

## FEATURES



COMPLIES WITH REQUIREMENTS OF

- \* IEC STANDARDS 947-4-1 AND 947-5-1 LOW VOLTAGE DIRECTIVE
- \* IEC = INTERNATIONAL ELECTROTECHNICAL COMMISSION
- \* CE TESTING AND EVALUATION PERFORMED BY THE UNDERWRITERS LABORATORIES AS A THIRD PARTY PARTICIPANT

OVERSIZE CURRENT CARRYING PARTS

600 VOLT SPACING

FULL RANGE OF CONTACT RATINGS

BROAD SELECTION OF MOUNTING STYLES & OPTIONS

## BENEFITS

RUNS COOLER & LONGER

HANDLES MOST LOAD VOLTAGES

ELIMINATES "GUESS WORK"

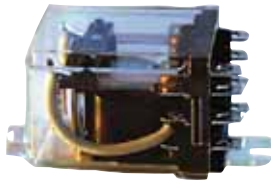
CAN BE "CUSTOMIZED" FOR UNIQUE SITUATIONS

## DIELECTRIC STRENGTH CHART (V rms)

MANUFACTURED  
UNDER  
ISO 9002  
& QS 9000

| CONTACT CONFIGURATION | ACROSS OPEN CONTACTS | COIL TO CONTACTS | POLE TO POLE |
|-----------------------|----------------------|------------------|--------------|
| SPST                  | 1000                 | 2200             | -            |
| DPDT                  | 1000                 | 2200             | 2200         |
| 3PDT                  | 1000                 | 1600             | 1600         |
| SPDT (DB and DM)      | 1500                 | 2200             | -            |

### STANDARD SIDE FLANGE COVER



### 389F WITH PUSH BUTTON AND FLAG



### OPTIONAL TOP FLANGE COVER

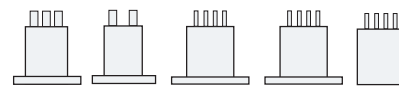


### OPTIONAL DIN COVER



## GENERAL SPECIFICATIONS (@ 25°C)

| COIL                                    |                         |                               |
|-----------------------------------------|-------------------------|-------------------------------|
|                                         | UNITS                   |                               |
| Pull-in Voltage AC (50/60 Hz):          | % of nominal            | 85                            |
| Pull-in Voltage DC:                     | % of nominal            | 80                            |
| Dropout Voltage AC (50/60 Hz):          | % of nominal            | 10                            |
| Dropout Voltage DC:                     | % of nominal            | 10                            |
| Maximum Voltage:                        | % of nominal            | 110                           |
| Resistance:                             | % ±                     | 10                            |
| Coil Power AC (60 Hz):                  | VA                      | 3.5                           |
| Coil Power DC:                          | W                       | 1.44                          |
| Insulation System Per UL Standard 1446: |                         | Class B (130 °C)              |
| Duty:                                   |                         | Continuous                    |
| CONTACTS                                |                         |                               |
| Contact Material:                       |                         | Silver alloy gold flashed     |
| Contact Rating AC Amperes (AC1):        | A                       | 20, 25, 30<br>see load tables |
| Pilot Duty:                             |                         | A600, B600                    |
| VA Rating Make:                         | VA                      | 600                           |
| VA Rating Break:                        | VA                      | 60                            |
| Minimum Recommended Load:               | ma                      | 100 @ 5 VDC<br>or 0.5 W       |
| DIELECTRIC STRENGTH                     |                         |                               |
| Coil to Contacts:                       | V rms                   | 1600                          |
| Across Open Contacts:                   | V rms                   | 1000                          |
| Pole to Pole:                           | V rms                   | 1600                          |
| Contacts to Frame:                      | V rms                   | Not applicable                |
| Insulation Resistance:                  | megohms<br>minimum @VDC | 1000 @ 500                    |



| TEMPERATURE                    |            |                                             |
|--------------------------------|------------|---------------------------------------------|
|                                | UNITS      |                                             |
| Operating, AC Lower:           | °C         | -30                                         |
| Operating, AC Upper:           | °C         | +65                                         |
| Operating, DC Lower:           | °C         | -30                                         |
| Operating, DC Upper:           | °C         | +50                                         |
| Storage, Lower:                | °C         | -30                                         |
| Storage, Upper:                | °C         | +100                                        |
| LIFE EXPECTANCY                |            |                                             |
| Electrical @ Rated Load (AC1): | operations | 100,000                                     |
| Mechanical @ no Load :         | operations | 5,000,000                                   |
| MISCELLANEOUS                  |            |                                             |
| Operating Position:            |            | Any                                         |
| Insulation Material:           | 94V-0      | Molded plastic                              |
| Enclosure Material:            | 94V-0      | Polycarbonate                               |
| Cover Protection Category:     | IP         | 40                                          |
| Terminals:                     | Inch (mm)  | 0.250, 0.09 x 0.032<br>(6.35, 2.29 x 0.81 ) |
| Weight:                        | grams      | 88                                          |

