

IEC Contactors

Ex9C Product Overview

Features

Ex9C series contactors are suitable for a broad range of motor control applications. With many available accessories and options, these contactors have ampacity ratings from 6A to 1000A at 600Vac and can be applied in systems up to 600Vac. A range of overload relays are available in a variety of frame sizes to fit respective contactors of given rated current.

- Nine frame sizes with rated current up to 1000A at 690V AC-3
- Coil control voltage from 24-600 Vac and 24-500 Vdc
- Wide range electronic coil available for 9-500A contactors
- features built-in surge suppression
- DIN rail 35 mm and panel mountable



Certifications

- UL 508 Listed, File No. E353866, UL 60947-1 and 60947-4-1
- CSA C22.2 No. 14, File no. E353866
- IEC/EN 60947-4-1
- CE Approved
- CCC Certified



IEC Contactors

Ex9CS/CSR 6 -12 Amperes Miniature

- Built-in auxiliary contacts on 3-pole; additional auxiliary contacts are front mounted
- Non-Reversing



Certifications
 IEC/EN 60947-1, 60947-4-1
 UL 60947-1, 60947-4-1

Rated Amperage (A)	120 Vac Coil		24 Vdc Coil	
	Catalog Number	Catalog Number	Catalog Number	Catalog Number
	Power Poles - 3NO Auxiliary Contact - 1NO	Power Poles - 3NO Auxiliary Contact - 1NC	Power Poles - 3NO Auxiliary Contact - 1NO	Power Poles - 3NO Auxiliary Contact - 1NC
3-Pole	6	Ex9CS0610G7	Ex9CS06D10B	Ex9CS06D01B
	9	Ex9CS0910G7	Ex9CS09D10B	Ex9CS09D01B
	12	Ex9CS1210G7	Ex9CS12D10B	Ex9CS12D01B
	Power Poles - 4NO	Power Poles - 2NO+2NC	Power Poles - 4NO	Power Poles - 2NO+2NC
4-Pole	6	Ex9CS06G7C	Ex9CS06DBC	Ex9CS06DBB
	9	Ex9CS09G7C	Ex9CS09DBC	Ex9CS09DBB
	12	Ex9CS12G7C	Ex9CS12DBC	Ex9CS12DBB

- Built-in auxiliary contacts on 3-pole; additional auxiliary contacts are front mounted
- Reversing





Rated Amperage (A)	120 Vac Coil		24 Vdc Coil	
	Catalog Number	Catalog Number	Catalog Number	Catalog Number
	Power Poles - 3NO Auxiliary Contact - 1NO	Power Poles - 3NO Auxiliary Contact - 1NC	Power Poles - 3NO Auxiliary Contact - 1NO	Power Poles - 3NO Auxiliary Contact - 1NC
3-Pole	6	Ex9CSR0610G7	Ex9CSR06D10B	Ex9CSR06D01B
	9	Ex9CSR0910G7	Ex9CSR09D10B	Ex9CSR09D01B
	12	Ex9CSR1210G7	Ex9CSR12D10B	Ex9CSR12D01B
	Power Poles - 4NO	Power Poles - 2NO+2NC	Power Poles - 4NO	Power Poles - 2NO+2NC
4-Pole	6	Ex9CSR06G7C	Ex9CSR06DBC	-
	9	Ex9CSR09G7C	Ex9CSR09DBC	-
	12	Ex9CSR12G7C	Ex9CSR12DBC	-

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

IEC Contactors

Ex9CS/CSR Technical Data

		Ex9CS/CSR			
		6	9	12	
General Information					
Pole		3, 4			
Production Standard		IEC 60947-1, IEC 60947-4-1, UL 60947-1, UL 60947-4-1			
Environmental Testing According to		IEC 60068-2-1, IEC 60068-2-2, IEC 60068-2-11, IEC 60068-2-30			
Rated Frequency (Hz)		50/60			
Conventional Free Air Thermal	0≤104 °F (0≤40 °C)	20			
	0≤140 °F (0≤60 °C)				
Current Ith (A)	0≤158 °F (0≤70 °C)	16			
Rated Insulating Voltage Ui (V)		690			
Rated Impulse Withstand Voltage Uimp (kV)		6			
Electrical Life	AC-3	1,200,000			
	AC-4				380/400V
Mechanical Life		10,000,000			
Operating Cycles Per Hour (cycles/h)	AC-3	1,200			
	AC-4	300			
Environmental Temperature	Transportation or Storage	-76 to 176 °F (-60 to +80 °C)			
	Working At	-4 to 140 °F (-20 to +60 °C)			
	Maximum	-40 to 158 °F (-40 to +70 °C)			
Altitude ft (m)		<6,562 (2,000)			
Pollution Degree		Class III			
Rated Operational Current Ie (A)					
At -82 to 131 °F (-25 to 40 °C)	AC-1	690V	20		
	AC-3	380/400V	6	9	12
	AC-3	660/690V	3.8	4.9	
	AC-4	380/400V	6	9	12
	AC-4	660/690V	3.8	4.9	
Rated Power of 3-Phase Motor					
For IEC (kW)	AC-3	230 Vac	-		
	AC-4	380/400 Vac	2.2	4	5.5
	AC-3				
	AC-4	660/690 Vac	3	4	
	AC-3				
	AC-4	1,000 Vac	-		
	AC-3				
AC-4					
UL Rating					
Ith (A)		20			
Single-Phase (HP)	110-120 Vac	0.5		0.75	
	220-240 Vac	1	1.5	2	
Three-Phase (HP)	200-208 Vac	1.5	3		
	220-240 Vac	2			
	440-480 Vac	3	5	7.5	
	550-600 Vac	5	7.5	10	
Coil Voltage (V)		24-500 Vac, 12-250 Vdc			

		Ex9CS/CSR		
		6	9	12
Coil Electrical Parameters				
Tolerance of Control Voltage 50/60 Hz	Operation (Uc)	Standard	85% -, 110%	
	Drop-Off (Uc)	Standard	20% - 75% (AC) 10% - 75% (DC)	
Coil Power Consumption				
In Rush (VA)		AC	70	
Sealed (VA)		AC	9	
Pick-Up (W)		DC	4	
Hold (W)		DC	4	
Operating Time (ms)	Operation	Standard	10-20	
	Drop-Off	Standard	4-16	
IEC AC Contactor Working at DC Power Data				
	Rated Working Voltage (V)	Poles connected in Series	Rated Working Current (A)	
Working Type: DC-1, Resistive Load	24	1	15	
		2		
		3		
Time Data: L/R≤1ms	48/75	1	4	
		2		
		3		
Environmental Temperature: ≤140 °F (≤60 °C)	125	1	15	
		2		
		3		
	225	1	1	
		2		
		3		
IEC AC Contactor Working at DC Power Data				
	Rated Working Voltage (V)	Poles connected in Series	Rated Working Current (A)	
Working Type: DC-2 to DC-5, Inductive Load	24	1	15	
		2		
		3		
Time Data: L/R≤15ms	48/75	1	5	
		2		
		3		
Environmental Temperature: ≤140 °F (≤60 °C)	125	1	1.5	
		2		
		3		
	225	1	11	
		2		
		3		
	225	1	0.5	
		2		
		3		
	225	1	1.5	
		2		
		3		

