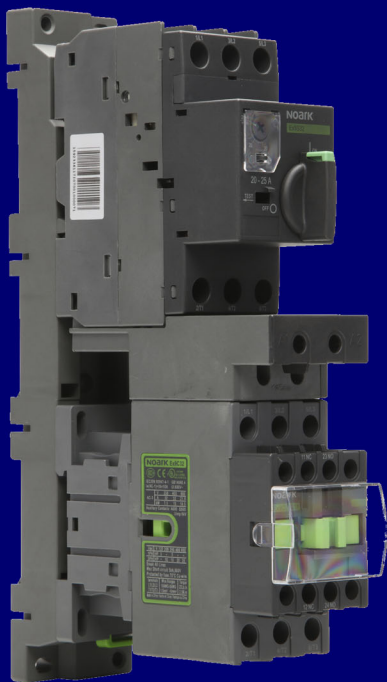


NOARK



32A Manual Motor Starters

- 15 models, 0.1A to 32A
- Full Range of Accessories
- Suitable for use in Type E and Type F Applications



Ex9S32 Manual Motor Starters - 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 (Automatic when used with contactor)
- Branch-Circuit Short Circuit Protection (Magnetic Protection)
- Overload Protection (Thermal Protection) - Trip Class 10
- 5-Year limited warranty



The National Electrical Code (NEC) requires 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 @ 600 Vac
- 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

- UL 60947-1/UL 60947-4-1 listed, file No. E467185
- UL 508 listed, file No. E476273
- IEC/EN 60947-2/-4-1
- CCC Certified



Standards Compliance

- IEC/EN 60947-1, -2, -4-1, -5-1
- UL 508
- UL 60947-1; -4-1
- UL 489

Manual Starters - Product Selection



Certifications
IEC/EN 60947-4-1



32A	
Rated Amperage (Min - Max)	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

32A	
Rated Amperage (Min - Max)	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









Description		Ex9S32
Rated operational current I_n (A)		32A
Conventional rated thermal current I_{th} (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		5 gn (5 -150Hz)
Environmental 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)		<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 I_{cu}		See Technical Data on page 7
Service life (cycles)	Electrical	100,000
	Mechanical	100,000
Duty Class (cycles/hr)		30, max. operating rate
Degree of Protection		IP 20

Manual Motor Starters - Type E Applications

The National Electrical 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	EX9CCE51	
Fault Signaling/Alarm Contact	EX9AL5111	
Mounting Bracket For mounting a Ex9S32 to a Ex9C Standard Type Contactor, 9-38A	EX9DRA51	
Connection Block Between Ex9S32 and Ex9CS Mini Type Contactor 09-12A	EX9CC51	
	or	
Connection Block Between Ex9S32 and Ex9C Standard Type Contactor 09-18A	EX9CC52	
	or	
Connection Block Between Ex9S32 and Ex9C Standard Type Contactor 25-38A	EX9CC53	






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 Electrical Code
** CEC-Canadian Electrical Code

Manual Motor Starters - Type F Applications

The EX9S32 series 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, 9-38A	EX9DRA51	
Connection Block between Ex9S32 and Ex9CS Mini Type Contactor 9-12A	EX9CC51	
	or	
Connection Block between Ex9S32 and Ex9C Standard Type Contactor 9-18A	EX9CC52	
	or	
Connection Block between Ex9S32 and Ex9C Standard Type Contactor 25-38A	EX9CC53	

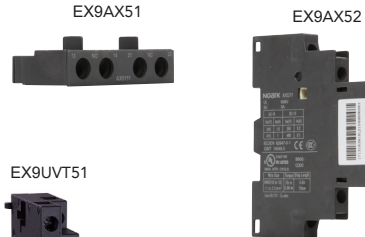
Disclaimer: Proper Sizing of an overcurrent protection device is the responsibility of the customer and should be determined using the application standards of the NEC*, CEC**, or other applicable standards.

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

Manual Motor Starters - Accessories

Auxiliary Contact Blocks

Description	Mounting Location	Max. No. of Blocks	Contact Type	Catalog Number
Instantaneous auxiliary contacts	Front	1	NO+NC	EX9AX5111
	Left Side	2	NO+NC	EX9AX5211
Fault Signaling Contact		1	NO+NC	EX9AL5111



Electrical Trip Unit

Description	Mounting Location	Voltage	Hz	Catalog Number
Undervoltage Release	Right Side	110-120V	60	EX9UVT51A
		208V	60	EX9UVT51C
		480V	60	EX9UVT51E
		600V	60	EX9UVT51F
Shunt Release	Right Side	100-130V	50/60	EX9SHT51A

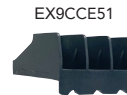


EX9S32 + EX9CC53 + EX9C32 + EX9DRA51



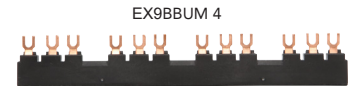
Terminal Cover

Description	Application	Catalog Number
Terminal Cover	Terminal cover for Ex9S32 for use in type E application	EX9CCE51



