

MEDIUM VOLTAGE SOFT STARTER

Product Catalogue 2015/2016



Right from the Start

AUCOM – RIGHT FROM THE START

AuCom is a Kiwi success story. From humble beginnings in a Christchurch garage in 1978, AuCom has grown to become a global business in a highly competitive market. While we look to the future and to new ways that we can provide value for our customers, it is equally important that we remember our past.

AuCom began as the brainchild of two close friends with a passion for high quality audio amplifiers. Ray Archer and Mark Empson were amateur radio enthusiasts, and Mark possessed an innovative electronic design streak. With an eye for exciting new technologies, in 1981 the pair licensed a share of the rights to a power saving technology developed by NASA. Ray and Mark saw potential in this new technology to provide benefits in electronic motor starting and became pioneers of the soft start industry.

As AuCom's activities and product range expanded the garage was quickly outgrown and after three factories, we moved to our present location on Wrights Road in 1993. We developed a global AuCom sales network, and also began to supply re-branded soft starters to a number of well-known global companies to complement their existing products.

This multi-channel approach increased our share of the global market and established AuCom as the place to go for soft starter products. Our distribution partners thrived, and AuCom quickly became an industry leader behind the scenes.



AUCOM WORLDWIDE

Operating from New Zealand, AuCom has long been a hidden champion in LV soft start thanks to our excellent products and wide reaching distribution and brand label networks. Now we're endeavouring to provide the same level of service and support for our market leading MV offering. That's why we've founded AuCom Motor Control Systems (AMCS), a division dedicated to providing complete MV motor control solutions for our customers.

Our worldwide network of AMCS offices ensure we can provide the very highest level of service and support to our clients across the globe. We are proud to offer support 24 hours a day from our specialised AuCom team, and if need be we can be on-site with you anywhere in the globe in less than a day.

AuCom

MOTOR CONTROL SYSTEMS

AUCOM MOTOR CONTROL SYSTEMS (VISION)

We will enable you to deliver a more complete and valuable solution to your customers while staying focused on what you're good at. We'll do this by seamlessly integrating our innovation, technologies and delivery platforms into your offering so as to extend your business RIGHT FROM THE START.

AUCOM MOTOR CONTROL SOLUTIONS (MISSION)

Meeting your business needs takes more than just great product. We work to understand your requirements and integrate our solution into your offering. We're dedicated to meeting the highest quality standards, offering a globally competitive product and delivering in full and on time. No matter what your needs, we want your experience with AuCom to be outstanding – and we'll do whatever it takes.

AUCOM MOTOR CONTROL SPECIALISTS (VALUE)

Our experienced team of motor control specialists have a comprehensive understanding of your clients' motor control needs, whatever the application. Using our extensive knowledge and industry experience we'll help you to design the ideal motor control solution for any situation.

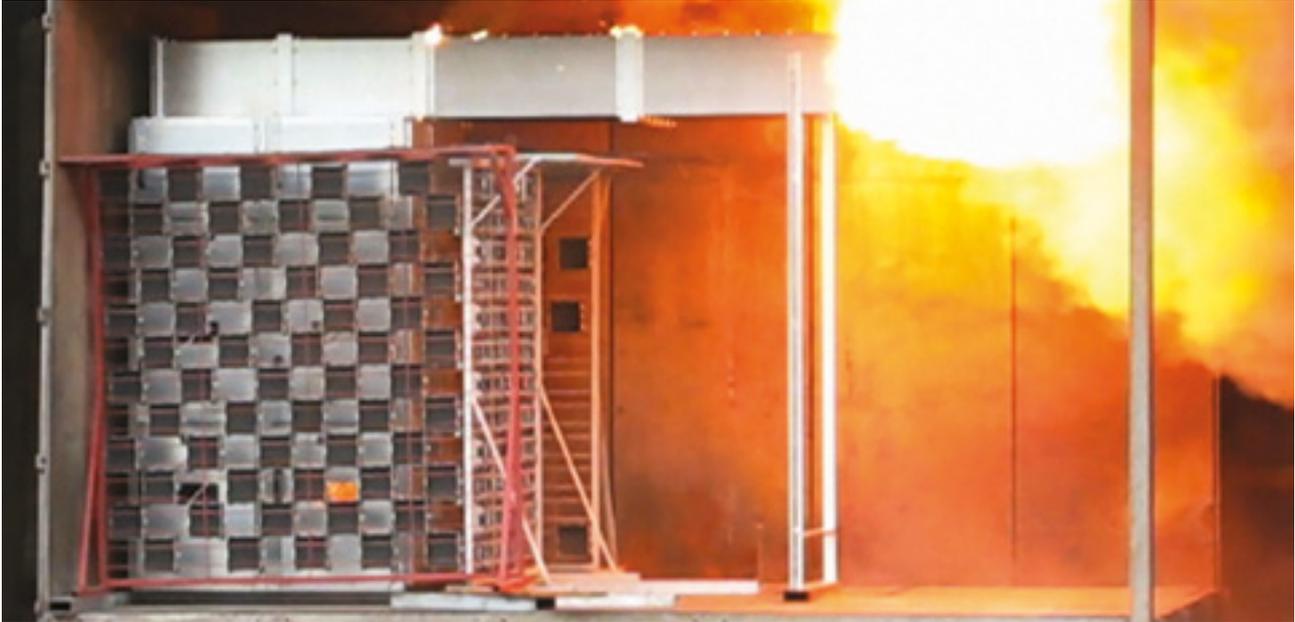
AUCOM MOTOR CONTROL SUPPORT

We're committed to delivering the best possible experience for our clients, from providing expert commissioning staff to assist with your commissioning process, to product support to ensure that your system runs smoothly for years to come.



IEC TYPE TESTS

according to IEC 62271-200



Internal arc fault test, 31.5kA/1s

ARC FAULT

An arc fault is a high power discharge of electricity between two or more conductors. The event can reach temperatures of 10,000° C, hot enough to liquefy ceramics, plastics and metal.

