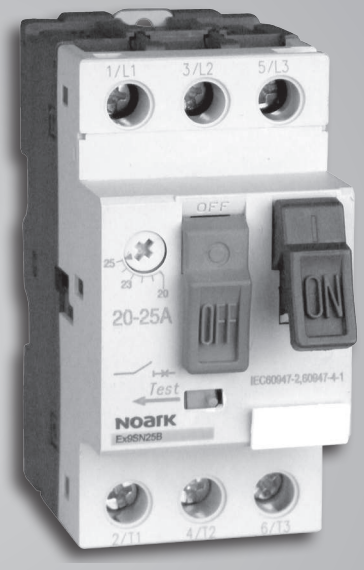
Noark®

Data Sheet

Manual Motor Starters

Ex9SN Series



www.NoarkUSA.com

NOARK

Manual Motor Starters
NOARK Ex9SN Series

Manual motor starters are electromechanical protection devices for the main circuit. They are used mainly to switch motors manually ON/OFF and protect them fuse less against short circuit and loss-phase. None-fuss protection with a manual motor starter saves costs, space and ensures a quick reaction under short-circuit condition, by switching off the motor within milliseconds. Manual motor starter combinations are setup together with contactors and overload relays.

- Short-Circuit Protection
- Disconnect Function
  - Overload Protection
  - Loss-Phase Protection
- Suitable for Three and Single-Phase Application
- Trip-Free Mechanism
- Clear Switch Position Indication ON/OFF/TRIP
- Lockable Handle

Conformed Standard	UL 508
Approvals	CSA C 22.2 No. 14, IEC/EN 60947-2 & 60947-4-1 CE Approved, RoHS Compliant
UL File Number	E232353

Operating Conditions		
Tripping Class		Class 10 A
Environmental Temperature	Transportation or Storage	-76 to 176 °F (-60 to +80 °C)
	Working at	-4 to 131 °F (-20 to +55 °C)
	Testing at	23 to 104 °F (-5 to +40 °C)
Altitude ft (m)		Not to exceed 6,562 (2,000)
Air Conditions		At mounting site, relative humidity not exceed 50% at the max temperature of 104 °F (+40 °C), higher relative humidity is allowable under lower temperature
Pollution Grade		Class III
Release Grade		10 A (SN25)
Rated Operational Frequency (Hz)		50/60
Mounting Conditions		The inclination between the mounting plane and the vertical plane shall not exceed 5°. The product shall be installed and operated at a place without obvious shake, impact and vibration.
Rated Insulation Voltage Ui (V)		IEC 690, UL/CSA 600
Rated Operational Voltage Ue (V)		230/240, 400/415, 460/480, 575/600
Rated Impulse Withstand Voltage Uimp (V)		6,000
Interrupting Rating Icu		5 ka
Service Life	Electrical	2,000
	Mechanical	10,000
Degree of Protection		IP 20

Product Selection Guide

Ex9SN	25	A	0.16A
NOARK Ex9SN Series	Frame Size	Style	Rated Current
	25: 25 A	A: Rotary Handle B: Push Button	0.16A: 0.1~0.16A 0.25A: 0.16~0.25A 0.4A: 0.25~0.4A 0.63A: 0.4~0.63A 0.1A: 0.63~1A 1.6A: 1~1.6A 2.5A: 1.6~2.5A 4A: 2.5~4A 6.3A: 4~6.3A 10A: 6.3~10A 14A: 9~14A 18A: 13~18A 23A: 17~23A 25A: 20~25A

Manual Motor Starters
Properties

Overload Protection Properties

Series Number	Multiple of Setting Current	Initial Status	Time		Expected Results	Ambient Temperature
1	1.05	Cold Status	t≥2h		Non-Tripping	68°F to ±35.6°F (+20°C to ±2°C)
2	1.20	Heat Status (right after test 1)	t<2h		Tripping	
3	1.50		Tripping Class	10A t<2 min.		
				10 t<4 min.		
4	7.20	Cold Status	Tripping Class	10A 2s<t≤10s		
				10 4s<t≤10s		

Phase Failure Protection Properties

Series Number	Multiple of Setting Current		Initial Status	Time	Expected Results	Ambient Temperature
	Any 2 Phase	The Other Phase				
1	1.0	0.9	Cold Status	t≥2h	Non-Tripping	68°F to ±35.6°F (+20°C to ±2°C)
2	1.15	0	Heat Status (right after test 1)	t<2h	Tripping	

