MOTORTRONICS™
Solid State AC Motor Control

Low Voltage Soft Starter

VMX-synergy™

Premium Digital Soft Starter
200 - 480VAC, 17 - 477A, 10 - 400HP

IEC Rated Soft Starter

- 3.5” Full Color Touch Screen
- 42 Application Profiles
- Easy to setup in less than a minute
- Full I²t Motor Overload Protection
- Built-in iERS – intelligent Energy Recovery System
- Internally Bypassed
- Life Time Application Event Logging Diagnostics

iERS
Intelligent Energy Recovery System

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Motortronics Motor Controls Made Easy

VMX-synergy™ IEC Premium Digital Soft Starter

The best in Class IEC Soft Starter has arrived

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

iERS Standard

80% more efficient than VFD*1

0% Harmonics*2

99.9% Efficiency*2

*1. Reduces Lost Energy, 80% more efficient compared to VFD running at line frequency
*2. With Internal bypass

Advanced Features and Easy to use Touch Screen

Easy of Use

The display will show all messages in full and 15 different global languages. The use of graphic/schematic images and active mimic diagrams will facilitate complete understanding. Detailed logging will aid setup and onboard USB allows configurations to be upload/downloaded and emailed.

Auto Configuration

The automatic functionality has been expanded so that more features can be configured without referring to parameter lists.

Energy Savings

Energy optimizing is combined with bypass to give energy saving in more applications.

Automatic Load Tuning

The VMX-Synergy™ will 'tune' itself to the load.

Touch Screen

The VMX-synergy™ comes standard with a color touch screen on all sizes.

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 minimizing 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 to reduce the energy consumption in kW and allow motor to run cooler.

When the power factor increases, the motor is more loaded. iERS then automatically bypasses itself to remove any losses within the equipment.

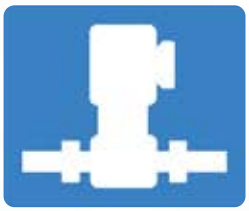
iERS
Intelligent Energy Recovery System

Easy Setup with Built-in Applications

With 42 applications profiles, the VMX-synergy™ offers a quick and comprehensive commission process. A typical VMX-synergy™ setup takes less than 1 minute whereas a comparable competitive product setup could take anywhere from 60 to 120 minutes depending on the application. Access to an advanced setup menu is standard for special application requirements.

Typical Applications

Conveyors



Pumps

Fans

Compressors

Crushers

Motor Overload Protection

Protecting the motor and soft starter in the event of an overload condition at full I^2t motor overload with intelligent thermal memory retention feature. Continually monitoring overloads to ascertain the reduction in motor heating levels even when VMX-synergy™ is in the 'off' state. This is combined with protection and diagnostics giving the operator peace of mind while running the motor.

Event Logging

VMX-synergy™ data logger records all events to enable fast accurate fault analysis and their resolution. Recording multiple activities including start, stop, top of ramp, faults, application parameters (time, overload level, currents, frequency) and the device information. Event log can be downloaded via USB port or via the VMX-synergy™ commisioning software.

Soft Stopping

Eliminate Water Hammer with Soft Stop Control. A gradual reduction in the output torque of your pump motor is provided when a stop signal is initiated. Check valves close gently and other fluid system components are no longer subjected to the shock and destructive potential of water hammer.

Full Featured Advanced Soft Starter

Specifications

Range from 17 - 477A or 10 - 400HP
3-phase SCR
Full motor overload with Memory
Standard Trip Class 10: 3 x 23 secs or 3.5 x 17 secs
3 or 5 starts per hour (Trip Class 20 and 30 programmable)
208, 230, 400, 480 volts
Operates for varying frequency 45Hz-65Hz
Internally Bypassed
IP20 / NEMA 1, IP00
User-friendly, full color 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, other protocols available as option.
Inputs / Outputs:
- 4 x programmable output relays
- 3 x programmable digital inputs
- Analog input / outputs
- USB for data logging and parameter setting/saving
- Thermistor
Comprehensive data logging
Fully field upgradeable via USB port
Fully field serviceable fans
2 year warranty

VMX-synergy™ Options

Remote Display Keypad
IP65 / NEMA Class 4X
Plug in remote mounting touch screen pad mimics the VMX-synergy™ display and functionality.

