

"ORANGE LINE" AC Contactors, AC Operated



■ NON-REVERSING CONTACTORS UL File No. E42419, E44592 cUL listed

| 1 Phase HP Rating (Full load ampere) | | 3 Phase HP Ratings (Full load ampere) | | | | Rated thermal current for non inductive / resistive load | Qty. of Auxiliary Contacts | Part Number | Fuji Type | Frame Size |
|---|-----------|--|-------------|---------------|--------------|---|----------------------------------|-------------|-----------|------------|
| 100-120V | 220-240V | 200-208V | 220-240V | 440-480V | 550-600V | | | | | |
| 1/3 (7.2) | 1 (8) | 2 (7.8) | 2 (6.8) | 5 (7.6) | 5 (6.1) | 11 | 1 | 4NC0A0#@@% | SC-03 | 0A |
| 1/3 (7.2) | 1 (8) | 3 (11) | 3 (9.6) | 5 (7.6) | 5 (6.1) | 13 | 1 | 4NC0F0#@@% | SC-0 | 0F |
| 1/3 (7.2) | 1 (8) | 3 (11) | 3 (9.6) | 5 (7.6) | 5 (6.1) | 13 | 2 | 4NC0G0#@@% | SC-05 | 0G |
| 1 (16) | 2 (12) | 5 (17.5) | 5 (15.2) | 7 1/2 (11) | 7 1/2 (9) | 20 | 1 | 4NC0Q0#@@% | SC-4-0 | 0Q |
| 1 (16) | 2 (12) | 5 (17.5) | 5 (15.2) | 10 (14) | 10 (11) | 20 | 1 | 4NC0R0#@@% | SC-4-1 | 0R |
| 1 (16) | 2 (12) | 5 (17.5) | 5 (15.2) | 10 (14) | 10 (11) | 20 | 2 | 4NC0H0#@@% | SC-5-1 | 0H |

■ REVERSING CONTACTORS UL File No. E42419, E44592 cUL listed

| 1 Phase HP Rating (Full load ampere) | | 3 Phase HP Ratings (Full load ampere) | | | | Rated thermal current for non inductive / resistive load | Qty. of Auxiliary Contacts | Part Number | Fuji Type | Frame Size |
|---|-----------|--|-------------|---------------|--------------|---|----------------------------------|-------------|-----------|------------|
| 100-120V | 220-240V | 200-208V | 220-240V | 440-480V | 550-600V | | | | | |
| 1/3 (7.2) | 1 (8) | 2 (7.8) | 2 (6.8) | 5 (7.6) | 5 (6.1) | 11 | 1 | 4ND0A0#@@% | SC-03RM | 0A |
| 1/3 (7.2) | 1 (8) | 3 (11) | 3 (9.6) | 5 (7.6) | 5 (6.1) | 13 | 1 | 4ND0F0#@@% | SC-0RM | 0F |
| 1/3 (7.2) | 1 (8) | 3 (11) | 3 (9.6) | 5 (7.6) | 5 (6.1) | 13 | 2 | 4ND0G0#@@% | SC-05RM | 0G |
| 1 (16) | 2 (12) | 5 (17.5) | 5 (15.2) | 7 1/2 (11) | 7 1/2 (9) | 20 | 1 | 4ND0Q0#@@% | SC-4-0RM | 0Q |
| 1 (16) | 2 (12) | 5 (17.5) | 5 (15.2) | 10 (14) | 10 (11) | 20 | 1 | 4ND0R0#@@% | SC-4-1RM | 0R |
| 1 (16) | 2 (12) | 5 (17.5) | 5 (15.2) | 10 (14) | 10 (11) | 20 | 2 | 4ND0H0#@@% | SC-5-1RM | 0H |

Note: The list above indicates the No. of auxiliary contacts provided per contactor.

If larger contactors are required, please turn to page 21.

EXPLANATION OF PART NUMBER SYSTEM

4 N C 0 A 0 # @ @ %

• **PRODUCT LINE**
4=Orange Line

• **OPERATION**
N=AC Coil
G=DC Coil

• **DESCRIPTION**
C=Non-Reversing Contactor
D=Reversing Contactor

• **FRAME SIZE**

• **TERMINAL OPTION**

Blank: Standard
Y: Optional, non removable terminal cover accessory.
(Note: Y type not available for 0Q or 0R frame sizes)

• **QUANTITY OF AUX. CONTACTS**

10 : 1NO 20 : 2NO
01 : 1NC 02 : 2NC

11 : 1NO+1NC

See above under the "Qty. of Aux Contacts" column or next page.

