

Top 100
Global
Innovator
for 10 years

Soft Starter

LV SSC Series (200~575Vac 18~200A)

LV SSM Series (200~690Vac 24~1250A)

MV SSH Series (2.3~13.8kVac 70~1700A)

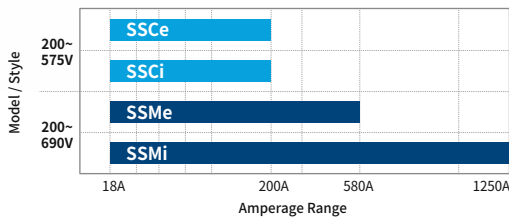


LS ELECTRIC

Soft Starter

Global Competitiveness Comes From Energy Innovation.
 In an era where Energy Technology Innovation is a Competitive Edge,
 the Best Total Solution Company is LS Electric

Soft starter is an effective and economical solution that can guarantee stable operation of motor. With LS's extensive experience and expertise, we provide a way to improve operational effectiveness and minimize energy cost



SSC Series



SSCe

- Ultra compact design(Built-in bypass)
- IEC/UL/KC Standards
- Easy operation & control
- Allows for fast diagnosis of a trip via two LEDs
- Suitable for mounting in a switchboard



SSCi

- Ultra compact design(Built-in bypass)
- IEC/UL/KC Standards
- Built-in motor protection
- Allows for fast diagnosis of a trip via two LEDs
- Simple panel configuration & cost-saving
- Easy operation & control

SSM Series



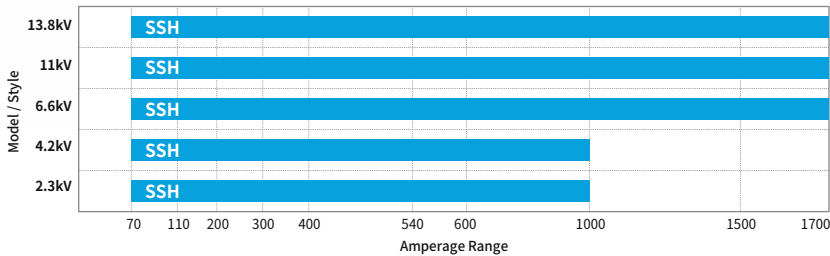
SSMe

- Compact design(Built-in bypass)
- IEC/UL/KC Standards
- Complete motor protection
- 2-Phase control • Reasonable price
- Multi-language graphical display & Smart card option



SSMi

- Compact design(Built-in bypass)
- IEC/UL/KC Standards
- Complete motor protection
- 3-Phase control • Smart card option
- Multi-language graphical display



SSH Series



SSH Series Panel

- IEC/UL Standards
- Compact design
- Fully type tested according to IEC 62271-200
- Internal ARC protection panel applied
- Applicable to all voltage types



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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

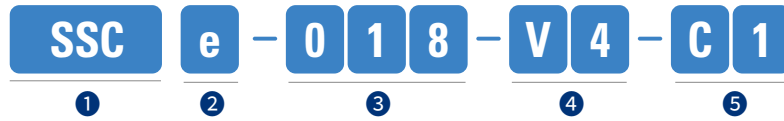
SSCi: Easy to set up for more control of several adjustments (Front Panel Rotary Switch)

