



## **RSGD general purpose soft starters**

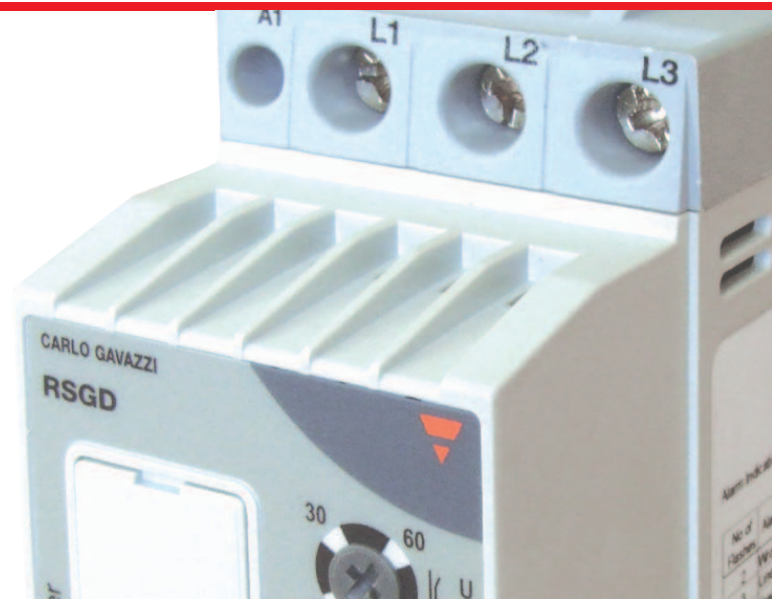
# **Switches**

# RSGD Series

## Compact 3-phase soft starter series

**RSGD** is a user-friendly soft starting solution for 3-phase AC induction motors. Supplied in one of the most compact housings in its category, the **RSGD** series is suitable for soft starting and soft stopping motors rated up to 22kW/25HP @ 400V.

The **RSGD** reduces starting current significantly whilst maintaining balanced currents on all motor phases. Ramp-up time, ramp-down time and initial torque may be independently adjusted to suit your application needs. Optional relay outputs are also available for top of ramp and alarm indication to provide useful information on the soft starter status to your control system. Moreover, additional accessories are also available for an easy interconnection to Carlo Gavazzi's manual motor starters, thus resulting in a complete motor starting solution.



## The new generation of soft starters

### More soft starters in less panel space

RSGD soft starters are designed in an extremely compact 45mm wide housing and are suitable for 3-phase induction motors up to 45A, providing an easy fit in the electrical panel.

Moreover the IP20 housing with a fully enclosed heatsink results in additional protection to personnel and easier installation.

### Less heat dissipation

The RSGD series includes internal bypass relays that are triggered as soon as the motor reaches nominal speed, thus reducing heat dissipation inside the electrical panel.

### Improved reliability

The internal algorithm ensures that the relays are only triggered at the right instant to avoid current spikes and torque oscillations on the motor, thereby enhancing the lifetime of your system.

### Reduced installation costs

With the built-in power supply on the RSGD series (up to 400VAC), quicker and easier installation is guaranteed since fewer connections are required.

Additionally, since there is no need for an auxiliary power supply (RSGD40 models only), panel costs are reduced and less panel space is required.

### Flexibility for your applications

The RSGD40 series is available in two control voltage ranges for start and stop signals (24VAC/DC or 110 - 400VAC) facilitating installation and reducing wiring time.

The RSGD60 series requires an external supply and the same unit can work with a wider range of supply voltages (220 - 600VAC) with a control voltage range for start and stop signals of 100 - 240VAC.

