Soft Starter
Three Phase General Purpose Soft Starters
Type RSGD

- **Soft starting and soft-stopping of 3-phase squirrel cage motors**
- **45mm wide IP20 housing**
- **Operational Voltage: RSGD40 (220 - 400V), RSGD60 (220 - 600V)**
- **Operational Current: Up to 45A AC53-b**
- **2-phase controlled**
- **Integrated bypass relays**
- **Internally supplied[1]**
- **CE, RoHS compliant**
- **cULus, CCC**
- **Optional relay outputs for Alarm and Bypass indication**
- **Optional fan for additional starts per hour**

Product Description

RSGD is an extremely compact and easy to use 3-phase soft starter for AC induction motors. Rated up to 45AAC the RSGD is offered in a 45mm wide IP20 housing that can be DIN or panel mounted.

RSGD controls two phases and is internally bypassed to reduce the heat dissipation inside the panel. The series up to 400V (RSGD40..) is also internally supplied.

Through its micro-controller based algorithm, the RSGD achieves an exceptional inrush current reduction resulting in smoother starting and stopping of motors. The starting parameters can be easily set-up through a 3-knob user interface and LED indications are provided for indication of supply, alarm and ramping/bypass status.

RSGD provides a number of diagnostic functions including phase sequence, over- and under-voltage monitoring and locked rotor protection.

Optional relays for alarm and bypass indication are provided as an option.

For higher starts/hr, the RSGD 37A and 45A versions can also be equipped with a fan which is available as an accessory.

Note: Short circuit and overload protection are not provided with this controller and must be procured separately.

Ordering Code

RSG D 40 16 E 0 VD00

- General Purpose Soft Starter
- Controlled Phases
- Operational Voltage
- Rated Operational Current
- Control Voltage
- Supply Voltage
- Housing
- Options

Type Selection

Type	Operational Voltage Ue	Rated Operational Current Ie @ 40°C	Control Voltage Uc	Supply Voltage Us	Version
RSGD: General Purpose Soft Starter	40: 220 – 400 VAC +10% -15% 60: 220 – 600 VAC +10% -15%	12: 12 Arms 16: 16 Arms 25: 25 Arms 32: 32 Arms 37: 37 Arms 45: 45 Arms	E[1]: 110 – 400 VAC +10% -15% F[1]: 24VAC/DC +10% -15% G[2]: 100 – 240VAC +10% -15%	0[1]: Internally supplied G[2]: 100 – 240VAC +10% -15%	V.00: No additional options V.20: 2-relay outputs (Alarm, Bypass)

Selection Guide

Operational Voltage Ue	Control Voltage Uc	Version	Rated Operational Current 12 A_{rms}	16 A_{rms}	25 A_{rms}	32 A_{rms}	37 A_{rms}	45 A_{rms}
220 - 400 VAC	24 VAC/DC	No relay output	RSGD4012F0VD00	RSGD4016F0VD00	RSGD4025F0VD00	RSGD4032F0VD00	RSGD4037F0VX00	RSGD4045F0VX00
		2 Relay Outputs	RSGD4012F0VD20	RSGD4016F0VD20	RSGD4025F0VD20	RSGD4032F0VD20	RSGD4037F0VX20	RSGD4045F0VX20
	110 - 400 VAC	No relay output	RSGD4012E0VD00	RSGD4016E0VD00	RSGD4025E0VD00	RSGD4032E0VD00	RSGD4037E0VX00	RSGD4045E0VX00
		2 Relay Outputs	RSGD4012E0VD20	RSGD4016E0VD20	RSGD4025E0VD20	RSGD4032E0VD20	RSGD4037E0VX20	RSGD4045E0VX20
220 - 600 VAC	100 - 240 VAC	2 Relay Outputs	RSGD6012GGVD20	RSGD6016GGVD20	RSGD6025GGVD20	RSGD6032GGVD20	RSGD6037GGVX20	RSGD6045GGVX20

1. Applies to RSGD 40 models only.
2. Applies to RSGD 60 models only.

General Specifications

Ramp-up time	1…20s
Ramp-down time	0…20s
Initial voltage	0…85%
Recovery from Undervoltage/ Overvoltage	
RSGD40: Undervoltage	174VAC
RSGD40: Overvoltage	466VAC
RSGD60: Undervoltage	174VAC
RSGD60: Overvoltage	700VAC

Status Indication LEDs	
Power Supply ON	Green LED
Ramping/Bypass	Yellow LED
Alarm	Red LED
Form Designation	1
Vibration	Acc. To IEC60068-2-26
Frequency 1	2 [+3/-0]Hz to 25Hz Displacement +/- 1.6mm
Frequency 2	25Hz to 100Hz @ 2g (19.96m/s^2)

Input Specifications

	RSGD40..E0V..	RSGD40..F0V..	RSGD60..GGV..
Control Voltage Uc	A1 – A2: 110 – 400 VAC +10%, -15%	A1 – A2: 24VAC/DC +10%, -10%	ST: 100 - 240VAC +10%, -15%
Control Voltage Range Uc	93.5 – 440 VAC	21.6 – 26.4 VAC/DC	85 – 264 VAC
Max. Pick Up Voltage	80VAC	20.4 VAC/DC	80VAC
Min. Drop Out Voltage	20VAC	5 VAC/DC	20VAC
Supply Voltage range Us	-	-	A1 - A2: 100 - 240VAC +10%, -15%
Rated AC frequency	45 – 66 Hz	45 – 66 Hz (applies to 24VAC supply)	45 – 66 Hz
Rated Insulation Voltage Ui	500 VAC		
Overvoltage category	III		
Dielectric Strength			
Dielectric withstand voltage	2 kVrms		
Rated Impulse withstand Voltage	4 kVrms		
Control Input Current	0.5….5mA	0.4….1mA	0.4….3mA
Input to Output response time	< 300 msec		
Integrated varistor	Yes		

* **Note 1:** For the Canadian application, the control terminals A1, A2 (or A1, A2, ST for RSGD60 versions) of the RSGD devices shall be supplied by a secondary circuit where power is limited by a transformer, rectifier, voltage divider, or similar device that derives power from a primary circuit, and where the short-circuit limit between conductors of the secondary circuit or between conductors and ground is 1500VA or less. The short-circuit volt ampere limit is the product of the open circuit voltage and the short circuit ampere.

Note 2: RSGD60.. soft starters require a separate 100…240V, 50/60Hz single phase control source. Output connections (L1, L2, L3, T1, T2, T3) are not galvanically isolated from the external supply connections (A1, A2, ST).

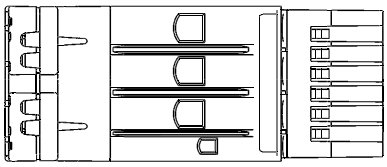
Output Specifications

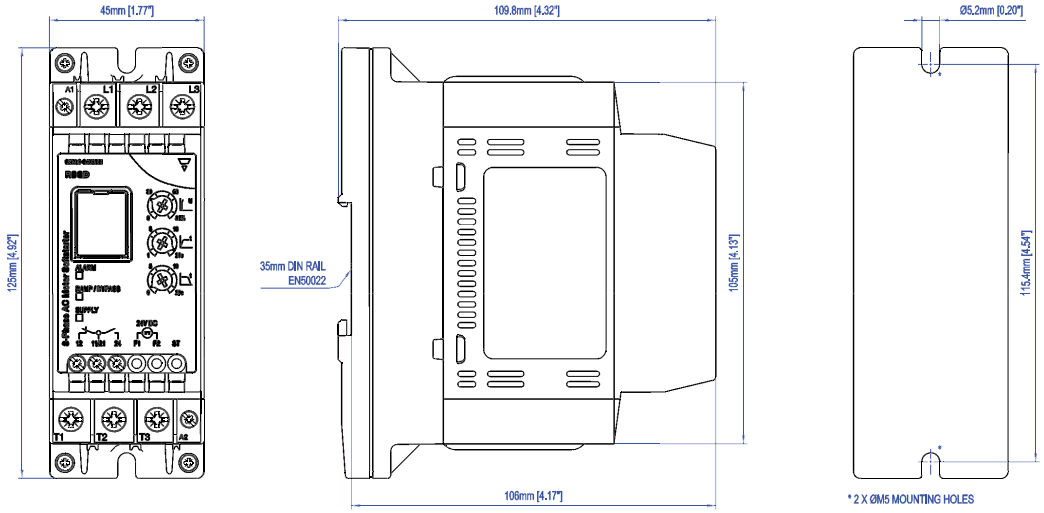
	RSGD..12……	RSGD..16……	RSGD..25……	RSGD..32……	RSGD..37……	RSGD..45……
Overload cycle acc. to EN/IEC 60947-4-2 @ 40˚C surrounding temperature	AC53b:3-5:175			AC53b:4-6:354		AC53b:3.5-5:355
Maximum number of starts per hour @ 40˚C (without fan) @ rated overload cycle	20	20	20	10	10	10
Maximum number of starts per hour @ 40ºC (with fan)@ rated overload cycle	-	-	-	-	15	15
Rated operational current @ 40˚C	12 AAC	16 AAC	25 AAC	32 AAC	37 AAC	45 AAC
Rated operational current @ 50˚C	11 AAC	15 AAC	23 AAC	28 AAC	34 AAC	40 AAC
Rated operational current @ 60˚C	10 AAC	13.5 AAC	21 AAC	24 AAC	31 AAC	34 AAC
Minimum load current	1 AAC		5 AAC			

