

# Fuji Odyssey Series 3N Overload Relays

**Please note: \$US prices shown**  
**For current \$AUD visit [www.directautomation.com.au](http://www.directautomation.com.au)**

## General information

- Use with Odyssey 3N series contactors.
- Protects motor windings from burning due to overloads, locked rotor currents, or open phases.

## Agency approvals:

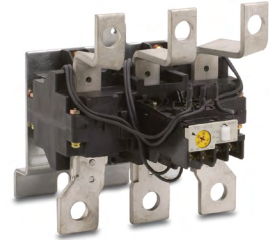
- UL listed file E42419, Standard UL 508
- cUL listed file E42419, Standard CSA C22.2 No. 14
- CE: LVD EN60947-4-1



**3NK4QK**



**3NK4HN**



**3NK5HQ**

| Odyssey Series Overload Relays |               |       |                              |             |                        |                          |
|--------------------------------|---------------|-------|------------------------------|-------------|------------------------|--------------------------|
| Part Number                    | Fuji Type     | Price | Adjustable Current Range (A) | Frame Width | Compatible Contactor   | Trip Class IEC 60947-4-1 |
| <b>3NK4QK</b>                  | <b>TK-N8</b>  |       | 65 - 95                      | 119mm       | 3NC4Qxxxx              | 10A                      |
| <b>3NK4QL</b>                  | <b>TK-N8</b>  |       | 85 - 125                     |             |                        |                          |
| <b>3NK4QN</b>                  | <b>TK-N8</b>  |       | 110 - 160                    |             |                        |                          |
| <b>3NK4QP</b>                  | <b>TK-N8</b>  |       | 125 - 185                    |             |                        |                          |
| <b>3NK4HL</b>                  | <b>TK-N10</b> |       | 85 - 125                     | 138mm       | 3NC4Hxxxx              | 20                       |
| <b>3NK4HN</b>                  | <b>TK-N10</b> |       | 110 - 160                    |             |                        |                          |
| <b>3NK4HP</b>                  | <b>TK-N10</b> |       | 125 - 185                    |             |                        |                          |
| <b>3NK4HQ</b>                  | <b>TK-N10</b> |       | 160 - 240                    |             |                        |                          |
| <b>3NK5HN</b>                  | <b>TK-N12</b> |       | 110 - 160                    | 142mm       | 3NC5Fxxxx<br>3NC5Hxxxx | 20                       |
| <b>3NK5HP</b>                  | <b>TK-N12</b> |       | 125 - 185                    |             |                        |                          |
| <b>3NK5HQ</b>                  | <b>TK-N12</b> |       | 160 - 240                    |             |                        |                          |
| <b>3NK5HR</b>                  | <b>TK-N12</b> |       | 200 - 300                    |             |                        |                          |
| <b>3NK5HS</b>                  | <b>TK-N12</b> |       | 240 - 360                    |             |                        |                          |
| <b>3NK5HT</b>                  | <b>TK-N12</b> |       | 300 - 450                    |             | 3NC5Hxxxx              |                          |

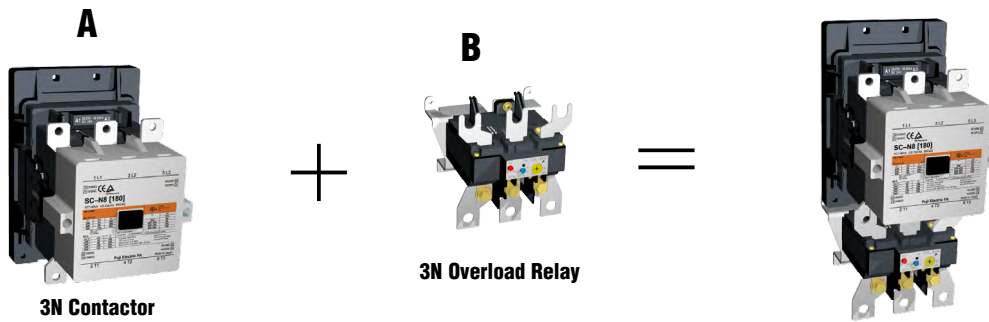
## Specifications

| Overload Relay Alarm Contact Ratings |           |             |                                    |                    |
|--------------------------------------|-----------|-------------|------------------------------------|--------------------|
| AC Ratings <small>(note 1)</small>   |           |             | DC Ratings <small>(note 1)</small> |                    |
| Designation                          | Making VA | Breaking VA | Designation                        | Making/Breaking VA |
| C600                                 | 1800      | 180         | ---                                | ---                |

**Notes:**  
 1. NEMA ICS 5-2000. For more information, refer to Control Circuit Contact Electrical Ratings, page MRC-111.