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IEC Contactors

Ex9CS/CSR Technical Data

		Ex9CS/CSR		
		6	9	12
Built-In Auxiliary Contacts				
Auxiliary Contacts		1NO or 1NC (3P), None (4P)		
Rated Operation Voltage U _e (V)		690		
Rated Insulating Voltage U _i (V)		690		
Rated Impulse Withstand Voltage U _{imp} (kV)		6		
Rated Frequency (Hz)		50/60		
Conventional Free Air Thermal Current I _{th} (A)		10		
Rated Operational Current I_e (A)				
AC-15	120 V	6		
	240 V	3		
	380 V	1.9		
	600 V	1.2		
DC-13	125 V	0.55		
	220 V	0.31		
Mounting	Screw (mm)	ø4		
	DIN rail (mm)	35/7.5		
Dimension LxWxH in		1.93 x 2.32 x 2.28		
Weight lb (kg)		0.40 (0.18)		
Degree of Protection		IP20		
Main Power Terminal Connection				
Flexible Cable Without Cold-Press Terminal AWG*	Single Cable	#18-12		
	Dual Cable			
Stiff Cable Without Cold-Press Terminal AWG*	Single Cable			
	Dual Cable			
Screw Size ø (mm)		M3		
Torque of Terminals in-lb (N.m)		7 (0.80)		
Auxiliary Contact Terminal Connection				
Flexible Cable Without Cold-Press Terminal AWG*	Single Cable	#18-12		
	Dual Cable			
Stiff Cable With Cold-Press Terminal AWG*	Single Cable			
	Dual Cable			
Stiff Cable Without Cold-Press Terminal AWG*	Single Cable			
	Dual Cable			
Screw Size ø (mm)		M3		
Torque of Terminals in-lb (N.m)		7 (0.80)		

* AWG = American Wire Gauge

IEC Contactors

Ex9CS/R Accessories

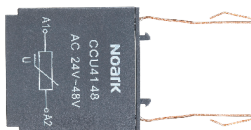
The Ex9CS/C line shares accessories and every contactor can be equipped with one front-mounted unit, two units of side-mounted contact (one from the left, the other from the right) and surge suppressor block.



- For contactors Ex9CS and Ex9CSR
- Field installable
- One unit used with a contactor

Accessory Description	Matched Contactor	Catalog Number
Auxiliary Contact Front Mount Mechanically Linked Contacts (in accordance with IEC 60947-5-1 Annex L) and Mirror Contacts (in accordance with IEC 60947-4-1 Annex F)	Ex9CS06-12 Ex9CSR06-12 (Front Mount)	AX4122UL

Auxiliary Contact Specifications		
UL Standard File Number	E353866	
IEC Standard File Number	IEC/EN 60947-5-1	
Certifications	UL Listed, CSA, CCC	
Electrical Parameters		
Rated Frequency (Hz)	50/60	
Rated Working Voltage U_e	AC-15 (V)	380/400/415
	DC-13 (V)	220/250
Rated Working Current I_e	AC-15 (A)	1.9A
	DC-13 (A)	0.31
Rated Capacity	AC-15 (VA)	720
	DC-13 (W)	69
Rated Thermal Current I_{th} (A)	10	
Rated Impulse Withstand Voltage U_{imp} (kV)	6 (1.2/50 ms)	
Rated Insulation Voltage U_i (V)	690	
Mechanical Parameters		
Dimensions (L x W x H) in	1.46 x 1.30 x 1.54	
Degree of Protection	IP20	
Terminals	Lift	
Terminal Capacity AWG*	#18-12	
Torque of Terminals in-lb (N.m)	7 (0.80)	

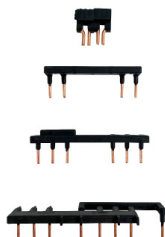


- Reduces voltage peaks in control circuit
- Versions with varistor and RC circuit technology
- Includes cable lugs for connecting to contactor terminals

Accessory Description	Matched Contactor	Catalog Number
Surge Suppressor Block	Ex9CS06-12	CCU41BUL

Note: external surge protection accessory, CCU42BUL / CCU43BUL is not needed on the F-type contactor with a wide range coil since it is already integral to the coil.

Surge Suppressor Block Specifications	
Electrical Parameters	
Internal Technology	Varistor
Control Coil Voltage U_c (Protection Range)	24-48 Vac/dc
	110-240 Vac/dc
	380-415 Vac/dc
Maximum Peak Voltage U_p (U_c)	2 kV
Mechanical Parameters	
Matched Contactor Type	Ex9CS06-12
Mounting	Mounts to Contactor Control Coil Terminals
Weight lb (kg)	0.04 (0.02)



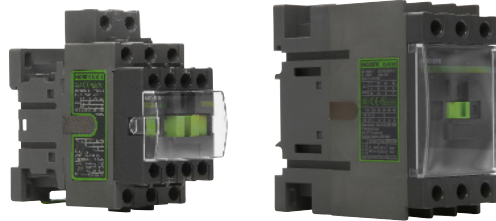
Accessory Description	Suitable For	Catalog Number
Star Delta Wiring Kit (SDWK)	Ex9CS or Ex9CSR	SDWK41
Reversing wiring kit (REWK)	Ex9CS or Ex9CSR	REWK41

* AWG = American Wire Gauge

IEC Contactors

Ex9C 9-1000 Amperes Standard

- Built-in auxiliary contacts; 1NO/1NC additional auxiliary contacts are front or side mounted
- Non-Reversing



Certifications
 IEC/EN 60947-1, 60947-4-1
 UL 60947-1, 60947-4-1

CE cUL US LISTED
 CCC

Rated Amperage (A)	Wide Range Electronic Coil (with built-in surge suppression)					
	120 Vac Coil Catalog Number	24-60 Vac/dc Coil Catalog Number	48-130 Vac/dc Coil Catalog Number	100-250 Vac/dc Coil Catalog Number	250-500 Vac/dc Coil Catalog Number	
Power Poles - 3NO Auxiliary Contact - 1NO+1NC						
3-Pole	9	Ex9C0911G7	Ex9C09F11J	Ex9C09F11H	Ex9C09F11K	-
	12	Ex9C1211G7	Ex9C12F11J	Ex9C12F11H	Ex9C12F11K	-
	18	Ex9C1811G7	Ex9C18F11J	Ex9C18F11H	Ex9C18F11K	-
	25	Ex9C2511G7	Ex9C25F11J	Ex9C25F11H	Ex9C25F11K	-
	32	Ex9C3211G7	Ex9C32F11J	Ex9C32F11H	Ex9C32F11K	-
	38	Ex9C3811G7	Ex9C38F11J	Ex9C38F11H	Ex9C38F11K	-
	40	Ex9C4011G7	Ex9C40F11J	Ex9C40F11H	Ex9C40F11K	-
	50	Ex9C5011G7	Ex9C50F11J	Ex9C50F11H	Ex9C50F11K	-
	65	Ex9C6511G7	Ex9C65F11J	Ex9C65F11H	Ex9C65F11K	-
	80	Ex9C8011G7	Ex9C80F11J	Ex9C80F11H	Ex9C80F11K	-
	100	Ex9C10011G7	Ex9C100F11J	Ex9C100F11H	Ex9C100F11K	-
Power Poles - 3NO Auxiliary Contact - 2NO+2NC						
115	Ex9C115E22G	-	Ex9C115F22H	Ex9C115F22K	Ex9C115F22L	
150	Ex9C150E22G	-	Ex9C150F22H	Ex9C150F22K	Ex9C150F22L	
185	Ex9C185E22G	-	Ex9C185F22H	Ex9C185F22K	Ex9C185F22L	
225	Ex9C225E22G	-	Ex9C225F22H	Ex9C225F22K	Ex9C225F22L	
265	Ex9C265E22G	-	Ex9C265F22H	Ex9C265F22K	Ex9C265F22L	
300	Ex9C300E22G	-	Ex9C300F22H	Ex9C300F22K	Ex9C300F22L	
400	Ex9C400E22G	-	Ex9C400F22H	Ex9C400F22K	Ex9C400F22L	
500	Ex9C500E22G	-	Ex9C500F22H	Ex9C500F22K	Ex9C500F22L	
630	Ex9C630E22GG	-	-	-	-	
800	Ex9C800E22GG	-	-	-	-	
1,000	Ex9C1000E22GG	-	-	-	-	

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

IEC Reversing Contactors

Ex9CR 9-500 Amperes Standard Reversing

- Built-in auxiliary contacts; additional auxiliary contacts are front or side mounted
- Reversing
- Reversing contactor is comprised of 2 contactor joined by a mechanical interlock and power connection on 115A and above.



