

Fuji Odyssey 3N Series Contactors

Overview

Description

- 180 - 361A rating (AC3)
- Provides higher current and horsepower capabilities than SC-E series. Designed for reliable use in applications requiring constant switching, reduced coil consumption, and increased horsepower capabilities.
- Available in 154 mm and 169 mm frame widths
- SUPERMAGNET™ for high operating reliability.
- Use with Odyssey 3N series overload relays.

Features

- Equipped with 2 N.O. and 2 N.C. auxiliary contacts
- Chatter-free operation eliminates contact welding and coil burning
- SUPERMAGNET™ coil operates on either AC or DC voltage

Agency approvals

- UL508 listed
- cUL certifies to 22.2
- CE: Meets LVD EN60947-4-1
- SEMI F47-0200

Ecology

- Low power consumption
- Recycled thermoplastic resin used for plastic parts.
- The names of materials are indicated on all major parts to facilitate recycling.



3NC4H0122

Optional accessories

- Replacement coils
- Terminal kits (box lugs)
- Terminal covers

Ordering contactors

See Contactor Chart to the right; to select appropriate contactor and overload relay, see Selection tables on pages 16-5 through 16-8.

Odyssey 3N Series Contactors 180 - 361A					
Part Number	Price	Coil Voltage	Current Rating: AC-3	Current Rating: AC-1	Frame Width
3NC4Q0E22	<--->	24VAC/VDC	180	260	154mm
3NC4Q0122	<--->	110VAC/VDC	180	260	
3NC4Q0222	<--->	220VAC/VDC	180	260	
3NC4H0E22	<--->	24VAC/VDC	221	260	
3NC4H0122	<--->	110VAC/VDC	221	260	
3NC4H0222	<--->	220VAC/VDC	221	260	
3NC5F0E22	<--->	24VAC/VDC	285	350	169mm
3NC5F0122	<--->	110VAC/VDC	285	350	
3NC5F0222	<--->	220VAC/VDC	285	350	
3NC5H0E22	<--->	24VAC/VDC	361	450	
3NC5H0122	<--->	110VAC/VDC	361	450	
3NC5H0222	<--->	220VAC/VDC	361	450	

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SUPERMAGNET™ advantages

Positive pick-up and drop-out - no unstable zone

The SUPERMAGNET operation is electronically controlled, so there is no unstable zone as shown in this diagram.

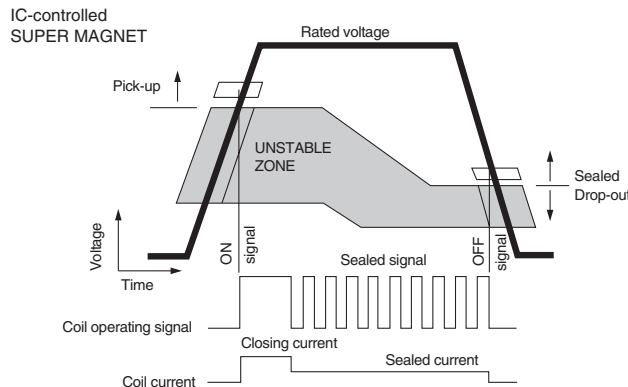
No chattering

Chattering occurs when the gravitational force of the starter magnet decreases through the line voltage drop during motor starting. This may cause damage such as contact welding or coil burning.

The SUPERMAGNET holds without chattering even if the line voltage drops to 65% of its rated value, preventing contact and coil damage.

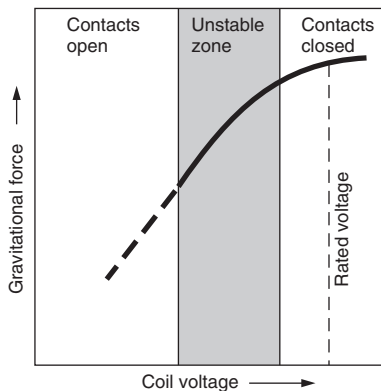
Operation on both AC and DC inputs

The SUPERMAGNET series contactors operate on both AC (50/60Hz) and DC inputs.

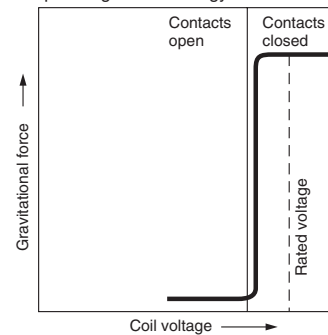


Note: Unstable zone
In this zone contact welding and coil burning frequency occur due to voltage drop.