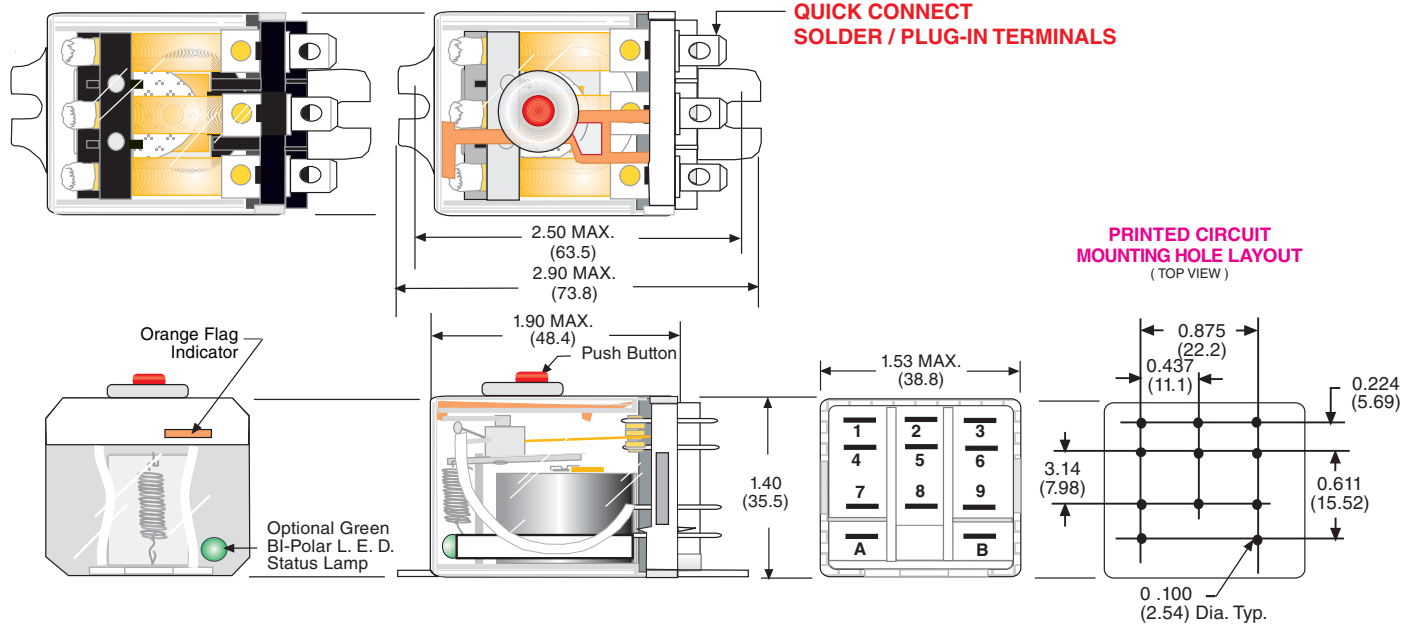
# 389 & 389F FLANGE MOUNT POWER RELAYS



## 20, 25 & 30 AMPS

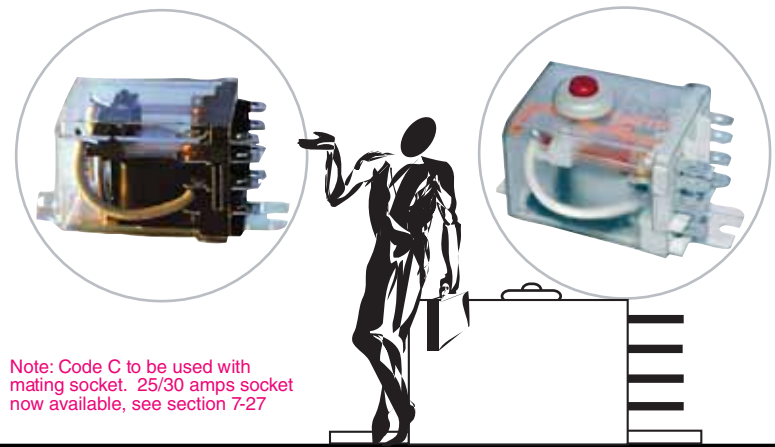
### OUTLINE DIMENSIONS

DIMENSIONS SHOWN IN INCHES & (MILLIMETERS).