## Applications

### HVAC

- Piston compressors
- Air compressors
- Centrifugal pumps
- Screw compressor
- Ventilators



### Lifts & Escalators

- Hydraulic lifts
- Material handling lifts



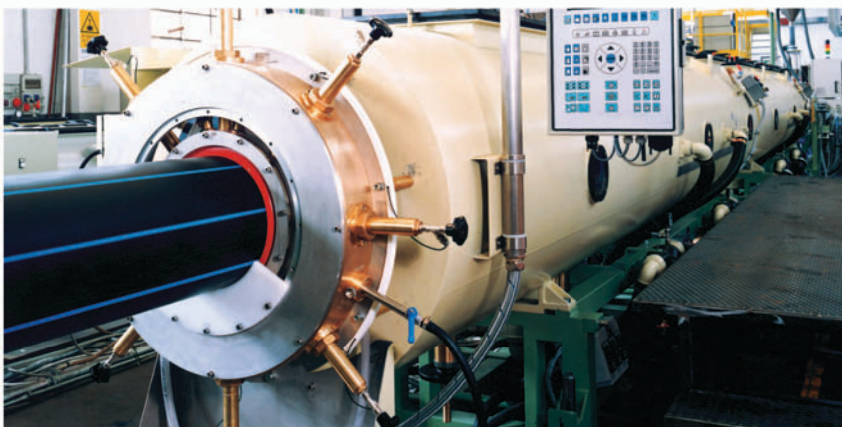
### Agriculture

- Centrifugal pumps
- Irrigation systems
- Aerators
- Water treatment
- Booster pumps
- Suction pumps
- Distribution pumps



### Plastic & Rubber

- Extruding machines
- Grinders
- Mixers
- Blowers
- Dryers

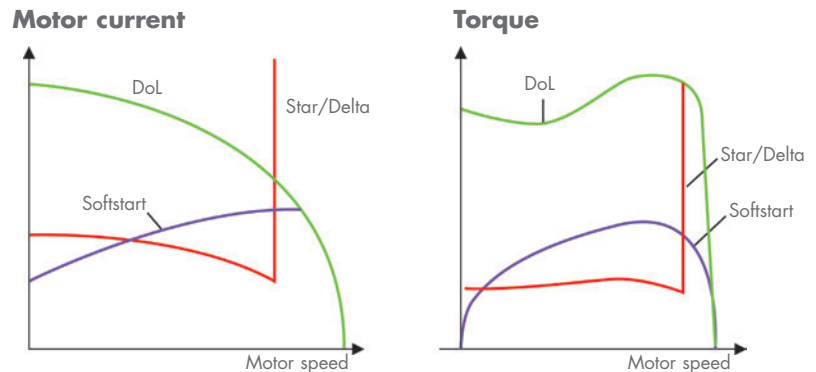


# RSGD series

## Compact 3-phase soft starter series

### High starting currents with conventional starting methods

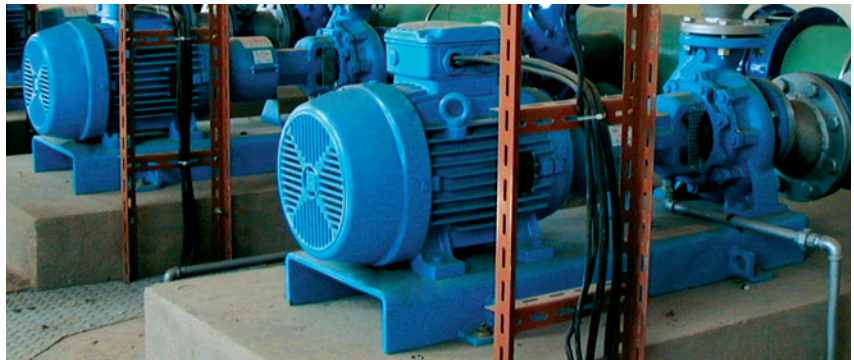
Every single application requires different starting and stopping parameters to achieve optimal starting and stopping performance. The RSGD can be configured for the particular application requirements through three independently adjustable knobs for starting voltage, starting and stopping time.



