

SSC Series

Standard of Economic Soft Starter

Based on the optimum size and simple operation, LS wants to become the standard for economical soft starter products.

It is designed to meet IEC/UL/KC standards, and provides a motor protection functions to ensure stable operation of motor systems.

SSC series soft starters are equipped with a Built-in Bypass. SSC series can be mounted on a DIN-rail and it may be mounted horizontally for optimizing space. SSC series allows for fast diagnosis of a trip via two LEDs on the front of the unit.



Reliability

Timed Voltage Ramp System

- Significant Soft Starter/Stop performance
- Energy cost-saving and improved motor efficiency

Easy Operation & Control

Built-in Bypass, Compact Package

SSCi

- Constant current system in operation with current sensing and control
- Motor protection (Motor overload, Open phase, Excess start time, etc.)
- Programmable relay

Efficiency

Compact Design

- Built-in bypass contactor
- DIN rail (up to 60A)
- Horizontal mounting

Energy Savings

- Efficiency upon operation: 99.5%
- Zero harmonics

Simple to Integrate

- With features such as dedicated output relays to control the upper stream main contactor and power factor correction capacitors, SSC soft starters are easy to integrate into complete motor control solutions.



Convenience

Protection

- The SSCI has built-in thermal model motor overload protection. The motor current is continuously monitored and the expected temperature is calculated based on this monitored current. The SSCI will trip when the calculated motor temperature reaches 105% if the user sets the Motor Trip Class. An external motor protection device is not required when using a SSCI soft starter.

SSCe: Easy Setup of 3 Parameters (Front Panel Rotary Switch)

- Initial start voltage
- Start ramp time
- Soft stop ramp time

SSCi: Easy to set up for more control of several adjustments (Front Panel Rotary Switch)

- Current Ramp
- Motor FLC
- Current Limit
- Stop Ramp Time
- Motor Trip Class
- Auxiliary Relay Function
- Phase Sequence
- Excess Start Time

Convenient Status and Trip Check with LED Indicator

Model Name & Current Rating

Model Name



1 LS Soft Starter Compact Series

2 Motor Protection

e	Without Motor Protection
i	With Motor Protection

3 Nominal Current Rating [A]

4 Input Voltage

V4	200 ~ 440 VAC
V6	200 ~ 575 VAC

5 Control Voltage

C1	110 ~ 240 VAC & 380 ~ 440 VAC
C2	24 VAC/VDC

Current Rating

Model Name	AC53b 4-6:354 < 1000m		AC53b 4-20:340 < 1000m	
	40°C	50°C	40°C	50°C
SSC□-018	18A	17A	17A	15A
SSC□-034	34A	32A	30A	28A
SSC□-042	42A	40A	36A	33A
SSC□-048	48A	44A	40A	36A
SSC□-060	60A	55A	49A	45A

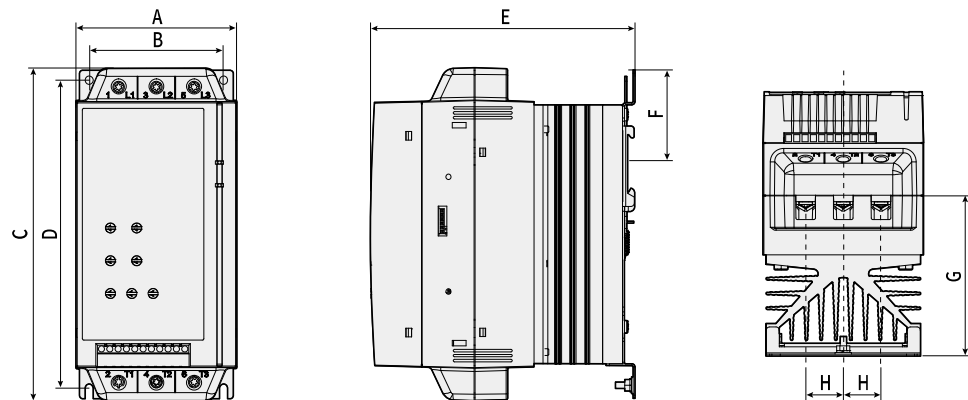
Model Name	AC53b 4-6:594 < 1000m		AC53b 4-20:580 < 1000m	
	40°C	50°C	40°C	50°C
SSC□-075	75A	68A	65A	59A
SSC□-085	85A	78A	73A	67A
SSC□-100	100A	100A	96A	87A
SSC□-140	140A	133A	120A	100A
SSC□-170	170A	157A	142A	130A
SSC□-200	200A	186A	165A	152A

Trip Messages

Indicator	Description	SSCe	SSCi
○	No Control Power	●	●
●	Ready	●	●
	Tripped	●	●

Flash Code	Description	SSCe	SSCi
🔦 x1	Power Circuit	●	●
🔦 x2	Excess Start Time	-	●
🔦 x3	Motor Overload	-	●
🔦 x4	Motor Thermistor	-	●
🔦 x5	Current Imbalance	-	●
🔦 x6	Supply Frequency	●	●
🔦 x7	Phase Rotation	-	●
🔦 x8	Network Communication Failure	Option	Option
🔦 x9	Starter Communication Failure	Option	Option
🔦 x10	Bypass Overload	-	●