Note: The overload cycle describes the switching capability of the soft starter at a surrounding temperature of 40ºC as described in EN/IEC 60947-4-2. An overload cycle AC53b:4-6:354 means that the soft starter can handle a starting current of 4x Ie for 6 seconds followed by an OFF time of 354 seconds.

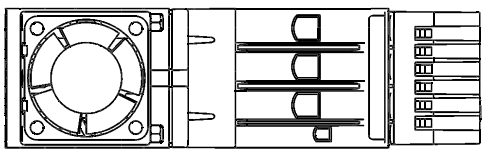
Dimensions

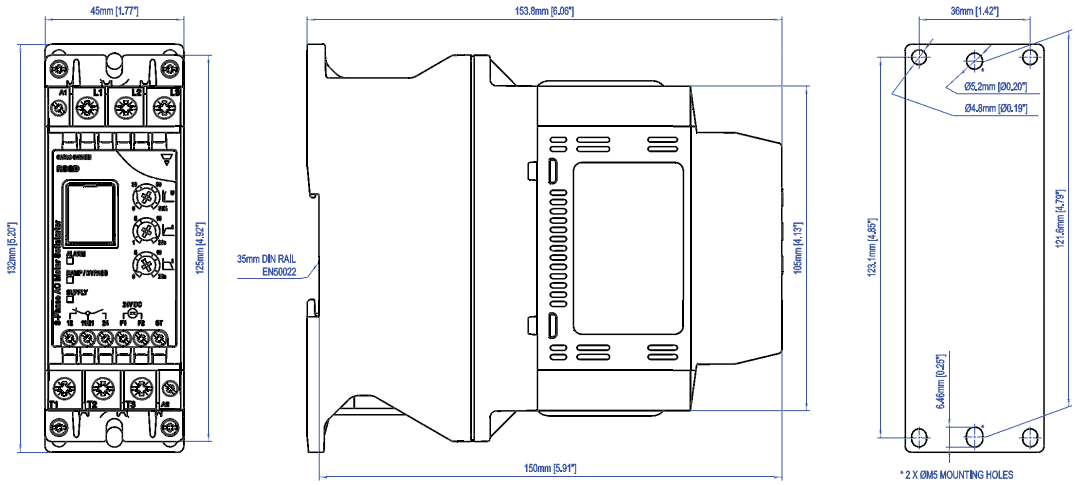
RSGD..12..... up to RSGD..32.....





RSGD..37..... , RSGD..45.....





Environmental Specifications

Operating Temperature	-20ºC to +60ºC (-4ºF to +140ºF) Note: For operating temperatures >40ºC derating applies
Storage Temperature	-40ºC to +80ºC (-40ºF to 176ºF)
Relative Humidity	<95% non-condensing @ 40ºC

Pollution Degree	2
Degree of Protection	IP20 (EN/IEC 60529)
Installation Category	III
Installation Altitude	1000 m

Supply Specifications

	RSGD40..	RSGD60..
Operational Voltage Range	187 – 440 VACrms	187 – 660 VACrms
Supply Current at idle	< 30 mAAC	< 30 mAAC
Blocking Voltage	1200 Vp	1600 Vp
Rated AC frequency	50/60 Hz +/-10%	
Rated Insulation Voltage	630 VAC	690 VAC
Dielectric Strength		
Dielectric withstand voltage		
Supply to Input	2.5 kVrms	
Supply to Heatsink	2.5 kVrms	
Integrated Varistor	Yes (across controlled phases)	

Connection Specifications

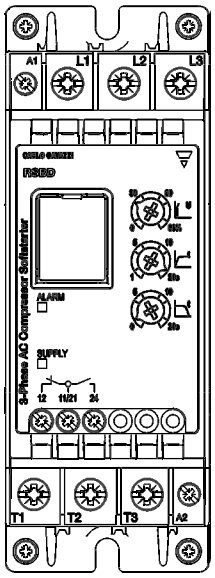
Line conductors L1, L2, L3. T1, T2, T3 Acc. to EN60947-1	
flexible	2.5 ..... 10 mm² 2.5 ..... 2 x 4 mm²
rigid (solid or stranded)	2.5 ..... 10 mm²
flexible with end sleeve (ferrule)	2.5 ..... 10 mm²
UL/cUL rated data	
Rigid (stranded)	AWG 6...14
Rigid (solid)	AWG 10...14
Rigid (solid or stranded)	AWG 2 x 10...2 x 14
Terminal screws	6 x M4
Max. tightening torque	2.5 Nm (22 lb.in) with Posidrive bit 2
Stripping length	8.0 mm
Secondary conductors A1, A2 Acc. to EN60998	
flexible	0.5 ..... 1.5 mm²
rigid (solid or stranded)	0.5 ..... 2.5 mm²
flexible with end sleeve (ferrule)	0.5 ..... 1.5 mm²
UL/cUL rated data	
rigid (solid or stranded)	AWG 10...18
Terminal screws	9 x M3
Max. tightening torque	0.6Nm (5.3lb.in) with Posidrive bit 0
Stripping length	6.0 mm

Auxiliary conductors 11, 12, 21, 24, ST, F1, F2	
rigid (solid or stranded)	0.05 ... 2.5mm²
flexible with end sleeve (ferrule)	0.05 ... 1.5mm²
UL/cUL rated data	
11, 12, 21, 24, ST, F1, F2	AWG 30 ... 12
rigid (solid or stranded)	AWG 24 ... 12
Terminal screws	
11, 12, 21, 24, ST, F1, F2	M3
Max. tightening torque	
11, 12, 21, 24, ST, F1, F2	0.45 Nm (4.0 lb.in)
Stripping length	6 mm

Use 75ºC Copper (Cu) conductors

Terminal Markings

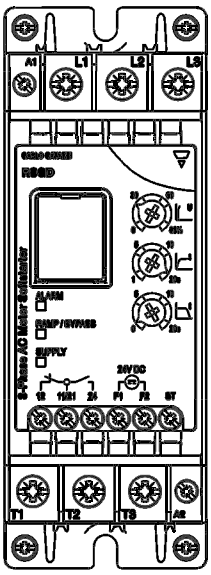
RSGD40….VD00 RSGD40….VD20 RSGD40….VX00 RSGD40...VX20



L1, L2, L3: Line connections
T1, T2, T3: Load connections
A1, A2: Control voltage
11, 12: Alarm indication (Normally Closed, NC)
21, 24: Top of Ramp indication (Normally Open, NO)
F1, F2: 24VDC Connection for Fan Supply

Note: For the 24VDC option, A1 is to be connected to the positive (+) and A2 to the negative (-) terminal.

