

Quick selection table for NDZ3(X/W/S) series DC contactors



ND	Z	3	X	-	150	10	J	DC12V	
									Coil voltage: DC12V, DC24V, DC48V, DC9~36V
									Blank: general type J: energy-efficient type B: large-sized type Z: combined type (only NDZ3X-100B/Z)
									Number of auxiliary contacts: Blank: without auxiliary contacts 10: with one NO auxiliary contact block 01: with one NC auxiliary contact block 11: with one NO and one NC auxiliary contact blocks
									Frame size: 50: 50A 100: 100A 150: 150A 200: 200A 250: 250A 300: 300A
									Blank: general type X: high-performance type W: non-polarized type S: dedicated for low-speed vehicles
									Design serial number: 3
									Product code: DC contactor
									Brand code: Nader

- Notes:**
- For NDZ3(X)-150, energy-efficient type and general type products area available;
 - For NDZ3(X)-50/100 without accessories, two sizes are available;
 - For NDZ3(X)-50~150, NDZ3W-50~100 and NDZ3S-10~250, three types of coil voltages are available: namely, DC12V, DC24V and DC48V;
For NDZ3(X)-150J~300 and NDZ3W-150~300, the coil voltage is DC9V~36V.

Main performance parameters of NDZ3(X/W/S) series DC contactors

Model		NDZ3-50	NDZ3-100	NDZ3-150	NDZ3-150J	NDZ3-200	NDZ3-250	NDZ3-300
Name of parameter								
Conventional thermal current I _{th}		150A		300A		500A		
Rated operating current I _e (DC450V/500V)		50A	100A	150A		200A	250A	300A
Rated isolation voltage U _i		DC1000V						
Max. cut-off current L/R≤1ms		DC320V 1000A more than once		DC320V 2000A more than once				
Short-circuit current withstand capacity		750A 30ms	1500A 30ms	2250A 30ms		3000A 30ms	3750A 30ms	
Max. contact voltage drop		100A 50mV						
Isolation resistance		100MΩ DC500V						
Withstand voltage		AC2500V 60s		AC3500V 60s				
Mechanical endurance (operating cycles)		100x10 ⁴ , 1200 cycles/h						
Electrical endurance (operating cycles)	DC 500V L/R≤1ms	50A 6000	100A 6000	150A 6000		200A 6000	250A 6000	300A 1000
	DC 750V L/R≤1ms	10A 6000		15A 6000		300A 1000		
	Operating rate	120 cycles/h						360 cycles/h
Auxiliary contact	Type	1NO, 1NC, 1NC+1NO						
	Rated current/voltage	2A/DC30V, 3A/AC125V						
	Min. connectable load	100mA, 8V						
Control coil	Rated voltage U _c	DC12V, DC24V, DC48V			DC12V~24V			
	Operating voltage	75%~110%U _c			DC9V~36V			
	Drop-out voltage	10%~60%U _c			DC1.2V~7.2V			
	Making time	≤35ms			≤35ms			
	Breaking time	≤15ms			≤20ms			
	Hold-in power consumption	6W			3.6W/3.6VA			
	Max. starting current of coil	0.5A			3.5A			
Malfunctioning impact	Pull-in	11ms 1/2 sine wave 15g			11ms 1/2 sine wave 30g			
	Drop-out	11ms 1/2 sine wave 11g			11ms 1/2 sine wave 20g			
Malfunctioning vibration	Pull-in	10g 10~500Hz			20g 10~1000Hz			
	Drop-out	5g 10~500Hz			5g 10~1000Hz			
Weight		210±10g		430±10g	460±10g			485±10g

