

CATALOG

Enclosed Breakers



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NOARK

ABOUT US

NOARK Electric is a global manufacturer of low-voltage electrical components for industrial applications. We specialize in motor controls and circuit protection for original equipment manufacturers. Our mission is to provide customers with the highest quality products at an exceptional value and back them with world-class service and support. Every NOARK product is tested and certified to the highest industry standards and covered by our exclusive five-year limited warranty.

Research and Development

The entire portfolio of high-quality NOARK products is designed for manufacturing and assembly (DFMA). Each component is developed in-house by our engineering team to meet the strictest standards and performance requirements. This dedication to excellence has led to the development of patented technology found in many of our products.

World-class Manufacturing

After being thoroughly tested, approved and certified – each NOARK product is sent into production at our state-of-the-art manufacturing facilities. This allows us to maintain strict quality control standards throughout the manufacturing process. In addition, NOARK Electric adheres to a policy of environmental protection and sustainability.

North American Distribution

NOARK's distribution centers are located in Pomona, CA and Kitchener, ON, with the aim of ensuring prompt and reliable deliveries of the entire product range to our customers all over North America. Our supply chain team works closely with our factories and logistics partners to ensure the availability of our products on the North American market and provide logistics services on the level which our customers expect. NOARK Electric is a subsidiary of the largest electrical manufacturing group in Asia with over 30 thousand employees and sales revenue of \$10 billion USD. We have corporate facilities in Los Angeles, Shanghai and Prague to service the requirements of individual markets and countries.

| | | | | | | |
|--------------------------|--------------------------------------|------------------------------------|--------------------------------|---------------------------|--------------------------------------------------|---------------------------------------|
| 140+ Countries | 300+ Overseas Distributors | 20 Overseas Subsidiaries | 22 Logistics Centers | 3 R & D Centers | 10,000,000+ Sq.Ft. Manufacturing Space | 30,000+ Employees Worldwide |
|--------------------------|--------------------------------------|------------------------------------|--------------------------------|---------------------------|--------------------------------------------------|---------------------------------------|





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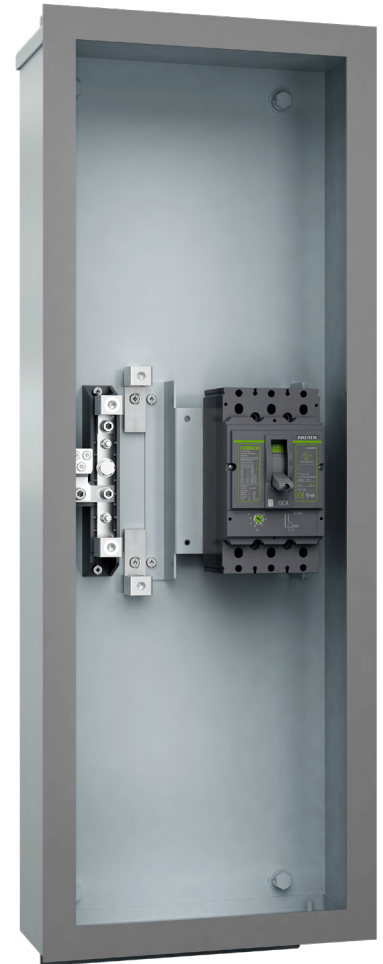
Enclosed Breakers

Overview

Features

NOARK's X Series enclosed molded case breakers combine a UL Listed enclosure with our M Series Molded Case Circuit Breakers and neutral terminals, when required for 4 wire systems. The components and assembly comply to UL489 and CSA C22.2 No.5 standards. Enclosed Breakers are used wherever a feeder or branch circuit breaker must be mounted independently. Enclosed breakers are suitable for Service Entrance as outlined in the National Electric Code and Canadian Electrical Code.

- Rated Current up to 600A.
- Voltage rating up to 600Vac.
- NEMA Enclosure Type 1, 12 and 3R
- Molded Case Circuit Breakers (Ex9 M Series: M1-M4)
- Neutral terminals for 3P-4W and 2P-3W systems



Certifications

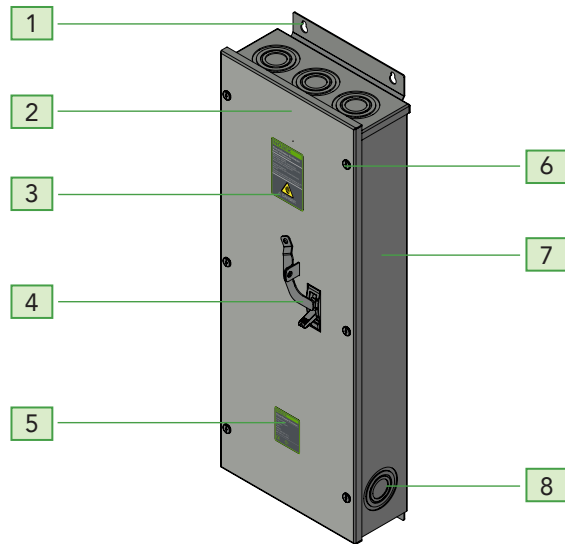
- UL 489 Listed, File No. E355392
- CSA C22.2 No. 5, File No. E355392
- EC/EN 60947-2