• **COIL VOLTAGE**

Select code from chart on next page

• **FRAME ENCLOSURE**

0=Open Frame, No Enclosure

"ORANGE LINE" AC Contactors, AC Operated

AVAILABLE COILS

| Code Letter | AC Coil 60Hz | AC Coil 50Hz |
|-------------|--------------|--------------|
| E | 24-26V | 24V |
| F | 48-52V | 48V |
| A | 100-110V | 100V |
| 1 | 110-120V | 100-110V |
| G | 120-130V | 110-120V |
| B | 200-220V | 200V |
| 2 | 220-240V | 200-220V |
| C | 400-440V | 380-400V |
| 4 | 440-480V | 415-440V |
| 5 | 550-600V | 500-550V |

If DC operation is required, please turn to page 7-8.

COIL CHARACTERISTICS

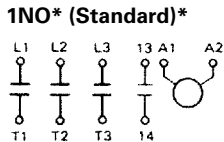
| Frame Size | Power Consumption (VA) | | Pick-up Voltage (V) | Drop-out Voltage (V) | Operating Time (ms) | |
|------------|------------------------|---|---------------------|----------------------|----------------------------|------------------------------|
| | Inrush Sealed | | | | Coil ON ↓ Contact ON | Coil OFF ↓ Contact OFF |
| 0A | 95 | 9 | 58-68 | 40-55 | 9-20 | 5-16 |
| 0F | 95 | 9 | 58-68 | 40-55 | 9-20 | 5-16 |
| 0G | 95 | 9 | 58-68 | 40-55 | 9-20 | 5-16 |
| 0Q | 95 | 9 | 65-73 | 44-60 | 9-20 | 5-16 |
| 0R | 95 | 9 | 65-73 | 44-60 | 9-20 | 5-16 |
| 0H | 95 | 9 | 65-73 | 44-60 | 9-20 | 5-16 |

This data is based on 110-120VAC, 50/60Hz coil, tested at 120VAC, 60Hz. For additional coil data, please see page 49.

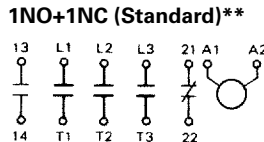
WIRING DIAGRAMS / AUXILIARY CONTACT INFORMATION

NON-REVERSING CONTACTORS

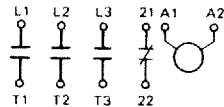
(4NC0A0, 0F0, 0Q0 and 0R0)



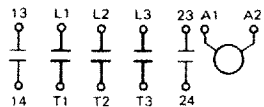
(4NC0G0 and 4NC0H0)



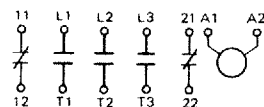
1NC* (Option)



2NO (Option)**

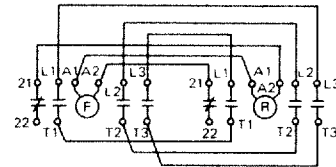


2NC (Option)**

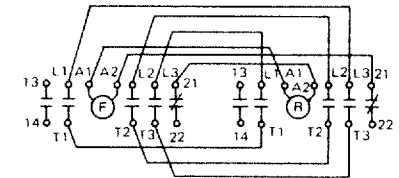


REVERSING CONTACTORS

(4ND0A0, 0F0, 0Q0, 0R0)



(4ND0G0 and 4ND0H0)



AUXILIARY CONTACT RATINGS

| Operating | Contact rating Code Designation | Continuous Ampere Rating | Current-Make/Break (A) | | | |
|-----------|---------------------------------|--------------------------|------------------------|-------------|-------------|-------------|
| | | | 110 to 120V | 220 to 240V | 440 to 480V | 550 to 600V |
| AC | A600 | 10 | 60/6 | 30/3 | 15/1.5 | 12/1.2 |
| DC | Q300 | 10 | 120V | 240V | | |
| | | | 0.55/0.55 | 0.27/0.27 | | |

* The 0A, 0F, 0Q & 0R frames offer 1 Aux. contact, NO standard. However, NC is available as an option.

