

EMX3 SOFT STARTER

Take control
from the
start

AuCom
MOTOR CONTROL SPECIALISTS

RIGHT FROM
THE START

The EMX3 is a comprehensive motor management system for the most demanding soft starting and stopping applications.

With an impressive range of features, the EMX3 delivers superior performance and an unprecedented level of flexibility in a compact and user-friendly package.

The EMX3 doesn't just start and stop your machinery with Constant Current and Current Ramp, it also features the innovative XLR-8 Adaptive Acceleration Control. XLR-8 gives you the ability to precisely manage your starting and stopping acceleration, reducing downtime and eliminating water hammer problems.

The EMX3 is easy to use during installation, commissioning, operation and even troubleshooting.

Quick setup gets your machinery running in next to no time, informative screens advise your operator on the performance of your motor and real language trip messages pinpoint exactly where any issues lie.

Options for control wiring from the top, bottom or left side provide greater flexibility, plus unique wiring looms and cable retainers make for a faster, tidier install.



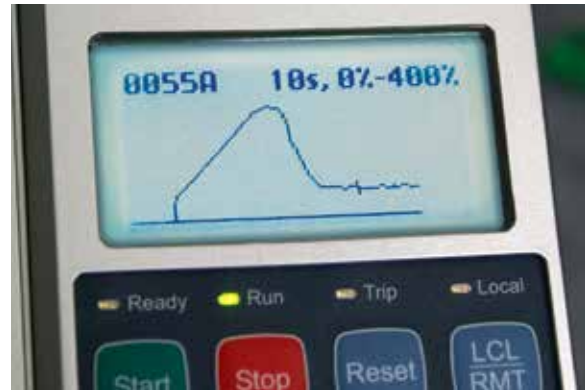
Take control from the start

We've packed the EMX3 with features designed to make your life easier, including real-language feedback messages, so you don't have to look up codes to know what's happening.

We also use real-time graphs of motor operating performance and current, intended to quickly and clearly illustrate exactly how your motor is performing.

With real-time metering displays and a 99-place event log recording time-stamped details of operation and performance, it has never been easier to track how your motor is behaving.

The keypad is easily mounted on the exterior of your enclosure, using an optional keypad mounting kit. When mounting multiple soft starters in a single enclosure, this allows centralised control from a single location, with all the relevant information. Mount a number of displays next to each other for quick diagnosis of problems. (IP65 when mounted).



The EMX3 has been designed for ease of use, and the user-friendly menu is no exception. After a tidy installation, a quick setup guide helps you configure the starter for common applications by suggesting a typical setting, which you can then fine tune to suit your needs, all accessible from the easy to use keypad.

If space is at a premium in your motor control centre, the EMX3's compact size will save you space and trouble. Internal bypass contactors, built-in monitoring and indicators, and extensive on-board input and output functionality reduce the need for space and cost of external equipment, as well as simplifying installation.

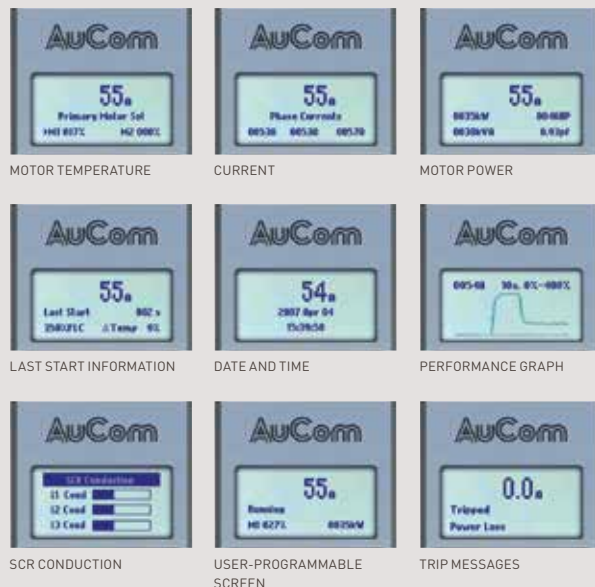


METERING AND MONITORING

The EMX3 delivers an extensive range of information to replace an additional power meter (Amps, kW, kVA, pf).

PROGRAM MULTIPLE UNITS

When programming multiple units, simply plug the keypad into different starters for immediate download of your data. No fuss, no trouble – a smoother start in every sense.



Features and options

ADVANCED OPERATION

To meet the unique requirements of your application, the EMX3 offers a range of advanced features. The EMX3 meets the needs of specific applications including:

- Pumping (eg high head applications)
- Compressors (optimising load control)
- Bandsaws (easy blade alignment)
- Irrigators (built-in timer)

SIMULATIONS

Need to test the installation before connecting a motor? The EMX3 simulation functions let you test the soft starter's operation, external control circuits and associated equipment without connecting the soft starter to line voltage or a motor. The EMX3 has three simulation modes:

Run simulation: simulates a motor starting, running and stopping to ensure correct installation.

Protection simulation: simulates activation of each protection mechanism to confirm correct protection response.

Signalling simulation: simulates output signalling.

REMOVABLE CONNECTORS & UNIQUE WIRING LOOM

Installation is easy with plug-in control terminal blocks. Simply unplug each block, complete the wiring and re-insert the block.

Using the EMX3's unique and flexible cable ways, cables can be efficiently organised for wiring from either the top, left or from below.

Feature Sets	EMX3
MOTOR CONTROL	
Motor sets	2
Constant current and current ramp start	•
XLR-8 adaptive control starting/stopping	•
Kickstart	•
Coast to stop and TVR stop	•
DC brake	•
Jog (forward and reverse)	•
Inside delta (6 wire) control	•
MOTOR PROTECTION	
Motor thermal model	•
Motor thermistor	•
Current imbalance	•
Under/Overcurrent	•
Phase sequence	•
Phase loss	•
Power loss	•
INTEGRATION AND MANAGEMENT	
Multi-language graphical display	•
I/O expansion options	•
Analog output	•
Emergency run	•
SCR fail PowerThrough operation	•
Auto restart	•
COMMUNICATIONS OPTIONS	
Modbus RTU	•
Profibus	•
DeviceNet	•
Modbus TCP	•
Profinet	•
Ethernet/IP	•
ACCESSORIES	
Remote keypad	•
Finger guards	•

CURRENT RATINGS

Internal Bypass	Light AC53b 3.0-10:350	Medium AC53b 3.5-15:345	Heavy AC53b 4.0-20:340	Severe AC53b 4.5-30:330
EMX3-0023B	23 A	20 A	17 A	15 A
EMX3-0043B	43 A	37 A	31 A	26 A
EMX3-0050B	50 A	44 A	37 A	30 A
EMX3-0053B	53 A	53 A	46 A	37 A
Internal Bypass	AC53b 3.0-10:590	AC53b 3.5-15:585	AC53b 4.0-20:580	AC53b 4.5-30:570
EMX3-0076B	76 A	64 A	55 A	47 A
EMX3-0097B	97 A	82 A	69 A	58 A
EMX3-0100B	100 A	88 A	74 A	61 A
EMX3-0105B	105 A	105 A	95 A	78 A
EMX3-0145B	145 A	123 A	106 A	90 A
EMX3-0170B	170 A	145 A	121 A	97 A
EMX3-0200B	200 A	189 A	160 A	134 A
EMX3-0220B	220 A	210 A	178 A	148 A
EMX3-0255B	255 A	231 A	201 A	176 A
EMX3-0350B	350 A	329 A	284 A	244 A
EMX3-0425B	425 A	411 A	355 A	305 A
EMX3-0500B	500 A	445 A	383 A	326 A
EMX3-0580B	580 A	492 A	425 A	364 A
EMX3-0700B	700 A	592 A	512 A	438 A
EMX3-0820B	820 A	705 A	606 A	516 A
EMX3-0920B	920 A	804 A	684 A	571 A
EMX3-1000B	1000 A	936 A	796 A	664 A
Non Bypassed	AC53a 3-10:50-6	AC53a 3.5-15:50-6	AC53a 4-20:50-6	AC53a 4.5-30:50-6
EMX3-0255C	255 A	231 A	201 A	176 A
EMX3-0360C	360 A	360 A	310 A	263 A
EMX3-0380C	380 A	380 A	359 A	299 A
EMX3-0430C	430 A	430 A	368 A	309 A
EMX3-0620C	620 A	620 A	540 A	434 A
EMX3-0650C	650 A	650 A	561 A	455 A
EMX3-0790C	790 A	790 A	714 A	579 A
EMX3-0930C	930 A	930 A	829 A	661 A
EMX3-1200C	1200 A	1200 A	1200 A	1071 A
EMX3-1410C	1410 A	1410 A	1319 A	1114 A
EMX3-1600C	1600 A	1600 A	1600 A	1353 A



All ratings are at 40 °C and <1000 metres.
To calculate inside delta ratings, multiply by 1.5
B = Internally bypassed, C = Non-bypassed
Larger models available on request.