RSGD60….VD00, RSGD60….V.20



L1, L2, L3: Line connections
T1, T2, T3: Load connections
A1, A2: Supply voltage
ST: Control voltage
11, 12: Alarm indication (Normally Closed, NC)
21, 24: Top of Ramp indication (Normally Open, NO)
F1, F2: 24VDC Connection for Fan Supply

Housing Specifications

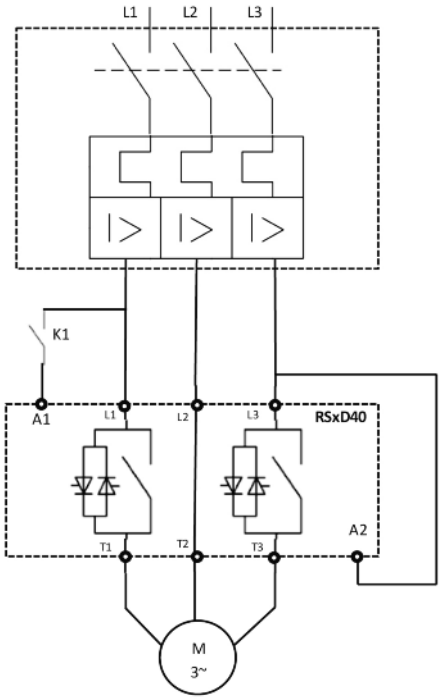
Weight (approx.)	
RSGD..12VD.. - RSGD..32VD..	475g
RSGD..37VX.. - RSGD..45VX..	670g
Material	PA66
Material colour	RAL7035
Terminal colour	RAL7040
Mounting	DIN or Panel

Auxiliary Relays

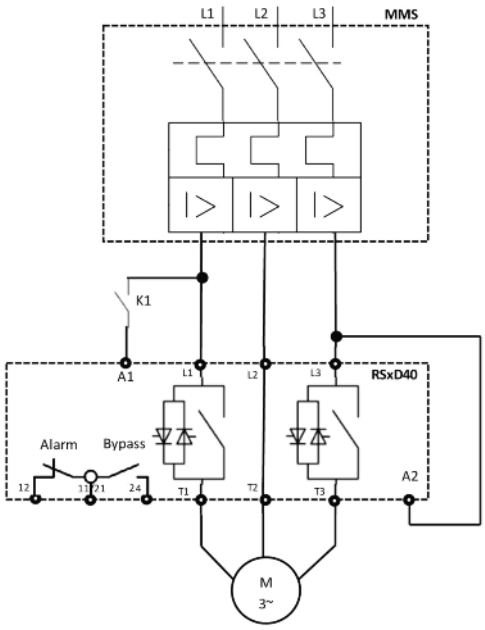
Auxiliary relays contact capacity	3A, 250 VAC/ 3A, 30VDC
Alarm (11,12)	Normally Closed (NC)
Bypassed (21,24)	Normally Open (NO)

Wiring Diagrams

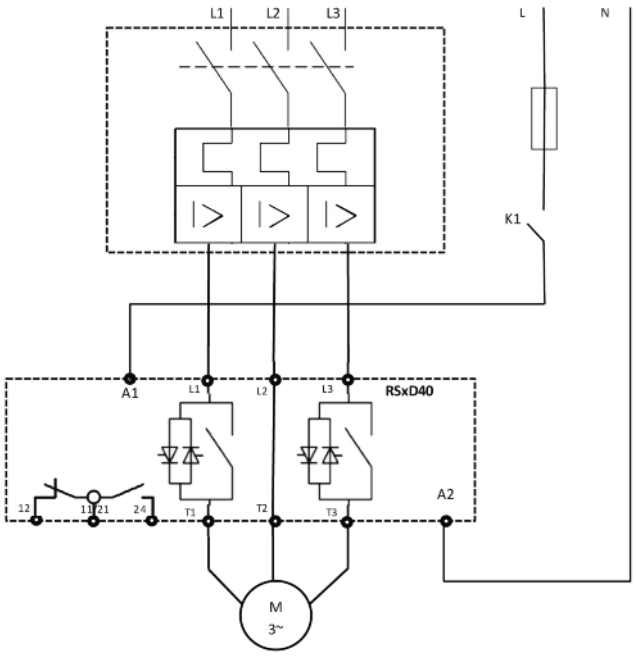
Note: Valid for line voltages up to 400V



RSGD40..E0V.00



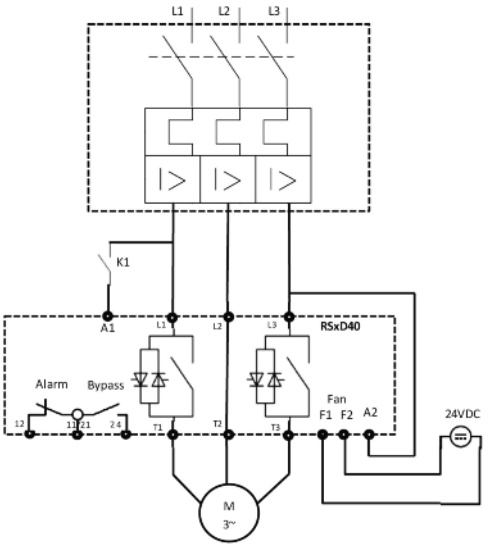
RSGD40..E0V.20



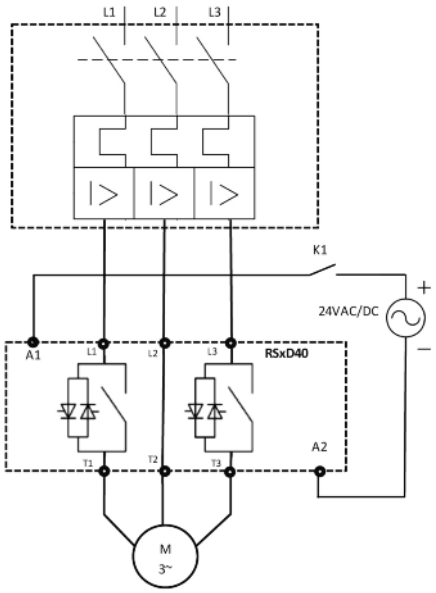
RSGD40..E0V.20

Wiring Diagrams

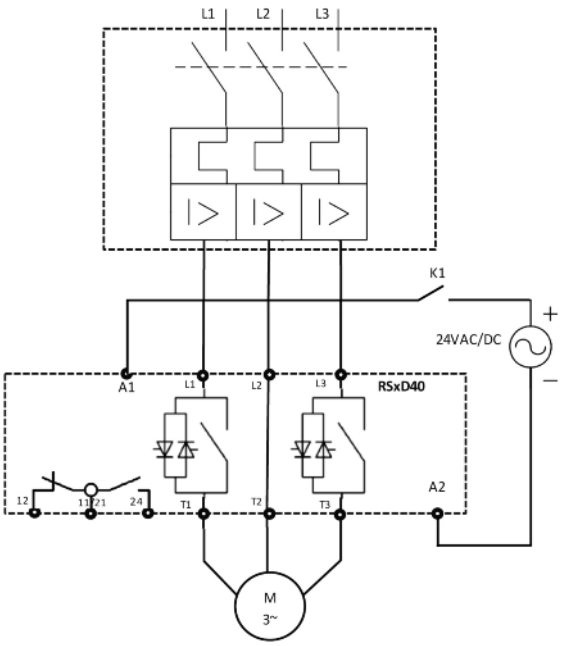
Note: Valid for line voltages up to 400V



RSGD40..E0VX20 with Fan



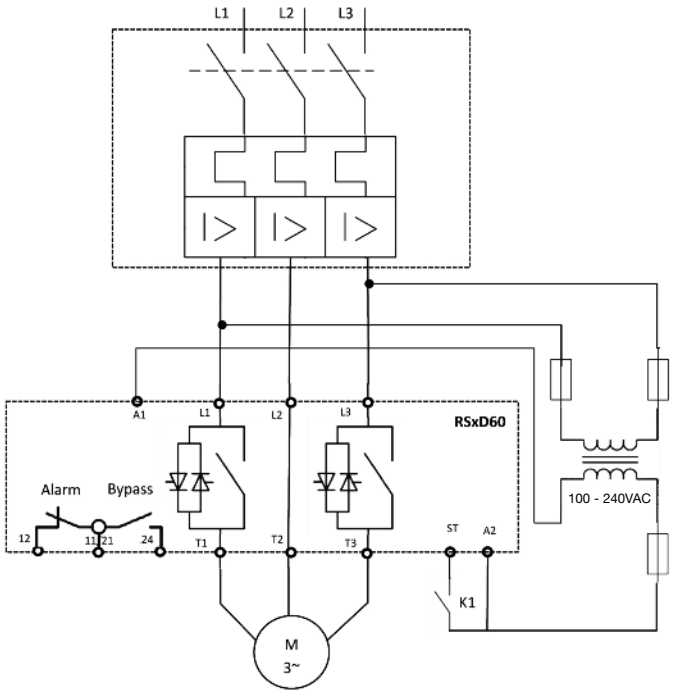
RSGD40..F0V.00



RSGD40..F0V.20

Wiring Diagrams

Note: Valid for line voltages up to 600V



RSGD60..GGV.20

Electromagnetic Compatibility

Immunity	IEC/EN 61000-6-2
Electrostatic Discharge (ESD) Immunity	IEC/EN 61000-4-2
Air discharge, 8kV	Performance Criteria 2
Contact, 4kV	Performance Criteria 2
Electrical Fast Transient (Burst) Immunity	IEC/EN 61000-4-4
Output: 2kV	Performance Criteria 2
Input: 1kV	Performance Criteria 2
Electrical Surge Immunity	IEC/EN 61000-4-5
Output, line to line, 1kV	Performance Criteria 2
Output, line to earth, 2kV	Performance Criteria 2
Input, line to line, 1kV	Performance Criteria 2
Input, line to earth, 2kV	Performance Criteria 2

