



SECTION 1

SOCKET COMPATIBLE AND
FLANGE MOUNTED RELAYS
1 TO 30 AMPERES



SOCKET COMPATIBLE & FLANGE MOUNT RELAYS

RELAY SERIES



FEATURES

- 0.187 QUICK CONNECT/ SOLDER PLUG-IN OR PRINTED CIRCUIT TERMINALS
- FLAG INDICATOR
- L.E.D. STATUS LAMP
- PUSH BUTTON
- FINGER GRIP COVER
- I.D. TAG/WRITE LABEL
- OPTIONAL FLANGE AND DIN ADAPTERS
- UL LISTED WHEN USED WITH 70-781D-1 SOCKET

- 0.100 SOLDER PLUG-IN TERMINALS
- HERMETICALLY SEALED VACUUM BAKED AND DRY NITROGEN FILLED
- GRAY LACQUER FINISH OVER STEEL ENCLOSURE
- MEETS UL STANDARD FOR CLASS 1 DIVISION 2 HAZARDOUS LOCATIONS
- UL LISTED WHEN USED WITH 70-461-1 SOCKET

- 0.100 QUICK CONNECT/ SOLDER PLUG-IN OR PRINTED CIRCUIT TERMINALS
- FLAG INDICATOR
- L.E.D. STATUS LAMP
- PUSH BUTTON WITH LOCK DOWN DOOR
- FINGER GRIP COVER
- I.D. TAG/WRITE LABEL OPTIONAL
- FLANGE AND DIN ADAPTERS AVAILABLE
- UL LISTED WHEN USED WITH 70-461-1 SOCKET

CONTACT DATA

CONTACT CONFIGURATION:

SPDT

4PDT

DPDT, 4PDT

CONTACT MATERIAL:

SILVER ALLOY,
GOLD FLASHED

SILVER, GOLD OVERLAY (1 AMP)
SILVER, GOLD FLASHED (3 AMPS)
SILVER ALLOY (5 AMPS)

SILVER, GOLD OVERLAY (3 AMPS)
SILVER, GOLD FLASHED (3 AMPS)
SILVER ALLOY, GOLD FLASHED (10 AMPS)

MAX. CONTACT RATING:

15 AMPS, 110/120 VAC 50/60Hz
15 AMPS, 28 VDC
12 AMPS, 220/277 VAC 50/60Hz

1 AMP, BIFURCATED
120/240 VAC/28 VDC
3 AMPS, 120/240 VAC/28 VDC
5 AMPS, 120/240 VAC/28 VDC

3 AMPS, BIFURCATED,
120/240VAC/28 VDC
3 AMPS, 120/240 VAC/28 VDC
10 AMPS, 120/240 VAC/28 VDC
8 AMPS, 220/277 VAC 50/60Hz

COIL DATA

STANDARD VOLTAGE

AC:
DC:

6,12, 24,120, 220/230, 240 VAC
6,12, 24, 48,110 VDC

6,12, 24,120, 240 VAC
6,12, 24, 48,110 VDC

6,12, 24,120, 220/230, 240 VAC
6,12, 24, 48,110 VDC

NOMINAL COIL POWER
VA: (VAC)
WATTS: (VDC)

0.9 VA
0.7 WATTS

1.2 VA
0.9 WATTS

1.2 VA
0.9 WATTS

INSULATION SYSTEM PER
UL STANDARD 1446

CLASS "B" (130°C)

CLASS "B" (130°C)

CLASS "B" (130°C)

GENERAL DATA

AMBIENT TEMPERATURE
OPERATING:

-40°C TO +70°C

-45°C TO +70°C

-40°C TO +70°C

STORAGE:

-40°C TO +100°C

-60°C TO +130°C

-40°C TO +105°C

DIELECTRIC STRENGTH:
(COIL TO FRAME)

1500 V rms

1240 V rms

1500 V rms

LIFE EXPECTANCY

ELECTRICAL:
MECHANICAL:

150,000 OPERATIONS
10,000,000 OPERATIONS

100,000 OPERATIONS
10,000,000 OPERATIONS

200,000 OPERATIONS
10,000,000 OPERATIONS

MATING SOCKETS

SEE SECTION 8

70-781D-1, 70-781F-1, 70-781T-1

70-461-1, 70-378-1, 70-379-1

70-461-1, 70-378-1, 70-379-1

PAGE 18, 19

PAGE 14, 15

PAGE 14, 15

AGENCY APPROVALS



PAGE NUMBER

1...1

PAGE 9 - 10

PAGE 11 - 12

PAGE 13 - 15

SOCKET COMPATIBLE & FLANGE MOUNT RELAYS



SOCKET COMPATIBLE & FLANGE MOUNT RELAYS

RELAY SERIES



FEATURES

- 0.100 OR 0.187 QUICK CONNECT/ SOLDER PLUG-IN OR PRINTED CIRCUIT TERMINALS
- OPPOSITE POLARITY ARC BARRIER BETWEEN ADJACENT POLES
- UL LISTED WHEN USED WITH 70-461-1 OR 70-459-1 SOCKETS

- 8 & 11 PIN OCTAL BASE
- FLAG INDICATOR
- L.E.D. STATUS LAMP
- PUSH BUTTON WITH LOCK DOWN DOOR
- FINGER GRIP COVER
- I. D. TAG/WRITE LABEL
- UL LISTED WHEN USED WITH 70-464-1, 70-465-1, 70-750D8-1 OR 70-750D11-1 SOCKETS

- 8 & 11 PIN OCTAL BASE
- BLOWOUT MAGNET FOR DC SWITCHING TO 150 VDC
- UL LISTED WHEN USED WITH 70-464-1 OR 70-465-1 SOCKETS

CONTACT DATA

CONTACT CONFIGURATION:

SPDT, DPDT, 4PDT

DPDT, 3PDT

SPDT, DPDT, 3PDT

CONTACT MATERIAL:

SILVER, GOLD OVERLAY (3 AMP)
SILVER, GOLD FLASHED (3 AMP)
SILVER ALLOY, GOLD FLASHED (5 & 15 AMP)

SILVER ALLOY,
GOLD FLASHED

SILVER ALLOY,
GOLD FLASHED

MAX. CONTACT RATING:

4PDT: 3 AMPS, BIFURCATED
120/240 VAC/30 VDC,
3 AMPS, 120 VAC/30 VDC
5 AMPS, 120/240 VAC/30 VDC
DPDT: 15 AMPS,
SPDT: 15 AMPS, 120/240 VAC/30 VDC

12 AMPS, 120/240 VAC
12 AMPS, 28 VDC

SPDT: 12 AMPS, 120/240VAC, 10 AMPS, 28 VDC
DPDT: 12 AMPS, 120 VAC, 10 AMPS, 240 VAC,
10 AMP, 28 VDC
3PDT: 10 AMPS, 120/240 VAC, 10 AMPS, 28 VDC
DPDT: 3 AMPS, 150VDC
WITH BLOWOUT MAGNET

COIL DATA

STANDARD VOLTAGE

AC:

6, 12, 24, 120, 240 VAC

DC:

6, 12, 24, 48, 110 VDC

6, 12, 24, 120, 220/230, 240 VAC

6, 12, 24, 48, 110 VDC

24, 120, 240 VAC

12, 24 VDC

NOMINAL COIL POWER

VA: (VAC)

WATTS: (VDC)

1.2 VA

0.9 TO 1.1 WATTS

2 TO 3.55 VA

1.4 WATTS

2 TO 2.75 VA

1.2 WATTS

INSULATION SYSTEM PER
UL STANDARD 1446

CLASS "B" (130°C)

CLASS "B" (130°C)

GENERAL DATA

AMBIENT TEMPERATURE

OPERATING:

-40°C TO +70°C

-30°C TO +50°C (AC)

-30°C TO +65°C (DC)

-30°C TO +100°C

-30°C TO +55°C (AC)

-30°C TO +70°C (DC)

-45°C TO +105°C

STORAGE:

-40°C TO +100°C

DIELECTRIC STRENGTH:

(COIL TO FRAME)

1500 V rms

2500 V rms

1500 V rms

LIFE EXPECTANCY

ELECTRICAL:

MECHANICAL:

200,000 OPERATIONS
10,000,000 OPERATIONS

200,000 OPERATIONS
5,000,000 OPERATIONS

100,000 OPERATIONS
10,000,000 OPERATIONS

MATING SOCKETS

SEE SECTION 8

**70-459-1, 70-461-1, 70-401-1 70-402-1,
70-378-1, 70-379-1, 70-782D-1**

PAGE 13, 14, 15

**70-464-1, 70-465-1, 70-750D8-1,
70-750D11-1, 70-169-1, 70-170-1**

PAGE 7, 8, 9, 10, 11, 12

**70-464-1, 70-465-1, 70-750D8-1,
70-750D11-1, 70-169-1, 70-170-1**

PAGE 7, 8, 9, 10, 11, 12

AGENCY APPROVALS



PAGE NUMBER

1...3

PAGE 21 - 24

PAGE 25 - 26

PAGE 27 - 28

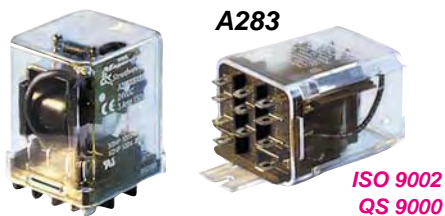


788

ISO 9002
QS 9000

L W H
2.28 x 1.375 x 1.410

- 0.187 QUICK CONNECT/ SOLDER PLUG-IN OR PRINTED CIRCUIT TERMINALS
- FLAG INDICATOR
- PUSH BUTTON WITH LOCK DOWN DOOR
- FINGER GRIP COVER
- I.D. TAG/WRITE LABEL
- UL LISTED WHEN USED WITH 70-463-1 SOCKET



A283

ISO 9002
QS 9000

L W H
1.90 x 1.53 x 1.40

- BASE PLUG-IN OR FLANGE MOUNT
- 0.187 QUICK CONNECT/ SOLDER PLUG-IN OR PRINTED CIRCUIT TERMINALS
- UL LISTED WHEN USED WITH 70-463-1 SOCKET



A283 FOR DC SWITCHING







ISO 9002
QS 9000

L W H
1.90 x 1.53 x 1.40

- 0.187 QUICK CONNECT/ SOLDER PLUG-IN
- A283 BUILT FOR DC SWITCHING TO 150 VDC
- UL LISTED WHEN USED WITH 70-463-1 SOCKET

| | | |
|---|--|---|
| DPDT, 3PDT | SPDT, DPDT, 3PDT | DPDT, SPST-NO-DM |
| SILVER ALLOY, GOLD FLASHED | SILVER ALLOY, GOLD FLASHED | SILVER ALLOY, GOLD FLASHED |
| 12 AMPS, 110/120 VAC 50/60Hz 12 AMPS, 28 VDC | 15 AMPS, 120/240 VAC 50/60Hz 10 AMPS, 28 VDC | 15 AMPS, 120/240 VAC 50/60Hz 10 AMPS, 28 VDC DPDT: 3 AMPS, 150 VDC SPST-NO-DM: 10 AMPS, 150 VDC |
| 6,12,24,120, 220/230, 240 VAC 6,12, 24, 48,110 VDC | 24,120, 240 VAC 12, 24,110 VDC | 120 VAC 12, 24,110 VDC |
| 2 TO 3.55 VA 1.4 WATTS | 2.275 VA 1.2 WATTS | 2.275 VA 1.2 WATTS |
| CLASS "B" (130°C) | CLASS "B" (130°C) | CLASS "B" (130°C) |
| -30°C TO +50°C (AC) -30°C TO +65°C (DC) -30°C TO +100°C | -30°C TO +50°C (AC) -30°C TO +65°C (DC) -30°C TO +100°C | -30°C TO +50°C (AC) -30°C TO +65°C (DC) -30°C TO +100°C |
| 2500 V rms | 2000 V rms | 2000 V rms |
| 200,000 OPERATIONS 5,000,000 OPERATIONS | 100,000 OPERATIONS 5,000,000 OPERATIONS | 100,000 OPERATIONS 5,000,000 OPERATIONS |
| 70-463-1, 70-124-1,70-124-2, 70-178-1, 70-178-2 <small>PAGE 16, 17</small> | 70-463-1, 70-124-1, 70-124-2, 70-178-1, 70-178-2 <small>PAGE 16, 17</small> | 70-463-1, 70-124-1, 70-124-2 , 70-178-1, 70-178-2 <small>PAGE 16, 17</small> |
|     |     |     |

SOCKET COMPATIBLE & FLANGE MOUNT RELAYS

| RELAY SERIES |  388J  |  388V  |  389F  |
|--|--|---|---|
| FEATURES | <p>ISO 9002 QS 9000</p> <p>L W H 1.90 x 1.53 x 1.40</p> <ul style="list-style-type: none"> 0.187 QUICK CONNECT / SOLDER PLUG-IN TERMINALS FLAG INDICATOR PUSH BUTTON FINGER GRIP COVER UL LISTED WHEN USED WITH 70-463-1 SOCKET | <p>ISO 9002 QS 9000</p> <p>L W H 1.90 x 1.53 x 1.40</p> <ul style="list-style-type: none"> 0.187 QUICK CONNECT/ SOLDER PLUG-IN TERMINALS PUSH BUTTON HIGH VOLTAGE SWITCHING MEETS 8 mm EUROPEAN SPACING REQUIREMENTS 3 MILLIMETER CONTACT GAP UL LISTED WHEN USED WITH 70-463-1 SOCKET | <p>ISO 9002 QS 9000</p> <p>L W H 1.90 x 1.53 x 1.40</p> <ul style="list-style-type: none"> FLANGE MOUNT, 0.250 QUICK CONNECT/ SOLDER TERMINALS SWITCHING UP TO 25 AMPS FLAG INDICATOR PUSH BUTTON |
| CONTACT DATA | CONTACT CONFIGURATION: | CONTACT CONFIGURATION: | CONTACT CONFIGURATION: |
| CONTACT MATERIAL: | CONTACT MATERIAL: | CONTACT MATERIAL: | CONTACT MATERIAL: |
| MAX. CONTACT RATING: | MAX. CONTACT RATING: | MAX. CONTACT RATING: | MAX. CONTACT RATING: |
| COIL DATA | COIL DATA | COIL DATA | COIL DATA |
| NOMINAL COIL POWER | NOMINAL COIL POWER | NOMINAL COIL POWER | NOMINAL COIL POWER |
| INSULATION SYSTEM PER UL STANDARD 1446 | INSULATION SYSTEM PER UL STANDARD 1446 | INSULATION SYSTEM PER UL STANDARD 1446 | INSULATION SYSTEM PER UL STANDARD 1446 |
| GENERAL DATA | GENERAL DATA | GENERAL DATA | GENERAL DATA |
| DIELECTRIC STRENGTH: (COIL TO FRAME) | DIELECTRIC STRENGTH: (COIL TO FRAME) | DIELECTRIC STRENGTH: (COIL TO FRAME) | DIELECTRIC STRENGTH: (COIL TO FRAME) |
| MATING SOCKETS | MATING SOCKETS | MATING SOCKETS | MATING SOCKETS |
| AGENCY APPROVALS | AGENCY APPROVALS | AGENCY APPROVALS | AGENCY APPROVALS |
| PAGE NUMBER | PAGE NUMBER | PAGE NUMBER | PAGE NUMBER |