The arc fault causes a sudden increase in pressure, followed by an expansion, emission phase and finally a thermal phase. This can blast the debris and combustible gas outward with extreme force.

The internal pressure against the weakest points of the enclosure (e.g. windows, hinges and joints) can destroy an electrical enclosure and may cause serious or fatal injury to nearby personnel.

Arc faults can occur for a number of reasons, usually overvoltage, faulty insulation, mechanical failure or failure of a fuse.

ARC FAULT PROTECTION

If an arc event occurs within an AuCom MVX-Series panel, the arc fault is contained by solid locking doors and heavy double layer compartment panels.

During the emission phase, the pressure is safely released using discharge flaps on the top of the panel (or optional ducts). These direct the explosion upwards or vent it safely outside.

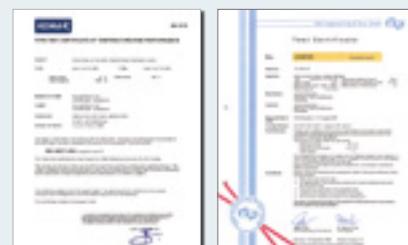
Responsible specifiers should ensure that they require all switchgear to meet IEC 62271-200. MVX-Series panels are suited for Internal Arc Classification (IAC) AFLR to a maximum of 40 kA for 1 second.

TESTS

AuCom L-Series panels have passed arc fault tests for the entire range of panel enclosures. (Type test certificates are available on request). The panels even pass arc fault tests with low voltage compartment doors open.

All L-Series panels are fully type tested according to IEC 62271-200:

- Short time and peak withstand current
- Temperature rise and main circuit impedance
- Dielectric test on main and auxiliary circuits
- Making and breaking capacity of the circuit breaker within the panel
- Earthing switch making capacity
- Mechanical operations
- Internal arc fault (IAC classified: AFLR, 31.5A/1s)



Type test reports

PANEL COMPARTMENTS

Each panel consists of up to four compartments: Busbar compartment, cable compartment, circuit breaker compartment and the instrument compartment.

The busbar compartment houses the main busbar system, connected to the fixed upper isolating contacts of the circuit breaker by means of branch connections.

The cable compartment houses the connection of the power cables to the busbar. The earthing switch, surge arresters, voltage and current transformers can be installed here.

The circuit breaker compartment houses the bushing insulators containing fixed contacts for the connection of the circuit breaker with the busbar and the cable compartment.

MVE/MVX-E



front view



side view



back view

COMPACT WIDTH

A slim panel design helps minimise the footprint, resulting in a versatile soft starter which can be easily housed. The compact width also makes retrofitting easier.

EASY STARTER LINE-UPS

The MVE/MVX-E makes creating uniform line-ups easy. Choose from the range of matching cubicles, giving you the most orderly and efficient installation possible.

MVX

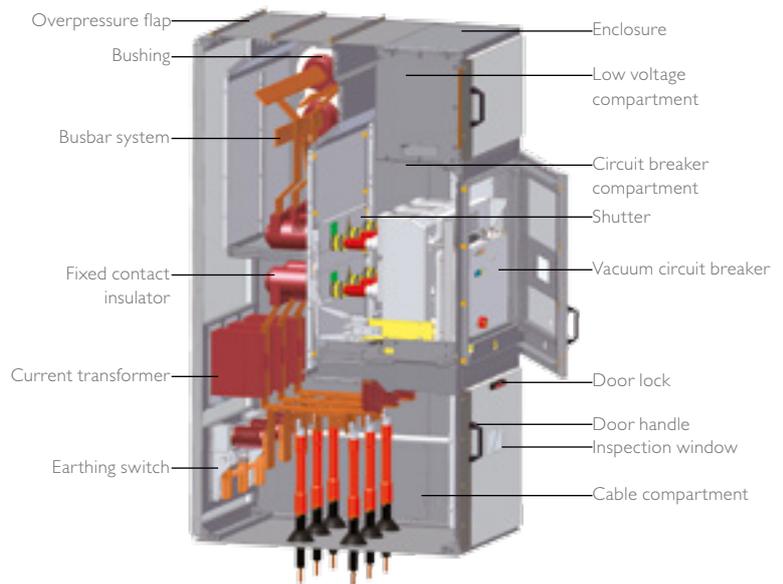
MVX-Series panels are designed in compliance with availability classes LSC2B and partition class PM according to IEC 62271-200.

The switchgear compartments do not need any tools for opening. Interlocks allow access only when the corresponding high voltage parts are dead and earthed.

Metallic shutters and partitions segregate the compartments from each other. When a compartment is opened, all other panels in the installation and all cable termination compartments (including that in the panel concerned) remain in operation.