- 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

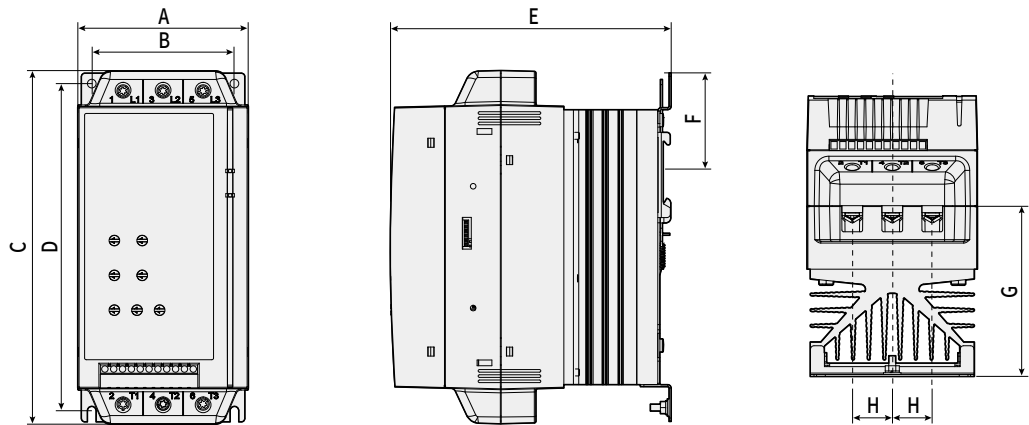
Model Name	AC53b 4-6:594 < 1000m		AC53b 4-20:580 < 1000m	
	40°C	50°C	40°C	50°C
SSC□-075	75A	68A	65A	59A
SSC□-085	85A	78A	73A	67A
SSC□-100	100A	100A	96A	87A
SSC□-140	140A	133A	120A	100A
SSC□-170	170A	157A	142A	130A
SSC□-200	200A	186A	165A	152A

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
	Current Consumption (Inrush) - SSC□-□□□-□□-C1 - SSC□-□□□-□□-C2	10A 2A
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)
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)
	Harmonics and Distortion	IEC 61000-2-4 (Class 3), EN/IEC61800-3
Short Circuit	Rated Short-circuit Current SSC□-018 to 060	5KA*
	Rated Short-circuit Current SSC□-075 to 200	10KA*
Heat Dissipation	During Start	3 Watts / Ampere
	During Run	10 Watts Typical
Operational Life	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.



SSM Series

LS Electric Opens a New Paradigm of Soft Starters

SSM series sets new standards for soft starter technology.

We are proud to be the representative of products with stable control and various motor protection functions. SSM is not only more compact, but it offers tremendous power.

By using smart card, system can be purpose-built around one central point of intelligent control and communications.



Reliability

Smart Card

Smart cards deliver industry or application specific functionality. SSM is able to operate as an entire system controller.

Zero Harmonics

SSM produces Zero Harmonics during run, improving overall power quality and eliminating systems losses resulting from harmonics.

System Protection

Continued operation in emergency situations and Minimal downtime on-site with Power Through. Both retain most control and protection capabilities.



Efficiency

Design in Consideration of the System's Entire Efficiency

Using energy efficient components is important but selection of the correct motor control mode is also critical. When it's operated at a fixed speed, using a Soft Starter instead of VFD is more efficient.

Efficient Operation

Internal bypass makes SSM Soft Starters 99.5% efficient when running.



Convenience

Graphic Display

Easy commissioning via Quick Application setup

Multi-language Support

8 different languages including English, Portuguese, Chinese, French, Spanish, Italian, German and Russian

Strong Network Connection

6 network connections: Modbus RTU/Profibus/Device Net/Modbus TCP/PROFINET/Ethernet IP

Automatic Timers and Schedulers

Fast and easy automation

No need for external logic or timers

Simulation Mode

Easy and fast testing during installation and commissioning

No need to connect main power supply and motor

Model Name



1 LS Soft Starter Standard Series

2 Motor Protection

e	Standard Motor protection
i	Complete Motor protection

3 Nominal Current Rating [A]

4 Bypass

B	Built-in Bypass Circuit
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5 Input Voltage