Certifications
 IEC/EN 60947-1, 60947-4-1
 UL 60947-1, 60947-4-1

CE cUL US LISTED

CCC

Rated Amperage (A)	120 Vac Coil		Components to build Reversing Contactor*			
	Power Poles - 3NO Auxiliary Contact - 1NO+1NC	Catalog Number	Quantity	Contactor	Quantity	Mechanical Interlock
3-Pole	9	Ex9CR0911G7	2	Ex9C0911G7	1	MIT42UL
	12	Ex9CR1211G7	2	EX9C1211G7	1	MIT42UL
	18	Ex9CR1811G7	2	EX9C1811G7	1	MIT42UL
	25	Ex9CR2511G7	2	EX9C2511G7	1	MIT42UL
	32	Ex9CR3211G7	2	EX9C3211G7	1	MIT42UL
	38	Ex9CR3811G7	2	EX9C3811G7	1	MIT42UL
	40	Ex9CR4011G7	2	EX9C4011G7	1	MIT43UL
	50	Ex9CR5011G7	2	EX9C5011G7	1	MIT43UL
	65	Ex9CR6511G7	2	EX9C6511G7	1	MIT43UL
	80	Ex9CR8011G7	2	EX9C8011G7	1	MIT43UL
100	Ex9CR10011G7	2	EX9C10011G7	1	MIT43UL	

*Power connection not included for 09-100A

- Built-in auxiliary contacts; additional auxiliary contacts are front or side mounted
- Reversing
- Reversing contactor is comprised of 2 contactor joined by a mechanical interlock and power connection



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Rated Amperage (A)	120 Vac Coil		Components to build Reversing Contactor					
	Power Poles - 3NO Auxiliary Contact - 2NO+2NC	Catalog Number	Quantity	Contactor	Quantity	Mechanical Interlock	Quantity	Power Connection
3-Pole	115	Ex9CR115E22G	2	Ex9C115E22G	1	MIT44UL	1	PCL185UL
	150	Ex9CR150E22G	2	Ex9C150E22G	1	MIT44UL	1	PCL185UL
	185	Ex9CR185E22G	2	Ex9C185E22G	1	MIT44UL	1	PCL185UL
	225	Ex9CR225E22G	2	Ex9C225E22G	1	MIT45UL	1	PCL300UL
	265	Ex9CR265E22G	2	Ex9C265E22G	1	MIT45UL	1	PCL300UL
	300	Ex9CR300E22G	2	Ex9C300E22G	1	MIT45UL	1	PCL300UL
	400	Ex9CR400E22G	2	Ex9C400E22G	1	MIT46UL	1	PCL500UL
	500	Ex9CR500E22G	2	Ex9C500E22G	1	MIT46UL	1	PCL500UL

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

IEC Reversing Contactors

Ex9CR 115-500 Amperes Standard Reversing

- Built-in auxiliary contacts; additional auxiliary contacts are front or side mounted
- Reversing
- Reversing contactor is comprised of 2 contactor joined by a mechanical interlock and power connection



Green Highlight = Most Popular

Certifications

IEC/EN 60947-1, 60947-4-1
UL 60947-1, 60947-4-1



Rated Amperage (A)	Wide Range Electronic Coil (built-in surge suppression)			
	48-130Vac/dc Coil	100-250 Vac/dc Coil	250-500 Vac/dc Coil	
	Catalog Number	Catalog Number	Catalog Number	
Power Poles - 3NO Auxiliary Contact - 2NO+2NC				
3-Pole	115	Ex9CR115F22H	Ex9CR115F22K	Ex9CR115F22L
	150	Ex9CR150F22H	Ex9CR150F22K	Ex9CR150F22L
	185	Ex9CR185F22H	Ex9CR185F22K	Ex9CR185F22L
	225	Ex9CR225F22H	Ex9CR225F22K	Ex9CR225F22L
	265	Ex9CR265F22H	Ex9CR265F22K	Ex9CR265F22L
	300	Ex9CR300F22H	Ex9CR300F22K	Ex9CR300F22L
	400	Ex9CR400F22H	Ex9CR400F22K	Ex9CR400F22L
	500	Ex9CR500F22H	Ex9CR500F22K	Ex9CR500F22L

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

IEC Contactors

Ex9C/CR Technical Data

			Ex9C/CR											
			9	12	18	25	32	38	40	50				
General Information														
Pole			3											
Production Standard			IEC 60947-1, IEC 60947-4-1, UL 60947-1, UL 60947-4-1											
Environmental Testing According to			IEC 60068-2-1, IEC 60068-2-2, IEC 60068-2-11, IEC 60068-2-30											
Rated Frequency (Hz)			50/60											
Conventional Free Air Thermal Current Ith (A)	0≤104 °F (0≤40 °C)		25		32		40		50		60		80	
	0≤140 °F (0≤60 °C)													
	0≤158 °F (0≤70 °C)		17		22		28		35		42		56	
Rated Insulating Voltage Ui (V)			690						1,000					
Rated Impulse Withstand Voltage Uimp (kV)			6						8					
Electrical Life	AC-3	380/400V	1,200,000											
	AC-4		50,000	40,000		50,000		40,000		35,000		30,000		
Mechanical Life			10,000,000											
Operating Cycles Per Hour (cycles/h)	AC-3	1200				1000								
	AC-4	300		150		120								
Environmental Temperature	Transportation or Storage		-76 to 176 °F (-60 to +80 °C)											
	Working At		-4 to 140 °F (-20 to +60 °C)											
	Maximum		-40 to 158 °F (-40 to +70 °C)											
Altitude ft (m)			<6,562 (2,000)											
Pollution Degree			Class III											
Rated Operational Current Ie (A)														
At -82 to 131 °F (-25 to 40 °C)	AC-1	690V	25		32		40		50		60		80	
	AC-3	380/400V	9	12	18	25	32	38	40	50				
	AC-3	660/690V	6.7	9	10.6	17.3	21.9		34	39				
	AC-4	380/400V	9	12	18	25	32		40	50				
	AC-4	660/690V	6.7		8.9		14		17.3		34	39		
Rated Power of 3-Phase Motor														
For IEC (kW)	AC-3	380/400 Vac	4	5.5	7.5	11	15	18.5		22				
	AC-4		5.5	7.5	9	15	18.5		30	33				
	AC-3	660/690 Vac	5.5		7.5		11		15		30			
	AC-4		5.5		7.5		11		15		30			
UL Rating														
Ith (A)			25		32		40		50		60		80	
Single-Phase (HP)	110-120 Vac		0.5	1	1.5	2	3		5					
	220-240 Vac		1.5	2	3		5		7.5	10				
Three-Phase (HP)	200-208 Vac		3		5	7.5	10		10	15				
	220-240 Vac		3		5	7.5	10		15	20				
	440-480 Vac		5	7.5	10	15	20		30					
	550-600 Vac		7.5	10	15	20	25		30					
Coil Voltage (V)			24-600 Vac, 24-250 Vac/dc											