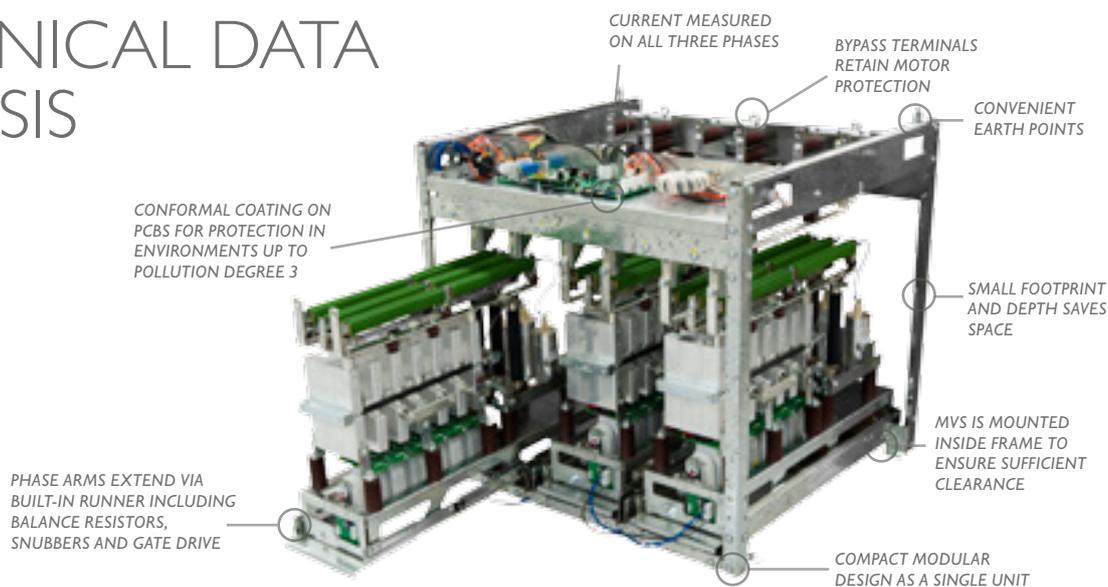
Metallic shutters automatically protect high voltage components when the circuit breaker is withdrawn.

All switching operations can be performed with the doors closed and the position of the circuit breaker can be seen from the front of the panel through a pressure-resistant inspection window.



MVX Metal Clad Switchgear System

TECHNICAL DATA CHASSIS



FIBRE OPTICS

Electrical isolation of low and high voltage circuits is assured by a two line fibre-optic interface between the power assembly and the control module. This fibre-optic link simplifies installation of the AuCom chassis into switchboards.

ADVANCED THERMAL MODELLING

Intelligent thermal modelling dynamically calculates motor temperature to protect against overloads which shorten motor life. The second order thermal model takes into consideration the heating characteristics of the motor windings, the size of the motor and the thermal characteristics of the motor body

THERMAL CAPACITY

The thermal model also calculates the motor's available thermal capacity. The AuCom soft starter will only permit a start which is predicted to succeed.

LOW VOLTAGE TESTING

All AuCom MV soft starters can be connected to a low voltage motor (≤ 500 VAC) for testing. This allows the user to thoroughly test the soft starter and its associated power and control circuits. The low voltage test mode provides a means of testing the soft starter's configuration without requiring a full medium voltage test facility

RATINGS

AuCom selects each MV soft starter to suit your needs. Choose a starter to suit your site conditions such as altitude, ambient temperature, load, and starts per hour.

AuCom starters ratings are detailed using the AC53b utilisation code. An example is shown below.

I 65 A:AC-53b 5-30 : I 770



STARTER CURRENT RATING

The full load current rating of the soft starter given the parameters detailed in the remaining sections of the utilisation code.

START CURRENT

The maximum available start current as a multiple of FLC.

START TIME

The maximum time required to start the motor at the rated start current.

OFF TIME

The minimum allowable time between the end of one start and the beginning of the next start.

MVE // MVX-E

EFFICIENT, INTELLIGENT DESIGN

Power electronics for each phase are consolidated into individual phase arms, for more efficient maintenance. Each phase arm can be individually replaced, reducing the amount of spare parts that need to be available and minimising downtime.



MVS // MVX

The AuCom power assemblies are very robust and compact, minimising panel space requirements and making AuCom soft starters suitable for use in even the most demanding industrial locations.

RACK-IN/RACK-OUT

AuCom MVX soft starters are fully self-contained and easily serviced/replaced. AuCom can include a service trolley that enables one person to remove and replace the starter. Phase cassettes are installed via a rolling base which is easily integrated for OEM solutions.

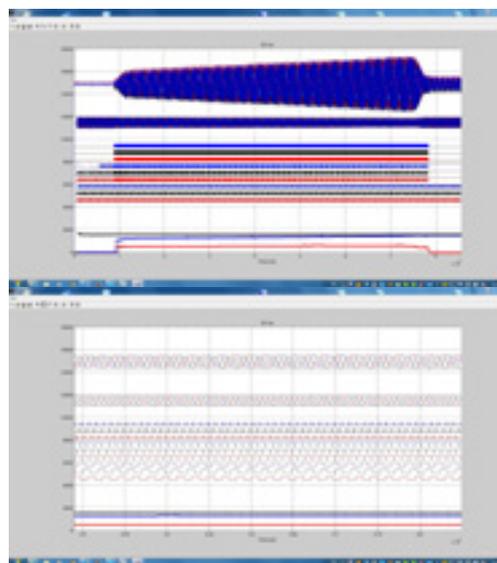
SMALL FOOTPRINT

The compact size of the starter allows for a smaller overall panel dimension to save space in your switchroom. Robust construction allows for reliable use in even the most demanding industrial locations.





ELECTRONIC OSCILLOSCOPE DATALOGGING



IOD TECHNOLOGY

The MV Diagnostic Board is a data acquisition and recording board that is provided as standard with all AuCom MV products. The MV Diagnostic Board records waveforms that can help diagnose problems with the starter's installation or operation.

WAVEFORM RECORDING

The MV Diagnostic Board records the following waveforms:

- 3 phase analog voltages
- 3 phase analog currents
- Output of frequency locked derived (virtual) phase I-neutral zero crossing signal
- Internal variable Phase I conduction period
- Internal variable Half cycle count (ie MV supply period)
- Internal variable Lag count (ie time difference between derived phase I voltage zero crossing and end of conduction.)