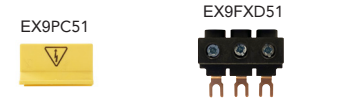
Busbars

Description	No. of Ex9S32 Starter	No. of Side-Mounted Aux Contact on each Ex9S32 starter	Busbar Pitch (mm)	SKU
Sets of 3-pole, 63A Busbar	2	None	45	EX9BBUM 245
		1 of EX9AX52, EX9AL51	54	EX9BBUM 254
		2 of EX9AX52 or 1 EX9UVT51, EX9SHT51	63	EX9BBUM 263
	3	None	45	EX9BBUM 345
		1 of EX9AX52, EX9AL51	54	EX9BBUM 354
		2 of EX9AX52 or 1 EX9UVT51, EX9SHT51	63	EX9BBUM 363
	4	None	45	EX9BBUM 445
		1 of EX9AX52, EX9AL51	54	EX9BBUM 454
		2 of EX9AX52 or 1 EX9UVT51, EX9SHT51	63	EX9BBUM 463
	5	None	45	EX9BBUM 545
		1 of EX9AX52, EX9AL51	54	EX9BBUM 554
		2 of EX9AX52 or 1 EX9UVT51, EX9SHT51	63	BE9XBUM 563



Bus Bar Wiring Accessories

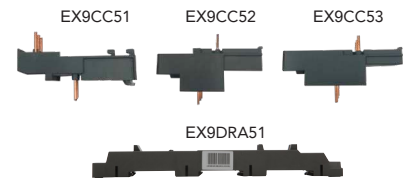
Description	Application	Catalog Number
Input Terminal for BBUM Busbar	Terminal block for power supply to one or more BBUM busbar	EX9FD51*
Protective End Cover	For unused busbar outlets	EX9PC51*



* Sold in multiples of 10. Example: FD51 order quantities of 10, 20, 30, 40 etc.

Mounting Accessories

Description	Application	Catalog Number
Connection Block	Between Ex9S32 and Ex9C Mini Type Contactor, 09-12A	EX9CC51
	Between Ex9S32 and Ex9C Standard Type Contactor, 09-18A	EX9CC52
	Between Ex9S32 and Ex9C Standard Type Contactor, 25-38A	EX9CC53
Mounting Bracket	For mounting a Ex9S32 to a Ex9C Standard Type Contactor, 9-38A	EX9DRA51



Enclosures

Description	Type	Color	Rating	Catalog Number
Waterproof Enclosure; Ex9S32 Protectors	Operation by rotary handle	Black/ Gray	NEMA 4/4X, IP 65	EX9WPB51B
		Yellow/ Red		EX9WPB51Y



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 4/4X, IP 65	EXERH51B
		Yellow/ Red		EXERH51Y



Manual Motor Starters - Ratings

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 Phase		3 Phase				Stand Alone		UL 508 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	Ex9CS09 or Ex9C12	EX9DRA51	EX9CC51 (Mini Contactor) or EX9CC52 (Standard Contactor)	EX9CCE51 and EX9AL5111
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	6-10	1/2	1.5	2	3	5 7.5											
Ex9S32A14A	9-14	3/4	2	3	3	10 10											
Ex9S32A18A	13-18	1	3	5	5	10 -											
Ex9S32A23A	17-23	1.5	3	5	7.5	15 -											
Ex9S32A25A	20-25	2	-	-	7.5	15 -											
Ex9S32A32A	24-32	2	5	7.5	10	20 -											
							42,000		42,000			42,000		Ex9C18		EX9CC52	
														Ex9C25		EX9CC53	
														Ex9C38			

Ex9S32 Accessories: Technical Data

Auxiliary contacts	EX9AX51	EX9AX52	EX9AL51
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)	AC-15 : 10,000	AC-15 : 10,000	AC-14 : 1,000

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
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

Since 1994, ITC is a trusted resource for industrial electrical and automation components. With over 10000 different parts available from its Toronto area warehouse, ITC provides the perfect blend of dependable stock, quality products, fair pricing, and friendly, knowledgeable service.

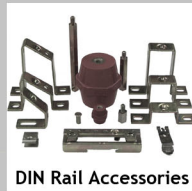
Here are some of our manufacturing partners:



TEL: 416-663-7223
 sales@itcproducts.com
 www.itcproducts.com



DIN Rail



DIN Rail Accessories



Non-Metallic Enclosures



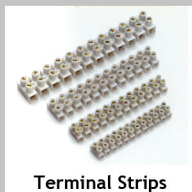
Hinged Enclosures



Thermal Management



Multipole Connectors



Terminal Strips



Compact IP68 Connectors



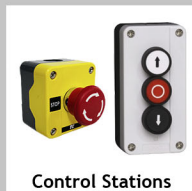
Terminal Blocks



22.5mm Pushbuttons



LED Indicators



Control Stations



Limit Switches



Micro Limit Switches



Safety Switches



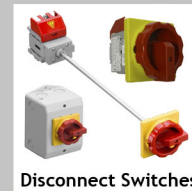
Foot Switches



Circuit Breakers



IEC Contactors



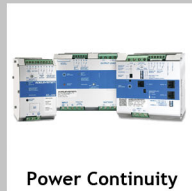
Disconnect Switches



Midget and CC Fuse Holders



Tower Lights



Power Continuity



Ferrules



Colour Coded Lugs



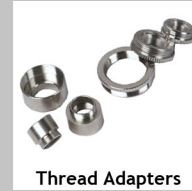
Crimp Terminals



Termination Kits



Cable Glands



Thread Adapters



Cable Entry Systems



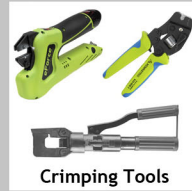
Wire Management



Assembly Tables



DIN Rail Cutters



Crimping Tools



Hole Cutting & Punching Tools



Cutting & Stripping Tools - Wire & Cable