Dimensions



Model Name	A	B	C	D	E	F	G	H	Weight kg (lbs)	
	mm (inches)								SSCe	SSCi
SSC□-018										
SSC□-034										
SSC□-042	98 (3.85)	82 (3.23)	201 (7.91)	188 (7.40)	165 (6.50)	55 (2.17)	90.5 (3.56)	23 (0.9)	2.1 (4.6)	2.2 (4.85)
SSC□-048										
SSC□-060										
SSC□-075										
SSC□-085	145 (5.71)	124 (4.88)	215 (8.46)	196 (7.71)	193 (7.60)	-	110.5 (4.35)	37 (1.46)	3.8 (8.4)	4.0 (8.81)
SSC□-100										
SSC□-140										
SSC□-170	200 (7.87)	160 (6.30)	240 (9.45)	216 (8.43)	214 (8.43)	-	114.5 (4.50)	51 (2.0)	6.1 (13.45)	6.5 (14.33)
SSC□-200										

Solutions

LS Electric provides a wide range of Soft Starter products. Ranging from devices that simply start a motor to devices that are capable of fully protecting a motor with special specifications, you may choose a device that suits your requirements

Model Name	Soft Start	Motor Protection	Advanced Interface	Internal Bypass	Current Range	Voltage Range
SSCe	●			●	~200 A	~575 VAC
SSCi	●	●		●	~200 A	~575 VAC
SSM□	●	●	●	●	~1250 A	~690 VAC
SSH	●	●	●	●	~1700 A	~15kV

Specifications

Item	Specifications	
Main Supply	Main Voltage (L1, L2, L3) - SSC□-□□□-V4 - SSC□-□□□-V6	200~440VAC (+10%/-15%) 200~575VAC (+10%/-15%)
	Main Frequency (at start)	45 to 66 Hz
	Rated Insulation Voltage	600VAC
	Form Designation	Bypassed, Semiconductor Motor Starter form 1
Control Voltage (A1, A2, A3)	SSC□-□□□-□□-□-C1	110~240VAC (+10%/-15%)
	SSC□-□□□-□□-□-C1	380~440VAC (+10%/-15%)
	SSC□-□□□-□□-□-C2	24VAC/VDC(±20%)
	Current Consumption (During Run)	< 100mA
Inputs	Start (Terminal 01)	Normally open (150kΩ@300VAC and 5.6kΩ@24VAC/VDC)
	Stop (Terminal 02)	Normally Closed (150kΩ@300VAC and 5.6kΩ@24VAC/VDC)
	Stop (Terminal 02)	Normally Closed (150kΩ@300VAC and 5.6kΩ@24VAC/VDC)
Outputs	Main Contactor (Terminals 13,14)	Normally Open (6A, 30VDC / 6A, 250VAC Resistive)
	Programmable Relay (Terminals 23,24)	Normally Open (6A, 30VDC / 6A, 250VAC Resistive)
Environmental	Degree of Protection SSC□-018 to SSC□-060	IP20
	Degree of Protection SSC□-075 to SSC□-200	IP00
	Operating Temperature	-10°C to +60°C
	Storage Temperature	-25°C~60°C (to +70°C for Less than 24 Hours)
	Humidity	5%~95% Relative Humidity
	Pollution Degree	Pollution Degree 3
Vibration	IEC 60068 Test Fc Sinusoidal 4Hz to 13.2Hz : ±1mm Displacement 13.2Hz to 200Hz : ±0.7g	

Item	Specifications	
EMC Emission	Equipment Class (EMC)	Class B
	Conducted Radio Frequency Emission	0.15MHz to 0.5MHz: <56~46dB (uV) 0.5MHz to 5MHz: <46dB (uV) 5MHz to 30MHz: <50dB (uV)
	Radiated Radio Frequency Emission	30MHz to 230MHz: <30dB (uV)
EMC Immunity	Electrostatic Discharge	4kV Contact, 8kV are Discharge
	Radio Frequency Electromagnetic Field	0.15MHz to 1000MHz: 140dB(uV)
	Rated Impulse Withstand Voltage (Fast Transients 5/50ns)	2kV Line to Earth, 1kV Line to Line
	Voltage Dip and Short Time Interruption	100ms (at 40% Nominal Voltage)
Short Circuit	Harmonics and Distortion	IEC 61000-2-4 (Class 3), EN/IEC61800-3
	Rated Short-circuit Current SSC□-018 to 060	5KA*
Heat Dissipation	Rated Short-circuit Current SSC□-075 to 200	10KA*
	During Start	3 Watts / Ampere
Operational Life	During Run	10 Watts Typical
	SSC□-018 to 060	1,000,000 Operations
	SSC□-075 to 200	30,000 Operations

* These short circuit rating are with fuses used as given in the table under 'Semiconductor Fuses' section on manual.