IEC Contactors

Ex9C/CR Technical Data

		Ex9C/CR															
		65	80	100	115	150	185	225	265	300	400	500	630	800	1000		
General Information																	
Pole		3															
Production Standard		IEC 60947-1, IEC 60947-4-1, UL 60947-1, UL 60947-4-1															
Environmental Testing According to		IEC 60068-2-1, IEC 600682-2, IEC 60068-2-11, IEC 60068-2-30															
Rated Frequency (Hz)		50/60															
Conventional Free Air Thermal Current I _{th} (A)	0≤104 °F (0≤40 °C)	80	125	160	185	215	275	330	400	500	610	800	1000	1000			
	0≤140 °F (0≤60 °C)				170	200	260	300	360	430	550	720	850	850			
	0≤158 °F (0≤70 °C)	56	80	140	160	180	200	260	290	400	480	630	750	750			
Rated Insulating Voltage U _i (V)		1,000											1,000				
Rated Impulse Withstand Voltage U _{imp} (kV)		8											8				
Electrical Life	AC-3	1,200,000				1,000,000						800,000	500,000				
	AC-4	30,000	25,000	200,000						200,000							
Mechanical Life		10,000,000				8,000,000						5,000,000		3,000,000			
Operating Cycles Per Hour (cycles/h)	AC-3	1,000	900		750		500			420		300	120				
	AC-4	120			130						100						
Environmental Temperature	Transportation or Storage	-76 to 176 °F (-60 to +80 °C)															
	Working At	-4 to 140 °F (-20 to +60 °C)															
	Maximum	-40 to 158 °F (-40 to +70 °C)															
Altitude ft (m)		<6,562 (2,000)															
Pollution Degree		Class III															
Rated Operational Current I_e (A)																	
At -82 to 131 °F (-25 to 40 °C)	AC-1	690V	80	125	160	185	215	275	330	400	500	650	800	1000	1260		
	AC-3	380/400V	65	80	100	115	150	185	225	265	300	400	500	630	800	1000	
	AC-3	660/690V	42	49				170		265	280	400	450	560	650	700	
	AC-4	380/400V	65	80	100	54	68	81	96	117	125	150	175	225	242	260	
	AC-4	660/690V	42	49		48	57	65	85	105	115	135	150	200	215	230	
Rated Power of 3-Phase Motor																	
For IEC (kW)	AC-3	230 Vac	-			37	45	55		75	90	132	160	200	250	315	
						18.5	22	30		37	40	45	55	75		80	
	AC-3	380/400 Vac	30	37	45	55	75	90	110	132	160	220	250	335	450	560	
						30	37	45	55	63	75	90	100	110	132	150	185
	AC-3	660/690 Vac	37	45	110			132	160	200	250		355	400	560	630	710
					50	55	63	80	100	110	132	150	185	200	220		
	AC-3	1,000 Vac	-			75	90	90		132		250	315	400	450	500	
						50	55	63		80		110		150	200		
UL Rating																	
I _{th} (A)		80	125	160	185	215	275	330	400	500	610	800	900	1000			
Single-Phase (HP)	110-120 Vac	5	7.5	10	15	-			-								
	220-240 Vac	15	20		25	30	40		-								
Three-Phase (HP)	200-208 Vac	20	30	30	40	50	60		75	100	125	150	-				
	220-240 Vac	25		40	50	60	75		100	125	150	200	250	300	350		
	440-480 Vac	50	60		100	125	150		200	250	300	400	500	600	750		
	550-600 Vac				125	150	200		250	300	400	500	600	700	800		
Coil Voltage (V)		24-600 Vac			24-600 Vac/dc						36-600 Vac/dc		48 - 480 Vac/dc				

IEC Contactors



Ex9C/CR Technical Data

			Ex9C/CR									
			9	12	18	25	32	38	40	50		
Coil Electrical Parameters												
Tolerance of Control Voltage 50/60 Hz	Operation (Uc)	Standard	85% - 110%									
		AC/DC Widerange	85% - 110%									
	Drop-Off (Uc)	Standard	20% - 75% (AC), 10 - 75% (DC)									
		AC/DC Widerange	20% - 75% (AC), 10 - 75% (DC)									
Coil Power Consumption												
AC Only Coil	In Rush (VA)		90		100		240					
	Sealed (VA)		9.5		11.4		36.6					
DC Only Coil	Pick-Up (W)		7		17		36.6					
	Hold (W)		7		17		6					
AC/DC (Widerange)	In Rush (VA)				55		200					
	Sealed (VA)				5.1		6					
	Pick-Up (W)				30		150					
	Hold (W)				2		4.5					
Operating Time (ms)	AC Only and DC Only Coil	Operation	12-24		14-27		20-30					
		Drop-Off	6-20		7-22		8-20					
	AC/DC (Widerange)	Operation			45-65		50-100					
		Drop-Off			20-90		20-120					
IEC AC Contactor Working at DC Power Data												
	Rated Working Voltage (V)	Poles of Series Connection	Rated Working Current (A)									
Working Type: DC-1, Resistive Load	24	1										
		2										
		3										
	48/75	1	20	25	32	40	50	65				
		2										
		3										
Environmental Temperature: ≤140 °F (≤60 °C)	125	1	4		7							
		2	20	25	32	40	50	65				
		3										
	225	1	1				1.5					
		2	4		7							
		3	20	25	32	40	50	65				
IEC AC Contactor Working at DC Power Data												
	Rated Working Voltage (V)	Poles of Series Connection	Rated Working Current (A)									
Working Type: DC-2 to DC-5, Inductive Load	24	1										
		2										
		3										
	48/75	1	8		32		40		50		65	
		2										
		3	20	25								
Environmental Temperature: ≤140 °F (≤60 °C)	125	1	2		3			4				
		2	15									
		3	20	25	32	40	50	65				
	225	1	0.5		1			1.5				
		2	2		3			4				
		3	8		32		40		50		65	



IEC Contactors

Ex9C/CR Technical Data

			Ex9C/CR										Ex9C				
			65	80	100	115	150	185	225	265	300	400	500	630	800	1000	
Coil Electrical Parameters																	
Tolerance of Control Voltage 50/60 Hz	Operation (Uc)		85% - 110%														
	Drop-Off (Uc)		20% - 70%					20% - 60%									
Coil Power Consumption																	
AC Only Coil	In Rush (VA)		240	280	400			590			600	850					
	Sealed (VA)		36			10											
DC Only Coil	Pick-Up (W)		17			400			590			600	850				
	Hold (W)		10														
AC/DC (Wide-range)	In Rush (VA)		200		400			590			600	-					
	Sealed (VA)		6														
	Pick-Up (W)		150			400			590			600	-				
	Hold (W)		4.5														
Operating Time (ms)	AC Only and DC Only Coil	Operation	20-30	20-35	31-64			45-100			58-95	100-180					
		Drop-Off	8-20	6-20	44-68			47-67			85-120	100-120					
	AC/DC Wide- range	Operation	50-100		31-64			45-100			58-95	-					
		Drop-Off	20-120		44-68			47-67			85-120	-					
IEC AC Contactor Working at DC Power Data																	
	Rated Working Voltage (V)	Poles of Series Connection	Rated Working Current (A)														
Working Type: DC-1, Resistive Load	24	1															
		2															
		3															
	48/75	1	65	100	160	200	300	400									
		2															
		3															
Time Data: L/R ≤ 1ms	125	1	7	12	18	33											
		2															
		3															
	225	1	1.5		3.4			3.8									
		2	7	12	20	30			40								
		3	65	100	160	200	300	400									
IEC AC Contactor Working at AC Power Data																	
	Rated Working Voltage (V)	Poles of Series Connection	Rated Working Current (A)														
Working Type: DC-2 to DC-5, Inductive Load	24	1															
		2															
		3															
	48/75	1	65	100	160	200	300	400									
		2															
		3															
Time Data: L/R ≤ 15ms	125	1	4	5	7.5	11											
		2															
		3															
	225	1	1.5	2	2.5												
		2	4	5	7.5	11											
		3	65	100	160	200	300	400									

