

VMX-Synergy Plus™ A

ANSI - Rated Premium Digital Soft Starter

200 - 690VAC, 18 - 1250A, 7.5- 750kW

THE MOST ADVANCED SOFT STARTER FOR ANY APPLICATION

Removable 3.5" Colour Touch Screen rated IP66/N4X

45 Smart Application profiles - easy setup in 1 minute

Auto Pedestal to control spinning motors

Built-in iERS – intelligent Energy Recovery System

AI Adjustments for Acceleration and Deceleration

65kA SCCR capable with proper protection

Advanced motor protection with memory

Life Time Event Logging Diagnostics

Metering for power, voltage and current

ANSI Bypass Contactor rated for Full Voltage Starting

Available as Configured Soft Starter in IP52/66 Enclosure



Crushers



Conveyors



Compressors

VMX-Synergy Plus™

CONNECTIONS AND PROGRAMMING

Connection Features

Easy User Terminal Access

4 Programmable Digital Inputs

Use with 24VDC/110VAC/240VAC Control Supply

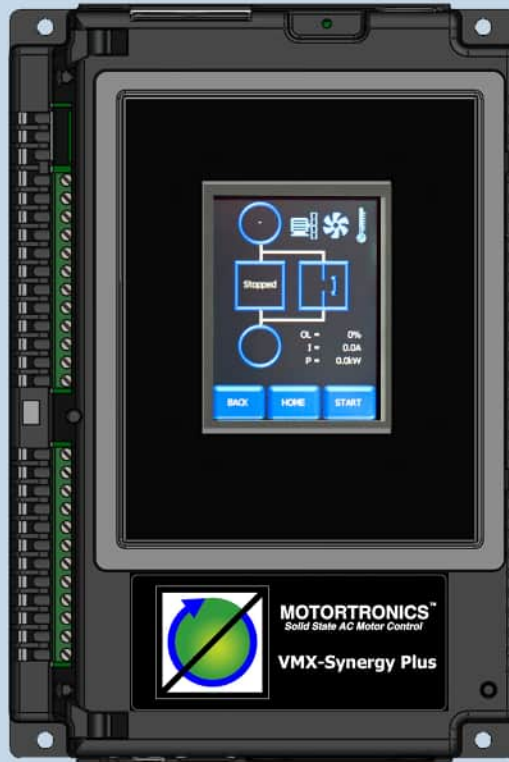
5 Programmable Relay Outputs

Analog Output 0-10V / 4-20mA

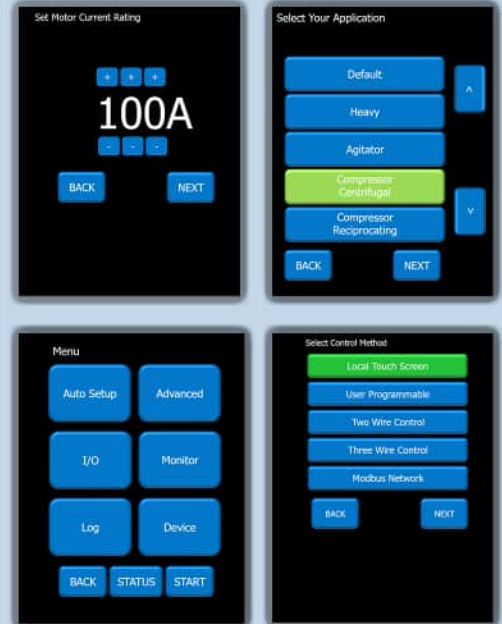
Analog Input 0-10V / 4-20mA

RS485 - Modbus RTU

Other Industrial Protocols Available as Option



Built-in Touchscreen Setup, Status and Diagnostics



MOTOR PROTECTION, MEASUREMENT AND ANALYSIS FUNCTIONS

Motor Overload Protection

The soft starter protects the motor in the event of an overload condition, thanks to full I²t motor overload with intelligent thermal memory retention feature. Continually monitors overloads to ascertain the reduction in motor heating levels even when VMX-Synergy Plus™ is in the 'off' state. This is combined with protection and diagnostics giving the operator peace of mind while running the motor.

Event Logging

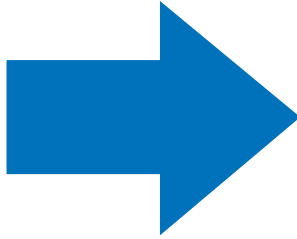
VMX-Synergy Plus™ data logger records up to 3 million events to enable fast accurate fault analysis and their resolution. Recording multiple activities including start, stop, top of ramp, faults, application parameters (time, overload level, currents, frequency) and the device information. Event log can be downloaded via USB port or via the VMX-Synergy Plus™ MLINK software.