The future starts with AuCom

We develop motor control products for industrial applications across the world. Our focus on research and development, as well as manufacturing, supply and support, ensures that when you choose to work with AuCom, you're working with a global leader. Almost 40 years of experience added to our expertise and ability means you can rely on us to get it right from the start.

OUR APPROACH

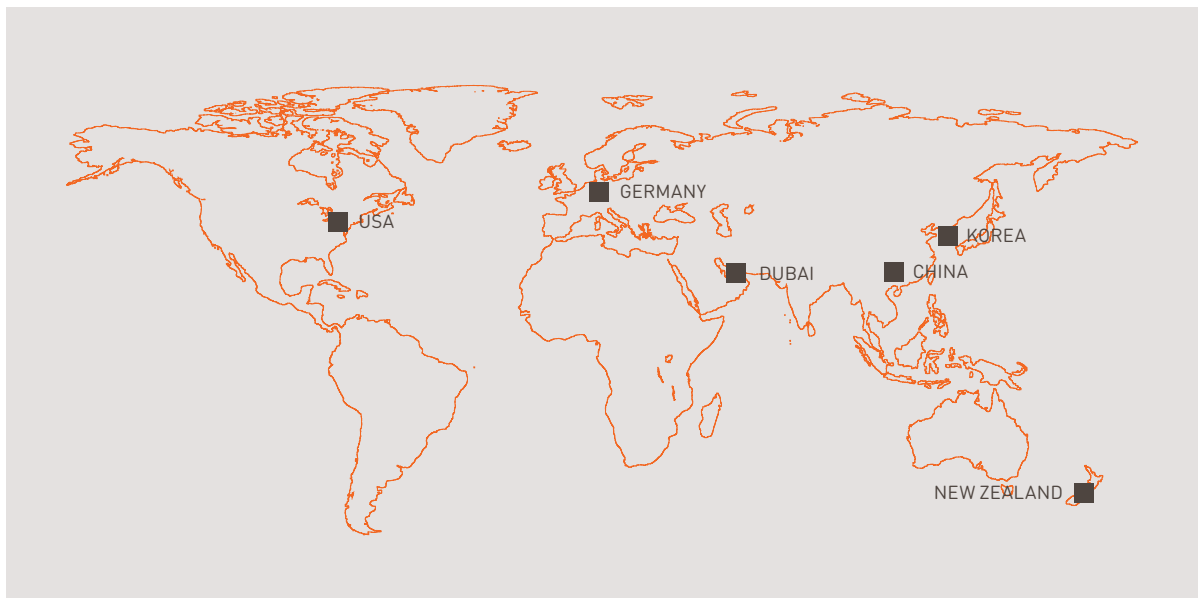
We start with a challenge or application, working with you to define and develop a solution that's not only fit for purpose today, but fully supported into tomorrow.

OUR PEOPLE

The power behind our success doesn't rely on our innovative products alone. Our people play a pivotal role. That's why, with AuCom, it's always personal. Combining dedication and experience with ability and passion, we don't just listen more closely, we draw on the breadth of our expertise to better understand your unique requirements and offer real solutions and ongoing support.

OUR PARTNERS

We choose partners that are experts, not only in soft start and motor control, but in understanding the needs of their industry. We work closely with our partners to ensure customers receive only the best support and advice.



We have high standards

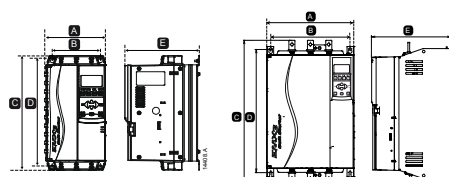
AuCom is accredited to ISO9001:2000, with all products designed and tested to international standards such as IEC 60947-4-2, UL 508, CCC and CISPR-11. All of our products are thoroughly tested in certified facilities and in the field before release, and every soft starter is tested before dispatch.



EMX3 dimensions

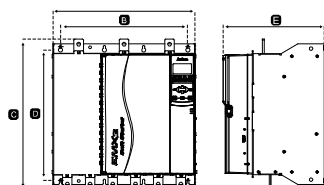
COMPACT DESIGN

The design of the EMX3 allows for multiple units to be mounted side by side, or in a bank of starters due to the flexibility in cabling options. Internally bypassed starters further reduce the overall size of your soft starter.

