

IC ELECTRONIC A/S



Soft starter for 3-phase motors with integrated by-pass



Rated operational voltage 200...480VAC
 Rated operational current: 30A / 50A
 (rms) (up to 86A inside delta)
 Frequency: 50/60Hz
 Phase sequence protection
 Integrated by-pass
 Relay for operating signal
 Soft start / soft stop
 Kickstart / starting torque
 Status via LED and signal relay
 Fault, via LED and signal relay
 Power supply monitoring

Selection and technical specifications:

Product type	Rated operational voltage U_e	EAN Nr.	Rated operational current I_e	Control voltage U_c
SMC 33 DA 4830BPi	200...480VAC	5705609003142	30A AC 53b	230VAC
SMC 33 DA 4850BPi	200...480VAC	5705609003159	50A AC 53b	230VAC

Product description:

The soft starter is 3-phase controlled with integrated by-pass relays which give a compact solution and reduce the wiring.

The soft starter is dimensioned to handle many starts per hour.

The soft starter is used for start-up of 3-phase motors in applications such as pumps, compressors, conveyor belts, escalators, centrifugal fans, crushers, mixers, mills and stirrers etc.

Protection:

The soft starters are designed to be used with an external motor protection device.

Motor protection device type 10 or 10A.

A motor protection device will not protect the installation.

For short circuit protection of the installation use fuses. (Co-ordination Type 1)

For short circuit protection of the installation and the soft starter use semiconductor fuses. (Co-ordination Type 2)

Using semiconductor fuses, ensure the selected fuse I^2t are lower than the semiconductors I^2t value in the actual softstarter and it can carry the start current in full start duration.

Technical specifications:

Supply voltage specifications:

Rated operational voltage Ue	:	3 x 200...480VAC +15/- 15%
Current Ie	:	3 x 30/50A (rms)
Rated AC frequency	:	50/60Hz
By-pass	:	With internal by-pass relay
Categori	:	AC - 53b
Motor size / power	:	Eks.: 17/28kW @ 3 x 400Vac, 50Hz., cos phi = 0,8

Control voltage specifications:

Control voltage Uc	:	1 x 230 Vac +/-15%
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Control signal:

Start/stop	:	230 Vac +/-15%
Signal output	:	3A @ 12...250 Vac/Vdc (signal relay)

Adjustable settings:

Ramp up	:	16 step	0,5...30 sec.
Ramp down	:	16 step	0,5...60 sec.
Initial torque / kick start	:	8+8 step	200mS / 0...85%
Switch for inline / inside delta / L1/L2/L3	:	4 step (2 In line / 2 Inside delta)	

General specifications:

Initial torque	:	0 ... 85%
Motor current nominal 30A	:	30A
Motor current nominal 50A	:	50A

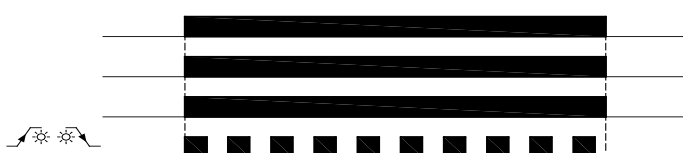
Semiconductor data:

Product type	Rated operational current	I ² t	Short circuit protection
SMC 33 DA 4830BPi	30A	6300 A ² s	80A max.: gl/gG
SMC 33 DA 4850BPi	50A	25300 A ² s	125A max.: gl/gG

Indications control voltage failure (LED):

Error internal to the soft starter

Control voltage Uc L - N
Line voltage Ue L1, L2, L3
C - 34 / 33 - 34
LED 1 + 2 Control voltage failure C-34/33-34 (2,5 Hz)



SMC 33 DA 4830BPi

Environmental conditions:

Degree of protection : IP 20
 Storage temperature : -20° to 80°C
 Operating temperature large : -5° ... 40°C
 Pollution degree : 3