Data is recorded:

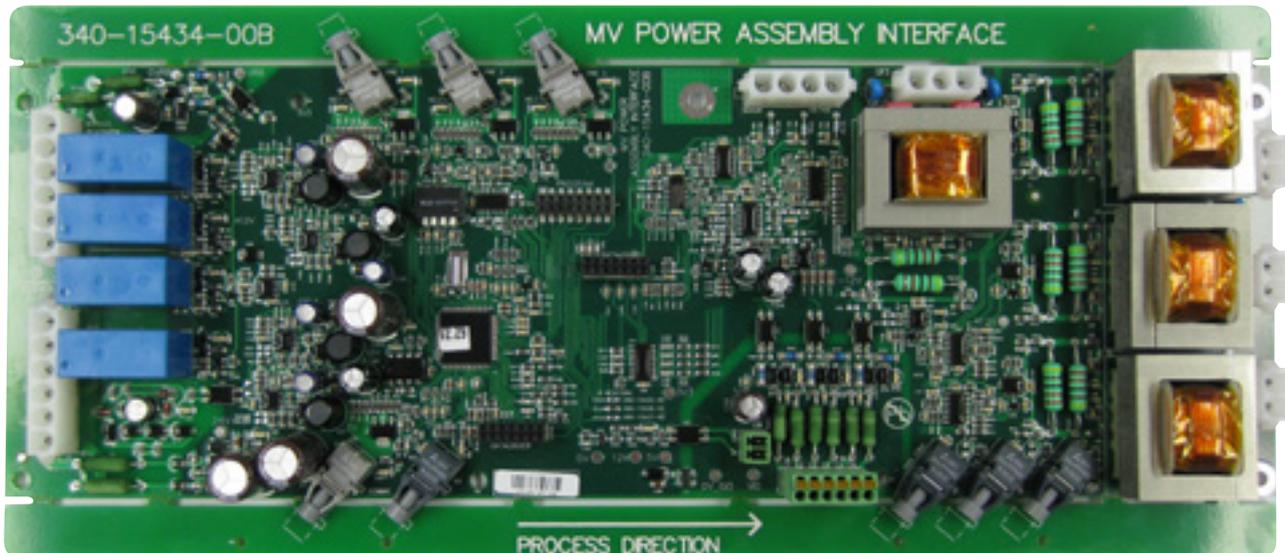
- During a start: From the time the Start command is given to the time the starter enters the running state
- During a stop: From the time the Stop command is given to the time the starter exits the stopping state

DIAGNOSTIC BENEFITS

These waveforms can help in the following diagnostics of the MV Starter:

- Indications of excessive supply impedance are voltage sag, and SCR conduction angle (SCR's at full conduction, and starter not reaching programmed current limit).
- Generator set frequency stability at on/off load transitions
- Non-conduction Fibre Optic connection disconnected
- SCR shorted/Bypass welded – Can be isolated to individual phases
- Presence/absence of MV supply
- Quality of MV supply (harmonics)
- Indication of supply impedance (voltage sag)
- Indication of gate drive failures

FIRING TECHNOLOGY



MAIN BLOCKS/ FUNCTIONS

- Phase Current Measurement
- Ground Fault Current Measurement
- SCR firing (3 x signals) through FO cables
- Non-conduction feedback (3 x signals) through FO cables
- Phase Voltage measurement
- Communication over fibre optic cables with the User interface controller
- Main device control
- Bypass device control
- Pre-Selection of different CT ratios through a DIP switch
- Inputs – External Power Fail, Fan fail and UPS Alarm Input
- Outputs – Fan Control, Main device control, Bypass device control and PFC control

IBT TECHNOLOGY

The AuCom IBT Interface Board Technology is a unique technology throughout the Medium Voltage Softstarter market. The consequent split up between the core starter control system with its complex and time critical algorithm and the sophisticated HMI for the parameter settings and feedback provides the following unique advantages:

100% GALVANIC ISOLATION

As the interface board is located in a separate section of the medium voltage compartment it is therefore also part of the internal arc tested system. Only two fibre optic wires are connecting the medium voltage section and the low voltage section. As the IBT Board includes also the relays for the Bypass- and Lineswitches and of course also the terminals for the voltage and current measurement. There are no parallel copper wires required!

BRAND LABEL CUSTOMER

The separate HMI Controller is designed for brand label partner. AuCom can either modify the existing HMI regarding the customer specification or in case of bigger volumes we can integrate the partner HMI controller into our system.

SOFTWARE

REAL LANGUAGE

The HMI features simple, plain language feedback on the soft starter's operation and events – no trip code look-ups. Choose from English, Chinese, Spanish, German, Portuguese, French, Italian or Russian.



EASY TO READ SCREEN

The soft starter offers extensive feedback and real-time status information in an easy-to-read format. Comprehensive metering information, details of starter status and last start performance allow easy monitoring of the starter's performance at all times. Multiple status screens let you display the data most relevant to your application, or you can configure your own programmable screen to show the most relevant information for your application.

EVENT LOGS

A 99 position event log records all information on the starter's operating history, in separate event and trip logs to assist in troubleshooting. An eight position trip log records trip states and operating conditions at the time of trip.

- Phase currents and voltages
- Mains frequency
- Starter state
- Time and date

<p>0.0A</p> <p>Ready M1 005% 0000.0kW</p> <p><i>Starter status including current and FLC</i></p>	<p>0.0A</p> <p>Line Voltages 00000 00000 00000</p> <p><i>Line Voltages and Currents (L1, L2, L3)</i></p>
<p>0.0A</p> <p>00000kW 00000HP 00000kVA -.- pf</p> <p><i>Power metering</i></p>	<p>0.0A</p> <p>Last start 000 s 000 % FLC Temp 0%</p> <p><i>Last Start Information</i></p>
<p>0.0A</p> <p>Tripped Input a Trip</p> <p><i>Full text trip messages</i></p>	<p>0.0A</p> <p>YYYY MMM DD HH:MM:SS</p> <p><i>Date & Time</i></p>
<p>Event Log (20)</p> <p>Control Supply - Off 12:45:58 7 Jan</p> <p><i>Control power turned off</i></p>	<p>Event Log (35)</p> <p>Operation 12:14:23 18 Jan Protection Simulation</p> <p><i>Protection simulation performed</i></p>
<p>Event Log (25)</p> <p>Control Supply - On 07:37:53 14 Jan</p> <p><i>Power restored to the starter</i></p>	<p>Event Log (40)</p> <p>Operation 12:14:23 18 Jan Run Simulation</p> <p><i>Run simulation performed</i></p>
<p>Event Log (30)</p> <p>Operation 07:26:55 18 Jan Load Defaults</p> <p><i>Load default operation performed</i></p>	<p>Event Log (45)</p> <p>Protection - Tripped 12:53:24 16 Jan Power Loss</p> <p><i>Notification of trip - power loss</i></p>