Name of parameter		Model	NDZ3X-50	NDZ3X-50B	NDZ3X-100	NDZ3X-100B	NDZ3X-150	NDZ3X-150J	NDZ3X-200	NDZ3X-250	NDZ3X-300	
Conventional thermal current I _{th}			150A					300A		500A		
Rated operating current I _e (DC750V)			50A		100A		150A		200A		250A	300A
Rated isolation voltage U _i			DC1000V									
Max. cut-off current L/R≤1ms			DC320V 1000A more than once					DC320V 2000A more than once				
Short-circuit current withstand capacity			750A 30ms		1500A 30ms		2250A 30ms		3000A 30ms		3750A 30ms	
Max. contact voltage drop			100A 50mV									
Isolation resistance			100MΩ DC500V									
Withstand voltage			AC2500V 60s					AC3500V 60s				
Mechanical endurance (operating cycles)			100x10 ⁴ , 1200 cycles/h									
Electrical endurance (operating cycles) (forward direction)	DC 750V L/R≤1ms	50A 2000		100A 2000		150A 2000		200A 2000		250A 2000	300A 1500	
	Operating rate	360 cycles/h										
Auxiliary contact	Type	1NO, 1NC, 1NC+1NO (note: NDZ3X-50/100 without auxiliary contacts)										
	Rated current/voltage	2A/DC30V, 3A/AC125V										
	Min. connectable load	100mA, 8V										
Control coil	Rated voltage U _c	DC12V, DC24V, DC48V						DC12V~24V				
	Operating voltage	75%~110%U _c						DC9V~36V				
	Drop-out voltage	10%~60%U _c						DC1.2V~7.2V				
	Making time	≤35ms						≤35ms				
	Breaking time	≤15ms						≤20ms				
	Hold-in power consumption	6W						3.6W/3.6VA				
	Max. starting current of coil	0.5A						3.5A				
Malfunctioning impact	Pull-in	11 ms 1/2 sine wave 15g						11 ms 1/2 sine wave 30g				
	Drop-out	11 ms 1/2 sine wave 11g						11 ms 1/2 sine wave 20g				
Malfunctioning vibration	Pull-in	10g 10~500Hz						20g 10~1000Hz				
	Drop-out	5g 10~500Hz						5g 10~1000Hz				
Weight			226±10g					430±10g	485±10g			

Name of parameter		Model	NDZ3X-100B/Z
Conventional thermal current I _{th}			150A
Rated operating current I _e (DC750V)			100A
Rated isolation voltage U _i			DC1000V
Max. cut-off current L/R≤1ms			DC320V 1000A more than once
Short-circuit current withstand capacity			1500A 30ms
Max. contact voltage drop			100A 50mV
Isolation resistance			100MΩ DC500V
Withstand voltage			AC2500V 60s
Mechanical endurance (operating cycles)			100x10 ⁴ , 1200 cycles/h
Electrical endurance (operating cycles) (forward direction)	DC750V L/R≤1ms		100A 2000
	Operating rate		360 cycles/h
Auxiliary contact	Type		NO, NC
	Rated current/voltage		2A/DC30V, 3A/AC125V
	Min. connectable load		100mA, 8V
Control coil	Rated voltage U _c		DC12V, DC24V, DC48V
	Operating voltage		75%~110%U _c
	Drop-out voltage		10%~60%U _c
	Making time		≤35ms
	Breaking time		≤15ms
	Hold-in power consumption		12W
	Max. starting current of coil		1A
Malfunctioning impact	Pull-in		11ms 1/2 sine wave 15g
	Drop-out		11ms 1/2 sine wave 11g
Malfunctioning vibration	Pull-in		10g 10~500Hz
	Drop-out		5g 10~500Hz
Weight			540±10g