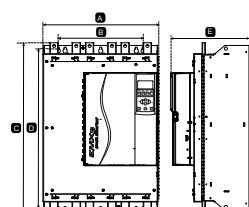


EMX3-0023B ~ 0105B

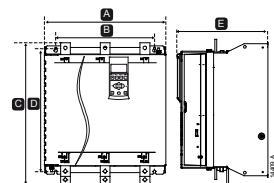
EMX3-0145B ~ 0220B



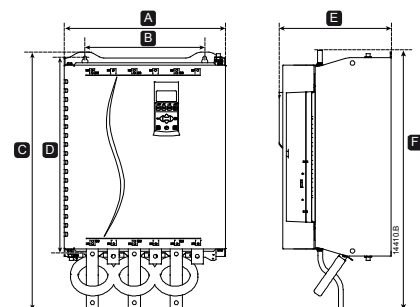
EMX3-0255B ~ 425B



EMX3-0500B ~ 1000B



EMX3-0255C



EMX3-0360C ~ 1600C

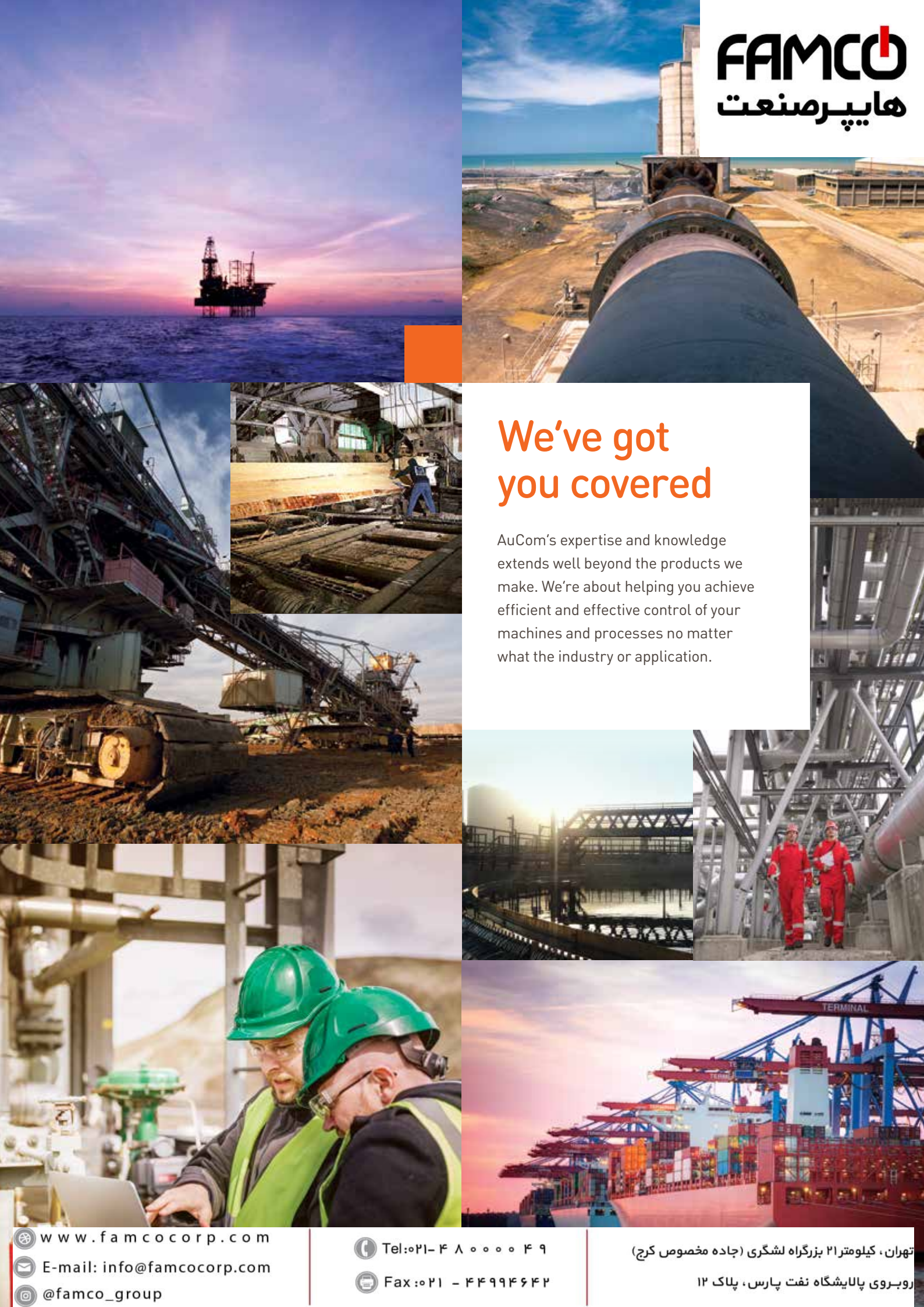
	A	B	C	D	E	F	Weight kg (lbs)
mm (inch)							
EMX3-0023B							
EMX3-0043B					192 (7.6)	N/A	4.2 (9.3)
EMX3-0050B							
EMX3-0053B	156 (6.2)	124 (4.9)	295 (11.7)	278 (10.9)			4.5 (9.9)
EMX3-0076B							
EMX3-0097B					223 (8.8)	N/A	5 (11.0)
EMX3-0100B							
EMX3-0105B							
EMX3-0145B							14 (30.9)
EMX3-0170B	282 (11.2)	250 (9.9)	438 (17.3)	380 (15.0)	250 (9.9)	N/A	14.2 (31.3)
EMX3-0200B							15 (33.1)
EMX3-0220B							
EMX3-0255B							26 (57.3)
EMX3-0350B	424 (16.7)	376 (14.9)	440 (17.4)	392 (15.5)	298 (11.8)	N/A	29.4 (64.8)
EMX3-0425B							
EMX3-0500B							50 (110.2)
EMX3-0580B							
EMX3-0700B	433 (17.1)	320 (12.6)	640 (25.2)	600 (23.7)	295 (11.7)	N/A	63.5 (140.0)
EMX3-0820B							
EMX3-0920B							64 (141.1)
EMX3-1000B							
EMX3-0255C	390 (15.4)	320 (12.6)	460 (18.2)	400 (15.8)	279 (11.0)	N/A	23 (50.7)
EMX3-0360C							
EMX3-0380C							36 (79.4)
EMX3-0430C							
EMX3-0620C	430 (17)	320 (12.6)	689 (27.2)*	522 (20.6)	300 (11.9)	696 (27.5)**	
EMX3-0650C							39.5 (87.1)
EMX3-0790C							
EMX3-0930C							51.5 (113.5)
EMX3-1200C							128.5 (283.3)
EMX3-1410C	574 (22.6)	500 (19.7)	856 (33.8)*	727 (28.7)	361 (14.3)	862 (34)**	130 (286.6)
EMX3-1600C							140 (308.6)

* Dimension C is the height when input and output busbars are at the same end of the unit (top in/ top out or bottom in/bottom out).

** Dimension F applies for either top in/bottom out or bottom in/top out configuration.

We've got you covered

AuCom's expertise and knowledge extends well beyond the products we make. We're about helping you achieve efficient and effective control of your machines and processes no matter what the industry or application.



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AuCom
MOTOR CONTROL SPECIALISTS

RIGHT FROM
THE START



EMX4 SOFT STARTER

Redefining soft starters

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RIGHT FROM
THE START

Our innovation is driven by your ongoing challenges.
The relentless demand for productivity in every aspect
of your operation has impelled us to develop a soft starter
that delivers unsurpassed efficiency, right from the start.

The new EMX4 soft starter helps ensure enhanced productivity
of your operation. The EMX4 doesn't just start and stop your
machinery with precision and efficiency, it also helps you
minimise energy costs and improve operational effectiveness
through the delivery of meaningful data to both operators
and plant automation systems.

AuCom develops motor control solutions for a range of
industrial applications across the world. Our specialised focus
on the research, development and engineering of innovative
customised solutions ensures that when you choose to work
with AuCom, you're working with a global leader.



Like its predecessor, the EMX4 soft starter sets new standards for soft start technology.

EMX4 is not only smaller, more powerful and packed with new control and protection features, it also introduces the game-changing Smart Card capability. Fitting a Smart Card to the EMX4 transforms it from super smart motor controller to complete system controller.

This is truly a starter for the future.



Why not make life easier?

Smart does not have to mean complex. While the EMX4 offers more functionality than ever before, it has been designed to make your life easier. By enhancing the display and connectivity functions, and making them intuitive, it is easier to access the right information when you need it, enhancing your overall efficiency.

We have designed the user experience to include a comprehensive graphical display, quick setup menus and multiple languages. It is also easier to connect with other devices and support services. Connectivity has been enhanced with a suite of communication cards to enable network connections and increase accessibility.

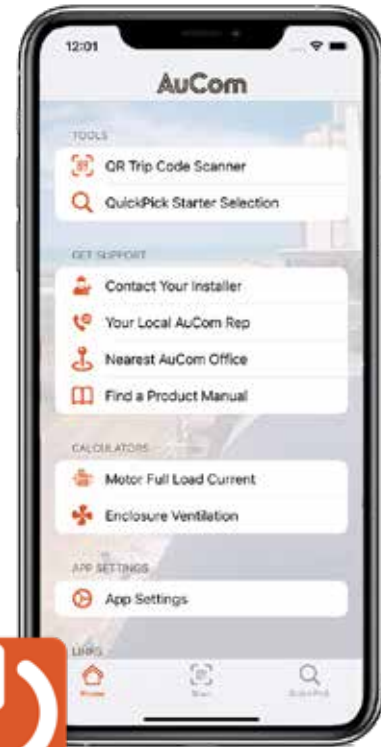
The new USB port allows straightforward upload, download and storage of starter performance information, increasing your ability to manage the system effectively.

Scheduling and automation features enable you to tailor operations to meet your site requirements, minimising manual intervention and ensuring continued operation.

The EMX4 includes starter, motor and system protection functions, complete with alarms to alert you to any potential issues. In the event that the worst does happen, Power Through and Emergency Run functions give you the power to choose to keep running.



Dynamic QR codes allow easy access to useful operational data and event logs that are readable on your mobile device



Start Here

Select

Enter application details to get an instant model recommendation and supporting datasheet.

Diagnose

Scan dynamic QR codes generated by AuCom soft starters to see starter details and comprehensive data related to the last 3 trips. Need support? Send the QR data with the push of a button.

Download

Quick links give you easy web access to materials like users manuals, when and where you need them.

Contact

Connecting with right people is super simple. Details for your local distributor and nearest AuCom office are stored in the in-app database. We're here to keep you running 24/7.

Calculate

Useful tools to make you life easier.

Rely on EMX4

Whether you are responsible for installation, maintenance or operation the EMX4 has got you covered.

Feature	Benefit
Quick Application Setup	Easy commissioning
Simulation Mode	Easy and fast testing during installation and commissioning No need for mains supply and motor
Automatic Timers and Schedulers	Fast and easy automation No need for external logic or timers
Power Through	Minimal downtime on-site Retain most control and protection capabilities
Emergency Mode	Continued operation in emergency situations
USB Port	Easy data retrieval without the need for PC or network No need for adaptor or cable Easy firmware updates Easy and fast commissioning
Pluggable Terminals	Fast installation and unit exchange

Now you can start smart

The EMX4 Smart Card redefines the role of a soft starter. With the appropriate Smart Card installed the EMX4 is able to operate as an entire system controller.

Smart Cards deliver industry or application specific functionality and are easily inserted into the EMX4, simplifying system design, installation and set-up.