SOCKET COMPATIBLE & FLANGE MOUNT RELAYS



389

ISO 9002
QS 9000









300

ISO 9002
QS 9000



9A

| <p>L W H 1.90 x 1.53 x 1.40</p> | <p>L W H 1.90 x 1.53 x 1.40</p> | <p>L W H 1.980 x 1.08 x 1.10</p> |
|---|--|--|
| <ul style="list-style-type: none"> ● FLANGE MOUNT, 0.250 QUICK CONNECT/ SOLDER TERMINALS ● SWITCHING UP TO 30 AMPS | <ul style="list-style-type: none"> ● FLANGE MOUNT, 0.250 QUICK CONNECT / SOLDER OR PRINTED CIRCUIT TERMINALS ● 2 MILLIMETER CONTACT GAPS ● ARC BARRIER BETWEEN CONTACTS ● OPTIONAL BLOWOUT MAGNET FOR HIGH VOLTAGE SWITCHING ● OPTIONAL DIN RAIL CASE | <ul style="list-style-type: none"> ● EPOXY SEALED IMMERSION CLEANABLE WITH TAPE SEAL ● PRINTED CIRCUIT BOARD OR FLANGE MOUNT STYLES ● CLASS "F" INSULATION SYSTEM ● 0.250 SPADE TERMINALS ACCEPT INSULATED 0.250 QUICK CONNECT TERMINALS. & 0.187 COIL QUICK CONNECT TERMINALS. ● OPTIONAL DIN RAIL ADAPTER AVAILABLE |
| <p>SPDT, DPDT, 3PDT, SPST-NO-DM SPST-NO-NC-DM-DB</p> | <p>DPDT-SPDT-NO-NC-DM-DB</p> | <p>SPST-NO & SPDT</p> |
| <p>SILVER ALLOY, GOLD FLASHED</p> | <p>SILVER ALLOY, GOLD FLASHED</p> | <p>SILVER ALLOY</p> |
| <p>SPST-DM, SPST-DB-DM: 30 AMPS, 300 VAC 50/60Hz, 30 AMPS, 28 VDC SPDT, DPDT: 25 AMPS, 300 VAC 50/60Hz, 13 AMPS, 28 VDC 3PDT: 20 AMPS, 300 VAC, 50/60Hz, 13 AMPS, 28 VDC</p> | <p>30 AMPS, 120/240/277 VAC 50/60Hz 30 AMPS, 28 VDC, 15 AMPS, 600 VAC DPDT: 5 AMPS, 150 VDC SPDT-DB-DM: 10 AMPS, 150 VDC</p> | <p>SPST-NO: 30 AMPS, 240 VAC, 20 AMPS, 28 VDC SPDT: 30 AMPS, 240 VAC 20 AMPS, 28 VDC(NO), 15 AMPS, 240 VAC, 10 AMPS, 28 VDC (NC),</p> |
| <p>24,120, 240 VAC 12, 24 VDC</p> | <p>6, 12, 24, 120, 240 VAC 6,12, 24, 48, 110/125, 220/225 VDC</p> | <p>5, 12, 24, 48 & 110 VDC</p> |
| <p>2 TO 3.5 VA 1.44 WATTS</p> | <p>3.0 VA 2.0 WATTS</p> | <p>0.95 VA 2.8 WATTS MAX.</p> |
| <p>CLASS "B" (130°C)</p> | <p>CLASS "B" (130°C) CLASS "F" (155°C) AVAILABLE</p> | |
| <p>-30°C TO +50°C (AC) -30°C TO +65°C (DC) -30°C TO +100°C</p> | <p>-30°C TO +50°C (AC) -30°C TO +60°C (DC) -40°C TO +105°C</p> | <p>- 55°C TO +85°C - 55°C TO +130°C</p> |
| <p>2200 V rms</p> | <p>4000 V rms</p> | <p>2500 V rms</p> |
| <p>100,000 OPERATIONS 5,000,000 OPERATIONS</p> | <p>100,000 OPERATIONS 10,000,000 OPERATIONS</p> | <p>100,000 OPERATIONS 10,000,000 OPERATIONS</p> |
| <p>—</p> | <p>—</p> | <p>OPTIONAL DIN ADAPTER 16-9A DIN-1</p> |
| <p>   UL Recognized File No. E43641 168986</p> | <p>  UL Recognized File No. E13224 50758</p> | <p> UL Recognized File No. E43641</p> |

RELAY SERIES



FEATURES

- EPOXY SEALED IMMERSION CLEANABLE WITH TAPE SEAL
- PRINTED CIRCUIT BOARD OR FLANGE MOUNT STYLES
- CLASS "F" INSULATION SYSTEM.
- 0.250 SPADE TERMINALS ACCEPT 0.250 QUICK CONNECT TERMINALS
- OPTIONAL DIN RAIL ADAPTER AVAILABLE

- 0.100 SOLDER PLUG-IN OR PRINTED CIRCUIT TERMINALS
- UP TO 6 POLES SWITCHING PLUG-IN STYLES HAVE 3-48 UNC GROUND STUDS

- 12 OR 14 PIN PLUG-IN WITH LOCKING CLIP
- ENCAPSULATED COIL
- WIDE RANGE OF CONTACT CONFIGURATIONS
- WIDE CHOICE OF OPTIONS
- UL LISTED WHEN USED WITH 27390 OR 33377 SOCKET

CONTACT DATA

CONTACT CONFIGURATION:

DPST-NO. & DPDT

DPDT THRU 8PDT

VARIOUS

CONTACT MATERIAL:

SILVER ALLOY

SILVER GOLD OVERLAY

SILVER ALLOY,
GOLD DIFFUSED

MAX. CONTACT RATING:

DPDT-NO: 30 AMPS, 277 VAC.
20 AMPS, 28 VDC
DPST-NO: 30 AMPS, 277 VAC.
20 AMPS, 28 VDC
DPDT-NC: 3 AMPS, 277 VAC. 28 VDC

5 AMPS, 120 VAC 50/60Hz/ 28 VDC
BIFURCATED
3 AMPS, 1240 VAC 50/60Hz / 28 VDC

10 AMPS, 120/240 VAC 50/60Hz
10 AMPS, 28 VDC

COIL DATA

STANDARD VOLTAGE
AC:
DC:

24, 120 & 240 VAC
12, 24, 48 & 110 VDC

120 VAC
5, 12, 24, 48, 115 VDC

6,12, 24, 120, 220/230, 240 VAC
6, 12, 24, 48, 110 VDC

NOMINAL COIL POWER
VA: (VAC)
WATTS: (VDC)

4 VA
1.7 WATTS

1.5 TO 2.5 VA
1 TO 2.0 WATTS

1.2 VA
0.9 WATTS

INSULATION SYSTEM PER
UL STANDARD 1446

CLASS "B" (130°C)

GENERAL DATA

AMBIENT TEMPERATURE
OPERATING:

- 40°C TO +65°C (AC)
- 40°C TO +85°C (DC)

-55°C TO +70°C

-40°C TO +70°C

STORAGE:

- 55°C TO +155 C

-55°C TO +105°C

-40°C TO +105°C

DIELECTRIC STRENGTH:
(COIL TO FRAME)

4000 V rms

1500 V rms

1500 V rms

LIFE EXPECTANCY

ELECTRICAL:
MECHANICAL:

100,000 OPERATIONS
5,000,000 OPERATIONS

100,000 OPERATIONS
10,000,000 OPERATIONS

100,000 OPERATIONS
10,000,000 OPERATIONS

MATING SOCKETS

SEE SECTION 8

**OPTIONAL DIN ADAPTER
16-92 DIN-1**

**70-303-1, 70-305-1, 70-307-1,
70-304-1, 70-306-1, 70-308-1**

PAGE 23, 24

**27390, 33377, 70-219D-12
OR 70-219D-14**

PAGE 25

AGENCY APPROVALS



PAGE NUMBER

PAGE 47 - 48

PAGE 49 - 50

PAGE 51 - 52

750H



21



L W H
1.281 x 0.910 x 1.156

L W H
2.84 X 1.85 X 2.47

- 8 & 11 PIN OCTAL BASE
- HERMETICALLY SEALED VACUUM BAKED AND DRY NITROGEN FILLED
- GRAY LACQUER FINISH OVER STEEL ENCLOSURE
- MEETS UL STANDARD FOR CLASS 1 DIVISION 2 HAZARDOUS LOCATIONS
- UL LISTED WHEN USED WITH 70-464-1 OR 70-465-1 SOCKETS

- PLUG-IN BASE WITH POLARIZING PIN
- SWITCHES TUNGSTEN LOADS UP TO 20 AMPS
- MEETS NEMA STD. TS 2-1992 APPROVED BY D. O. T.

DPDT, 3PDT

DPDT

SILVER ALLOY,
GOLD DIFFUSED

SILVER ALLOY

DPDT: 12 AMPS, 120 VAC 50/60Hz
8 AMPS, 240 VAC 50/60Hz,
10 AMPS, 28 VDC
3PDT: 10 AMPS, 120 VAC 50/60Hz
6 AMPS, 240 VAC 50/60Hz,
10 AMPS, 28 VDC

30 AMPS, 120/240 VAC 50/60Hz
20 AMP, 28 VDC
20 AMPS, 120 VAC 50/60Hz, TUNGSTEN
10 AMPS, 240 VAC 50/60Hz, TUNGSTEN

12, 24, 120 VAC
12, 24, 110 VDC

120 VAC RECTIFIED

2 - 2.75 VA
1.2 WATTS

4.0 VA

CLASS "B" (130°C)

-45°C TO +55°C (AC)
-45°C TO +70°C (DC)
-40°C TO +105°C

-40°C TO +84°C
-40°C TO +105°C

1250 V rms

1500 V rms

100,000 OPERATIONS
5,000,000 OPERATIONS

200,000 OPERATIONS
5,000,000 OPERATIONS

70-464-1, 70-465-1

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PAGE 7, 8



PAGE 53 - 54

PAGE 55

Magnecraft & Struthers-Dunn
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U. S. A.

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EMAIL: info@magnecraft.com

EUROPE

TELEPHONE: 4989 / 75080310

FAX: 4989 / 7559344

WEBSITE: www.magnecraft.com

EMAIL: renatesteinback@magnecraft.de

FEATURES

BENEFITS

| | |
|---------------------------------------|---|
| FLAG INDICATOR: | SHOWS RELAY STATUS IN MANUAL OR POWERED CONDITION. |
| BI - POLAR L.E.D. STATUS LAMP: | SHOWS COIL "ON" OR "OFF" STATUS. IDEAL IN LOW LIGHT CONDITIONS. |
| PUSH BUTTON: | ALLOWS FOR MANUAL OPERATION OF RELAY WITHOUT THE NEED FOR COIL POWER. IDEAL FOR FIELD SERVICE PERSONNEL TO TEST CONTROL CIRCUITS. |
| FINGER-GRIP COVER: | ALLOWS OPERATOR TO REMOVE RELAYS FROM SOCKETS MORE EASILY THAN CONVENTIONAL RELAYS. |
| I.D. TAG/WRITE LABEL: | USED FOR IDENTIFICATION OF RELAYS IN MULTI-RELAY CIRCUITS. |
| COVER ADAPTERS: | DIN RAIL ADAPTER OR TOP/BOTTOM FLANGE ADAPTER, ALLOWS THE 781 RELAY TO BE DIRECT MOUNTED TO A DIN RAIL OR PANEL. |

SPDT, 15 AMPS

UL us **SA** 97899
 UL Recognized File No. E43641

UL LISTED 367G IND. CONT. EQ.
 C US

CE

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

WHEN USED WITH SOCKETS **70-781D-1**

CURRENT LIMITED TO RATING OF RELAY OR SOCKET WHICHEVER IS LESS

MANUFACTURED UNDER ISO 9002 & QS 9000

GENERAL SPECIFICATIONS

COIL

| | |
|------------------------|--|
| Pull-in Voltage: | 75% of nominal voltage or less for DC coils, 80% of nominal voltage or less for AC coils |
| Dropout Voltage: | DC-10%, AC-30% of nominal voltage or more |
| Max. Voltage: | 110% |
| Resistance: | ±15% measured @ 25°C. |
| Coil Power: | 0.7 watts DC, 0.9 VA (60Hz) AC @ 25°C |
| Insulation System: | Class "B" (130°C per UL standard 1446) |
| Max. Coil Dissipation: | 2.3 watts DC, 2.55 VA (60Hz) AC @ 25°C |
| Duty: | Continuous |

CONTACTS

| | |
|-------------------|--|
| Contact Material: | Silver alloy, gold flashed |
| Contact Rating: | 15 amps @ 110/120 VAC 50/60Hz. 12 amps @ 220/277 VAC 50/60Hz. 15 amps @ 28 VDC. 1/2Hp @ 110/120 VAC 50/60Hz. 1Hp @ 220/250 VAC 50/60Hz. B300 pilot duty 50/60Hz. 10 amps @ 120 VAC general purpose 10 amps @ 240 VAC general purpose (general purpose load, 75% to 80% power factor) |

DIELECTRIC STRENGTH

| | |
|------------------------|-----------------------|
| Coil to Frame: | 1500 V rms |
| Across Open Contacts: | 1000 V rms |
| Contacts to Frame: | 1500 V rms |
| Insulation Resistance: | 100 megohms @ 500 VDC |

TEMPERATURE

| | |
|------------|-----------------|
| Operating: | -40°C to +70°C |
| Storage: | -40°C to +100°C |

LIFE EXPECTANCY

| | |
|-------------|---|
| Electrical: | 150,000 operations @ rated resistive load |
| Mechanical: | 10,000,000 operations @ no load |

MISCELLANEOUS

| | |
|----------------------|--------------------------|
| Operating Position: | Any |
| Insulation Material: | Molded plastic |
| Enclosure: | Polycarbonate dust cover |
| Weight: | 29 grams approx. |



STANDARD COVER



STANDARD COVER WITH FLANGE ADAPTER 16-781C1 ON TOP



STANDARD COVER WITH FLANGE ADAPTER 16-781C1 ON BOTTOM



STANDARD COVER WITH DIN ADAPTER 16-781C

TOP OR BOTTOM FLANGE ADAPTER ORDERED AND SHIPPED SEPARATELY

TOP OR BOTTOM FLANGE ADAPTER ORDERED AND SHIPPED SEPARATELY

DIN ADAPTER ORDERED AND SHIPPED SEPARATELY

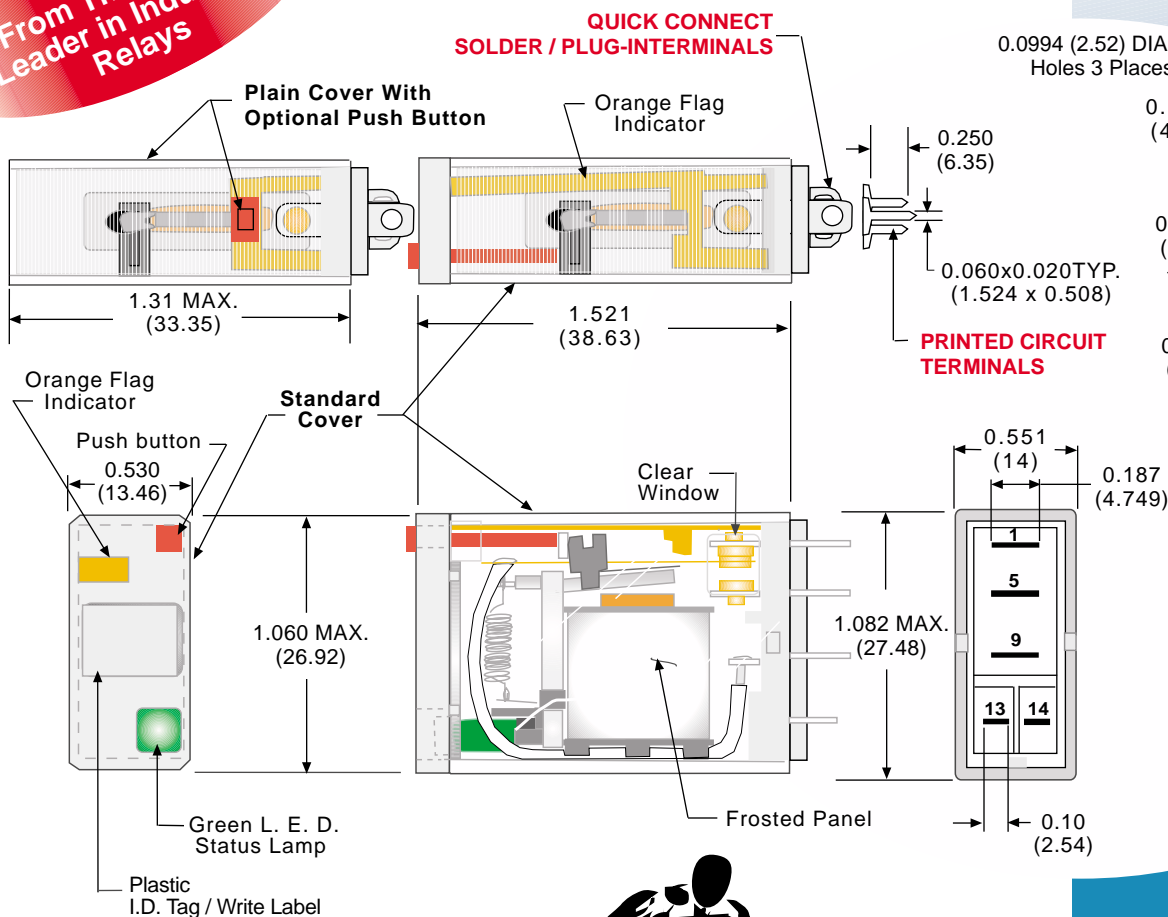
Mating Sockets
70-781D-1: SCREW/DIN
70-781F-1: SOLDER
70-781T-1: PRINTED CIRCUIT
 See section 8, page 18, 19



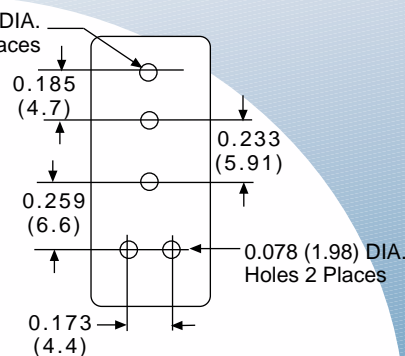
SPDT, 15 AMPS

NEW
From The Market
Leader in Industrial
Relays

OUTLINE DIMENSIONS
DIMENSIONS SHOWN IN INCHES & (MILLIMETERS).

