

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**

1. Initial Start Voltage

2. Start Ramp Time

3. Soft Stop Ramp Time

## 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		•

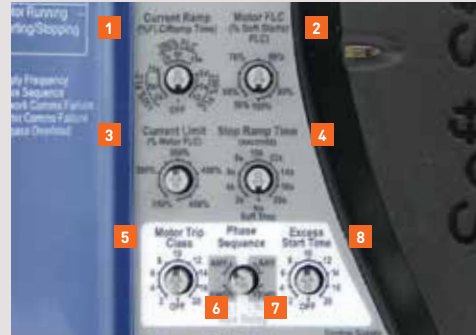
\*Protection feature standard

## CSXi SERIES

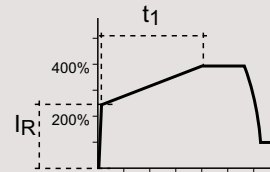
The CSXi has several adjustments for more control:

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

### CSXi CONTROL PANEL



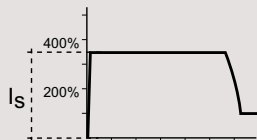
1. Current Ramp



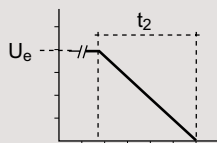
### CSXi CONTROL PANEL

2. Motor FLC  
CSXi FLC

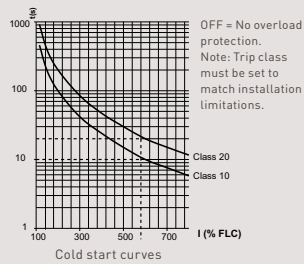
3. Current Limit



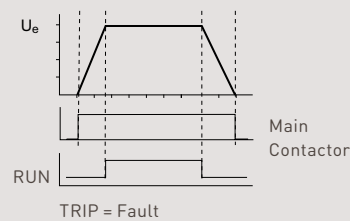
4. Stop Ramp Time



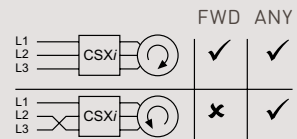
5. Motor Trip Class



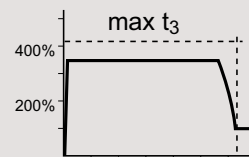
6. Aux Relay Function



7. Phase Sequence



8. Excess Start time



# CSX Series features & options

Feature Sets	CSX	CSXi
<b>STARTING FUNCTIONS</b>		
Timed voltage ramp	•	
Constant current		•
Current ramp		•
<b>STOPPING</b>		
Coast to stop	•	•
Soft stop	•	•
<b>PROTECTION</b>		
Motor overload		•
Phase loss		•
Excess start time		•
Phase sequence		•
Current imbalance		•
Motor thermistor		•
Power circuit fault	•	•
Supply frequency	•	•
Instantaneous overcurrent		•
Bypass overload		•
Communications failure	•	•
<b>INTERFACE</b>		
Fixed relay output (main contractor relay)	•	•
Programmable relay (trip or run)		•
Run relay output	•	•
<b>ACCESSORIES (OPTIONAL)</b>		
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

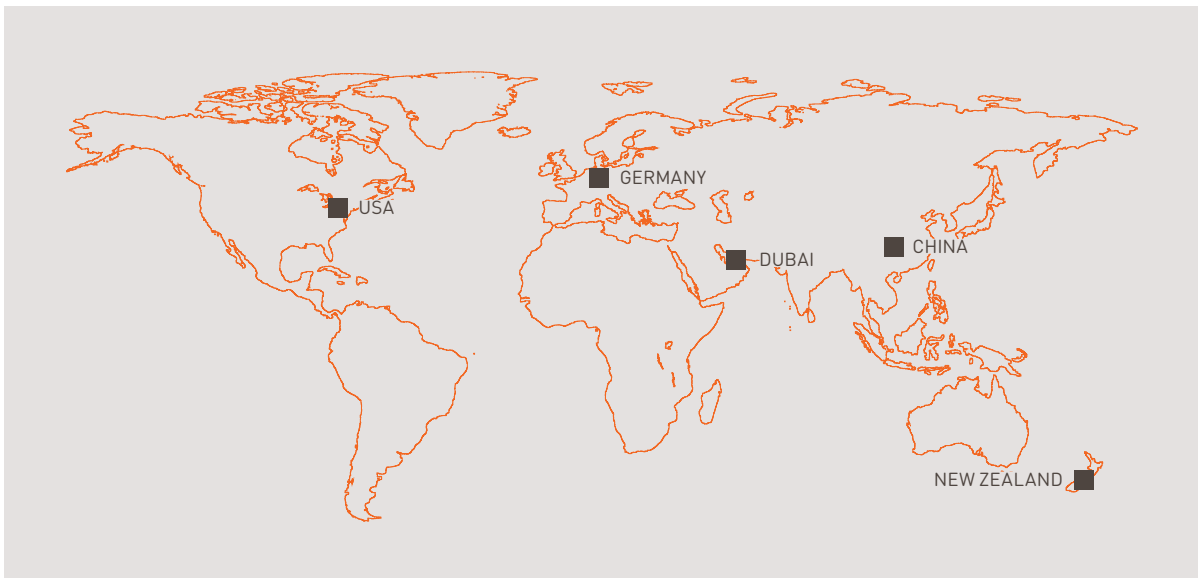
We start with a challenge or application, working with you to define and develop a solution that's not only fit for purpose today, but fully supported into tomorrow.

## 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.





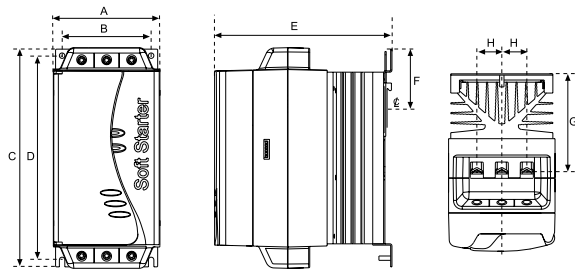
# We have high standards

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

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.



New Zealand

123 Wrights Road, PO Box 80208, Christchurch 8440, New Zealand  
T +64 3 338 8280 F +64 3 338 8104

China

203-1 JH Plaza, 2008 Huqingping Road, Shanghai 201702, China  
T +86 21 5877 5178 F +86 21 5877 6378


Germany

Borsigstraße 6, 48324 Sendenhorst, Germany  
T +49 2526 93880 140 F +49 2526 93880 100

Middle East

1Al Thanyah Fifth, Mazaya Business Avenue BB2, PO Box 338420  
Jumeirah Lakes Towers, Dubai, UAE  
T +971 4 430 7203

North America

2528 Lovi Road, Building 2-2A, Freedom, PA 15042, USA  
T 855 928 2666 (855 9 AUCom NA), +1 724 987 4952 F +1 724 510 3005  
 <https://my.aucom.com>

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For more information and your local contact visit [www.aucom.com](http://www.aucom.com)

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