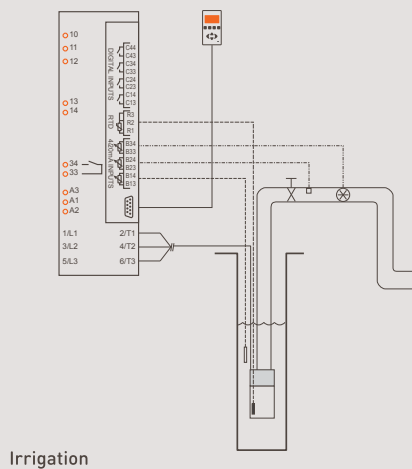
By transforming your EMX4 with an industry specific Smart Card, your system can be purpose-built around one central point of intelligent control and communications.

Utilising this technology will improve overall efficiency of your system, and put you firmly in control.

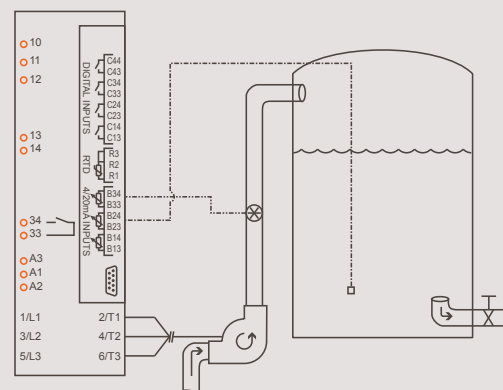


START PUMPING SMART

Installing the Pumping Smart Card allows applicable sensors to be directly connected to the EMX4. This removes the need for extra components normally required to provide this level of specific information and control for your system.



Irrigation



Water Utility Application

The EMX4 Smart Card release program is ongoing. Go to www.aucom.com for available Smart Cards and the opportunity to suggest a development for application or industry.

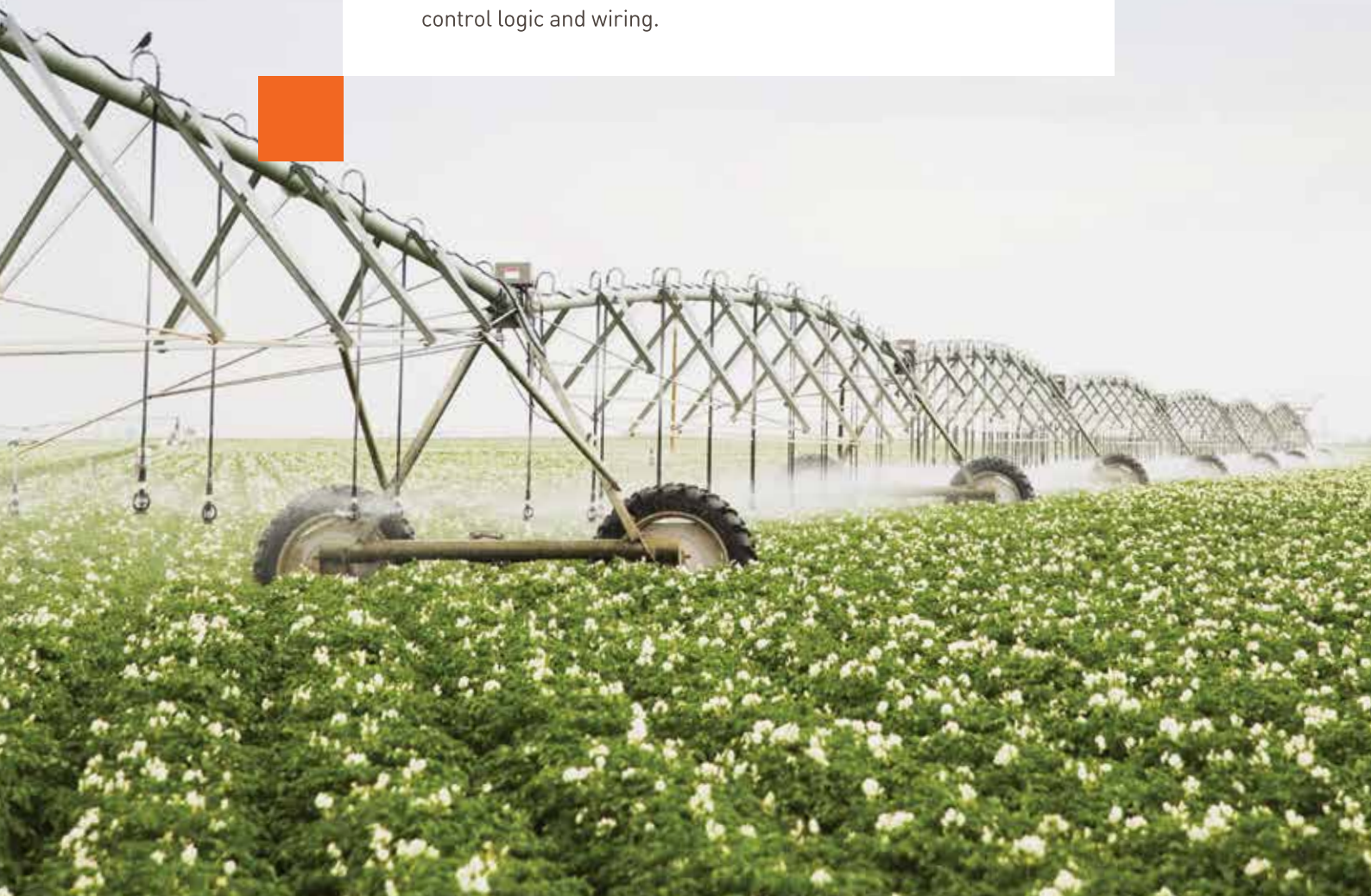
Spray irrigation

EMX4 starters fitted with Pumping Smart Cards are providing farmers with improved control of their spray irrigation.

Built in timers and scheduling functions enable operation to be tailored to match water restrictions and optimal electrical tariffs.

Travel to the pump shed is reduced by the Sleep Mode and Automatic Restart functions. These automatically restart operation after irrigators are shifted or temporary electrical disturbances interrupt irrigation.

All this and more without the cost and complexity of separate control logic and wiring.

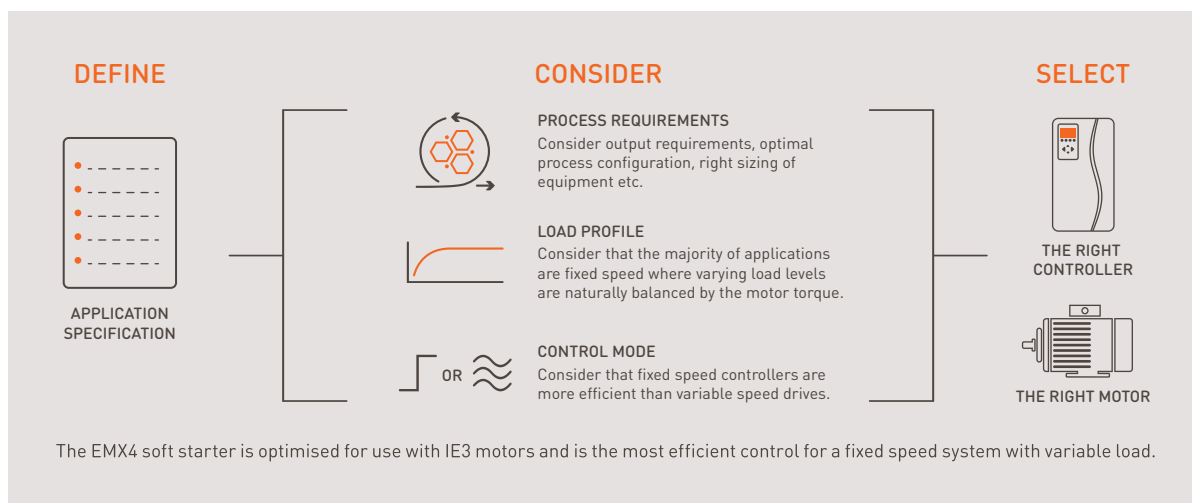


Efficiency starts with us



GET IT RIGHT FROM THE START

Design of energy efficient systems requires consideration of the system as a whole. Using energy efficient components is important but selection of the correct motor control mode (fixed or variable speed) is also critical. Approximately 80% of motor applications are most efficiently operated at a fixed speed. Using a variable speed drive (VSD) with such a system is hugely inefficient, regardless of the efficiency of the motor you are running.



