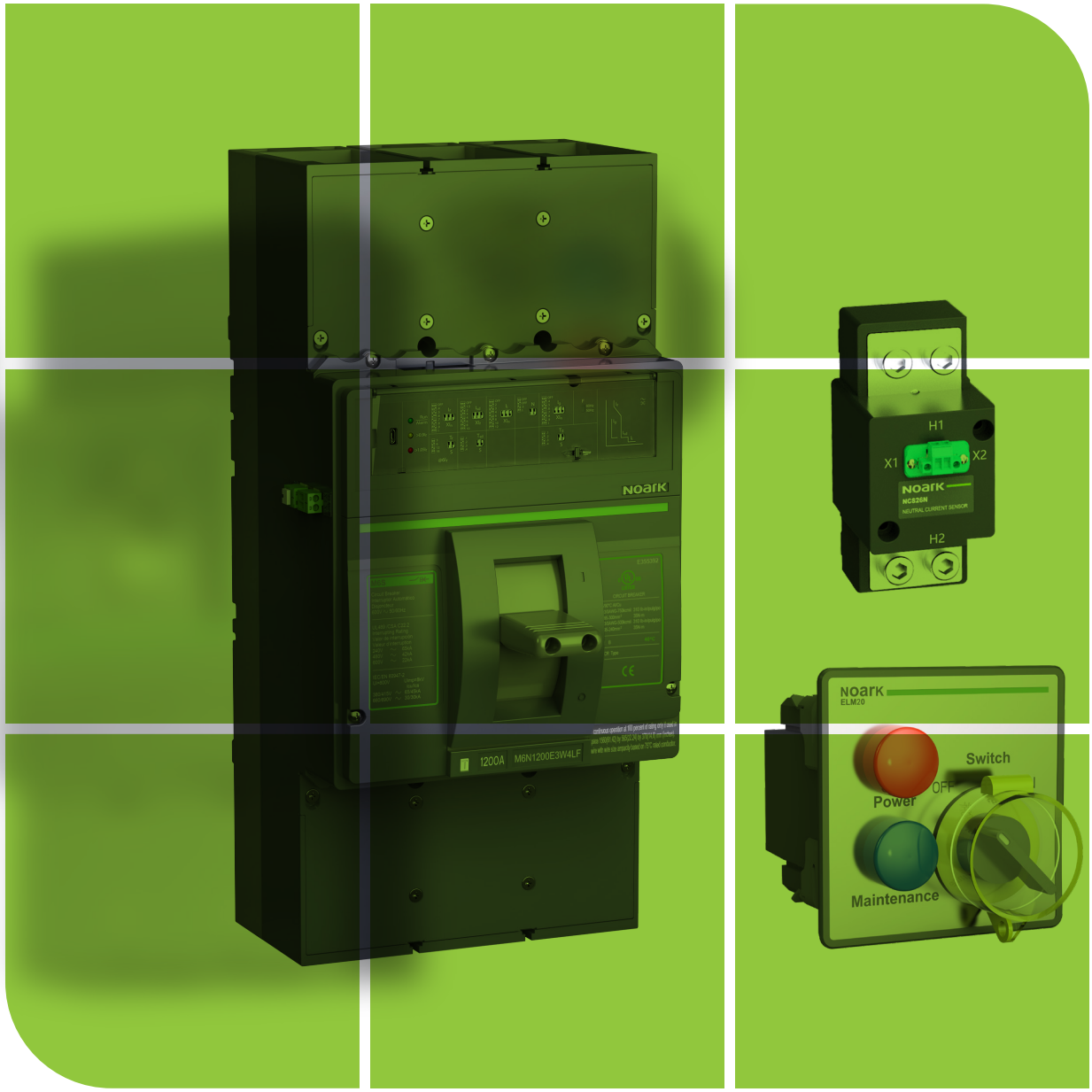
Noark

Catalog

M6-3P4W Molded Case Circuit Breakers & Accessories



Excellent Products. Exceptional Value.

na.noark-electric.com

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 50 thousand employees and sales revenue of $22 billion USD. We have corporate facilities in Los Angeles, Shanghai and Prague to service the requirements of individual markets and countries.

