

# Soft Starters



SFE 3  
Optimising Soft Starter  
9-900 amps

# A Soft Starter for all Requirements

## THE NEW SFE3 OPTIMISING SOFT STARTER

Whether a robust, fully featured Soft Starter is all you have in mind, or a sophisticated controller with Communications links is closer to the mark, the powerful and flexible SFE3 range has the product to suit your needs.

## CODES ARE CONFUSING

Keypad controllers need to display Messages. Many soft starters do this by codes such as D23, K9, etc.

Unless you are familiar with the codes they can be very confusing especially at times of emergency.

The new SFE3 solves this problem with easily understood messages in your own language on the built-in alpha-numeric display. Information at a touch, phase current at a glance – all this and much more.

## SFE3 – THE CRITICS CHOICE FOR CRITICAL APPLICATIONS

Many industries are process dependent. In these industries, the cost of an unscheduled stoppage or shutdown due to controller failure is many times the cost of the failed equipment. The build quality of the SFE3 gives peace of mind to the plant engineer who can fit and forget – safe in the knowledge that the integrity of his critical application is secure.

## RELIABILITY – OUR MOST IMPORTANT FEATURE

Along with quality, connectability, flexibility, competence and technical advancement the new SFE3 range has it all.

Now you can fit and forget with these new fully compliant Soft Starters.

Designed and rigorously tested to the exacting design standards listed below, the SFE3 naturally meets the CE requirements as well.



**Advanced Performance. Advanced Features.**

# SFE3 Optimising Soft Starters

## 9-900 Amps, 230-460, 400-575 and 500-690 Volts

### FEATURES

- ◆ Continuous display of motor phase current & control status
- ◆ Easily changed parameter settings via keypad
- ◆ Peak starting current recording
- ◆ User adjustable overload
- ◆ Last 5 trips recording
- ◆ 110/230V control supply
- ◆ User selectable built-in application specific settings
- ◆ Isolated control inputs – 24V DC 110/230V AC for start/stop or user programmable
- ◆ Current limit time out – optional trip or continue
- ◆ Undercurrent trip level and delay: 0-1 x FLC
- ◆ Adjustable optimising response rate
- ◆ Adjustable starting current limit control
- ◆ Separately adjustable ramp up/down times from 1 sec to 240 seconds
- ◆ Adjustable kick start for high break away torque applications
- ◆ Fully adjustable pedestal voltage
- ◆ User adjustable shearpin
- ◆ Control of resistive loads
- ◆ In Delta operation
- ◆ Thermistor trip input
- ◆ 4-20mA input for monitoring
- ◆ DC input for monitoring
- ◆ Communications
- ◆ IP 20 Rating

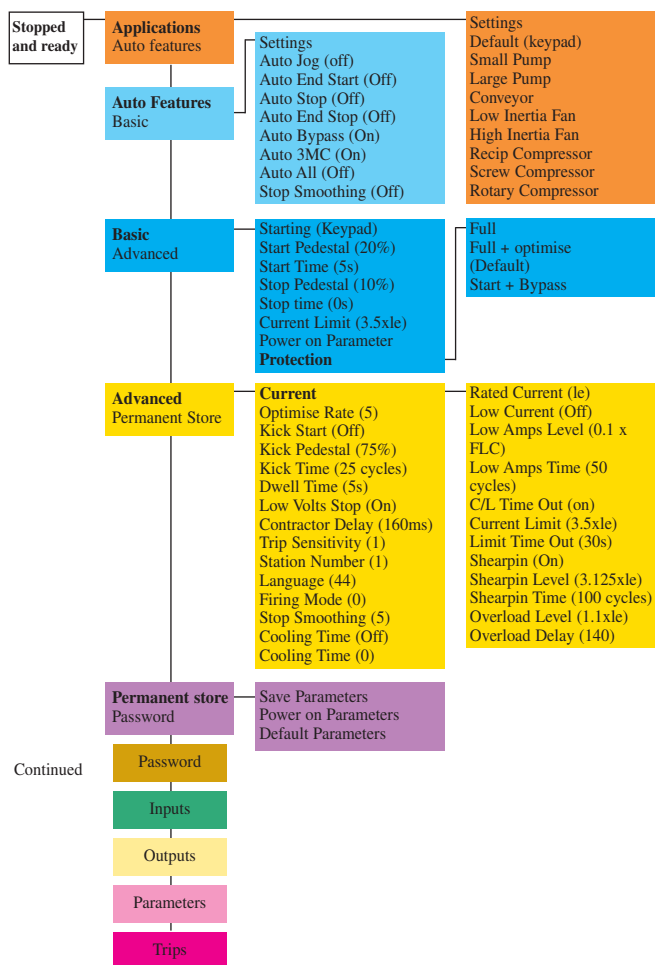
### DESIGN STANDARDS

- ◆ IEC 60947-4-2  
Standard for AC Semiconductor Motor Controllers and Starters
- ◆ EN 60947-4-2:1996  
European Standard for AC Semiconductor Motor Controllers and Starters

### BENEFITS

- ◆ Reduction in high starting currents
- ◆ Elimination of inrush currents
- ◆ Smooth, stepless acceleration to full speed
- ◆ Snatch free starting removing mechanical stress
- ◆ Extended contractor life
- ◆ Reduced wear on mechanical transmission components
- ◆ Automatic energy optimising
- ◆ Improved power factor at light loads, reduced kVA demand
- ◆ Suitable for all types of induction motor

