Noark

Manual Motor Starters

Ex9S32 Product Overview

Features

Ex9S32 Manual Motor Starter provide manual isolation, manual motor control, and overcurrent protection. Ex9S32 Manual Motor Starters are electro-mechanical devices combining the functions below in one unit.

- Disconnect for Motor Branch Circuit
- Manual Motor Control
- Branch-Circuit Short Circuit Protection (Magnetic Protection)
- Overload Protection (Thermal Protection) - Trip Class 10
- Manual switching (automatic when used with contactor)
- 5-Year limited warranty

5 years LIMITED WARRANTY

In National Electrical Code (NEC) require an individual motor branch circuit be protected by a UL/CSA listed fuse, circuit breaker or self-protected combination motor controller.

Available as:

- Up to 32A @600Vac
- UL 60941-4-1 (formerly UL 508 Type E Self Protection or UL 60947-4-1 Type F Group Motor Protection
- Full range of accessories
- Lockable handle

Certifications

- UL60947-1/UL60947-4-1 listed, file No. E467185
- UL508 listed, file No. E476273
- IEC/EN 60947-2/-4-1
- CCC Certified

c UL us LISTED CE NOM CCC

Standards Compliance

- IEC/EN 60947-1, -2, -4-1, -5-1
- UL 508
- UL 60947-1; -4-1

TECO

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Request a Quote

Manual Motor Starters

Ex9S32

Green Highlight = Most Popular

Certifications

IEC/EN 60947-4-1

32 A

Amperes Range	Rotary Handle Catalog Number
0.10-0.16	Ex9S32A0.16A
0.16-0.25	Ex9S32A0.25A
0.25-0.40	Ex9S32A0.4A
0.40-0.63	Ex9S32A0.63A
0.63-1	Ex9S32A1A
1-1.6	Ex9S32A1.6A
1.6-2.5	Ex9S32A2.5A
2.5-4	Ex9S32A4A

32 A

Amperes Range	Rotary Handle Catalog Number
4-6.3	Ex9S32A6.3A
6-10	Ex9S32A10A
9-14	Ex9S32A14A
13-18	Ex9S32A18A
17-23	Ex9S32A23A
20-25	Ex9S32A25A
24-32	Ex9S32A32A

Technical Data

E

Description		Ex9S32
Rated operational current I_e (A)		32A
Conventional rated thermal current Ith (A)		0.16-32A
Tripping Class		10
Rated insulation voltage U_i (Vac)		690/IEC; 600/UL, 600/CSA
Rated operational voltage U_e (AC)		230/240, 400/415, 460/480, 575/600
Rated impulse withstand voltage U_{imp} (AC)		6000V
Rated Operational Frequency (Hz)		50/60Hz
Resistance to shock		30 gn -11 ms
Resistance to vibrations		5gn (5 -150Hz)
Enviornmental Temperature	Transportation or Storage	-76 to 176°F (-60 to 80°C)[1]
	Working at	-4 to 158°F (-20 to 70°C)[2]
	Testing at	23 to 104°F (-5 to 40°C)
Altitude ft (m)		Not to exceed 6,562 (2,000)
Ambient Conditions		At mounting site, relative humidity not exceed 90% at the max testing temperature 104°F (40°C), higher relative humidity is allowable under lower temperature
Pollution Grade		III
Mounting Conditions		The inclination between the mounting plane and the vertical plane shall not exceed 30°; The product shall be installed and operated at a place without obvious shake, impact and vibration.
Interrupting Rating Icu		Check Table 3 & 4
Service life (cycles)	Electrical	100,000
	Mechanical	100,000
Duty Class (cycles/hr)		30, max. operating rate
Degree of Protection		IP 20

Additional products, accessories and higher ratings available. Contact your NOARK representative or visit na.noark-electric.com for additional information.

Manual Motor Starters

UL 60947-4-1 (formerly UL 508) Type E Application

The National Electric Code (NEC) requires the following when controlling a motor:

- A means of disconnecting power from the circuit
- Short circuit protection for the cables
- A way to start and stop the motor (typically a contactor)
- Overload protection for the motor (typically an overload relay)

The EX9S32 can provide (self protected) UL 60947-4-1 (formerly UL 508) Type E protection when used in conjunction with a contactor, terminal extension, and an alarm contact.