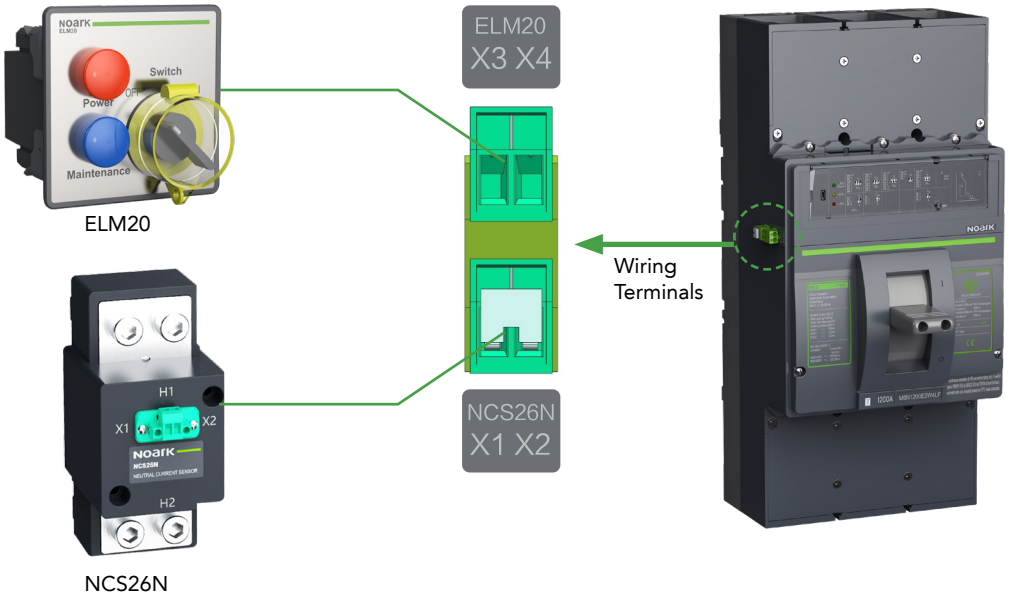
140+	300+	20	22	3	10,000,000+	50,000+
Countries	Overseas Distributors	Overseas Subsidiaries	Logistics Centers	R & D Centers	Sq.Ft. Manufacturing Space	Employees Worldwide

TABLE OF CONTENTS

M6-3P4W Molded Case Circuit Breakers

Product Overview

Noark M6-3P4W molded case circuit breaker (MCCB), an evolution from the M6 MCCB, with its enhanced two pairs terminals labeled X1-X4 and compatibility with the neutral current sensor (NCS26N) and Energy limiting maintenance switch (ELM20) accessories, offers a robust solution for a variety of electrical systems, ensuring compliance with safety standards and providing protection against electrical hazards.



The M6-3P4W MCCB meets the requirement for three-phase four-wire and three-phase three-wire power systems in North America. The neutral current sensor NCS26N, in order to meet the requirement of the National Electrical Code 250.20(D), is connected to the X1 and X2 terminals of MCCB in 3P4W power systems, to provide a reliable fault current path from the neutral to the ground. This feature is crucial for the three-phase four-wire power system in electrical installations. However, in a three-phase three-wire power system, these terminals must be shorted using jumper pin supplied with the breaker.

The energy limit maintenance switch ELM20 is designed to mitigate electric arc hazards and protect personal safety, meeting the requirements of NEC Section 240.87 on arc energy reduction. When arc extinguishing capability is needed, ELM20 switch is connected to the X3 and X4 terminals of M6-3P4W MCCB. In instances where this feature is not required, the X3 and X4 terminals can be left unconnected.

Design Features

- Rated current 800-1200A
- Rated voltage 240/480/600Vac
- IC rating up to 65kA at 480Vac
- 3 pole design only
- Electronic trip unit
- Bus bar or lug terminal connections type
- 80% and 100% rated current use
- Special accessories

Approvals

- UL489
- GB/T 14048.2
- IEC/EN 60947-2
- UL、CCC、CE、ROSH

M6-3P4W Molded Case Circuit Breakers

Product Selection Guide

M	6	N	1200	E	3	W4	L	F
NOARK Ex9 Series - M	Frame Size	Interrupting Capacity	Rated Current	Trip Unit	Pole	Power system	Connection Options	Rate Code
MCCB	6：1200A	S：42kA@480Vac 22kA@600Vac	800~1200A	E: Electronic	3：3-Pole	3-phase 4-wire system	Blank: Busbar Connection	F: 100% Rated MCCB
		N：65kA@480Vac 42kA@600Vac					L: Lug Line/Load Side Connection	Blank: 80% Rated