### Higher starting currents with higher efficiency motors

Higher efficiency motors (such as IE2, IE3, NEMA Premium) may require even higher currents to start (up to 15 times the rated motor current) causing:

- Disturbance to the supply network
- Tripping of protection equipment
- Water hammering in pump installations

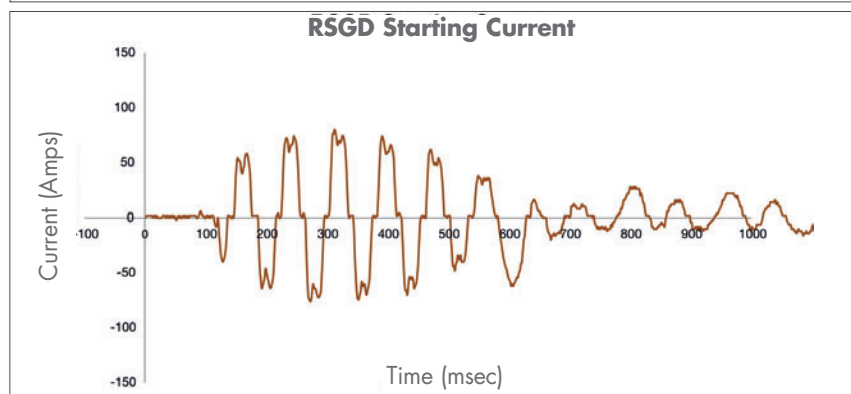
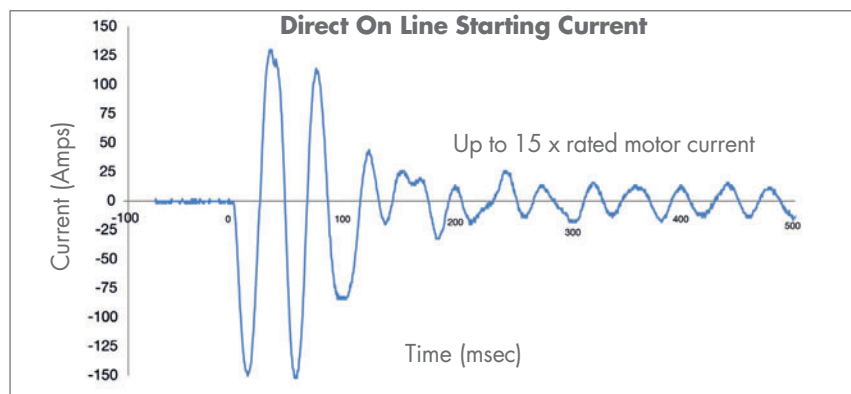


### Extending motor lifetime through start current reduction & current balancing strategy

RSGD soft starters are designed to significantly reduce motor starting currents through an advanced control algorithm, thereby reducing mechanical vibrations during starting and electrical disturbances.

All this translates into an increased motor lifetime and reduction in breakdowns.

Moreover, the auto-adaptive algorithm on the RSGD series improves the product's performance at every start by achieving an outstanding balance of the currents on all the motor phases.

