EMX4 SOFT STARTER

Redefining soft starters

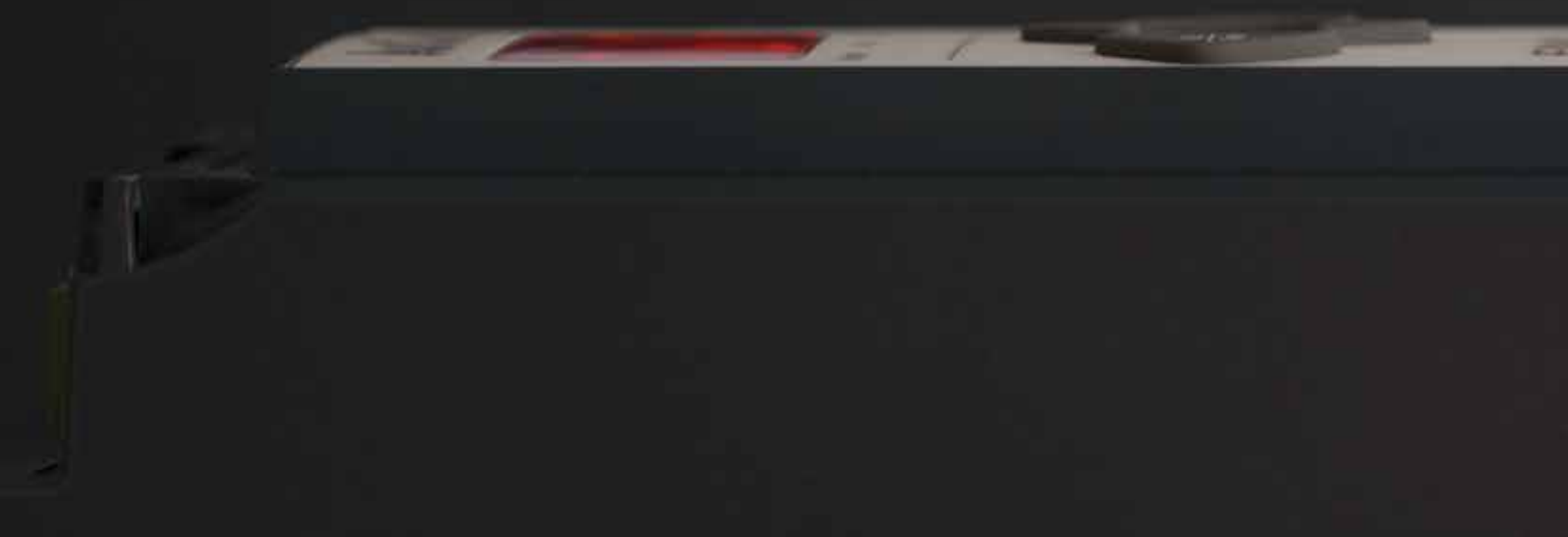
AuCom
MOTOR CONTROL SPECIALISTS

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.