Model Name of parameter		NDZ3W-50	NDZ3W-100	NDZ3W-150	NDZ3W-200	NDZ3W-250	NDZ3W-300
Conventional thermal current Ith		150A		300A	500A		
Rated operating current Ie (DC450V/500V)		50A	100A	150A	200A	250A	300A
Rated isolation voltage Ui		DC1000V					
Max. cut-off current L/R≤1ms		DC320V 1000A more than once		DC320V 2000A more than once			
Short-circuit current withstand capacity		750A 30ms	1500A 30ms	2250A 30ms	3000A 30ms	3750A 30ms	
Max. contact voltage drop		100A 50mV					
Isolation resistance		100MΩ DC500V					
Withstand voltage		AC2500V 60s		AC3500V 60s			
Mechanical endurance (operating cycles)		100x10 ⁴ , 1200 cycles/h					
Electrical endurance (operating cycles) (forward/reverse)	DC 500V L/R≤1ms	50A 6000	100A 6000	150A 6000	200A 6000	250A 6000	300A 6000
	DC 750V L/R≤1ms	50A 1000	100A 1000	150A 1000	200A 1000	250A 1000	300A 1000
	Operating rate	360 cycles/h					
Auxiliary contact	Type	1NO, 1NC, 1NC+1NO					
	Rated current/voltage	2A/DC30V, 3A/AC125V					
	Min. connectable load	100mA, 8V					
Control coil	Rated voltage Uc	DC12V, DC24V, DC48V		DC12V~24V			
	Operating voltage	75%~110%Uc		DC9V~36V			
	Drop-out voltage	10%~60%Uc		DC1.2V~7.2V			
	Making time	≤35ms		≤35ms			
	Breaking time	≤15ms		≤20ms			
	Hold-in power consumption	6W		3.6W/3.6VA			
	Max. starting current of coil	0.5A		3.5A			
Malfunctioning impact	Pull-in	11ms 1/2 sine wave 15g		11ms 1/2 sine wave 30g			
	Drop-out	11ms 1/2 sine wave 11g		11ms 1/2 sine wave 20g			
Malfunctioning vibration	Pull-in	10g 10~500Hz		20g 10~1000Hz			
	Drop-out	5g 10~500Hz		5g 10~1000Hz			
Weight		210±10g		460±10g			

Model		NDZ3S-10	NDZ3S-20	NDZ3S-50	NDZ3S-100	NDZ3S-150	NDZ3S-200	NDZ3S-250
Name of parameter								
Conventional thermal current I _{th}		50A			150A		300A	
Rated operating current I _e (DC120V)		10A	20A	50A	100A	150A	200A	250A
Rated isolation voltage U _i		DC500V						
Max. cut-off current L/R≤1ms		DC320V 1000A more than once					DC320V 2000A more than once	
Short-circuit current withstand capacity		200A 30ms		1500A 30ms			2250A 30ms	
Max. contact voltage drop		100A 50mV						
Isolation resistance		100MΩ DC500V						
Withstand voltage		AC2500V 60s						
Mechanical endurance (operating cycles)		100x10 ⁴ , 1200 cycles/h						
Electrical endurance (operating cycles) (forward direction)	DC 120V L/R≤1ms	10A 5000	20A 5000	50A 5000	100A 5000	150A 5000	200A 5000	250A 5000
	DC 200V L/R≤1ms	10A 2000	20A 2000	50A 2000	100A 2000	150A 2000	200A 2000	250A 2000
	Operating rate	120 cycles/h						
Auxiliary contact	Type	1NO, 1NC, 1NC+1NO Note: NDZ3S-50/100/150 without auxiliary contacts						
	Rated current/voltage	2A/DC30V, 3A/AC125V						
	Min. connectable load	100mA, 8V						
Control coil	Rated voltage U _c	DC12V, DC24V, DC48V						
	Operating voltage	75%~110%U _c						
	Drop-out voltage	10%~60%U _c						
	Making time	≤35ms						
	Breaking time	≤15ms						
	Hold-in power consumption	6W						
	Max. starting current of coil	0.5A						
Malfunctioning impact	Pull-in	11ms 1/2 sine wave 15g						
	Drop-out	11ms 1/2 sine wave 11g						
Malfunctioning vibration	Pull-in	10g 10~500Hz						
	Drop-out	5g 10~500Hz						
Weight		210±10g					430±10g	

Quick selection table for NDZ3T/AT series DC contactors



ND	Z	3	T	-	300	P	/	750V	DC12V	
										Coil voltage: DC12V, DC24V, DC48V
										Load operating voltage DC750V
										Type of load outgoing terminal: P: terminal block Blank: without a terminal block
										Code of basic specification: 10, 20, 40, 100, 150, 200, 300, 350, 400
										Packaging type: T: ceramic packaging
										Design serial number: 3 or 3A
										Product code Z: DC contactor
										Brand code: Nader