TYPE E

Components	Catalog Number	Product
Manual Motor Starter 0.10-32 Amps	EX9S32	
Contactor	EX9C or EX9CS	
Terminal cover/extension for Ex9S32 for use in type E application	CCE51	
Fault Signaling/Alarm Contact	AL5111	
Mounting Bracket For mounting a Ex9S32 to a Ex9C Standard Type Contactor, 09-38A	DRA51	
Connection Block Between Ex9S32 and Ex9CS Mini Type Contactor 09-12A	CC51	
	or	
Connection Block Between Ex9S32 and Ex9C Standard Type Contactor 09-18A	CC52	
	or	
Connection Block Between Ex9S32 and Ex9C Standard Type Contactor 25-38A	CC53	

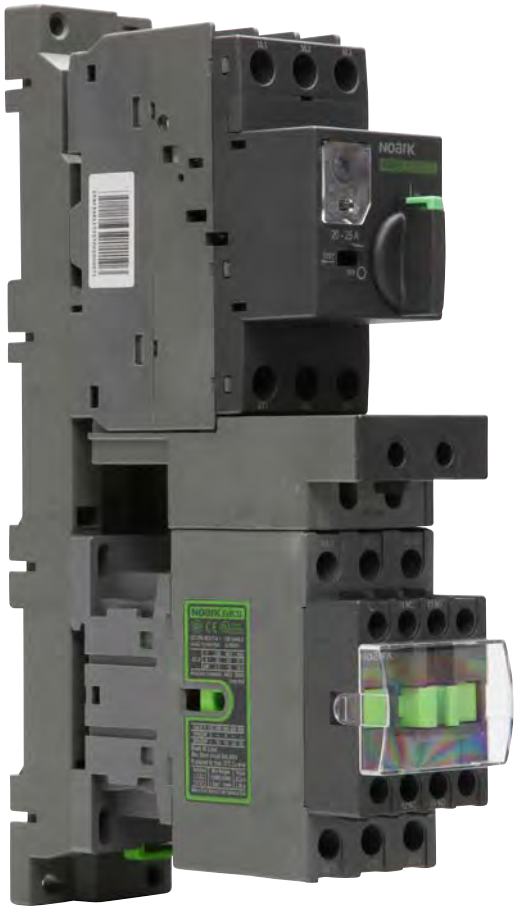
Disclaimer: Proper Sizing of an overcurrent protection device is the responsibility of the customer and should be determined using the application standards of the NEC*, CEC**, or other applicable standards.

*NEC-National Electric Code
** CEC-Canadian Electrical Code

Manual Motor Starters

UL 60947-4-1 (formerly UL 508) Type F Application

The EX9S32 can provide (group motor) UL 60947-4-1 (formerly UL 508) Type F protection when used in conjunction with a contactor. No alarm contact or terminal extension required.



TYPE F

Components	Catalog Number	Product
Manual Motor Starter 0.10-32 Amps	EX9S32	
Contactor	EX9C or EX9CS	
Mounting Bracket For mounting a Ex9S32 to a Ex9C Standard Type Contactor, 09-38A	DRA51	
Connection Block between Ex9S32 and Ex9CS Mini Type Contactor 09-12A	CC51	
	or	
Connection Block between Ex9S32 and Ex9C Standard Type Contactor 09-18A	CC52	
	or	
Connection Block between Ex9S32 and Ex9C Standard Type Contactor 25-38A	CC53	

E

Disclaimer: Proper Sizing of an overcurrent protection device is the responsibility of the customer and should be determined using the application standards of the NEC*, CEC**, or other applicable standards.

*NEC-National Electric Code
** CEC-Canadian Electrical Code

Manual Motor Starters

Ex9S32 Accessories

Green Highlight = Most Popular

Auxiliary Contact Blocks

Description	Mounting Location	Max. No. of Blocks	Contact Type	Catalog Number
Instantaneous auxiliary contacts	Front	1	NO+NC	AX5111
	Left Side	2	NO+NC	AX5211
Fault Signaling Contact		1	NO+NC	AL5111

AX51

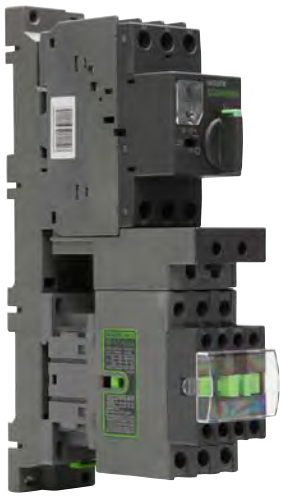
AX52

Electrical Trip Unit

Description	Mounting Location	Voltage	Hz	Catalog Number
Undervoltage Release	Right Side	110-120V	60	UVT51A
		208V	60	UVT51C
		480V	60	UVT51E
		600V	60	UVT51F
Shunt Release	Right Side	100-130V	50/60	SHT51A

UVT51

Ex9S32 + CC53 + Ex9C32 + DRA51



Terminal Cover

Description	Application	Catalog Number
Terminal Cover	Terminal cover for Ex9S32 for use in type E application	CCE51