M6-3P4W Molded Case Circuit Breakers

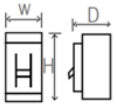
Product List

Part Number	Product	Description
1103031	M6S800E3W4	1200A Frame Size MCCB, 800A, 3P, 42kA@480Vac, Electronic Trip Unit 3P4W, Bus bar Connection, 80% Rated
1103032	M6S1000E3W4	1200A Frame Size MCCB, 1000A, 3P, 42kA@480Vac, Electronic Trip Unit 3P4W, Bus bar Connection, 80% Rated
1103033	M6S1200E3W4	1200A Frame Size MCCB, 1200A, 3P, 42kA@480Vac, Electronic Trip Unit 3P4W, Bus bar Connection, 80% Rated
1103034	M6N800E3W4	1200A Frame Size MCCB, 800A, 3P, 65kA@480Vac, Electronic Trip Unit 3P4W, Bus bar Connection, 80% Rated
1103035	M6N1000E3W4	1200A Frame Size MCCB, 1000A, 3P, 65kA@480Vac, Electronic Trip Unit 3P4W, Bus bar Connection, 80% Rated
1103036	M6N1200E3W4	1200A Frame Size MCCB, 1200A, 3P, 65kA@480Vac, Electronic Trip Unit 3P4W, Bus bar Connection, 80% Rated
1103037	M6S800E3W4L	1200A Frame Size MCCB, 800A, 3P, 42kA@480Vac, Electronic Trip Unit 3P4W, Lug Terminal, 80% Rated
1103038	M6S1000E3W4L	1200A Frame Size MCCB, 1000A, 3P, 42kA@480Vac, Electronic Trip Unit 3P4W, Lug Terminal, 80% Rated
1103039	M6S1200E3W4L	1200A Frame Size MCCB, 1200A, 3P, 42kA@480Vac, Electronic Trip Unit 3P4W, Lug Terminal, 80% Rated
1103040	M6N800E3W4L	1200A Frame Size MCCB, 800A, 3P, 65kA@480Vac, Electronic Trip Unit 3P4W, Lug Terminal, 80% Rated
1103041	M6N1000E3W4L	1200A Frame Size MCCB, 1000A, 3P, 65kA@480Vac, Electronic Trip Unit 3P4W, Lug Terminal, 80% Rated
1103042	M6N1200E3W4L	1200A Frame Size MCCB, 1200A, 3P, 65kA@480Vac, Electronic Trip Unit 3P4W, Lug Terminal, 80% Rated
1103043	M6S800E3W4F	1200A Frame Size MCCB, 800A, 3P, 42kA@480Vac, Electronic Trip Unit 3P4W, Bus bar Connection, 100% Rated
1103044	M6S1000E3W4F	1200A Frame Size MCCB, 1000A, 3P, 42kA@480Vac, Electronic Trip Unit 3P4W, Bus bar Connection, 100% Rated
1103193	M6S1200E3W4F	1200A Frame Size MCCB, 1200A, 3P, 42kA@480Vac, Electronic Trip Unit 3P4W, Bus bar Connection, 100% Rated
1103194	M6N800E3W4F	1200A Frame Size MCCB, 800A, 3P, 65kA@480Vac, Electronic Trip Unit 3P4W, Bus bar Connection, 100% Rated
1103195	M6N1000E3W4F	1200A Frame Size MCCB, 1000A, 3P, 65kA@480Vac, Electronic Trip Unit 3P4W, Bus bar Connection, 100% Rated
1103196	M6N1200E3W4F	1200A Frame Size MCCB, 1200A, 3P, 65kA@480Vac, Electronic Trip Unit 3P4W, Bus bar Connection, 100% Rated
1103197	M6S800E3W4LF	1200A Frame Size MCCB, 800A, 3P, 42kA@480Vac, Electronic Trip Unit 3P4W, Lug Terminal, 100% Rated
1103198	M6S1000E3W4LF	1200A Frame Size MCCB, 1000A, 3P, 42kA@480Vac, Electronic Trip Unit 3P4W, Lug Terminal, 100% Rated
1103199	M6S1200E3W4LF	1200A Frame Size MCCB, 1200A, 3P, 42kA@480Vac, Electronic Trip Unit 3P4W, Lug Terminal, 100% Rated
1103200	M6N800E3W4LF	1200A Frame Size MCCB, 800A, 3P, 65kA@480Vac, Electronic Trip Unit 3P4W, Lug Terminal, 100% Rated
1103201	M6N1000E3W4LF	1200A Frame Size MCCB, 1000A, 3P, 65kA@480Vac, Electronic Trip Unit 3P4W, Lug Terminal, 100% Rated
1103202	M6N1200E3W4LF	1200A Frame Size MCCB, 1200A, 3P, 65kA@480Vac, Electronic Trip Unit 3P4W, Lug Terminal, 100% Rated

Note:
NCS26N and ELM20 should be ordered separately from the breaker.

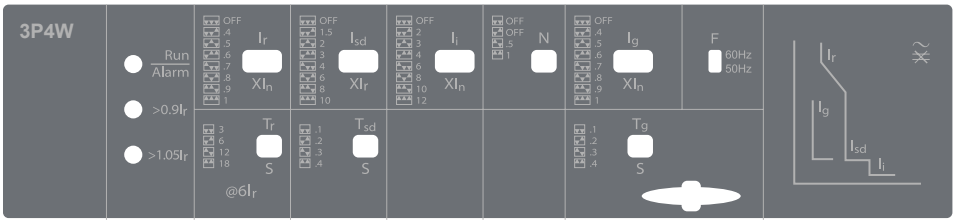
M6-3P4W Molded Case Circuit Breakers

Specification

Product Family		M6	
Product Name		Molded Case Circuit Breaker	
Trip Unit		Electronic (Dip Switch Only)	
Utilization Category		B	
Pole		3P	
Frequency (Hz)		50/60	
Frame Size Current Inm (A)		1200	
Rated Voltage Ue (Vac) 50/60 Hz		240/480/600	
Insulation Voltage Ui (V)		800	
Impulse Withstand Voltage Uimp (kV)		8	
Rated Current In (A)		800, 1000, 1200	
Breaker Type		S	N
Interrupting Capacity Icu (kA)	AC240V	65	100
	AC480V	42	65
	AC600V	22	42
Operating Cycles	Mechanical Operating Cycles	3000	
	Electrical Operating Cycles	500	
Installation		Fixed	
Connection		Terminal/ Busbar connections	
Ambient Temperature		-35°C ~+70°C	
Relative Humidity		No more than 50% at +40°C, and 90% on average in the wettest month	
Dimension 	Number of Poles	3P	
	Width (mm)	222 (max)	
	Height (mm)	450	
	Depth (mm)	240	