Enclosed Breakers

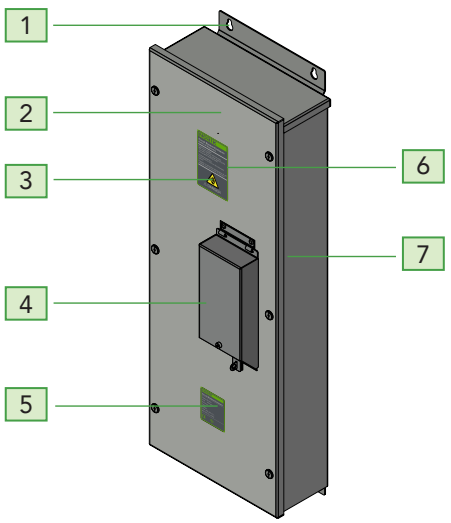
Enclosure: Label



Type 1 Enclosure

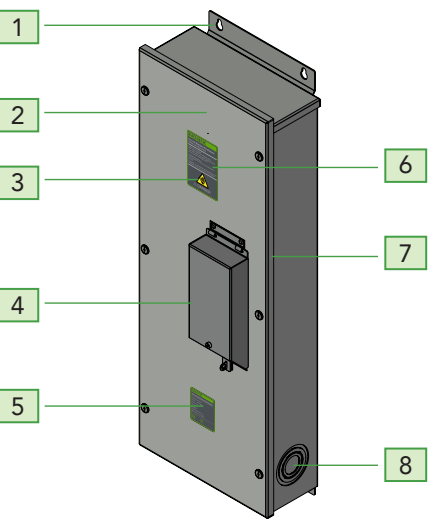
- 1. Mounting Bracket
- 2. Cover
- 3. Warning Label
- 4. Lock Bracket
- 5. Type Label
- 6. Cover Screw
- 7. Bottom Box
- 8. Knockout

Type 12 Enclosure



- 1. Mounting Bracket
- 2. Cover
- 3. Warning Label
- 4. Rain Tight Cover
- 5. Type Label
- 6. Cover Screw
- 7. Bottom Box
- 8. Knockout

Type 3R Enclosure

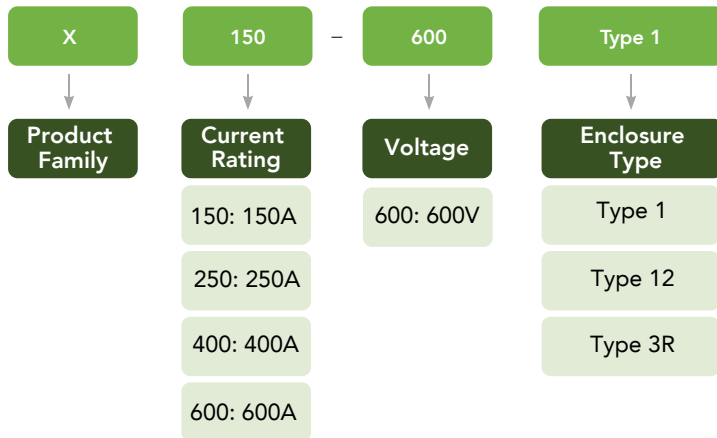


- 1. Mounting Bracket
- 2. Cover
- 3. Warning Label
- 4. Rain Tight Cover
- 5. Type Label
- 6. Cover Screw
- 7. Bottom Box
- 8. Knockout



Enclosed Breakers

Enclosure: Product Selection Guide & Products

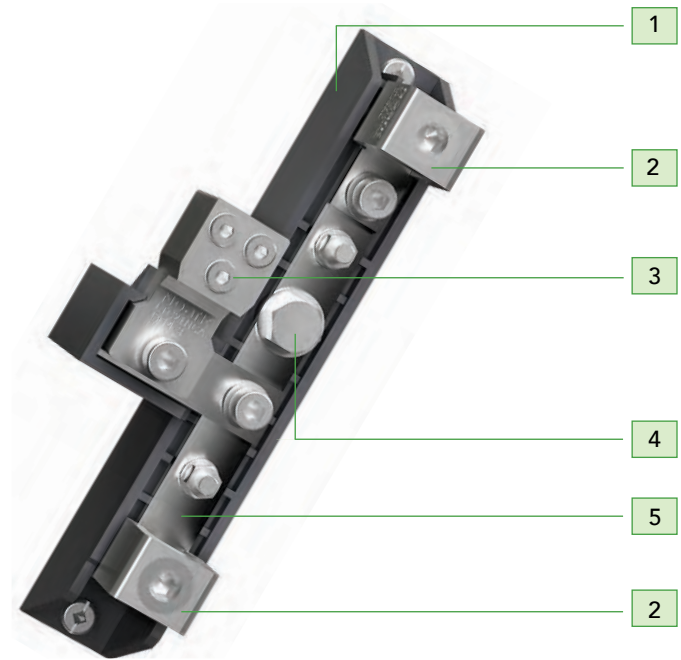


| Rated Current (A) | MCCB Frame Size | Enclosure Type | Catalog Number |
|-------------------|-----------------|----------------|-----------------|
| 150 | M1 | Type 1 | X150-600Type 1 |
| | | Type 12 | X150-600Type 12 |
| | | Type 3R | X150-600Type 3R |
| 250 | M2 | Type 1 | X250-600Type 1 |
| | | Type 12 | X250-600Type 12 |
| | | Type 3R | X250-600Type 3R |
| 400 | M3 | Type 1 | X400-600Type 1 |
| | | Type 12 | X400-600Type 12 |
| | | Type 3R | X400-600Type 3R |
| 600 | M4 | Type 1 | X600-600Type 1 |
| | | Type 12 | X600-600Type 12 |
| | | Type 3R | X600-600Type 3R |

