

synergy™

a revolution in soft start motor control

Low Voltage
Soft Starters



The future of
soft start motor
control at your
fingertips

 **fairford**
Soft Start Technology

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As the original pioneers of soft start technology Fairford have been at the forefront of motor control innovation since the 1970's.

A major designer and manufacturer of soft start motor control solutions Fairford have manufactured and supplied 1,000,000's of products into the market place and are recognised as the reference point for many control solution providers worldwide. synergy™ is an innovative form of motor control that bridges the gap between

a drive and a soft starter. With the increasing pressure on industry to lower its energy consumption and increase systems efficiency, synergy™ has been developed to meet these requirements.

In addition, synergy™ utilises Fairford's globally renowned automatic setup feature which allows the user to programme the unit to each

individual application using a simple 8 button process. Not only that but in order to keep pace with modern technology and a fast growing market, buttons are replaced with a touch screen to bring the user interface to even greater management levels.

With built in full motor overload protection as well

as full data logging, field serviceable, upgradeable software, extensive input/output programmability synergy™ meets all of the industrial fixed speed criteria.

More importantly it redefines motor control solutions as we have previously known them.

iERS – intelligent Energy Recovery System

iERS is an advanced motor control technology for use in fixed speed applications. It is proven to reduce the energy consumed in a variety of industrial and commercial applications and has been implemented in every market from HVAC to Oil and Gas.

In the industrial sector it is becoming increasingly important to offer technology that meets the corporate social responsibilities of companies as well as reducing the overall running costs of equipment and minimising downtime and maintenance.

iERS is a technology that matches the power consumption to the load required. It intelligently monitors and regulates energy consumption on fixed speed motors. It also monitors the voltage, current and power factor during the start to calculate the full load figures. During the running stage, the power factor continues to be monitored.

When the power factor drops, the motor is lightly loaded, and there are losses inherent in the design of a motor causing excess energy to be wasted. These are known as excitation losses. iERS's consistent monitoring automatically recognises these costly losses, and in turn reduces the voltage and current, to not only increase the part load power factor, but reduce the energy consumption in kW. When the power factor increases, the motor is more loaded. iERS then automatically bypasses itself to remove any losses within the equipment.



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Application	Trip Class
Default	10
Heavy	20
Agitator	10
Compressors	Centrifugal 20
	Reciprocating 20
	Rotary Screw 20
	Rotary Vane 10
	Scroll 10
Ball mill	20
Centrifuge / Decanterbowl / Separator - extended start needed for sizing	Motor FLC x 2.3 class 30
Bow Thruster	Zero Pitch 10
	Loaded 20
Conveyor	Unloaded 10
	Loaded 20
Crusher	30
Fan	Low Inertia <85A 10
	High Inertia >85A 30
Feeder - screw	10
Grinder	20
Hammer mill	20

Application	Trip Class
Lathe machines	10
Mills - flour Etc	20
Mixer	Unloaded 10
	Loaded 20
Moulding Machine	10
Pelletizers	20
Plastic and textile machines	10
Press, flywheel	20
Pump - Submersible	Centrifugal 10
	Rotodynamic 10
Pump - Positive Displacement	Reciprocating 20
	Rotary 20
Pump Jack	20
Rolling mill	20
Roots Blower	20
Saw	Band 10
	Circular 20
Screen - vibrating	20
Shredder	30
Transformers, voltage regulators	10
Tumblers	20
Wood chipper	30

Sizing Guide

Minimum current ratings based on typical rated operation currents of motors for the corresponding rated operational powers.

Current rating optimised for kW@400V & hp@440-480V - Ref IEC 60947-4-1:2009 Table G.1