** The 0G & 0H frames offer 2 Aux. contacts, 1NO + 1NC standard. However, 2NO or 2NC is available as an option.

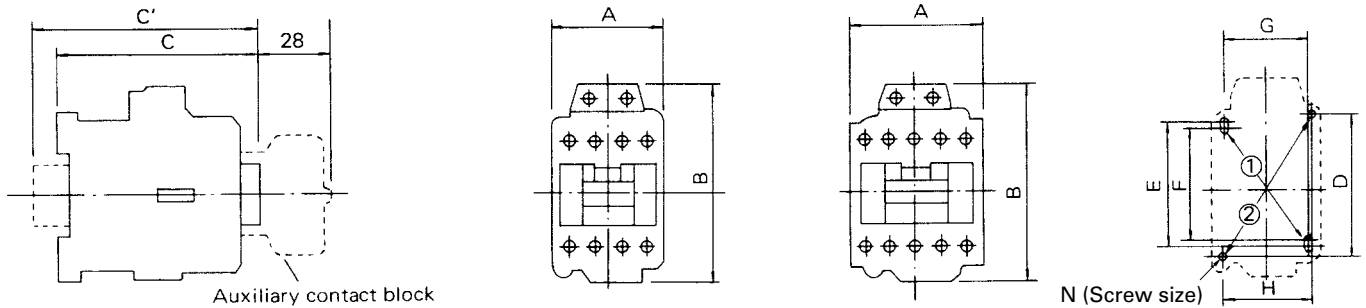
"ORANGE LINE" Dimensions

■ NON-REVERSING CONTACTORS/OPEN TYPE Approximate Dimensions, mm

FIG.1 (4NC0A0 through 4NC0H0)

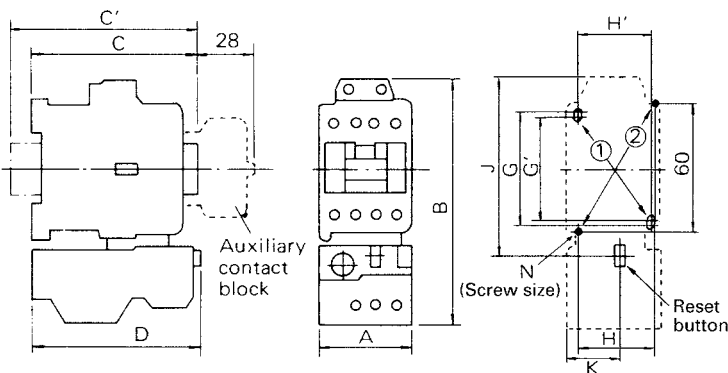
4NC0A0, 0F0, 0Q0, 0R0

4NC0G0, 0H0



| U.S. CAT. No. | Fuji Type | Fig. No. | Dimensions, mm | | | | | | | | | | | Net Weight (kg) |
|---------------|-----------|----------|----------------|----|-----|-----|----|----|----|----|----|------|------|-----------------|
| | | | A | B | C | C' | D | E | F | G | H | N | | |
| 4NC0A0 | SC-03 | 1 | 43 | 80 | 80 | 90 | 60 | 52 | 48 | 34 | 35 | 2-M4 | 0.32 | |
| 4NC0F0 | SC-0 | 1 | 43 | 80 | 80 | 90 | 60 | 52 | 48 | 34 | 35 | 2-M4 | 0.32 | |
| 4NC0G0 | SC-05 | 1 | 53 | 80 | 80 | 90 | 60 | 52 | 48 | 34 | 35 | 2-M4 | 0.34 | |
| 4NC0Q0 | SC-4-0 | 1 | 53 | 80 | 81 | 91 | 60 | 52 | 48 | 34 | 35 | 2-M4 | 0.36 | |
| 4NC0R0 | SC-4-1 | 1 | 53 | 80 | 81 | 91 | 60 | 52 | 48 | 34 | 35 | 2-M4 | 0.36 | |
| 4NC0H0 | SC-5-1 | 1 | 64 | 80 | 81 | 91 | 60 | 60 | 56 | 54 | 50 | 2-M4 | 0.38 | |
| 4GC0A0 | SC-03/G | 1 | 43 | 80 | 110 | 120 | 60 | 52 | 48 | 34 | 35 | 2-M4 | 0.55 | |
| 4GC0F0 | SC-0/G | 1 | 43 | 80 | 110 | 120 | 60 | 52 | 48 | 34 | 35 | 2-M4 | 0.55 | |
| 4GC0G0 | SC-05/G | 1 | 53 | 80 | 110 | 120 | 60 | 52 | 48 | 34 | 35 | 2-M4 | 0.58 | |
| 4GC0Q0 | SC-4-0/G | 1 | 53 | 80 | 111 | 121 | 60 | 52 | 48 | 34 | 35 | 2-M4 | 0.6 | |
| 4GC0R0 | SC-4-1/G | 1 | 53 | 80 | 111 | 121 | 60 | 52 | 48 | 34 | 35 | 2-M4 | 0.6 | |
| 4GC0H0 | SC-5-1/G | 1 | 64 | 80 | 111 | 121 | 60 | 60 | 56 | 54 | 50 | 2-M4 | 0.62 | |