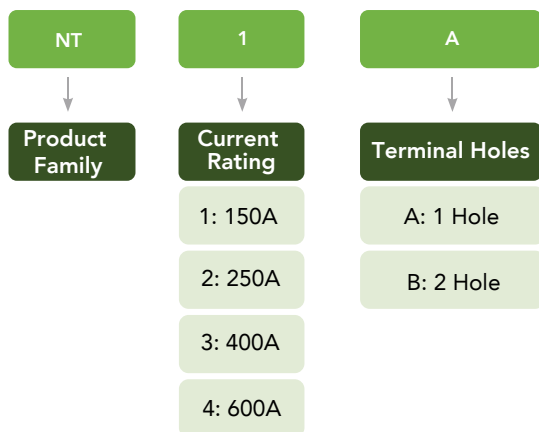


Enclosed Breakers

Neutral Terminal: Label, Selection Guide and Products



- 1. Insulation
- 2. Main Neutral
- 3. Service ground
- 4. Bonding Screw
- 5. Busbar

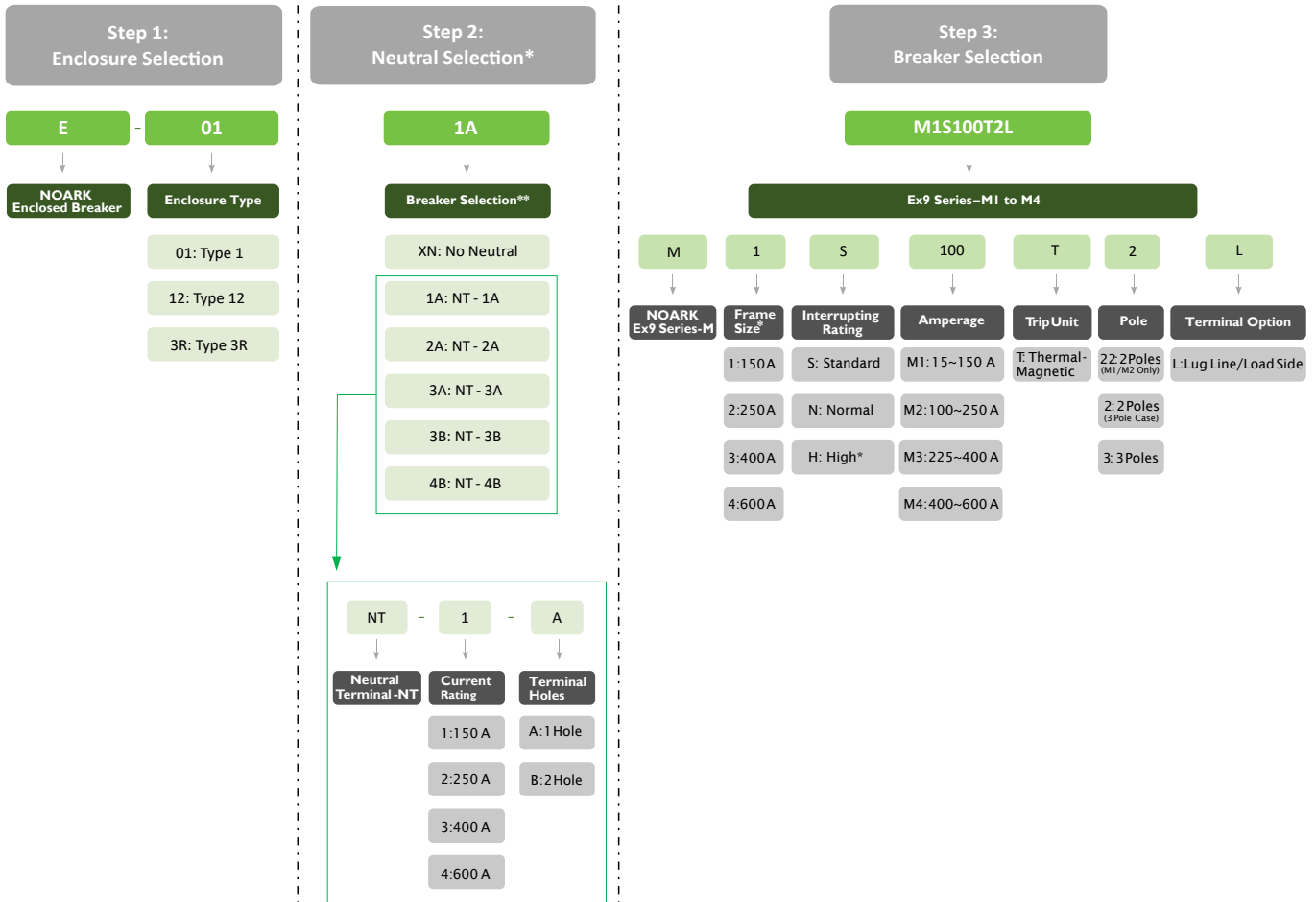


| Rated Current (A) | No. of Holes | Catalog Number |
|-------------------|--------------|----------------|
| 150 | 1 | NT-1A |
| 250 | 1 | NT-2A |
| 400 | 1 | NT-3A |
| 400 | 2 | NT-3B |
| 600 | 2 | NT-4B |



Fully Assembled Enclosed Breakers

Product Selection Guide



Note: The lists of fully assembled breakers in the following pages represent the most commonly required breaker ratings. Other ampere ratings may be ordered by inserting the required breaker’s catalog number after the fifth digit of this composite catalog number.