Temperature Compensation Properties

Series Number	Multiple of Setting Current	Initial Status	Time	Expected Results	Ambient Temperature
1	1.0	Cold Status	t≥2h	Non-Tripping	104°F to 35.6°F (+40°C to +2°C)
2	1.2	Heat Status (right after test 1)	t<2h	Tripping	
3	1.05	Cold Status	t≥2h	Non-Tripping	-23°F to 35.6°F (-5°C to +2°C)
4	1.3	Heat Status (right after test 1)	t<2h	Tripping	

Manual Motor Starters

Specifications

Setting Current Range (A)			0.1-0.16	0.16-0.25	0.25-0.4	0.4-0.63	0.63-1	1-1.6	1.6-2.5	2.5-4	4-6.3	6.3-10	9-14	13-18	17-23	20-25
Rated Current of Release			0.16	0.25	0.4	0.63	1	1.6	2.5	4	6.3	10	14	18	23	25
UL Ratings																
Single-Phase (HP)	120 Vac		-	-	-	-	-	-	-	1/8	1/4	1/2	3/4	1	1.5	2
	204 Vac						-	1/10	1/6	1/3	1/2	1.5	2	3		
Three-Phase (HP)	240 Vac							-	1/2	1	1.5	3		10	7.5	
	480 Vac						1/2	3/4	1	2	3	5	10		15	
	600 Vac								1.5	3	5	7.5		15	20	
IEC Ratings																
400/415 Vac	Icu(kA)		100											15		
	Ics % Icu												50		40	
690 Vac	Icu (kA)		100						3							
	Ics % Icu								75							
Rated Ultimate Short-Circuit Breaking Capacity Icu (kA)	230/240V		100						100		100		100		50	
	400/415V												15			
	440V										50	15	8		6	
	480/500V											10	6		4	
	660/690V								3							
Rated Service Short-Circuit Breaking Capacity Ics (kA)	230/240V		100						100				100		50	
	400/415V												7.5		6	
	440V												4		3	
	480/500V												4.5			
	660/690V								2.25							
Arcing Distance			1.57 in (40 mm)													
Standard Rated Power of Three-Phase Motor (kW)	230/240V		-			-	-	-	0.37	0.75	1.1	2.2	3	4	5.5	
	400V						-	0.37	0.75	1.5	2.2	4	5.5	7.5	11	11
	415V							-						9		
	440V						0.37	0.55	1.1		3		7.5			
	500V							0.75		2.2	3.7	5.5				15
	660/690V					0.37	0.55	1.1	1.5	3	4	7.5	9	11	15	18.5
Current Setting Value of Instantaneous Electrmagnetic Release Ir (A)			1.5	2.4	5	8	13	22.5	33.5	51	78	138	170	223	327	
Current Rating of Fuse-Link of Back-Up Fuse, Which is Only Needed in Case of Icc>Icu (Icc: Prospective Short-Circuit Breaking Current) †: Fuse is not Required	230/240V	aM A	†						†		†		†		80	
		gI/gG A													100	
	400/415V	aM A											63		80	
		gI/gG A											80		100	
	440V	aM A										50			63	
		gI/gG A										63			80	
	500V	aM A										50				
		gI/gG A										63				
	690V	aM A							16	25	32		40			
		gI/gG A							20	32	40		50			
Degree of Protection			IL2L0													

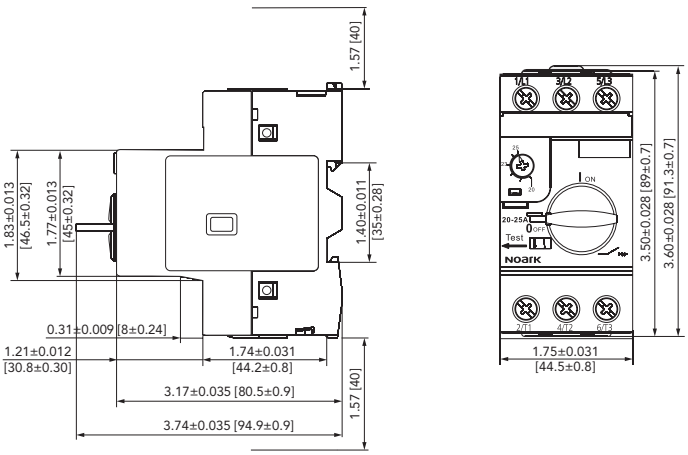
Packing Information

	Unit Weight GW/NW lb (kg):	Carton Dimension in (mm)	Full Pack Pieces
Starters	45.42 (20.6)/ 41.01 (18.6)	15.79x14.72x9.26 (401x374x236)	64