FIG.2 (4NW0A0 through 4NW0H0)



| U.S. CAT. No. | Fuji Type | Fig. No. | Dimensions, mm | | | | | | | | | | | | | | Net Weight (kg) |
|---------------|-------------|----------|----------------|-----|-----|-----|----|----|----|----|----|----|----|------|------|------|-----------------|
| | | | A | B | C | C' | D | F | G | G' | H | H' | J | K | N | | |
| 4NW0A0 | SW-03/2E | 2 | 44 | 120 | 80 | 90 | 81 | 60 | 52 | 48 | 35 | 34 | 90 | 26.5 | 2-M4 | 0.43 | |
| 4NW0F0 | SW-0/2E | 2 | 44 | 120 | 80 | 90 | 81 | 60 | 52 | 48 | 35 | 34 | 90 | 26.5 | 2-M4 | 0.43 | |
| 4NW0G0 | SW-05/2E | 2 | 53 | 120 | 80 | 90 | 81 | 60 | 52 | 48 | 35 | 34 | 90 | 35.5 | 2-M4 | 0.45 | |
| 4NW0Q0 | SW-4-0/2E | 2 | 53 | 126 | 81 | 91 | 81 | 60 | 52 | 48 | 35 | 34 | 93 | 26.5 | 2-M4 | 0.47 | |
| 4NW0R0 | SW-4-1/2E | 2 | 53 | 126 | 81 | 91 | 81 | 60 | 52 | 48 | 35 | 34 | 93 | 26.5 | 2-M4 | 0.47 | |
| 4NW0H0 | SW-5-1/2E | 2 | 64 | 126 | 81 | 91 | 81 | 60 | 60 | 56 | 50 | 54 | 93 | 37.5 | 2-M4 | 0.5 | |
| 4GW0A0 | SW-03/G 2E | 2 | 44 | 120 | 110 | 120 | 81 | 60 | 52 | 48 | 35 | 34 | 90 | 26.5 | 2-M4 | 0.66 | |
| 4GW0F0 | SW-0/G 2E | 2 | 44 | 120 | 110 | 120 | 81 | 60 | 52 | 48 | 35 | 34 | 90 | 26.5 | 2-M4 | 0.66 | |
| 4GW0G0 | SW-05/G 2E | 2 | 53 | 120 | 110 | 120 | 81 | 60 | 52 | 48 | 35 | 34 | 90 | 35.5 | 2-M4 | 0.69 | |
| 4GW0Q0 | SW-4-0/G 2E | 2 | 53 | 126 | 111 | 121 | 81 | 60 | 52 | 48 | 35 | 34 | 93 | 26.5 | 2-M4 | 0.72 | |
| 4GW0R0 | SW-4-1/G 2E | 2 | 53 | 126 | 111 | 121 | 81 | 60 | 52 | 48 | 35 | 34 | 93 | 26.5 | 2-M4 | 0.72 | |
| 4GW0H0 | SW-5-1/G 2E | 2 | 64 | 126 | 111 | 121 | 81 | 60 | 60 | 56 | 50 | 54 | 93 | 37.5 | 2-M4 | 0.74 | |

TECHNICAL PERFORMANCE DATA

■ STANDARD CONDITIONS

- Ambient temperature should not exceed +40°C and the average over a period of 4 hours should not exceed +35°C. The lower limit of the ambient temperature is -5°C.
- Altitude Restriction
For use at altitudes exceeding 2000 meters (6,600 ft.) please consult Fuji Electric.