* Not required for 3-wire systems

** For a full list of available current ratings and breaker accessories, please consult NOARK’s MCCB Master Catalog



Fully Assembled Enclosed Breakers

M1, 30-150A

| Enclosure | SCCR | Current Rating (A) | 3P-4W, 1 Hole NT | 3P-3W |
|-----------|-------------------|--------------------|------------------|-----------------|
| Type 1 | M1S 35kA@480V | 30 | E01-1AM1S30T3L | E01-XNM1S30T3L |
| | | 60 | E01-1AM1S60T3L | E01-XNM1S60T3L |
| | | 100 | E01-1AM1S100T3L | E01-XNM1S100T3L |
| | | 150 | E01-1AM1S150T3L | E01-XNM1S150T3L |
| | M1N 65kA@480V | 30 | E01-1AM1N30T3L | E01-XNM1N30T3L |
| | | 60 | E01-1AM1N60T3L | E01-XNM1N60T3L |
| | | 100 | E01-1AM1N100T3L | E01-XNM1N100T3L |
| | | 150 | E01-1AM1N150T3L | E01-XNM1N150T3L |
| | M1H 100kA@480V | 30 | E01-1AM1H30T3L | E01-XNM1H30T3L |
| | | 60 | E01-1AM1H60T3L | E01-XNM1H60T3L |
| | | 100 | E01-1AM1H100T3L | E01-XNM1H100T3L |
| | | 150 | E01-1AM1H150T3L | E01-XNM1H150T3L |

| Enclosure | SCCR | Current Rating (A) | 3P-4W, 1 Hole NT | 3P-3W |
|-----------|-------------------|--------------------|------------------|-----------------|
| Type 12 | M1S 35kA@480V | 30 | E12-1AM1S30T3L | E12-XNM1S30T3L |
| | | 60 | E12-1AM1S60T3L | E12-XNM1S60T3L |
| | | 100 | E12-1AM1S100T3L | E12-XNM1S100T3L |
| | | 150 | E12-1AM1S150T3L | E12-XNM1S150T3L |
| | M1N 65kA@480V | 30 | E12-1AM1N30T3L | E12-XNM1N30T3L |
| | | 60 | E12-1AM1N60T3L | E12-XNM1N60T3L |
| | | 100 | E12-1AM1N100T3L | E12-XNM1N100T3L |
| | | 150 | E12-1AM1N150T3L | E12-XNM1N150T3L |
| | M1H 100kA@480V | 30 | E12-1AM1H30T3L | E12-XNM1H30T3L |
| | | 60 | E12-1AM1H60T3L | E12-XNM1H60T3L |
| | | 100 | E12-1AM1H100T3L | E12-XNM1H100T3L |
| | | 150 | E12-1AM1H150T3L | E12-XNM1H150T3L |

| Enclosure | SCCR | Current Rating (A) | 3P-4W, 1 Hole NT | 3P-3W |
|-----------|-------------------|--------------------|------------------|-----------------|
| Type 3R | M1S 35kA@480V | 30 | E3R-1AM1S30T3L | E3R-XNM1S30T3L |
| | | 60 | E3R-1AM1S60T3L | E3R-XNM1S60T3L |
| | | 100 | E3R-1AM1S100T3L | E3R-XNM1S100T3L |
| | | 150 | E3R-1AM1S150T3L | E3R-XNM1S150T3L |
| | M1N 65kA@480V | 30 | E3R-1AM1N30T3L | E3R-XNM1N30T3L |
| | | 60 | E3R-1AM1N60T3L | E3R-XNM1N60T3L |
| | | 100 | E3R-1AM1N100T3L | E3R-XNM1N100T3L |
| | | 150 | E3R-1AM1N150T3L | E3R-XNM1N150T3L |
| | M1H 100kA@480V | 30 | E3R-1AM1H30T3L | E3R-XNM1H30T3L |
| | | 60 | E3R-1AM1H60T3L | E3R-XNM1H60T3L |
| | | 100 | E3R-1AM1H100T3L | E3R-XNM1H100T3L |
| | | 150 | E3R-1AM1H150T3L | E3R-XNM1H150T3L |