Soft Starter and Motor Monitoring

The VMX-Synergy Plus™ continuously monitors and analyses soft starter and motor data such as: Line Frequency, Phase Rotation, Current I_{rms}, V_{rms}, Real Power Factor, True Power P, Apparent Power S, Reactive Power Q, iERS Saving Level, SCR Overload, Delay Angle, Backstop, Delay Max, Pres PF Degrees, Ref PF Degrees, Start Saving Level, Last Peak Start Current, Last Peak Stop Current, Last Temperature, Last Overload, Heatsink Temp, Motor Thermistor Overload, Trip Free Time, Number of Starts, etc...

Complete Package for your Application



VMX Synergy Plus™ Series

VMX-B Plus & VMX-H Plus Include:

- IP52/IP66 Enclosure
- VMX-Synergy Plus ANSI Rated Soft Starter
- Built-in Start Rated Bypass
- Circuit Breaker Disconnect (54A- & up)
- Fusible Switch Disconnect (18A-42A)
- Advanced Motor Protection
- Control Power Transformer
- Interface Board for easy control connections
- Smart Door Customer Interface including:
 - Emergency Stop Pushbutton with E-Stop Pilot Light
 - Soft Start – X-Line Mode selector (Door "H" / Inside "B")
 - Local-Off-Remote Selector Switch
 - Start /Stop Pushbuttons
 - Motor Run Pilot Light
 - Power On Pilot Light
 - Starter Fault Pilot Light

VMX-H Plus also includes:

- Door Mounted Colour Touch Screen
- X-Line Enabled Pilot Light
- External Interlock with Pilot Light

VMX-H Plus Series



VMX-H Plus Smart Door Customer Interface Panel allows for Superior Functionality and Diagnostics.

VMX-B Plus Series



VMX-B Plus Command Center allows for Superior Functionality and Diagnostics.



Advanced Features

EASY SETUP, TUNING & CONFIGURATION SOFTWARE

Easy of Use

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

Auto Configuration

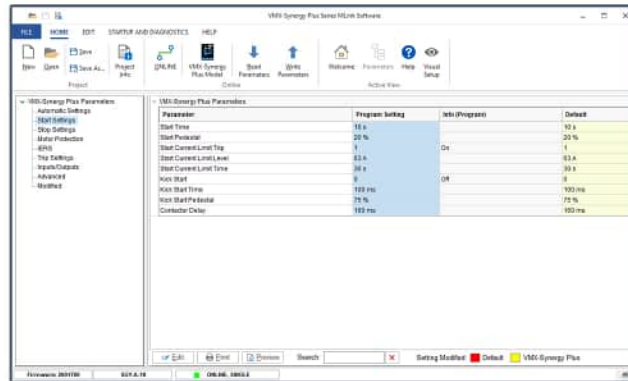
The automatic functionality has been expanded so that more features can be configured without referring to parameter lists.

Built-in Applications

With many different applications profiles, the VMX-Synergy Plus™ offers a quick and comprehensive commissioning process. Setup takes less than 1 minute.

MLINK Configuration Software

MLink software tools can be used to commission, start-up, diagnose and troubleshoot the VMX-Synergy Plus™. Software has an easy-to-use interface with built-in trend recorder, monitor and status panel.



DEDICATED APPLICATION FEATURES & FUNCTIONS

Conveyors

Closed Loop Torque/Current Ramping provides a linear increase in output torque during acceleration and maximises the available torque using an internal PID feedback loop ensuring a smooth linear ramp.

Compressors & Chillers

Voltage Ramp with Current Limit provides the smoothness of voltage ramping while maintaining the ability to start in limited power environments.

Auto Pedestal

Automatically corrects the start voltage and senses the motor is turning in the correct direction. For dynamic situations like roof cooling fans, which sometimes spin backwards, the Auto Pedestal feature will control the ramp while the motor spins down to a stop and accelerates in the correct direction. Once the soft start senses the motor is turning in the right direction, the soft start will accelerate the motor normally. There will be no belt failures from fans spinning backwards. The Auto Pedestal offers the best, simplest, and most economical way to deal with roof cooling fans, which spin backward. No user input required.

VMX-Synergy Plus™

SPECIFICATIONS

Range from 18 - 1250A or 7.5 - 750kW

3-phase 6 SCR Control

Full motor overload with Memory

Starter overload capacity 500% for 60 seconds

Overload adjustable to trip class 10,20 and 30

200 to 690 volts

Operates on varying frequency 45Hz-65Hz

Internally Bypassed, Contactor both ANSI and NEMA

Auto Pedestal Function for spinning motor direction control

Protected chassis construction

User-friendly, full colour touch screen / Full automatic set up

Control power requirement 240VAC (110VAC optional)

iERS - intelligent Energy Recovery System as standard

Inside Delta / 6 wire connection capable

Multiple languages

Modbus RTU as standard, other protocols optional

Inputs / Outputs:

- 5 x programmable output relays

- 4 x programmable digital inputs

- 1 x Analog input

- 1 x Analog output

- USB for data logging and parameter setting/saving

- Full Meter Functions

Comprehensive data logging

Fully field upgradeable via USB port

DEDICATED OPTIONS

Remote Touchscreen Keypad Mounting Kit

Special gasket and cable to remote mount existing touchscreen keypad.