Dimensions

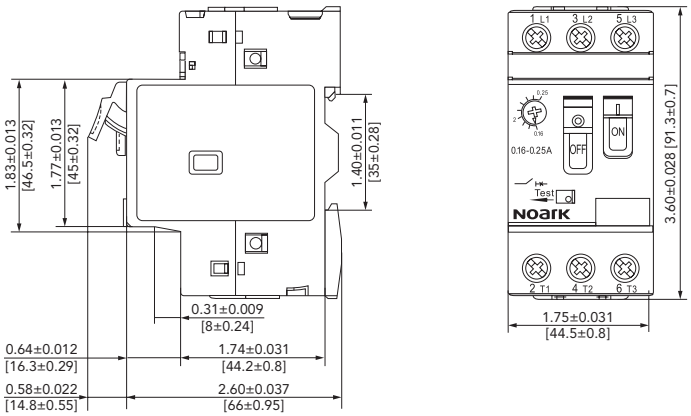
Ex9SN25A

Unit: in. [mm]



Ex9SN25B

Unit: in. [mm]



Manual Motor Starters
Accessory Specifications

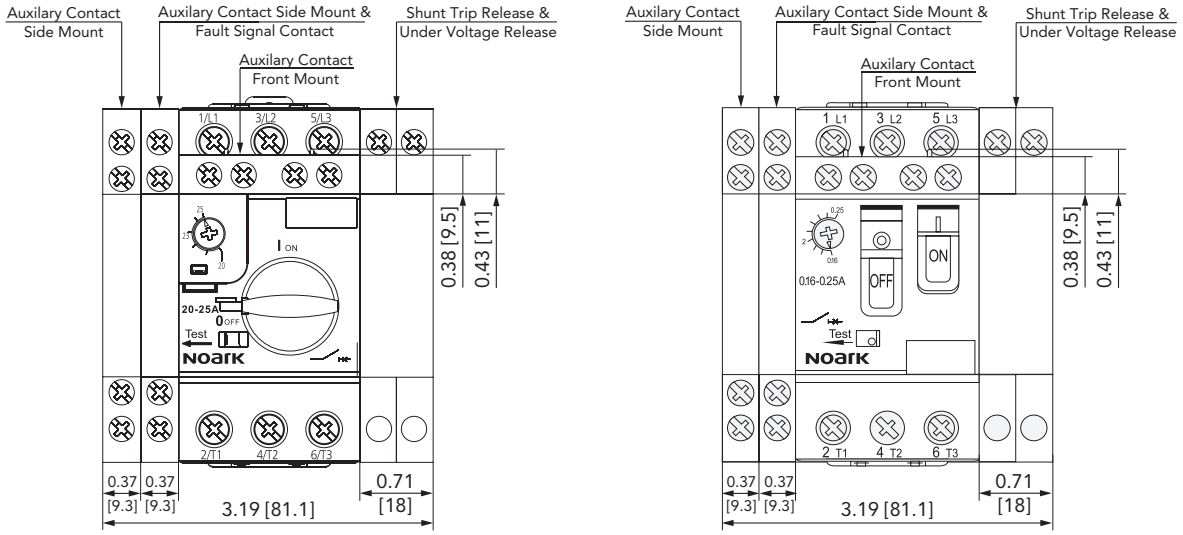
	Auxiliary Contact			Enclosure		Shunt Trip Release	Under-Voltage Release
	Side Mount	Front Mount	Fault Signal Contact	Actuating Diaphragm	Emergency Stop Pushbutton		
	ASNA	ASNB	ASNF	ASNEA	ASNEB	ASNT	ASNUV
UL File Number	E467185						
UL Ratings							
Electrical Contact Type	B600	D300	Fault: D300 Auxiliary: B600	-		-	
Rated Insulation Voltage Ui (V)	690	250	690			690	
Voltage Range of Operation (Ue)	-					70~110%	35~70%
Ue Max (V)	690	250	Fault: 240 Auxiliary: 690			-	
Conventional Heating Current Ith (A)	6	2.5	Fault: 2.5 Auxiliary: 6				
AC-15	720 Vac 240 V	120 Vac 240 V	Fault: 720 Vac/240 V Auxiliary: 720 Vac/240 V				
IEC File Number	IEC/EN 60947-5-1					IEC/EN 60947-2	
IEC Ratings							
Pick-Up Voltage (Un)	-			-		-	85~110%
Drop-Off Voltage (Un)						70~110%	35~70%
IP Class				IP 55		-	