Fully Assembled Enclosed Breakers

M2, 175-250A

| Enclosure | SCCR | Current Rating (A) | 3P-4W, 1 Hole NT | 3P-3W |
|-----------|-------------------|--------------------|------------------|-----------------|
| Type 1 | M2S 35kA@480V | 175 | E01-2AM2S175T3L | E01-XNM2S175T3L |
| | | 200 | E01-2AM2S200T3L | E01-XNM2S200T3L |
| | | 225 | E01-2AM2S225T3L | E01-XNM2S225T3L |
| | | 250 | E01-2AM2S250T3L | E01-XNM2S250T3L |
| | M2N 65kA@480V | 175 | E01-2AM2N175T3L | E01-XNM2N175T3L |
| | | 200 | E01-2AM2N200T3L | E01-XNM2N200T3L |
| | | 225 | E01-2AM2N225T3L | E01-XNM2N225T3L |
| | | 250 | E01-2AM2N250T3L | E01-XNM2N250T3L |
| | M2H 100kA@480V | 175 | E01-2AM2H175T3L | E01-XNM2H175T3L |
| | | 200 | E01-2AM2H200T3L | E01-XNM2H200T3L |
| | | 225 | E01-2AM2H225T3L | E01-XNM2H225T3L |
| | | 250 | E01-2AM2H250T3L | E01-XNM2H250T3L |

| Enclosure | SCCR | Current Rating (A) | 3P-4W, 1 Hole NT | 3P-3W |
|-----------|-------------------|--------------------|------------------|-----------------|
| Type 12 | M2S 35kA@480V | 175 | E12-2AM2S175T3L | E12-XNM2S175T3L |
| | | 200 | E12-2AM2S200T3L | E12-XNM2S200T3L |
| | | 225 | E12-2AM2S225T3L | E12-XNM2S225T3L |
| | | 250 | E12-2AM2S250T3L | E12-XNM2S250T3L |
| | M2N 65kA@480V | 175 | E12-2AM2N175T3L | E12-XNM2N175T3L |
| | | 200 | E12-2AM2N200T3L | E12-XNM2N200T3L |
| | | 225 | E12-2AM2N225T3L | E12-XNM2N225T3L |
| | | 250 | E12-2AM2N250T3L | E12-XNM2N250T3L |
| | M2H 100kA@480V | 175 | E12-2AM2H175T3L | E12-XNM2H175T3L |
| | | 200 | E12-2AM2H200T3L | E12-XNM2H200T3L |
| | | 225 | E12-2AM2H225T3L | E12-XNM2H225T3L |
| | | 250 | E12-2AM2H250T3L | E12-XNM2H250T3L |

| Enclosure | SCCR | Current Rating (A) | 3P-4W, 1 Hole NT | 3P-3W |
|-----------|-------------------|--------------------|------------------|-----------------|
| Type 3R | M2S 35kA@480V | 175 | E3R-2AM2S175T3L | E3R-XNM2S175T3L |
| | | 200 | E3R-2AM2S200T3L | E3R-XNM2S200T3L |
| | | 225 | E3R-2AM2S225T3L | E3R-XNM2S225T3L |
| | | 250 | E3R-2AM2S250T3L | E3R-XNM2S250T3L |
| | M2N 65kA@480V | 175 | E3R-2AM2N175T3L | E3R-XNM2N175T3L |
| | | 200 | E3R-2AM2N200T3L | E3R-XNM2N200T3L |
| | | 225 | E3R-2AM2N225T3L | E3R-XNM2N225T3L |
| | | 250 | E3R-2AM2N250T3L | E3R-XNM2N250T3L |
| | M2H 100kA@480V | 175 | E3R-2AM2H175T3L | E3R-XNM2H175T3L |
| | | 200 | E3R-2AM2H200T3L | E3R-XNM2H200T3L |
| | | 225 | E3R-2AM2H225T3L | E3R-XNM2H225T3L |
| | | 250 | E3R-2AM2H250T3L | E3R-XNM2H250T3L |



Fully Assembled Enclosed Breakers

M3, 300-400A

| Enclosure | SCCR | Current Rating (A) | 3P-4W, 1 Hole NT | 3P-4W, 2 Hole NT | 3P-3W |
|-----------|-------------------|--------------------|------------------|------------------|-----------------|
| Type 1 | M3S 35kA@480V | 300 | E01-3AM3S300T3L | E01-3BM3S300T3L | E01-XNM3S300T3L |
| | | 350 | E01-3AM3S350T3L | E01-3BM3S350T3L | E01-XNM3S350T3L |
| | | 400 | E01-3AM3S400T3L | E01-3BM3S400T3L | E01-XNM3S400T3L |
| | M3N 65kA@480V | 300 | E01-3AM3N300T3L | E01-3BM3N300T3L | E01-XNM3N300T3L |
| | | 350 | E01-3AM3N350T3L | E01-3BM3N350T3L | E01-XNM3N350T3L |
| | | 400 | E01-3AM3N400T3L | E01-3BM3N400T3L | E01-XNM3N400T3L |
| | M3H 100kA@480V | 300 | E01-3AM3H300T3L | E01-3BM3H300T3L | E01-XNM3H300T3L |
| | | 350 | E01-3AM3H350T3L | E01-3BM3H350T3L | E01-XNM3H350T3L |
| | | 400 | E01-3AM3H400T3L | E01-3BM3H400T3L | E01-XNM3H400T3L |