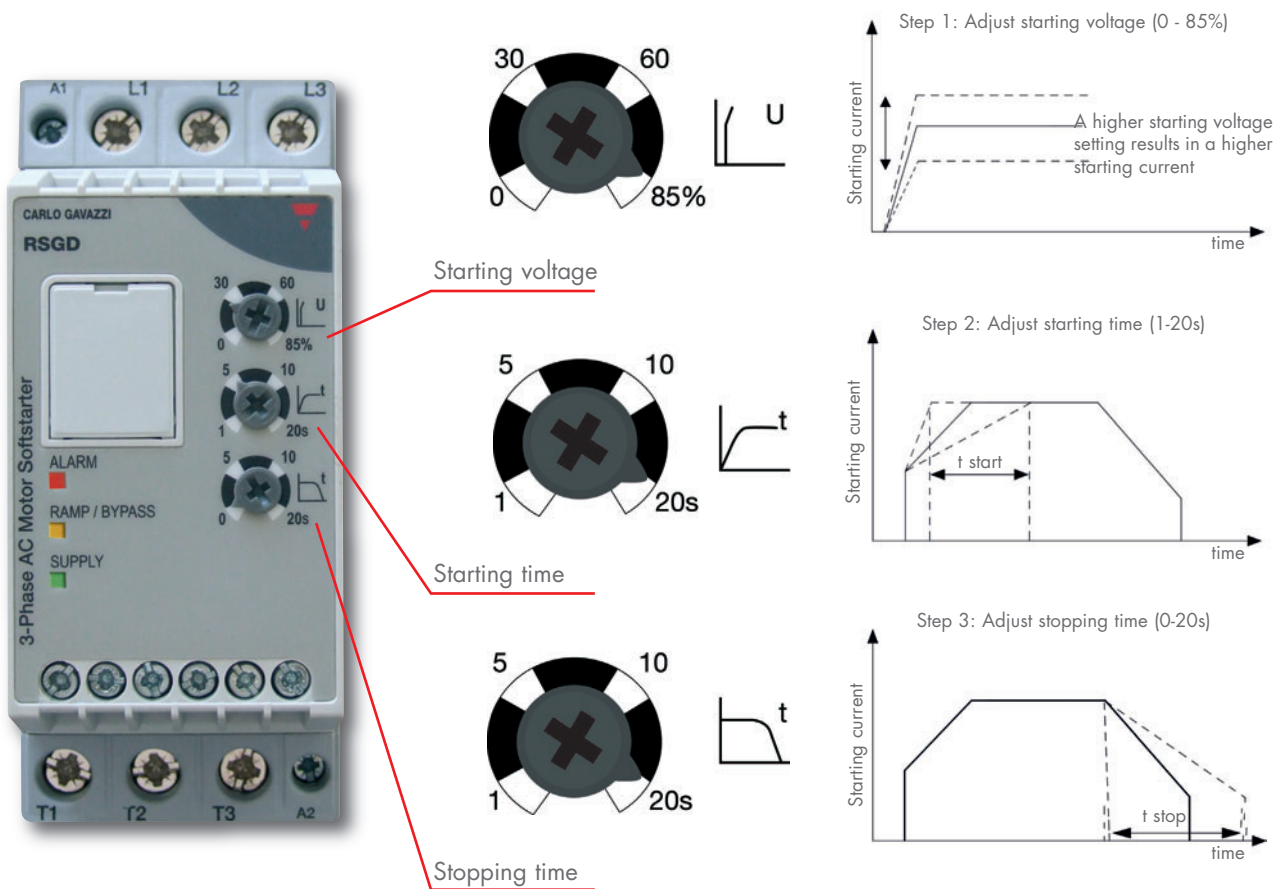


## RSGD soft starters benefits

- Easy integration in panels through the compact 45mm wide housing
- User friendly installation
- Improved inrush current reduction
- Less current imbalance during start
- Less voltage disturbances
- Less heat dissipation
- Reduced panel costs

### Easy configuration

Every single application requires different starting and stopping parameters to achieve optimal starting and stopping performance. The RSGD can be configured for the particular application requirements through three independently adjustable knobs for starting voltage, starting and stopping time.



# RSGD series

## Compact 3-phase soft starter series

Expanding operational flexibility through modular design

### GMS32S

Short circuit and Overload Protection



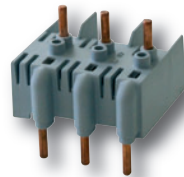
### GMS32H

Short circuit and Overload Protection



### RTPMGMS32SL/RTPMGMS32HL

Interconnecting clip



### LED indication

For Supply, Alarm and Status

#### ALARM



#### RAMP/BYPASS



#### SUPPLY



### Alarm information

on side label

**CARLO GAVAZZI**

Alarm Indications (Red LED)

No of Flashes	Alarm Condition
2	Wrong Phase Sequence
3	Line Voltage Out of Range
4	Frequency Out of Range
5	Locked Rotor Condition (during Ramp)
6	Ramp Up Time
7	Over Temperature
8	Current Not Normal (at Bypass)
9	Supply Voltage Unbalance

FLASHING      OFF

### Optional relay output

For alarm and Top of ramp indication



### Increased flexibility through auxiliary contacts

Optional relay contacts for alarm and bypass indication, available on the RSGD, ensure that the product meets a wider range of application requirements.