V5	200 ~ 525 VAC
V7	380 ~ 690 VAC

6 Control Voltage

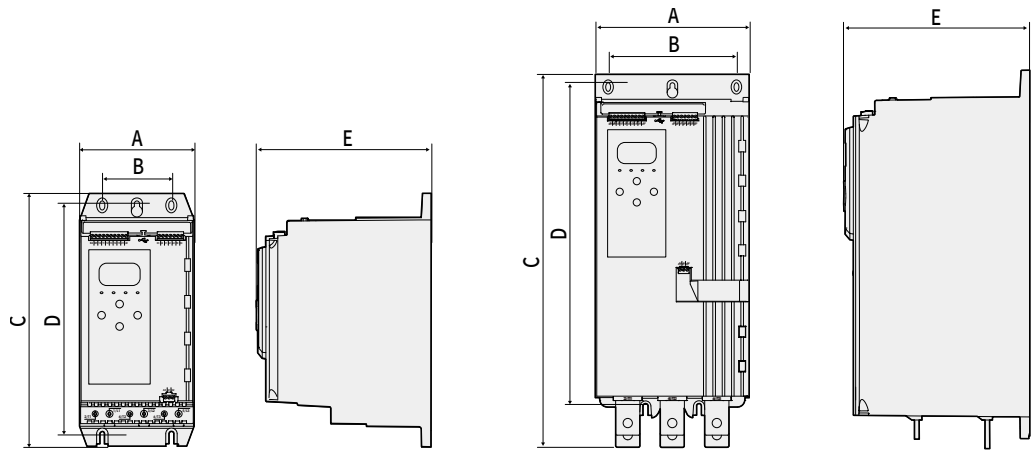
C1	110~120VAC or 220~240VAC
C2	24 VAC/VDC

Current Rating

Model Name	AC53b 3.0 - 10:350 40°C < 1000m	AC53b 3.0 - 15:345 40°C < 1000m	AC53b 4.0 - 10:350 40°C < 1000m	AC53b 4.0 - 20:340 40°C < 1000m
SSM□-0024B	24A	20A	19A	16A
SSM□-0042B	42A	34A	34A	27A
SSM□-0052B	52A	42A	39A	35A

Model Name	AC53b 3.0 - 10:590 40°C < 1000m	AC53b 3.5 - 15:585 40°C < 1000m	AC53b 4.0 - 10:590 40°C < 1000m	AC53b 4.0 - 20:580 40°C < 1000m
SSM□-0064B	64A	63A	60A	51A
SSM□-0069B	69A	69A	69A	62A
SSM□-0105B	105A	86A	84A	69A
SSM□-0115B	115A	108A	105A	86A
SSM□-0135B	135A	129A	126A	103A
SSM□-0184B	184A	144A	139A	116A
SSM□-0200B	200A	171A	165A	138A
SSM□-0229B	229A	194A	187A	157A
SSM□-0250B	250A	244A	230A	200A
SSM□-0352B	352A	287A	277A	234A
SSM□-0397B	397A	323A	311A	263A
SSM□-0410B	410A	410A	410A	380A
SSM□-0550B	550A	527A	506A	427A
SSM□-0580B	580A	579A	555A	470A
SSM□-0835B	835A	654A	631A	535A
SSM□-0940B	940A	736A	708A	603A
SSM□-1070B	1070A	950A	905A	785A
SSM□-1230B	1230A	1154A	1090A	959A
SSM□-1250B	1250A	1250A	1250A	1156A

Dimensions



Model Name	Width mm (Inch)		Height mm (Inch)		Depth mm (Inch)	Weight kg (lb)
	A	B	C	D	E	
SSM□-0024B	152(6.0)	92(3.6)	336(13.2)	307(12.1)	231(9.1)	4.8(10.7)
SSM□-0042B						
SSM□-0052B						
SSM□-0064B						
SSM□-0069B						
SSM□-0105B						
SSM□-0115B						
SSM□-0135B	216(8.5)	180(7.1)	495(19.5)	450(17.7)	243(9.6)	5.5(12.1)
SSM□-0184B						
SSM□-0200B						
SSMx□-0229B						
SSM□-0250B						
SSM□-0352B						
SSM□-0397B						
SSM□-0410B	446(17.6)	287(11.3)	618(24.3)	540(21.3)	310(12.2)	19.0(41.9)
SSM□-0550B						
SSM□-0580B						
SSM□-0835B						
SSM□-0940B						
SSM□-1070B						
SSM□-1230B						
SSM□-1250B	47(103.6)					
SSM□-0735C		58(127.9)				
SSM□-0830C			59(130.1)			
SSM□-1025C				61(134.5)		
SSM□-1170C						
SSM□-1220C						

Solutions

LS Electric provides a wide range of Soft Starters.