| Enclosure | SCCR | Current Rating (A) | 3P-4W, 1 Hole NT | 3P-4W, 2 Hole NT | 3P-3W |
|-----------|-------------------|--------------------|------------------|------------------|-----------------|
| Type 12 | M3S 35kA@480V | 300 | E12-3AM3S300T3L | E12-3BM3S300T3L | E12-XNM3S300T3L |
| | | 350 | E12-3AM3S350T3L | E12-3BM3S350T3L | E12-XNM3S350T3L |
| | | 400 | E12-3AM3S400T3L | E12-3BM3S400T3L | E12-XNM3S400T3L |
| | M3N 65kA@480V | 300 | E12-3AM3N300T3L | E12-3BM3N300T3L | E12-XNM3N300T3L |
| | | 350 | E12-3AM3N350T3L | E12-3BM3N350T3L | E12-XNM3N350T3L |
| | | 400 | E12-3AM3N400T3L | E12-3BM3N400T3L | E12-XNM3N400T3L |
| | M3H 100kA@480V | 300 | E12-3AM3H300T3L | E12-3BM3H300T3L | E12-XNM3H300T3L |
| | | 350 | E12-3AM3H350T3L | E12-3BM3H350T3L | E12-XNM3H350T3L |
| | | 400 | E12-3AM3H400T3L | E12-3BM3H400T3L | E12-XNM3H400T3L |

| Enclosure | SCCR | Current Rating (A) | 3P-4W, 1 Hole NT | 3P-4W, 2 Hole NT | 3P-3W |
|-----------|-------------------|--------------------|------------------|------------------|-----------------|
| Type 3R | M3S 35kA@480V | 300 | E3R-3AM3S300T3L | E3R-3BM3S300T3L | E3R-XNM3S300T3L |
| | | 350 | E3R-3AM3S350T3L | E3R-3BM3S350T3L | E3R-XNM3S350T3L |
| | | 400 | E3R-3AM3S400T3L | E3R-3BM3S400T3L | E3R-XNM3S400T3L |
| | M3N 65kA@480V | 300 | E3R-3AM3N300T3L | E3R-3BM3N300T3L | E3R-XNM3N300T3L |
| | | 350 | E3R-3AM3N350T3L | E3R-3BM3N350T3L | E3R-XNM3N350T3L |
| | | 400 | E3R-3AM3N400T3L | E3R-3BM3N400T3L | E3R-XNM3N400T3L |
| | M3H 100kA@480V | 300 | E3R-3AM3H300T3L | E3R-3BM3H300T3L | E3R-XNM3H300T3L |
| | | 350 | E3R-3AM3H350T3L | E3R-3BM3H350T3L | E3R-XNM3H350T3L |
| | | 400 | E3R-3AM3H400T3L | E3R-3BM3H400T3L | E3R-XNM3H400T3L |



Fully Assembled Enclosed Breakers

M4, 400-600A

| Enclosure | SCCR | Current Rating (A) | 3P-4W, 2 Hole NT | 3P-3W |
|-----------|-------------------|--------------------|------------------|-----------------|
| Type 1 | M4S 35kA@480V | 400 | E01-4BM4S400T3L | E01-XNM4S400T3L |
| | | 500 | E01-4BM4S500T3L | E01-XNM4S500T3L |
| | | 600 | E01-4BM4S600T3L | E01-XNM4S600T3L |
| | M4N 65kA@480V | 400 | E01-4BM4N400T3L | E01-XNM4N400T3L |
| | | 500 | E01-4BM4N500T3L | E01-XNM4N500T3L |
| | | 600 | E01-4BM4N600T3L | E01-XNM4N600T3L |
| | M4H 100kA@480V | 400 | E01-4BM4H400T3L | E01-XNM4H400T3L |
| | | 500 | E01-4BM4H500T3L | E01-XNM4H500T3L |
| | | 600 | E01-4BM4H600T3L | E01-XNM4H600T3L |

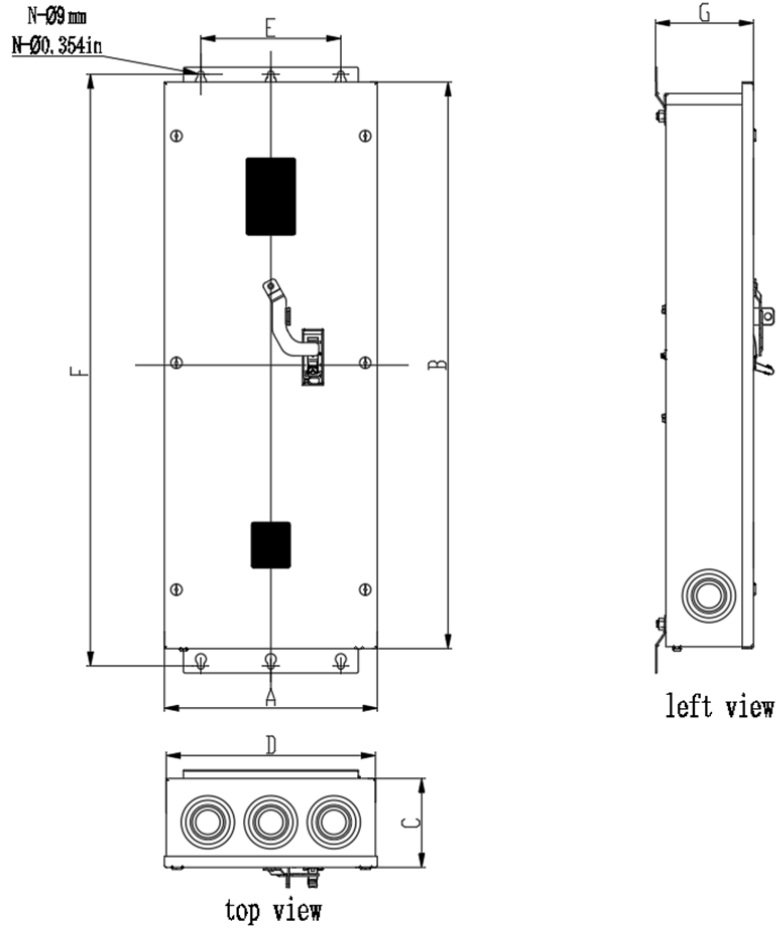
| Enclosure | SCCR | Current Rating (A) | 3P-4W, 2 Hole NT | 3P-3W |
|-----------|-------------------|--------------------|------------------|-----------------|
| Type 12 | M4S 35kA@480V | 400 | E12-4BM4S400T3L | E12-XNM4S400T3L |
| | | 500 | E12-4BM4S500T3L | E12-XNM4S500T3L |
| | | 600 | E12-4BM4S600T3L | E12-XNM4S600T3L |
| | M4N 65kA@480V | 400 | E12-4BM4N400T3L | E12-XNM4N400T3L |
| | | 500 | E12-4BM4N500T3L | E12-XNM4N500T3L |
| | | 600 | E12-4BM4N600T3L | E12-XNM4N600T3L |
| | M4H 100kA@480V | 400 | E12-4BM4H400T3L | E12-XNM4H400T3L |
| | | 500 | E12-4BM4H500T3L | E12-XNM4H500T3L |
| | | 600 | E12-4BM4H600T3L | E12-XNM4H600T3L |