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Main performance parameters of NDZ3T/ATseries DC contactors

Frame size Name of parameter		NDZ3T-10	NDZ3T-20	NDZ3T-40	NDZ3T-100	NDZ3T-150
Rated current In		10A	20A	40A	100A	150A
Rated voltage Ue		DC750V				
Isolation voltage Ui		DC1000V				
Control coil	Rated voltage Uc	DC12V, DC24V		DC12V, DC24V, DC48V		
	Operating voltage	75%~110% Uc				
	Drop-out voltage	10%~60% Uc				
	Making time (rated voltage at 20°C)	≤30ms				
	Breaking time (at 20°C)	≤10ms				
	Coil power consumption (at 20°C)	2.6W	2.6W	3.3W	4.5W	6W
Mechanical endurance (operating cycles)		20x10 ⁴ , 3600 cycles/h				
Mechanical endurance (operating cycles) (make-break ratio: 0.6s:5.4s) Resistive load		DC1000V 10A 100000	DC1000V 20A 30000 DC750V 20A 75000 DC450V 20A 100000	DC750V 40A 1000 DC500V 40A 20000	DC750V 100A 1000	DC750V 150A 1000
					DC500V 100A 3000	DC500V 150A 3000
					DC500V -100A 1000	DC500V -150A 1000
Max. cut-off current		DC1000V 100A once	DC1000V 200A once	DC300V 400A once	DC600V 1000A once	DC300V 1500A once
Short-time withstand current		10Ie 600ms				
Contact resistance (rated current)		≤4.5mΩ	≤4.5mΩ	≤ 10 mΩ	≤ 1.5 mΩ	≤ 1.5 mΩ
Isolation resistance		1000MΩ, DC1000V				
Withstand voltage		Main circuit: AC3000V 60s Main circuit and coil: AC4000V 60s	Main circuit: AC3000V 60s Main circuit and coil: AC4000V 60s	AC3000V 60s		
Impact strength		Stable: 20g (half sine shock impulse: 11ms, detection time: 10μs) Disruptive: 50g (half sine shock impulse: 6ms)		Stable: ON: 20g; OFF: 10g (half sine shock impulse: 11ms, detection time: 10μs) Disruptive: 50g (half sine shock impulse: 6ms)		
Vibration strength		10~500Hz 5g				
Product weight		~140g	~150g	~160g	~400g with the terminal block ~365g without the terminal block	~410g with the terminal block ~377g without the terminal block

Frame size		NDZ3T-200	NDZ3T-300	NDZ3T-350	NDZ3T-400
Name of parameter					
Rated current I _n		200A	300A	350A	400A
Rated voltage U _e		DC750V			
Isolation voltage U _i		DC1000V			
Control coil	Rated voltage U _c	DC12V, DC24V, DC48V			
	Operating voltage	Pull-in voltage: 75%~110% U _c			
	Drop-out voltage	Drop-out voltage: 10%~60% U _c			
	Making time (rated voltage at 20°C)	≤30ms			
	Breaking time (at 20°C)	≤10ms			
	Coil power consumption (at 20°C)	Start: 35W; hold: 4.5W	Start: 45W; hold: 4.5W	Start: 45W; hold: 4.5W	Start: 45W; hold: 4.5W
Mechanical endurance (operating cycles)		20x10 ⁴ , 3600 cycles/h			
Mechanical endurance (operating cycles) (make-break ratio: 0.6s:5.4s) Resistive load		DC750V 200A 1000	DC750V 300A 1000	DC750V 350A 1000	DC750V 400A 1000
		DC500V 200A 3000	DC500V 300A 3000	DC500V 350A 2000	DC500V 400A 2000
		DC500V -200A 1000	DC500V -300A 1000	DC500V -350A 1000	DC500V -400A 1000
Max. cut-off current		DC750V 2000A once	DC600V 2500A once	DC750V 3000A once	DC750V 3000A once
Short-time withstand current		10I _e 600ms		3000A 600ms	
Contact resistance (rated current)		≤0.2mΩ	≤0.2mΩ	≤0.2mΩ	≤0.2mΩ
Isolation resistance		1000MΩ, DC1000V			
Withstand voltage		AC3000V 60s			
Impact strength		Stable: ON: 20g; OFF: 10g (half sine shock impulse: 11ms, detection time: 10μs) Disruptive: 50g (half sine shock impulse: 6ms)			
Vibration strength		10~500Hz 5g			
Product weight		~609g with the terminal block ~527g without the terminal block	~800g with the terminal block ~710g without the terminal block	~810g with the terminal block ~710g without the terminal block	~810g with the terminal block ~710g without the terminal block