Whether you need a simple product for starting only, or a comprehensive motor controls, 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	
Supply	Main Voltage (L1, L2, L3) - SSM□-□□□B-V5 - SSM□-□□□B-V7	200~525VAC (±10%) 380~690VAC (±10%)
	Control Voltage (A1, A2, A3) - SSM□-□□□B-□□-C1 (A1, A2) - SSM□-□□□B-□□-C1 (A2, A3) - SSM□-□□□B-□□-C2 (A1, A2)	110~120VAC (+10%/-15%), 600mA 220~240VAC (+10%/-15%), 600mA 24VAC/VDC(±20%), 2.8A
	Main Frequency	50~60Hz (±5Hz)
	Rated Insulation Voltage to Earth	600VAC
	Rated Impulse Withstand Voltage	6KV
	Form Designation	Bypassed or Continuous, Semiconductor Motor Starter form 1
	Short Circuit Capability	Coordination with Semiconductor Fuses
Coordination with HRC Fuses		Type 1
Electromagnetic Capability (Compliant with EU Directive 2014/35/EU)	EMC Immunity	IEC 60947-4-2
	EMC Emissions	NIEC 60947-4-2 Class B
Inputs	Input Rating	Active 24VDC, 8mA Approx.
	Motor Thermistor (B4, B5)	Trip>3.6kΩ, reset<1.6kΩ
Outputs	Relay Outputs - Main Contactor (33, 34) - Relay Output A (41, 42, 44) - Relay Output B (53, 54)	10A@250VAC Resistive, 5A@250VAC AC15 pf 0.3 Normally Open Changeover Normally Open
	Analog Output (21, 22) - Maximum Load - Accuracy	600Ω (12VDC@20mA) ±5%

Item	Specifications	
Environmental	Operating Temperature	-10°C~60°C, Above 40°C with Derating
	Storage Temperature	-25~+60°C
	Operating Altitude	0~1000m, Above 1000m with Derating
	Humidity	5%~95% Relative Humidity
	Pollution Degree	Pollution Degree 3
	Vibration	IEC 60068-2-6
	Protection	- SSM□-0024B ~ 0135B - SSM□-0184B ~ 1250B
Heat Dissipation	During Start	4.5 Watts per Ampere
	During Run	
	- SSM□-0024B ~ 0052B	≤ 35 Watts Approx
	- SSM□-0064B ~ 0135B	≤ 50 Watts Approx
	- SSM□-0184B ~ 0250B	≤ 120 Watts Approx
- SSM□-0352B ~ 0580B	≤ 140 Watts Approx	
- SSM□-0835B ~ 1250B	≤ 180 Watts Approx	
Motor Overload Protection	Default	The Default Settings of Parameters 1D, 1E and 1F Provide Motor Overload
	Protection	Class 10, Trip Current 105% of FLA (Full Load Amperage) or Equivalent.
Operational Life	Operational Life	100,000 Operations



SSC Series



Basic-Type Soft Starter

Feature Sets	SSCe	SSCi
Starting Functions		
Timed Voltage Ramp	•	
Constant Current		•
Current Ram		•
Stopping		
Coast to Stop	•	•
Soft Stop	•	•
Protection		
Motor Overload		•
Phase Loss		•
Excess Start Time		•
Phase Sequence		•
Current Imbalance		•
Motor Thermmistor		•
Power Circuit Fault	•	•
Supply Frequency	•	•
Instantaneous Overcurrent		•
Bypass Overload		•
Communications Failure	•	•
Interface		
Fixed Relay Output (Main Contractor Relay)	•	•
Programmable Relay (Trip or Run)		•
Run Relay Output	•	•
Accessories (Optional)		
Remote Operator	•	•
Modbus	•	•
Profibus	•	•
DeviceNet	•	•
PC Software	•	•
Ethernet/IP	•	•
Modbus TCP	•	•
Profinet	•	•