| Enclosure | SCCR | Current Rating (A) | 3P-4W, 2 Hole NT | 3P-3W |
|-----------|-------------------|--------------------|------------------|-----------------|
| Type 3R | M4S 35kA@480V | 400 | E3R-4BM4S400T3L | E3R-XNM4S400T3L |
| | | 500 | E3R-4BM4S500T3L | E3R-XNM4S500T3L |
| | | 600 | E3R-4BM4S600T3L | E3R-XNM4S600T3L |
| | M4N 65kA@480V | 400 | E3R-4BM4N400T3L | E3R-XNM4N400T3L |
| | | 500 | E3R-4BM4N500T3L | E3R-XNM4N500T3L |
| | | 600 | E3R-4BM4N600T3L | E3R-XNM4N600T3L |
| | M4H 100kA@480V | 400 | E3R-4BM4H400T3L | E3R-XNM4H400T3L |
| | | 500 | E3R-4BM4H500T3L | E3R-XNM4H500T3L |
| | | 600 | E3R-4BM4H600T3L | E3R-XNM4H600T3L |



Enclosed Breakers

Dimension: Type 1 Enclosure



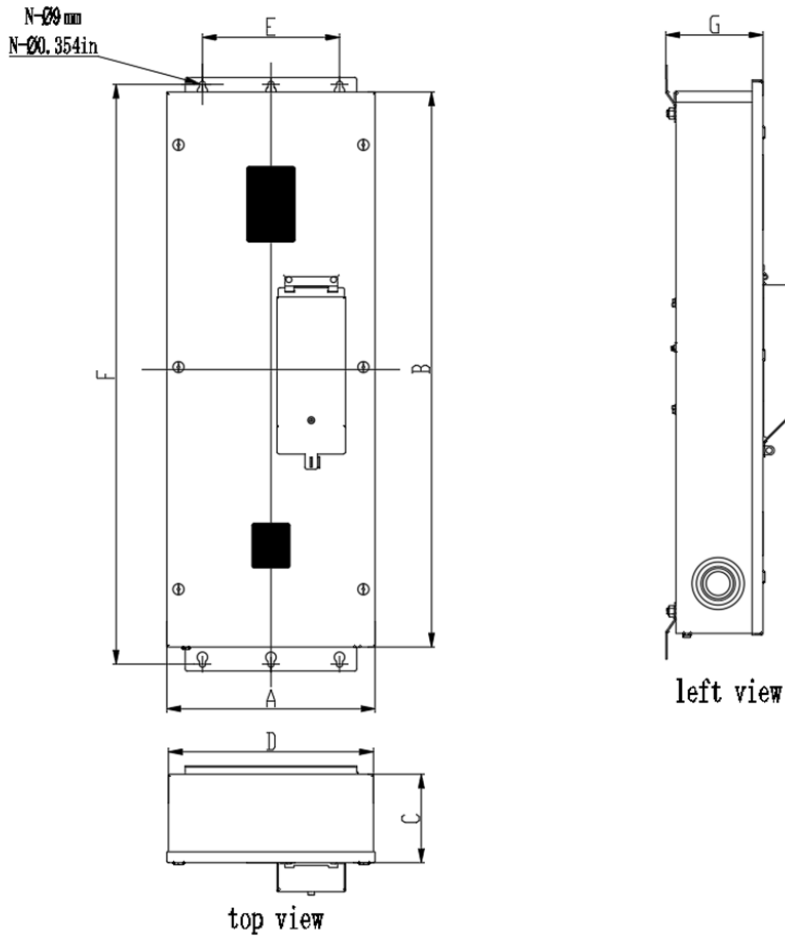
| Enclosure Type | Current Rating | A / in (mm) | B / in (mm) | C / in (mm) | D / in (mm) | E / in (mm) | F / in (mm) | G / in (mm) | N |
|----------------|----------------|-------------|-------------|-------------|-------------|-------------|---------------|-------------|---|
| Type 1 | 150A | 12 (304) | 32 (812.8) | 5 (127.5) | 11.8 (299) | 7.9 (200) | 33 (838.8) | 5.5 (139.8) | 4 |
| | 250A | | | | | | | | |
| | 400A | 22 (558.5) | 48 (1219.2) | 7 (178.3) | 21 (533) | 15.7 (400) | 49.2 (1250.1) | 7.5 (190.6) | 6 |
| | 600A | | | | | | | | |

Note: N means 4 mounting holes when the current is 250A or less and 6 mounting holes for other current levels.