Conventional contactors

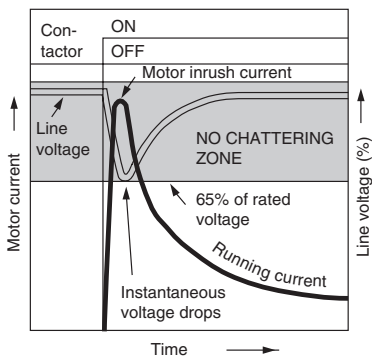


Contactors featuring Super Magnet technology

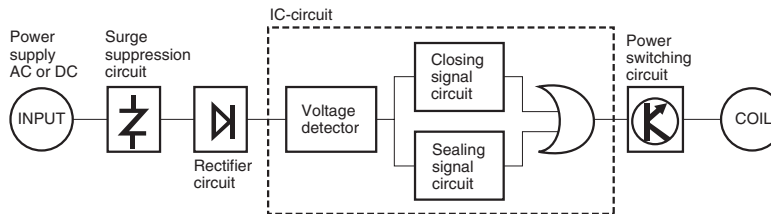


Note: Because SC-E5, SC-E7 and Odyssey series contactors are electronically controlled, there is no unstable zone.

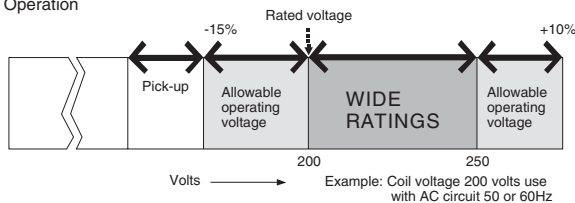
Motor starting



Note: No chattering occurs even if instantaneous voltage drops 65% of rated voltage.



Operation



- PLC Overview
- DL05/06 PLC
- DL105 PLC
- DL205 PLC
- DL305 PLC
- DL405 PLC
- Field I/O
- Software
- C-more HMIs
- Other HMI
- AC Drives
- Motors
- Steppers/Servos
- Motor Controls**
- Proximity Sensors
- Photo Sensors
- Limit Switches
- Encoders
- Pushbuttons/Lights
- Process
- Relays/Timers
- Comm.
- TB's & Wiring
- Power
- Enclosures
- Appendix
- Part Index

Fuji Odyssey 3N Series Contactors

Specifications

Electrical Specifications - UL File No. E42419											
Part Number	1-Phase Ratings (hp)		3-Phase Ratings (hp)				AC-1 (A)	AC-3 (A)	Qty. of Aux. Contacts		SCCR Ratings (kA)
	120V	240V	200V	220V	440V	550V			NO	NC	
			208V	240V	480V	600V					
3NC4Q0#22	-	-	60	60	150	150	260	180	2	2	10
3NC4H0#22	-	-	75	75	150	200	260	221	2	2	10
3NC5F0#22	-	-	100	100	200	250	350	285	2	2	18
3NC5H0#22	-	-	125	150	300	350	450	361	2	2	18

Contactor Coil Characteristics - AC Input							
Part Number	Power Consumption (VA)		Pick-up Voltage (V)	Drop-out Voltage (V)	Operating Time (ms)		
	Inrush	Sealed			Coil ON to Contact ON	Coil OFF to Contact OFF	
3NC4Qxxxx, 3NC4Hxxxx	277	5.4	70-80	35-50	35-41	37-45	
3NC5Fxxxx, 3NC5Hxxxx	265	5.9	70-80	35-50	40-47	36-43	

NOTE: This data is based on 100-120V SUPERMAGNET™ coil, tested at 120VAC, 60Hz.

Contactor Coil Characteristics - DC Input - 110VDC						
Part Number	Power Consumption (watts)		Pick-up Voltage (V)	Drop-out Voltage (V)	Operating Time (ms)	
	Inrush	Sealed			Coil ON to Contact ON	Coil OFF to Contact OFF
3NC4Qxxxx, 3NC4Hxxxx	324	4.1	77-88	28-44	35-41	37-45
3NC5Fxxxx, 3NC5Hxxxx	340	4.5	77-88	28-44	40-47	36-43

NOTE: This data is based on 100-120V SUPERMAGNET™ coil, tested at 110VDC.

Contactor Coil Characteristics - DC Input - 24VDC						
Part Number	Power Consumption (watts)		Pick-up Voltage (V)	Drop-out Voltage (V)	Operating Time (ms)	
	Inrush	Sealed			Coil ON to Contact ON	Coil OFF to Contact OFF
3NC4Qxxxx, 3NC4Hxxxx	250	5.9	17-19.2	6-12	35-41	37-45

NOTE: This data is based on 100-120V SUPERMAGNET™ coil, tested at 110VDC.

Contactor Auxiliary Contact Ratings				
NEMA ICS 5-2000 Ratings (note 1)				
AC Ratings			DC Ratings	
Designation	Making VA	Breaking VA	Designation	Making/Breaking VA
A600	7200	720	Q300	69

Notes:
1. NEMA ICS 5-2000. For more information, refer to Control Circuit Contact Electrical Ratings, page 16-79.

Contactor Terminal Tightening Torque Chart				
Part Number	Terminal Size	Cable Size Maximum	Applicable Max. Width for Ring Terminal	Tightening Torque
3NC4Q0XXX	M10	300MCM ² (152mm ²)	36.5mm	133-177 in.lbs. 15-20 Nm
3NC4H0XXX	M10	300MCM ² (152mm ²)	36.5mm	133-177 in.lbs. 15-20 Nm
3NC5F0XXX 3NC5H0XXX	M12	400MCM ² (203mm ²)	44.5mm	310-399 in.lbs. 35-45 Nm

Contactor Life Expectancy Performance Data				
Model	Current Capacity Make/Break	Operating Cycles per Hour	Life Expectancy (million operations)	
			Electrical	Mechanical
3NC4Qxxxx through 3NC5Fxxxx	12xle/10xle	1200	1	5
3NC5Hxxxx	12xle/10xle	1200	0.5	5

Note: Rated operational current. Electrical life test: Conforming to IEC947-4-1, AC3. The endurance test complies with the requirements of international standard IEC, JIS and JEM.