| Wire Terminal Tightening Torque Chart |                      |               |                              |   |                           |
|---------------------------------------|----------------------|---------------|------------------------------|---|---------------------------|
| Part Number                           | Contactor or Starter | Terminal Size | Cable Size Maximum           | Applicable Max. Width for Ring Terminal | Tightening Torque         |
| <b>3NK4Qx</b>                         | 3NC4Q0               | M10           | 300MCM (152mm <sup>2</sup> ) | 36.5mm                                  | 133-177 in.lbs., 15-20 Nm |
| <b>3NK4Hx</b>                         | 3NC4H0               | M10           | 300MCM (152mm <sup>2</sup> ) | 36.5mm                                  | 133-177 in.lbs., 15-20 Nm |
| <b>3NK5Hx</b>                         | 3NC5F0               | M12           | 400MCM (203mm <sup>2</sup> ) | 44.5mm                                  | 310-399 in.lbs., 35-45 Nm |
|                                       | 3NC5H0               |               |                              |   |                           |

# Fuji Odyssey Series 3N Overload Relays Selection Tables



Step 1. Select an Odyssey 3N contactor from Column A based on motor voltage and horsepower.

Step 2. Select an Odyssey 3N overload relay from Column B to work with the contactor selected in Step 1. The motor full load current (FLA) should be within the adjustable current range of the overload relay.

## 220-240V 3-Phase Motor (60 to 150 hp)

| Motor Rating |   | A         | B              |                          |
|--------------|---|-----------|----------------|--------------------------|
| HP           | Motor Full Load Amperage (FLA) (See Note 1) | Contactor | Overload Relay |                          |
|              |   |           | Part Number    | Adjustable Current Range |
| 60           | 154   | 3NC4Q0x22 | 3NK4QN         | 110 to 160 Amps          |
| 75           | 192   | 3NC4H0x22 | 3NK4HQ         | 160 to 240 Amps          |
| 100          | 248   | 3NC5F0x22 | 3NK5HR         | 200 to 300 Amps          |
| 125          | 312   | 3NC5H0x22 | 3NK5HS         | 240 to 360 Amps          |
| 150          | 360   | 3NC5H0x22 | 3NK5HT         | 300 to 450 Amps          |

*Note 1: Per NEC 2005 Table 430.250*

## 440-480V 3-Phase Motor (125 to 300 hp)

| Motor Rating |   | A         | B              |                          |
|--------------|---|-----------|----------------|--------------------------|
| HP           | Motor Full Load Amperage (FLA) (See Note 1) | Contactor | Overload Relay |                          |
|              |   |           | Part Number    | Adjustable Current Range |
| 125          | 156   | 3NC4Q0x22 | 3NK4QP         | 125 to 185 Amps          |
| 150          | 180   | 3NC4H0x22 | 3NK4HQ         | 160 to 240 Amps          |
| 200          | 240   | 3NC5F0x22 | 3NK5HR         | 200 to 300 Amps          |
| 250          | 302   | 3NC5H0x22 | 3NK5HS         | 240 to 360 Amps          |
| 300          | 361   | 3NC5H0x22 | 3NK5HT         | 300 to 450 Amps          |

*Note 1: Per NEC 2005 Table 430.250*

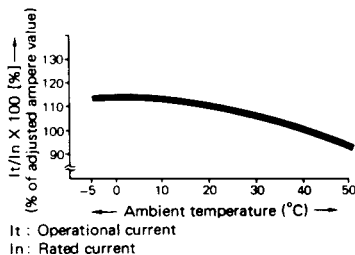
# Fuji Odyssey Series 3N Overload Relays

## Specifications

### Ambient temperature compensator

Overload relays are provided with an ambient temperature compensator. Their characteristics limit current value changes to approximately 10% as the ambient temperature changes between -5°C and 40°C.

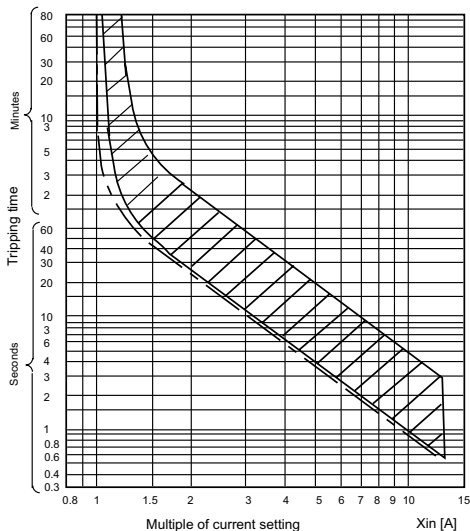
Compensation characteristics (Average value)



