



EMX4e & EMX4i

Digital Soft Starter

The EMX4 series offers versatile motor control and protection, in a compact and user-friendly package.

Optimised for pumping and compressor-related applications, the EMX4 delivers a refined feature set, including adaptive control to prevent water hammer.

For easy customisation in more complex applications, the EMX4i includes additional features such as soft braking and auto-scheduling.

FEATURES

- Compact design saves valuable space within your motor control panel
- Full graphical display with support for multiple languages. A simple menu structure with quick setup option makes it easy to commission and maintain your system
- Remote keypad option provides full remote control and graphical monitoring in place of separate meters and interfaces
- Adaptive control provides optimal start and stop in pumping applications, eliminating water hammer
- On-board USB provides quick setup and backup of starting parameters to greatly improve the level of in-field support and minimise downtime.
- Internal bypass across the entire range
- · Integrate your starter with external sensors or a communications network, using slot-in accessory modules

Space-saving footprint

The compact form makes EMX4 series starters easier to integrate into electrical panels where space is limited, saving you time and effort in the panel design process. With two frame size serving the entire range from 24A to 1250A, they are up to 30% smaller than other soft starter solutions.

Energy saving

All models have an internal bypass to reduce your energy usage and operating expenditure. A bypassed soft starter is the most efficient electronic motor control solution for fixed speed applications, and provides maximum energy saving when used in conjunction with an IE3 motor.

Accessory Modules

The specialised smart module provides enhanced functionality and control for a variety of standalone applications, including pumping and compressors. For larger networked installations, a wide range of communication options are available. All accessory modules slot directly into the starter, making them easy to fit and use without adding to the footprint.

FEATURES

Streamlined setup process

- Configuration profiles for common applications
- Built-in metering and inputs/outputs

Easy to understand interface

- Multi-language menus and displays
- Descriptive option names and feedback messages
- Real-time performance graphs

Support energy efficiency

- IE3 compatible
- 99% energy efficient when running
- Internal bypass
- Soft start technology avoids harmonic distortion

Extensive range of models

- 24 A to 1250 A (nominal)
- 200 VAC to 525 VAC
- 380 VAC to 690 VAC
- Inside delta installation

Versatile starting and stopping options

- Adaptive control
- Constant current
- Current ramp
- Timed voltage ramp soft stop
- Coast to stop
- DC brake
- Soft brake

Customisable protection

- Motor overload
- Excess start time
- Undercurrent
- Overcurrent
- Current imbalance
- Input trip
- Motor thermistor

Extensive input and output options

- Remove control inputs
 (2 x fixed, 2 x programmable)
- Relay outputs
 (1 x fixed, 2 x programmable)
- Analog output

Optional features for advanced applications

- Smart cards
- Communication modules:
 DeviceNet, Ethernet/IP, Modbus
 RTU, Modbus TCP, Profibus, Profinet

SPECIFICATION

General Current range
Supply Main voltage (L1, L2, L3) EMX4-xxxx-V5
Inputs Inputs
Outputs Relay outputs
Environmental IP20 EMX4-0024B ~ EMX4-0135B IP20 EMX4-0184B ~ EMX4-0580B IP00 EMX4i-0835B ~ EMX4i-1250B IP00 EMX4i-0735C ~ EMX4i-1220C IP00 Operating temperature (with derating) -10°C ~ 60°C Storage temperature -25°C ~ 60°C Humidity 5% to 95% Relative humidity
Optional accessories

Feature set	EMX4e	EMX4i	
INTEGRATION & MANAGEMENT			
Multi-language graphical display	✓	✓	
I/O and networking expansion options	✓	✓	
USB port and data logging	✓	✓	
Analog output	✓	✓	
Emergency run	✓	✓	
SCR fail power through operation		✓	
Daily on/off scheduling		✓	
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		✓	
MOTOR PROTECTION			
Motor thermistor	✓	✓	
Current imbalance	✓	✓	
Under/overcurrent	✓	✓	
Phase sequence	✓	✓	
Phase loss	✓	✓	
Power loss	✓	✓	
Under/Overvoltage		✓	

Finger guards

External keypad

Smart Card for level controlled pump activation & protection

Network communication

(DeviceNet, Ethernet/IP, Modbus RTU, Modbus TCP, Profibus, Profinet) | Under/Overvoltage

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ACCESSORIES

Expansion Cards

The EMX4 soft starter offers expansion cards for users requiring advance functionality. Each EMX4 can support a maximum of one expansion card.

Smart Cards

The smart card has been designed to support integration with pumping applications and provides the following additional inputs and outputs:

- 4 x digital inputs
- 3 x 4-20 mA transducer inputs
- 1 x RTD input
- 1 x USB-B port
- Remote keypad connector

Communication Expansion Cards

EMX4 soft starters support network communication via easy-to-install communications expansion cards. Each communication card includes a remote keypad connector port.

Available protocols:

DeviceNet, Ethernet/IP, Modbus RTU, Modbus TCP, Profibus, Profinet.

Remote Keypad

EMX4 Soft starters can be used with a remote keypad, mounted upto 3 meters away from the starter. Each expansion card includes a keypad connection port, or a dedicated keypad connector card is available.

TYPICAL MOTOR CONNECTION

The FMX4 is installed with a main contactor (AC3 rated). Control voltage must be supplied from the input side of the contactor.

The main contactor is controlled by the main contactor output (33, 34).

Main contactor

Start/Stop

Motor thermistor input

Main contactor output

Analog output

Three-phase supply

Relay output A (default = Run)

Relay output b (default = Trip)

Semiconductor fuses (optional)

K1

F1

10, 11 (S1) 11, 12 (S2)

13, 14

13, 15 B4, B5

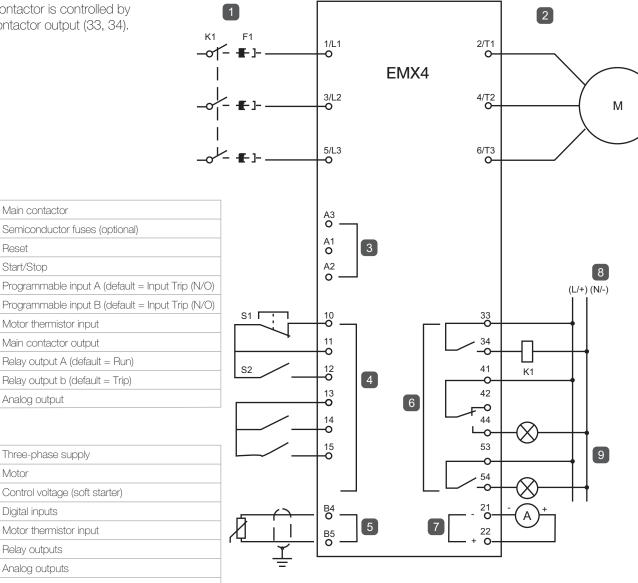
33, 34

41, 42, 44

53.54

21, 22

1



2 Motor 3 Control voltage (soft starter) Digital inputs 4 Motor thermistor input 5 6 Relay outputs 7 Analog outputs Control voltage (external equipment) 8 9 Pilot lamps

Product improvement is a continuous process. For the latest information and special application, please contact any of our offices listed here. Product photographs shown for representative purpose only.





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