IEC Contactors

Ex9C/CR Technical Data

		Ex9C/CR							
		9	12	18	25	32	38	40	50
Built-In Auxiliary Contacts									
Auxiliary Contacts		1NO+1NC, 2NO+2NC						1NO+1NC	
Rated Operation Voltage U _e (V)		690							
Rated Insulating Voltage U _i (V)		690							
Rated Impulse Withstand Voltage U _{imp} (kV)		6							
Rated Frequency (Hz)		50/60							
Conventional Free Air Thermal Current I _{th} (A)		10							
Rated Operational Current I_e (A)									
AC-15	120V	6							
	240V	3							
	380V	1.9							
	600V	1.2							
	125V	0.55							
	220V	0.31							
Mounting	Screw (mm)	ø4						ø5	
	DIN rail (mm)	35						35 or 75	
	Dimension (L x W x H) in	3.50 x 1.77 x 3.70			3.94 x 1.77 x 4.25			4.80 x 2.99 x 4.84	
Weight lb (kg)		0.77 (0.35)			0.88 (0.40)			2.71 (1.23)	
Degree of Protection		IP 20 (Control Circuit Terminal), IP 00 (Main Circuit Terminal)							
Main Power Terminal Connection									
Flexible Cable Without Cold-Press Terminal AWG*	Single Cable	#18-10			#14-8			#14-4	
	Dual Cable	#18-10			#14-8			#14-4	
Stiff Cable Without Cold-Press Terminal AWG*	Single Cable	#18-10			#14-8			#14-4	
	Dual Cable	#18-10			#14-8			#14-4	
Screw Size ø (mm)		M3.5			M4			M8	
Torque of Terminals in-lb (N.m)		15 (1.70)			22 (2.50)			53 (6)	
Auxiliary Contact Terminal Connection									
Flexible Cable Without Cold-Press Terminal AWG*	Single Cable	#18-12							
	Dual Cable	#18-12							
Stiff Cable With Cold-Press Terminal AWG*	Single Cable	#18-12							
	Dual Cable	#18-12							
Screw Size ø (mm)		M3.5							
Torque of Terminals in-lb (N.m)		15 (1.70)							

* AWG = American Wire Gauge



IEC Contactors

Ex9C/CR Technical Data

		Ex9C/CR											
		65	80	100	115	150	185	225	265	300	400	500	
Built-In Auxiliary Contacts													
Auxiliary Contacts		1NO+1NC					2NO+2NC						
Rated Operation Voltage U _e (V)		690											
Rated Insulating Voltage U _i (V)		6											
Rated Impulse Withstand Voltage U _{imp} (kV)		50/60											
Rated Frequency (Hz)		10											
Conventional Free Air Thermal Current I _{th} (A)													
Rated Operational Current I_e (A)													
AC-15	24V	-					6						
	120V	6					-						
	230V	-					3.13						
	240V						3						
	380V	1.9					-						
	400V	-					1.8						
	600V	1.2					-						
	690V	-					1.04						
DC-13	24V						0.55						
	125V						0.55						
	220V						0.31						
	250V						0.27						
Mounting	Screw (mm)	ø5				ø8			ø9				
	DIN rail (mm)	35 or 75							-				
Dimension (L x W x H) in		4.80 x 2.99 x 4.84	5.12 x 3.43 x 5.12		6.81 x 4.72 x 6.85			8.39 x 5.71 x 8.19		8.50 x 6.30 x 9.02			
Weight lb (kg)		2.71 (1.23)		3.31 (1.50)		6.61 (3)			13.23 (6)		20.94 (9.5)		
Degree of Protection		IP 20											
Main Power Terminal Connection													
Flexible Cable Without Cold-Press Terminal AWG*	Single Cable	#14-4	#12 - 1/0		(1x) #4 - (2x) 250 MCM			(1x) 1/0 - (2x) 500 MCM					
	Dual Cable		#12 - 1										
Stiff Cable Without Cold-Press Terminal AWG*	Single Cable		#12 - 1/0										
	Dual Cable		#12 - 1										
Screw Size ø (mm)		M8					M10						
Torque of Terminals in-lb (N.m)		53 (6)		79 (9)		159 (18)			310 (35)				
Bus Bar Terminal Connection													
Bus Bar Size						2x0.75x0.25 (2x20x5)		2x1x0.25 (2x30x5)		2x1.25x0.25 (2x40x5)			
Screw Size ø (mm)		-				M8		M10					
Torque of Terminals in-lb (N.m)						159 (18)		310 (35)					
Auxiliary Contact Terminal Connection													
Flexible Cable Without Cold-Press Terminal AWG*	Single Cable	#18-12											
	Dual Cable												
Stiff Cable With Cold-Press Terminal AWG*	Single Cable												
	Dual Cable												
Stiff Cable Without Cold-Press Terminal AWG*	Single Cable												
	Dual Cable												
Screw Size ø (mm)		M3.5											
Torque of Terminals in-lb (N.m)		15 (1.70)											

* AWG = American Wire Gauge

IEC Contactors

Ex9C Technical Data

		Ex9C		
		630	800	1000
Built-In Auxiliary Contacts				
Auxiliary Contacts		2NO+2NC		
Rated Operation Voltage Ue (V)		690		
Rated Insulating Voltage Ui (V)		690		
Rated Impulse Withstand Voltage Uimp (kV)		6		
Rated Frequency (Hz)		50/60		
Conventional Free Air Thermal Current Ith (A)		10		
Rated Operational Current Ie (A)				
AC-15	24V	6		
	230V	3.13		
	240V	3		
	400V	1.8		
	690V	1.04		
DC-13	24V	0.55		
	125V	0.55		
	220V	0.31		
	250V	0.27		
Mounting	Screw (mm)	11.5		
	DIN rail (mm)	-		
Dimension LxWxH in		11.73 x 9.06 x 10.47	12.68 x 9.06 x 10.47	
Weight lb		44.53	48.5	49.16
Degree of Protection		IP20 (Control Circuit Terminal) IP00 (Main Circuit Terminal)		
Main Power Terminal Connection				
Flexible Cable Without Cold-Press Terminal AWG*	Single Cable	LTC25NB 250-600 LTC25NC 4/0-500	LTC26NC 3/0-750 LTC26ND 3/0-500	
	Dual Cable			
Stiff Cable Without Cold-Press Terminal AWG*	Single Cable			
	Dual Cable			
Screw Size ø (mm)		M12	4*M10	
Torque of Terminals in-lb (N.m)		310(45)	310(35)	
Auxiliary Contact Terminal Connection				
Flexible Cable Without Cold-Press Terminal AWG*	Single Cable	#18-12		
	Dual Cable			
Stiff Cable With Cold-Press Terminal AWG*	Single Cable			
	Dual Cable			
Stiff Cable Without Cold-Press Terminal AWG*	Single Cable			
	Dual Cable			
Screw Size ø (mm)		M3.5		
Torque of Terminals in-lb (N.m)		15 (1.70)		

* AWG = American Wire Gauge



IEC Contactors

Ex9C Accessories

The Ex9CS/C line shares accessories and every contactor can be equipped with one front-mounted unit, two side-mounted contacts (one left, one right) and surge suppressor block.