CCE51

Mounting Accessories

Description	Application	Catalog Number
Connection Block	Between Ex9S32 and Ex9C Mini Type Contactor, 09-12A	CC51
	Between Ex9S32 and Ex9C Standard Type Contactor, 09-18A	CC52
	Between Ex9S32 and Ex9C Standard Type Contactor, 25-38A	CC53
Mounting Bracket	For mounting a Ex9S32 to a Ex9C Standard Type Contactor, 09-38A	DRA51

CC51 CC52 CC53

DRA51

Enclosures

Description	Type	Color	Rating	Catalog Number
Waterproof Enclosure; Ex9S32 Protectors	Operation by rotary handle	Black/ Gray	NEMA 4X/4, IP 65	WPB51B
		Yellow/ Red		WPB51Y

WPB51B

WPB51Y

Operation Handle

- Typically used with enclosures 6" to 12" depth.

Description	Type	Color	Rating	Catalog Number
Extended Rotary Handle	9 inch (230mm) shaft, with bracket	Black/ Gray	NEMA 4X/4, IP65	ERH51B
		Yellow/ Red		ERH51Y

ERH51B

Additional products, accessories and higher ratings available. Contact your NOARK representative or visit na.noark-electric.com for additional information.

Manual Motor Starters

Ex9S32 and Accessories: Technical Data

Manual Self- Protected Starter	Overload Trip Range(A)	Standard Motor Ratings @50/60 Hertz						Short Circuit Rating (SCCR)						UL 60947-4-1 Type E Components				
		1 HP		3 HP				Stand Alone		UL508 Type E		UL 508 Type F		UL 60947-4-1 Type F Components			Fault Contact and Terminal
		110/ 120V	230/ 240V	200/ 208V	230/ 240V	460/ 480V	575/ 600V	240V or 480/ 277V	600/ 347V	240V or 480/ 277V	600/ 347V	240V or 480/ 277V	600/ 347V	Contactor	DIN rail Base Plate	Manual Motor Starter Connector	
Ex9S32A0.16A	0.1-0.16	-	-	-	-	-	-	65,000	5,000	65,000	10,000	65,000	10,000	Ex9CS12 or Ex9C12	DRA51	CC51 (Mini Contactor) or CC52 (Standard Contactor)	CCE51 and AL5111
Ex9S32A0.25A	0.16-0.25	-	-	-	-	-	-										
Ex9S32A0.4A	0.25-0.4	-	-	-	-	-	-										
Ex9S32A0.63A	0.4-.63	-	-	-	-	-	-										
Ex9S32A1A	0.63-1	-	-	-	-	-	1/2										
Ex9S32A1.6A	1-1.6	-	1/10	-	-	3/4	3/4										
Ex9S32A2.5A	1.6-2.5	-	1/6	1/2	1/2	1	1.5										
Ex9S32A4A	2.5-4	1/8	1/3	3/4	3/4	2	3										
Ex9S32A6.3A	4-6.3	1/4	1/2	1	1.5	3	5										
Ex9S32A10A	43992	1/2	1.5	2	3	5	7.5										
Ex9S32A14A	44088	3/4	2	3	3	10	10							Ex9C18		CC52	
Ex9S32A18A	13-18	1	3	5	5	10	-	42,000		42,000	-	42,000	-	Ex9C25		CC53	
Ex9S32A23A	17-23	1.5	3	5	7.5	15	-										
Ex9S32A25A	20-25	2	-	-	7.5	15	-							Ex9C38			
Ex9S32A32A	24-32	2	5	7.5	10	20	-										

E

Ex9S32 Accessories: Technical Data

	Auxiliary contacts - AX51	Auxiliary contacts - AX52	Auxiliary contacts - AL51
Rated operational voltage Ue	300V	600V	600V
Rated frequency	50/60Hz	50/60Hz	50/60Hz
Rated impulse withstand voltage Uimp	2500V	6000V	6000V
Conventional rated thermal current (Ith)"	2.5A	5A	5A
Mechanical life (C-O operations)	100,000	100,000	100,000
Electrical life (C-O operations) (for AC-3 duty)	AC-15 : 10,000	AC-15 : 10,000	AC-14 : 1000

Terminal Wiring

Model	Wire Ranges (AWG*)	Torque in-lb (N.m)	Screw Type	
Ex9S32	(1) x #14 - (2) x #8	1.85 (2.5)	M4	Phillips / Slot Head
AX51	(1) x #18 - (2) x #12	0.59 (0.8)	M3	
AX52	(1) x #18 - (2) x #12	0.59 (0.8)	M3	
AL51	(1) x #18 - (2) x #12	0.59 (0.8)	M3	
UVT51	(1) x #18 - (2) x #12	1.254 (1.7)	M3.5	
SHT51	(1) x #18 - (2) x #12	1.254 (1.7)	M3.5	

* AWG = American Wire Gauge