EMX4 – THE MOST ENERGY EFFICIENT OUTCOME FOR FIXED SPEED APPLICATIONS

99.5%
Efficiency

Internal bypass makes EMX4 Soft Starters 99.5% efficient when running.

80%
Reduction in wasted energy

Compared to a misapplied drive the 99.5% efficiency of EMX4 equates to around an 80% reduction in waste energy.

0%
Harmonics

EMX4 produces no harmonics during run, improving overall power quality and eliminating system losses resulting from harmonics.

IE3 CAPABLE

The use of IE3 motors offers the opportunity to maximise efficiency and save on operating costs, however there can be issues associated with starting these type of motors, including:

Higher inrush and starting currents that stress electrical supply circuits.
'Spiky' pullout torque curves can make smooth control more difficult.

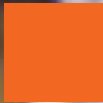
We have developed the EMX4 soft starter to be an ideal partner for running IE3 motors.

Our innovative XLR-8 adaptive acceleration technology auto-tunes for the connected motor (IE2 or IE3) and gives you precise control over the acceleration and deceleration of your motor without any of the downsides.

Conveyor control

An energy audit of a quarry identified a VSD controlled 132 kW conveyor that always operated at full speed. An EMX4 soft starter offered this fixed speed application savings of > €1,750 p.a. as well as a reduction in site harmonics.

Correctly identifying this conveyor as a fixed speed application at installation would have substantially reduced the capital costs. Using an EMX4 with a fixed speed application delivers superior acceleration and deceleration performance, advanced motor protection and communications functions.



Features and options

Feature Sets	EMX4e	EMX4i
MOTOR CONTROL		
Motor sets	1	2
Constant current and current ramp start	•	•
Adaptive control starting/stopping	•	•
Kickstart		•
Coast to stop and TVR stop	•	•
DC brake		•
Soft brake		•
Jog (forward and reverse)		•
Inside delta (6 wire) control		•
Soft trip	•	•
Pump clean		•
Reversing contactor control		•
MOTOR PROTECTION		
Motor thermistor	•	•
Current imbalance	•	•
Under/Overcurrent	•	•
Under/Overvoltage		•
Under/Overpower (dry pump protection)		•
Phase sequence (forward/reverse/any)	•	•
Phase loss	•	•
Power loss	•	•
Starts per hour limiting	•	•
Restart delay (pump back spin delay)	•	•
INTEGRATION AND MANAGEMENT		
Multi-language graphical display	•	•
Configurable display screen	•	•
I/O and network expansion options	•	•
USB port and data logging	•	•
Analog output	•	•
Emergency run	•	•
Voltage measurement		•
SCR fail PowerThrough operation		•
Daily on/off scheduling		•
Run timer mode (on/off cycle timer)		•
Run simulation	•	•



XLR-8 ACCELERATION CONTROL

Torque or current control start modes influence acceleration but only XLR-8 puts you in direct control of ramp profiles and start times.

Select a ramp profile and time then let the EMX4 do the rest. XLR-8 technology auto-tunes for the connected motor and load conditions to deliver the specified performance.

Feature Sets	EMX4e	EMX4i
COMMUNICATIONS OPTIONS		
Modbus RTU	•	•
Profibus	•	•
DeviceNet	•	•
Modbus TCP (IoT Capable [MQTT, OPC UA])	•	•
Profinet (IoT Capable [MQTT, OPC UA])	•	•
Ethernet/IP (IoT Capable [MQTT, OPC UA])	•	•
SMART CARD OPTIONS		
Pumping Smart Card	•	•
ACCESSORIES		
Remote Keypad	•	•
Ground Fault	•	•

Banishing water hammer

There are multiple causes of water hammer and each pump system has unique characteristics. For these reasons, ensuring a pump system is free of water hammer can be a complicated task.

Pumping engineers around the world are relying on AuCom's unique XLR-8 technology to help tune pump starting and stopping for optimal results. XLR-8 provides a choice of ramp profiles to deal with the different causes of water hammer. So whether you are trying to prevent rapid changes in flow rate, flow direction, or water column separation and closure, XLR-8 puts the right start and stop profile at your fingertips.

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OUR APPROACH

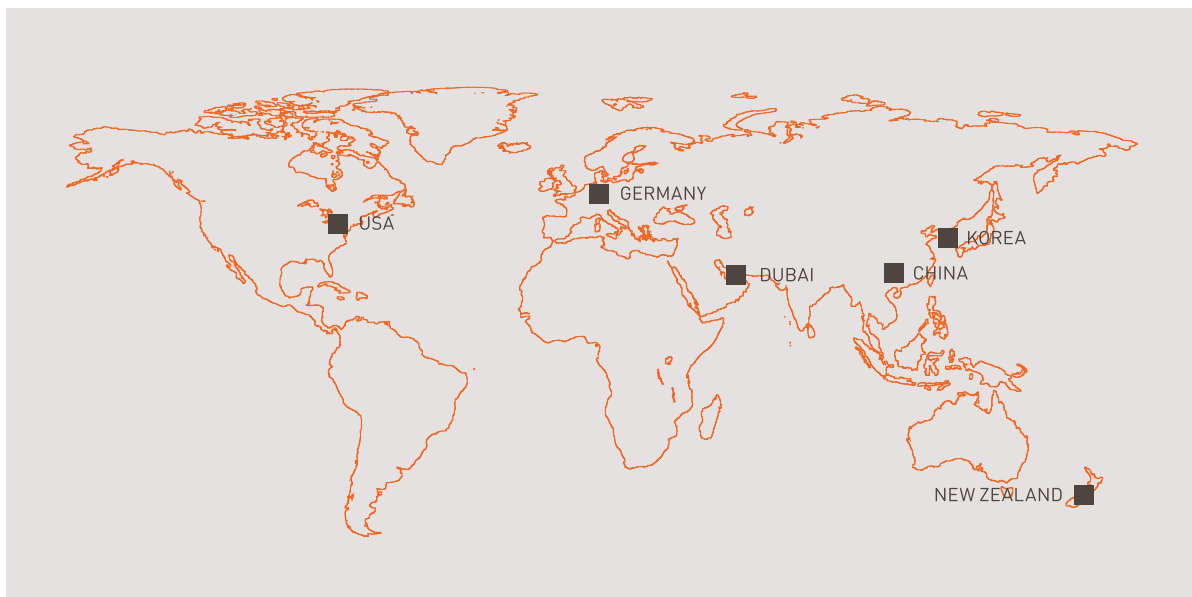
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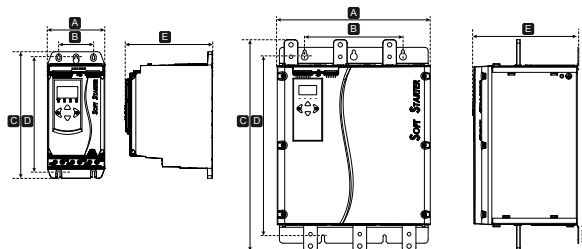
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EMX4 specifications (≤ 690 V)

DIMENSIONS AND WEIGHTS



	Width mm (inch)		Height mm (inch)		Depth mm (inch)	Weight kg (lb)
	A	B	C	D	E	
EMX4-0024B						4.8
EMX4-0042B						(10.7)
EMX4-0052B						4.9
EMX4-0064B	152	92	336	307	231	(10.9)
EMX4-0069B	(6.0)	(3.6)	(13.2)	(12.1)	(9.1)	
EMX4-0105B						5.5
EMX4-0115B						(12.1)
EMX4-0135B						
EMX4-0184B						
EMX4-0200B			495			12.7
EMX4-0229B			(19.5)			(28.0)
EMX4-0250B						
EMX4-0352B	216	180		450	243	15.5
EMX4-0397B	(8.5)	(7.1)		(17.7)	(9.6)	(34.2)
EMX4-0410B			523			
EMX4-0550B			(20.6)			19.0
EMX4-0580B						(41.9)
EMX4-0835B						51
EMX4-0940B						(112.4)
EMX4-1070B						62 (136.7)
EMX4-1230B						63 (138.9)
EMX4-1250B	446	287	618	540	310	65 (143.3)
EMX4-0735C	(17.6)	(11.3)	(24.3)	(21.3)	(12.2)	47
EMX4-0830C						(103.6)
EMX4-1025C						58 (127.9)
EMX4-1170C						59 (130.1)
EMX4-1220C						61 (134.5)