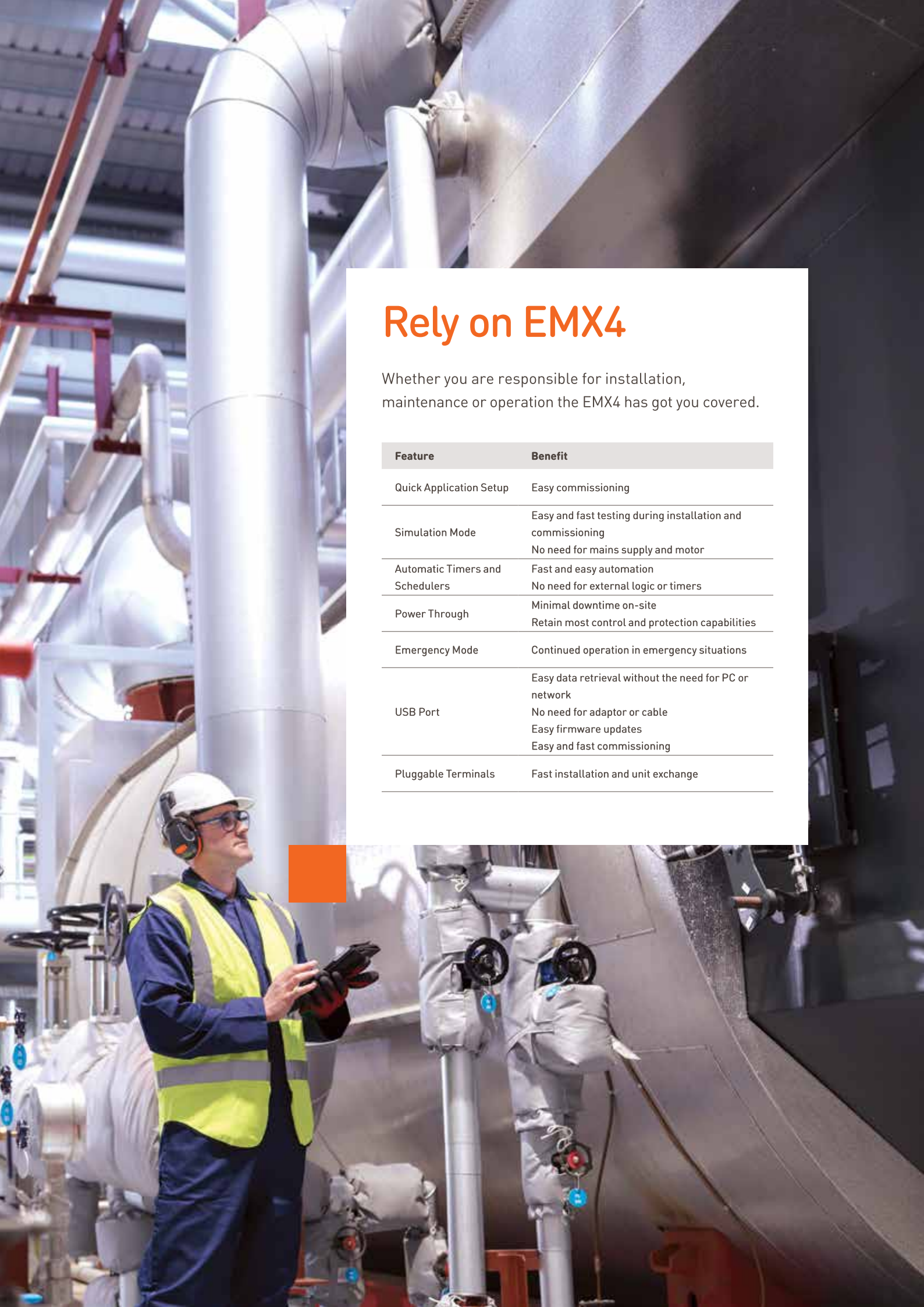
Scheduling and automation features enable you to tailor operations to meet your site requirements, minimising manual intervention and ensuring continued operation.

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.

Troubleshooting starting and stopping issues is now easier than ever with the AuCom Pocket Technician app. Easily retrieve useful data from any EMX4 soft starter, including starter model, status, and details of the last three trip events. View the data on-site and diagnose issues in the field, or share it with your local support team for further assistance - all at the push of a button.

Useful operational and event logs

Try it yourself! Download the app on iOS or Android and scan the QR code above.



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.

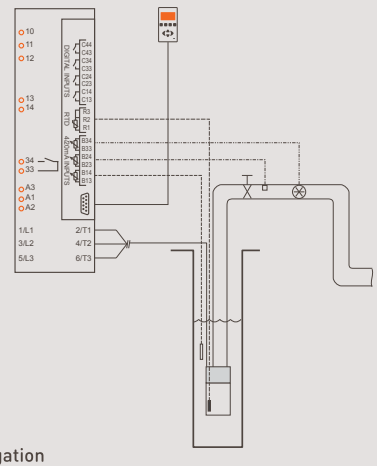
Smart Cards deliver industry or application specific functionality and are easily inserted into the EMX4, simplifying system design, installation and set-up.

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.

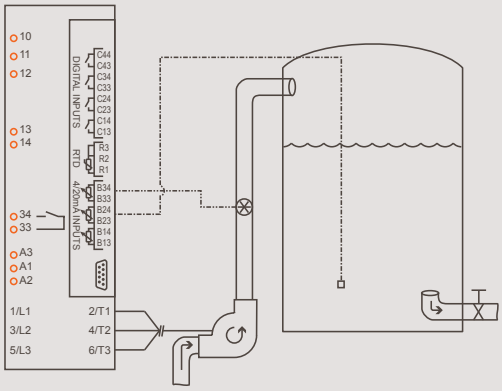
Utilising this technology will improve overall efficiency of your system, and put you firmly in control.

