



Bulletin 193 E3 and E3 Plus High Current Overload Relays

(Cat 193-NX __ Z)



ATTENTION: To prevent electrical shock, disconnect from power source before installing or servicing. Install in suitable enclosure. Keep free from contaminants.

Product Description

Cat. No.	FLA Setting Range	CT Ratio [ⓐ]	Inputs	Outputs	Ground Fault	FTC
193-NX1FZ	28 – 140A	150:5	2	1	No	No
193-NX2FZ	28 – 140A	150:5	4	2	No [ⓑ]	Yes
193-NX1GZ	42 – 210A	200:5	2	1	No	No
193-NX2GZ	42 – 210A	200:5	4	2	No [ⓑ]	Yes
193-NX1HZ	60 – 302A	300:5	2	1	No	No
193-NX2HZ	60 – 302A	300:5	4	2	No [ⓑ]	Yes
193-NX1JZ	84 – 420A	400:5	2	1	No	No
193-NX2JZ	84 – 420A	400:5	4	2	No [ⓑ]	Yes
193-NX1KZ	125 – 630A	600:5	2	1	No	No
193-NX2KZ	125 – 630A	600:5	4	2	No [ⓑ]	Yes

ⓐ Current transformers supplied by customer.

ⓑ Ground fault performance is non-functional for these devices even though the settings exist.



ATTENTION: Ground fault performance is non-functional for the 193-NX2__ catalog numbered devices. Adjustable parameters associated with the ground fault function are, however, available and programmable when configuring one of these devices with a DeviceNet configuration tool, such as RSNetWorx for DeviceNet.

Current Transformer Description

The user shall provide one Current Transformer (CT) for each motor phase, and shall connect the CT's secondary leads to the appropriate E3 overload relay power terminals, as shown in this document's wiring diagrams. The CT shall have the appropriate ratio (refer to the product nameplate or the Product Description section of this document). Additionally, the CT shall be selected to be capable of providing the required VA to the secondary load, which includes the E3 overload relay burden of 0.1 VA at the rated secondary current and the wiring burden. Finally, the CT shall be rated for protective relaying to accommodate the high inrush currents associated with motor start-up, and shall have an accuracy of $\pm 2\%$ over its normal operating range. Typical CT ratings include (Instrument Transformers, Inc. - Model #23 or equivalent):

ANSI (USA)	Class C5 B0.1
CSA (Canada)	Class 10L5
IEC(Europe)	5VA Class 5P10

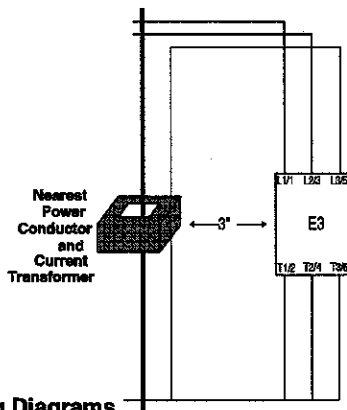


ATTENTION: The improper selection of a current transformer can result in the E3 overload reporting inaccurate motor data, and possibly motor damage. The selected current transformer must be rated for protective relaying applications.

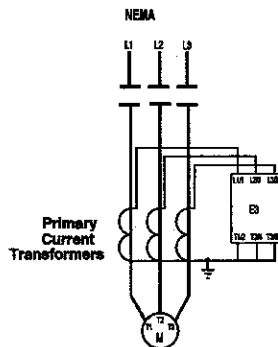
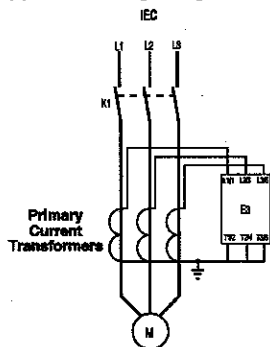
Installation

The high current E3 and E3 Plus overload relays are designed to be installed in panel mount adapter catalog number 193-ECPM2 and connected to separately-mounted current transformers. For panel mount adapter assembly instructions, refer to Figure 2.5 of the user manual (publication 193-UM001_-US-P).

The following figure provides the minimum clearance distances that must be maintained in order to minimize the impact magnetic fields from current-carrying conductors may have on the E3 overload relay's operation.



Typical Wiring Diagrams



Refer to Chapter 2 of the user manual (publication 193-UM001_-US-P) for typical control circuit wiring diagrams.



ATTENTION: It is important that the installer ensure that the contactor coil's inrush and sealed current ratings do not exceed the E3 overload relay's output and trip relay's E300 rating (3600 VA inrush, 360 VA sealed). If the contactor coil's ratings do exceed these values, an interposing relay shall be required in the control circuit.