M6-3P4W Molded Case Circuit Breakers

Electronic trip unit



Electronic trip unit		
Rated Current In(A)		800A/1000A/1200A
Overload Protection	Current Setting Ir=Inx	0.4, 0.5, 0.6, 0.7, 0.8, 0.9, 1.0, OFF
	6Ir Tripping Time Tr (s)	3, 6, 12, 18, accuracy±15%
Short - Circuit Short - Delay Protection	Current Setting Isd=Irx	1.5, 2, 3, 4, 6, 8, 10, OFF, accuracy±20%
	Tripping Time Tsd (s)	0.1, 0.2, 0.3, 0.4 accuracy: 0.1s (±40ms), 0.2, 0.3, 0.4s (±20%)
Short - Circuit Instantaneous Protection	Current Setting Ii=Inx	2, 3, 4, 6, 8, 10, 12, OFF; accuracy ±20%
	Maximum Tripping Time (ms)	60
Grounding Protection	Current Setting Ig=Inx	0.4, 0.5, 0.6, 0.7, 0.8, 0.9, 1.0, OFF; accuracy ±20%
	Tripping Time Tg (s)	0.1s (±40ms), 0.2, 0.3, 0.4s (±20%)

Accessories

Neutral Current Sensor - NCS26N

Neutral current sensor NCS26N is an external current transformer with N-phase current protection in three-phase four-wire power network, which is installed in series in N-phase circuit to realize N-phase current measurement and N-phase protection.

NCS	2	6	N
Description	Applicable product	Type	Device Category
Neutral current sensor	2: MCCB	6: M6	UL

Description	SKU	Part Number
Neutral current sensor	NSC26N	1103203

Feature	Neutral current sensor
Rated operating current	800-1200A
Transformer ratio (A-mV)	1000: 137.5
Operating temperature	-40°C ~ +70°C
Connection range	14 AWG ~ 24 AWG
Product standard	UL489, UL1998 (Software)
Net weight	1.6kg

The neutral current sensor NCS26N should be used with the M6 3P4W molded case circuit breaker.

Accessories

Energy Limit Maintenance Switch - ELM20

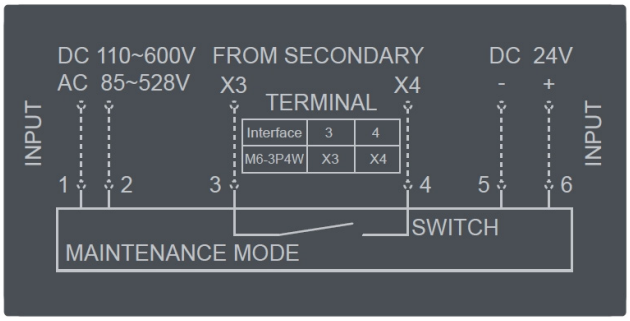
ELM20 is used to mitigate arc hazards and protect personal safety during maintenance. It is used together with MCCB M6-3P4W breakers which has ARMS protection function.
Note: ARMS (Arc flash reduction maintenance mode settings).

ELM	20
Description	Applicable Product
Energy Limit Maintenance Switch	MCCB

Description	Type	SKU	Part Number
Neutral current sensor	M6	ELM20	1103396

	Neutral current sensor
Ambient temp (°C)	-20°C~70°C
Atmospheric condictions of humidity and heart	Relative humidity can be up to 90% at +20°C and should not exceed 50% at +40%
Pollution class	Class 3
Installation category	Ⅱ
Rated voltage Ue (V)	AC480V/DC24
Rated frequency (Hz)	50/60
Enclosure protection degree	IP40

Wiring diagram



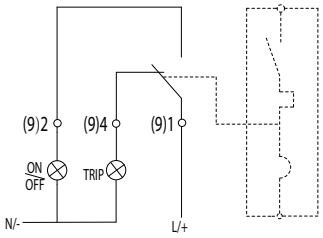
Accessories

Alarm Switch and Auxiliary Contact/Shunt Trip

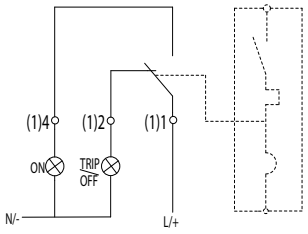
AL/AX	21	P
Description	Type	Device Category
Alarm Auxiliary Contact	21: for M1-M6	P: UL 489

Accessory Description	Product	Part Number
Alarm Auxiliary Contact	AL/AX21P	1100554