Front Mount Auxiliary Contact



- Field installable
- One unit used with a contactor

Side Mount Auxiliary Contact



- Field installable
- One unit used with a contactor on the left side, another unit on the right side

Accessory Description	Matched Contactor	Auxiliary Contact	Catalog Number
Auxiliary Contact	Ex9C09-500 Ex9CR09-500 (Front Mount)	1NO+1NC	AX4211UL
		2NO+2NC	AX4222UL
		3NO+1NC	AX4231UL
Mechanically Linked Contacts (in accordance with IEC 60947-5-1 Annex L) and Mirror Contacts (in accordance with IEC 60947-4-1 Annex F)	Ex9C09-100 Ex9CR09-100 (Side Mount)	1NO+1NC	AX4311UL

Auxiliary Contact		Front Mount AX42	Side Mount AX43
UL Standard File Number		E353866	
IEC Standard File Number		IEC/EN 60947-5-1	
Certifications		UL Listed, CSA, CCC	
Electrical Parameters			
Rated Frequency (Hz)		50/60	
Rated Working Voltage Ue	AC-15 (V)	380/400/415	
	DC-13 (V)	220/250	
Rated Working Current Ie	AC-15 (A)	1.9A	
	DC-13 (A)	0.31	
Rated Capacity	AC-15 (VA)	720	
	DC-13 (W)	69	
Rated Thermal Current Ith (A)		10	
Rated Impulse Withstand Voltage Uimp (kV)		6 (1.2/50 ms)	
Rated Insulation Voltage Ui (V)		690	
Mechanical Parameters			
Device Width in		1.89	0.43
Device Height in		1.46	
Device Depth in		1.02 (1NO+1NC)	1.77 (2NO+2NC, 3NO+1NC)
Degree of Protection		IP20	
Terminals		Lift	
Terminal Capacity AWG*		#18-12	
Torque of Terminals in-lb (N.m)		15 (1.70)	

* AWG = American Wire Gauge

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

IEC Contactors

Ex9C Accessories

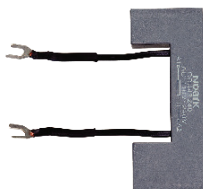
Mechanical Interlock



Power Connection



Surge Suppressor Block



- Reduces voltage peaks in control circuit
- Versions with varistor and RC circuit technology
- Includes cable lugs for connecting to contactor terminals

Accessory Description	Matched Contactor	Catalog Number
Mechanical Interlock (for Ex9C)	Ex9C09-38	MIT42UL
	Ex9C40-100	MIT43UL
	Ex9C115-185	MIT44UL
	Ex9C225-300	MIT45UL
	Ex9C400-500	MIT46UL
Power Connection (for Ex9C)	Ex9C115-185	PCL185UL
	Ex9C225-300	PCL300UL
	Ex9C400-500	PCL500UL
Surge Suppressor Block	Ex9C09-38	CCU42BUL
	Ex9C40-100	CCU43BUL

Note: external surge protection accessory, CCU42BUL / CCU43BUL is not needed with wide range coil since it is already integral to the coil.

Specifications	CCU42	CCU43
Electrical Parameters		
Internal Technology	Resistance	
Control Coil Voltage U _c (Protection Range)	110-240 Vac/dc	
Maximum Peak Voltage U _p (U _c)	3 kV	
Mechanical Parameters		
Matched Contactor Type	Ex9C09-38	Ex9C40-100
Mounting	Mounts to Contactor Control Coil Terminals	
Weight lb (kg)	0.04 (0.02)	



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

IEC Contactors

Ex9C Accessory Specifications

Green Highlight = Most Popular



Accessory Description	Matched Contactor	Relay Type	Timing Range	Catalog Number
Time Delay Relay (Pneumatic Timer)	Ex9C09-500	Off Delay	0.1 - 3 s	AXCD0UL
			0.1 - 30 s	AXCD2UL
			10 - 180 s	AXCD4UL
		On Delay	0.1 - 3 s	AXCT0UL
			0.1 - 30 s	AXCT2UL
			10 - 180 s	AXCT4UL



Accessory Description	Type	Catalog Number
Terminal Cover	Ex9C115~185	TCV46
	Ex9C225~500	TCV47



Accessory Description	Suitable For	Catalog Number
Star Delta Wiring Kit	Ex9C 115-185	SDWK45



Accessory Description	Use with Relay	Catalog Number
Surface mount	Ex9R38	AD56UL
	Ex9R100	AD53UL
	Ex9R185	AD54UL
	Ex9R500	AD55UL

Mounting Base	AD56UL	AD53UL	AD54UL	AD55UL
Current Rating (A)	38	104	185	500
Voltage (Vac)	600			
Terminal Wire Range AWG*	#18 - #8	#12 - #1		
Terminal Torque in-lb (N.m)	22 (2.50)	80 (9)		
Wire Strip Length in	0.51	0.71		
Matched Contactor Type	Ex9C09-38	Ex9C40-100	Ex9C115-185	Ex9C225-500

* AWG = American Wire Gauge

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

IEC Contactors

Ex9CDS Product Overview

Features

Ex9CDS are general purpose contactors used mainly for controlling 3-phase motors and power circuits up to 600 Vac. This entry level line includes magnetic coils and basic accessories for front and side mounting.

- 5 kA @ 600 Vac
- Built-in NO or NC auxiliary contacts on 9-32A frames
- 3 and 4-pole versions including 2NO+2NC and 4NO configurations
- 95 A mounts on standard 35mm DIN rail (40-95A can also mount on 75 mm DIN rail)
- 12 months warranty



Certifications

- UL 508 Listed, File Number E353866, UL 60947-1 and 60947-4-1
- CSA C22.2 No. 14, File no. E353866
- IEC/EN 60947
- CE Compliant



IEC Contactors

Ex9CDS 9-95 A General Purpose

- Auxiliary contacts are side mounted; front mounted also available



Certifications
IEC/EN 60947-4-1

Rated Amperage (A)		120 Vac Coil	
		Catalog Number	Catalog Number
		Power Poles - 3NO Auxiliary Contact - 1NO	Power Poles - 3NO Auxiliary Contact - 1NC
3-Pole	9	Ex9CDS09A30G7A	Ex9CDS09A30G7B
	12	Ex9CDS12A30G7A	Ex9CDS12A30G7B
	18	Ex9CDS18A30G7A	Ex9CDS18A30G7B
	25	Ex9CDS25A30G7A	Ex9CDS25A30G7B
	32	Ex9CDS32A30G7A	Ex9CDS32A30G7B
Rated Amperage (A)		120 Vac Coil	
		Catalog Number	
		Power Poles - 3NO Auxiliary Contact - 1NO/1NC	
3-Pole	40	Ex9CDS40A30G7C	
	50	Ex9CDS50A30G7C	
	65	Ex9CDS65A30G7C	
	80	Ex9CDS80A30G7C	
	95	Ex9CDS95A30G7C	