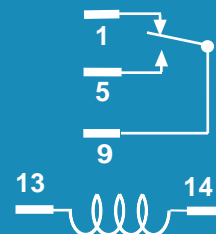


PRINTED CIRCUIT MOUNTING HOLE LAYOUT (BOTTOM VIEW)



BI - POLAR L.E.D. STATUS LAMP ALLOWS FOR REVERSE POLARITY APPLICATIONS

WIRING DIAGRAM (VIEWED FROM PIN END)



ORDERING CODE FOR RELAYS

CLASS: 781

CONTACT CONFIGURATION: XAX
SPDT: XAX

TERMINAL STYLE: ML
QUICK CONNECT SOLDER / PLUG-IN TERMINALS: NO CODE
PRINTED CIRCUIT TERMINALS: CODE T

OPTIONAL PLAIN COVER: -120A
CODE C

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

OPTIONAL PLAIN COVER FEATURES:
PUSH BUTTON : CODE M
BI - POLAR L.E.D. STATUS LAMP: CODE L

COIL VOLTAGE:
6, 12, 24, 120, 220/230, 240 ADD "A" FOR AC COILS
6, 12, 24, 48, 110 ADD "D" FOR DC COILS

| STANDARD PART NUMBERS SPDT | COIL MEASURED @ 25°C | | |
|--|----------------------|-----------------------|---------------------------|
| | PLAIN COVER | NOMINAL INPUT VOLTAGE | NOMINAL RESISTANCE (OHMS) |
| AC OPERATED - SOLDER/PLUG-IN, 15 AMP | | | |
| 781XAXML-24A | 781XAXC-24A | 24 VAC, 50/60Hz | 180 Ω |
| 781XAXML-120A | 781XAXC-120A | 120 VAC, 50/60Hz | 4,430 Ω |
| 781XAXML-240A | | 240 VAC, 50/60HZ | 9,100 Ω |
| DC OPERATED - SOLDER/PLUG-IN, 15 AMP | | | |
| 781XAXML-12D | | 12 VDC | 120 Ω |
| 781XAXML-24D | 781XAXC-24D | 24 VDC | 470 Ω |
| 781XAXML-110D | | 110 VDC | 10,000 Ω |
| AC OPERATED - PRINTED CIRCUIT, 15 AMP | | | |
| 781XAXTML-120A | | 120 VAC, 50/60Hz | 4,430 Ω |
| DC OPERATED - PRINTED CIRCUIT, 15 AMP | | | |
| 781XAXTML-12D | | 12 VDC | 120 Ω |
| 781XAXTML-24D | | 24 VDC | 470 Ω |

RETROFITS IDEC RH1B- & RH1V2-. SEE END OF SECTION 1 FOR CROSS REFERENCE CADMIUM-FREE CONTACTS AVAILABLE, CONTACT FACTORY FOR DETAILS

4PDT, 1, 3 & 5 AMPS

FEATURES

BENEFITS

- VACUUM BAKED & DRY NITROGEN FILLED**
- HERMETICALLY SEALED METAL ENCLOSURE**
- CHOICE OF CONTACT RATINGS 1 AMP, 3 AMPS AND 5 AMPS**
- PLUG-IN STYLE OR SIDE MOUNTING STUD WITH ANTI-ROTATION TAB**

REMOVES CONTAMINANTS AND PROVIDES A CLEAN & DRY ATMOSPHERE FOR CONTACTS.

IDEAL FOR USE IN HAZARDOUS LOCATIONS. UL CERTIFIED FOR CLASS 1 DIVISION 2 GROUP A, B, C & D HAZARDS. WHEN RELAY IS USED WITH 70-461-1 SOCKET, THE HOLD-DOWN CLIP 16-1328 IS REQUIRED.

PROVIDES FOR LOW LEVEL SWITCHING APPLICATIONS UP TO 5 AMPS POWER LOADS.

WHEN USED WITH 70-461-1 SOCKET THE 782H CAN BE DIN RAIL MOUNTED OR PANEL MOUNTED. THE SIDE STUD PROVIDES FOR DIRECT MOUNT & SOLDERED WIRE APPLICATIONS.

cULus
UL Recognized
File No. E209950

SR 168986

UL LISTED 367G
IND. CONT. EQ.

CE
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

WHEN USED WITH SOCKET 70-461-1

CURRENT LIMITED TO RATING OF RELAY OR SOCKET WHICHEVER IS LESS

GENERAL SPECIFICATIONS

COIL

Pull-in Voltage: 75% of nominal voltage or less for DC coils, 80% of nominal voltage or less for AC coils

Dropout Voltage: DC-10%, AC-30% of nominal voltage or more

Max. Voltage: 110%

Resistance: ±15% measured @ 25°C

Coil Power: 0.9 watts DC. 1.2 VA (60Hz) AC @ 25°C

Insulation System: Class "B" (130°C per UL standard. 1446)

Max. Coil Dissipation: 2.0 watts DC, 2.5 VA (60Hz) AC. @ 25°C. 5 minutes maximum @ 25°C

Duty: Continuous

MANUFACTURED UNDER ISO 9001

CONTACTS

Contact Material: See ordering code

Contact Rating: See ratings table

UL GROUPS A, B, C & D CERTIFIED CLASS 1 DIVISION 2 FOR HAZARDOUS LOCATIONS

TIMING

Operate Time: 13 mS max @ nominal voltage

Release Time: 6 mS max @ nominal voltage

DIELECTRIC STRENGTH

Contacts to Coil: 1240 V rms

Across Open Contacts: 500 V rms

Contacts to Frame: 1240 V rms

Insulation Resistance: 100 megohms @ 500 VDC

TEMPERATURE

Operating: -45°C to +70°C

Storage: -60°C to +130°C

VIBRATION RESISTANCE

Functional: 10 to 55Hz; 6 g's (double amplitude)

SHOCK RESISTANCE

Functional: 10 g's (11mS)

LIFE EXPECTANCY

Electrical: 100,000 operations @ rated resistive load

Mechanical: 10,000,000 operations @ no load

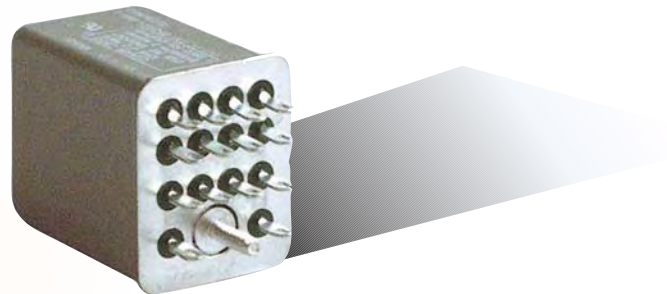
MISCELLANEOUS

Operating Position: Any

Insulation Material: Molded plastic

Enclosure: Grey metal case, hermetically sealed

Weight: 45 grams approx.



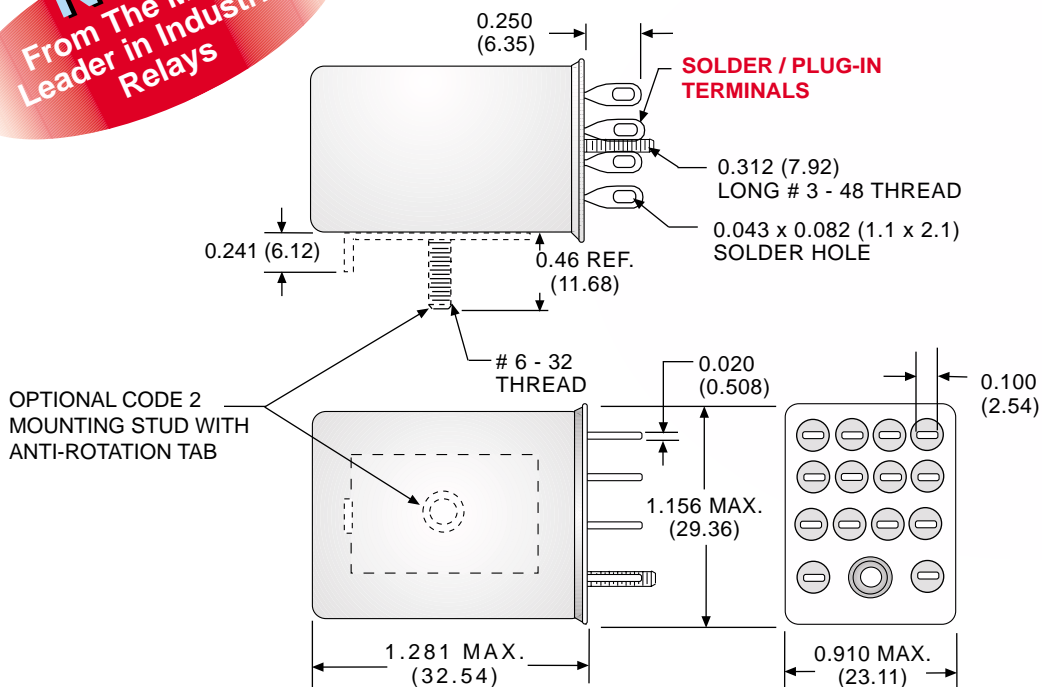
Mating Sockets
70-461-1: SCREW/DIN
70-378-1: SOLDER
70-379-1: PRINTED CIRCUIT
See section 8, page 14, 15



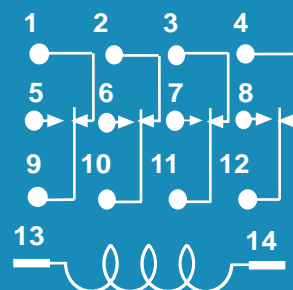
4PDT, 1, 3 & 5 AMPS

NEW
From The Market
Leader in Industrial
Relays

OUTLINE DIMENSIONS
DIMENSIONS SHOWN IN INCHES & (MILLIMETERS).



WIRING DIAGRAM
(VIEWED FROM PIN END)



UL CONTACT LOAD RATINGS TABLE

| POLES | CURRENT OR HORSE POWER | LOAD VOLTAGE | LOAD VOLTAGE FREQUENCY | TYPE OF LOAD | MINIMUM LOAD |
|---------|------------------------|--------------|------------------------|--------------|---------------|
| 4 POLES | 1 AMP | 120/240 | 50/60 Hz | RESISTIVE | DRY CIRCUIT |
| | 3 AMP | 120/240 | 50/60 Hz | RESISTIVE | 100 mA 12 VAC |
| | 5 AMP | 120/240 | 50/60 Hz | RESISTIVE | 500 mA 12 VAC |
| | 1 AMP | 30 | DC | RESISTIVE | DRY CIRCUIT |
| | 3 AMP | 30 | DC | RESISTIVE | 100 mA 12 VDC |
| | 5 AMP | 30 | DC | RESISTIVE | 500 mA 12 VDC |

ORDERING CODE FOR RELAYS

782 XDX H 32 - 24D

CLASS: _____

CONTACT CONFIGURATION: _____
4PDT: XDX

HERMETICALLY SEALED: _____

CONTACT RATING: _____
1 AMP BIFURCATED: **CODE 32**
(SILVER CROSS BAR WITH GOLD OVERLAY)
3 AMP: **CODE 10**
(SILVER GOLD FLASHED)
5 AMP: **CODE 21**
(SILVER CADMIUM OXIDE)

TERMINALS & MOUNTING STYLE: _____
SOLDER/PLUG-IN: **NO CODE**
SOLDER WITH STUD ON BROAD SIDE: **CODE 2**

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

| STANDARD PART NUMBERS 4PDT | COIL MEASURED @ 25°C | |
|--|-----------------------|---------------------------|
| | NOMINAL INPUT VOLTAGE | NOMINAL RESISTANCE (OHMS) |
| AC OPERATED - SOLDER/PLUG-IN, 3 AMP | | |
| 782DXH10-24A | 24 VAC, 50/60Hz | 7160 Ω |
| 782DXH10-120A | 120 VAC, 50/60Hz | 3,900 Ω |
| DC OPERATED - SOLDER/PLUG-IN, 3 AMP | | |
| 782DXH10-12D | 12 VDC | 160 Ω |
| 782DXH10-24D | 24 VDC | 650 Ω |
| 782DXH10-110D | 110 VDC | 11,000 Ω |
| AC OPERATED - SOLDER/PLUG-IN, 5 AMP | | |
| 782DXH21-120A | 120 VAC, 50/60Hz | 3,900 Ω |
| DC OPERATED - SOLDER/PLUG-IN, 5 AMP | | |
| 782DXH21-12D | 12 VDC | 160 Ω |
| 782DXH21-24D | 24 VDC | 650 Ω |

RETROFITS POTTER & BRUMFIELD KHS OR OMRON MY4H.
SEE END OF SECTION 1 FOR CROSS REFERENCE

**DPDT & 4PDT
3, 10 & 15 AMPS**

FEATURES

BENEFITS

| | |
|------------------------------|---|
| FLAG INDICATOR: | SHOWS RELAY STATUS IN MANUAL OR POWERED CONDITION. |
| BI - POLAR | SHOWS COIL "ON" OR "OFF" STATUS. IDEAL IN LOW LIGHT CONDITIONS. |
| L.E.D. STATUS LAMP: | ALLOWS FOR MANUAL OPERATION OF RELAY WITHOUT THE NEED FOR COIL POWER. IDEAL FOR FIELD SERVICE PERSONNEL TO TEST CONTROL CIRCUITS. |
| PUSH BUTTON: | WHEN ACTIVATED, HOLDS PUSH BUTTON AND CONTACTS IN THE OPERATE POSITION. EXCELLENT FOR ANALYZING CIRCUIT PROBLEMS. |
| LOCK-DOWN DOOR: | ALLOWS OPERATOR TO REMOVE RELAYS FROM SOCKETS MORE EASILY THAN CONVENTIONAL RELAYS. |
| FINGER-GRIP COVER: | USED FOR IDENTIFICATION OF RELAYS IN MULTI-RELAY CIRCUITS. |
| I.D. TAG/WRITE LABEL: | DIN RAIL FLANGE ADAPTER OR TOP/BOTTOM FLANGE ADAPTER, ALLOWS THE 782 RELAY TO BE DIRECT MOUNTED TO A DIN RAIL OR PANEL. |
| COVER ADAPTERS: | |

UL **us**
UL Recognized
File No. E43641



UL **us**
LISTED 367G
IND. CONT. EQ.

WHEN USED WITH
SOCKETS 70-782D-1,
70-459-1 OR 70-461-1

CURRENT LIMITED TO
RATING OF RELAY OR
SOCKET WHICHEVER
IS LESS

**MANUFACTURED UNDER
ISO 9002 & QS 9000**

GENERAL SPECIFICATIONS

COIL

| | |
|------------------------|--|
| Pull-in Voltage: | 75% of nominal voltage or less for DC coils, 80% of nominal voltage or less for AC coils |
| Dropout Voltage: | DC-10% , AC-30% of nominal voltage or more |
| Max. Voltage: | 110% |
| Resistance: | ±15% measured @ 25°C |
| Coil Power: | 0.9 watts DC, 1.2 VAC (60Hz) AC @ 25°C |
| Insulation System: | Class "B" (130°C per UL standard 1446) |
| Max. Coil Dissipation: | 2.3 watts DC, 2.55 VAC (60Hz) AC @ 25°C |
| Duty: | Continuous |

CONTACTS

| | |
|-------------------|---|
| Contact Material: | 3 amps bifurcated silver gold plated. 3 amps silver gold flashed 10 & 15 amps, silver alloy, gold flashed |
| Contact Rating: | DPDT, 4PDT- Bifurcated 3 amps @120/240 VAC 30 VDC. 1/16Hp (2.8 amp FLA), 120 VAC. Pilot duty - 5 amps make, 1/2 amp break, 3 amps continuous, 120 VAC DPDT, 4PDT- 3 amps @ 120/240 VAC, 30 VDC, 1/6 Hp 120/240 VAC, C300 pilot duty. DPDT, 4PDT- 10 amps @ 110/120 VAC, 8 amps @ 220/277 VAC. 8 amps @ 28 VDC, 1/3 Hp 250 VAC, B300 pilot duty. DPDT- 15 amps @ 110/120 VAC, 12 amps @ 220/277 VAC (20 amps max.) 12 amps 28 VDC, 1/2 Hp, 120 VAC. 1 Hp 250 VAC, B300 pilot duty |

DIELECTRIC STRENGTH

| | |
|------------------------|-----------------------|
| Coil To Frame: | 1500 V rms |
| Across Open Contacts: | 1000 V rms |
| Contacts To Frame: | 1500 V rms |
| Insulation Resistance: | 100 megohms @ 500 VDC |