■ LIFE EXPECTANCY

Performance Data

| Frame size | Current capacity Make/Break | Operating cycles per hour | Life expectancy (million operations) | |
|---------------|--------------------------------|---------------------------------|---|------------|
| | | | Electrical | Mechanical |
| 0A | 12xIe/10xIe | 1800 | 2 | 10 |
| 0F, 0G | 12xIe/10xIe | 1800 | 2 | 10 |
| 0Q | 12xIe/10xIe | 1800 | 1.5 | 10 |
| 0R, 0H | 12xIe/10xIe | 1800 | 2 | 10 |
| 0T, 1Q | 12xIe/10xIe | 1200 | 2 | 10 |
| 2F, 2H | 12xIe/10xIe | 1200 | 2 | 5 |
| 2T through 5F | 12xIe/10xIe | 1200 | 1 | 5 |
| 5H | 12xIe/10xIe | 1200 | 0.5 | 5 |

■ AUXILIARY CONTACT RATINGS

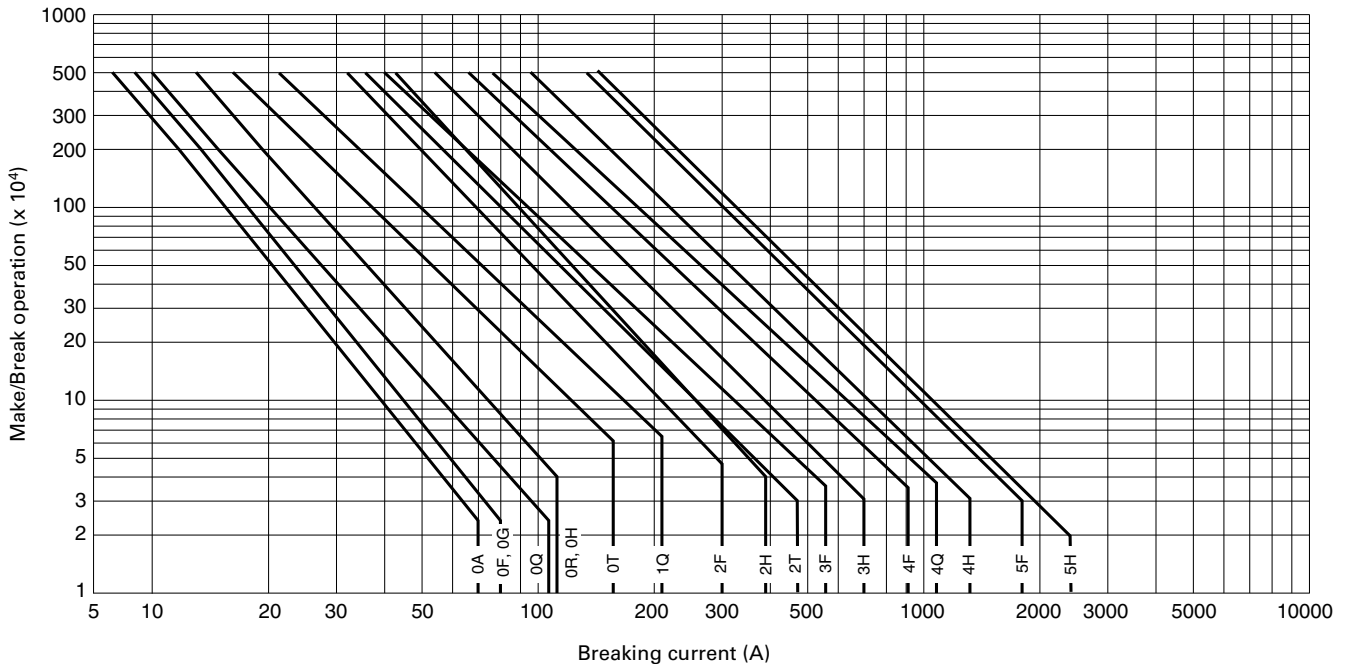
All Frame Sizes

| Operating | Contact rating code designation | Continuous ampere rating | Current-Make/Break (A) | | | |
|-----------|---------------------------------------|--------------------------------|------------------------|----------------|----------------|----------------|
| | | | 110 to 120V | 220 to 240V | 440 to 480V | 550 to 600V |
| AC | A600 | 10 | 60/6 | 30/3 | 15/1.5 | 12/1.2 |
| DC | Q300 | 10 | 120V | | 240V | |
| | | | 0.55/0.55 | | 0.27/0.27 | |

Note: Ie: 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.