Optional Accessories



Remote HMI

Includes

- Status indication
- Start/Stop/Reset
- Programming
- Graphical display
- Hot keys



Finger Guards

Models

- 0184B-0580B
- 0835B-1250B



Fieldbus

Protocols

- Profibus
- ProfiNet
- Modbus TCP
- Modbus RTU
- DeviceNet
- Ethernet IP



Smart Cards

Options

- Pump card

SSM Series



Standard-Type Soft Starter

Feature Sets	SSMe	SSMi
Motor Control		
Motor Sets	1	2
Constant Current and Current Ramp Start	●	●
Adaptive Control Starting /Stopping	●	●
Kickstart		●
Coast to Stop and TVR Stop	●	●
DC Brake		●
Soft Brake		●
Jog (Forward and Reverse)		●
Inside Delta (6 wire) Control		●
Soft Trip	●	●
Pump Clean		●
Reversing Contactor Control		●
Motor Protection		
Motor Thermistor	●	●
Current Imbalance	●	●
Under / Overcurrent	●	●
Under / Overvoltage		●
Under / Overpower (Dry Pump Protection)		●
Phase Sequence (Forward/Reverse/Any)	●	●
Phase Loss	●	●
Power Loss	●	●
Starts per Hour Limiting	●	●
Restart Delay (Pump Back Spin Delay)	●	●
Integration and Management		
Multi-language Graphical Display	●	●
Configurable Display Screen	●	●
I/O and Network Expansion Option	●	●
USB Port and Data Logging	●	●
Analog Output	●	●
Emergency Run	●	●
Voltage Measurement		●
SCR Fail Power Through Operation		●
Daily On/Off Scheduling		●
Run Timer Mode (On/Off Cycle Timer)		●
Run Simulation	●	●
Communications Options		
Modbus RTU	●	●
Profibus	●	●
DeviceNet	●	●
Modbus TCP	●	●
Profinet	●	●
Ethernet/IP	●	●
Smart Card Options		
Pumping Smart Card	●	●
Accessories		
Remote Keypad	●	●

SSCe Series

Model Name	Normal Duty (4 x FLC, 6s, 40°C)				Heavy Duty (4 x FLC, 20s, 40°C)			
	Current	Motor Power (kW)			Current	Motor Power (kW)		
	Amps	230V	400V	500V	Amps	230V	400V	500V
SSCe-018	18	5.5	7.5	11	17	5.5	7.5	11
SSCe-034	34	11	15	22	30	5.5	15	22
SSCe-042	42	11	18	30	36	11	18.5	22
SSCe-048	48	15	22	30	40	11	18.5	30
SSCe-060	60	18.5	30	37	49	15	22	30
SSCe-075	75	22	37	45	65	18.5	30	45
SSCe-085	85	22	45	60	73	22	37	55
SSCe-100	100	30	55	75	96	30	45	60
SSCe-140	140	45	75	90	120	37	60	75
SSCe-070	170	55	90	110	142	45	75	90
SSCe-200	200	60	110	132	165	55	90	110

※ Please contact us for further inquiries on product selection depending on specific operating conditions or use WinSTART Software.

SSCi Series

Model Name	Normal Duty (4 x FLC, 6s, 40°C)				Heavy Duty (4 x FLC, 20s, 40°C)			
	Current	Motor Power (kW)			Current	Motor Power (kW)		
	Amps	230V	400V	500V	Amps	230V	400V	500V
SSCi-018	18	5.5	7.5	11	17	5.5	7.5	11
SSCi-034	34	11	15	22	30	5.5	15	22
SSCi-042	42	11	18	30	36	11	18.5	22
SSCi-048	48	15	22	30	40	11	18.5	30
SSCi-060	60	18.5	30	37	49	15	22	30
SSCi-075	75	22	37	45	65	18.5	30	45
SSCi-085	85	22	45	60	73	22	37	55
SSCi-100	100	30	55	75	96	30	45	60
SSCi-140	140	45	75	90	120	37	60	75
SSCi-070	170	55	90	110	142	45	75	90
SSCi-200	200	60	110	132	165	55	90	110

※ Please contact us for further inquiries on product selection depending on specific operating conditions or use WinSTART Software.