TEMPERATURE

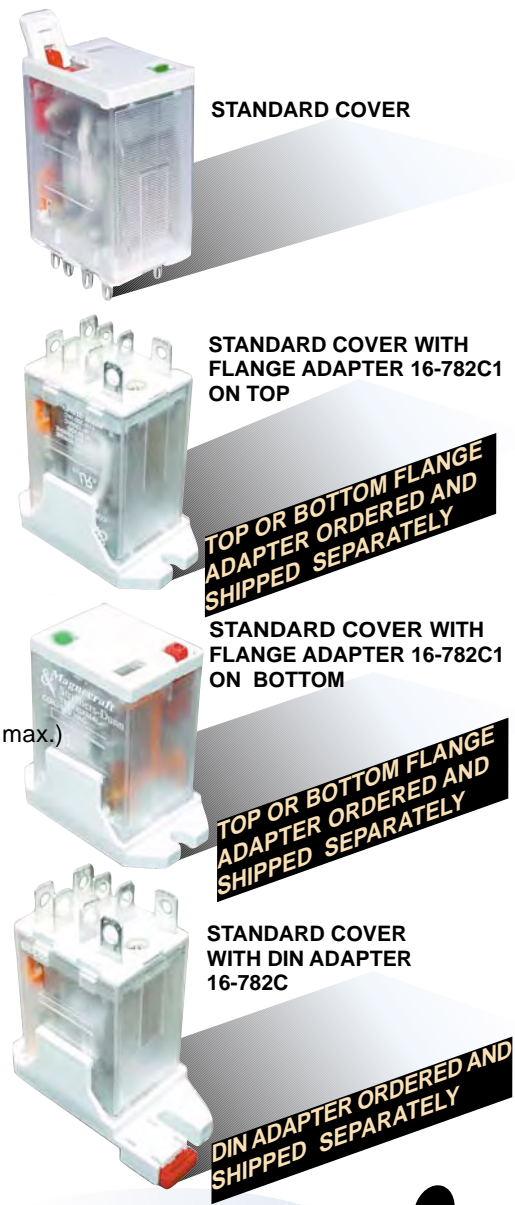
| | |
|------------|-----------------|
| Operating: | -40°C to +70°C |
| Storage: | -40°C to +105°C |

LIFE EXPECTANCY

| | |
|-------------|---|
| Electrical: | 200,000 operations @ rated resistive load |
| Mechanical: | 10,000,000 operations @ no load |

MISCELLANEOUS

| | |
|---------------------|--------------------------|
| Operating Position: | Any |
| Insulation Material | Molded plastic |
| Enclosure: | Polycarbonate dust cover |
| Weight: | 36 grams approx |



Mating Sockets
70-782D-1, 70-461-1,
70-459-1: SCREW/DIN
70-379-1, 70-378-1: SOLDER
70-401-1, 70-402-1:
PRINTED CIRCUIT

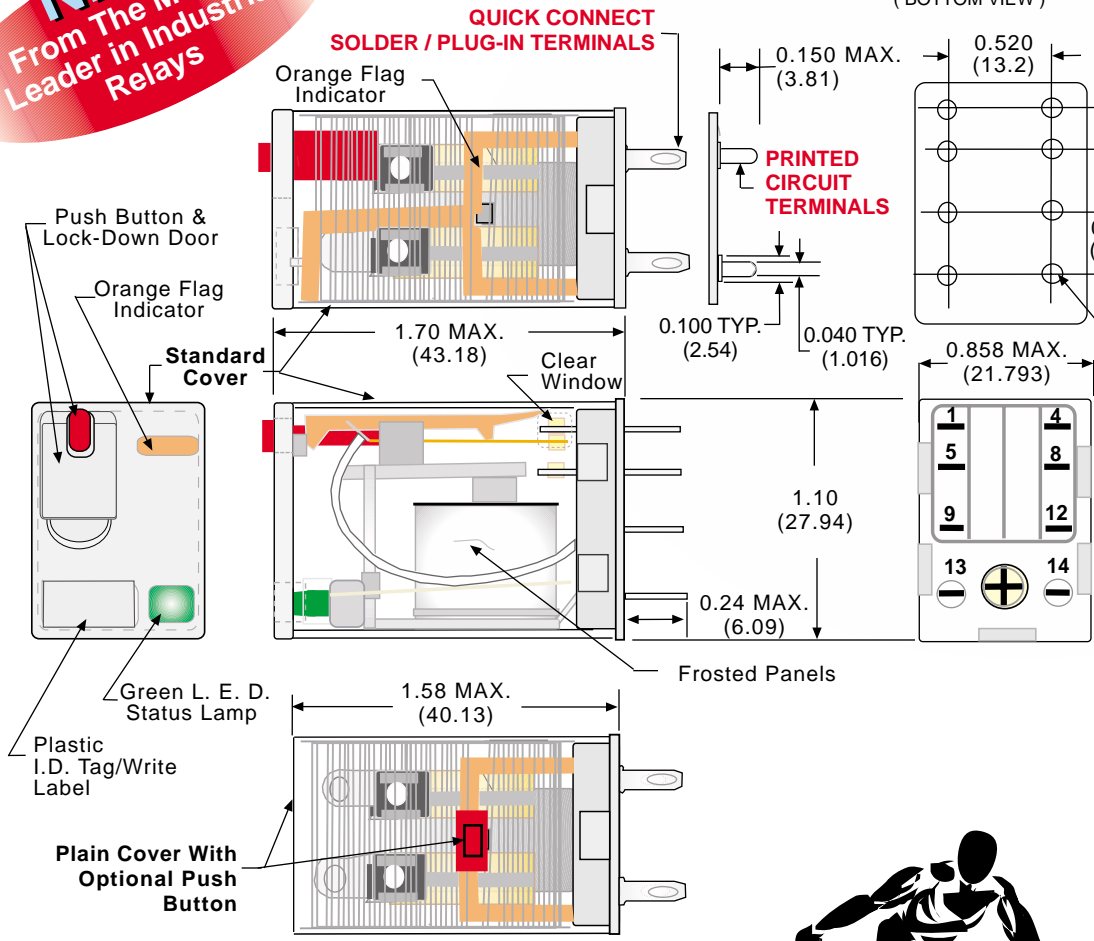
See section 8, page 13, 14, 15

DPDT, 3 & 10 AMPS

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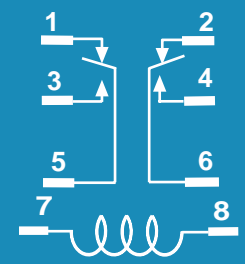
OUTLINE DIMENSIONS
DIMENSIONS SHOWN IN INCHES & (MILLIMETERS).

PRINTED CIRCUIT MOUNTING HOLE LAYOUT
(BOTTOM VIEW)



AVAILABLE WITHOUT LOCK-DOWN DOOR: CODE "M"

WIRING DIAGRAM
(VIEWED FROM PIN END)



ORDERING CODE FOR RELAYS

782 **XBX** **M4L** **-120A**

CLASS: _____

CONTACT CONFIGURATION: DPDT: **XBX**

TERMINAL STYLE: QUICK CONNECTSOLDER/
PLUG-IN TERMINALS: **NO CODE**
PRINTED CIRCUIT TERMINALS: **CODE T**

CONTACT RATING: _____
3 AMP: **CODE 1**
10 AMP: **CODE 2**
3 AMP BIFURCATED CONTACT: **CODE 3**

OPTIONAL PLAIN COVER: _____
CODE C

STANDARD COVER FEATURES: _____
PUSH BUTTON & LOCK-DOWN DOOR: **CODE M4**
BI - POLAR L.E.D. STATUS LAMP: **CODE L**

OPTIONAL STANDARD COVER DELETION: _____
PUSH BUTTON AND BI - POLAR L.E.D. WITHOUT
LOCK-DOWN DOOR: **CODE ML**

OPTIONAL PLAIN COVER FEATURES: _____
PUSH BUTTON WITHOUT LOCK-DOWN DOOR: **CODE M**
BI - POLAR L.E.D. STATUS LAMP: **CODE L**

COIL VOLTAGE: _____
6, 12, 24, 120, 220/230, 240 ADD "A" FOR AC COILS
6, 12, 24, 110 ADD "D" FOR DC COILS



BI - POLAR
L.E.D. STATUS LAMP
ALLOWS FOR REVERSE
POLARITY APPLICATIONS

| STANDARD PART NUMBERS DPDT | COIL MEASURED @ 25°C | |
|--|-----------------------|---------------------------|
| | NOMINAL INPUT VOLTAGE | NOMINAL RESISTANCE (OHMS) |
| AC OPERATED - SOLDER/PLUG-IN, 10 AMP | | |
| 782XBX2M4L-24A | 24 VAC, 50/60Hz | 72 Ω |
| 782XBX2M4L-120A | 120 VAC, 50/60Hz | 1,700 Ω |
| 782XBX2M4L-240A | 240 VAC, 50/60HZ | 9,100 Ω |
| DC OPERATED - SOLDER/PLUG-IN, 10 AMP | | |
| 782XBX2M4L-12D | 12 VDC | 120 Ω |
| 782XBX2M4L-24D | 24 VDC | 470 Ω |
| 782XBX2M4L-110D | 110 VDC | 10,000 Ω |
| AC OPERATED - SOLDER/PLUG-IN, 3 AMP, BIFURCATED | | |
| 782XBX3M4L-24A | 24 VAC, 50/60Hz | 72 Ω |
| 782XBX3M4L-120A | 120 VAC, 50/60Hz | 1,700 Ω |
| 782XBX3M4L-240A | 240 VAC, 50/60HZ | 9,100 Ω |
| DC OPERATED - SOLDER/PLUG-IN, 3 AMP, BIFURCATED | | |
| 782XBX3M4L-12D | 12 VDC | 120 Ω |
| 782XBX3M4L-24D | 24 VDC | 470 Ω |
| 782XBX3M4L-110D | 110 VDC | 10,000 Ω |

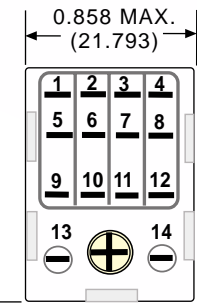
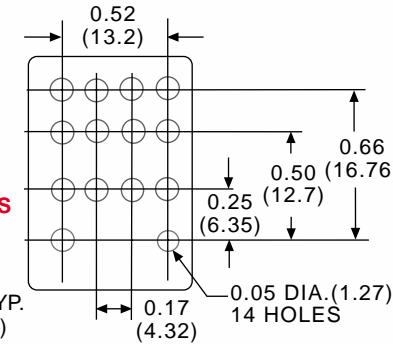
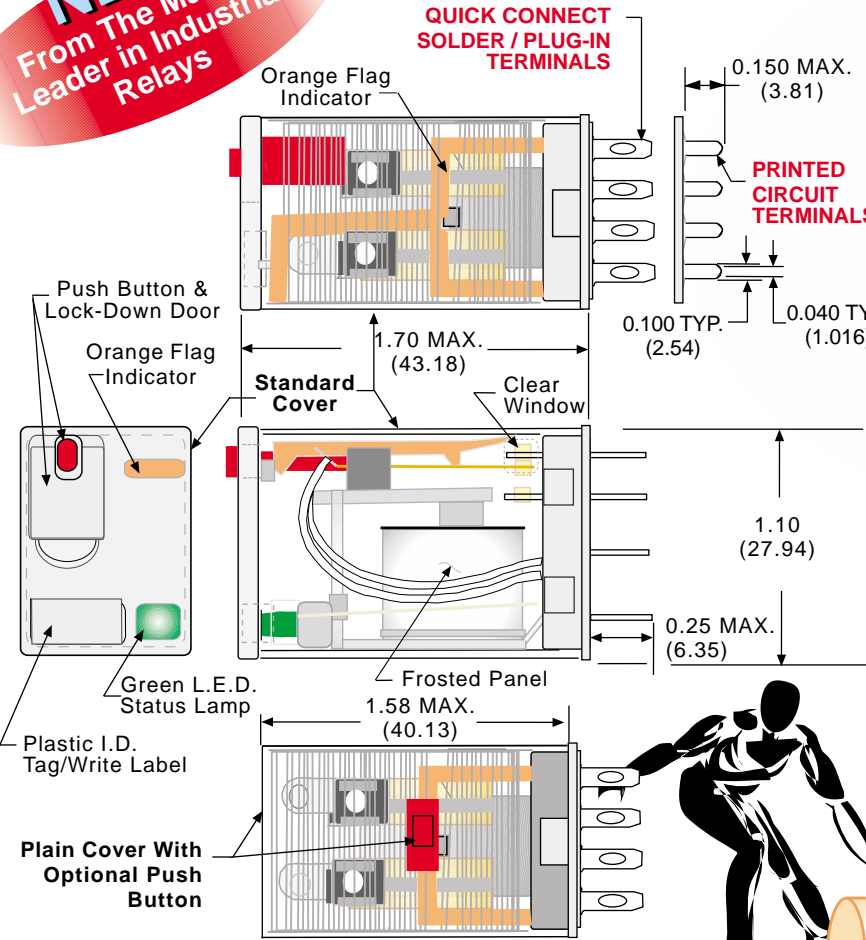
RETROFITS SCHRACK PT.
SEE END OF SECTION 1 FOR CROSS REFERENCE
CADMIUM-FREE CONTACTS AVAILABLE,
CONTACT FACTORY FOR DETAILS

4PDT, 3 & 10 AMPS

NEW
From The Market
Leader in Industrial
Relays

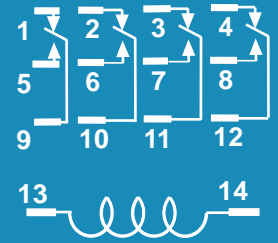
OUTLINE DIMENSIONS
DIMENSIONS SHOWN IN INCHES & (MILLIMETERS).

**PRINTED CIRCUIT
MOUNTING HOLE LAYOUT**
(BOTTOM VIEW)



AVAILABLE WITHOUT
LOCK-DOWN DOOR: CODE "M"

WIRING DIAGRAM
(VIEWED FROM PIN END)



ALL 4 POLE RELAYS HAVE OPPOSITE
POLARITY ARC BARRIERS AS A
STANDARD FEATURE TO PROVIDE
GREATER VOLTAGE PROTECTION
BETWEEN ADJACENT POLES

BI - POLAR
L.E.D. STATUS LAMP
ALLOWS FOR REVERSE
POLARITY APPLICATIONS

ORDERING CODE FOR RELAYS

CLASS: 782

CONTACT CONFIGURATION: 4PDT: XDX

TERMINAL STYLE: QUICK CONNECTSOLDER/
PLUG-IN TERMINALS: NO CODE
PRINTED CIRCUIT TERMINALS: CODE T

CONTACT RATING: 3 AMP: CODE 1
10 AMP: CODE 2
3 AMP BIFURCATED CONTACT: CODE 3

OPTIONAL PLAIN COVER: CODE C

STANDARD COVER FEATURES: PUSH BUTTON & LOCK-DOWN DOOR: CODE M4
BI - POLAR L.E.D. STATUS LAMP: CODE L

OPTIONAL STANDARD COVER DELETION: PUSH BUTTON AND BI - POLAR L.E.D. WITHOUT
LOCK-DOWN DOOR: CODE ML

OPTIONAL PLAIN COVER FEATURES: PUSH BUTTON WITHOUT LOCK-DOWN DOOR: CODE M
BI - POLAR L.E.D. STATUS LAMP: CODE L

COIL VOLTAGE: 6, 12, 24, 120, 220/230, 240 ADD "A" FOR AC COILS
6, 12, 24, 48, 110 ADD "D" FOR DC COILS

COIL MEASURED @ 25°C

| STANDARD PART NUMBERS 4PDT | NOMINAL INPUT VOLTAGE | NOMINAL RESISTANCE (OHMS) |
|--|-----------------------|---------------------------|
| AC OPERATED - QUICK CONNECT SOLDER/PLUG-IN, 3 AMP | | |
| 782XDX1M4L-24A | 24 VAC, 50/60Hz | 72 Ω |
| 782XDX1M4L-120A | 120 VAC, 50/60Hz | 1,700 Ω |
| 782XDX1M4L-240A | 240 VAC, 50/60HZ | 9,100 Ω |
| DC OPERATED - QUICK CONNECT SOLDER/PLUG-IN, 3 AMP | | |
| 782XDX1M4L-12D | 12 VDC | 120 Ω |
| 782XDX1M4L-24D | 24 VDC | 470 Ω |
| 782XDX1M4L-110D | 110 VDC | 10,000 Ω |
| AC OPERATED - SOLDER/PLUG-IN, 10 AMP | | |
| 782XDX2M4L-24A | 24 VAC, 50/60Hz | 72 Ω |
| 782XDX2M4L-120A | 120 VAC, 50/60Hz | 1,700 Ω |
| 782XDX2M4L-240A | 240 VAC, 50/60HZ | 9,100 Ω |
| DC OPERATED - SOLDER/PLUG-IN, 10 AMP | | |
| 782XDX2M4L-12D | 12 VDC | 120 Ω |
| 782XDX2M4L-24D | 24 VDC | 470 Ω |
| 782XDX2M4L-110D | 110 VDC | 10,000 Ω |
| AC OPERATED - SOLDER/PLUG-IN, 3 AMP, BIFURCATED | | |
| 782XDX3M4L-24A | 24 VAC, 50/60Hz | 72 Ω |
| 782XDX3M4L-120A | 120 VAC, 50/60Hz | 1,700 Ω |
| 782XDX3M4L-240A | 240 VAC, 50/60HZ | 9,100 Ω |
| DC OPERATED - SOLDER/PLUG-IN, 3 AMP, BIFURCATED | | |
| 782XDX3M4L-12D | 12 VDC | 120 Ω |
| 782XDX3M4L-24D | 24 VDC | 470 Ω |
| 782XDX3M4L-110D | 110 VDC | 10,000 Ω |