Radiated Radio Frequency Immunity 3V/m, 80 - 1000 MHz	IEC/EN 61000-4-3 Performance Criteria 1
Conducted Radio Frequency Immunity 10V/m, 0.15 - 80 MHz	IEC/EN 61000-4-6 Performance Criteria 1
Voltage Dips Immunity	IEC/EN 61000-4-11
0% for 10ms/20ms,	Performance Criteria 2
40% for 200ms	Performance Criteria 2
70% for 500ms	Performance Criteria 2
Emission	IEC/EN 61000-6-3
Radio Interference field emission (Radiated) 30 - 1000MHz	IEC/EN 55011 Class A (Industrial)
Radio interference field emissions (conducted)	IEC/EN 55011 Class A (Industrial)

Agency Approvals and Conformances

Conformance	EN/IEC 60947-4-2
	UL508 Listed (E172877)
	cUL Listed (E172877)
	CCC

Soft starter setting procedure

The RSGD soft starter features 3 independently adjustable knobs for initial voltage (0 – 85%), ramp-up (1 – 20sec) and ramp-down (0-20sec) settings. It is suggested to follow the following procedure when adjusting the parameters for the application.

Step 1 – Adjust the Initial Voltage

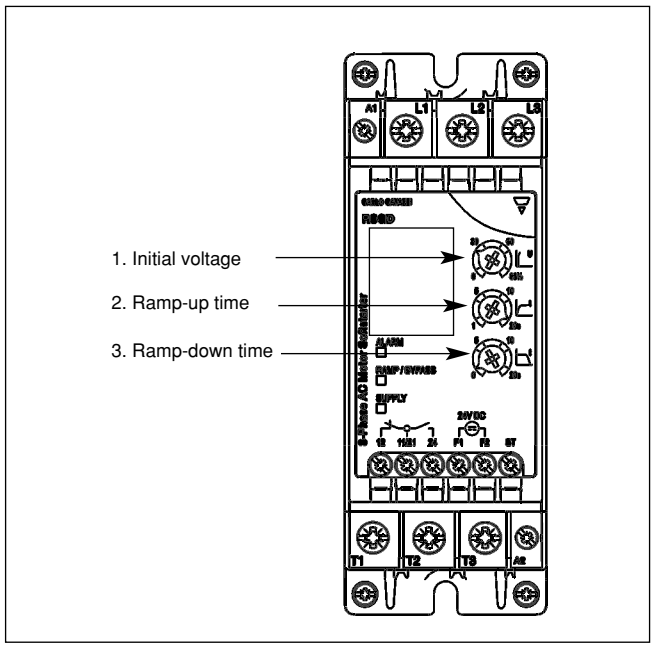
- Set the initial voltage to a value such that the motor starts to rotate as soon as the control signal is applied with the ramp-up time set to 10seconds.
- The initial voltage should be set to a lower value if a lower starting current is required.
- If the motor does not start to rotate when control signal is applied, increase the initial voltage until the correct setting is achieved
- If the motor starts to rotate but does not reach full speed at the set ramp-up time, simply increase the ramp-up time setting

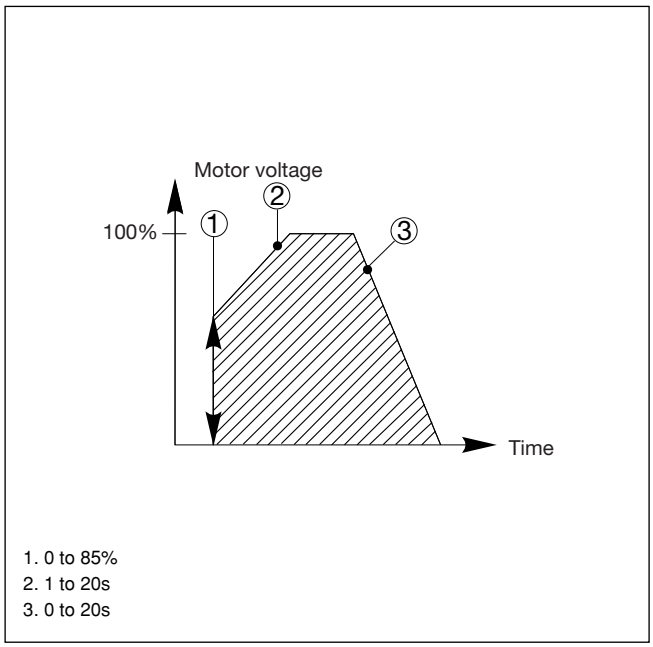
Step 2 – Adjust the Ramp-up Time

- Adjust the ramp-up setting only when the proper initial voltage setting has been found. Increase or decrease the ramp-up time depending on the application needs
- If the application starts with different loading conditions, allow for some extra seconds on the ramp-up time

Step 3 – Adjust the Ramp-down Time

- Soft stop is required by certain applications such as water pumps and conveyors to achieve a smoother stop.
- The soft starter will gradually reduce the voltage on the motor until the ramp-down time set is reached. After this point the motor will continue to decelerate freely.
- Note: - Unless required, it is suggested to keep the soft stop setting to 0sec. When ramp-down is set at 0sec, as soon as control signal is removed (A1-A2 on RSGD40 models and ST on RSGD60 models), the motor will decelerate freely and coast to a stop.





Typical settings

Note:- The following settings are typical settings for different applications for reference only. It is suggested to test the soft starter with the specific application to find the best settings.

Application	Initial Voltage	Ramp-up time (sec)	Ramp-down time (sec)
Hydraulic lifts	40%	2	0
Piston compressor	40%	3	0
Screw compressor	50%	10	0
Scroll compressor	40%	1	0
Low inertia fan	40%	10	0
High inertia fan	40%	15 – 20	0
Pump	40%	10	10
Centrifugal blower	40%	5	0
Conveyor	50%	10	5

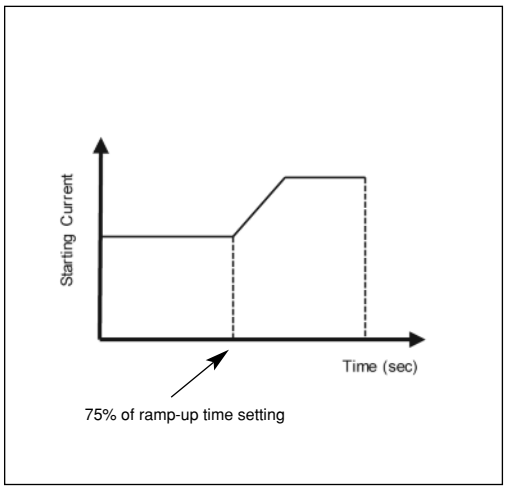
Mode of Operation

Starting Method

The RSGD series of soft starters is based on a current limiting starting methodology to limit the maximum starting current. The current limit is dependent on the Initial voltage setting – the higher this setting, the larger is the starting current.

HP algorithm
With this algorithm, the RSGD constantly checks whether the motor is in a locked rotor state and at 75% of the set ramp-up time, if the motor has still not reached its nominal speed, will gradually increase the current limit to try to start the motor within the ramp-up time set by the user.