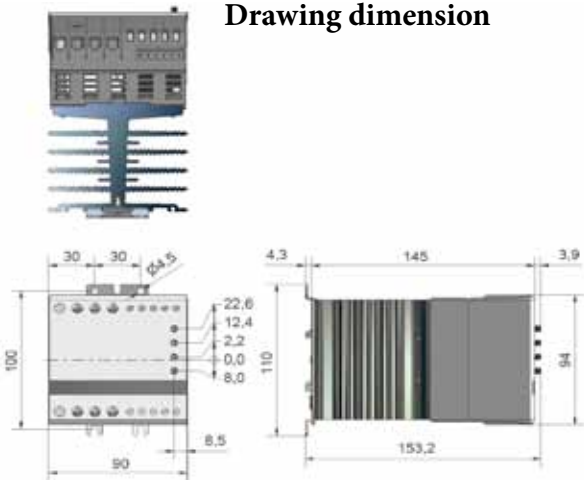
Features:

Soft starter with microprocessor control.
 Line frequency detection.
 Setting rotary switches, ramp up, ramp down, kick start and / or starting torque increase.
 Fault, indication LED and signal relay.
 Internal by-pass.
 Power supply monitoring

Operation in ambient temperatures exceeding 40°C is possible if the power dissipation is limited either by reducing the steady-state current.

40°C	50°C	60°C
100% Load duty-cycle	80% Load duty-cycle	70% Load duty-cycle

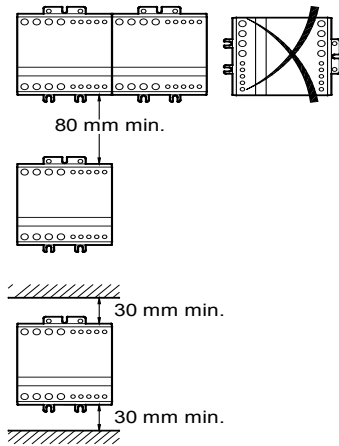
Drawing dimension



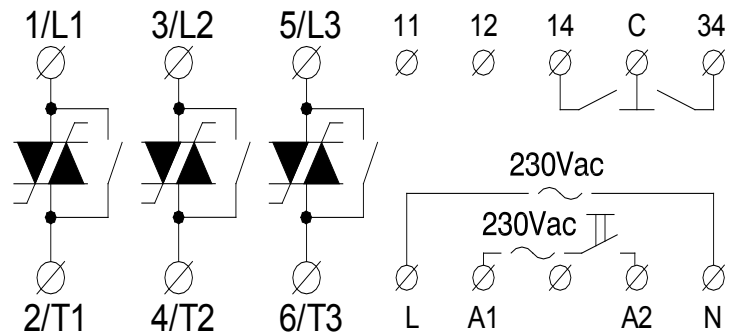
Housing material:

Self-extinguishing PPO UL94V1 halogen free
 Color: black / gray
 Built-in DIN rail mounting

Mounting instructions



Connections



Output load specification:

Overload current profile AC-53b
 X-Tx: 5-5:30 (30A)

Connection:

L1; L2; L3: Line voltage
 T1; T2; T3: Motor mounting
 L - N : Control voltage 230VAC
 A1 - A2: Start
 14: Status signal relay (potentialfri contacts)
 34: Fault signal relay (potentialfri contacts)
 C: Common terminal

SMC 33 DA 4850BPi

Environmental conditions:

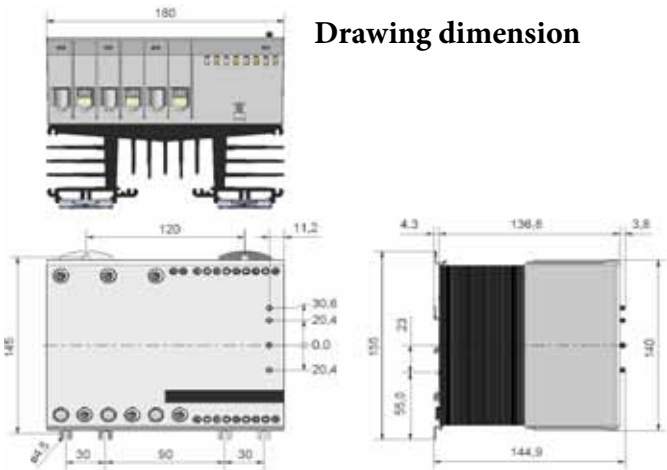
Degree of protection : IP 20
 Storage temperature : -20° to 80°C
 Operating temperature large : -5° ... 40°C
 Pollution degree : 3

Features:

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 Fault, indication LED and signal relay.
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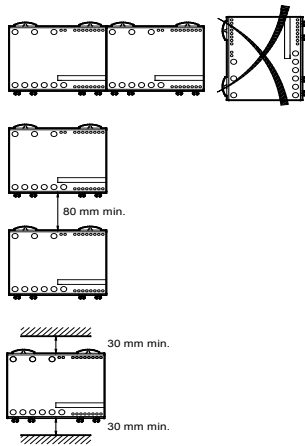


Drawing dimension

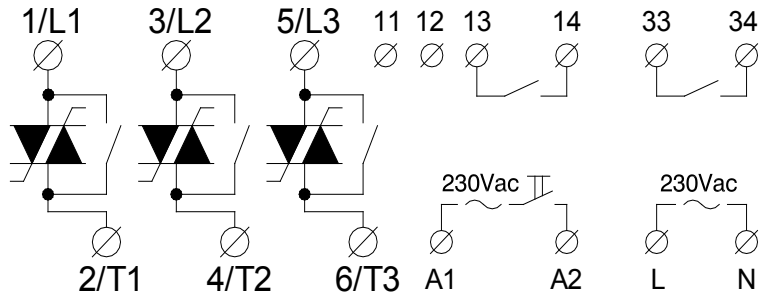
Housing material:

Self-extinguishing PPO UL94V1 halogen free
 Color: black / gray
 Built-in DIN rail mounting

Mounting instructions



Connections



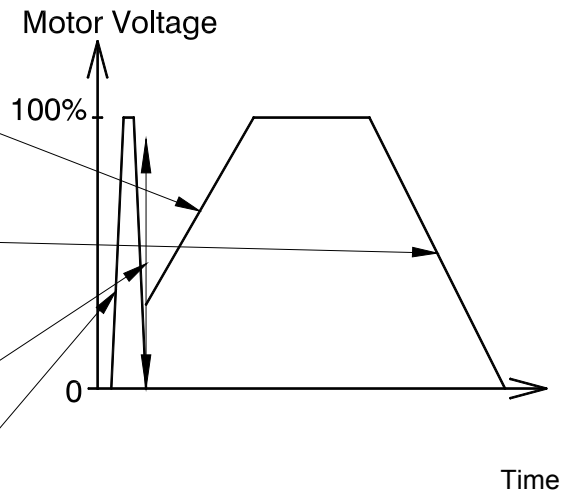
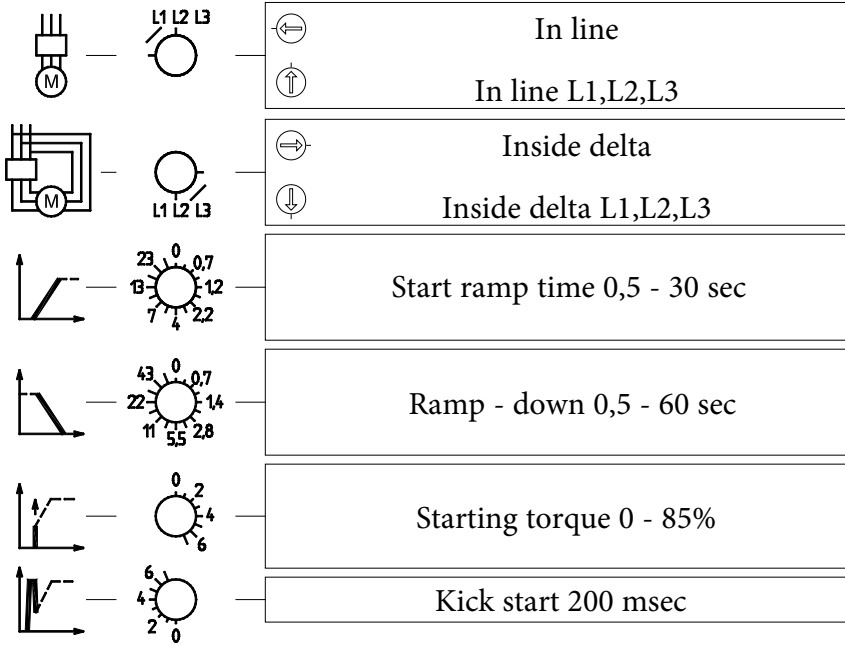
Output load specification:

Overload current profile AC-53b
 X-Tx: 6-6:30 (50A)

Connection:



L1; L2; L3: Line voltage
 T1; T2; T3: Motor mounting
 L - N : Control voltage 230VAC
 A1 - A2: Start
 13-14: Status signal relay
 (potentialfrie contacts)
 33-34: Fault signal relay
 (potentialfrie contacts)

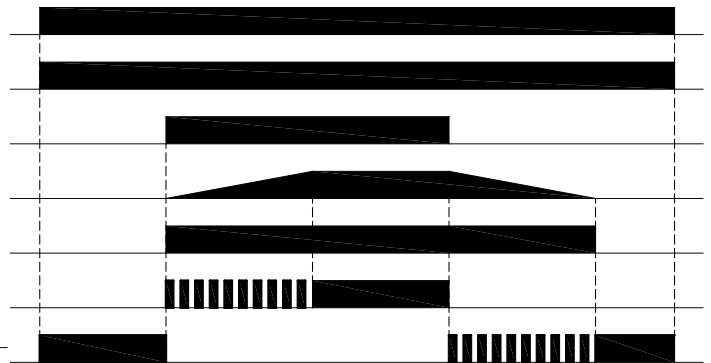
Setting



Functional

Operating

Control voltage U_c L - N
 Line voltage U_e L1,L2,L3
 Control voltage U_c A1 - A2
 Motor voltage T1,T2,T3
 C - 14 / 13 - 14
 LED 1 
 LED 2 



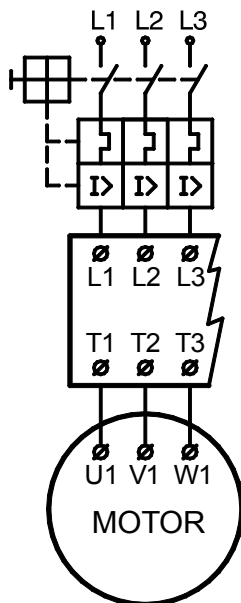
Operating voltage failure

Control voltage U_c A1 - A2
 Line voltage U_e L1,L2,L3
 C - 34 / 33 - 34

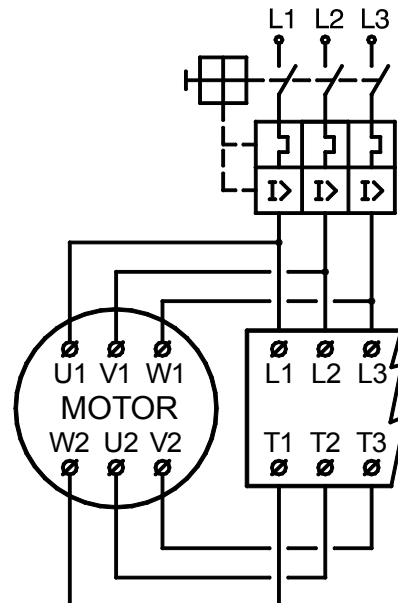
LED 1 + 2 Line voltage failure L1/L2/L3 C-34/33-34 (5 Hz)



In line



Inside delta



Standards

Restrictions of hazardous substances		RoHs Compliant
CE marking	LVD EMC: Immunity Emission	EN 60947-4-2 EN 61000-6-4 EN 61000-6-2
Electrostatic discharge ESD	Immunity	EN 61000-4-2 8 kV, Air discharge 4 kV, Contact
Electrical fast transient/ Burst immunity	Output Input	EN 61000-4-4 4 kV 4 kV
Electrical surge immunity	Output, line to line Output, line to earth Input, line to line Input, line to earth	EN 61000-4-5 1 kV 2 kV 1 kV 2 kV
Radiated radio frequency Immunity		EN 61000-4-3 3V/m, 80-1000MHz
Conducted radio frequency Immunity Voltage dips & interference		EN 61000-4-6 3V/m, 0,15-80MHz IEC/EN 61000-4-11
Radio interference field emissions (radiated)		CISPR 11 IEC/EN 55011, Class B
Radio interference voltage emissions (conducted)		CISPR 11 IEC/EN 55011, Class B
Harmonics		IEC 61000-3-2



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