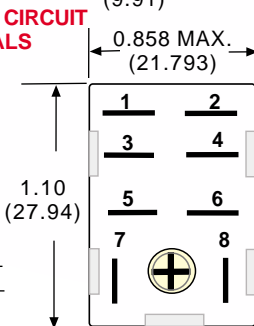
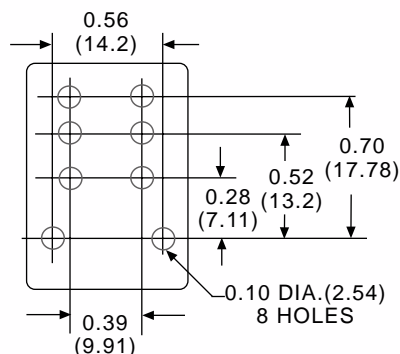
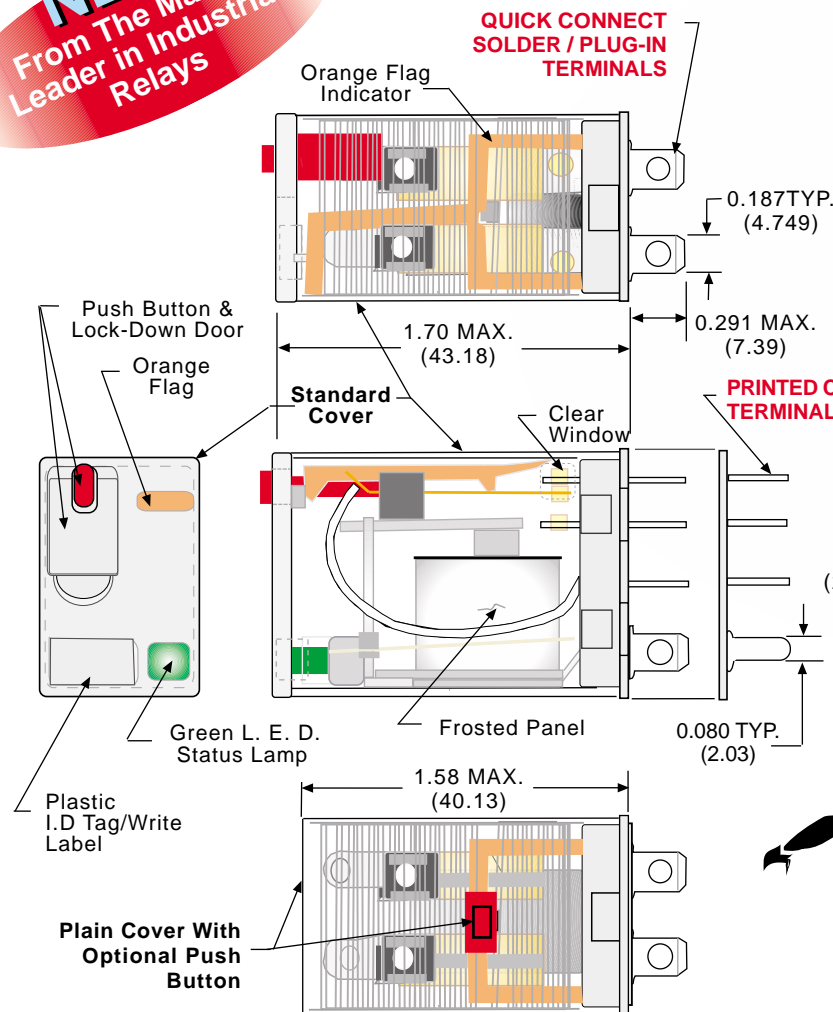
RETROFITS SCHRACK PT.
SEE END OF SECTION 1 FOR CROSS REFERENCE

DPDT, 15 AMPS

NEW
From The Market
Leader in Industrial
Relays

OUTLINE DIMENSIONS
DIMENSIONS SHOWN IN INCHES & (MILLIMETERS).

**PRINTED CIRCUIT
MOUNTING HOLE LAYOUT**
(BOTTOM VIEW)



AVAILABLE WITHOUT
LOCK-DOWN DOOR: CODE "M"



**BI - POLAR
L.E.D. STATUS LAMP
ALLOWS FOR REVERSE
POLARITY APPLICATIONS**

ORDERING CODE FOR RELAYS

782 **XBX** **M4L** **-120A**

CLASS: _____

CONTACT CONFIGURATION: DPDT: **XBX**

TERMINAL STYLE: _____
QUICK CONNECTSOLDER/
PLUG-IN TERMINALS: **NO CODE**
PRINTED CIRCUIT TERMINALS: **CODE T**

OPTIONAL PLAIN COVER: _____
CODE C

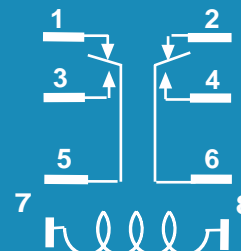
STANDARD COVER FEATURES: _____
PUSH BUTTON & LOCK-DOWN DOOR: **CODE M4**
BI - POLAR L.E.D. STATUS LAMP: **CODE L**

OPTIONAL STANDARD COVER DELETION: _____
PUSH BUTTON AND BI - POLAR L.E.D.WITHOUT
LOCK-DOWN DOOR: **CODE ML**

OPTIONAL PLAIN COVER FEATURES: _____
PUSH BUTTON WITHOUT LOCK-DOWN DOOR: **CODE M**
BI - POLAR L.E.D. STATUS LAMP: **CODE L**

COIL VOLTAGE: _____
6, 12, 24, 120, 220/230, 240 ADD "A" FOR AC COILS
6, 12, 24, 48, 110 ADD "D" FOR DC COILS

WIRING DIAGRAM
(VIEWED FROM PIN END)



| STANDARD PART NUMBERS DPDT | COIL MEASURED @ 25°C | |
|---|-----------------------|---------------------------|
| | NOMINAL INPUT VOLTAGE | NOMINAL RESISTANCE (OHMS) |
| AC OPERATED - SOLDER/PLUG-IN, 15 AMP | | |
| 782XBXM4L-24A | 24 VAC, 50/60Hz | 72 Ω |
| 782XBXM4L-120A | 120 VAC, 50/60Hz | 1,700 Ω |
| 782XBXM4L-240A | 240 VAC, 50/60HZ | 9,100 Ω |
| DC OPERATED - SOLDER/PLUG-IN, 15 AMP | | |
| 782XBXM4L-12D | 12 VDC | 120 Ω |
| 782XBXM4L-24D | 24 VDC | 470 Ω |
| 782XBXM4L-110D | 110 VDC | 10,000 Ω |

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

3PDT, 15 AMPS

UL us
UL Recognized
File No. E43641

SP LR40787

UL LISTED 367G
IND. CONT. EQ.
C US
WHEN USED WITH
SOCKETS 70-783D-1,

CURRENT LIMITED TO
RATING OF RELAY OR
SOCKET WHICHEVER
IS LESS

FEATURES

BENEFITS

| | |
|------------------------------|--|
| FLAG INDICATOR: | SHOWS RELAY STATUS IN MANUAL OR POWERED CONDITION. |
| BI - POLAR | SHOWS COIL "ON" OR "OFF" STATUS. IDEAL IN LOW LIGHT CONDITIONS. |
| L.E.D. STATUS LAMP: | ALLOWS FOR MANUAL OPERATION OF RELAY WITHOUT THE NEED FOR COIL |
| PUSH BUTTON: | POWER. IDEAL FOR FIELD SERVICE PERSONNEL TO TEST CONTROL CIRCUITS. |
| LOCK-DOWN DOOR: | WHEN ACTIVATED, HOLDS PUSH BUTTON AND CONTACTS IN THE OPERATE |
| FINGER-GRIP COVER: | POSITION. EXCELLENT FOR ANALYZING CIRCUIT PROBLEMS. |
| I.D. TAG/WRITE LABEL: | ALLOWS OPERATOR TO REMOVE RELAYS FROM SOCKETS MORE EASILY |
| COVER ADAPTERS: | THAN CONVENTIONAL RELAYS. |
| | USED FOR IDENTIFICATION OF RELAYS IN MULTI-RELAY CIRCUITS. |
| | DIN RAIL FLANGE ADAPTER OR TOP/BOTTOM FLANGE ADAPTER, ALLOWS |
| | THE 783 RELAY TO BE DIRECT MOUNTED TO A DIN RAIL OR PANEL. |

GENERAL SPECIFICATIONS

COIL

| | |
|------------------------|---|
| Pull-in Voltage: | 75% of nominal voltage or less for DC coils, 80% of nominal voltage or less for AC coils |
| Dropout Voltage: | DC-10%, AC- 30% of nominal voltage or more |
| Max. Voltage: | 110% |
| Resistance: | ±15% measured @ 25°C |
| Coil Power: | 1.5 watts DC, 1.7 VA (60Hz) AC @ 25°C |
| Insulation System: | Class "B" (130°C per UL standard 1446) |
| Max. Coil Dissipation: | 3.0 watts DC, 3.4 VA (60Hz) AC. @ 25°C |
| Duty: | Continuous |

CONTACTS

| | |
|---------------------|--|
| Contact Material: | Solid silver alloy, gold flashed |
| Contact Rating: | 15 amps @ 110/120 VAC 50/60Hz (30 amps max.) 12 amps @ 28 VDC (30 amps max.) 12 amps @ 220/277 VAC 50/60Hz (20 amps max.) 1/2Hp @ 120 VAC, 3/4 Hp @ 250 VAC, B300 pilot duty |
| Contact Resistance: | 50 milliohms maximum initial resistance |

DIELECTRIC STRENGTH

| | |
|------------------------|----------------------------|
| Contacts to Coil: | 2500 V rms |
| Across open Contacts: | 1000 V rms |
| Pole to Pole: | 2500 V rms |
| Contacts to Frame: | 2500 V rms |
| Insulation Resistance: | 100 megohms min. @ 500 VDC |

TEMPERATURE

| | |
|------------|-----------------|
| Operating: | -30°C to +70°C |
| Storage: | -30°C to +105°C |

VIBRATION RESISTANCE

| | |
|-------------|--|
| Functional: | 6 g's, 10 to 55 Hz (0.6 mm double amplitude) |
|-------------|--|

SHOCK RESISTANCE

| | |
|-------------|--------|
| Functional: | 10 g's |
|-------------|--------|

LIFE EXPECTANCY

| | |
|-------------|---|
| Electrical: | 150,000 operations @ rated resistive load |
| Mechanical: | 10,000,000 operations @ no load |

MISCELLANEOUS

| | |
|----------------------|--------------------------|
| Operating Position: | Any |
| Insulation Material: | Molded plastic |
| Enclosure: | Polycarbonate dust cover |
| Weight: | 60 grams approx. |



STANDARD COVER



STANDARD COVER WITH
FLANGE ADAPTER 16-783C1
ON TOP

**TOP OR BOTTOM FLANGE
ADAPTER ORDERED AND
SHIPPED SEPARATELY**



STANDARD COVER WITH
FLANGE ADAPTER 16-783C1
ON BOTTOM

**TOP OR BOTTOM FLANGE
ADAPTER ORDERED AND
SHIPPED SEPARATELY**



STANDARD COVER
WITH DIN ADAPTER
16-783C

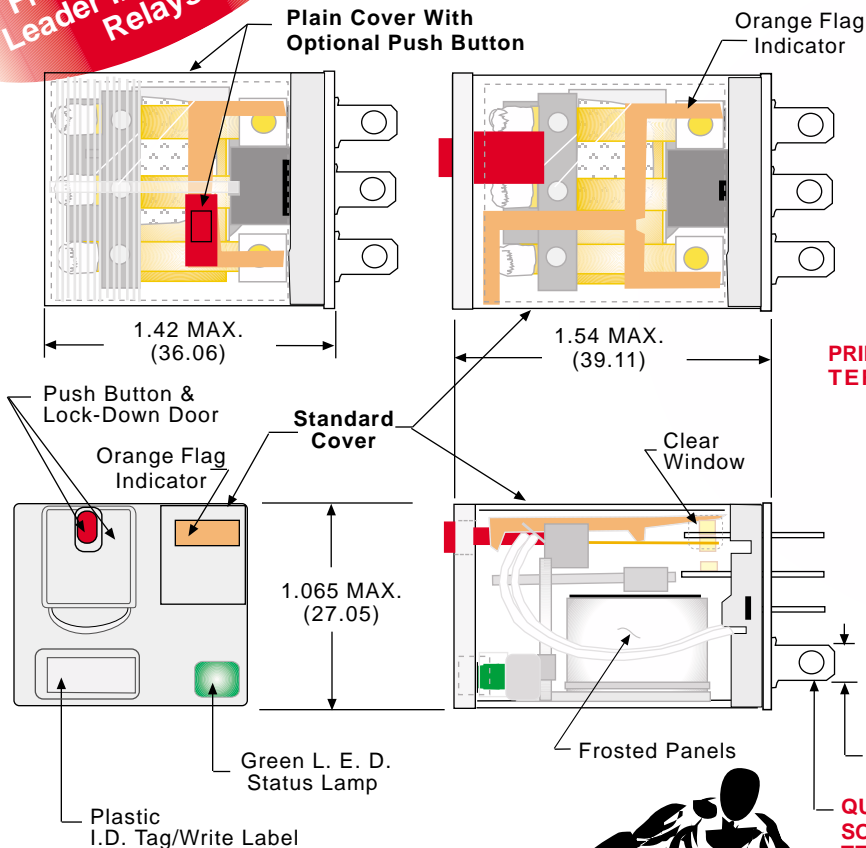
**DIN ADAPTER ORDERED AND
SHIPPED SEPARATELY**

Mating Sockets
70-783D-1: SCREW/DIN
See section 8, page 21

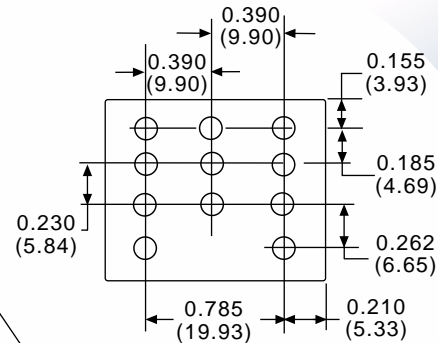


NEW
From The Market
Leader in Industrial
Relays

OUTLINE DIMENSIONS
DIMENSIONS SHOWN IN INCHES & (MILLIMETERS).