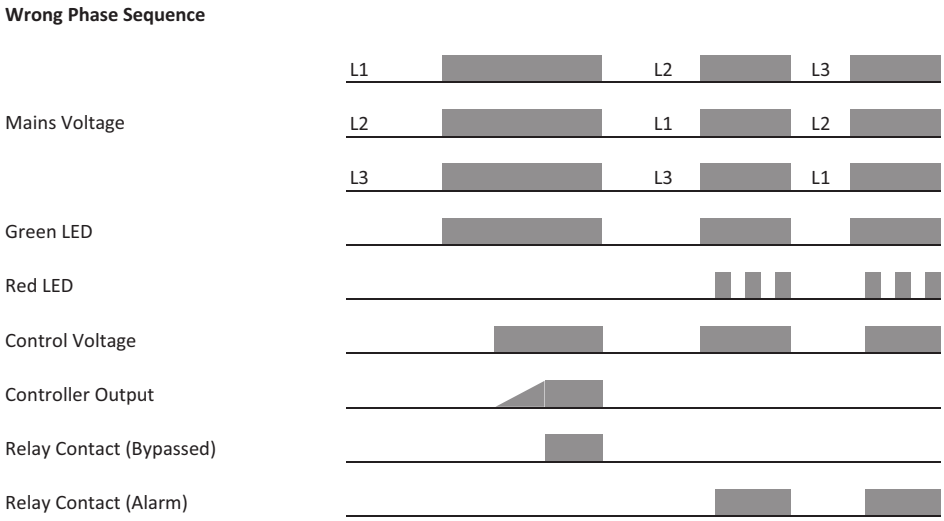
Example: If the ramp-up time is set at 10sec, after 7.5 sec, the RSGD will check whether the motor started and will gradually increase the current limit so that motor reaches its nominal speed before the ramp-up time set elapses.



Alarms description

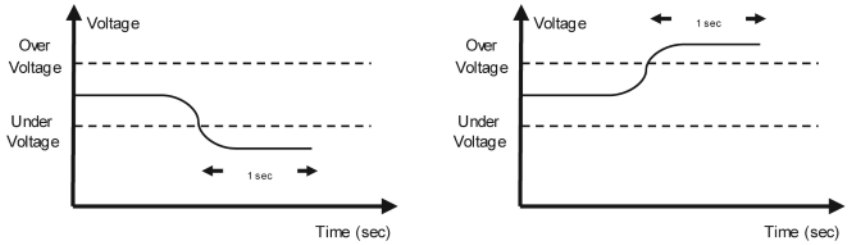
The RSGD includes a number of diagnostics and protection features each of which is signalled through a flashing sequence on the red LED. All the alarms follow a self-recovery routine (except for the Wrong phase sequence alarm) as described in the datasheet.

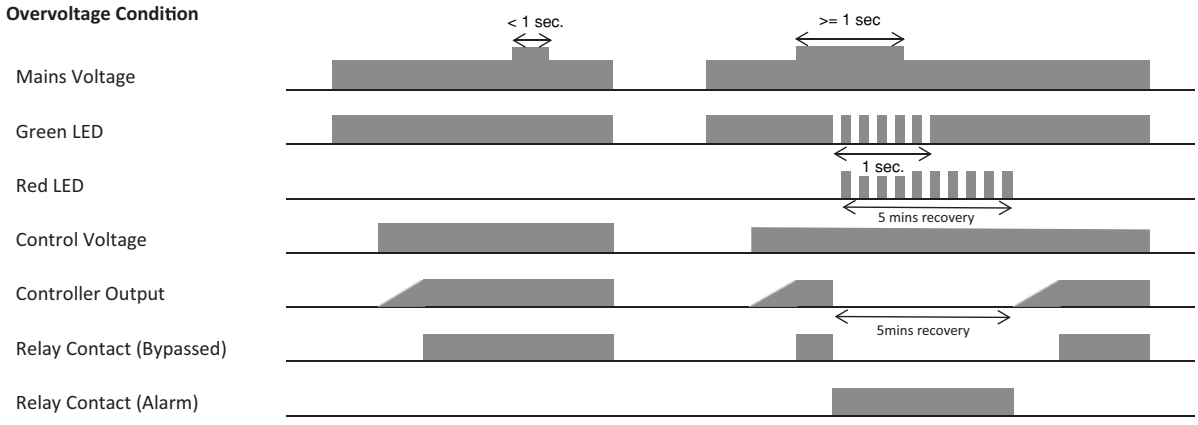
Wrong phase sequence (2 flashes)
If the connection to the soft starter is not done in the correct sequence (L1, L2, L3), the RSGD soft starter will trigger the wrong phase sequence alarm and the motor will not be started. In such case, user intervention is required to change the wiring sequence as the alarm does not self-recover.

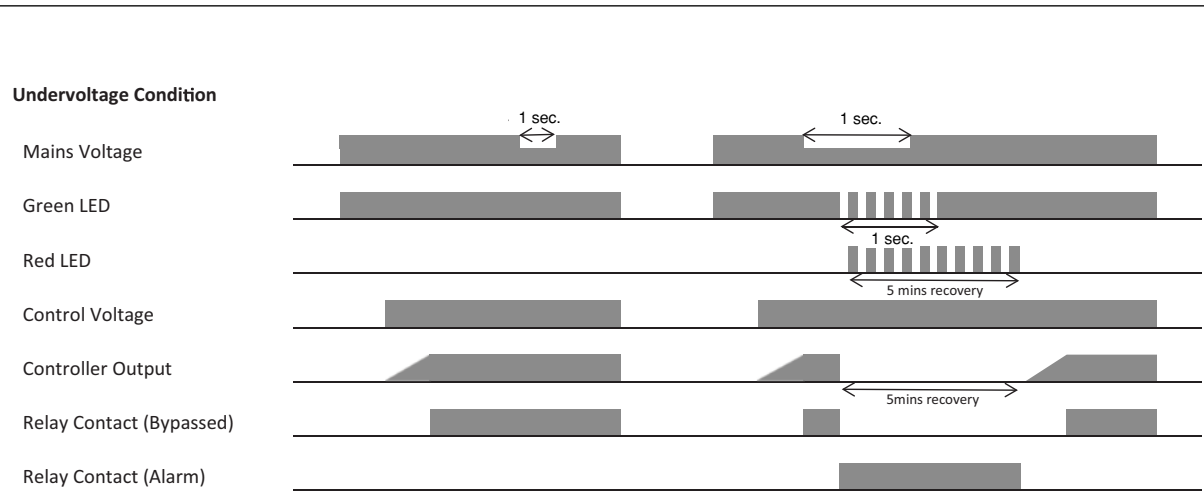


Mode of Operation

Line voltage out of range (3 flashes)





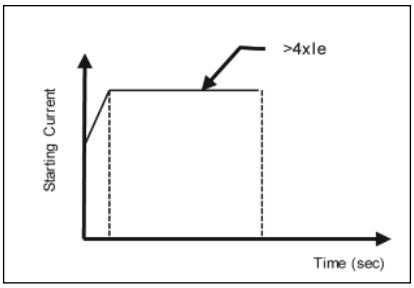


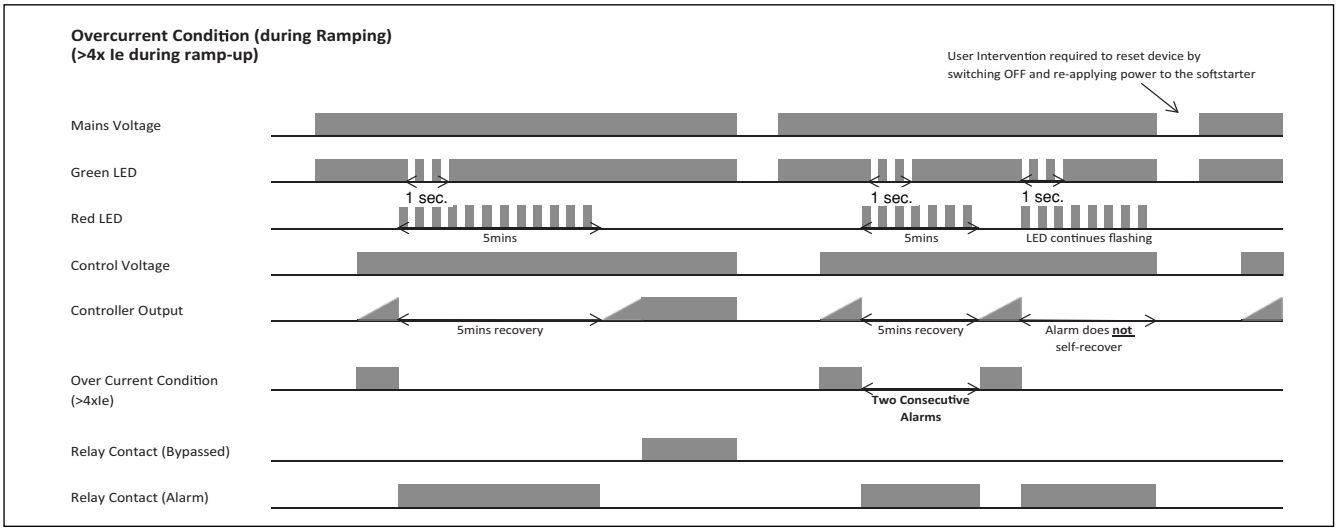
Frequency out of range (4 flashes)
The RSGD soft starters are able to work on both 50Hz and 60Hz lines. The frequency of operation is automatically detected during power-up and if this goes above or below the specified operating range, this alarm will be triggered.