### More protection with inbuilt diagnostic

The RSGD series is equipped with a number of diagnostic functions such as:

- Phase sequence monitoring
- Locked rotor protection
- Voltage unbalance
- Under and over voltage detection

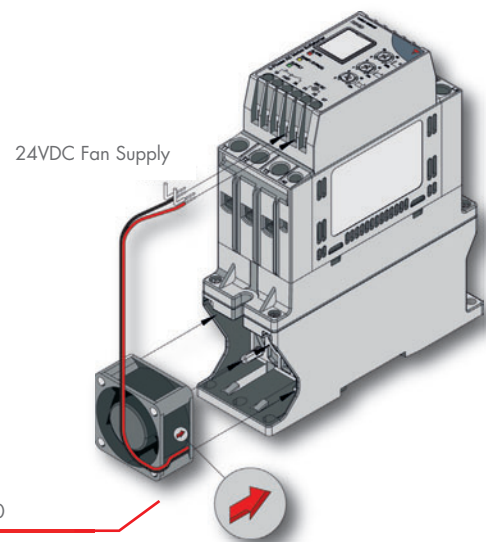
These provide additional functionality and protection without the need for additional components in the electrical panel.

### Complete motor protection

Short circuit and overload protection is easily achieved through the Carlo Gavazzi GMS manual motor starters which can be connected to the RSGD soft starters without the need for special tools, resulting in a solution that offers greater panel space saving and reduced installation time.

### More starts when required

When the application requires a higher number of starts/hr, the RSGD starting capacity can be increased through the use of the easy to install fan available, as an option, on the 37 and 45A units.



## Main specifications

<b>Operational voltage</b>	RSGD40: 220-400VAC RSGD60: 220-600VAC
<b>Operational current</b>	12/16/25/32/37/45 AAC
<b>Control voltage</b>	Option "E": 110 - 400VAC (available on RSGD40 models only) Option "F": 24VAC/DC (available on RSGD40 models only) Option "G": 100 - 240VAC (available on RSGD60 models only)
<b>Operating temperature</b>	-25°C to + 60°C
<b>Dimensions</b>	12 - 32 A: 45 x 125 x 106 mm (WxHxD) 37 - 45 A: 45 x 130 x 150 mm (WxHxD)
<b>Mounting</b>	DIN or panel
<b>Ramp-up time</b>	1 - 20s
<b>Ramp-down time</b>	0 - 20s
<b>Optional relay outputs</b>	Alarm: Normally closed, (NC) Bypass: Normally open (NO)
<b>Approvals</b>	CE, cULus (UL508), CCC*

\*pending

## Selection guide

Operational Voltage (Ue)	Rated Operational Current (Ie)	Supply voltage (Us)	Control voltage (Uc)	Motor power 220V (Pe)	Motor power 400V (Pe)	No relay output	With relay output
220 - 400	12A	Internally supplied	110 - 400VAC 24VAC/DC	3kW/3HP	5.5kW/5HP	RSGD4012E0VD00 RSGD4012F0VD00	RSGD4012E0VD20 RSGD4012F0VD20
	16A			4kW/5HP	7.5kW/7.5HP	RSGD4016E0VD00 RSGD4016F0VD00	RSGD4016E0VD20 RSGD4016F0VD20
	25A			5.5kW/7.5HP	11kW/10HP	RSGD4025E0VD00 RSGD4025F0VD00	RSGD4025E0VD20 RSGD4025F0VD20
	32A			9kW/10HP	15kW/15HP	RSGD4032E0VD00 RSGD4032F0VD00	RSGD4032E0VD20 RSGD4032F0VD20
	37A			9kW/10HP	18.5kW/20HP	RSGD4037E0VX00 RSGD4037F0VX00	RSGD4037E0VX20 RSGD4037F0VX20
	45A			11kW/15HP	22kW/25HP	RSGD4045E0VX00 RSGD4045F0VX00	RSGD4045E0VX20 RSGD4045F0VX20
220 - 600	12A	100 - 240 VAC	100 - 240 VAC	3kW/3HP	5.5kW/5HP	9kW/10HP	RSGD6012GGVD20
	16A			4kW/5HP	7.5kW/7.5HP	11kW/15HP	RSGD6016GGVD20
	25A			5.5kW/7.5HP	11kW/10HP	20kW/20HP	RSGD6025GGVD20
	32A			9kW/10HP	15kW/15HP	22kW/30HP	RSGD6032GGVD20
	37A			9kW/10HP	18.5kW/20HP	30kW/30HP	RSGD6037GGVX20
	45A			11kW/15HP	22kW/25HP	37kW/40HP	RSGD6045GGVX20

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