COMMISSIONING

AuCom makes medium voltage installation and commissioning simple. To avoid interrupting your normal operation, the software incorporates extensive operating simulations and allows the starter to be tested with a low voltage motor, to confirm circuit integrity and identify any errors before full commissioning. As well as a comprehensive run simulation, the controller can simulate each protection to ensure the starter is interacting with associated equipment as expected.

SOFTWARE SIMULATIONS

Simulation functions allow the soft starter to be tested without a motor connected, to confirm that the control circuits are operating correctly. There are three simulation modes available:

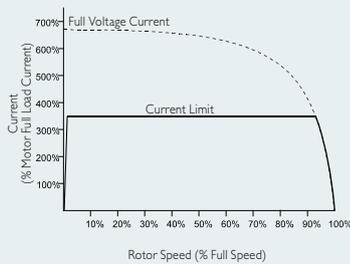
- Run simulation: simulates a motor starting, running and stopping to confirm correct configuration of main and bypass contactors, fibre-optic controls, programmable relays and motor control signals.

- Protection simulation: simulates activation of each protection mechanism to confirm that the soft starter is responding correctly in each situation.
- Signalling simulation: simulates output signalling to confirm configuration.

MOST COMMON STARTING/STOPPING OPTIONS

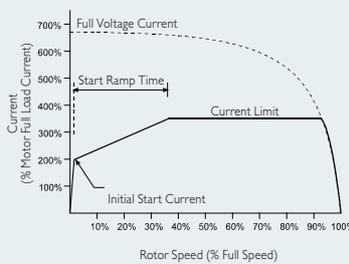
AuCom starters provide a range of start and stop options enabling motor performance to be tailored to installation requirements.

CONSTANT CURRENT



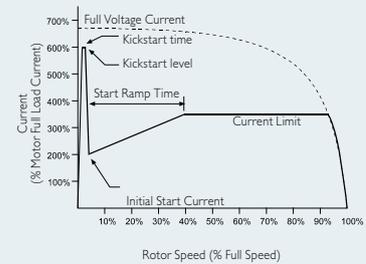
Suits most applications. Current is held at the specified level for duration of start.

CURRENT RAMP



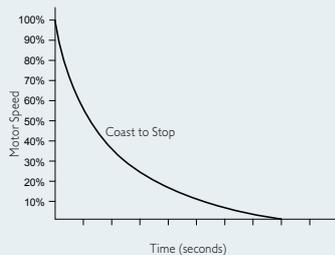
Better for generator sets or if conditions may vary between starts.

KICKSTART



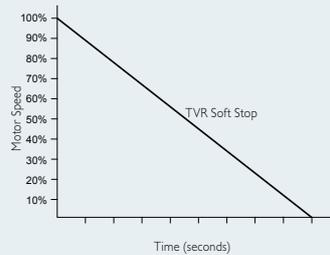
Provides a short boost of torque at the beginning of the start.

COAST TO STOP



Removes voltage from motor and allows inertial slowing.

TIMED VOLTAGE RAMP



Gradually reduces voltage to extend deceleration time.

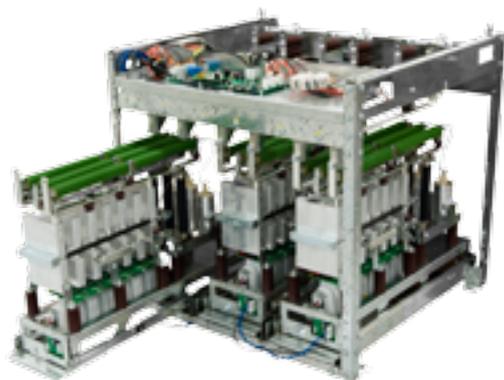
MVS

AuCom's MVS medium voltage soft starters are an integrated solution for motor control and protection. MVS soft starters combine advanced soft start and soft stop functionality with extensive motor and system protection, plus a user-friendly interface and complete commissioning diagnostics. MVS soft starters have been installed in high-profile locations world-wide. By integrating motor protection with soft start and soft

stop control, the MVS provides a simple and cost-effective solution for most major applications.

MVS soft starters can be installed easily into standard panels to provide a complete motor control cabinet. The compact size of the power assembly leaves room for auxiliary equipment to be installed.

MVS soft starters are available in either IP42 or IP54 panels, with options for line and bypass contactors, earthing and isolation switches. AuCom can also design and build panels to meet particular specifications, and we offer full applications engineering support at all stages of the design process. For customers who prefer to build their own panels, MVS soft starters can be supplied in IP00 format or as a kit for local assembly.



The MVS power assemblies are very robust and compact, minimising panel space requirements and making MVS soft starters suitable for use in even the most demanding industrial locations.

