SIEMENS

Devices: EM Frame: Types EM6 and EMK Circuit Breakers.

Pc. No. 411381A00

Siemens Energy & Automation, Inc.
Bellefontaine, OH 43311 U.S.A.

Installation Instructions

⚠ DANGER

Hazardous voltage.
Will cause death or serious injury.

Turn off and lock out all power supplying this device before removing or installing device.

⚠ SAFETY INSTRUCTIONS

NOTE: This instruction outlines the recommended installation procedure.

INTRODUCTION

The EM Frame Circuit Breaker line includes types EM6 and EMK, available in an Instantaneous Magnetic Trip version and a Thermal Magnetic Trip version. Special calibrations and trip settings have been made to accommodate the MSHA Trailing Cable requirements.

The EM6 Instantaneous Magnetic Trip Circuit Breakers are rated for operating voltages up to 600VAC, 50/60Hz and continuous current from 3 to 125 amps. The Instantaneous Magnetic Trip has a dial adjustable range, on the front of the circuit breaker and has been calibrated according to the rated continuous current.

The EM6 Thermal Magnetic Trip Circuit Breakers are rated for operating voltages up to 600VAC, 50/60Hz, 500VDC and continuous current from 15 to 125 amps. The Thermal Magnetic Trip is non-adjustable and the thermal element has been calibrated according to the rated continuous current and rated ambient temperature.

The EMK Instantaneous Magnetic Trip Circuit Breakers are rated for operating voltages up to 1000VAC, 50/60Hz and continuous current from 50 to 125 amps. The Instantaneous Magnetic Trip has a dial adjustable range, on the front of the circuit breaker and has been calibrated according to the rated continuous current.

The EMK Thermal Magnetic Trip Circuit Breakers are rated for operating voltages up to 1000VAC, 50/60Hz, 500VDC and continuous current from 50 to 125 amps. The Thermal Magnetic Trip is non-adjustable and the thermal element has been calibrated according to the rated continuous current and rated ambient temperature.

INSTALLATION

EM frame circuit breakers are for use in individual enclosures, panel boards, switchboards or other approved equipment.

The installation procedure consists of inspecting, attaching required accessories, mounting the device and connecting and torquing the line and load wire connectors.

Mounting hardware and unmounted wire connectors (where required) are available as separate catalog items.

NOTE: Accessory and phase barrier installations should be completed before the circuit breaker is mounted and connected. See the installation instructions supplied with the accessory before proceeding. Line and load end phase barriers are **required** to be installed when the EMK Circuit Breakers are operated at 1000VAC. The phase barriers are **recommended** to be installed when the EM6 and EMK Circuit Breakers are operated at 600VAC. The phase barriers, two-part epoxy and installation instructions, for mounting the barriers, are provided in a kit with the EMK Circuit Breakers. The phase barrier kit (Cat. No. ETS) is provided as a catalog item, to be ordered separately, if it is desired to use the phase barriers with the EM6 Circuit Breakers.

NOTE: Do not spray or allow any petroleum based chemicals, solvents or paints to contact the molded parts or nameplates.

A. Turn off and lock out all power before installing or servicing.

B. WARNING! Make sure that the circuit breaker is suitable for the installation by comparing nameplate ratings with system requirements. Inspect the device for completeness and check for any damage before mounting.

C. The circuit breaker must be in the "Tripped" or "OFF" positions prior to mounting.

D. To mount the circuit breaker perform the following steps:

1. For those applications where mounting is on a flat surface of the customers equipment, drill and tap mounting bolt holes according to the drilling plan in Fig. 1. For handle escutcheon cut out plans refer to Fig. 1.
2. If circuit breaker contains internal accessories, make sure terminals can be connected when the circuit breaker is mounted.
3. Position circuit breaker on mounting surface.
4. Install mounting screws and washers from kit Catalog Number MSE6. Torque mounting hardware to 12-15 in-lb.[1.35-1.69 N-m].
5. After mounting the circuit breaker, line and load terminals and accessory terminals should be connected. Install wire connectors with correct torque requirements. Torque values for line and load connectors are provided on the circuit breaker nameplate and in Table 1,

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Page 2 of 2. Ensure that wire and wire connectors are fully engaged on terminals and that connectors are flush with end of terminal.