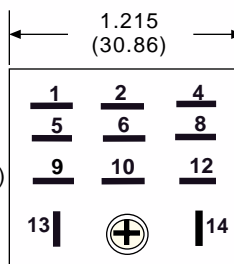


PRINTED CIRCUIT TERMINALS

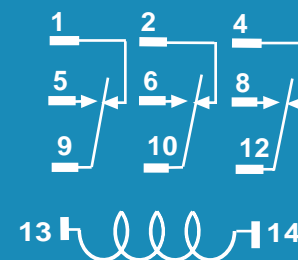


AVAILABLE WITHOUT LOCK-DOWN DOOR: CODE "M"

QUICK CONNECT SOLDER / PLUG-IN TERMINALS



WIRING DIAGRAM
(VIEWED FROM PIN END)



BI - POLAR
L.E.D. STATUS LAMP
ALLOWS FOR REVERSE
POLARITY APPLICATIONS

ORDERING CODE FOR RELAYS

CLASS: 783

CONTACT CONFIGURATION: XCX
3PDT: XCX

TERMINAL STYLE: M4L -120A
QUICK CONNECT SOLDER / PLUG-IN TERMINALS: NO CODE
PRINTED CIRCUIT TERMINALS: CODE T

OPTIONAL PLAIN COVER: CODE C

STANDARD COVER FEATURES: CODE M4
PUSH BUTTON & LOCK-DOWN DOOR: CODE M4
BI - POLAR L.E.D. STATUS LAMP: CODE L

OPTIONAL STANDARD COVER DELETION: CODE ML
PUSH BUTTON AND BI - POLAR L.E.D. WITHOUT LOCK-DOWN DOOR: CODE ML

OPTIONAL PLAIN COVER FEATURES: CODE M
PUSH BUTTON WITHOUT LOCK-DOWN DOOR: CODE M
BI - POLAR L.E.D. STATUS LAMP: CODE L

COIL VOLTAGE: 120
6, 12, 24, 120, 220/230, 240 ADD "A" FOR AC COILS
6, 12, 24, 48, 110 ADD "D" FOR DC COILS

COIL MEASURED @ 25°C

| STANDARD PART NUMBERS | PLAIN COVER | NOMINAL INPUT VOLTAGE | NOMINAL RESISTANCE (OHMS) |
|--|--------------|-----------------------|---------------------------|
| AC OPERATED - SOLDER/PLUG-IN, 15 AMP | | | |
| 783XCXM4L-24A | 783XCXC-24A | 24 VAC, 50/60 Hz | 84.5 Ω |
| 783XCXM4L-120A | 783XCXC-120A | 120 VAC, 50/60 Hz | 2220 Ω |
| 783XCXM4L-240A | | 240 VAC, 50/60 Hz | 9120 Ω |
| DC OPERATED - SOLDER/PLUG-IN, 15 AMP | | | |
| 783XCXM4L-12D | | 12 VDC | 96 Ω |
| 783XCXM4L-24D | 783XCXC-24D | 24 VDC | 380 Ω |
| 783XCXM4L-110D | | 110 VDC | 7340 Ω |
| AC OPERATED - PRINTED CIRCUIT, 15 AMP | | | |
| 783XCXTM4L-120A | | 120 VAC, 50/60 Hz | 2220 Ω |
| DC OPERATED - PRINTED CIRCUIT, 15 AMP | | | |
| 783XCXTM4L-12D | | 12 VDC | 96 Ω |
| 783XCXTM4L-24D | | 24 VDC | 388 Ω |

4PDT, 15 AMPS

FEATURES

BENEFITS

| | |
|------------------------------|---|
| FLAG INDICATOR: | SHOWS RELAY STATUS IN MANUAL OR POWERED CONDITION. |
| BI - POLAR | SHOWS COIL "ON" OR "OFF" STATUS. IDEAL IN LOW LIGHT CONDITIONS. |
| L.E.D. STATUS LAMP: | ALLOWS FOR MANUAL OPERATION OF RELAY WITHOUT THE NEED FOR COIL POWER. |
| PUSH BUTTON: | IDEAL FOR FIELD SERVICE PERSONNEL TO TEST CONTROL CIRCUITS. |
| LOCK-DOWN DOOR: | WHEN ACTIVATED, HOLDS PUSH BUTTON AND CONTACTS IN THE OPERATE POSITION. EXCELLENT FOR ANALYZING CIRCUIT PROBLEMS. |
| FINGER-GRIP COVER: | ALLOWS OPERATOR TO REMOVE RELAYS FROM SOCKETS MORE EASILY THAN CONVENTIONAL RELAYS. |
| I.D. TAG/WRITE LABEL: | USED FOR IDENTIFICATION OF RELAYS IN MULTI-RELAY CIRCUITS. |
| COVER ADAPTERS: | DIN RAIL FLANGE ADAPTER OR TOP/BOTTOM FLANGE ADAPTER, ALLOWS THE 784 RELAY TO BE DIRECT MOUNTED TO A DIN RAIL OR PANEL. |

UL **us** LR40787
 UL Recognized
 File No. E43641

UL LISTED 367G
 IND. CONT. EQ.

C US
 WHEN USED WITH
 SOCKETS 70-784D-1,

CURRENT LIMITED TO
 RATING OF RELAY OR
 SOCKET WHICHEVER
 IS LESS

GENERAL SPECIFICATIONS

COIL

| | |
|------------------------|--|
| Pull-in Voltage: | 75% of nominal voltage or less for DC coils, 80% of nominal voltage or less for AC coils |
| Dropout Voltage: | DC-10%, AC- 30% of nominal voltage or more |
| Max. Voltage: | 110% |
| Resistance: | ±10% measured @ 25°C |
| Coil Power: | 1.5 watts DC, 2.0 VA (60Hz) AC @ 25°C (4PDT) |
| Insulation System: | Class "B" (130°C per UL standard 1446) |
| Max. Coil Dissipation: | 3.0 watts DC, 3.4 VA (60Hz) AC. @ 25°C |
| Duty: | Continuous. |

CONTACTS

| | |
|---------------------|---|
| Contact Material: | Solid silver alloy, gold flashed |
| Contact Rating: | 15 amps @ 110/120 VAC 50/60Hz, (30 amps max.) 12 amps @ 28 VDC (30 amps max.) 12 amps @ 220/277 VAC 50/60Hz (20 amps max.) 1/2Hp @ 120 VAC, 3/4 Hp @ 250 VAC. B300 pilot duty |
| Contact Resistance: | 50 milliohms maximum initial resistance |

DIELECTRIC STRENGTH

| | |
|------------------------|----------------------------|
| Contacts to Coil: | 2500 V rms |
| Across Open Contacts: | 1000 V rms |
| Pole to Pole: | 2500 V rms |
| Contacts to Frame: | 2500 V rms |
| Insulation Resistance: | 100 megohms min. @ 500 VDC |

TEMPERATURE

| | |
|------------|-----------------|
| Operating: | -30°C to +70°C |
| Storage: | -30°C to +105°C |

VIBRATION RESISTANCE

| | |
|-------------|--|
| Functional: | 6 g's, 10 to 55 Hz (0.6 mm double amplitude) |
|-------------|--|

SHOCK RESISTANCE

| | |
|-------------|--------|
| Functional: | 10 g's |
|-------------|--------|

LIFE EXPECTANCY

| | |
|-------------|---|
| Electrical: | 150,000 operations @ rated resistive load |
| Mechanical: | 10,000,000 operations @ no load |

MISCELLANEOUS

| | |
|----------------------|--------------------------|
| Operating Position: | Any |
| Insulation Material: | Molded plastic |
| Enclosure: | Polycarbonate dust cover |
| Weight: | 80 grams approx. |



STANDARD COVER



STANDARD COVER WITH
 FLANGE ADAPTER 16-784C1
 ON TOP 16-784C1



STANDARD COVER WITH
 FLANGE ADAPTER 16-784C1
 ON BOTTOM



STANDARD COVER
 WITH DIN ADAPTER
 16-784C

**TOP OR BOTTOM FLANGE
 ADAPTER ORDERED AND
 SHIPPED SEPARATELY**

Mating Sockets
70-784D-1: SCREW/DIN
 See section, 8 page 22

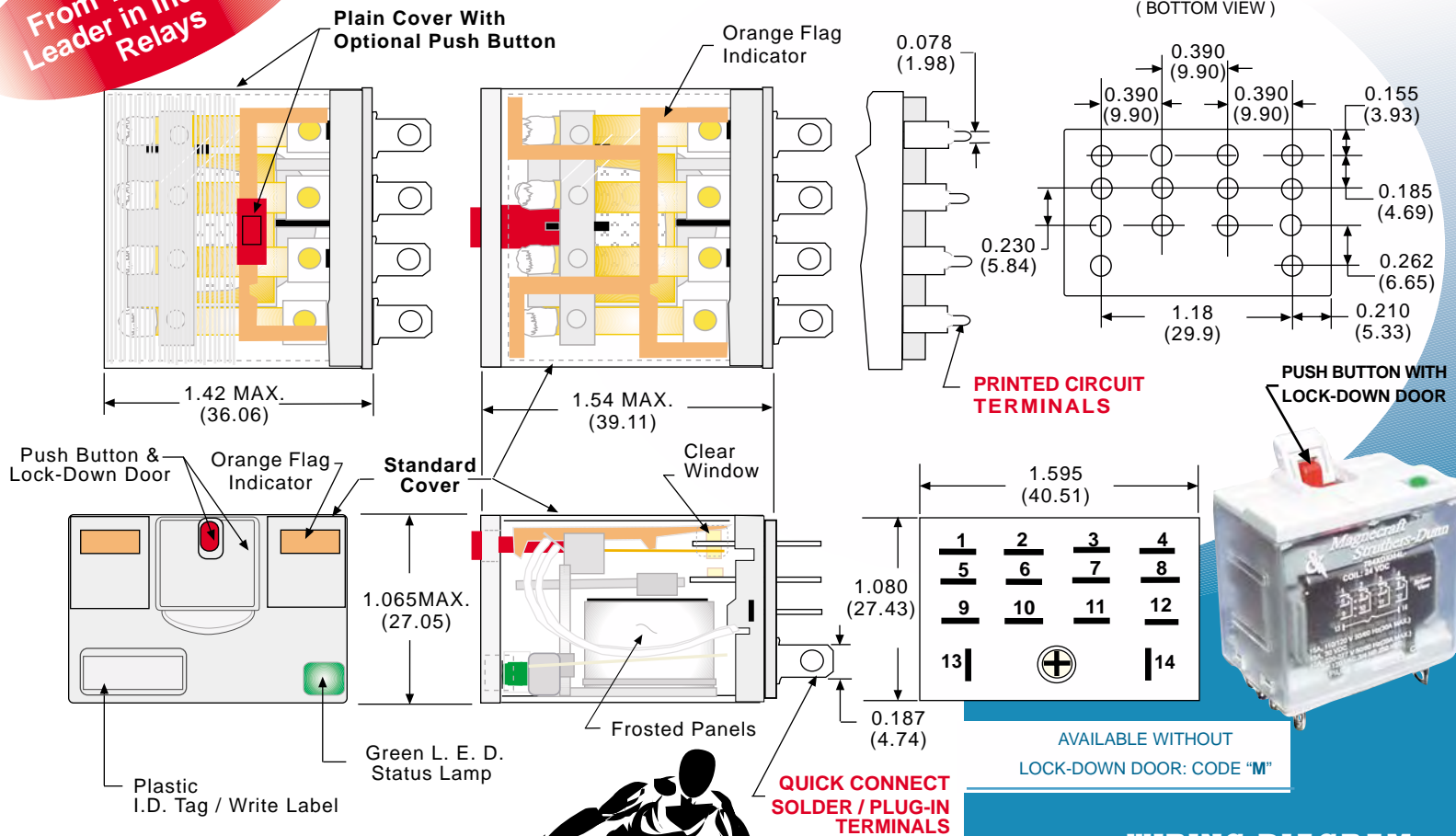


4PDT, 15 AMPS

NEW
From The Market
Leader in Industrial
Relays

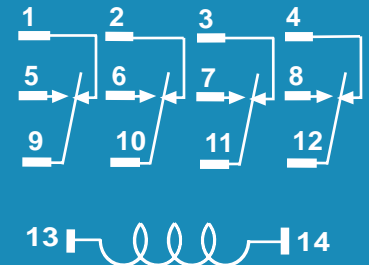
OUTLINE DIMENSIONS
DIMENSIONS SHOWN IN INCHES & (MILLIMETERS).

**PRINTED CIRCUIT
MOUNTING HOLE LAYOUT**
(BOTTOM VIEW)



AVAILABLE WITHOUT
LOCK-DOWN DOOR: CODE "M"

WIRING DIAGRAM
(VIEWED FROM PIN END)



BI - POLAR
L.E.D. STATUS LAMP
ALLOWS FOR REVERSE
POLARITY APPLICATIONS

ORDERING CODE FOR RELAYS

CLASS: 784

CONTACT CONFIGURATION: XDX
4PDT: XDX

TERMINAL STYLE: M4L
QUICK CONNECT SOLDER / PLUG-IN TERMINALS: NO CODE
PRINTED CIRCUIT TERMINALS: CODE T

OPTIONAL PLAIN COVER: -120A
CODE C

STANDARD COVER FEATURES:
PUSH BUTTON & LOCK-DOWN DOOR: CODE M4
L.E.D. STATUS LAMP: CODE L

OPTIONAL STANDARD COVER DELETION:
PUSH BUTTON AND L.E.D. WITHOUT
LOCK-DOWN DOOR: CODE ML

OPTIONAL PLAIN COVER FEATURES:
PUSH BUTTON WITHOUT LOCK-DOWN DOOR: CODE M
L.E.D. STATUS LAMP: CODE L

COIL VOLTAGE: _____
6, 12, 24, 120, 220/230, 240 ADD "A" FOR AC COILS
6, 12, 24, 48, 110 ADD "D" FOR DC COILS

| STANDARD PART NUMBERS | COIL MEASURED @ 25°C | | |
|--|----------------------|-----------------------|---------------------------|
| | PLAIN COVER | NOMINAL INPUT VOLTAGE | NOMINAL RESISTANCE (OHMS) |
| AC OPERATED - SOLDER/PLUG-IN, 15 AMP | | | |
| 784XDXM4L-24A | 784DXC-24A | 24 VAC, 50/60 Hz | 84.5 Ω |
| 784XDXM4L-120A | 784DXC-120A | 120 VAC, 50/60 Hz | 2220 Ω |
| 784XDXM4L-240A | | 240 VAC, 50/60 Hz | 9120 Ω |
| DC OPERATED - SOLDER/PLUG-IN, 15 AMP | | | |
| 784XDXM4L-12D | | 12 VDC | 96 Ω |
| 784XDXM4L-24D | 784DXC-24D | 24 VDC | 380 Ω |
| 784XDXM4L-110D | | 110 VDC | 7340 Ω |
| AC OPERATED - PRINTED CIRCUIT, 15 AMP | | | |
| 784XDXTM4L-120A | | 120 VAC, 50/60 Hz | 2220 Ω |
| DC OPERATED - PRINTED CIRCUIT, 15 AMP | | | |
| 784XDXTM4L-12D | | 12 VDC | 96 Ω |
| 784XDXTM4L-24D | | 24 VDC | 388 Ω |

GENERAL SPECIFICATIONS

| | |
|------------------------|---|
| COIL | |
| Pull-in Voltage : | 75% of nominal voltage or less for DC coils, 80% of nominal voltage or less for AC coils |
| Dropout Voltage: | DC-10%. AC-30%. Of nominal voltage or more |
| Max. Voltage : | 110% |
| Resistance: | ±15% measured @ 25°C |
| Coil Power: | 0.9 to 1.1 watts DC., 1.0 to 1.2 VA (60Hz) AC. @ 25°C |
| Insulation System: | Class "B" (130°C per UL standard 1446) |
| Max. Coil Dissipation: | 2.3 watts DC, 2.55 VA (60Hz) AC. 5 minutes max. @ 40°C |
| Duty: | Continuous |

CONTACTS

| | |
|-------------------|---|
| Contact Material: | 3 amps bifurcated silver gold plated, 3 amps silver gold flashed, 5 & 15 amps silver alloy, gold flashed |
| Contact Rating: | SPDT: 15 amps @ 120/240 VAC, 30 VDC. 1/3 Hp, 120 VAC. 1/2 Hp 240 VAC, B300 pilot duty DPDT: 15 amps @ 120/240 VAC, 10 amps @ 30 VDC, 10 amps @ 120/240 VAC, G.P. 1/3 Hp, 120 VAC. 1/2Hp 240 VAC, B300 pilot duty 4PDT: Bifurcated 3 amps @ 120/240 VAC, 30 VDC. 1/16 Hp (2.8 amps FLA), 120 VAC. Pilot duty - 5 amps make, 1/2 amps break, 3 amps continuous, 120 VAC. 4PDT: 3 amps @ 120 VAC, 30 VDC 1/10 Hp 120/240 VAC, C300 pilot duty 4PDT: 5 amps @ 120/240 VAC, 30 VDC 1/6 Hp 120/240 VAC, C300 pilot duty |

DIELECTRIC STRENGTH

| | |
|------------------------|-----------------------|
| Coil to Frame: | 1500 V rms |
| Across Open Contacts: | 1000 V rms |
| Contacts to Frame: | 1500 V rms |
| Insulation Resistance: | 100 megohms @ 500 VDC |

TEMPERATURE

| | |
|------------|-----------------|
| Operating: | -40°C to +70°C |
| Storage: | -40°C to +105°C |

VIBRATION RESISTANCE

| | |
|-------------|--|
| Functional: | 5 g, 10 to 55Hz; 1 mm (double amplitude) |
|-------------|--|

SHOCK RESISTANCE

| | |
|-------------|-------|
| Functional: | 20 g |
| Mechanical: | 100 g |

LIFE EXPECTANCY

| | |
|-------------|--|
| Electrical: | 200,000 operations @ rated resistive load |
| Mechanical: | 10,000,000 operations @ no load |

MISCELLANEOUS

| | |
|----------------------|------------------------------|
| Operating Position: | Any |
| Insulation Material: | Molded plastic |
| Enclosure: | Polycarbonate dust cover |
| Weight: | SPDT & DPDT 35 grams approx. |

**SPDT, DPDT & 4PDT,
3, 5 & 15 AMPS**UL Recognized
File No. E52197LISTED 367G
IND. CONT. EQ.

C US

WHEN USED WITH
SOCKETS
70-459-1 OR 70-461-1CURRENT LIMITED TO
RATING OF RELAY OR
SOCKET WHICHEVER
IS LESS

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**MANUFACTURED UNDER
ISO 9002 & QS 9000****4PDT, QUICK CONNECT
SOLDER/PLUG-IN
3 OR 5 AMP****4PDT, PRINTED CIRCUIT
3 OR 5 AMP****SPDT, DPDT, QUICK CONNECT
SOLDER/PLUG-IN 15 AMP****SPDT, DPDT, PRINTED CIRCUIT
15 AMP****Mating Sockets**

70-782D-1, 70-459-1, 70-461-1:

SCREW/DIN70-401-1, 70-378-1: **SOLDER**

70-402-1, 70-379-1:

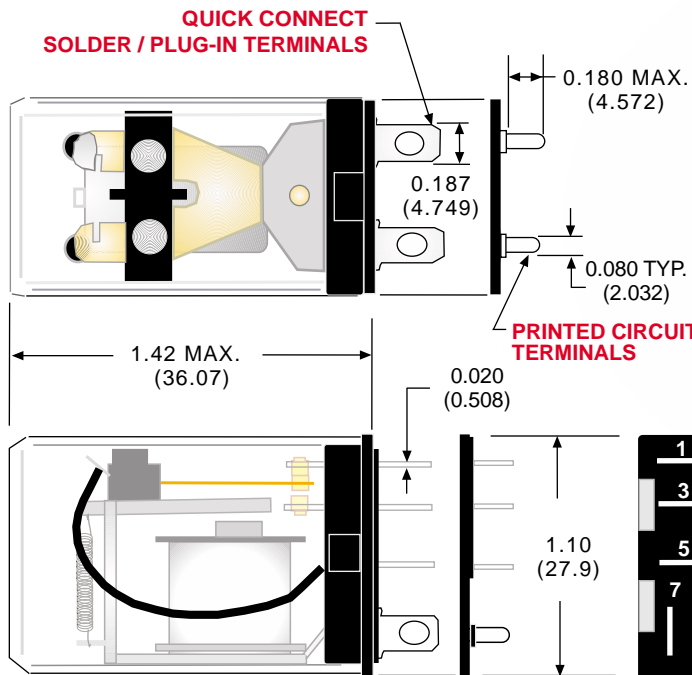
PRINTED CIRCUIT

See section 8, page 13, 14, 15, 20

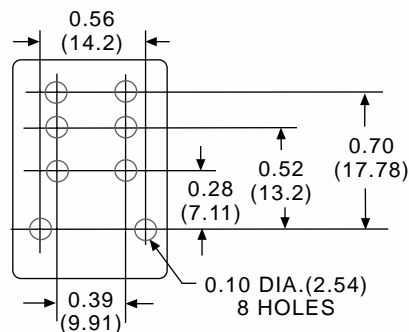


SPDT, 15 AMPS

OUTLINE DIMENSIONS
DIMENSIONS SHOWN IN INCHES & (MILLIMETERS).