PRODUCT FEATURES

STARTING FUNCTIONS

- Acceleration
- Constant current start mode
- Current ramp start mode
- Torque control
- Kickstart

STOPPING FUNCTIONS

- Deceleration
- TVR soft stop
- Coast to stop

PROTECTION

- Fully customisable protection
- Motor thermal model (Thermal Model)
- Motor thermistor input
- Phase sequence
- Undercurrent
- Instantaneous overcurrent
- Auxiliary trip inputs
- Power loss
- Excess start time
- Supply frequency
- Shorted SCR
- Power circuit
- Motor connection
- RS485 failure
- Mains frequency
- Input trip
- Motor overload
- Current imbalance
- Ground fault

OTHER

- Dual Motor Sets
- Emergency Start Capability
- Starter Thermal Model
- Trip Log (8 positions, date/time stamped)
- Counters (starts, hours-run, kWh)
- Metering (amperes, volts, power factor, kW, kVA)

OPTIONAL FEATURES

- Network communications (DeviceNet, Ethernet/IP, Modbus RTU, Modbus TCP, Profibus, Profinet)
- USB Interface
- Synchronous motor control
- PC Software
- Overvoltage protection
- Control supply transformer
- Remote Operator

HUMAN INTERFACE

- Fibre optic link
- Status LEDs
- Event log (99 positions, time stamped)
- User-programmable metering screen
- Multi-level password protection
- Plug-in control terminal blocks
- Multi-language feedback



MVS soft starter line-up



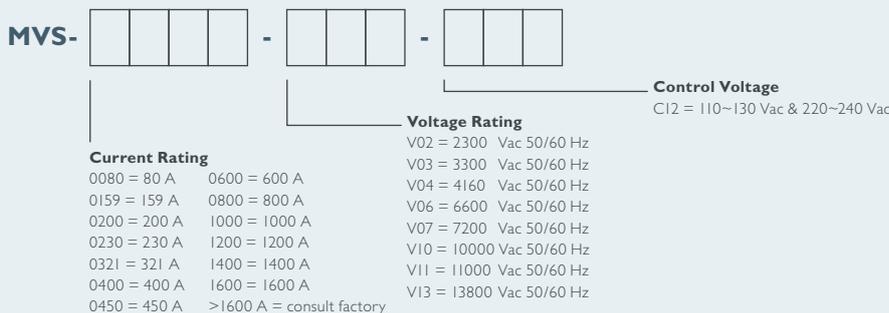
MVS soft starters provide integrated motor starting and monitoring functions for the most demanding industrial situations. Advanced algorithms ensure ultra-smooth starting and stopping, and fully adjustable protection features maximise electrical and mechanical protection for your motor and system. A large-format display and detailed performance logs make setup and operation simple.

TECHNICAL DATA MVS SOFT STARTER

Motor Voltage:	2,3kV; 3,3kV; 4,16kV; 5kV; 6,6kV; 7,2kV; 10kV; 11kV; 13,8kV
Test Voltages:	7,2kV; 12kV; 15kV
Control Voltages:	120VAC / 230VAC
Frequency:	45 Hz to 66 Hz (Autotrigger)
Starter Current:	50 A ... 6000A
Motor Current (Max):	20 A ... 2000A (3000A)
Starting Time: (Max):	1 Sec ... 30 Sec (180 Sec)
Ambient Temp. (Max):	(-20) 0 ... 50°C (80°C)
Maximum Height (Max):	1000m (3000m) above sea level
IP Rating (Max):	IP32 Standard (IP65)
CT Type:	Standard MV CT's (Adjustable ratio)
VT Type:	EPT Type
MV/LV Isolation:	100% fibre optic only
PD Test Limit:	10pC at 1.5 x Un
Digital I/O:	6 DI / 6DO
Analogue I/O:	1 AI / 1 AO
Com. I/O:	Modbus; Profibus, Profinet, Ethernet IP, Device Net

MODEL CODE

Order your MVS soft starter using our easy-to-build part number format:



MVX-E

MVX-E Series soft starters are one of AuCom's two solutions for Type Tested Cabinets. The MVX-E is ideal for straight-forward motor starting installations. Incorporating the soft starter as well as line and bypass devices, the MVX-E is all you need to get your motor up and running gently and efficiently.

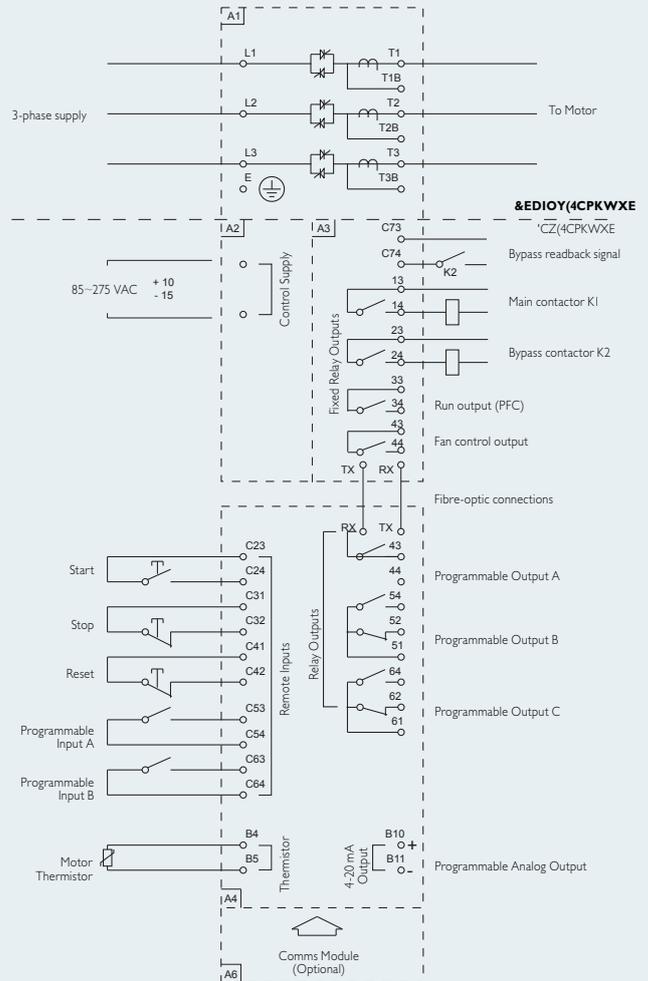
Alternatively, if the installation requires a complete Metal Clad Switchboard System, including your soft start needs, or where the safety provided by an arc fault enclosure is desirable, you should consider the MVX Series. Contact your local distributor or refer to the MVX Series brochure for details.