Modbus Options
- Powered Modbus Splitter
- RJ12 to RJ45 Modbus Splitter
- RJ45 Cable 10ft (3m)

Communication Options
Modbus TCP
Ethernet/IP
Profibus DPV1

VMX-synergy™ Series

Full Power Range

Ratings

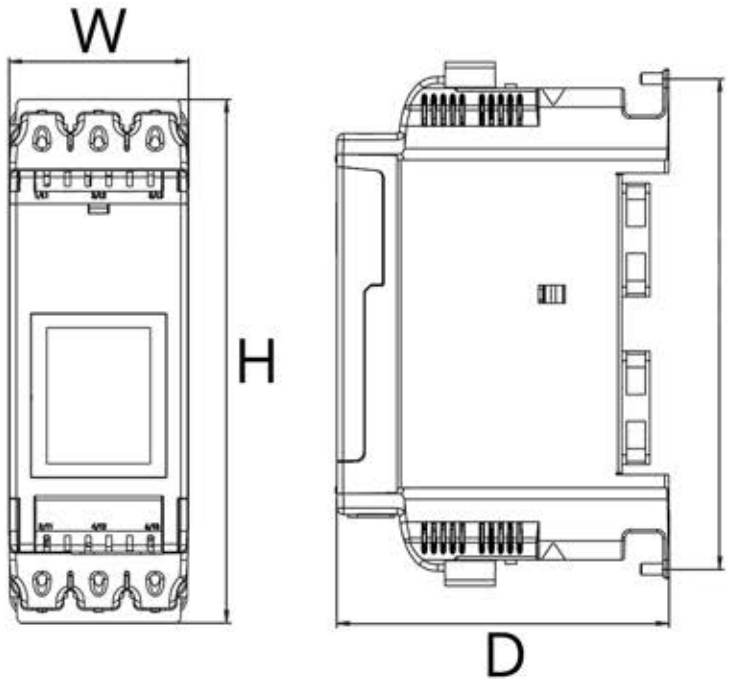
Model Number	Amps
VMX-SGY-101	17
VMX-SGY-103	21
VMX-SGY-105	27
VMX-SGY-107	34
VMX-SGY-109	40
VMX-SGY-111	52
VMX-SGY-113	65
VMX-SGY-115	77
VMX-SGY-117	96
VMX-SGY-201	124
VMX-SGY-203	156
VMX-SGY-205	180
VMX-SGY-301	242
VMX-SGY-303	302
VMX-SGY-305	361
VMX-SGY-307	414
VMX-SGY-309	477

Sizing Guide

	In Line / UL Nominal Motor HP Rating				Trip Class 10 AC-53a 3.5-17: 90-5 3-23: 90-5	Trip Class 20 AC-53a 4-19: 90-5	Trip Class 30 AC-53a 4-29: 90-5
Amps	200V	208V	240V	480V			
17	3	5	5	10	VMX-SGY-101	VMX-SGY-103	VMX-SGY-105
21	5	5	5	15	VMX-SGY-103	VMX-SGY-105	VMX-SGY-107
27	7.5	7.5	7.5	20	VMX-SGY-105	VMX-SGY-107	VMX-SGY-109
34	10	10	10	25	VMX-SGY-107	VMX-SGY-109	VMX-SGY-111
40	10	10	10	30	VMX-SGY-109	VMX-SGY-111	VMX-SGY-113
52	15	15	15	40	VMX-SGY-111	VMX-SGY-113	VMX-SGY-115
65	20	20	20	50	VMX-SGY-113	VMX-SGY-115	VMX-SGY-117
77	20	25	25	60	VMX-SGY-115	VMX-SGY-117	VMX-SGY-201
96	30	30	30	75	VMX-SGY-117	VMX-SGY-201	VMX-SGY-203
124	40	40	40	100	VMX-SGY-201	VMX-SGY-203	VMX-SGY-205
156	50	50	60	125	VMX-SGY-203	VMX-SGY-205	VMX-SGY-301
180	60	60	60	150	VMX-SGY-205	VMX-SGY-301	VMX-SGY-303
242	75	75	75	200	VMX-SGY-301	VMX-SGY-303	VMX-SGY-305
302	100	100	100	250	VMX-SGY-303	VMX-SGY-305	VMX-SGY-307
361	125	125	150	300	VMX-SGY-305	VMX-SGY-307	VMX-SGY-309
414	150	150	150	350	VMX-SGY-307	VMX-SGY-309	-
477	150	150	150	400	VMX-SGY-309	-	-

Dimensions and Weights

Model Number	Dim. H x W x D inches (mm)	Product Weight lbs. (kg)
VMX-SGY-101 thru 117	10.63 (270) x 3.75 (95.2) x 6.97 (177.1)	7.71 (3.5)
VMX-SGY-201 thru 205	12.51 (318) x 5.62 (143) x 9.13 (232)	14.33 (6.5)
VMX-SGY-301 thru 305	19.30 (490) x 8.07 (205) x 12.2 (310)	35.27 (16)
VMX-SGY-307 thru 309	19.45 (494) x 8.07 (205) x 12.2 (310)	46.73 (21.2)



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