PRINTED CIRCUIT MOUNTING HOLE LAYOUT
(BOTTOM VIEW)



DIN ADAPTER 16-782C



FLANGE ADAPTER 16-782C1

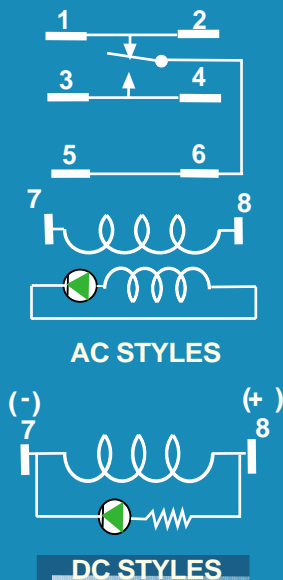


NEW SLOTTED PLAIN COVER, ALLOWS FOR INSTALLATION OF THE OPTIONAL TOP MOUNT DIN OR TOP/BOTTOM MOUNT FLANGE ADAPTERS. ADAPTERS SOLD SEPARATELY



OBSERVE POLARITY WHEN L.E.D. STATUS LAMP IS INSTALLED ACROSS COIL (DC STYLES TYPICAL)

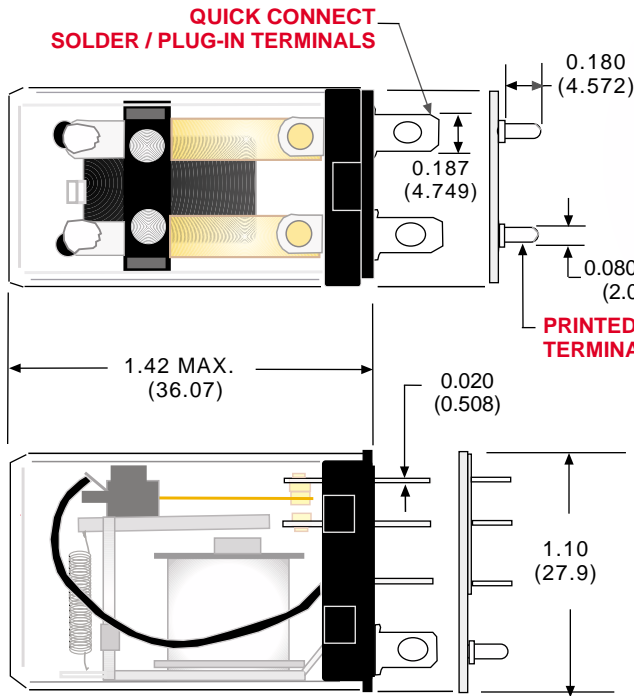
WIRING DIAGRAMS
(VIEWED FROM PIN END)



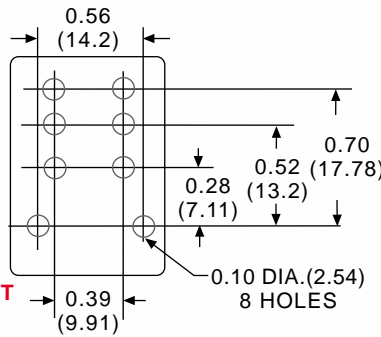
| STANDARD PART NUMBERS SPDT | COIL MEASURED @ 25°C | |
|---|-----------------------|---------------------------|
| | NOMINAL INPUT VOLTAGE | NOMINAL RESISTANCE (OHMS) |
| AC OPERATED - SOLDER/PLUG-IN, 15 AMP | | |
| W78ARCSX-108 | 12 VAC, 50/60 Hz | 46 Ω |
| W78ARCSX-109 | 24VAC, 50/60 Hz | 180 Ω |
| W78ARCSX-111 | 120 VAC, 50/60 Hz | 4430 Ω |
| W78ARCSX-112 | 240 VAC, 50/60 Hz | 15,700 Ω |
| AC OPERATED - SOLDER/PLUG-IN WITH INDICATOR LAMP, 15 AMP | | |
| W78ARNCSX-8 | 24 VAC, 50/60 Hz | 180 Ω |
| W78ARNCSX-9 | 120VAC, 50/60 Hz | 4430 Ω |
| W78ARNCSX-10 | 240 VAC, 50/60 Hz | 15,700 Ω |
| DC OPERATED - SOLDER/PLUG-IN, 15 AMP | | |
| W78RCSX-96 | 6 VDC | 40 Ω |
| W78RCSX-97 | 12 VDC | 160 Ω |
| W78RCSX-98 | 24VDC | 650 Ω |
| W78RCSX-100 | 110 VDC | 11,000 Ω |
| DC OPERATED - SOLDER/PLUG-IN WITH INDICATOR LAMP, 15 AMP | | |
| W78RNCSX-10 | 24 VDC | 650 Ω |
| AC OPERATED - PRINTED CIRCUIT TERMINAL, 15 AMP | | |
| W78ARPCX-81 | 12 VAC | 46 Ω |
| W78ARPCX-82 | 24 VAC | 180 Ω |
| W78ARPCX-84 | 120 VAC | 4430 Ω |
| DC OPERATED - PRINTED CIRCUIT TERMINAL, 15 AMP | | |
| W78RPCX-79 | 12 VDC | 160 Ω |
| W78RPCX-83 | 24 VDC | 650 Ω |
| W78RPCX-85 | 110 VDC | 11,000 Ω |

DPDT, 15 AMPS

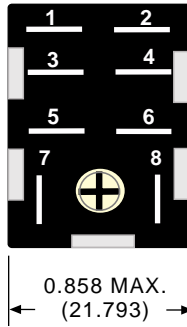
OUTLINE DIMENSIONS
DIMENSIONS SHOWN IN INCHES & (MILLIMETERS).



PRINTED CIRCUIT MOUNTING HOLE LAYOUT
(BOTTOM VIEW)



PRINTED CIRCUIT TERMINALS



DIN ADAPTER 16-782C



FLANGE ADAPTER 16-782C1

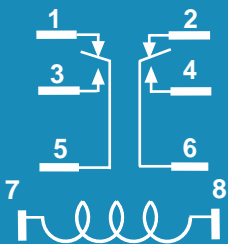


NEW SLOTTED PLAIN COVER, ALLOWS FOR INSTALLATION OF THE OPTIONAL TOP MOUNT DIN OR TOP/BOTTOM MOUNT FLANGE ADAPTERS. ADAPTERS SOLD SEPARATELY



SEE CLASS 782XBX FOR PART NUMBERS WITH L.E.D. STATUS LAMP AND PUSH BUTTON

WIRING DIAGRAM
(VIEWED FROM PIN END)



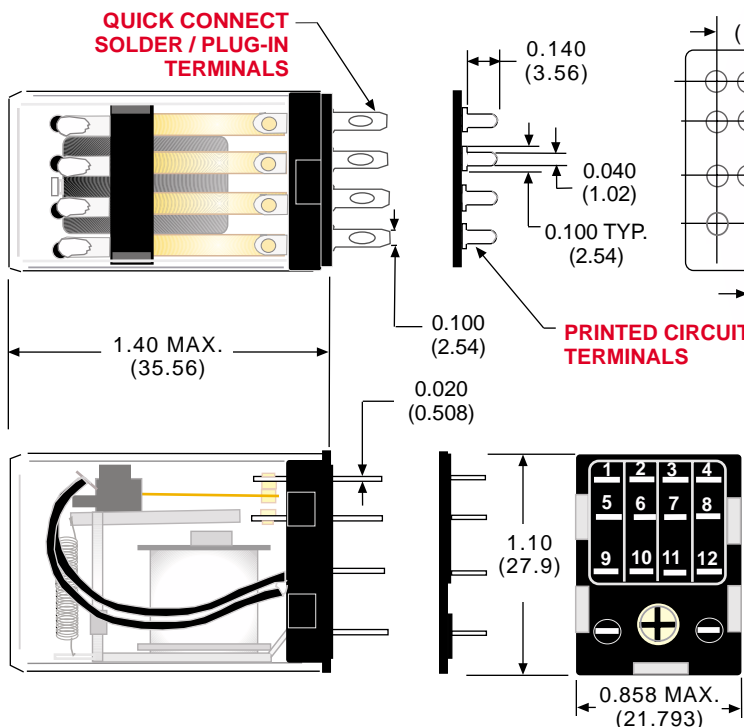
COIL MEASURED @ 25°C

| STANDARD PART NUMBERS DPDT | COIL MEASURED @ 25°C | |
|---|-----------------------|---------------------------|
| | NOMINAL INPUT VOLTAGE | NOMINAL RESISTANCE (OHMS) |
| AC OPERATED - SOLDER/PLUG-IN, 15 AMP | | |
| W78ARCSX-7 | 6 VAC, 50/60 Hz | 12.2 Ω |
| W78ARCSX-9 | 24VAC, 50/60 Hz | 180 Ω |
| W78ARCSX-11 | 120 VAC, 50/60 Hz | 4430 Ω |
| W78ARCSX-12 | 240 VAC, 50/60 Hz | 15,700 Ω |
| DC OPERATED - SOLDER/PLUG-IN, 15 AMP | | |
| W78RCSX-6 | 6 VDC | 40 Ω |
| W78RCSX-7 | 12 VDC | 160 Ω |
| W78RCSX-8 | 24VDC | 650 Ω |
| W78RCSX-9 | 48 VDC | 2,600 Ω |
| W78RCSX-10 | 110 VDC | 11,000 Ω |
| AC OPERATED - PRINTED CIRCUIT TERMINAL, 15 AMP | | |
| W78ARPCX-5 | 120 VAC, 50/60 Hz | 4430 Ω |
| W78ARPCX-6 | 240 VAC, 50/60 Hz | 15,700 Ω |
| DC OPERATED - PRINTED CIRCUIT TERMINAL, 15 AMP | | |
| W78RPCX-1 | 6VDC | 40 Ω |
| W78RPCX-2 | 12 VDC | 160 Ω |
| W78RPCX-3 | 24 VDC | 650 Ω |

RETROFITS POTTER & BRUMFIELD K10.
SEE END OF SECTION 1 FOR CROSS REFERENCE

4PDT, 3 & 5 AMPS

OUTLINE DIMENSIONS
DIMENSIONS SHOWN IN INCHES & (MILLIMETERS).



DIN ADAPTER 16-782C



FLANGE ADAPTER 16-782C1

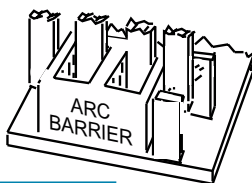


NEW SLOTTED PLAIN COVER, ALLOWS FOR INSTALLATION OF THE OPTIONAL TOP MOUNT DIN OR TOP/BOTTOM MOUNT FLANGE ADAPTERS. ADAPTERS SOLD SEPARATELY

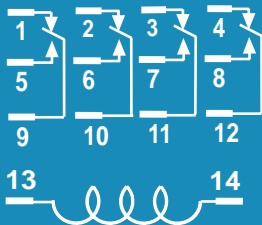


SEE CLASS 782DXD FOR PART NUMBERS WITH L.E.D. STATUS LAMP AND PUSH BUTTON

ALL 4 POLE RELAYS HAVE OPPOSITE POLARITY ARC BARRIERS AS A STANDARD FEATURE TO PROVIDE GREATER VOLTAGE PROTECTION BETWEEN ADJACENT POLES



WIRING DIAGRAM (VIEWED FROM PIN END)



COIL MEASURED @ 25°C

| STANDARD PART NUMBERS 4PDT | NOMINAL INPUT VOLTAGE | NOMINAL RESISTANCE (OHMS) |
|--|-----------------------|---------------------------|
| AC OPERATED - SOLDER/PLUG-IN, 3 AMP, BIFURCATED | | |
| W78ATCSX-2 | 12 VAC, 50/60 Hz | 46 Ω |
| W78ATCSX-3 | 24 VAC, 50/60 Hz | 180 Ω |
| W78ATCSX-5 | 120 VAC, 50/60 Hz | 4430 Ω |
| W78ATCSX-6 | 240 VAC, 50/60 Hz | 15,700 Ω |
| DC OPERATED - SOLDER/PLUG-IN, 3 AMP, BIFURCATED | | |
| W78TCSX-1 | 6 VDC | 40 Ω |
| W78TCSX-2 | 12 VDC | 160 Ω |
| W78TCSX-3 | 24 VDC | 650 Ω |
| W78TCSX-5 | 110 VDC | 11,000 Ω |
| AC OPERATED - SOLDER/PLUG-IN, 3 AMP | | |
| W78ACSX-2 | 12 VAC, 50/60 Hz | 46 Ω |
| W78ACSX-3 | 24 VAC, 50/60 Hz | 180 Ω |
| W78ACSX-5 | 120 VAC, 50/60 Hz | 4430 Ω |
| W78ACSX-6 | 240 VAC, 50/60 Hz | 15,700 Ω |
| DC OPERATED - SOLDER/PLUG-IN, 3 AMP | | |
| W78CSX-1 | 6 VDC | 40 Ω |
| W78CSX-2 | 12 VDC | 160 Ω |
| W78CSX-3 | 24 VDC | 650 Ω |
| W78CSX-6 | 110 VDC | 11,000 Ω |
| AC OPERATED PRINTED CIRCUIT, 3 AMP | | |
| W78APCX-3 | 24 VAC, 50/60 Hz | 180 Ω |
| W78APCX-5 | 120 VAC, 50/60 Hz | 4430 Ω |
| DC OPERATED PRINTED CIRCUIT, 3 AMP | | |
| W78PCX-2 | 12 VDC | 160 Ω |
| W78PCX-3 | 24 VDC | 650 Ω |
| W78PCX-6 | 110 VDC | 11,000 Ω |
| AC OPERATED - SOLDER/PLUG-IN, 5 AMP | | |
| W78KACSX-15 | 24 VAC, 50/60 Hz | 180 Ω |
| W78KACSX-17 | 120 VAC, 50/60 Hz | 4430 Ω |
| W78KACSX-18 | 240 VAC, 50/60 Hz | 15,700 Ω |
| DC OPERATED - SOLDER/PLUG-IN, 5 AMP | | |
| W78KCSX-12 | 12 VDC | 160 Ω |
| W78KCSX-13 | 24 VDC | 650 Ω |