INPUTS

Inputs	Active 24 VDC, 8 mA approx.
Start (C23, C24)	24 VDC, 8mA approx.
Stop (C31, C32)	24 VDC, 8mA approx.
Reset (C41, C42)	24 VDC, 8mA approx.
Input A (C53, C54)	24 VDC, 8mA approx.
Input B (C63, C64)	24 VDC, 8mA approx.
Motor Thermistor (B4, B5)	

OUTPUTS

Relay outputs	10 A at 250 VAC/360 VA	
	10 A at 30 VDC resistive	
Main Contactor (13, 14)	Normally Open	
Bypass Contactor (23, 24)	Normally Open	
Run Output/ PFC (33, 34)	Normally Open	
Fan Control (43, 44)	Normally Open	
Output Relay A (43, 44)	Normally Open	
Output Relay B (51, 52, 54)	Changeover	
Output Relay C (61, 62, 64)	Changeover	
Analog Output (B10, B11)	0-20 mA or 4-20 mA	





MVX-E soft starter line-up



PROVEN TECHNOLOGY

The MVX-E is based on AuCom's highly successful MVS and MVX products. This technology has been refined for the past 10 years and has been tested in some of the world's most demanding applications.

INTERCONNECTING BUSBARS

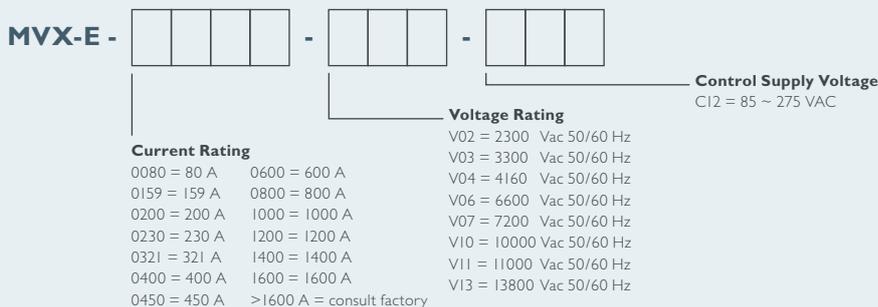
Interconnecting busbars mean fewer feeders and less upstream switchgear, as well as a smaller overall footprint. The compact configuration reduces the total amount of cabling, for an additional cost saving.

TECHNICAL DATA MVX-E/MVE SOFT STARTER

Motor Voltage:	2,3kV; 3,3kV; 4,16kV; 5kV; 6,6kV; 7,2kV; 10kV; 11kV; 13,8kV
Test Voltages:	7,2kV; 12kV; 15kV
Control Voltages:	120VAC / 230VAC
Frequency:	45 Hz to 66 Hz (Autotrigger)
Starter Current:	50 A ... 6000A
Motor Current (Max):	20 A ... 2000A (3000A)
Starting Time: (Max):	1 Sec ... 30 Sec (180 Sec)
Type Test Current:	20kA; 25kA; 31,5kA; 40kA
Ambient Temp. (Max):	(-20) 0 ... 50°C (80°C)
Maximum Height (Max):	1000m (3000m) above sea level
IP Rating (Max):	IP32 Standard (IP65 for MVE)
CT Type:	Standard MV CT's (Adjustable ratio)
VT Type:	EPT Type
MV/LV Isolation:	100% fibre optic only
PD Test Limit:	10pC at 1.5 x Un
Digital I/O:	6 DI / 6DO
Analogue I/O:	1 AI / 1 AO
Com. I/O:	Modbus; Profibus, Profinet, Ethernet IP, Device Net

MODEL CODE

Order your MVX-E soft starter using our easy-to-build part number format:



MVX

BIG PERFORMANCE, SMALL SIZE

Smaller size: The overall form factor is 60% smaller than our previous product MVS. The MVX is among the smallest medium voltage soft starter in its class. Smaller size is a big advantage in lowering the costs in building and provides more flexibility where space is limited, for example marine applications.

EASIER TO SERVICE

AuCom has eliminated complex disassembly to replace or service a part, AuCom MVX panels are designed with easy rack-in/rack-out operation, and components are easily accessible via hinged doors or removable panels while still keeping unauthorised people out.



THE BENEFIT OF EXPERIENCE

At every stage of the process your AuCom team will work hard to create the ideal AuCom solution to meet the needs of your application and budget.

ARC FAULT PROTECTION

To ensure that your staff and plant are safe from arc faults, MVX is the only choice. MVX meets or exceeds all the relevant standards:

- IEC62271-200 for switchgear and apparatus, and internal arc fault resistance
- IEC62271-304 for switchgear and apparatus
- IEC60664-1 for electrical insulation

ISOLATION

MVX panels use a combination of air and GP03 insulation to ensure personnel safety when working in the MV environment. Unlike messy oil or water insulation, GP03 is able to provide a smaller overall dimension without the hassle or reliability issues.

Fibre-optic insulation between the low voltage controller and the high voltage power assembly provides complete electrical isolation.



Interlock for circuit breaker compartment door

ENCLOSURE

The enclosure is made of corrosion resistant hot dip galvanized steel sheets. Its design allows fast assembly with bolts only. No welding, balancing, grinding or cleansing is necessary, and no jigs are required for assembly.

Each panel is equipped with sidewalls. The special design provides an 8 mm air gap between two neighbouring panels. In the unlikely event of an internal arc, this design assures that the damage is limited to the panel where the fault occurred.



Rounded edges guarantee safe handling

DOORS & LOCKS

The coated doors are made from galvanized sheet steel. Robust hinges and handles provide for convenient and safe closing. The closing mechanisms are available for left or right hand operation.

