

240v
CLASS

400v
CLASS

690v
CLASS

Low Voltage Products

Advanced Motor Control, Protection and Monitoring

MOTORTRONICS™

VMX/VMX-SGY

VMX-AGY/VMX-PFE/VMX-HFE

LOW VOLTAGE SOLID STATE SOFT STARTER



MOTORTRONICS™
Solid State AC Motor Control

VMX-SGY Series

With a unique combination of features, performance and size, Motortronics has redefined the benchmark for soft starter design.

The incorporation of Motortronics's unique iERS technology allows VMX-SGY to deliver unrivalled soft start performance alongside energy saving capability on partially loaded motors.

With product size and cabinet capacity becoming an increasing focus we developed VMX-SGY to deliver the greatest power to size ratio of any other soft starter.

In addition VMX-SGY uses Motortronics's globally renowned Automatic Setup feature which allows the user to programme the unit to any common application using a simple 4 button process. To keep pace with the modern technology, VMX-SGY removes the need for buttons and uses intuitive touch screen technology.

With built in full motor overload protection as well as full data logging, field serviceable fans, upgradeable firmware and extensive input/output programmability, VMX-SGY meets all of the key design criteria.





Energy Saving through iERS

Energy Saving

With rising energy costs, products offering energy savings are becoming increasingly important. To help businesses reduce energy usage, Motortronics have developed a range of energy saving products.

The vast majority of electric motors in use today are fixed speed, fixed voltage AC induction motors. These motors consume two thirds of the total electricity used in industry. With this in mind, using a technology that could save energy on fixed speed induction motors should be a consideration when replacing motor starters or designing new systems.

Energy recovery with Internal bypass as standard

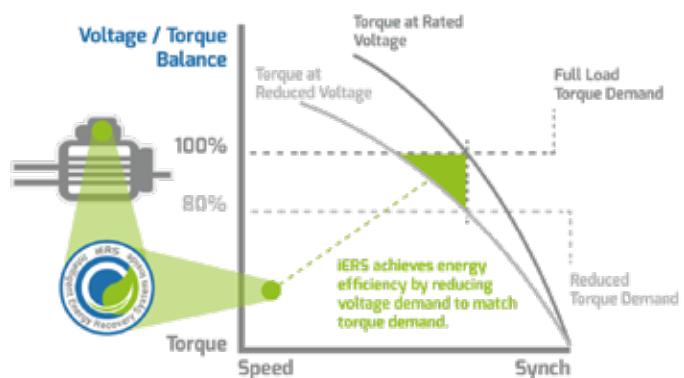
iERS is our patented energy saving system with a combined internal bypass to save energy on lightly loaded motors. iERS reduces the voltage and current supplied to a lightly loaded motor to only allow the motor to consume the exact amount of energy required to maintain the speed at that load. When the motor is at full load, the internal bypass reduces the losses produced by the control element. This combined approach enables iERS to save more energy in more applications than any other competing technology.



iERS has been market proven over the past 10 years and has now reached its latest development realising even greater savings. Applications such as fans, pumps and chillers can typically see savings of around 8-40% of total energy consumption.

How it works

Motortronics's energy saving system works by reducing the current and iron losses of a motor not running at full load. The energy savings will depend on a number of factors including the efficiency of the motor and the load. Motortronics Soft Starters will also save businesses money by reducing the electrical and mechanical strain placed on applications – resulting in less 'down time' and maintenance cost on electrical circuits, gearboxes, belts and associated mechanical components.



iERS is a technology that monitors the voltage, current and power factor during the start of a motor and then uses this information to ensure the motor runs efficiently under all load conditions.

When any AC induction motor becomes lightly loaded, the power factor and the efficiency decrease. This is caused by the inherent design of the motor and the laws of physics, and leads to energy being wasted. These are known as excitation losses.

iERS continually monitors the power factor, recognizing when the motor is becoming lightly loaded and then instantly employing strategies to reduce the losses by controlling the voltage and current supplied to the motor to match the load conditions. This not only increases the part load power factor, but reduces the energy consumption in kW.

When the motor becomes fully loaded, the power factor increases, and iERS automatically bypasses itself to ensure the most efficient use of energy in all motor load conditions.



Ratings

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	UL	UL	IEC	IEC	UL	UL	AC-53a	AC-53a	AC-53a
	kW		HP		kW		HP	3-23: 90-5		
A	400V	A	440-480V	A	400V	A	440-480V	3.5-17:90-5	4-19: 90-5	4-29: 90-5
17	7.5	17	10	29	15	29	20	VMX-SGY-101	VMX-SGY-103	VMX-SGY-105
22	11	21	15	38	18.5	36	25	VMX-SGY-103	VMX-SGY-105	VMX-SGY-107
29	15	27	20	50	22	47	30	VMX-SGY-105	VMX-SGY-107	VMX-SGY-109
35	18.5	34	25	61	30	59	40	VMX-SGY-107	VMX-SGY-109	VMX-SGY-111
41	22	40	30	71	37	69	50	VMX-SGY-109	VMX-SGY-111	VMX-SGY-113
55	30	52	40	95	45	90	60	VMX-SGY-111	VMX-SGY-113	VMX-SGY-115
66	37	65	50	114	55	113	75	VMX-SGY-113	VMX-SGY-115	VMX-SGY-117
80	45	77	60	139	75	133	100	VMX-SGY-115	VMX-SGY-117	VMX-SGY-201
100	55	96	75	173	90	166	125	VMX-SGY-117	VMX-SGY-201	VMX-SGY-203
132	75	124	100	229	110	215	150	VMX-SGY-201	VMX-SGY-203	VMX-SGY-205
160	90	156	125	277	150	270	200	VMX-SGY-203	VMX-SGY-205	VMX-SGY-301
195	110	180	150	338	185	312	250	VMX-SGY-205	VMX-SGY-301	VMX-SGY-303
242	132	242	200	419	220	419	350	VMX-SGY-301	VMX-SGY-303	VMX-SGY-305
302	160	302	250	523	300	523	450	VMX-SGY-303	VMX-SGY-305	VMX-SGY-307
361	200	361	300	625	355	625	500	VMX-SGY-305	VMX-SGY-307	VMX-SGY-309
430	250	414	350	745	425	717	500	VMX-SGY-307	VMX-SGY-309	VMX-SGY-401
500	280	477	400	866	500	826	600	VMX-SGY-309	VMX-SGY-401	VMX-SGY-403
600	355	590	500	1057	600	1022	800	VMX-SGY-401	VMX-SGY-403	VMX-SGY-501
722	400	722	600	1251	710	1251	1000	VMX-SGY-403	VMX-SGY-501	VMX-SGY-503
850	500	840	700	1472	850	1455	1100	VMX-SGY-501	VMX-SGY-503	VMX-SGY-505
960	560	960	800	1663	950	1663	1250	VMX-SGY-503	VMX-SGY-505	-
1080	630	1080	900	1871	1100	1871	1500	VMX-SGY-505	-	-

* no internal bypass on size 4, 5