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

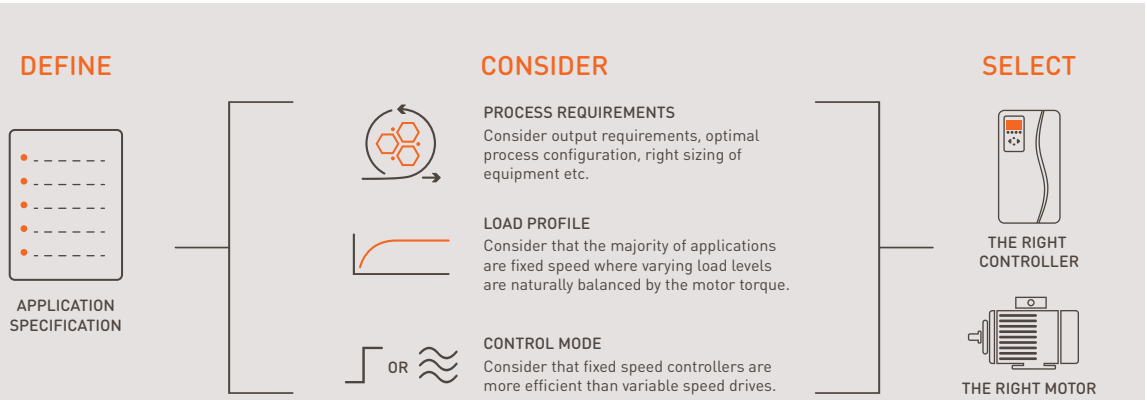
EMX4 starters fitted with Pumping Smart Cards are providing farmers with improved control of their spray irrigation.

- 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.



The EMX4 soft starter is optimised for use with IE3 motors and is the most efficient control for a fixed speed system with variable load.

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	•	•
Profinet	•	•
Ethernet/IP	•	•
SMART CARD OPTIONS		
Pumping Smart Card	•	•
ACCESSORIES		
Remote Keypad	•	•

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.

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. Forty years of experience added to our expertise and ability means you can rely on us to get it right from the start.

OUR APPROACH

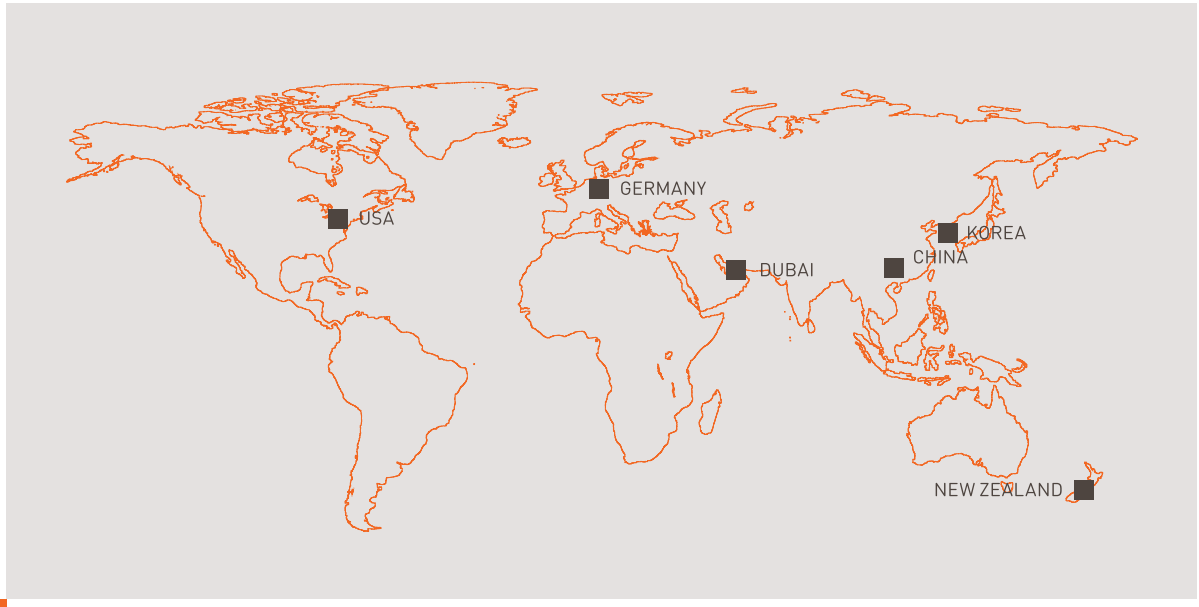
We start with a challenge or application, working with you to define and develop a solution that's not only fit for purpose today, but fully supported into tomorrow.