SSMe Series

Model Name	Normal Duty (3.5 x FLC, 15s, 40°C)					Heavy Duty (4 x FLC, 20s, 40°C)				
	FLC	Motor Power (kW)				FLC	Motor Power (kW)			
	Amps	230V	400V	500V	690V	Amps	230V	400V	500V	690V
SSMe-0024B	20	7.5	11	15	-	16	5.5	7.5	11	-
SSMe-0042B	34	11	18.5	22	-	27	7.5	15	18.5	-
SSMe-0052B	42	11	22	30	-	35	11	18.5	22	-
SSMe-0064B	63	18.5	30	45	-	51	15	22	37	-
SSMe-0069B	69	22	37	45	-	62	18.5	30	45	-
SSMe-0105B	86	22	45	60	-	69	22	37	45	-
SSMe-0115B	108	30	55	75	-	86	22	45	60	-
SSMe-0135B	129	37	60	90	-	103	30	55	75	-
SSMe-0184B	144	45	75	90	-	116	37	60	75	-
SSMe-0200B	171	55	90	110	-	138	45	75	90	-
SSMe-0229B	194	60	110	132	-	157	45	90	110	-
SSMe-0250B	244	75	132	160	-	200	60	110	150	-
SSMe-0352B	287	90	160	185	-	234	75	132	160	-
SSMe-0397B	323	110	185	220	-	263	75	150	185	-
SSMe-0410B	410	132	220	280	-	380	110	200	250	-
SSMe-0550B	527	160	300	355	-	427	132	220	280	-
SSMe-0580B	579	185	315	400	-	470	150	250	315	-

※ Please contact us for further inquiries on product selection depending on specific operating conditions or use WinSTART Software.

SSMi Series

Model Name	Normal Duty (3.5 x FLC, 15s, 40°C)					Heavy Duty (4 x FLC, 20s, 40°C)				
	FLC	Motor Power (kW)				FLC	Motor Power (kW)			
	Amps	230V	400V	500V	690V	Amps	230V	400V	500V	690V
SSMi-0024B	20	7.5	11	15	18.5	16	5.5	7.5	11	15
SSMi-0042B	34	11	18.5	22	30	27	7.5	15	18.5	22
SSMi-0052B	42	11	22	30	37	35	11	18.5	22	30
SSMi-0064B	63	18.5	30	45	60	51	15	22	37	45
SSMi-0069B	69	22	37	45	60	62	18.5	30	45	55
SSMi-0105B	86	22	45	60	75	69	22	37	45	60
SSMi-0115B	108	30	55	75	90	86	22	45	60	75
SSMi-0135B	129	37	60	90	110	103	30	55	75	90
SSMi-0184B	144	45	75	90	132	116	37	60	75	110
SSMi-0200B	171	55	90	110	160	138	45	75	90	132
SSMi-0229B	194	60	110	132	185	157	45	90	110	150
SSMi-0250B	244	75	132	160	220	200	60	110	150	185
SSMi-0352B	287	90	160	185	280	234	75	132	160	220
SSMi-0397B	323	110	185	220	315	263	75	150	185	250
SSMi-0410B	410	132	220	280	400	380	110	200	250	355
SSMi-0550B	527	160	300	355	500	427	132	220	280	400
SSMi-0580B	579	185	315	400	500	470	150	250	315	450
SSMi-0835B	654	185	355	450	600	535	160	300	355	500
SSMi-0940B	736	220	400	500	700	603	185	315	400	600
SSMi-1070B	950	300	500	600	900	785	250	450	500	700
SSMi-1230B	1154	355	600	800	1100	959	300	500	600	950
SSMi-1250B	1250	400	700	900	1200	1156	355	600	800	1050

※ Please contact us for further inquiries on product selection depending on specific operating conditions or use WinSTART Software.