In Line				In Delta				Trip Class 10	Trip Class 20	Trip Class 30
IEC	IEC kW ¹⁾	UL A ⁴⁾	UL HP ²⁾	IEC	IEC kW ¹⁾	UL A ⁴⁾	UL HP ²⁾	AC-53a	AC-53a	AC-53a
A ³⁾	400V	A ⁴⁾	440-480V	A ³⁾	400V	A ⁴⁾	440-480V	3-23: 90-5	4-19: 90-5	4-29: 90-5
17	7.5	17	10	29	15	29	20	SGY-101	SGY-103	SGY-105
22	11	21	15	38	18.5	36	25	SGY-103	SGY-105	SGY-107
29	15	27	20	50	22	47	30	SGY-105	SGY-107	SGY-109
35	18.5	34	25	61	30	59	40	SGY-107	SGY-109	SGY-111
41	22	40	30	71	37	69	50	SGY-109	SGY-111	SGY-113
55	30	52	40	95	45	90	60	SGY-111	SGY-113	SGY-115
66	37	65	50	114	55	113	75	SGY-113	SGY-115	SGY-117
80	45	77	60	139	75	133	100	SGY-115	SGY-117	SGY-201
100	55	96	75	173	90	166	125	SGY-117	SGY-201	SGY-203
132	75	124	100	229	110	215	150	SGY-201	SGY-203	SGY-205
160	90	156	125	277	150	270	200	SGY-203	SGY-205	SGY-301
195	110	180	150	338	185	312	250	SGY-205	SGY-301	SGY-303
242	132	242	200	419	220	419	350	SGY-301	SGY-303	SGY-305
302	160	302	250	523	300	523	450	SGY-303	SGY-305	SGY-307
361	200	361	300	625	355	625	500	SGY-305	SGY-307	SGY-309
430	250	414	350	745	425	717	500	SGY-307	SGY-309	SGY-401
500	280	477	400	866	500	826	600	SGY-309	SGY-401	SGY-403
610	355	590	500	1057	600	1022	800	SGY-401	SGY-403	SGY-501
722	400	722	600	1251	710	1251	1000	SGY-403	SGY-501	SGY-503
850	500	840	700	1472	850	1455	1100	SGY-501	SGY-503	SGY-505
960	560	960	800	1663	950	1663	1250	SGY-503	SGY-505	-
1080	630	1080	900	1871	1100	1871	1500	SGY-505	-	-

For more information on how **synergy™** from **Fairford** can help you, please visit www.fairford.com/synergy

For more information on **synergy™** contact your local distributor:

+ 44 (0)1752 894554
www.fairford.com



synergy™ specification for sizes 1, 2, 3, 4 and 5

Range from 17-1080A or 10-900HP

3-phase SCR

Full motor overload

Standard Trip Class 10: 3 x 23 secs or 3.5 x 17 secs - 3 or 5 starts per hour (other Trip Classes are available)

208, 230, 400, 480 volts

Allowing for varying frequency 45Hz-65Hz

Internally Bypassed - Size 1 to 3 Yes,
Size 4 to 5 No

IP20 / NEMA 1, IPOO

User-friendly, full colour touch screen

Full automatic set up

Control voltages of 24VDC, 110/230VAC

iERS - intelligent Energy Recovery System as standard

In Delta / 6 wire connection

Multiple languages

Modbus RTU as standard

Inputs / Outputs:

- 4 x programmable output relays
- 3 x programmable digital inputs
- Analogue input / outputs
- USB for data logging and parameter setting/saving
- Thermistor

Comprehensive data logging

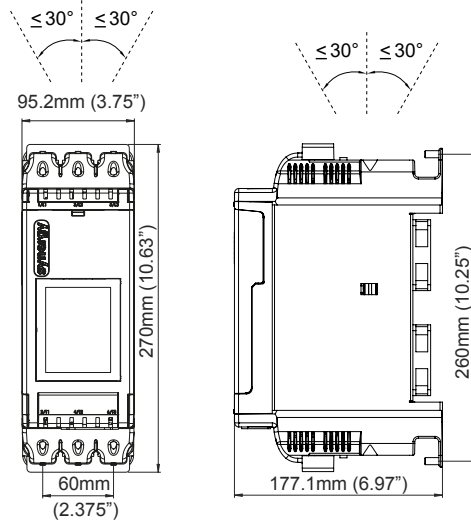
Fully field upgradeable

Fully field serviceable fans

2 year warranty

synergy™ Size 1, SGY - 101 to SGY-117

Dimensions

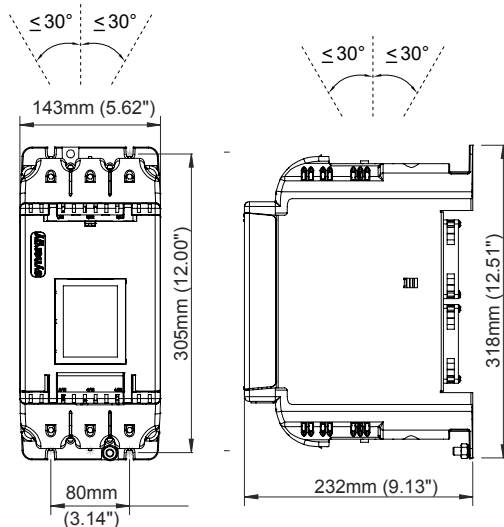


SGY-101 to SGY-105 lower fan only

Weight = 3.50 kg (7.71 lbs)