OUR 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.

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.

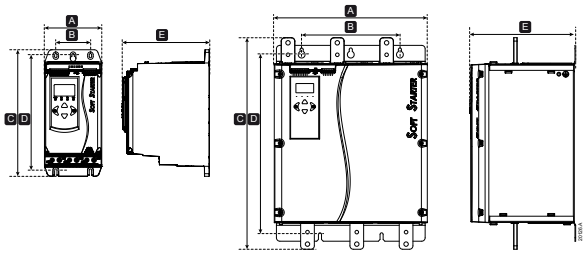


We have high standards

AuCom is accredited to ISO9001:2000, with all products designed and tested to international standards such as UL/IEC 60947-4-2, 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.

EMX4 specifications

DIMENSIONS AND WEIGHTS



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

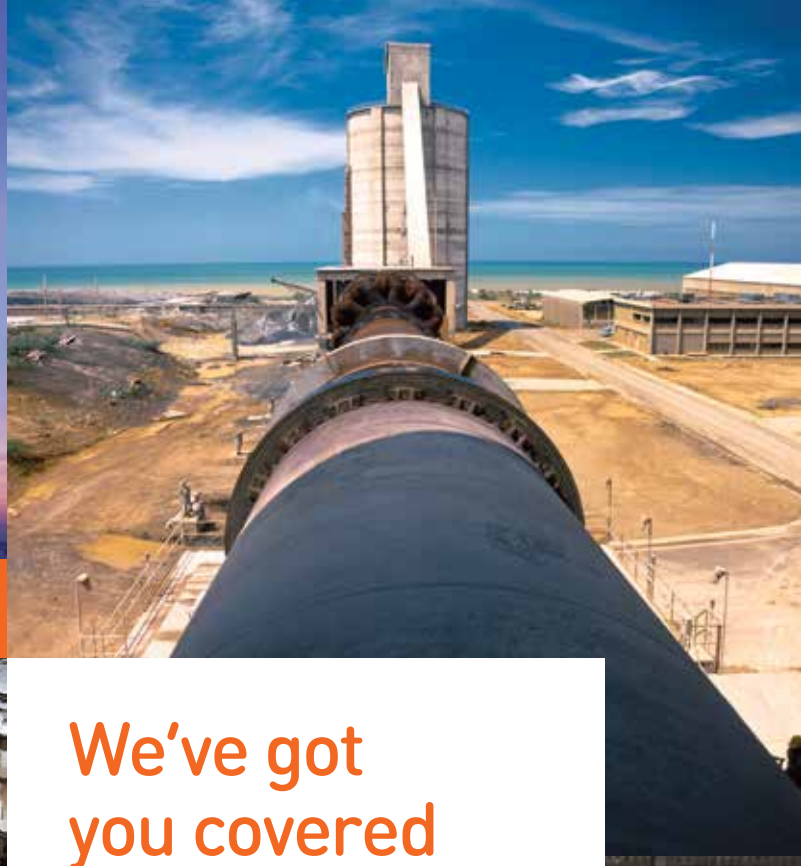
CURRENT RATINGS

	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

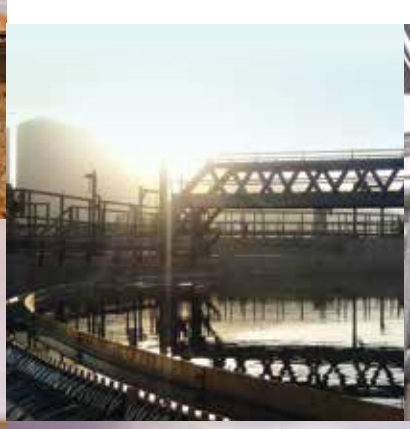
Other solutions

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.



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

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