Terminal Tightening Torque Chart

| Type No. | | Terminal Size | | Cable Size Maximum | | Applicable Max. Width for Ring Terminal | | Tightening Torque | |
|--|------------------------|---------------|------------------------|----------------------------------|----------------------------------|---|------------------------|------------------------------|-----------------------------|
| Contactor or Starter | Thermal Overload Relay | Contactor | Thermal Overload Relay | Contactor | Thermal Overload Relay | Contactor | Thermal Overload Relay | Contactor | Thermal Overload Relay |
| 4NC0A0 4NC0F0 4NC0G0 4NW0A0 4NW0F0 4NW0G0 | 4NK0A | M3.5 | M3.5 | 12AWG (3.3mm ²) | 12AWG (3.3mm ²) | 7.7mm | 7.7mm | 7-9 in.lbs. 0.8-1 Nm | 7-9 in.lbs. 0.8-1 Nm |
| 4NC0Q0 4NC0R0 4NC0H0 4NW0Q0 4NW0R0 4NW0H0 | 4NK0H | M4 | M4 | 10AWG (5.3mm ²) | 10AWG (5.3mm ²) | 9.7mm | 9.7mm | 11-13 in.lbs. 1.2-1.5 Nm | 11-13 in.lbs. 1.2-1.5 Nm |
| 3NC0T0 3NC1Q0 3NW0T0 3NW1Q0 | 3NK1Q | M5 | M5 | 6AWG (13.3mm ²) | 6AWG (13.3mm ²) | 12.4mm | 12.4mm | 18-22 in.lbs. 2-2.5 Nm | 18-22 in.lbs. 2-2.5 Nm |
| 3NC2F0 3NC2H0 3NW2F0 3NW2H0 | 3NK2H | M6 | M6 | 2AWG (33.6mm ²) | 4AWG (21.2mm ²) | 16.8mm | 16.7mm | 35-44 in.lbs. 4-5 Nm | 35-44 in.lbs. 4-5 Nm |
| 3NC2T0 3NC3F0 3NW2T0 3NW3F0 | 3NK3F | M6 | M6 | 1/0AWG (53.5mm ²) | 2AWG (33.6mm ²) | 22.3mm | 16.7mm | 35-44 in.lbs. 4-5 Nm | 35-44 in.lbs. 4-5 Nm |
| 3NC3H0 3NW3H0 | 3NK3H | M8 | M8 | 1/0AWG (53.5mm ²) | 1/0AWG (53.5mm ²) | 22.3mm | 22.3mm | 80-97 in.lbs. 9-11 Nm | 80-97 in.lbs. 9-11 Nm |
| 3NC4F0 3NW4F0 | 3NK4F | M8 | M8 | 3/0AWG (85mm ²) | 1/0AWG (53.5mm ²) | 28.9mm | 22.3mm | 80-97 in.lbs. 9-11 Nm | 80-97 in.lbs. 9-11 Nm |
| 3NC4Q0 3NW4Q0 | 3NK4Q | M10 | M10 | 300MCM (152mm ²) | 300MCM (152mm ²) | 36.5mm | 36.5mm | 133-177 in.lbs. 15-20 Nm | 133-177 in.lbs. 15-20 Nm |
| 3NC4H0 3NW4H0 | 3NK4H | M10 | M10 | 300MCM (152mm ²) | 300MCM (152mm ²) | 36.5mm | 36.5mm | 133-177 in.lbs. 15-20 Nm | 133-177 in.lbs. 15-20 Nm |
| 3NC5F0 3NC5H0 3NW5F0 3NW5H0 | 3NK5H | M12 | M12 | 400MCM (203mm ²) | 400MCM (203mm ²) | 44.5mm | 44.5mm | 310-399 in.lbs. 35-45 Nm | 310-399 in.lbs. 35-45 Nm |
| 3NC6F0 3NC6H0 | - | M16 | - | 600MCM (304mm ²) | - | 51.0mm | - | 663-884 in.lbs. 75-100 Nm | - |