CURRENT RATINGS

	AC53b 3.0 - 10:350 40°C < 1000m	AC53b 3.5 - 15:345 40°C < 1000m	AC53b 4.0 - 10:350 40°C < 1000m	AC53b 4.0 - 20:340 40°C < 1000m
EMX4-0024B	24	20	19	16
EMX4-0042B	42	34	34	27
EMX4-0052B	52	42	39	35
	AC53b 3.0 - 10:590 40°C < 1000m	AC53b 3.5 - 15:585 40°C < 1000m	AC53b 4.0 - 10:590 40°C < 1000m	AC53b 4.0 - 20:580 40°C < 1000m
EMX4-0064B	64	63	60	51
EMX4-0069B	69	69	69	62
EMX4-0105B	105	86	84	69
EMX4-0115B	115	108	105	86
EMX4-0135B	135	129	126	103
EMX4-0184B	184	144	139	116
EMX4-0200B	200	171	165	138
EMX4-0229B	229	194	187	157
EMX4-0250B	250	244	230	200
EMX4-0352B	352	287	277	234
EMX4-0397B	397	323	311	263
EMX4-0410B	410	410	410	380
EMX4-0550B	550	527	506	427
EMX4-0580B	580	579	555	470
EMX4-0835B	835	654	631	535
EMX4-0940B	940	736	708	603
EMX4-1070B	1070	950	905	785
EMX4-1230B	1230	1154	1090	959
EMX4-1250B	1250	1250	1250	1156
	AC53a 3.0 - 10:50-6 40°C < 1000m	AC53a 3.5 - 15:50-6 40°C < 1000m	AC53a 4.0 - 10:50-6 40°C < 1000m	AC53a 4.0 - 20:50-6 40°C < 1000m
EMX4-0735C	735	590	572	492
EMX4-0830C	830	667	645	557
EMX4-1025C	1025	839	805	710
EMX4-1170C	1170	979	934	838
EMX4-1220C	1220	1134	1109	964

* EMX4-xxxxC models are not internally bypassed and are rated for continuous operation

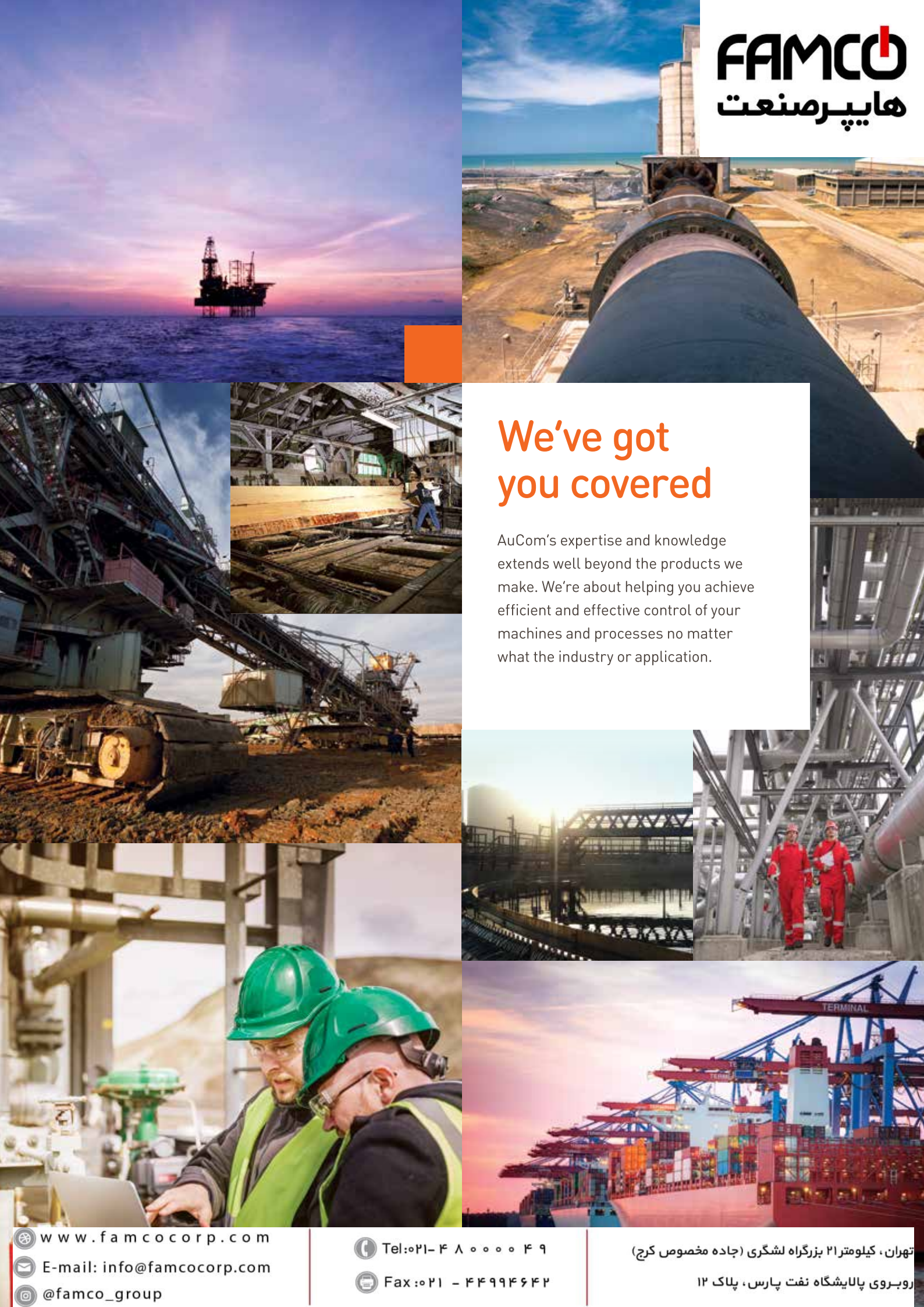
EMX4 specifications (≤ 1200 V)

	Width mm (inch)		Height mm (inch)		Depth mm (inch)	Weight kg (lb)
	A	B	C	D	E	
EMX4i-0202E						62
EMX4i-0287E						(136.7)
EMX4i-0387E	447	187	662	585	306	
EMX4i-0564E	(17.6)	(7.4)	(26.1)	(23.0)	(12.1)	63.5
EMX4i-0629E						(140.0)

	AC53b 3.0 - 10:1790 40°C < 1000m	AC53b 3.5 - 15:1785 40°C < 1000m	AC53b 4.0 - 10:1790 40°C < 1000m	AC53b 4.0 - 20:1790 40°C < 1000m
EMX4i-0202E	202	165	152	140
EMX4i-0287E	287	233	215	197
EMX4i-0387E	387	315	290	267
EMX4i-0564E	564	444	423	366
EMX4i-0629E	629	503	478	414

We've got you covered

AuCom's expertise and knowledge extends well beyond the products we make. We're about helping you achieve efficient and effective control of your machines and processes no matter what the industry or application.



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For more information and your local contact visit www.aucom.com

AuCom
MOTOR CONTROL SPECIALISTS

RIGHT FROM
THE START

AuCom

Ready

Run

CSX SOFT STARTER

Making soft starters simple

AuCom
MOTOR CONTROL SPECIALISTS

RIGHT FROM
THE START

Making soft starters simple

Our CSX Series soft starters allow you greater control over the starting and stopping of three phase motors. The CSX is ideal as a simple soft start control device, whilst the CSXi provides an advanced soft start system complete with motor protection.

CSX

The CSX soft starter employs a timed voltage ramp system, which provides you with greater control over soft start and soft stop performance, reducing energy costs and enhancing the efficiency of your motor.

Simple operation features and the built-in bypass function are housed in a compact package, giving a cost-effective solution for stopping and starting control.

CSXi

The CSXi soft starter is a constant current system, complete with current measurement and control.

In addition to soft start and soft stop, the CSXi provides a range of motor protection functions, including motor overload, phase loss and excess start time.

The CSXi also features a programmable relay.



COMPACT DESIGN

The CSX soft starter is a compact unit suitable for mounting in a switchboard or motor control centre without the need for an external bypass contactor. At only 165 mm deep it is easy to mount in shallow switchboards.