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Optional accessories

Terminal covers

Prevent contact with electrified terminals.



SZ-N8T



SZ-N11T

Odyssey Series Contactor Terminal Covers			
Part Number	Price	Description	Applicable Contactors
SZ-N8T	<--->	Terminal cover for line or load side. Prevents contact with electrified contactor terminals.	3NC4Qxxxx, 3NC4Hxxxx contactors
SZ-N11T	<--->		3NC5Fxxxx, 3NC5Hxxxx contactors

Terminal kits

Terminal kits are used for both 3N series contactors and overload relays.



SZ-TL6

Odyssey Series Contactor and Overload Relay Terminal Kits			
Part Number	Price	Description	Applicable Contactors, Overload Relays
SZ-TL5	<--->	Box lug terminal kits for line or load side.	3NC4Qxxxx, 3NC4Hxxxx contactors 3NK4Qx, 3NK4Hx overload relays
SZ-TL6	<--->		3NC5Fxxxx, 3NC5Hxxxx contactors 3NK4Qx, 3NK4Hx overload relays
SZ-TL7 (wire size 800 mcm - 3/0 AWG)	<--->		3NC5Hxxxx contactors 3NK5Hx overload relays

Replacement contactor coils



SZ-GSN11-100

Odyssey Series Replacement Contactor Coils			
Part Number	Price	Applicable Contactors	Coil Voltage
SZ-GSN8-100	<--->	3NC4Q0122, 3NC4H0122	100-127VAC/100-120VDC
SZ-GSN11-100	<--->	3NC5F0122, 3NC5H0122	100-127VAC/100-120VDC
SZ-GSN8-200	<--->	3NC4Q0222, 3NC4H0222	200-250VAC/200-240VDC
SZ-GSN11-200	<--->	3NC5F0222, 3NC5H0222	200-250VAC/200-240VDC
SZ-GSN8-24	<--->	3NC4Q0E22, 3NC4H0E22	24-25VAC/24VDC
SZ-GSN11-24	<--->	3NC5F0E22, 3NC5H0E22	24-25VAC/24VDC

PLC Overview

DL05/06 PLC

DL105 PLC

DL205 PLC

DL305 PLC

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Field I/O

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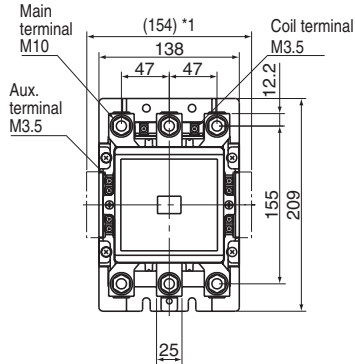
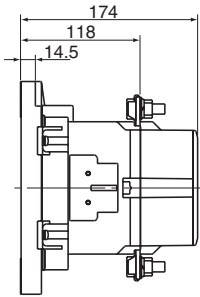
Appendix

Part Index

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Dimensions (mm)

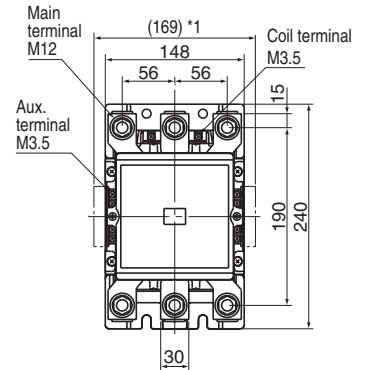
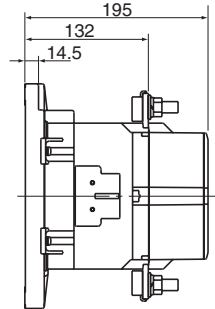
3NC4Q0#22
3NC4H0#22



* 1 Aux. contact block (Side mounted)

Weight: 4.9kg

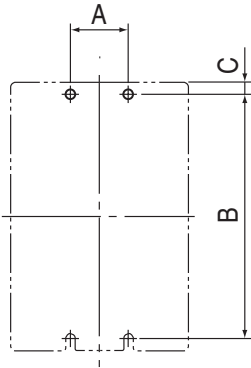
3NC5F0#22
3NC5H0#22



* 1 Aux. contact block (Side mounted)

Weight: 7.8kg

Mounting dimensions



Frame Size	A	B	C	Screw Size
3NC4Qxxxx	45	190	9.5	4-M6
3NC4Hxxxx	45	190	9.5	4-M6
3NC5Fxxxx	60	220	10	4-M8
3NC5Hxxxx	60	220	10	4-M8

Wiring diagrams

Non-reversing Contactors

