



Product Information

VAREOSOFT SAG-6

Soft Start Units for Hydraulic Lifts

General

The VAREOSOFT SAG-6 range for hydraulic lifts comprise electronic motor control units for AC asynchronous motors, with open delta connection (6 cable circuit).

VAREOSOFT SAG-6 for hydraulic lifts can be used for soft starting AC asynchronous motors.

The unit operates on the phase angle control principle. The soft start can be achieved with an adjustable voltage ramp. The starting moment can be adjusted separately.

The basic unit is supplied without a motor contactor but this can be offered, in an advanced version.

The VAREOSOFT SAG-6 range for hydraulic lifts was conceived, primarily for use in lifts and elevators but they can also be used in

- Machines with gears, belts or chains
- Conveying systems
- Grinding, hobbing and sawing machines
- Fans, pumps, compressors and air conditioning plant

Benefits:

- Improvement of mechanical systems by the stepless adjustment of the torque (reduced snatching, reduced downtime, more machine and plant operating time)
- Reduced current inrush (less drain on supply and in some cases a better energy tariff)
- Less expensive compensation equipment
- Reduced construction expense (using lower rated components)

Overview of unit types

Specification	Approx. rated power of the motor [kW]	Type of unit	ID-Number
Soft start of AC asynchronous motors Rated voltage 400V			
Soft start	11	VAREOSOFT SAG-6 23	242
3-phase angle control	18,5	VAREOSOFT SAG-6 36	243
Adjustable starting torque 0..90%	22	VAREOSOFT SAG-6 45	244
Adjustable ramp-up time 0,3..6 sec	33	VAREOSOFT SAG-6 65	245
<u>Without motor contactor</u>	37	VAREOSOFT SAG-6 75	246
Soft start	11	VAREOSOFT SAG-6S 23	290
3-phase angle control	18,5	VAREOSOFT SAG-6S 36	291
Adjustable starting torque 0..90%	22	VAREOSOFT SAG-6S 45	292
Adjustable ramp-up time 0,3..6 sec	33	VAREOSOFT SAG-6S 65	293
<u>Motor contactor</u>	37	VAREOSOFT SAG-6S 75	294

Function description of the VAREOSOFT SAG-6 soft start unit.

The voltage is changed by using thyristors with phase angle control, which varies the supply to the motor from zero up to full mains voltage. A trimmer is used to set the time ramp from 0.3...30 seconds. To ensure a safe start-up of the motor, the starting point for the voltage between 0...90% of the mains voltage (start-up torque). When the ramp up is finished, a set of potential-free, internal control contacts, close. These can be used to control a by-pass relay and by doing this the power losses are reduced and EMC integrity is increased.

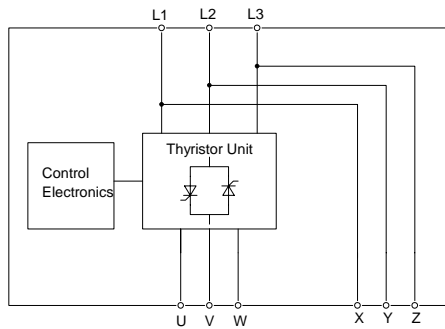


Diagram 1: VAREOSOFT SAG-6

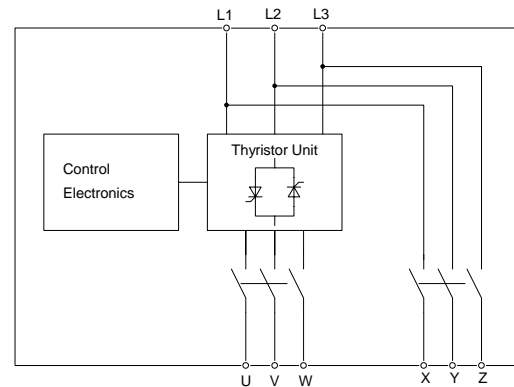


Diagram 2 : VAREOSOFT SAG-6S

Technical data:

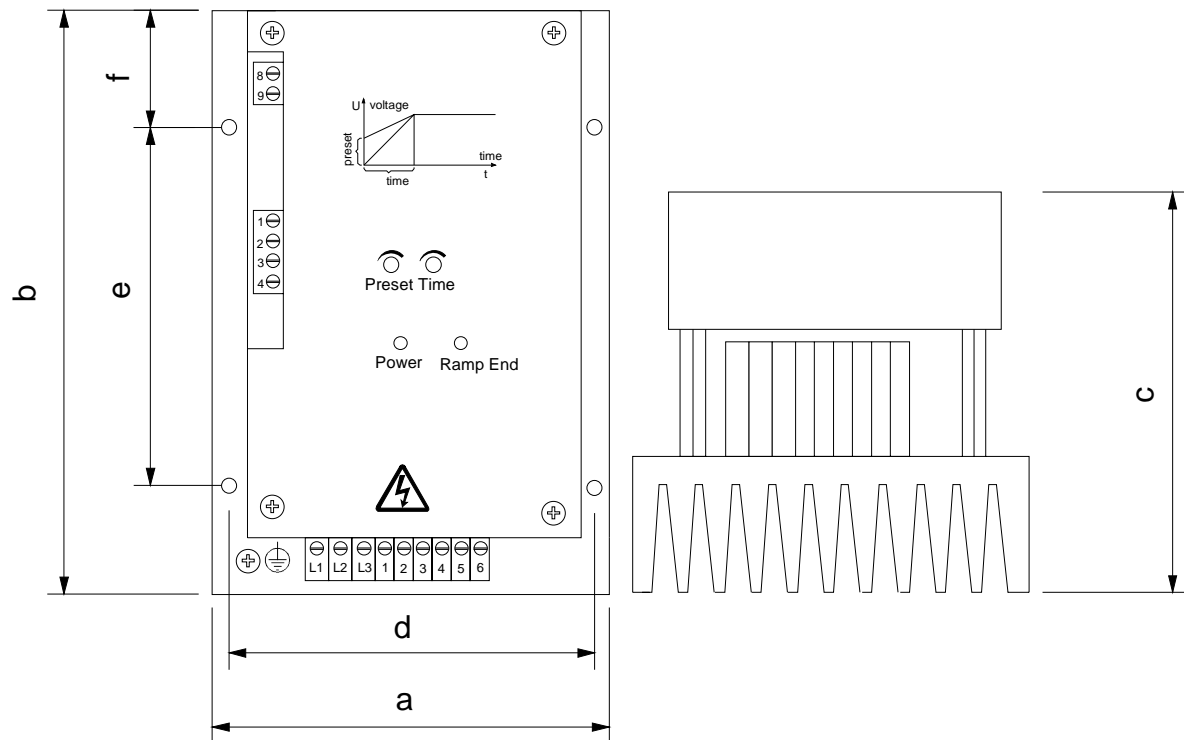
Supply	380...400 V +/- 10 %; 50/60 Hz				
VAREOSOFT unit type	SAG-6 23 SAG-6S 23	SAG-6 36 SAG-6S 36	SAG-6 45 SAG-6S 45	SAG-6 65 SAG-6S 65	SAG-6 75 SAG-6S 75
Motor power max.: [kW]	11	18,5	22	33	37
Rated motor current [A] U _N = 400 V:	22,5	35,5	43	63	72
Starts / h	60 x 15...20 sec. (33 % ED)				
Soft-Start time (adjustable):	0,1...6 sec.				
Soft-Stop time (adjustable):	-				
Starting torque (adjustable):	0...90%				
Operating temperature:	0...+45 °C				
Storage temperature:	-15...+65 °C				
Humidity:	Up to 93 % without dew				
Altitude:	Up to 1000 m above sea level, 1% current reduction for each extra 100 m				
Cleanness level:	1, IEC 664				
Vibration level:	10...55 Hz / 0,15 mm / 12 Cycles. (XYZ)				
Ingress Protection level	IP 20 (with contact protection)				

EMC-Data

Immunity: to EN 50082 Part 2

Transmission: to EN 50081 Part 1

Dimensions



Unit type	a [mm]	b [mm]	c [mm]	d [mm]	e [mm]	f [mm]	Fixing holes dia
VAREOSOFT SAG-6 23	150	220	150	135	120	60	6,5 M6
VAREOSOFT SAG-6 36	150	220	150	135	120	60	6,5 M6
VAREOSOFT SAG-6 45	200	300	150	180	280	10	6,5 M6
VAREOSOFT SAG-6 65	300	380	150	180	280	10	6,5 M6
VAREOSOFT SAG-6 75	300	380	150	180	280	10	6,5 M6
VAREOSOFT SAG-6S 23	200	300	185	180	280	10	6,5 M6
VAREOSOFT SAG-6S 36	200	300	185	180	280	10	6,5 M6
VAREOSOFT SAG-6S 45	300	400	185	280	280	10	6,5 M6
VAREOSOFT SAG-6S 65	300	400	185	280	280	10	6,5 M6
VAREOSOFT SAG-6S 75	300	400	185	280	280	10	6,5 M6

- Customer specific sizes on request
- We reserve the right to make technical changes