### CLASS 389 LOAD RATINGS

| CONTACT CONFIGURATION | CURRENT OR HORSE POWER | LOAD VOLTAGE | LOAD VOLTAGE FREQUENCY | TYPE OF LOAD |
|-----------------------|------------------------|--------------|------------------------|--------------|
| SPDT                  | 13A                    | 28           | DC                     | RESISTIVE    |
|                       | 20A                    | 15           | DC                     | RESISTIVE    |
|                       | 25A                    | 300          | 50/60 Hz               | RESISTIVE    |
|                       | 5A                     | 600          | 50/60 Hz               | RESISTIVE    |
|                       | 20A                    | 277          | 50/60 Hz               | BALLAST      |
|                       | 1HP                    | 120          | 50/60 Hz               | MOTOR        |
|                       | 1-1/2HP                | 208/240      | 50/60 Hz               | MOTOR        |
|                       | 1HP                    | 480/600      | 50/60 Hz               | MOTOR        |
|                       | 660VA                  | 120          | 50/60 Hz               | PILOT DUTY   |
|                       | 960VA                  | 240          | 50/60 Hz               | PILOT DUTY   |
|                       | B600                   |              | 50/60Hz                | PILOT DUTY   |
|                       | 13A                    | 28           | DC                     | RESISTIVE    |
| DPDT                  | 20A                    | 15           | DC                     | RESISTIVE    |
|                       | 25A                    | 300          | 50/60 Hz               | RESISTIVE    |
|                       | 5A                     | 600          | 50/60 Hz               | RESISTIVE    |
|                       | 20A                    | 277          | 50/60 Hz               | BALLAST      |
|                       | 1HP                    | 120          | 50/60 Hz               | MOTOR        |
|                       | 1-1/2HP                | 208/240      | 50/60 Hz               | MOTOR        |
|                       | 1HP                    | 480/600      | 50/60 Hz               | MOTOR        |
|                       | 660VA                  | 120          | 50/60 Hz               | PILOT DUTY   |
|                       | 960VA                  | 240          | 50/60Hz                | PILOT DUTY   |
|                       | B600                   |              | 50/60Hz                | PILOT DUTY   |
|                       | 13A                    | 28           | DC                     | RESISTIVE    |
| 3PDT                  | 15A                    | 250          | 50/60 Hz               | RESISTIVE    |
|                       | 10A                    | 300          | 50/60 Hz               | RESISTIVE    |
|                       | 20A                    | 150          | 50/60 Hz               | BALLAST      |
|                       | 6-2/3A                 | 277          | 50/60 Hz               | BALLAST      |
|                       | 1/2HP                  | 120          | 50/60Hz                | MOTOR        |
|                       | 1/2HP                  | 208/240      | 50/60 Hz               | MOTOR        |
|                       | 1HP                    | 240          | 50/60 Hz               | MOTOR        |
|                       | 3/4HP                  | 120          | 50/60Hz                | MOTOR        |
|                       | 470VA                  | 120/240      | 50/60Hz                | PILOT DUTY   |
|                       | B300                   |              | 50/60Hz                | PILOT DUTY   |



### CLASS 389D LOAD RATINGS

| CONTACT CONFIGURATION | CURRENT OR HORSE POWER | LOAD VOLTAGE | LOAD VOLTAGE FREQUENCY | TYPE OF LOAD |
|-----------------------|------------------------|--------------|------------------------|--------------|
| SPST (NO-DM)          | 30A                    | 28           | DC                     | RESISTIVE    |
|                       | 30A                    | 300          | 50/60 Hz               | RESISTIVE    |
|                       | 10A                    | 600          | 50/60 Hz               | RESISTIVE    |
|                       | 1HP                    | 120          | 50/60 Hz               | MOTOR        |
|                       | 1-1/2HP                | 200 thru 600 | 50/60 Hz               | MOTOR        |
|                       | 765VA                  | 120          | 50/60 Hz               | PILOT DUTY   |
|                       | 960VA                  | 240,480,600  | 50/60 Hz               | PILOT DUTY   |
|                       | A600                   |              | 50/60 Hz               | PILOT DUTY   |
| SPDT (DB and DM)      | 25 A                   | 277          | 50/60 Hz               | BALLAST      |