For motors up to 60 A the soft starter can be mounted on a DIN-rail, or the CSX may be mounted in a bank horizontally to use less space, often critical in certain switchboards.

ENERGY SAVINGS

We have made energy savings simple. CSX soft starters are equipped with an internal bypass function to reduce operating costs. CSX starters are 99.5% efficient during run, produce no harmonics and are the most energy efficient solution for fixed speed applications with variable load.

SIMPLE TO INTEGRATE

With features such as dedicated output relays to control the upstream main contactor and power factor correction capacitors, CSX soft starters are easy to integrate into complete motor control solutions.

PROTECTION

The CSXi has built-in thermal model motor overload protection. The motor current is continuously monitored and the expected temperature is calculated based on this monitored current.

The user sets the Motor Trip Class, and the CSXi will trip when the calculated motor temperature reaches 105%.

An external motor protection device is not required when using a CSXi soft starter.



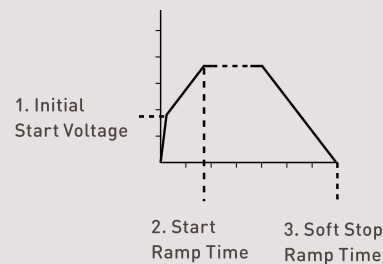
Control made easier

CSX SERIES

Three adjustments can be made on the CSX soft starter:

- Initial start voltage
- Start ramp time
- Soft stop ramp time

CSX CONTROL PANEL



TRIP MESSAGES

The CSX Series allows for fast diagnosis of a trip via two LEDs on the front of the unit. LEDs will flash to indicate the trip. (Note: some trip messages available only on the CSXi or with an optional accessory).



Indicator	Description	CSX	CSXi
○	No control power	•	•
●	Ready	•	•
⚡	Tripped	•	•
Flash Code	Description		
⚡ x 1	Power circuit	•	•
⚡ x 2	Excess start time		•
⚡ x 3	Motor overload		•
⚡ x 4	Motor thermistor		•
⚡ x 5	Current imbalance		•
⚡ x 6	Supply frequency	•	•
⚡ x 7	Phase rotation		•
⚡ x 8	Network communication failure	Opt	Opt
⚡ x 9	Starter communication failure	Opt	Opt
⚡ x 10	Bypass overload		•

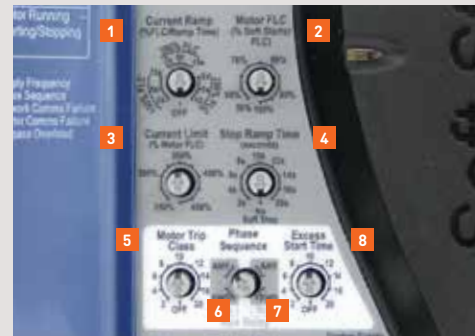
*Protection feature standard

CSXi SERIES

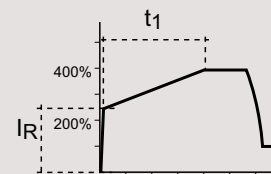
The CSXi has several adjustments for more control:

- Current ramp
- Motor FLC
- Current limit
- Stop ramp time
- Motor trip class
- Auxiliary relay
- Phase sequence
- Excess start time

CSXi CONTROL PANEL



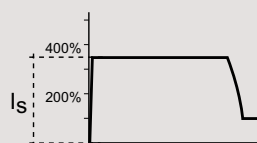
1. Current Ramp



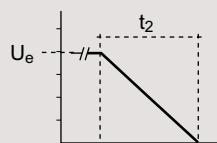
CSXi CONTROL PANEL

2. Motor FLC
CSXi FLC

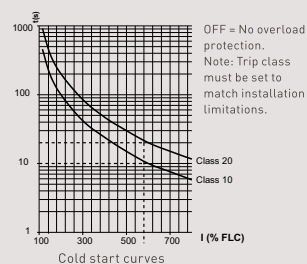
3. Current Limit



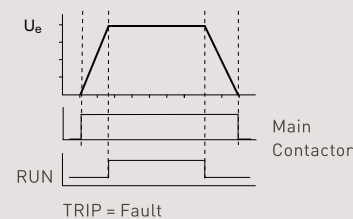
4. Stop Ramp Time



5. Motor Trip Class



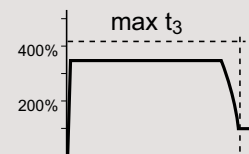
6. Aux Relay Function



7. Phase Sequence

	FWD	ANY
L1 L2 L3	✓	✓
L1 L2 L3	✗	✓

8. Excess Start time



CSX Series features & options

Feature Sets	CSX	CSXi
STARTING FUNCTIONS		
Timed voltage ramp	•	
Constant current		•
Current ramp		•
STOPPING		
Coast to stop	•	•
Soft stop	•	•
PROTECTION		
Motor overload		•
Phase loss		•
Excess start time		•
Phase sequence		•
Current imbalance		•
Motor thermistor		•
Power circuit fault	•	•
Supply frequency	•	•
Instantaneous overcurrent		•
Bypass overload		•
Communications failure	•	•
INTERFACE		
Fixed relay output (main contractor relay)	•	•
Programmable relay (trip or run)		•
Run relay output	•	•
ACCESSORIES (OPTIONAL)		
Remote operator	•	•
Modbus	•	•
Profibus	•	•
DeviceNet	•	•
PC software	•	•
Ethernet/IP	•	•
Modbus TCP	•	•
Profinet	•	•



Efficient motor control

GET IT RIGHT FROM THE START

Design of energy efficient systems requires consideration of the system as a whole. Using energy efficient components is important but selection of the correct motor control mode (fixed or variable speed) is also critical. Approximately 80% of motor applications are most efficiently operated at a fixed speed. Using a variable speed drive (VSD) with such a system is hugely inefficient, regardless of the efficiency of the motor you are running.

CSX – THE MOST ENERGY EFFICIENT OUTCOME FOR FIXED SPEED APPLICATIONS

99.5%
Efficiency

Internal bypass makes CSX Series soft starters 99.5% efficient when running.

80%
Reduction in
wasted energy

Compared to a misapplied drive, the 99.5% efficiency of CSX Series equates to around an 80% reduction in waste energy.

0%
Harmonics

CSX Series produces no harmonics during run, improving overall power quality and eliminating system losses resulting from harmonics.



The future starts with AuCom

We develop motor control products for industrial applications across the world. Our focus on research and development, as well as manufacturing, supply and support, ensures that when you choose to work with AuCom, you're working with a global leader. Almost 40 years of experience added to our expertise and ability means you can rely on us to get it right from the start.

OUR APPROACH

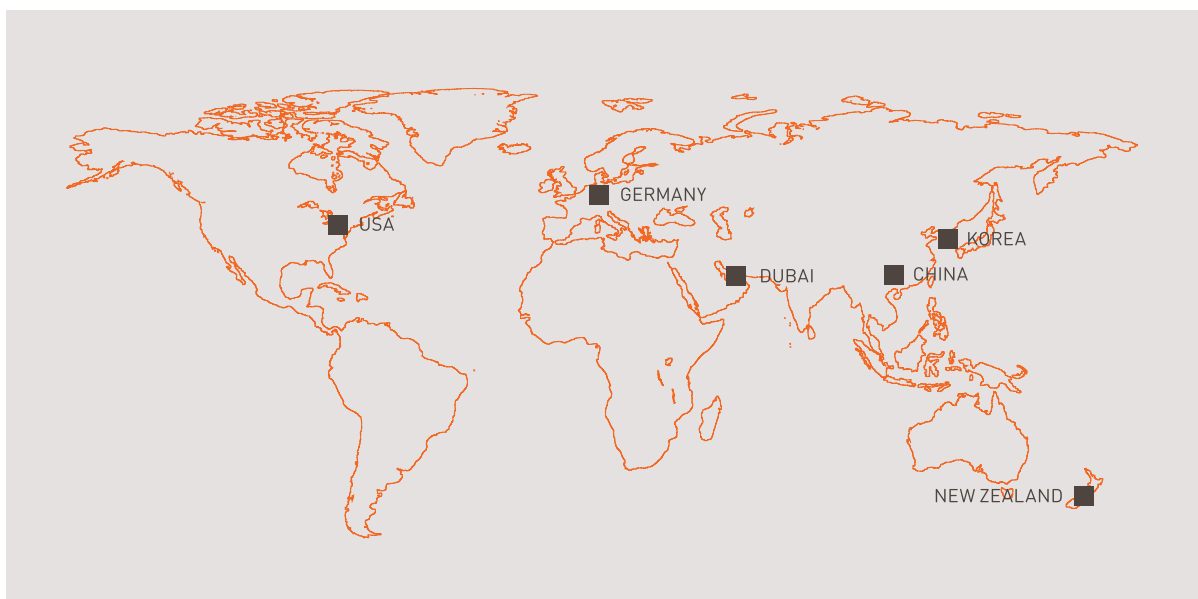
We start with a challenge or application, working with you to define and develop a solution that's not only fit for purpose today, but fully supported into tomorrow.