5A @ 240Vac
2A @ 480Vac
0.25A @ 110Vdc
0.25A @ 220Vdc

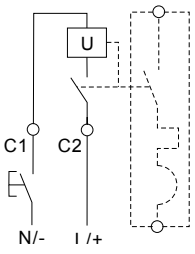


Wiring Diagram of Alarm Contact (Switch)



Wiring Diagram of Auxiliary Contact

SHT	21	N	A
Description	Type	Device Category	Control Voltage
Shunt Trip	26: for M6	N: UL 489	A: 100~130Vac B: 220~240Vac C: 380~440Vac D: 480~500Vac E: 24Vdc H: 220~250Vdc I: 12Vdc



- Response Voltage, Pick-Up: Us 70-110%
- Opening Time: Interrupts Automatically ≥10 ms, ≤60 ms

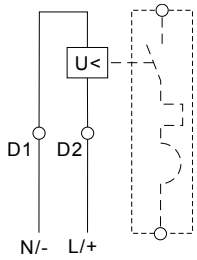
Accessory Description	Type	Voltage	Product	Part Number
Shunt Trip	M6	100~130Vac	SHT26NA	1101168
		220~240Vac	SHT26NB	1101169
		380~440Vac	SHT26NC	1101170
		480~500Vac	SHT26ND	1101171
		24~30Vdc	SHT26NE	1101172
		220~250Vdc	SHT26NH	1101174

Accessories

Under-Voltage Trip/Handle Lock and Mechanical Interlock

- Response Voltage, Drop: Ue 35-70%
- Response Voltage, Pick-Up: Ue 85-110%
- Opening Time: Interrupts Automatically ≥10 ms, ≤60 ms

UVT	21	N	A
Description	Type	Device Category	Control Voltage
Under-Voltage Trip	26: for M6	N: UL 489	A: 110~127Vac B: 220~240Vac C: 380~440Vac D: 24~30Vdc E: 48Vdc F: 60Vdc G: 110~125Vdc H: 220~250Vdc



Accessory Description	Type	Voltage	Product	Part Number
Under-Voltage Trip	M6	220~240Vac	UVT26NB	1101176
		24~30Vdc	UVT26ND	1101179
		48Vdc	UVT26NJ	1102769
		60Vdc	UVT26NK	1102770

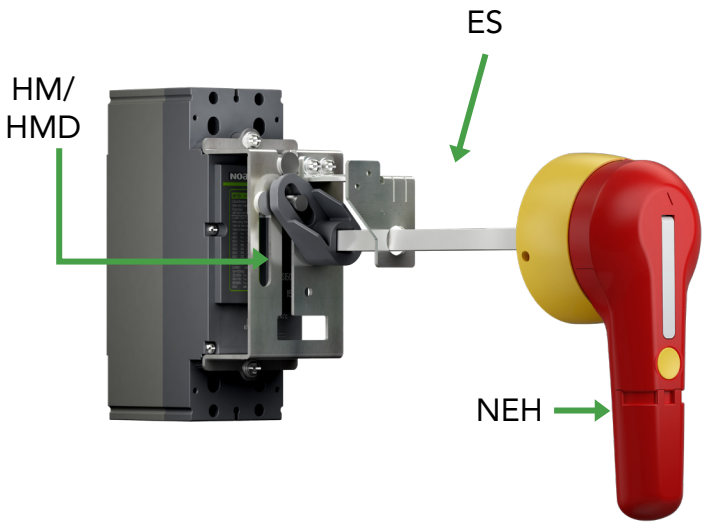
- For 3-pole devices only

KLK	21	N	A
Description	Type	Device Category	Position
Handle Lock (Padlockable Position)	26: for M6	N: UL 489	A: Off

Accessory Description	Type	Position	Product	Part Number
Handle Lock	M6	Off	KLK26NA	1101182

Accessories

NEMA Extended Rotary Handle



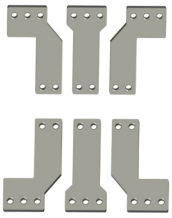
NEH	2	B	2
Description	Type	Color	NEMA Degree
NEMA Extended Rotary Handle (Through the Door)	3: Suitable for M3/4/5/6	B:Black/Grey	2: NEMA 4,4X
		R: Red/Yellow	

HM	1	A
Description	Type	Mechansim Hole
HOM (Handle Operating Mechanism for M6)	6: M6	B : 12×12mm²

ES	20	A
Description	Length	Cross Section
ES (Extended Shaft)	20：7.9 inch (200mm)	B : 0.47×0.47 inch (12×12mm)
	22：8.7 inch (220mm)	
	26：10.3 inch (260mm)	
	32：12.6 inch (320mm)	
	50：19.7 inch (500mm)	

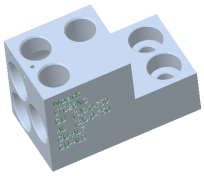
Accessories

Connecting Accessories

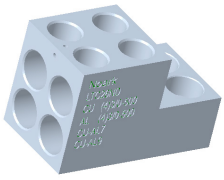


EB	26	6
Description	Type	Number of Components
Extended Connecting Copper Bar	26: for M6	6: 6 pcs of Copper Bar