Mode of Operation

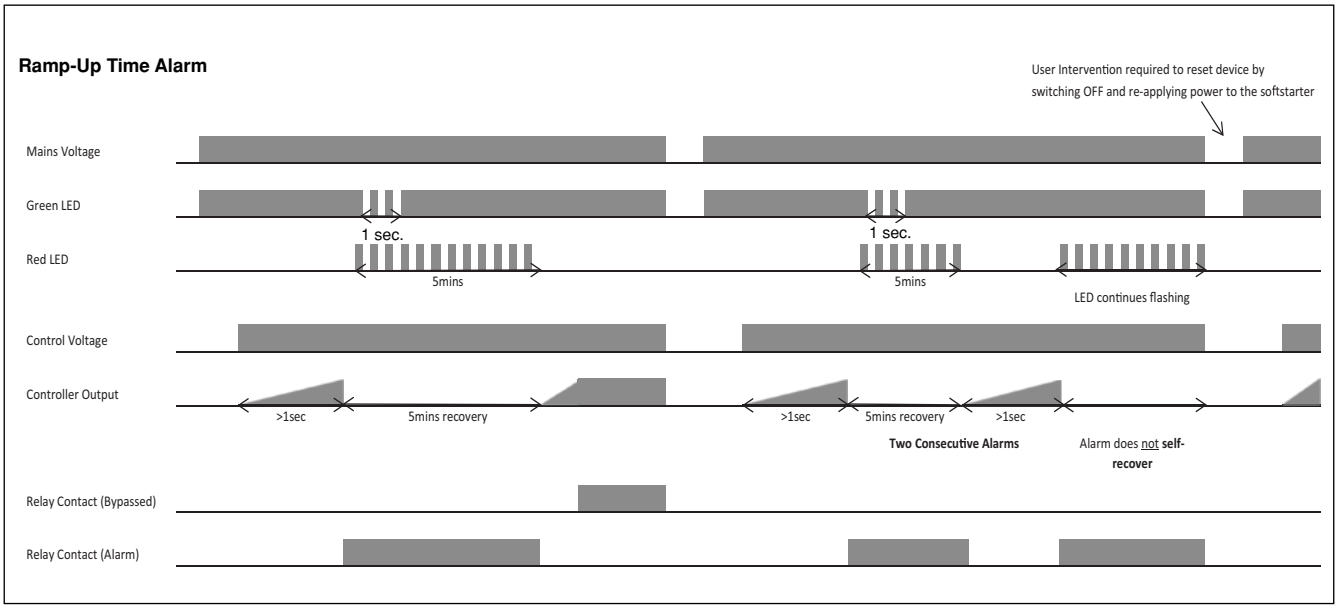
Overcurrent during ramping (5 flashes)
If a starting current >4xIe is detected during the ramping state, the RSGD will issue the overcurrent alarm (5 flashes).

This alarm may indicate a number of different conditions:-
1. The initial voltage setting is too high.
2. The RSGD soft starter rating is small with respect to the load it is controlling.
3. Motor windings are damaged.





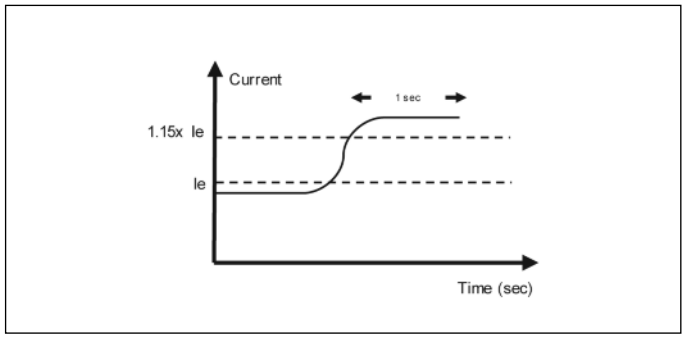
Ramp-up time (6 flashes)
The RSGD soft starters are estimating the motor nominal speed through monitoring of the currents so as to switch ON the bypass relays only at the right instant. This function avoids huge current spikes through the bypass relays which could result in damaged relay contacts.
If the motor does not reach the correct speed within the set ramp-up time the RSGD will trigger the ramp-up time alarm. In such case, it is suggested to increase the ramp-up time to allow the motor to reach the correct speed.

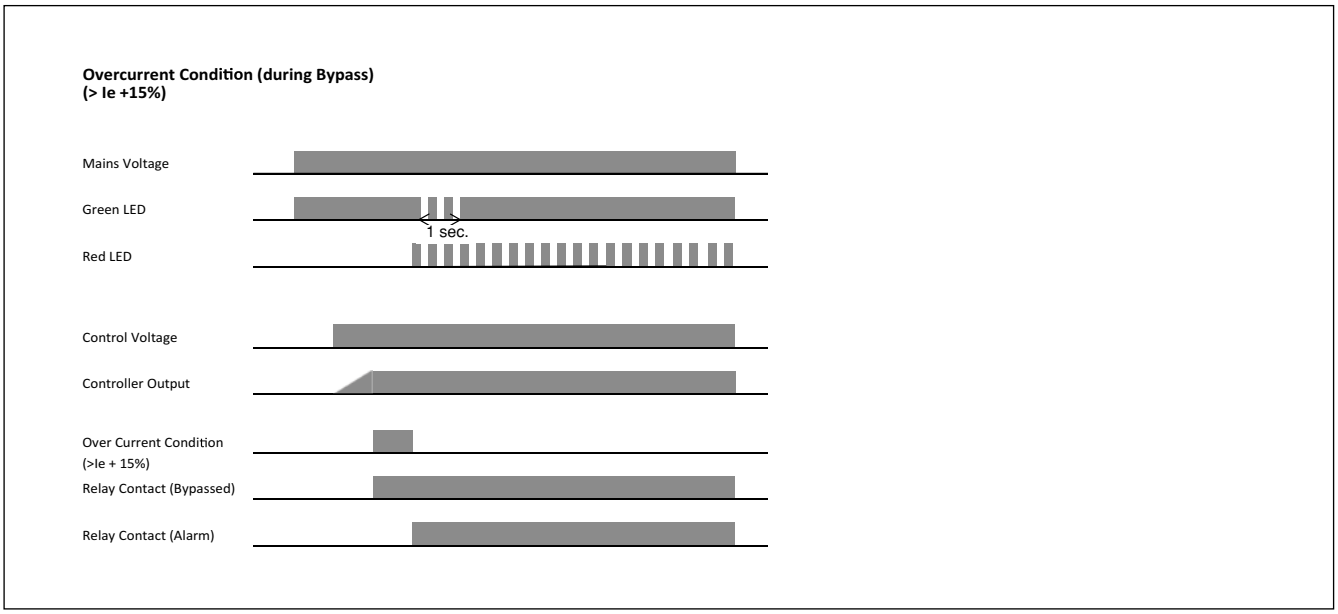


Mode of Operation

Over-temperature (7 flashes)
The RSGD soft starter constantly measures the heatsink and thyristors (SCRs) temperature. If the maximum internal temperature is exceeded an over-temperature alarm is triggered and the RSGD will enter into a self-recovery mode to allow the soft starter to cool down. This condition can be triggered by too many starts per hour, an overload condition during starting and/or stopping or a high surrounding temperature.

Current not normal during bypass (8 flashes)
When the RSGD is in bypass mode, the current is monitored and, if the current through the soft starter is greater than 15% the rated soft starter current (1.15*Ie) for 1 second, the alarm for overcurrent in bypass will be triggered.The functionality of this alarm is for indication purposes only and is not considered a means to protect against overcurrent. The bypass relays are not disengaged by this alarm and it is up to the customer to provide other means of protection against overcurrent. The alarm may also be triggered if the operational current is smaller than the minimum load current specified for the respective RSGD model (refer to page2).





Voltage unbalance (9 flashes)
The unit measures the voltages on all the three phases and if there is a difference of more than 10% between any of the phases, the RSGD triggers the voltage unbalance alarm to prevent motor damage.