SSH Series

LS MV Soft Starter with Consistent Excellence in Quality and Efficiency!

The SSH series medium voltage soft starter is a market-leading product line that has been type tested for internal arc faults.

Extensive safety features, an easy-to-use graphical interface, and comprehensive motor protection features make this a well balanced solution for your medium voltage needs.

SSH Series meets both IEC and NEMA standards. LS Electric offers 3 different models – L, M and P.



Reliability

LV/MV Isolation via IBT Technology

Interface Board Technology isolates the core starter control system and HMI from the MV power section, creating a safer work environment.

DOL + Mode

Protects your motor even while operating in bypass mode.

Complete Motor Protection

Advanced motor protection features ensure that your equipment can operate safely even in the most demanding environments.

Advanced Thermal Modelling

Intelligent thermal modelling allows the soft starter to dynamically calculate motor temperature and determine whether the motor can start successfully.



Efficiency

Dual Motor Set

Allows for two different starting and stopping motor data sets.

Real-time Performance Graph

Real-time graphs of motor performance and current quickly and clearly illustrate how your motor is performing.

Secondary Injection Testing

Allows full testing of motor protections via an external system such as omicron.



Convenience

Starting and Stopping Options

A range of starting methods including current based torque control make the soft starter suitable for all applications.

Simulation Mode

Fast and Easy testing during installation and commissioning without the need for a main supply or motor

Quick Application Setup

Easy commissioning

Multi-language Graphical Display

User-friendly interface and operation with multi-lingual support and graphic display

Diagnostic Tool

Recorded waveforms can help diagnose conditions interfering with operation.

Model Name & Rating

Model Name



1 LS Medium Voltage Soft Starter Series

2 Panel Type

L	L-Series IEC Standard
M	M-Series IEC Standard
P	P-Series NEMA Standard

3 Current Rating ϕ AC53b 4-30:1770

0070	70A	0700	700A
0110	110A	0800	800A
0200	200A	0900	900A
0220	220A	1000	1000A
0250	250A	1100	1100A
0300	300A	1200	1200A
0400	400A	1300	1300A
0450	450A	1400	1400A
0500	500A	1500	1500A
0540	540A	1600	1600A
0600	600A	1700	1700A

4 Input Voltage

V02	2300 VAC 50/60 Hz
V03	3300 VAC 50/60 Hz
V04	4160 VAC 50/60 Hz
V06	6600 VAC 50/60 Hz
V11	11000 VAC 50/60 Hz
V13	13800 VAC 50/60 Hz

5 Short Circuit Level

SC07	7 kA
SC16	16 kA
SC20	20 kA
SC25	25 kA
SC31	31.5 kA
SC40	40 kA*
SC50	50 kA*

6 Enclosure Configuration

E0	Soft Starter in Panel Only
E1	Soft Starter + Bypass
E2	Soft Starter + Line Device + Bypass
E3	Soft Starter + Disconnecter Switch + Line Device + Bypass

Panel Rating

Item	Specifications
Rated Voltage	3.6kV - 17.5kV
Rated Busbar Current	Up to 2000A
Rated short time withstand current / Peak	Up to 50kA, 3 sec / 125kA
Internal arc Fault IAC Classification	Up to AFLR 50kA, 1 sec
Partition Classification	PM /PI
Loss of Service Continuity	LSC1 / LSC2 / LSC2B
IP4X protection rating	IP4X (IP54 Option)
Altitude	< 1000m (without Reduced Capacity)
Ambient Temperature	-10°C - 60°C (Reduced Capacity when Over 50°C)
Basic Panel Color	RAL7035 (Additional Option)