†† UL APPLIANCE RATED. ALL OTHER RATINGS

NOT SO MARKED ARE INDUSTRIAL RATED

† CSA RATING ONLY, NOT UL



# 389 & 389F FLANGE MOUNT POWER RELAYS



## 20, 25 & 30 AMPS

WIRING DIAGRAM  
(VIEWED FROM PIN END)

### ORDERING CODE

**389F** **XCX** **C1** **M** **-120A**

#### CLASS:

FLAG INDICATOR  
STANDARD FEATURE

#### CONTACT CONFIGURATION:

DPDT: **XBX**, 3PDT: **XCX**

#### OPTIONAL:

MAGNETIC BLOWOUT:  
CODE 69 (XBX ONLY)

#### CONSTRUCTION STYLE:

\* ENCLOSED, PLAIN COVER: CODE C  
ENCLOSED, FLANGE COVER: CODE C1  
ENCLOSED TOP FLANGE MOUNT: CODE C3  
ENCLOSED DIN MOUNT: CODE C4

#### TERMINAL STYLE:

0.250 QUICK CONNECT  
SOLDER TERMINALS: NO CODE  
PRINTED CIRCUIT TERMINALS: CODE T

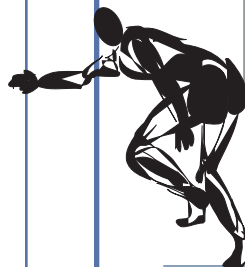
#### OPTIONS:

BI - POLAR L.E.D. STATUS LAMP: CODE L  
PUSH BUTTON: CODE M

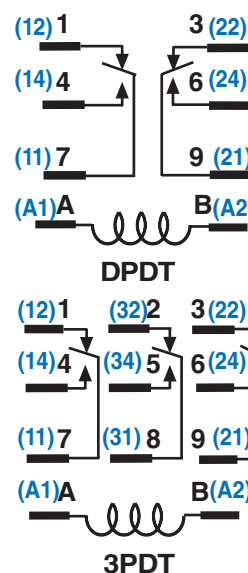
#### COIL VOLTAGE:

6, 12, 24, 120, 240 ADD "A" FOR AC COILS  
6, 12, 24, 48, 110 ADD "D" FOR DC COILS

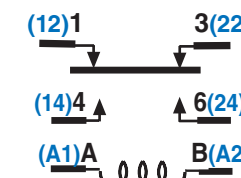
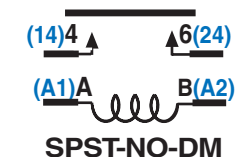
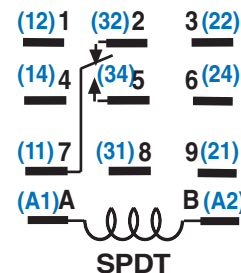
\* Note: Code C to be used with mating socket. 25/30 amps socket now available, see section 7-27



389



ALTERNATE NEMA  
OR IEC ( ) NUMBERS  
VIEWED FROM  
PIN SIDE



SPDT-NC-NO-DB-DM



389F

| STANDARD<br>PART<br>NUMBERS                       | CONTACT<br>CONFIGU-<br>RATION | COIL MEASURED @ 25 °C       |                                 |
|---------------------------------------------------|-------------------------------|-----------------------------|---------------------------------|
|                                                   |                               | NOMINAL<br>INPUT<br>VOLTAGE | NOMINAL<br>RESISTANCE<br>(OHMS) |
| AC OPERATED FLANGE MOUNT WITH PUSH BUTTON, 25 AMP |                               |                             |                                 |
| 389FXBXC1M-240A                                   | DPDT                          | 220/240 VAC, 50/60Hz        | 7200 Ω                          |
| 389FXBXC1M-120A                                   | DPDT                          | 110/120 VAC, 50/60Hz        | 1700 Ω                          |
| AC OPERATED FLANGE MOUNT WITH PUSH BUTTON, 20 AMP |                               |                             |                                 |
| 389FXCXC1M-240A                                   | 3PDT                          | 220/240 VAC, 50/60Hz        | 4600 Ω                          |
| 389FXCXC1M-120A                                   | 3PDT                          | 110/120 VAC, 50/60Hz        | 1200 Ω                          |
| DC OPERATED FLANGE MOUNT WITH PUSH BUTTON, 25 AMP |                               |                             |                                 |
| 389FXBXC1M-12D                                    | DPDT                          | 12 VDC                      | 100 Ω                           |
| 389FXBXC1M-24D                                    | DPDT                          | 24 VDC                      | 400 Ω                           |
| DC OPERATED FLANGE MOUNT WITH PUSH BUTTON, 20 AMP |                               |                             |                                 |
| 389FXCXC1M-12D                                    | 3PDT                          | 12 VDC                      | 100 Ω                           |
| 389FXCXC1M-24D                                    | 3PDT                          | 24 VDC                      | 400 Ω                           |