Rated Amperage (A)		120 Vac Coil	
		Catalog Number	Catalog Number
		Power Poles - 4NO	Power Poles - 2NO Auxiliary Contact - 2NC
4-Pole	9	Ex9CDS09A40G7	Ex9CDS09A22G7
	12	Ex9CDS12A40G7	Ex9CDS12A22G7
	25	Ex9CDS25A40G7	Ex9CDS25A22G7
	40	Ex9CDS40A40G7	Ex9CDS40A22G7
	50	Ex9CDS50A40G7	Ex9CDS50A22G7
	65	Ex9CDS65A40G7	Ex9CDS65A22G7
	80	Ex9CDS80A40G7	Ex9CDS80A22G7
	95	Ex9CDS95A40G7	Ex9CDS95A22G7

IEC Contactors

Ex9CDS Technical Data

Ex9CDS/CDR			09	12	18	25	32	40	50	65	80	95
Frame			Frame 1			Frame 2		Frame 3			Frame 4	
Poles			3 & 4		3	3 & 4	3	3 & 4				
Rated Insulation Voltage (Vac)			690									
Operating Frequency (Operations/h)	Electrical	AC-3	1,200				600					
		AC-4	300									
	Mechanical	3,600										
Electrical Life Operations		AC-3	1,000,000				800,000		600,000			
		AC-4	200,000				150,000			100,000		
Ambient Temperature			23 to 104°F (-5 to 40°C)									
Mechanical Life Operations			10,000,000				8,000,000				6,000,000	
Matched Overload Relay Type			Ex9RD25				Ex9RD36		Ex9RD93			
Rated Conventional Heating Current (A) AC-1			20		32	40	50	60	80		95	
AC-3	Ie (A)	220/230V	9	12	18	25	32	40	50	65	80	95
		380/400V	6.6	8.9	12	18	21	34	39	42	49	
		660/690V	2.2	3	4	5.5	7.5	11	15	18.5	22	25
	Pe (kW)	220/230V	4	5.5	7.5	11	15	18.5	22	30	37	45
		380/400V	5.5	7.5	10	15	18.5	30	37		45	
		660/690V	3	5	7.5	7.5	10	15	15	20	25	30
Power of Controlled Three-Phase Cage Motor AC-3 (hp)		200V	5	7.5	10	15	20	25	30	40		50
		240V	3	5	7.5	7.5	10	15	20	25	30	
		460V	3	5	7.5	7.5	10	15	20	25	30	
		600V	5	7.5	10	15	20	25	30	40		50
Terminal Connection		Number of Pieces										
Flexible Cable with Cold-Pressed Socket AWG*		1	#16-14		#16-12		#14-10	#10-4			#8-2	
		2	#16-14		#16-12		#14-10	#12-8			#10-6	
Flexible Cable without Cold-Pressed Socket AWG*		1	#16-12		#16-10	#1.5-10	#14-8	#10-4			#8-2	
		2	#1-2.5		#16-12	#1.5-6	#14-10	#4-10			#10-6	
Inflexible Cable AWG*		1	#16-12		#16-10		#14-8	#6-25			#8-2	
		2	#16-12		#16-10		#14-8	#12-8			#10-6	
Screw Size			M3.5			M4		M8			M10	
Tightening Torque in-lb (N.m)			7 (0.80)			10 (1.20)		45 (3.50)			89 (10)	
Coil Parameters												
Coil Power		In-Rush (VA)	70				110		200			
		Sealed (VA)	8	8	11		20					
		Power (W)	1.8-2.7		3-4			6-10				
Operation Range		Operation Voltage (Us)	85-110%									
		Drop-Out Voltage (Us)	20-75%									
Coil Voltage (50/60 Hz)			120V									

* AWG = American Wire Gauge

IEC Contactors

Ex9CD/CM Accessories: Auxiliary Contact

Green Highlight = Most Popular



Front Mount

- For contactors Ex9CD
- Field installable
- One unit used with a contactor

Accessory Description	Matched Contactor	Contacts	Catalog Number
Auxiliary Contact	Ex9CDS09-630 Ex9CDR09-630	1NO+1NC	AXA11
Mechanically Linked Contacts (in accordance with IEC 60947-5-1 Annex L) and Mirror Contacts (in accordance with IEC 60947-4-1 Annex F)		2NO+2NC	AXA22

Auxiliary Contact CDS Front Mount AXA 11 - 1 NO + 1NC / 22 - 2NO+2NC		
UL Standard File Number	E353866	
IEC Standard File Number	IEC/EN 60947-5-1	
Certifications	UL Listed, CSA, CCC	
Electrical Parameters		
Rated Frequency (Hz)	50/60	
Rated Working Voltage Ue	AC-15 (V)	380/400/415
	DC-13 (V)	220/250
Rated Working Current Ie	AC-15 (A)	0.19
	DC-13 (A)	0.31
Rated Capacity	AC-15 (VA)	720
	DC-13 (W)	69
Rated Thermal Current Ith (A)	10	
Rated Impulse Withstand Voltage Uimp (kV)	6 (1.2/50 μs)	
Rated Insulation Voltage Ui (V)	690	
Mechanical Parameters		
Device Width in	1.89	
Device Height in	1.46	
Device Depth in	1.02 / 1.77	
Degree of Protection	IP 20	
Terminal Capacity AWG*	#17-9	
Torque of Terminals in-lb (N.m)	8.85 (1)	

* AWG = American Wire Gauge

Thermal Overload Relays

Ex9R Product Overview

Features

- For use with Ex9C and Ex9CR*
- Rated current up to 500A @ 600 Vac, 50/60 Hz
- Adjustable current setting for overload protection
- Overload protection trip Class 10 and Class 10A
- Phase loss protection
- Automatic or manual reset selectable
- Status indication
- STOP and TEST function
- Direct mount to contactors or 35 mm DIN rail mounting base option
- 5-Year limited warranty



*see page 80 for overloads for use with miniature contactors.



Certifications

- UL 508 Listed, File Number No. E353865, UL 60947-1 and 60947-4-1
- CSA C22.2 No. 14, File no. E353865
- IEC/EN 60947-4-1
- CE Approved
- CCC Certified



Thermal Overload Relays

Ex9R 38-500 Amperes



Certifications
IEC/EN 60947-4-1

CE UL LISTED

CCC

Rated Amperage (Min - Max)	38A	
	Use with Contactors: Ex9C9-38	
	Catalog Number	
0.63-1	Ex9R38B1A	
1-1.6	Ex9R38B1.6A	
1.6-2.5	Ex9R38B2.5A	
2.5-4	Ex9R38B4A	
4-6	Ex9R38B6A	
5.5-8	Ex9R38B8A	
7-10	Ex9R38B10A	
9-13	Ex9R38B13A	
12-18	Ex9R38B18A	
16-24	Ex9R38B24A	
23-32	Ex9R38B32A	
30-38	Ex9R38B38A	

Rated Amperage (Min - Max)	100A	
	Use with Contactors: Ex9C40-100	
	Catalog Number	
23-32	Ex9R100B32A	
30-40	Ex9R100B40A	
37-50	Ex9R100B50A	
48-65	Ex9R100B65A	
55-70	Ex9R100B70A	
63-80	Ex9R100B80A	
80-104	Ex9R100B104A	



Rated Amperage (Min - Max)	185A	
	Use with Contactors: Ex9C115-185	
	Catalog Number	
75-115	Ex9R185B115A	
110-150	Ex9R185B150A	
140-210	Ex9R185B210A	