Accessory Description	Type	Product	Part Number
Extended Connecting	M6	EB266	1102671



LTC	26	NA	A
Description	NEMA Degree	Conduct Number	Wire Material
Lug termminal	26: M6	NC: 3 wires ND: 4 wires	A: Cu/Al



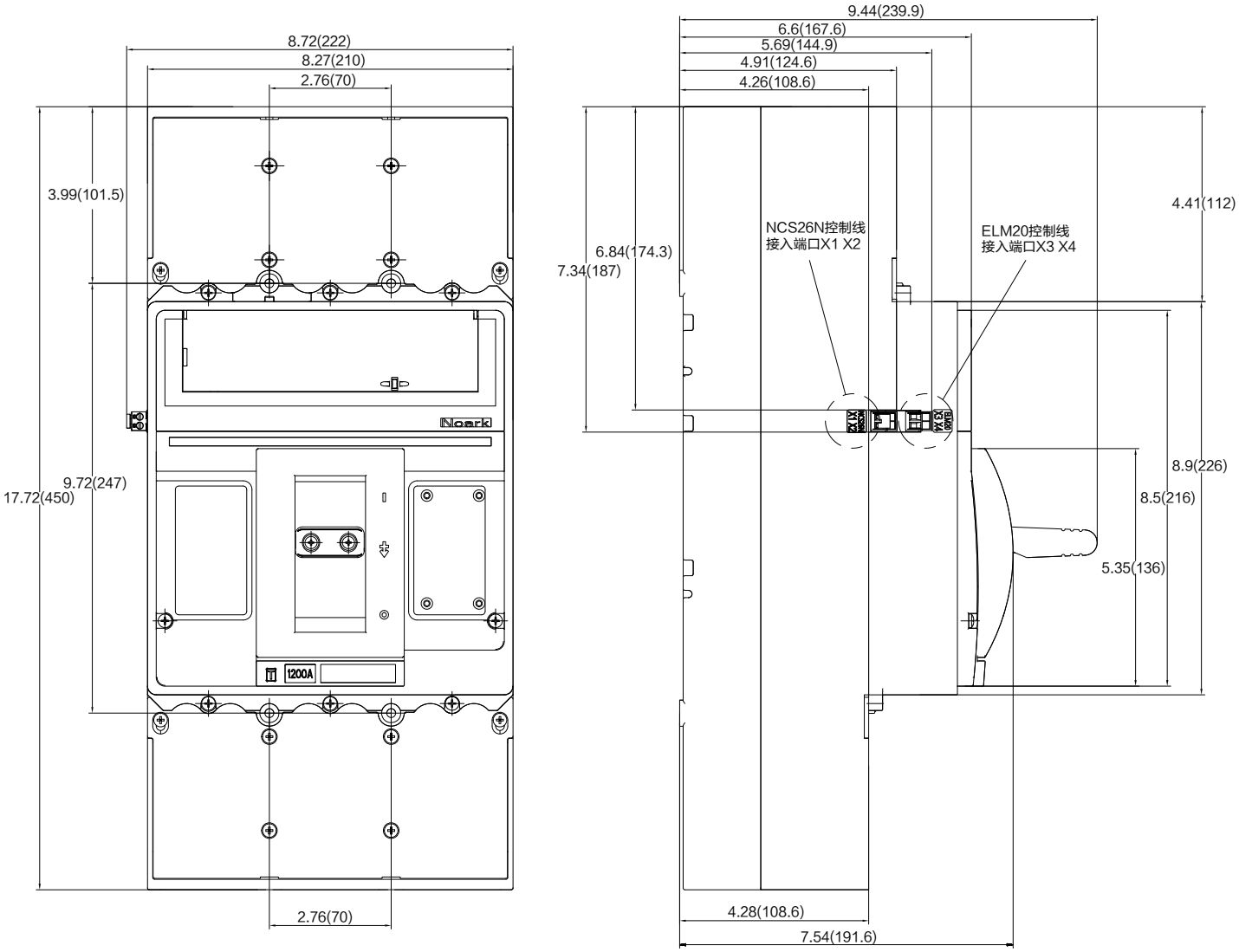
PN	SKU	Breaker Frame	Wire Qty Each Pole	DESCRIPTION	Wire Size Range
1102624	LTC26NCA	M6	3	Terminal lug ,three wires connection for M6	(3) 3/0AWG-750kcmil, Cu/Al Wire
1102625	LTC26NDA	M6	4	Terminal lug,four wires connection for M6	(4) 3/0AWG-500kcmil, Cu/Al Wire

M6-3P4W Molded Case Circuit Breakers

Dimensions

M6-3P4W

Unit: in (mm)