Alarm LED Indications (Red LED)

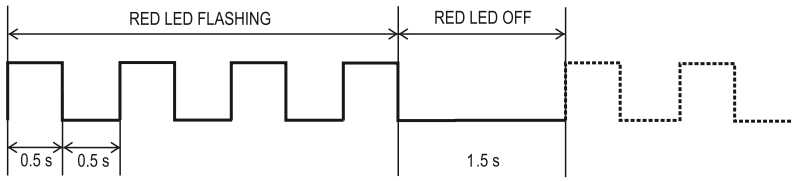
Flashes	Description of Fault	Relay Contact Position		Action
		Alarm (11, 12)	Bypass (21, 24)	
2	Wrong Phase Sequence	Open	Open	Physical Change
3	Line Voltage Out of Range	Open	Open	Auto reset with 5mins recovery
4	Frequency Out of Range	Open	Open	Auto reset with 5mins recovery
5	Over Current (during RAMPING)	Open	Open	Auto reset with 5mins recovery
6	Ramp Up Time	Open	Open	Auto reset with 5mins recovery
7	Over Temperature	Open	Open	Auto reset with 5mins recovery
8	Current not normal (during BYPASS)	Open	Closed	User intervention required to stop the controller.
9	Supply Voltage Unbalance	Open	Open	Auto reset with 5mins recovery assuming all phases (L1, L2, L3) are connected

LED Status Indications (Green LED)

LED Status	Condition	Relay Contact Position	
		Alarm (11, 12)	Bypass (21, 24)
Flashing	Recovery time between starts	Closed	Open
Fully ON	Idle State	Closed	Open
Fully ON	Ramping	Closed	Open
Fully ON	Bypassed	Closed	Closed

Flashing Sequence

Alarm Condition



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Short Circuit Protection

Protection Co-ordination, Type 1 vs Type 2:
Type 1 protection implies that after a short circuit, the device under test will no longer be in a functioning state.

In Type 2 co-ordination the device under test will still be functional after the short circuit. In both cases, however the short circuit has to be interrupted. The fuse between enclosure and supply shall not open. The door or cover of the enclosure shall not be blown open. There shall be no damage to conductors or terminals and the conductors shall not separate from terminals. There shall be no breakage or cracking of insulating bases to the extent that the integrity of the mounting of live parts is impaired. Discharge of parts or any risk of fire shall not occur.

The product variants listed in the table hereunder are suitable for use on a circuit capable of delivering not more than 5,000A rms Symmetrical Amperes, 400 or 600 Volts maximum when protected by fuses. Tests at 5,000A were performed with Class RK5 fuses, fast acting; please refer to the table below for maximum allowed ampere rating of the fuse. Use fuses only.

Co-ordination Type 1 (UL508) – Time Delay Fuses

Part No.	Max. Fuse Size [A]	Class	Current [kA]	Max. Voltage [VAC]
RSGD..12.V….	20	RK5	5	400 / 600
RSGD..16.V….	20	RK5	5	400 / 600
RSGD..25.V….	25	RK5	5	400 / 600
RSGD..32.V….	35	RK5	5	400 / 600
RSGD..37.V….	50	RK5	5	400 / 600
RSGD..45.V….	50	RK5	5	400 / 600

Co-ordination Type 1 – Manual Motor Starters

Part No.	Model No.	Current [kA]	Max. Voltage [VAC]
RSGD..12.V….	GMS32S-17 / GMS32H-17	10	400 / 600
RSGD..16.V….	GMS32S-17 / GMS32H-17	10	400 / 600
RSGD..25.V….	GMS32H-32	10	400 / 600
RSGD..32.V….	GMS32H-32	10	400 / 600
RSGD..37.V….	GMS63S-50 / GMS63H-50	10	400 / 600
RSGD..45.V….	GMS63S-50 / GMS63H-50	10	400 / 600

Products rated 12A and 16A, protected with manual motor starters must be wired with a minimum length of 15m of Cu wire conductor with a minimum cross sectional area of 2.5mm^2. Products rated 25A or higher, protected with manual motor starters must be wired with a minimum length of 10m of Cu wire conductor. The length includes the conductors from the voltage source to the manual manual starter, from the manual motor starter to the soft starter and from the soft starter to the load.

Co-ordination Type 2 (IEC/EN 60947-4-2) – Semiconductor Fuses

Part No.	Max. Fuse Size [A]	Model No.	Current [kA]	Max. Voltage [VAC]
RSGD..12.V….	35	A70 QS 35-4	5	400 / 600
RSGD..16.V….	35	A70 QS 35-4	5	400 / 600
RSGD..25.V….	60 / 63	A70 QS 60-4 / 6.9xxCP URD 22x58/63 (xx = 00 or 21)	5	400 / 600
RSGD..32.V….	60 / 63	A70 QS 60-4 / 6.9xxCP URD 22x58/63 (xx = 00 or 21)	5	400 / 600
RSGD..37.V….	125	A70 QS 125-4	5	400 / 600
RSGD..45.V….	125	A70 QS 125-4	5	400 / 600

Current /Power Ratings: kW (IEC 60947-4-2) & HP (UL508) @ 40°C

Part No.	IEC Rated Current	220 – 240 VAC	380 – 415 VAC	440 – 480 VAC[VAC]	550 – 600 VAC
RSGD4012.....	12 AAC	3 kW/ 3 HP	5.5 kW/ 5 HP	-	-
RSGD4016.....	16 AAC	4 kW/ 5 HP	7.5 kW/ 7.5 HP	-	-
RSGD4025.....	25 AAC	5.5 kW/ 7.5 HP	11 kW/ 10 HP	-	-
RSGD4032.....	32 AAC	9 kW/ 10 HP	15 kW/ 15 HP	-	-
RSGD4037.....	37 AAC	9 kW/ 10 HP	18.5 kW/ 20 HP	-	-
RSGD4045.....	45 AAC	11 kW/ 15 HP	22 kW/ 25 HP	-	-
RSGD6012.....	12 AAC	3 kW/ 3 HP	5.5 kW/ 5 HP	5.5 kW/ 7.5 HP	9 kW/ 10 HP
RSGD6016.....	16 AAC	4 kW/ 5 HP	7.5 kW/ 7.5 HP	9 kW/ 10 HP	11 kW/ 15 HP
RSGD6025.....	25 AAC	5.5 kW/ 7.5 HP	11 kW/ 10 HP	11 kW/ 15 HP	20 kW/ 20 HP
RSGD6032.....	32 AAC	9 kW/ 10 HP	15 kW/ 15 HP	18.5 kW/ 20 HP	22 kW/ 30 HP
RSGD6037.....	37 AAC	9 kW/ 10 HP	18.5 kW/ 20 HP	22 kW/ 25 HP	30 kW/ 30 HP
RSGD6045.....	45 AAC	11 kW/ 15 HP	22 kW/ 25 HP	22 kW/ 30 HP	37 kW/ 40 HP

Accessories

RTPM (Interconnecting Clip)

Ordering Key

Interconnecting clip for GMS-32-H motor starter **RTPMGMS32HL**

- Qty: 10pcs per bag

Interconnecting clip for GMS-32-S motor starter **RTPMGMS32SL**

- Qty: 10pcs per bag

GMS (Manual Motor Starters)

GMS32H

GMS32S

GMS63S/H

Ordering Key **GMS-32S-13**

Type
S: Standard, H: High breaking capacity
Rated operational current

- Overload and short-circuit protection
- Operational current range: 0.16 up to 32AAC
- Magnetic release 13xIe max
- Adjustable thermal release
- Ambient temperature compensation
- Trip Class 10
- CE, cULus

