EMX3
Soft Starter

Expansion Card Installation Instructions

The EMX3 can be fitted with hardware expansion cards, to extend the soft starter's functionality. These allow the EMX3 to meet specialist requirements for particular applications.

Each EMX3 can support a maximum of one expansion card at a time.

⚠ **CAUTION**
Disconnect the soft starter from all power sources before installing or servicing.
Always take appropriate precautions to avoid damage from electrostatic discharge. It is the responsibility of the user to ensure that they comply with all local electrical and safety requirements.

Installation

To install a hardware expansion card:
1. Remove the two screws holding the expansion card cover in place, then remove the cover.
2. Push the card carefully into the expansion slot, then press firmly into the internal connector.
3. Replace the cover and screw firmly in place.
4. Apply the expansion card label (included in kit) to the top of the cover.
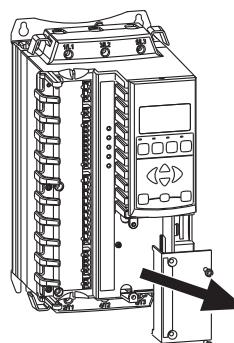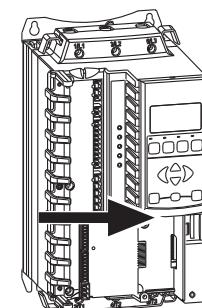
Remove cover   Insert expansion card   Replace cover
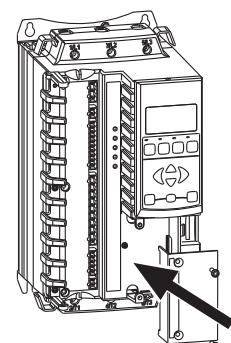
995-04803-00   Input/Output Expansion Card

The Input/Output Expansion Card provides two digital inputs, three relay outputs, one analog input and one analog output.
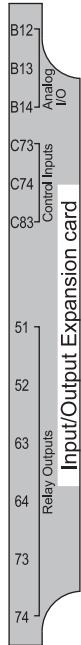
No additional wiring is required to install the Input/Output Expansion Card. The EMX3 will recognise the additional inputs and outputs when control power is next applied. Refer to the User Manual for parameter details and default settings.

Configure the additional inputs using the following parameters:
> Input C and D function: parameters 6K and 6L
> Analog input: parameters 6N ~ 6P

Configure the additional outputs using the following parameters:
> Output D, E and F function: parameters 7J ~ 7L
> Analog output B: parameters 7T ~ 7W

Specifications

Inputs
Input C (C73, C74[Com]) .... Normally open
Input D (C83, C74[Com]) .... Normally open
Analog Input (B14[+], B13[Com]) .... 0-10 V or 2-10 V (selectable)

Outputs
Relay D (51, 52) .... Normally closed
Relay E (63, 64) .... Normally open
Relay F (73, 74) .... Normally open
Analog Output B (B12[+], B13[Com]) .... 0-20 mA or 4-20 mA (selectable)

995-04804-00   RTD and Ground Fault Protection Card

The RTD and Ground Fault Protection Card provides one ground fault input and six RTD inputs for use with PT100 temperature sensors.
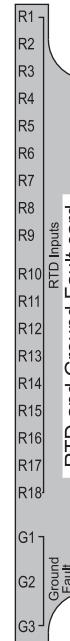
RTD Input Connection

RTD input connection for 3-wire is shown below. For 2-wire and 4-wire, please refer to the User Manual.
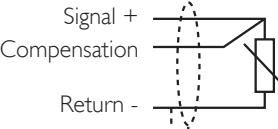
Input	A*	B	C	D	E	F	G
Signal +	B6	R1	R4	R7	R10	R13	R16
Compensation	B7	R2	R5	R8	R11	R14	R17
Return -	B8	R3	R6	R9	R12	R15	R18

* RTD input A is located on the EMX3's main terminal block.

Configure the RTD inputs using the following parameters:
> RTD trip temperatures: parameters 11A ~ 11G
> RTD overtemperature protection action: parameters 16O ~ 16U

Ground Fault Connection

To use ground fault protection, a current transformer must also be installed around all three phases. For maximum protection, the CT should be installed on the input side of the soft starter.

CT
1000/1A
5VA
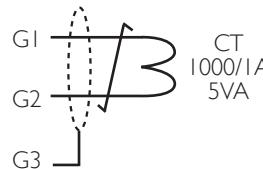
For the protection to operate correctly, use a 1000:1 CT with rating of 5 VA. The CT should be connected directly to the ground fault terminals (G1, G2, G3).

Configure ground fault protection using the following parameters:
> Ground fault trip level and delay: parameters 4O and 4P
> Ground fault protection action: parameter 16N

Specifications

RTD Accuracy
- 20 °C to 0 °C .... ±2 °C
0 °C to + 100 °C .... ±0.5 °C
+ 100 °C to + 150 °C .... ±2 °C