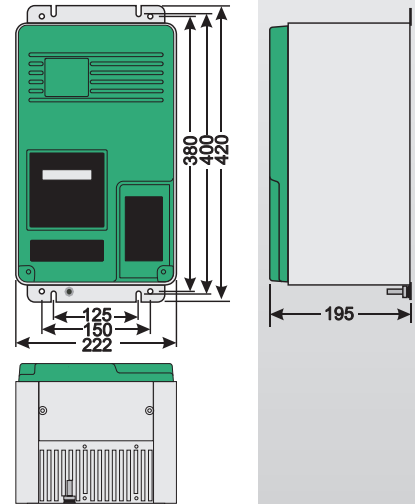
### TYPICAL MENU STRUCTURE



# SFE3 Technical Specifications

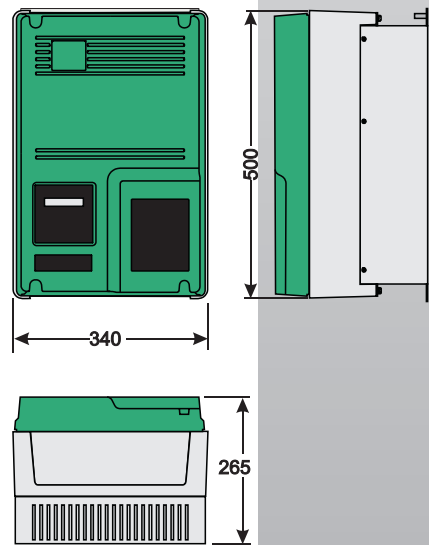
## Size 1

Model	SFE3 9	SFE3 16	SFE3 23	SFE3 30	SFE3 44	SFE3 59	SFE3 72	SFE3 85	SFE3 105	SFE3 146	
Max. continuous current	9A	16A	23A	30A	44A	59A	72A	85A	105A	146A	
Approximate equivalent motor ratings at voltage:-											
230V kW	2.2	3.7	6.3	7.5	11	16	20	22	30	45	
<b>400V kW</b>	<b>4</b>	<b>7.5</b>	<b>11</b>	<b>15</b>	<b>22</b>	<b>30</b>	<b>37</b>	<b>45</b>	<b>55</b>	<b>75</b>	
460V kW	4	7.5	11	15	22	32	40	45	55	80	
Model	G/E	SFE3 9	SFE3 16	SFE3 23	SFE3 30	SFE3 44	SFE3 59	SFE3 72	SFE3 85	SFE3 105	SFE3 146
Max. continuous current		9A	16A	23A	30A	44A	59A	72A	85A	105A	146A
Approximate equivalent motor ratings at voltage:-											
<b>575V kW</b>	<b>G</b>	<b>5.5</b>	<b>11</b>	<b>15</b>	<b>22</b>	<b>30</b>	<b>37</b>	<b>45</b>	<b>55</b>	<b>75</b>	<b>110</b>
<b>690V kW</b>	<b>E</b>	<b>7.5</b>	<b>15</b>	<b>22</b>	<b>30</b>	<b>37</b>	<b>55</b>	<b>60</b>	<b>75</b>	<b>90</b>	<b>132</b>
Heat Output at FLC (watts)		30	45	60	80	110	155	180	220	275	440
Weight (kg)		7	7	7	7	7	8	8	8	8	8
Cable Size (mm²)		4	4	4	6	10	10	16	25	35	70
All units are force cooled except SFE3 9, 16 and 23, which are naturally cooled. Clearance of 75mm is required above and below, 15mm side and 25mm front, for cooling air flow.											



## Size 2

Model	SFE3 174	SFE3 202	SFE3 242	SFE3 300	SFE3 370	
Max. continuous current	174A	202A	242A	300A	370A	
Approximate equivalent motor ratings at voltage:-						
230V kW	55	63	75	90	110	
<b>400V kW</b>	<b>90</b>	<b>110</b>	<b>132</b>	<b>160</b>	<b>200</b>	
460V kW	110	132	150	185	220	
Model	G/E	SFE3 174	SFE3 202	SFE3 242	SFE3 300	SFE3 370
Max. continuous current		174A	202A	242A	300A	370A
Approximate equivalent motor ratings at voltage:-						
<b>575V kW G</b>	<b>132</b>	<b>150</b>	<b>185</b>	<b>220</b>	<b>250</b>	
<b>690V kW E</b>	<b>160</b>	<b>200</b>	<b>220</b>	<b>300</b>	<b>375</b>	
Heat Output at FLC (watts)		520	610	650	850	970
Weight (kg)		15.7	15.7	22	22	22
Cable Size (mm²)		95	120	120	150	150
All units are force cooled. Clearance of 75mm is required above, 25mm side and 25mm front, for cooling air flow.						



Cable entry extensions are optional extras for size 2 units.  
They are designed to be drilled for power and control cable glands.  
When used the overall height is increased to 740mm

## Size 3

Model	SFE3 500	SFE3 600	SFE3 750	SFE3 900	
Max. continuous current	500A	600A	750A	900A	
Approximate equivalent motor ratings at voltage:-					
230V kW	160	185	250	300	
<b>400V kW</b>	<b>250</b>	<b>320</b>	<b>400</b>	<b>500</b>	
460V kW	300	375	450	560	
Model	G/E	SFE3 500	SFE3 600	SFE3 750	SFE3 900
Max. continuous current		500A	600A	750A	900A
Approximate equivalent motor ratings at voltage:-					
<b>575V kW G</b>	<b>375</b>	<b>450</b>	<b>560</b>	<b>670</b>	
<b>690V kW E</b>	<b>500</b>	<b>600</b>	<b>750</b>	<b>900</b>	
Heat Output at FLC (watts)		1600	2000	2500	3000
Weight (kg)		65	65	72	72
Busbar (conns.)		2 x M10 fixings at 30 mm centres			

All units are force cooled . Clearance of 200mm is required above and below, 90mm side and 25mm front, for cooling air flow.