F O - L O - B O - P F O

7

8

9

10

7 High-Voltage Fuse

F0	Without Fuse
F1	With Fuse

8 Line Switching Device

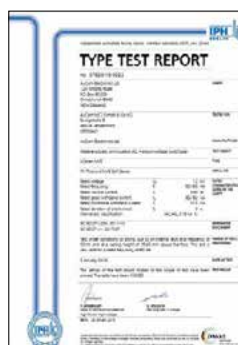
L0	Without Line Switching Device
L1	Vacuum Contactor (VC, Fixed Type)
L2	Vacuum Contactor (VC, Draw-out Type)
L3	Vacuum Circuit Breaker (VCB, Fixed Type)
L4	Vacuum Circuit Breaker (VCB, Draw-out Type)

9 Bypass Switching Device

B0	Without Bypass Switching Device
B1	Vacuum Contactor (VC, Fixed Type)
B2	Vacuum Contactor (VC, Draw-out Type)
B3	Vacuum Circuit Breaker (VCB, Fixed Type)
B4	Vacuum Circuit Breaker (VCB, Draw-out Type)

10 Power Factor Correction (PFC) Device

PF0	Without PFC Device
PF1	With PFC device



Fully Type Tested Panel

L-Series Panels are Fully Type Tested According to IEC 62771-200

- Short time withstand current
- Peak withstand current
- Internal Arc classification (IAC): AFLR 50kA for 1 second)
- Dielectric test for main circuit and protection circuit
- IP rating
- Temperature rise test related to 50°C ambient temperature and main circuit resistance

Technical Data

Item	Specifications
Motor Voltage	2.3-13.8 kV
Control Voltage	85-264 VAC or 90-350 VDC
Frequency	45/66 Hz (Auto Trigger)
Soft Starter Current	70 A - 1700 A
Starting Time (max)	1sec – 30sec (180sec)
Ambient Temperature	-10°C ~ 60°C (Reduced Capacity when Exceeding 50°C)
Maximal Altitude	1000m (Reduced Capacity when Exceeding 1000m)
IP (Module type)	IP00
IP (Controller)	Up to IP54/NEMA12
Overload Capacity	Up to 600% for 120sec
PT Type	EPT Type

Item	Specifications
CT Type	High-voltage CT (Primary Current Based on the Motor, secondary 1A)
MV/LV Separation	100% Optical Cable Connection
Digital Input	3 Fixed Values (Start, Stop and Reset) 2 Settable Values (A and B)
Relay Output	4 Fixed Values (Line, Bypass, PFC and PAPS) 3 Settable Values (A, B and C)
Analog Output	1 Analog Output (4-20mA)
Fieldbus Communication	Modbus RTU, Modbus TCP, Profibus, Profinet, DeviceNet, Ethernet/IP, USB, IEC61850



Large-Capacity Extruder & Compressor

It is applied to extruder and compressor applications to reduce high starting current generated when the motor starts and improve system efficiency.

- Saving Energy to optimize motor operating time.
- Applying to synchronous motors to limit optimal starting current.
- Reduce maintenance and repair expenses to minimize impact when the motor starts.



Conveyor Control

Applying a soft starter to a load that runs at a fixed speed, such as a constant speed conveyor, can reduce significant costs and offer reduction in site harmonics.

Using a softstarter for fixed speed loads provides superior acceleration and deceleration performance, advanced motor protection and communication functions.

Banishing Water Hammer

There are many different causes of water hammer, and each pump system has its own unique characteristics. For this reason, getting rid of a waterhammer from a pump system can be a complex task.

Pump system engineers all over the world use our unique XLR-8 technology to control pump start/stop so as to come up with optimal solutions.

XLR-8 may choose a ramp profile to eliminate various causes of water hammer. Thus, XLR-8 allows us to easily use profiles for appropriate start/stop control and prevent rapid changes to flow rate, direction of flow, water heat separation and closure.







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 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.



- According to The WEEE Directive, please do not discard the device with your household waste.



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