

File E355392
Project 4789583625

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REPORT

on

CIRCUIT BREAKERS, MOLDED CASE AND CIRCUIT-BREAKER ENCLOSURES

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DESCRIPTION

PRODUCT COVERED:

USL, CNL - Molded case circuit breaker - Type M2G. See Nomenclature for specific catalog number options.

GENERAL:

These devices are three pole molded case circuit breakers with adjustable settings. These breakers operate trip free and can be manually reset. When the breaker is tripped, the handle moves to the tripped position. It will remain tripped when the handle is held in the on position. These breakers can be line and load reverse connected. They are intended to provide overcurrent, short circuit protection and equipment ground fault protection where feed/branch circuit overcurrent protection is required. They can receive bus bars and/or cables. The breakers can also be used in conjunction with a complete series of internal and/or external accessories to provide additional protection or supplementary functionality.

The breakers were tested in a metal through-door Type 1 enclosure as follows:

Frame Size	Poles	Height mm (In.)	Width mm (In.)	Depth mm (In.)
250 A	3	628 (24.72)	256 (10.08)	93 (3.66)

RATINGS:

Frame size (A)	250		
Rated current (A)	100, 125, 150, 175, 200, 225, 250		
Number of poles	3		
Interrupting ratings kA	S	N	H
240 V ac	35	65	100
480 V ac	35	65	100

Tripping characteristics:

The breakers are designed to be thermally fixed and be magnetically adjustable from 5 to 10 times the rated current for breakers rated 175 to 250 A; and magnetically adjustable from 7 to 12 times for breakers rated 100 to 150 A.

Ground fault pickup setting (A): 0.03-0.1-0.3-1.0

Tolerance: +/-15%

Ground fault delay setting (s) (Tg=): 0.1-0.3-0.5-1

Tolerance: +/- (15% or 40 ms, whichever is bigger)

NOMENCLATURE:

Catalog Designation for the circuit breaker

M2	G	S	250	T	3	L
I	II	III	IV	V	VI	VII

I	UL489 listed 250A frame molded case circuit breaker
II	G for Equipment ground fault protection
III	Interrupting rating, can be S, N, H
IV	Rated current, can be 100 to 250 A
V	Trip unit code, T for thermal-magnetic type, E for electronic type
VI	Number of poles: 3 for 3 poles
VII	Terminal code, default for bus bar connection, L for lug terminal

Additional alpha-numeric characters may follow for accessories and/or special features.

FOLLOW-UP TESTS:

Follow-up Tests are found in E355392, Vol. FT, Sec. 14.

ENGINEERING CONSIDERATION (NOT FOR FIELD REPRESENTATIVE'S USE):

USL: Indicates investigation to the U.S. Standard UL489, Thirteenth Edition.

CNL: Indicates investigation to Canadian National Standard(s) CSA C22.2 No. 5-16 Fourth Edition.

CONSTRUCTION DETAILS:

The product shall be constructed in accordance with the following description.

Corrosion Protection - All ferrous metal parts are plated or painted as protection against corrosion, unless specified otherwise.

Tolerance - Unless specified otherwise, all tolerances are nominal.

Spacings - Spacings of not less than 25.4 mm through air and 50.8 mm over surface of insulating material are maintained at terminals between any uninsulated live part and an uninsulated live part of opposite polarity, spacings of not less than 12.7 mm through air and 25.4 mm over surface of insulating material are maintained between terminals and any grounded metal part.