Enclosed Breakers

Dimension: Type 12 Enclosure



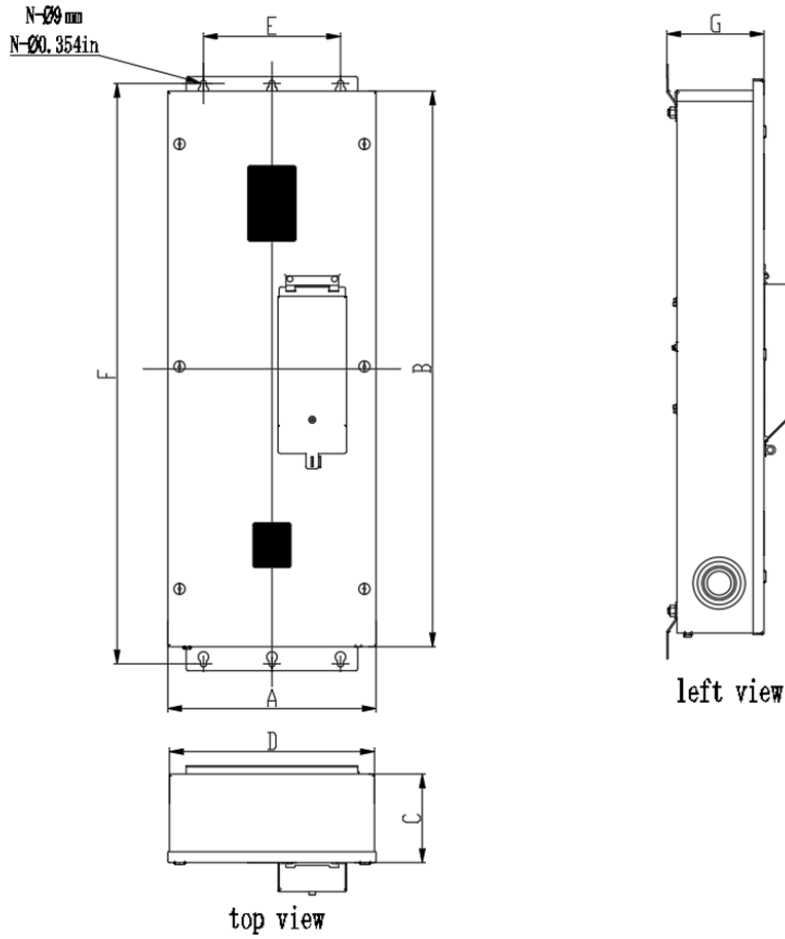
| Enclosure Type | Current Rating | A / in (mm) | B / in (mm) | C / in (mm) | D / in (mm) | E / in (mm) | F / in (mm) | G / in (mm) | N |
|----------------|----------------|-------------|-------------|-------------|-------------|-------------|---------------|-------------|---|
| Type 12 | 150A | 12 (304) | 32 (812.8) | 5.1 (129.5) | 11.8 (299) | 7.9 (200) | 33 (838.8) | 5.6 (141.8) | 4 |
| | 250A | | | | | | | | |
| | 400A | 22 (558.5) | 48 (1219.2) | 7.1 (180.3) | 21 (533) | 15.7 (400) | 49.2 (1250.1) | 7.6 (192.6) | 6 |
| | 600A | | | | | | | | |

Note: N means 4 mounting holes when the current is 250A or less and 6 mounting holes for other current levels.



Enclosed Breakers

Dimension: Type 3R Enclosure



| Enclosure Type | Current Rating | A / in (mm) | B / in (mm) | C / in (mm) | D / in (mm) | E / in (mm) | F / in (mm) | G / in (mm) | N |
|----------------|----------------|-------------|-------------|-------------|-------------|-------------|---------------|-------------|---|
| Type 3R | 150A | 12 (304) | 32 (812.8) | 5.1 (129.5) | 11.8 (299) | 7.9 (200) | 33 (838.8) | 5.6 (141.8) | 4 |
| | 250A | | | | | | | | |
| | 400A | 22 (558.5) | 48 (1219.2) | 7.1 (180.3) | 21 (533) | 15.7 (400) | 49.2 (1250.1) | 7.6 (192.6) | 6 |
| | 600A | | | | | | | | |

Note: N means 4 mounting holes when the current is 250A or less and 6 mounting holes for other current levels.

NOARK



 NOARK Electric USA
2188 Pomona Blvd.
Pomona, CA 91768
 (626) 330-7007
nasales@noark-electric.com

 NOARK Electric Canada
975 Bleams Rd. Unit 3
Kitchener, ON N2E 3Z5
 519-790-0605
 casales@noark-electric.com

 na.noark-electric.com



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