OUR PEOPLE

The power behind our success doesn't rely on our innovative products alone. Our people play a pivotal role. That's why, with AuCom, it's always personal. Combining dedication and experience with ability and passion, we don't just listen more closely, we draw on the breadth of our expertise to better understand your unique requirements and offer real solutions and ongoing support.

OUR PARTNERS

We choose partners that are experts, not only in soft start and motor control, but in understanding the needs of their industry. We work closely with our partners to ensure customers receive only the best support and advice.



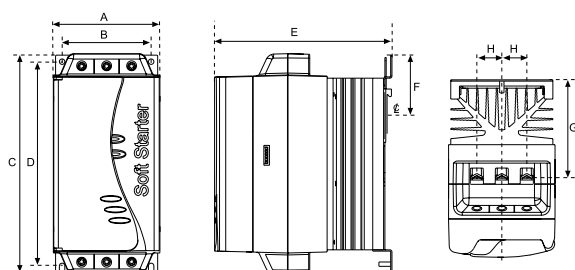
We have high standards

AuCom is accredited to ISO9001:2000, with all products designed and tested to international standards such as IEC 60947-4-2, UL 508, CCC and CISPR-11. All of our products are thoroughly tested in certified facilities and in the field before release, and every soft starter is tested before dispatch.



CSX Series specifications

DIMENSIONS AND WEIGHTS



	A	B	C	D	E	F	G	H	Weight kg (lbs)	
	mm (inches)								CSX	CSXi
CSX-007										
CSX-015										
CSX-018	89 (3.86)	82 (3.23)	203 (7.99)	188 (7.40)	165 (6.50)	55 (2.17)	90.5 (3.56)	23 (0.9)	2.5 (4.85)	2.4 (5.29)
CSX-022										
CSX-030										
CSX-037										
CSX-045	145 (5.71)	124 (4.88)	215 (8.46)	196 (7.71)	193 (7.60)	-	110.5 (4.35)	37 (1.46)	4.0 (8.82)	4.3 (9.48)
CSX-055										
CSX-075										
CSX-090	202 (7.95)	160 (6.30)	240 (9.45)	204 (8.03)	214 (8.43)	-	114.5 (4.50)	51 (2.0)	6.1 (13.45)	6.8 (14.99)
CSX-110										

CURRENT RATINGS

	AC53b 4-6:354 < 1000 m		AC53b 4-20:340 < 1000 m	
	40°C	50°C	40°C	50°C
CSX-007	18 A	17 A	17 A	15 A
CSX-015	34 A	32 A	30 A	28 A
CSX-018	42 A	40 A	36 A	33 A
CSX-022	48 A	44 A	40 A	36 A
CSX-030	60 A	55 A	49 A	45 A
	AC53b 4-6:594 < 1000 m		AC53b 4-20:580 < 1000 m	
	40°C	50°C	40°C	50°C
CSX-037	75 A	68 A	65 A	59 A
CSX-045	85 A	78 A	73 A	67 A
CSX-055	100 A	100 A	96 A	87 A
CSX-075	140 A	133 A	120 A	100 A
CSX-090	170 A	157 A	142 A	130 A
CSX-110	200 A	186 A	165 A	152 A

Other solutions

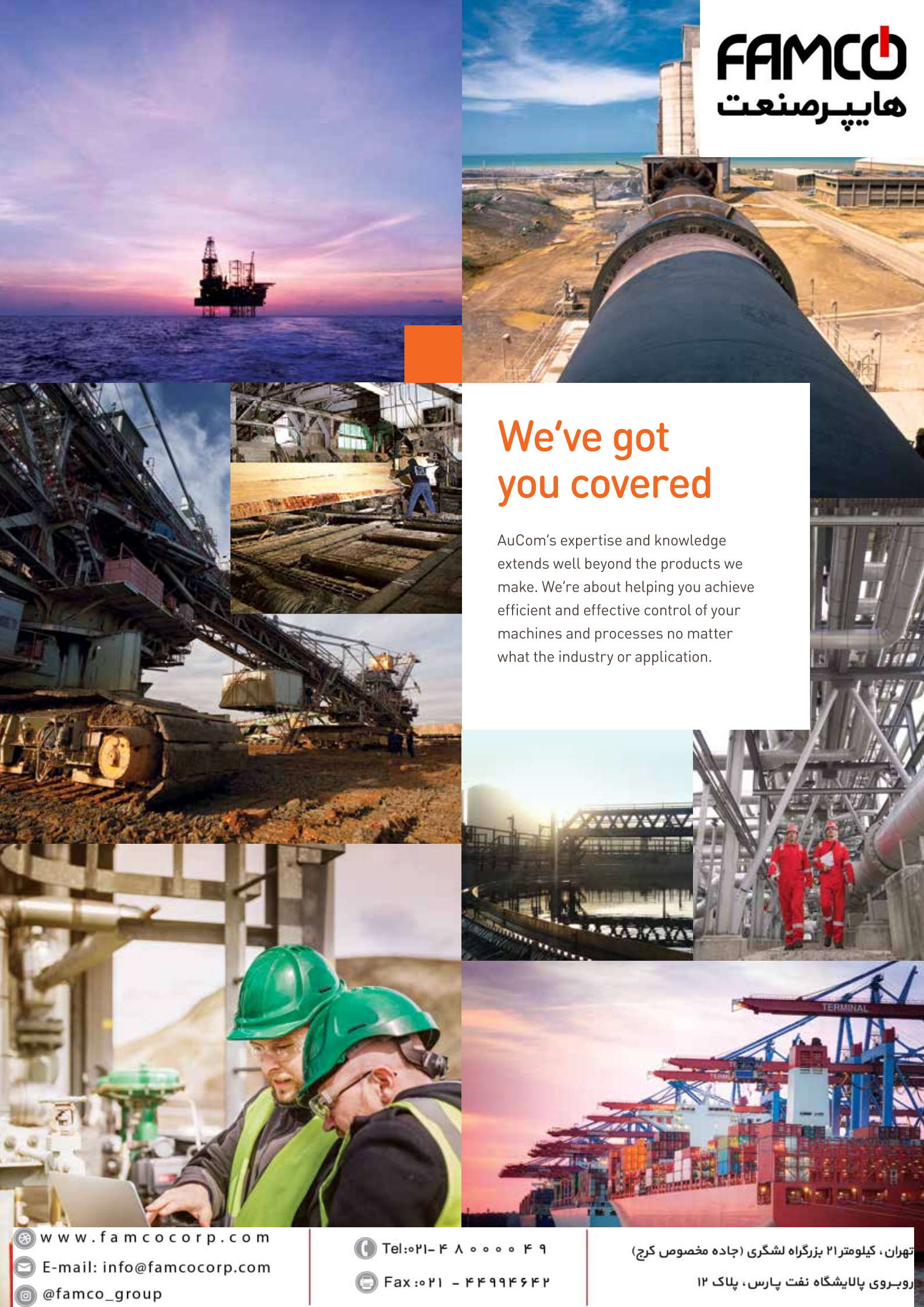
AuCom offers a complete range of soft starters. Whether you need a simple product for starting only, or a comprehensive motor control panel you can trust AuCom to offer a product to match.

	Soft Start	Motor Protection	Advanced Interface	Internal Bypass	Current Range	Voltage Range
CSX	•			•	≤ 200 A	≤ 575 VAC
CSXi	•	•		•	≤ 200 A	≤ 575 VAC
EMX4	•	•	•	•	≤ 870 A	≤ 690 VAC
MV Series	•	•	•	•	≤ 800 A *	≤ 15 kV

*Up to 10 kA available on request.

We've got you covered

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RIGHT FROM
THE START