RETROFITS SCHRACK RM.  
SEE END OF SECTION 1 FOR CROSS REFERENCE

| STANDARD<br>PART<br>NUMBERS      | CONTACT<br>CONFIGU-<br>RATION | COIL MEASURED @ 25 °C       |                                 |
|----------------------------------|-------------------------------|-----------------------------|---------------------------------|
|                                  |                               | NOMINAL<br>INPUT<br>VOLTAGE | NOMINAL<br>RESISTANCE<br>(OHMS) |
| AC OPERATED FLANGE MOUNT, 30 AMP |                               |                             |                                 |
| W389ADCX-4                       | SPST-NO (DM)                  | 110/120 VAC,50/60Hz         | 1100 Ω                          |
| W389ADCX-5                       | SPST-NO (DM)                  | 220/240 VAC,50/60Hz         | 4300 Ω                          |
| W389ADZCX-3                      | SPDT-NO-NC<br>(DB-DM)         | 24 VAC,50/60Hz              | 44 Ω                            |
| W389ADZCX-4                      | SPDT-NO-NC<br>(DB-DM)         | 110/120 VAC,50/60Hz         | 1100 Ω                          |
| DC OPERATED FLANGE MOUNT, 30 AMP |                               |                             |                                 |
| W389DCX-2                        | SPST-NO (DM)                  | 12 VDC                      | 100 Ω                           |
| W389DCX-3                        | SPST-NO (DM)                  | 24 VDC                      | 400 Ω                           |
| W389DZCX-2                       | SPST-NO-NC<br>(DB-DM)         | 12 VDC                      | 100 Ω                           |
| W389DZCX-3                       | SPST-NO-NC<br>(DB-DM)         | 24VDC                       | 400 Ω                           |
| AC OPERATED FLANGE MOUNT, 25 AMP |                               |                             |                                 |
| W389ACX-4                        | SPDT                          | 110/120 VAC,50/60Hz         | 1700 Ω                          |
| W389ACX-8                        | DPDT                          | 24 VAC,50/60Hz              | 72 Ω                            |
| W389ACX-9                        | DPDT                          | 110/120 VAC,50/60Hz         | 1700 Ω                          |
| W389ACX-10                       | DPDT                          | 220/240 VAC,50/60Hz         | 7200 Ω                          |
| AC OPERATED FLANGE MOUNT, 20 AMP |                               |                             |                                 |
| W389ACX-14                       | 3PDT                          | 110/120 VAC,50/60Hz         | 1200 Ω                          |
| W389ACX-15                       | 3PDT                          | 220/240 VAC,50/60Hz         | 4600 Ω                          |
| DC OPERATED FLANGE MOUNT, 25 AMP |                               |                             |                                 |
| W389CX-2                         | SPDT                          | 12 VDC                      | 100 Ω                           |
| W389CX-3                         | SPDT                          | 24VDC                       | 400 Ω                           |
| W389CX-7                         | DPDT                          | 12 VDC                      | 100 Ω                           |
| W389CX-8                         | DPDT                          | 24VDC                       | 400 Ω                           |
| DC OPERATED FLANGE MOUNT, 20 AMP |                               |                             |                                 |
| W389CX-12                        | 3PDT                          | 12 VDC                      | 100 Ω                           |
| W389CX-13                        | 3PDT                          | 24VDC                       | 400 Ω                           |

RETROFITS POTTER & BRUMFIELD KUMP & KUHP.  
SEE END OF SECTION 1 FOR CROSS REFERENCE