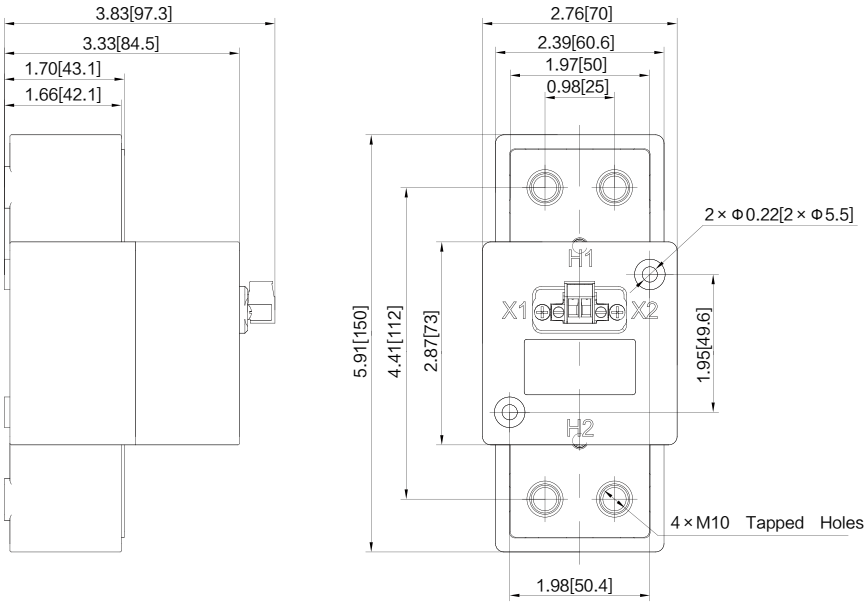


Accessories

Dimensions

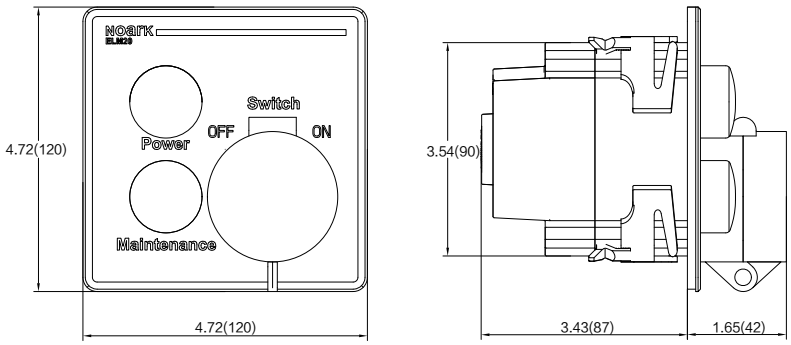
NCS26N

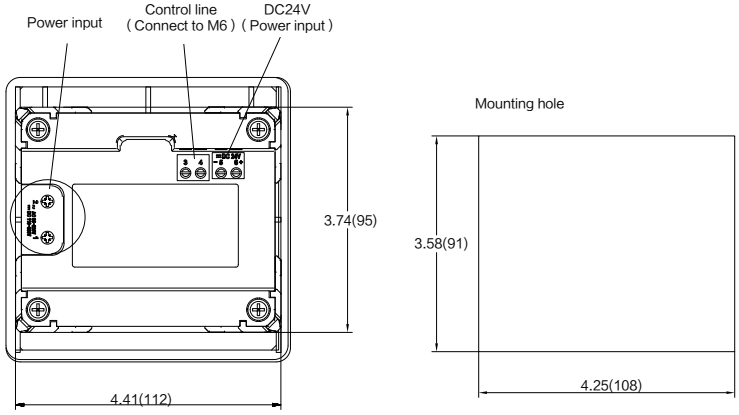
Unit: in (mm)



ELM20

Unit: in (mm)