Ordering Key **GMS-63H-13**

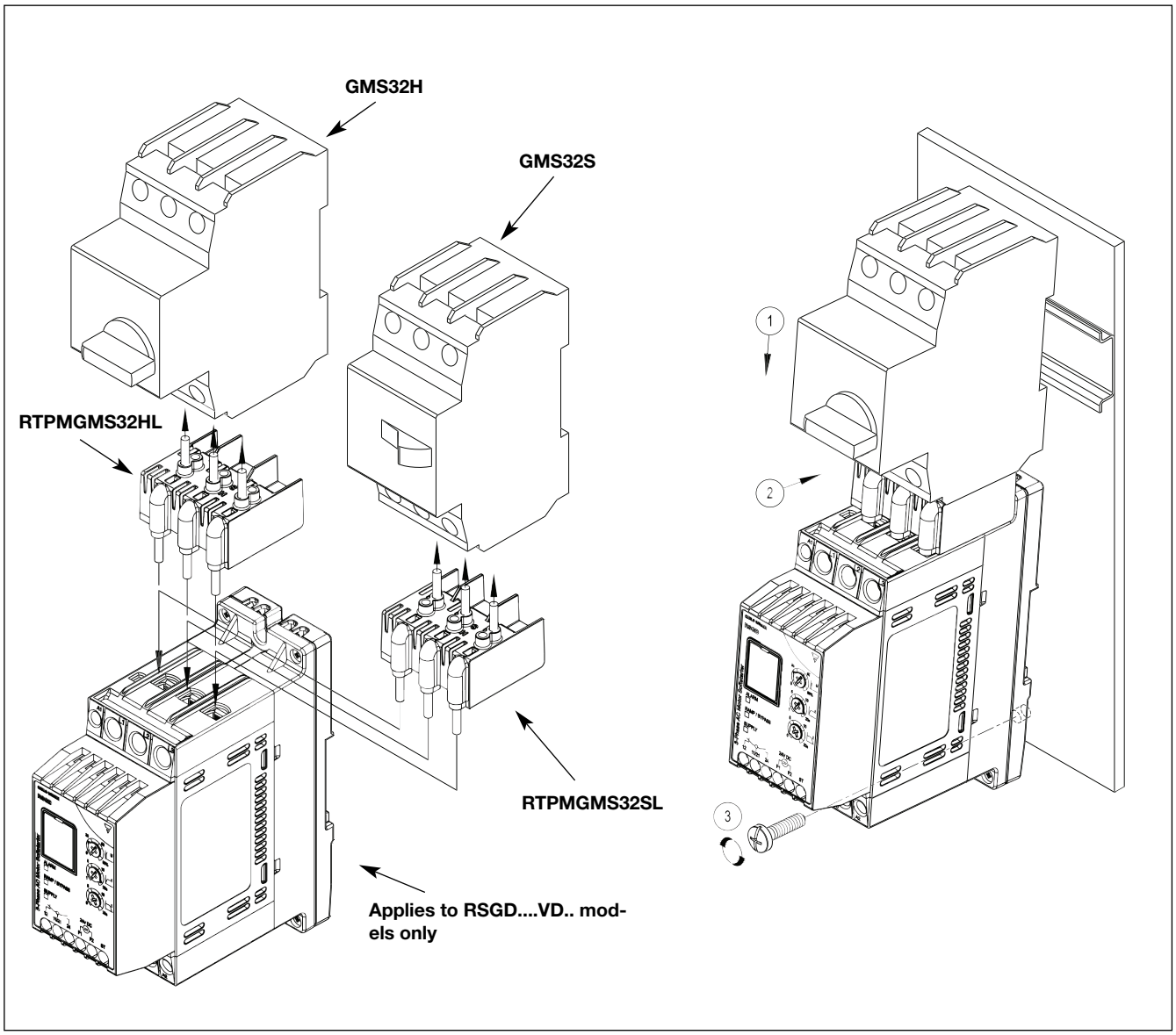
Type
S: Standard, H: High breaking capacity
Rated operational current

- Overload and short-circuit protection
- Operational current range: 10 up to 63AAC
- Magnetic release 13xIe max
- Adjustable thermal release
- Ambient temperature compensation
- Trip Class 10
- CE, cULus

Note: For higher trip classes please contact your Carlo Gavazzi representative

Accessories

GMS Mounting Instructions



The following procedure should be followed when mounting the GMS motor starter onto the RSGD soft starter:-

Step 1: Unscrew the terminals on the RSGD and GMS units and insert the proper RTPM clip in the respective terminals.

Step 2: Tighten the screws on the GMS and RSGD units respecting the maximum torque specified.

Step 3: Mount the complete assembly to the DIN rail and screw the RSGD to the panel as shown in the diagram.

Note: Always mount the GMS motor starter on the supply side (L1, L2, L3) of the RSGD soft starter.

Important: Make sure that the handle on the GMS starter is in the OFF position before installing and uninstalling.

Accessories

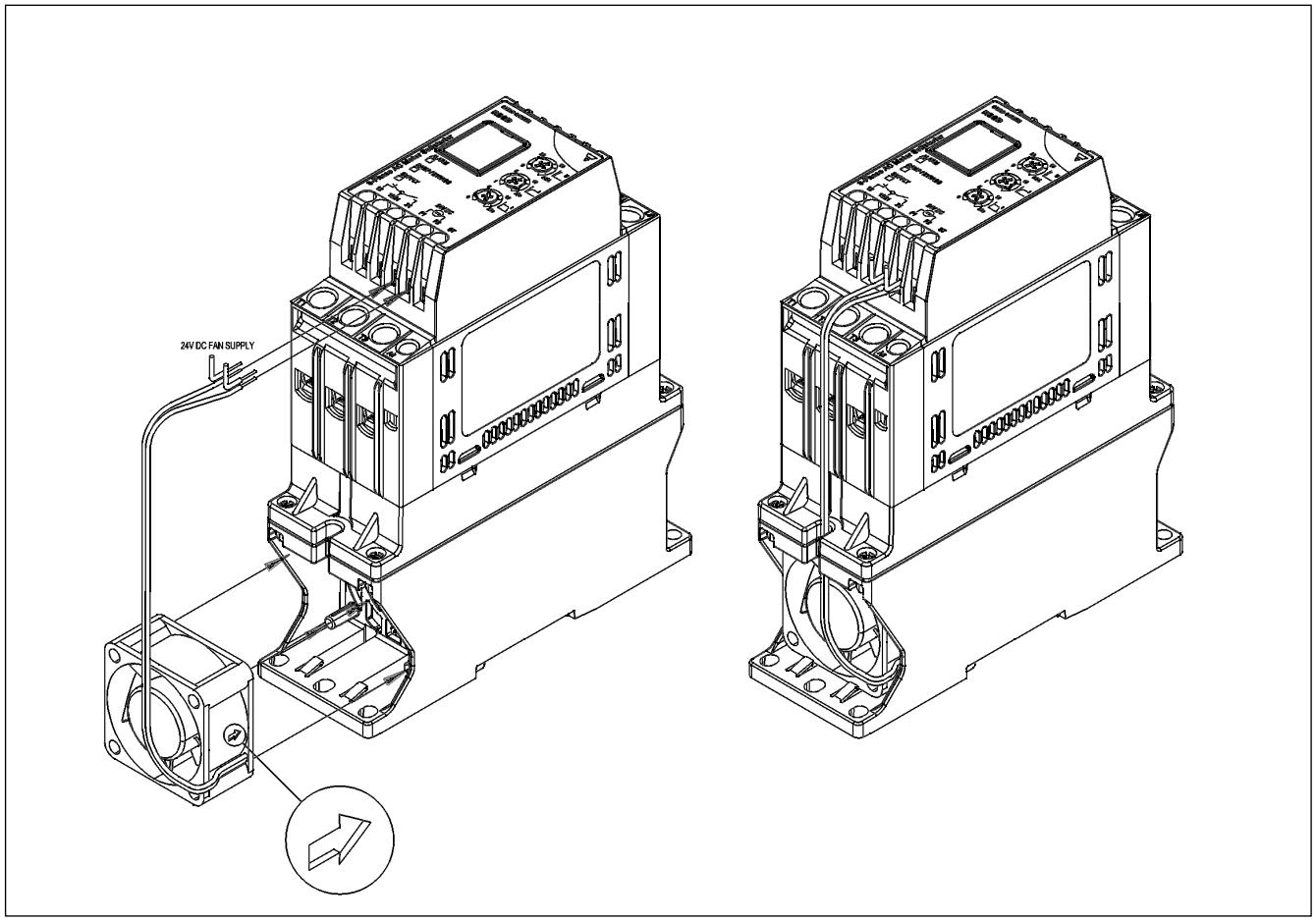
Fan

Ordering Key

- Qty: 10 pcs per bag
- 24VDC supply

RFAN4024X10

Fan Mounting Instructions



The RSGD..37.. and RSGD..45.. models can be equipped with a fan if more starts/hr (than what specified in the datasheet) are required. Connect the fan as shown in the diagram. The fan needs an external supply of 24VDC – the (+) supply needs to be connected to the red wire and the (-) supply needs to be connected to the black wire.

It is important to connect the fan to the correct supply polarity as failure to do so will cause the fan to rotate in the wrong direction possibly damaging the semiconductors due to over-temperature.