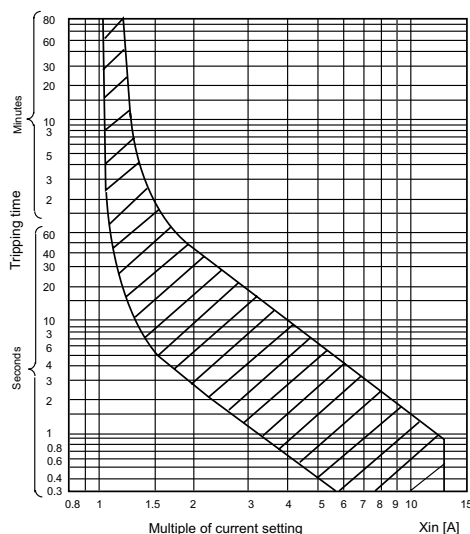
## Open-phase protection

### 3NK4Qx

#### Cold start

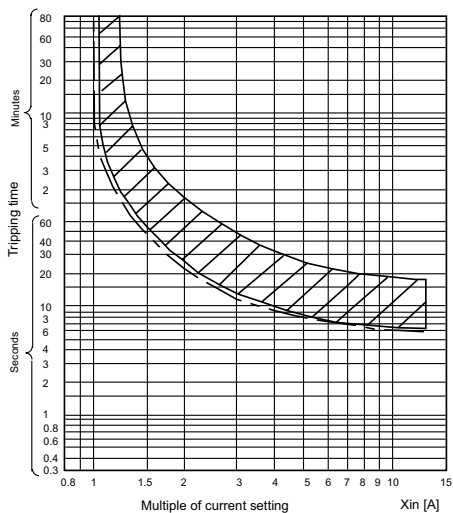


#### Hot start

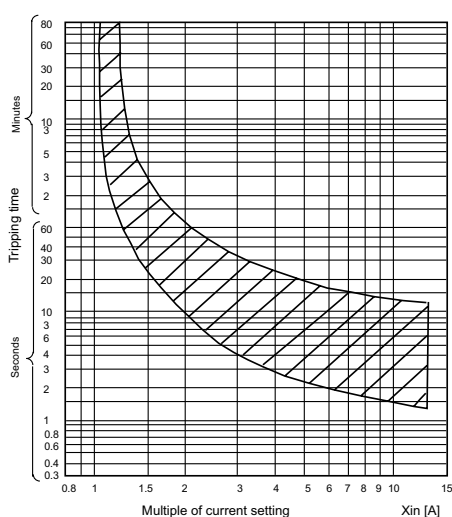


### 3NK4Hx, 3NK5Hx

#### Cold start



#### Hot start



# Fuji Odyssey Series 3N Overload Relays

## Optional accessories

### Terminal covers

NOTE: Larger terminal covers may require some adjustment for proper fit.



SZ-WN8T



SZ-WN10T

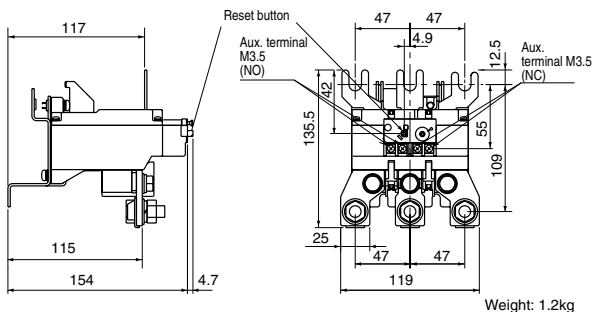


SZ-WN11T

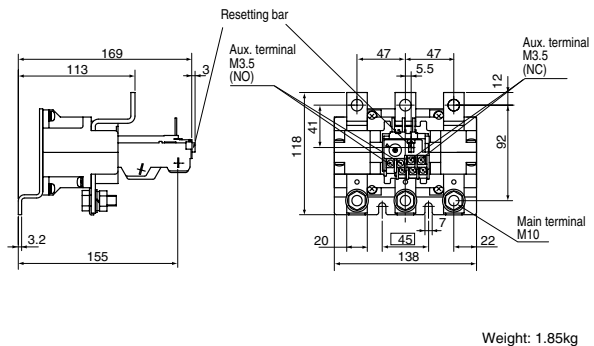
| Odyssey Series Overload Relay Terminal Covers |       |  |  |
|---|-------|--|--|
| Part number                                   | Price | Description  | Applicable Contactors, Overload Relays |
| SZ-WN8T                                       |       | Terminal cover for load side. Prevents contact with electrified contactor terminals. | 3NK4Qx overload relays                 |
| SZ-WN10T                                      |       |  | 3NK4Hx overload relays                 |
| SZ-WN11T                                      |       |  | 3NK5Hx overload relays                 |

## Dimensions (mm)

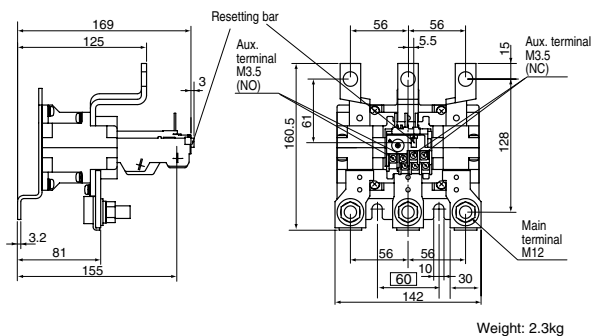
3NK4Qx



3NK4Hx

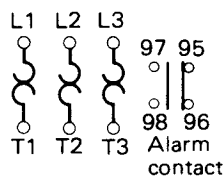


3NK5Hx



## Wiring diagrams

3NK4Qx



3NK4Hx, 3NK5Hx