Rated Amperage (Min - Max)	500A	
	Use with Contactors: Ex9C225-500	
	Catalog Number	
160-225	Ex9R500B225A	
210-300	Ex9R500B300A	
280-400	Ex9R500B400A	
380-500	Ex9R500B500A	

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

Thermal Overload Relays

Ex9R Technical Data

		Ex9R	
Tripping Class		Class 10/10A	
Operating Frequency (Hz)		50/60	
Phase Failure Protection Function		Yes	
Automatic and Manual Reset			
Temperature Compensation			
Tripping Indicator			
Test and Stop Pushbutton			
Environmental Conditions	Altitude ft (m)	<6,562 (2,000)	
	Pollution Degree	Class III	
Rated Tripping Current (In)		1.2	
Sensitivity to Phase Failure (In)		30%	
Rated Working Voltage (V)		600	
Rated Impulse Withstand Voltage Uimp		6 kV	
Auxiliary Contacts	Number of Contacts		1NO+1NC
	Rated Operating Voltage Ue (V)	AC-15	220/380
		DC-13	220
	Rated Operating Current Ie (A)	AC-15	1.64 / 0.95
		DC-13	0.13
	Circuit Continuous Current		5 A 600 Vac, 1 A 300 Vdc
	Contact Rating		B600, R300
	Terminal Wire Range AWG*		#18-12
Terminal Torque in-lb (N.m)		15 (1.70)	
Terminal Wire Strip Length in		0.43	

* AWG = American Wire Gauge

Thermal Overload Relays

Ex9R Technical Data

Frame Size	38A											
Current Setting Range (A)	0.63-1	1-1.6	1.6-2.5	2.5-4	4-6	5.5-8	7-10	9-13	12-18	16-24	23-32	30-38
Short Circuit Rating, 3 Phase at 600 Vac (kA)	1			5								
Power Terminal	#18-8 AWG*											
Power Terminal Torque in-lb (N.m)	22 (2.5)											
Matched Contactor Type	Ex9C9-38											
Surface mount adapter for remote mounting	AD56UL											

Frame Size	100A							
Current Setting Range (A)	23-32	30-40	37-50	48-65	55-70	63-80	80-104	
Short Circuit Rating, 3 Phase at 600 Vac (kA)	5			10				
Power Terminal	#12-1 AWG*							
Power Terminal Torque in-lb (N.m)	80 (9)							
Matched Contactor Type	Ex9C40-100							
Surface mount adapter for remote mounting	AD53UL							

Frame Size	185A		
Current Setting Range (A)	75-115	110-150	140-210
Short Circuit Rating, 3 Phase at 600 Vac (kA)	10		
Power Terminal	Bus Bar Only		
Power Terminal Torque in-lb (N.m)	159 (18)		
Matched Contactor Type	Ex9C115-185		
Surface mount adapter for remote mounting	AD54UL		

Frame Size	500A			
Current Setting Range (A)	160-225	210-300	280-400	380-500
Short Circuit Rating, 3 Phase at 600 Vac (kA)	30			
Power Terminal	Bus Bar Only			
Power Terminal Torque in-lb (N.m)	310 (35)			
Matched Contactor Type	Ex9C225-500			
Surface mount adapter for remote mounting	AD55UL			

* AWG = American Wire Gauge

Thermal Overload Relay

Ex9R - Thermal Overload Relay (For Ex9CS Miniature Contactors)



12 A	
Rated Amperage (Min - Max)	Use with Contactors: Ex9CS06-12 Catalog Number
0.1-0.16	Ex9R12B0.16A
0.16-0.25	Ex9R12B0.25A
0.25-0.4	Ex9R12B0.4A
0.4-0.63	Ex9R12B0.63A
0.63-1	Ex9R12B1A
1-1.6	Ex9R12B1.6A
1.6-2.5	Ex9R12B2.5A
2.5-4	Ex9R12B4A
4-6	Ex9R12B6A
5.5-8	Ex9R12B8A
7-10	Ex9R12B10A
9-12	Ex9R12B12A

		Ex9R	
Tripping Class	Class 10/10A		
Operating Frequency (Hz)	50/60		
Phase Failure Protection Function			
Automatic and Manual Reset			
Temperature Compensation	Yes		
Tripping Indicator			
Test and Stop Pushbutton			
Environmental Conditions	Altitude ft (m)	<6,562 (2,000)	
	Pollution Degree	Class III	
Rated Tripping Current (In)	1.2		
Sensitivity to Phase Failure (In)	30%		
Rated Working Voltage (V)	600		
Rated Impulse Withstand Voltage Uimp	6 kV		
Auxiliary Contacts	Number of Contacts		1NO+1NC
	Rated Operating Voltage Ue (V)	AC-15	220/380
		DC-13	220
	Rated Operating Current Ie (A)	AC-15	1.64 / 0.95
		DC-13	0.13
	Circuit Continuous Current	(5 A) 600 Vac, (1 A) 300 Vdc	
	Contact Rating	B600, R300	
	Terminal Wire Range AWG*	#18-12	
Terminal Torque in-lb (N.m)	15 (1.70)		
Terminal Wire Strip Length in	0.43		

Ex9R	12 A											
Current Rated (A)	0.16-1.6						2.5-12					
Current Setting 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	5.5-8	7-10	9-12
Short Circuit Rating, 3 Phase at 600 Vac (kA)	1						5					
Power Terminal	#18-10 AWG*											
Power Terminal Torque in-lb (N.m)	15 (1.7)											
Matched Contactor Type	Ex9CS06-12											
Matched Adapter	AD51UL											

* AWG = American Wire Gauge



AD51UL

Accessory Description	Catalog Number
Surface mount for Ex9R 0.16-12A only	AD51UL

Mounting Base	AD51UL
Current Rating (A)	12
Voltage (Vac)	600
Terminal Wire Range	#18-12 AWG*
Terminal Torque in-lb (N.m)	7 (0.80)
Matched Contactor Type	Ex9CS06-12

- Allows surface mounting of overload relays listed above (Ex9R 0.16-12A) remotely from miniature contactor (Ex9CS).

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

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

Electronic Thermal Overload Relay

Ex9RE - Electronic Thermal Overload Relay



Rated Amperage (min-Max)	Power Supply Voltage	Auxiliary Contacts	Trip Curve Class	Catalog Number
Use with Ex9C 09-38A Contactor				
0.1 - 0.5A	24 Vac/Vdc	1NO+1NC	5/10/20/30	Ex9RE40A0.5
	110/120 Vac			Ex9RE40B0.5
	220/240 Vac			Ex9RE40C0.5
0.4 - 2A	24 Vac/Vdc	1NO+1NC	5/10/20/30	Ex9RE40A02
	110/120 Vac			Ex9RE40A02
	220/240 Vac			Ex9RE40C02
1.8 - 9A	24 Vac/Vdc	1NO+1NC	5/10/20/30	Ex9RE40A09
	110/120 Vac			Ex9RE40B09
	220/240 Vac			Ex9RE40C09
8 - 40A	24 Vac/Vdc	1NO+1NC	5/10/20/30	Ex9RE40A40
	110/120 Vac			Ex9RE40B40
	220/240 Vac			Ex9RE40C40



AD57UL

Accessory Description	Catalog Number
DIN Rail Mount for Ex9RE40 only	AD57UL

- Allows DIN rail mounting of electronic overload relays listed above (Ex9RE40) remotely from contactor (Ex9C).

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