Every compartment door has built-in locking as standard. Tags may also be applied to indicate sections with work in progress.



Swinghandle locks on the doors provide additional safety



MVX soft starter line-up



DESIGN

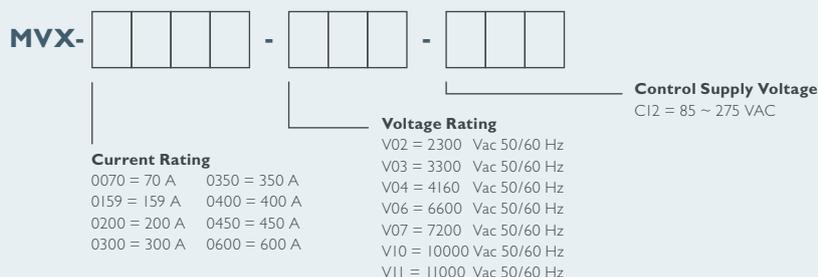
- Depending on the design, all compartments are accessible from the front. Alternatively the cable compartment is accessible from the rear.
- Cable connection points are all at comfortable height.
- Cable and circuit breaker compartments include pressure resistant inspection windows as standard.
- Fully flexible cabling and busbar entry option.
- Created for simple, straightforward manufacturing: No welding, balancing, grinding or cleansing procedures are required.
- Segregated busbars from panel to panel.
- Optional arc venting shields or gas exhaust duct available.

TECHNICAL DATA MVX SOFT STARTER

Motor Voltage:	2,3kV; 3,3kV; 4,16kV; 5kV; 6,6kV; 7,2kV; 10kV; 11kV; 13,8kV
Test Voltages:	12kV
Control Voltages:	120VAC / 230VAC
Frequency:	45 Hz to 66 Hz (Autotrigger)
Starter Current:	50 A ... 2500A
Motor Current (Max):	20 A ... 1000A (1250A)
Starting Time: (Max):	1 Sec ... 30 Sec (90 Sec)
Type Test Current:	20kA; 25kA; 31,5kA; 40kA
Ambient Temp. (Max):	(-20) 0 ... 50°C (80°C)
Maximum Height (Max):	1000m (2500m) above sea level
IP Rating (Max):	IP32 Standard (IP42)
CT Type:	Standard MV CT's (Adjustable ratio)
VT Type:	EPT Type
MV/LV Isolation:	100% fibre optic only
PD Test Limit:	10pC at 1.5 x Un
Digital I/O:	6 DI / 6DO
Analogue I/O:	1 AI / 1 AO
Com. I/O:	Modbus; Profibus, Profinet, Ethernet IP, Device Net

MODEL CODE

Order your MVX soft starter using our easy-to-build part number format:



QUALITY

We know our customers expect the very best. That's why all our products are designed and built to the highest standards.

The AuCom team are committed to exceeding our customer's expectations. All AuCom MV panels are constructed with the highest degree of quality and care.

Our rigorous quality management system, compliant to ISO 9001, has been developed to ensure that we consistently deliver safe, reliable, quality products and services to our clients.



TESTING AND VERIFICATION

Our comprehensive MV testing routine is designed to guarantee that our products are safe and reliable. This process involves:

- Functional testing of each individual phase arm
- Functional testing of each 3 phase arm block
- Dielectric testing to ensure safety
- Full testing of all logic controls
- A full operational test

If requested by our customers we also offer factory acceptance testing (FAT) and third party test audits.

THE PROOF IS IN THE POWER UP

All AuCom MV starters run a motor at rated voltage before they leave the factory so we're sure that you're getting the performance we promised.

FULL TRACEABILITY

Automated testing routines verify operational performance and record results so that all necessary information is readily available in the rare event that things don't go as planned.

THIRD PARTY CALIBRATION

Third party calibration professionals carry out regular calibration of all our equipment including test and measurement fixtures.

LOW VOLTAGE SOFT STARTER



EMX3 ADVANCED SOFT STARTER

A complete motor management system providing constant current and current ramp, as well as Adaptive Acceleration Control.



CSX SOFT START CONTROLLER

An advanced soft start controller designed for use in motor control centres. Easily incorporated into any control circuit and suitable for use with any type of motor protection device.



CSXi COMPACT SOFT STARTER

A compact soft starter providing constant current soft start control and essential motor protection. A complete motor control solution in a single compact design.

MEDIUM VOLTAGE SOFT START SYSTEMS



MVS MEDIUM VOLTAGE SOFT STARTER

An advanced motor management system for medium voltage motors. MVS soft starters provide a full range of soft start control, motor/load protection and other features.



MVX FULLY TYPE TESTED MV SOFT STARTER

The MVX product series was the first fully type tested Medium Voltage soft starter system worldwide. Till today the unique withdraw able power stacks build in an IEC 62271-200 compliant switchgear system provides the smallest footprint soft starter system on the market.



MVE ALL IN ONE MV SOFT STARTER

The MVE and MVX-E soft starter series were designed for markets with technical advanced soft starter specifications. The metal enclosed internal arc type tested switchgear technology provides a very compact, all in one soft starter system.

AUCOM MCS GMBH & CO. KG

Am Mergelberg 2
48324 Sendenhorst
Germany

T: +49 2526 93880-0
F: +49 2526 93880-100
E: sales.eu@aucom.com
W: www.aucom.com

AUCOM MCS LTD

123 Wrights Road
Christchurch 8440
New Zealand

T: +64 3 338 8280
F: +64 3 338 8104
E: sales.nz@aucom.com
W: www.aucom.com

AUCOM STARTING DMCC

Swiss Tower, 10th Floor
Jumeirah Lakes Towers
Dubai / UAE

T: +971 4 2798 349
F: +971 4 4531 083
E: sales.me@aucom.com
W: www.aucom.com

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