IP66 Rated.

Available as:

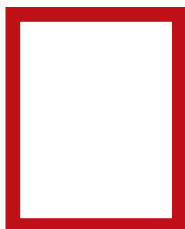
PN: VMX-SGY-PLUS-KIT-1 (1m Cable)

PN: VMX-SGY-PLUS-KIT-2 (2m Cable)

PN: VMX-SGY-PLUS-KIT-3 (3m Cable)



Detached Keypad



Gasket



Cable

Communication Options

Modbus TCP/IP

EtherNet/IP

PROFIBUS DP-V1

PN: VMX-AB Series



I/O Expansion Modules

Expand number of digital inputs and outputs of VMX-Synergy Plus™

PN: VMX-AGY-SGY-EXPIO



Full Power Range

Ratings

VMX-SYNERGY PLUS™ - ANSI

NOMINAL MOTOR RATING ^(1,2)

Overload Rating: 500% for 60 sec.

VMX-SGY-A Model Number	Max Amps ⁽³⁾	230V/KW START BYPASS	400V/KW START BYPASS	500V/KW START BYPASS	480V/HP START BYPASS	FRAME WEIGHT - kg (Lb)	DIMENSIONS - H x W x D mm (inches)	
VMX-SGY-A-18	9-18	4.0	7.5	7.5	10	1	4.0 (8.8)	283 (11.15) x 143 (5.62) x 184 (7.25)
VMX-SGY-A-28	14-28	5.5	11	11	15	1	4.0 (8.8)	283 (11.15) x 143 (5.62) x 184 (7.25)
VMX-SGY-A-39	19-39	7.5	18.5	22	25	1	4.0 (8.8)	283 (11.15) x 143 (5.62) x 184 (7.25)
VMX-SGY-A-48	24-48	11	22	22	30	1	4.0 (8.8)	283 (11.15) x 143 (5.62) x 184 (7.25)
VMX-SGY-A-62	31-62	15	30	37	40	2	10 (23)	125 (14.93) x 207 (8.14) x 202 (7.94)
VMX-SGY-A-78	39-78	18.5	37	45	50	2	10 (23)	125 (14.93) x 207 (8.14) x 202 (7.94)
VMX-SGY-A-92	46-92	22	45	55	60	2	10 (23)	125 (14.93) x 207 (8.14) x 202 (7.94)
VMX-SGY-A-112	56-112	30	55	55	75	2	10 (23)	125 (14.93) x 207 (8.14) x 202 (7.94)
VMX-SGY-A-150	75-150	37	75	90	100	3	15 (33)	498 (19.6) x 208 (8.2) x 196 (7.7)
VMX-SGY-A-160	80-160	37	75	90	100	3	15 (33)	498 (19.6) x 208 (8.2) x 196 (7.7)
VMX-SGY-A-210	105-210	55	110	132	150	4	59 (130)	813 (32) x 321 (12.62) x 256 (10.08)
VMX-SGY-A-275	138-275	55	110	132	150	4	64 (140)	813 (32) x 321 (12.62) x 256 (10.08)
VMX-SGY-A-361	181-361	90	160	200	250	4	66 (145)	813 (32) x 321 (12.62) x 256 (10.08)
VMX-SGY-A-450	225-450	110	200	250	300	4	66 (145)	813 (32) x 321 (12.62) x 256 (10.08)
VMX-SGY-A-550	275-550	150	280	355	400	4	75 (165)	813 (32) x 321 (12.62) x 256 (10.08)
VMX-SGY-A-600	300-600	132	280	425	500	4	75 (165)	813 (32) x 321 (12.62) x 256 (10.08)
VMX-SGY-A-862	431-862	200	355	450	500	5	147 (325)	1092 (43) x 648 (25.5) x 293 (11.53)
VMX-SGY-A-900	450-900	220	400	530	600	5	147 (325)	1092 (43) x 648 (25.5) x 293 (11.53)
VMX-SGY-A-1006	503-1006	250	500	560	800	6	181 (400)	1183 (46.56) x 667 (26.27) x 385 (15.16)
VMX-SGY-A-1250	625-1250	315	560	710	900	6	181 (400)	1183 (46.56) x 667 (26.27) x 385 (15.16)

1) Rated operational powers in kW corresponding to FLA current rating according to IEC

2) Rated operational powers in HP corresponding to FLA current rating according to UL508 and Table 430.250 of the National Electrical Code

3) The FLA rating applies for a maximum surrounding air temperature of 50°C

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