Frame size		NDZ3AT-120	NDZ3AT-150C	NDZ3AT-150B	NDZ3AT-200B	NDZ3AT-200	NDZ3AT-250	NDZ3AT-400
Name of parameter								
Rated current		120A	150A	150A	200A	200A	250A	400A
Rated voltage		DC450V/DC750V						
Isolation voltage Ui		DC1000V						
Control coil	Rated voltage Uc	DC12V, DC24V						
	Operating voltage	75%~110% Uc						
	Drop-out voltage	10%~60% Uc						
	Making time (rated voltage at 20°C)	≤30ms	≤30ms	≤30ms	≤30ms	≤50ms	≤50ms	≤30ms
	Breaking time (at 20°C)	≤10ms	≤10ms	≤10ms	≤10ms	≤30ms	≤30ms	≤10ms
	Coil power consumption (at 20°C)	6W						Start: 45W Hold-in: 4.5W
Mechanical endurance (operating cycles)		30x10 ⁴ , 3600 cycles/h			20x10 ⁴ , 3600 cycles/h			
Mechanical endurance (operating cycles) (make-break ratio: 0.6s:5.4s)		DC450V 120A 1200 DC750V 120A 500	DC450V 150A 1500 DC750V 150A 500	DC450V 150A 2000 DC750V 150A 500	DC450V 200A 1000 DC750V 200A 500	DC450V 200A 3000 DC750V 200A 500	DC450V 250A 1000 DC750V 250A 500	DC750V 400A 1000
		DC450V -120A 500	DC450V -150A 500	DC450V -150A 500	DC450V -200A 500	DC450V -200A 100	DC450V -250A 100	
Max. cut-off current		DC450V 1200A once	DC450V 1500A once	DC450V 1500A once	DC450V 2000A once	DC450V 2000A once	DC450V 2000A once	DC750V 3000A once
Short-time withstand current		900A 6s 400A 40s 300A 2min 200A 10min 150A 2h	900A 8s 600A 20s 400A 60s 320A 2min 225A 15min 180A 2h	900A 8s 600A 20s 400A 60s 320A 2min 225A 15min 180A 2h	900A 10s 600A 30s 320A 5min 250A 15min	2000A 600ms 800A 30s 400A 240s 300A 15min	2500A 600ms 1000A 30s 500A 120s 375A 10min	3000A 600ms 1200A 30s 600A 20min
Contact resistance (rated current)		≤0.5mΩ	≤0.5mΩ	≤0.5mΩ	≤0.5mΩ	≤0.2mΩ	≤0.2mΩ	≤0.2mΩ
Isolation resistance		1000MΩ, DC1000V						
Withstand voltage		Between open contacts: AC3000V 1min; between contact and coil: AC3000V 1min						
Impact strength		Stable: 20g (half sine shock impulse: 11ms, detection time: 10μs) Disruptive: 50g (half sine shock impulse: 6ms)				Stable: ON: 20g; OFF: 10g (half sine shock impulse: 11ms, detection time: 10μs) Disruptive: 50g (half sine shock impulse: 6ms)		
Vibration strength		10~500Hz 5g						
Product weight		~390g with the terminal block ~355g without the terminal block	~390g with the terminal block ~355g without the terminal block	~350g	~350g	~605g	~605g	~730g