

AC Semiconductor Soft Starter



- * Rated operational voltage up to 600 V AC 50/60 Hz
- * Internal by-pass for minimum power dissipation
- * Rated operational current:
3,5 A AC-3. AC-53b, AC58b (2 Hp 400-480V)
- * Ramp Up/Down time adjustable from 0.5-10 sec
- * Initial torque adjustable from 0-85%
- * Optional break-loose function (Kick-start)
- * Control voltage range from: 24 to 480 VAC/DC
- * LED status indication
- * Meets IEC 947-4-2 requirements
- * Compact modular design.
- * Requires only 22,5 mm DIN rail space
- * IP-20 Protection

Product Description and Item Selection

Soft Starter designed to control acceleration and deceleration of 3 Phase motors. Ramp-up and ramp-down time adjustable from 0.5 to 10 sec. Torque is adjustable from 0 to 85% of nominal start torque, with or without break-loose (kick start) function.	Line Voltage	Control Voltage	Item No.
	208 - 240 VAC	24 - 240 VAC/DC	SMC 3 DA 2303
	400 - 415 VAC	24 - 415 VAC/DC	SMC 3 DA 4003
	440 - 480 VAC	24 - 480 VAC/DC	SMC 3 DA 4803
	575 - 600 VAC	24 - 480 VAC/DC	SMC 3 DA 6003
	Ramp-Up time		Adjustable from 0.5 - 10 Sec.
	Ramp-Down time		Adjustable from 0.5 - 10 Sec.
	Initial Torque with optional Kick Start (200ms)		Adjustable from 0 - 85 % of nominal. torque

Output Specifications	SMC3 XX03
Operational current max.	3,5A AC-53b, 3,5A AC-3,
Leakage current	5 mA AC max.
Minimum operational current	50 mA
Overload current profile	X-Tx: 4 -13
Overload relay trip class	10 or 10 A
Motor size by 208 - 240 VAC	0.1 -0,75 kW / 1,0 HP
Motor size by 400 - 480 VAC	0.1 - 1,5 kW / 2,0 HP
Motor size by 575 - 600 VAC	0.1 - 1.5 kW / 2,0 HP

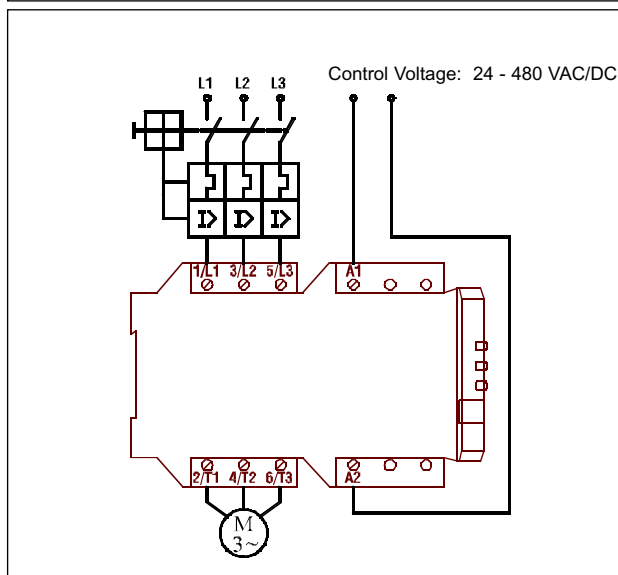
Control specifications

Control voltage range	24 - 480 V AC/DC	Max. control current for no operation	1 mA
Pick-up voltage max.	20.4 V AC/DC	Response time max.	70 ms
Drop out voltage min..	5 V AC/DC	Control current/power max.	15 mA / 2 VA

Current Derating	Dimensions for DIN rail mounting (standard)	Option for backplate mounting
Specifications are subject to change without notice		

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Wiring Diagram



Thermal Specifications

Power dissipation PDmax.	4 W
Cooling method.	Natural convection
Mounting	Arbitrary
Operating temperature range EN 947-4-2	-5°C° to 40°C°
Storage temperature EN 947-4-2	-20°C° to 80°C°

Insulation Specifications

Rated insulation voltage	Ui 660 Volt
Rated impulse withstand voltage	Uimp. 4 kV
Installation category	III

Overload Protection

See page 14-15

* Approvals

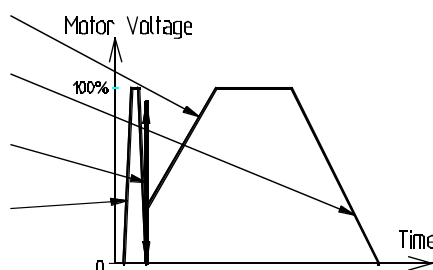
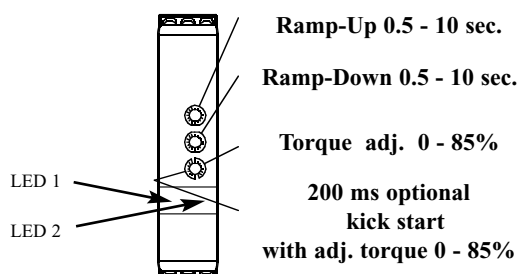
UL Std No. 508 pending

EMC

This component meets the requirements of EN60947-4-2 and is CE marked according to this standard. It has been designed for class A equipment. Use of the product in domestic environments may cause radio interference, in which case the user may be required to employ additional mitigation methods.

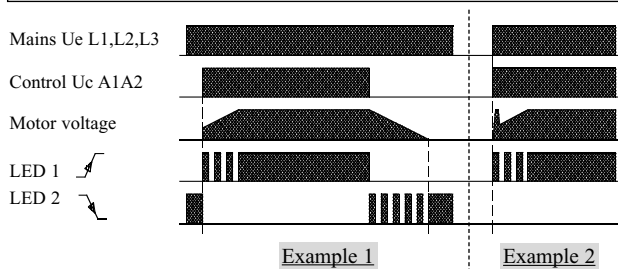
How to adjust time and torque (See adjustment hints page 15)

NB: Make sure NOT to set the switches in between positions as this corrupts the time and torque adjustments. The Soft Starter will read time and torque settings in the off state. Repeated starts may trip the motor protection relay.



Control of the motor torque is achieved by acting on the motor voltage. The motor speed depends on the load on the motor shaft. A motor with little or no load will reach full speed before the voltage has reached its maximum value.

Functional Diagram



Example 1

Soft Start with initial torque controlled from the input

Example 2

Soft Start with kickstart, initial torque, Soft Stop controlled from the mains input

Cable Wiring Hints

See page 56

Dimension and Mounting Instruction

See page 12 & 57

Environment

Degree of protection / Pollution degree	IP 20 / 3
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Application Hints

See page 14-15

* UL: Use thermal overload protection as required by the National Electric Code. When protected by a non-time delay K5 or H Class fuse, rated 266% of motor FLA, this device is rated for use on a circuit capable of delivering not more than 5,000 rms. symmetrical amperes, 600 V maximum. Maximum surrounding temperature 40°C.