synergy™ Size 2, SGY - 201 to SGY-205

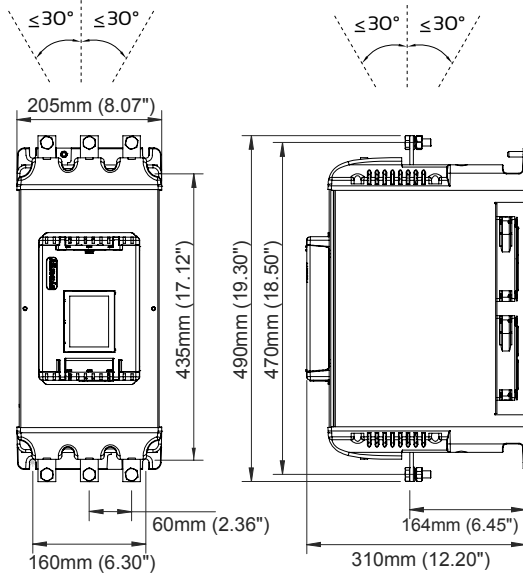
Dimensions



Weight = 6.50 kg (14.33 lbs)

synergy™ Size 3, SGY - 301 to SGY - 305

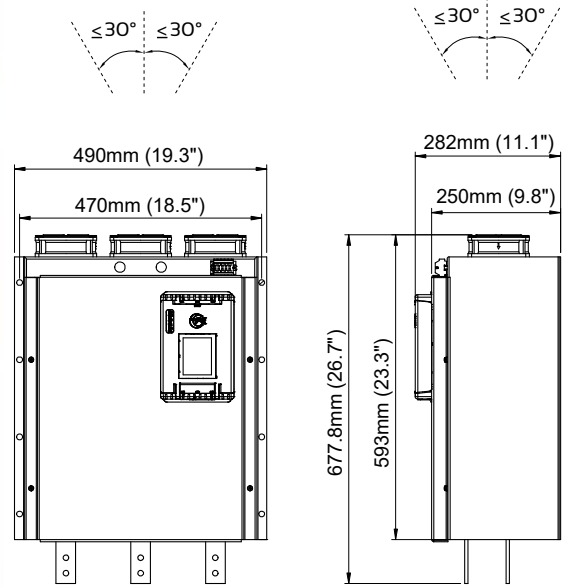
Dimensions



Weight = 16.00 kg (35.27 lbs)

synergy™ Size 4, SGY - 401 to SGY - 403

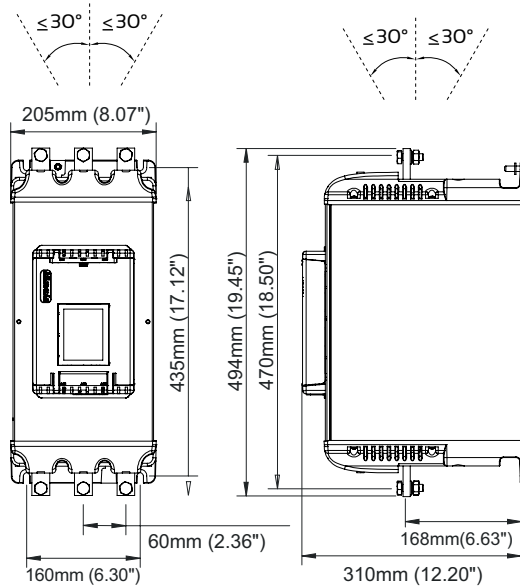
Dimensions



Weight = 65.00 kg (143.30 lbs)

synergy™ Size 3, SGY - 307 & SGY - 309

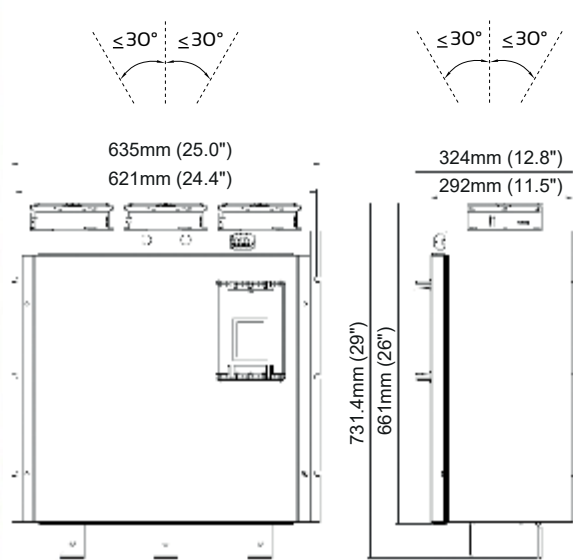
Dimensions



Weight = 21.20 kg (46.73 lbs)

synergy™ Size 5, SGY - 501 to SGY - 505

Dimensions



Weight = 72.00 kg (158.73 lbs)

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CONFORMS
TO STD UL 508
CSA 22.2
No. 14

