (+10%)										
Rated output current (A)	LD	260.0	305.0	340.0	380.0	425.0	480.0	530.0	600.0	650.0	720.0	860.0
	ND	215.0	260.0	305.0	340.0	380.0	425.0	480.0	530.0	600.0	650.0	720.0
Overload current rating	LD	120% 60sec / 150% 10s / 180% 1s										
	ND	150% 60sec / 180% 10s / 200% 1s										
Rated output voltage		AC 3PH: 230 to 400V (proportional to input voltage)										
Starting torque (ND)		0.25Hz/150% (SVC) (ND)										
Regenerative braking		Brake unit up to 37kW, Optional brake unit from 45kW										
H (height) (mm)		554	870	870	870	870	960	960	960	960	1700	1700
W (width) (mm)		338	500	500	500	500	680	680	680	680	620	620
D (depth) (mm)		330	360	360	360	360	380	380	380	380	560	560
Weight (kg)		41.0	85.0	85.0	85.0	85.0	135.0	135.0	135.0	135.0	350.0	350.0

Model S1-****HFEF-55M		00125	00170	00230	00320	00380	00450	00600	00750	00920	01150	01500	01700	02150	02150-55MND
Degree of Protection		IP55													
Mains Switch		Integrated as standard													
Display		Full Graphic LCD													
Applicable motor capacity (4 poles) (kW)	LD	5.50	7.50	11.0	15.0	18.5	22.0	30.0	37.0	45.0	55.0	75.0	90.0	110.0	–
	ND	4.00	5.50	7.50	11.0	15.0	18.5	22.0	30.0	37.0	45.0	55.0	75.0	90.0	110.0
Rated capacity (kVA)	LD	8.65	12.80	15.92	22.1	26.3	31.1	41.5	51.9	63.7	79.6	103.8	118.0	148.8	–
	ND	6.60	9.70	12.8	17.3	22.1	26.3	31.1	41.5	51.9	63.7	79.6	103.8	124.6	148.8
Rated AC input voltage		AC 3PH 380V (-15%) – 440V (+10%)													
Rated output current (A)	LD	12.5	17.0	23.0	32.0	38.0	45.0	60.0	75.0	92.0	115.0	150.0	170.0	215.0	–
	ND	9.50	14.0	18.5	25.0	32.0	38.0	45.0	60.0	75.0	92.0	115.0	150.0	180.0	215.0
Overload current rating	LD	120% 60sec / 150% 10s / 180% 1s													–
	ND	150% 60sec / 180% 10s / 200% 1s													
Rated output voltage		AC 3PH: 400V (proportional to input voltage)													
Starting torque (ND)		150% from 0.25Hz (SVC) (ND)													
Braking Chopper		Standard										Optional			
Minimum resistance value (Ω)		80	60	47	31	23	19	17	17	11.7	6.4	6.4	6.4	4.4	4.4
H (height) (mm)		403	403	475	475	475	522	522	587	587	800	800	788	788	788
W (width) (mm)		260.5	260.5	289.4	289.4	289.4	279.5	279.5	290	290	336.7	336.7	380	380	380
D (depth) (mm)		196	196	223	223	223	274	274	318	318	338	338	370	370	370
Weight (kg)		7.0	7.0	13.0	13.0	13.0	21.0	21.0	26.5	26.5	48.2	48.2	64.0	64.0	64.0





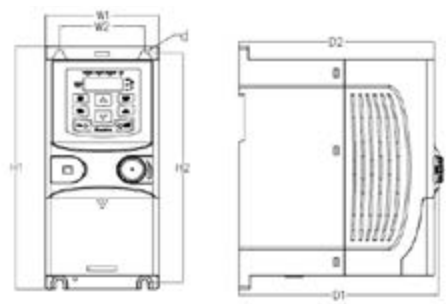
1PH 220V (-15%) – 240V (+10%)
 3PH 380V (-15%) – 440V (+10%)



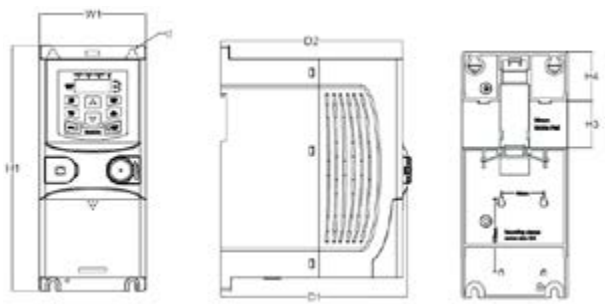
Mounting Dimensions

Model	W1	W2	H1	H2	H3	H4	D1	D2	Installation hole (d)
S1-00032SFE	80.0	60.0	160.0	150.0	35.4	36.6	123.5	120.3	5
S1-00055SFE	80.0	60.0	160.0	150.0	35.4	36.6	123.5	120.3	5
S1-00100SFE	80.0	60.0	185.0	175.0	35.4	36.6	140.5	137.3	5
S1-00130SFE	80.0	60.0	185.0	175.0	35.4	36.6	140.5	137.3	5
S1-00032HFE	80.0	60.0	185.0	175.0	35.4	36.6	140.5	137.3	5
S1-00055HFE	80.0	60.0	185.0	175.0	35.4	36.6	140.5	137.3	5
S1-00073HFE	80.0	60.0	185.0	175.0	35.4	36.6	140.5	137.3	5

Wall Mounting



Rail Mounting





3PH 380V (-15%) - 440V (+10%)

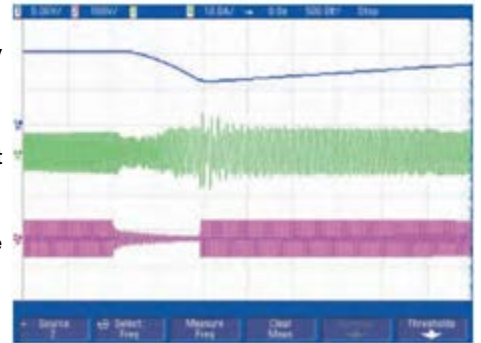
Excellent performance at "Catch-on-the-Fly"

The S1 is very suitable for applications where large flywheel masses continue to run for a very long time after the power supply has been interrupted. These are for example applications with large fans or centrifuges. S1 detects the remaining speed and catches the motor at the correct position to accelerate back to the intended speed.

Output frequency

Output current

Output voltage



Dimensions (4kW - 500kW)

Voltage	Model	W1	H1	D1	Installation hole (d)	Fixing screw
400V	S1-00125HFEF	126	186	201	5	M4
	S1-00170HFEF; S1-00230HFEF	146	256	192	6	M5
	S1-00320HFEF; S1-00380HFEF	170	320	220	6	M5
	S1-00450HFEF; S1-00600HFEF	200	340.6	208	6	M5
	S1-00750HFEF; S1-00920HFEF	250	400	223	6	M5
	S1-01150HFEF; S1-01500HFEF	282	560	258	9	M8
	S1-02150HFEF; S1-01700HFEF	338	554	330	10	M8
	S1-03050HFEF; S1-03400HFEF; S1-02600HFEF S1-03800HFEF; S1-04250HFEF	500	870	360	11	M10
	S1-04800HFEF; S1-05300HFEF; S1-06000HFEF; S1-06500HFEF	680	926	380	13	M12
	S1-07200HFEF; S1-08600HFEF	620	1700	580	22	M20