NOTE: When aluminum conductors are used, the application of a suitable joint compound is recommended to reduce the possibility of terminal overheating.

6. After the circuit breaker is installed, check all mounting hardware for secureness.

MANUAL OPERATION

Manual operation of the circuit breaker is controlled by the circuit breaker handle and the PUSH-TO-TRIP button. The circuit breaker handle has three indicating positions, two of which are molded into the handle to indicate ON and OFF. The third position indicates a TRIP position and is between the ON and OFF position. (See Fig. 2)

A. Circuit Breaker Reset

After tripping, the circuit breaker is reset by moving the handle to the reset position and then moving the handle to the ON position.

NOTE: In the event of a thermal trip, the circuit breaker cannot be reset until the thermal element cools.

B. PUSH-TO-TRIP Button

The PUSH-TO-TRIP button checks the tripping function and is used to manually exercise the operating mechanism.

INSPECTION AND FIELD TESTING

EM Frame Circuit Breakers are designed to provide maintenance free service. Any inspection and field testing should be conducted in accordance with NEMA AB2 : Procedures for Field Inspection and Performance Verification of Molded Case Circuit Breakers ; also NEMA AB4 : Guidelines for Inspection and Preventive Maintenance of Molded Case Circuit Breakers.

TABLE 1.

Catalog Number	Wire Range	Torque	
		lb-in.	N-m
SA1E025	14-10 Cu	32	3.6
	12-10 Al	32	3.6
LN1E100	10 Cu/Al	30	3.4
	8 Cu/Al	36	4.1
	6-4 Cu/Al	45	5.1
	3 Cu/Al	50	5.6
	2-1/0 Cu/Al	60	6.8
TA1E6125	3-3/0 Cu	80	9.0
	1-2/0 Al	80	9.0
CCE125	See Crimp Connector Instruction		

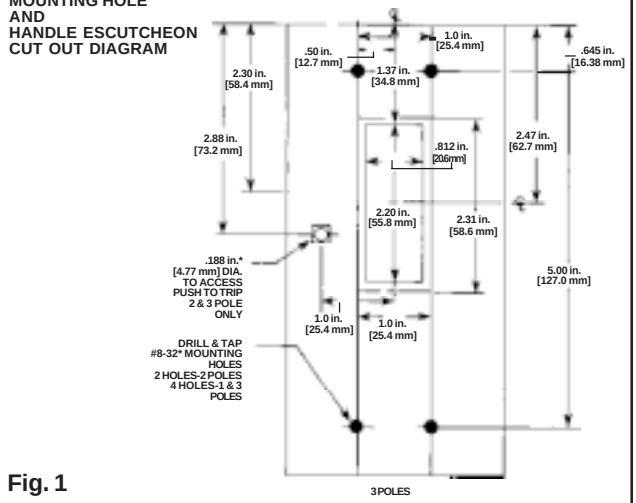

Fig. 1

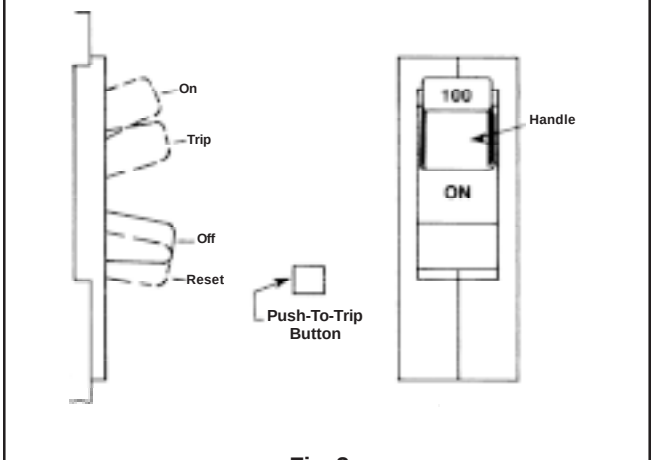

Fig. 2

Manufactured Under One or More of the Following
U.S. Patents: 4,594,567; 4,595,896; 4,675,640; 4,680,564.