Accessory Product Selection Guide

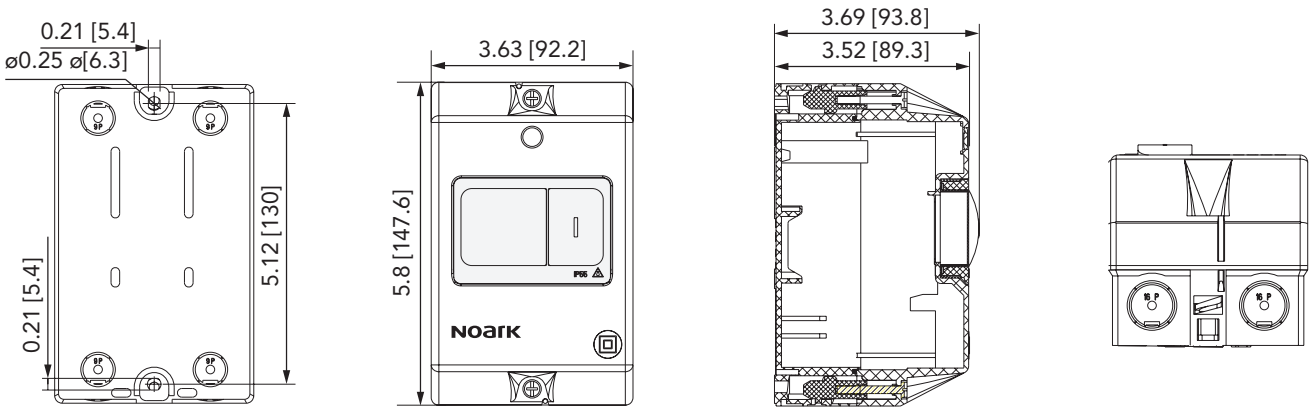
ASN	A	11	A
Manual Motor Starter Accessory	**Description**	**Auxiliary Contact**	**Rated Voltage**
	A: Auxilary Contact, Side Mount	11: 1NO+1NC	A: 110-115 Vac 50 Hz 127V 60Hz
	B: Auxilary Contact, Front Mount		
	UV: Under Voltage Release	20: 2NO	B: 220-240 Vac 60Hz
	T: Shunt Trip Release		
	F: Fault Signal Contact w/ Auxilary Contact	1001: 1NO (Fault) + 1NC (Auxilary)	C: 380-400 Vac 50 Hz 440V 60Hz
	EA: Enclosure w/ Actuating Diaphragm	0101: 1NC (Fault) + 1NC (Auxilary)	D: 380-400 Vac 60Hz
	EB: Enclosure w/ Emergency Stop Pushbutton		
	EC1: Enclosure with Rotary Handle (Black/Gray)	1010: 1NO (Fault) + 1NO (Auxilary)	
	EC2: Enclosure with Rotary Handle (Red./Yellow)	0110: 1NC (Fault) + 1NO (Auxilary)	

Manual Motor Starters
Accessory Dimensions

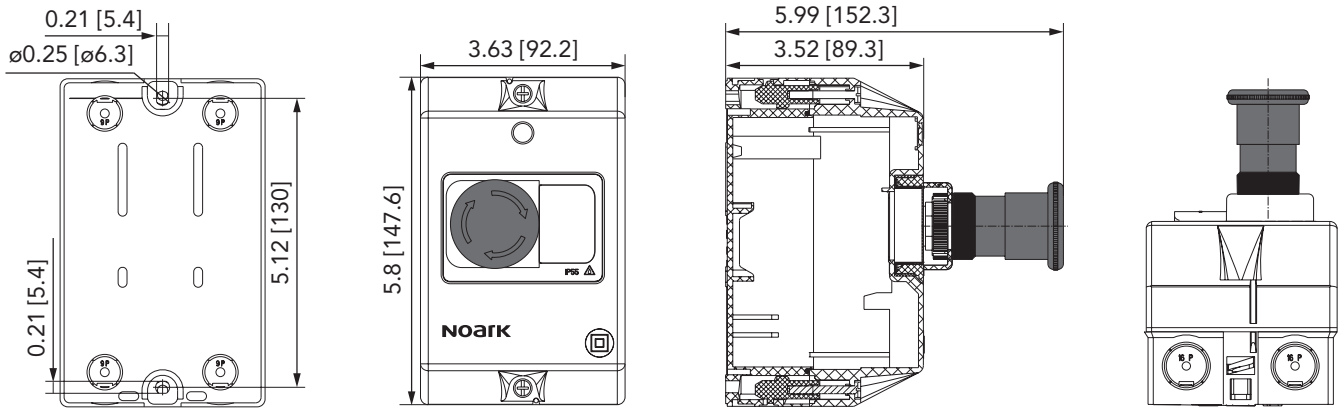
Manual Motor Starter with Accessories
Unit: in. [mm]



Enclosure with Actuating Diaphragm
Unit: in. [mm]



Enclosure with Emergency Stop Pushbutton
Unit: in. [mm]



NOARK®

NOARK Electric North America
2188 Pomona Blvd, Pomona Ca 91768
(626) 330-7007
na.noark-electric.com • nasales@noark-electric.com

DSMMS201712NA