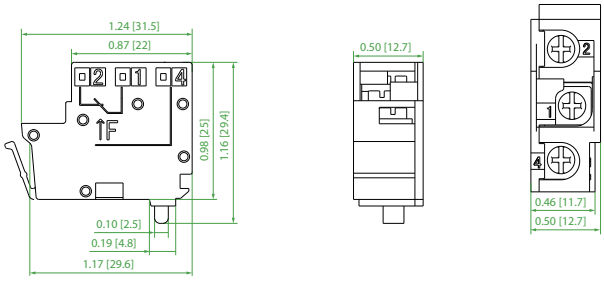


Accessories

Dimensions

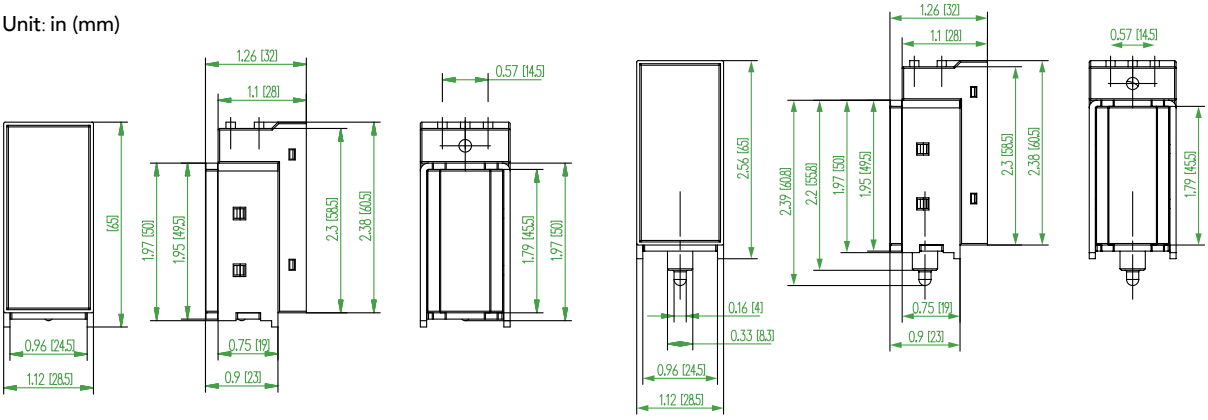
AL21N / AX21N

Unit: in (mm)



SHT26N / UVT26N

Unit: in (mm)

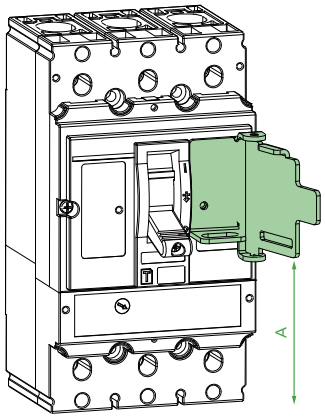


KLK

- For 3-pole devices only

Unit: in (mm)

Handle Lock	A
KLK26N	6.59 [167.5]

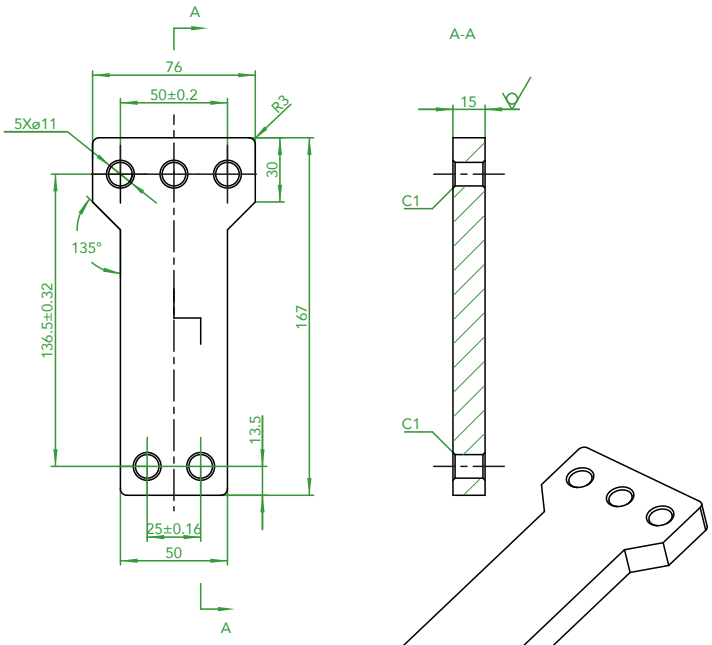


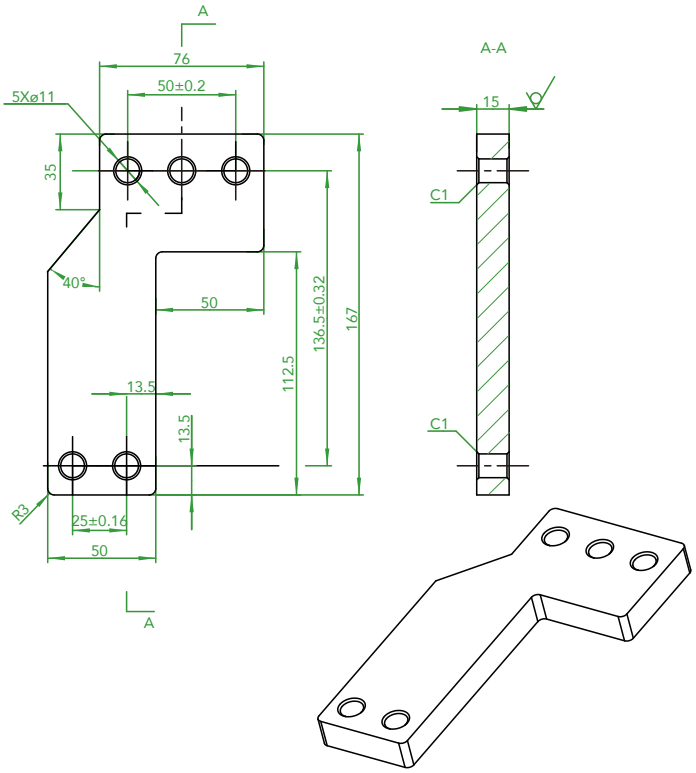
Accessories

Dimensions

EB266

Unit: mm





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

CM62025CEN