FEATURES

BENEFITS

| | |
|---------------------------------------|---|
| FLAG INDICATOR: | SHOWS RELAY STATUS IN MANUAL OR POWERED CONDITION. |
| BI - POLAR L.E.D. STATUS LAMP: | SHOWS COIL "ON" OR "OFF" STATUS. IDEAL IN LOW LIGHT CONDITIONS. |
| PUSH BUTTON: | ALLOWS FOR MANUAL OPERATION OF RELAY WITHOUT THE NEED FOR COIL POWER. IDEAL FOR FIELD SERVICE PERSONNEL TO TEST CONTROL CIRCUITS. |
| LOCK-DOWN DOOR: | WHEN ACTIVATED, HOLDS PUSH BUTTON AND CONTACTS IN THE OPERATE POSITION. EXCELLENT FOR ANALYZING CIRCUIT PROBLEMS. |
| FINGER-GRIP COVER: | ALLOWS OPERATOR TO REMOVE RELAYS FROM SOCKETS MORE EASILY THAN CONVENTIONAL RELAYS. |
| I.D. TAG/WRITE LABEL: | USED FOR IDENTIFICATION OF RELAYS IN MULTI - RELAY CIRCUITS. |

DPDT & 3PDT, 12 AMPS

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WHEN USED WITH SOCKETS
**70-464-1, 70-465-1,
70-750D8-1 OR
70-750D11-1**

CURRENT LIMITED TO RATING OF RELAY OR SOCKET WHICHEVER IS LESS

CE
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

GENERAL SPECIFICATIONS

**MANUFACTURED UNDER
ISO 9002 & QS 9000**

COIL

| | |
|------------------------|---|
| Pull-in Voltage: | 80% of nominal voltage or less for DC coils, 85% of nominal voltage or less for AC coils |
| Dropout Voltage: | DC-10%, AC-30% of nominal voltage or more |
| Max. Voltage: | 110% |
| Resistance: | ±10% measured @ 25°C |
| Coil Power: | 1.4 watts DC. 2 VA to 3.55 VA (60Hz) AC. @ 25°C |
| Insulation System: | Class "B" (130°C per UL standard 1446) |
| Max. Coil Dissipation: | 3.0 watts DC. 3.4 VA (60Hz) AC. @ 25°C |
| Duty: | Continuous |

CONTACTS

| | |
|---------------------|--|
| Contact Material: | Silver alloy, gold flashed |
| Contact Rating: | 12 amps, 120 / 240 VAC 50/60Hz, 12 amps, 28 VDC 1/3Hp 120 VAC, 1/2Hp 240 VAC |
| Contact Resistance: | 50 milliohms max. @ 10 amps, 120 VAC or 24 VDC contacts conditioned for 50 make and break, operations @ 1 second "ON" & 1 second "OFF" |

DIELECTRIC STRENGTH

| | |
|------------------------|-----------------------|
| Contacts to Coil: | 2500 V rms |
| Across open Contacts: | 1500 V rms |
| Pole to Pole: | 2500 V rms |
| Contacts to Frame: | 2500 V rms |
| Insulation Resistance: | 100 megohms @ 500 VDC |

TEMPERATURE

| | |
|------------|---|
| Operating: | -40°C to +50°C. (AC), -40°C +65°C. (DC) |
| Storage: | -40°C to +100°C |

LIFE EXPECTANCY

| | |
|-------------|---|
| Electrical: | 200,000 operations @ rated resistive load |
| Mechanical: | 5,000,000 operations @ no load |

MISCELLANEOUS

| | |
|----------------------|--------------------------|
| Operating Position: | Any |
| Insulation Material: | Molded plastic |
| Enclosure: | Polycarbonate dust cover |
| Weight: | 79 grams approx. |



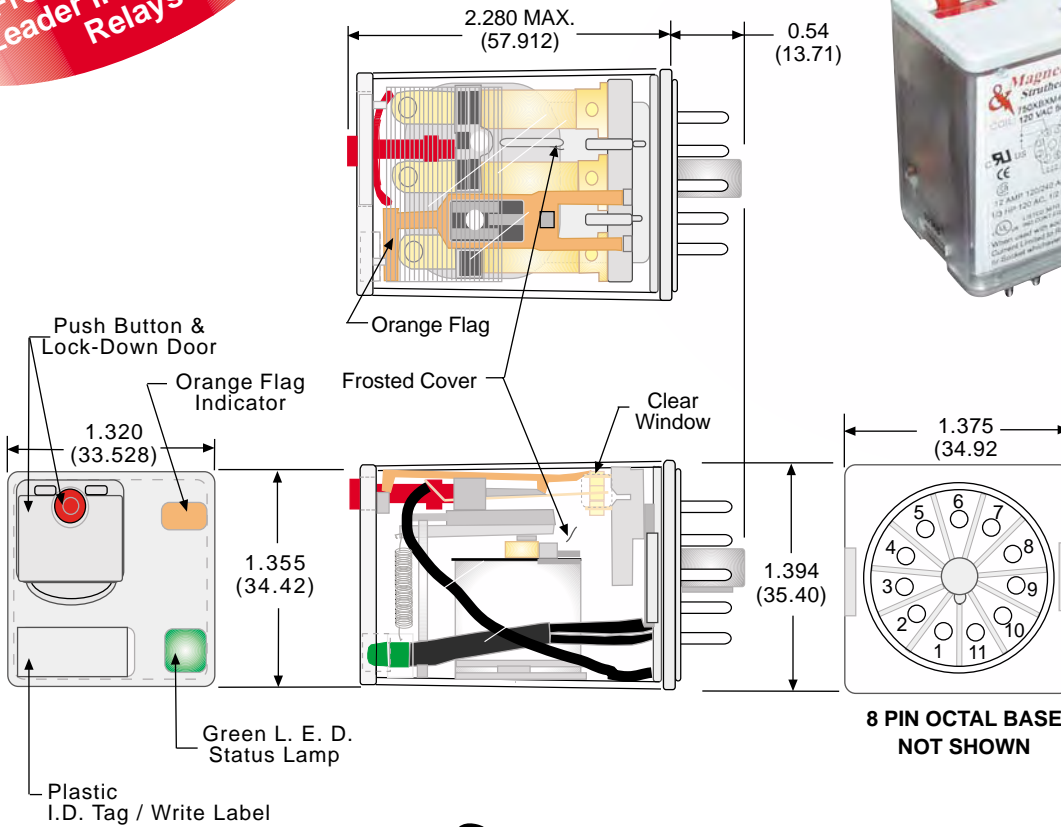
Mating Sockets
**70-750D8-1, 70-750D11-1,
70-464-1, 70-465-1: SCREW/DIN
70-169-1, 70-170-1: SCREW/PANEL**
See section 8, page 7 - 12



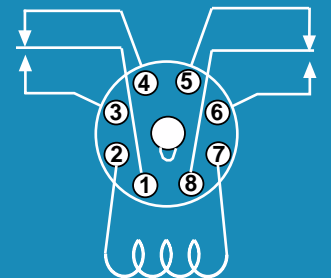
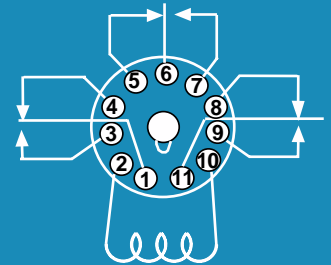
DPDT & 3PDT, 12 AMPS

NEW
From The Market
Leader in Industrial
Relays

OUTLINE DIMENSIONS
DIMENSIONS SHOWN IN INCHES & (MILLIMETERS).



WIRING DIAGRAMS
(VIEWED FROM PIN END)



**BI - POLAR
L.E.D. STATUS LAMP
ALLOWS FOR REVERSE
POLARITY APPLICATIONS**

ORDERING CODE FOR RELAYS

750 **XBX** **M4L-120A**

CLASS: _____

CONTACT CONFIGURATION: _____
DPDT: **XBX**
3PDT: **XCX**

STANDARD FEATURES: _____
PUSH BUTTON &
LOCK DOWN DOOR: **CODE M4**
BI - POLAR L.E.D. STATUS LAMP: **CODE L**

OPTIONAL FEATURES: _____
PUSH BUTTON WITHOUT
LOCK DOWN DOOR: **CODE M**

COIL VOLTAGE: _____
6, 12, 24, 120, 220/230, 240 ADD "A" FOR AC COILS
6, 12, 24, 48, 110 ADD "D" FOR DC COILS

| STANDARD PART NUMBERS | CONTACT CONFIGURATION | COIL MEASURED @ 25°C | |
|---|-----------------------|-----------------------|---------------------------|
| | | NOMINAL INPUT VOLTAGE | NOMINAL RESISTANCE (OHMS) |
| AC OPERATED - 8 PIN OCTAL, 12 AMP | | | |
| 750XBXM4L-24A | DPDT | 24 VAC, 50/60Hz | 72 Ω |
| 750XBXM4L-120A | DPDT | 120 VAC, 50/60Hz | 1,700 Ω |
| 750XBXM4L-240A | DPDT | 240 VAC, 50/60Hz | 9,100 Ω |
| DC OPERATED - 8 PIN OCTAL, 12 AMP | | | |
| 750XBXM4L-12D | DPDT | 12 VDC | 120 Ω |
| 750XBXM4L-24D | DPDT | 24 VDC | 470 Ω |
| 750XBXM4L-110D | DPDT | 110 VDC | 10,000 Ω |
| AC OPERATED - 11 PIN OCTAL, 12 AMP | | | |
| 750XCXM4L-24A | 3PDT | 24 VAC, 50/60Hz | 72 Ω |
| 750XCXM4L-120A | 3PDT | 120 VAC, 50/60Hz | 1,700 Ω |
| 750XCXM4L-240A | 3PDT | 240 VAC, 50/60Hz | 9,100 Ω |
| DC OPERATED - 11 PIN OCTAL, 12 AMP | | | |
| 750XCXM4L-12D | 3PDT | 12 VDC | 120 Ω |
| 750XCXM4L-24D | 3PDT | 24 VDC | 470 Ω |
| 750XCXM4L-110D | 3PDT | 110 VDC | 10,000 Ω |

CADMIUM-FREE CONTACTS AVAILABLE,
CONTACT FACTORY FOR DETAILS

UL CONTACT LOAD RATINGS TABLE

| POLES | CURRENT OR HORSE POWER | LOAD VOLTAGE | LOAD VOLTAGE FREQUENCY | TYPE OF LOAD |
|-------------|------------------------|--------------|------------------------|--------------|
| 2 POLES | 12 AMP | 120 VAC | DC | RESISTIVE |
| | 10 AMP | 240 VAC | 50/60 Hz | RESISTIVE |
| | 10 AMP | 28 VDC | DC | RESISTIVE |
| 3 POLES | 10 AMP | 120/240 VAC | 50/60 Hz | RESISTIVE |
| | 10 AMP | 28 VDC | DC | RESISTIVE |
| 2 & 3 POLES | 1/3 HP | 120 VAC | 50/60 Hz | MOTOR |
| | 1/2 HP | 240 VAC | 50/60 Hz | MOTOR |

CONTACT RATINGS WITH BLOW-OUT MAGNET FOR DC SWITCHING (NOT UL)

| POLES | CURRENT OR HORSE POWER | LOAD VOLTAGE | LOAD VOLTAGE FREQUENCY | TYPE OF LOAD |
|---------|------------------------|--------------|------------------------|--------------|
| 2 POLES | 3 AMP | 150 VDC | DC | RESISTIVE |

**DPDT & 3PDT
3, 10 & 12 AMPS**

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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

WHEN USED WITH SOCKETS 70-464-1 OR 70-465-1

CURRENT LIMITED TO RATING OF RELAY OR SOCKET WHICHEVER IS LESS

GENERAL SPECIFICATIONS

COIL

- Pull-in Voltage: 80% of nominal voltage or less for DC coils, 85% of nominal voltage or less for AC coils
- Dropout Voltage: DC-10%, AC-30% of nominal voltage or more
- Max. Voltage: 110%
- Resistance: ±10% measured @ 25°C
- Coil Power: 1.2 watts DC. 2 VA to 2.75 (60Hz) AC. @ 25°C
- Insulation System: Class "B" (130°C per UL standard 1446)
- Max. Coil Dissipation: 3.0 watts DC. @ 25°C.
- Duty: Continuous.

CONTACTS

- Contact Material: Silver alloy, gold flashed standard., gold diffused contacts available
- Contact Rating: See "UL CONTACT LOAD RATINGS TABLE"
- Contact Resistance: 50 milliohms max. @ 10 amps, 120 VAC or 24 VDC contacts conditioned for 50 make and break operations @ 1 second "ON" & 1 second "OFF"

DIELECTRIC STRENGTH

- Contacts to Coil: 1500 V rms
- Coil to Frame: 1500 V rms
- Across Open Contacts: 500 V rms
- Pole to Pole: 1500 V rms
- Contacts to Frame: 1500 V rms
- Insulation Resistance: 1000 megohms @ 500 VDC

TEMPERATURE

- Operating: -45°C to +55°C (AC), -45°C to +70°C (DC).
- Storage: -40°C to +105°C

VIBRATION RESISTANCE

- Functional: 10 to 55Hz; 1 mm (double amplitude)

SHOCK RESISTANCE

- Functional: 10 g's
- Mechanical: 100 g's

LIFE EXPECTANCY

- Electrical: 100,000 operations @ rated resistive load
- Mechanical: 5,000,000 operations @ no load

MISCELLANEOUS

- Operating Position: Any
- Insulation Material: Molded plastic
- Enclosure: Polycarbonate dust cover
- Terminals: 8 or 11 pin octal plug-in
- Weight: 99.2 grams approx.

**MANUFACTURED UNDER
ISO 9002 & QS 9000**

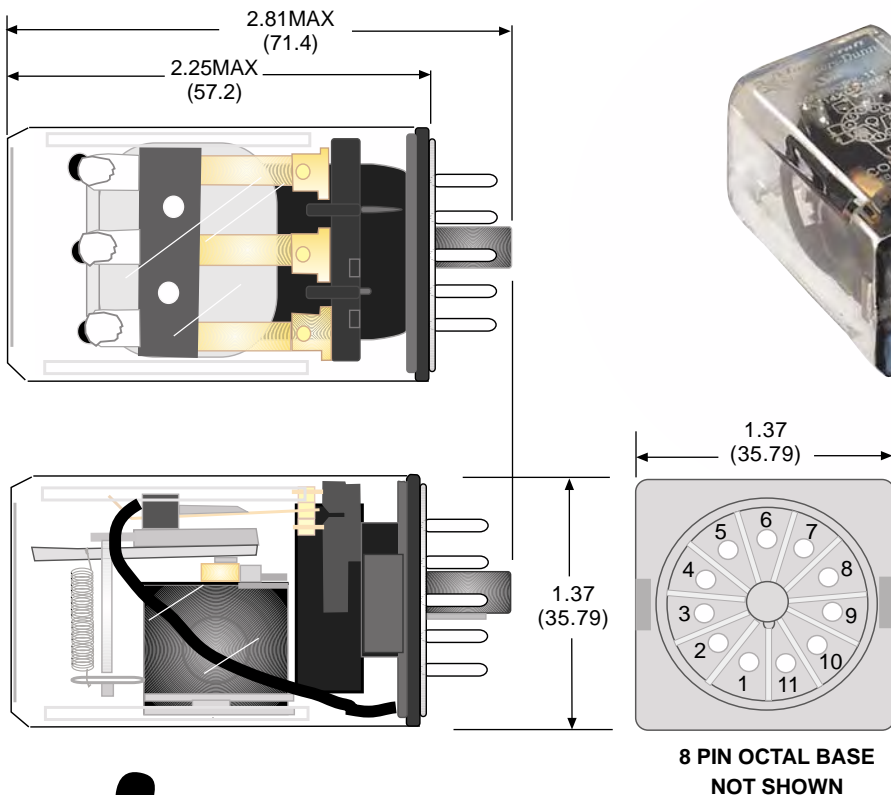


Mating Sockets
70-750D8-1, 70-750D11-1,
70-464-1, 70-465-1: SCREW/DIN
70-169-1, 70-170-1: SCREW/PANEL
See section 8, page 7 - 12



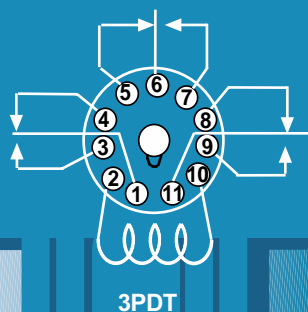
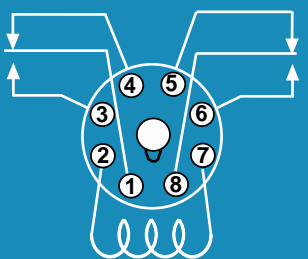
**DPDT & 3PDT
3, 10 & 12 AMPS**

OUTLINE DIMENSIONS
DIMENSIONS SHOWN IN INCHES & (MILLIMETERS).



SEE CLASS 750 FOR
PART NUMBERS WITH
L.E.D. STATUS LAMP
AND PUSH BUTTON

WIRING DIAGRAMS
(VIEWED FROM PIN END)



| STANDARD PART NUMBERS | CONTACT CONFIGURATION | COIL MEASURED @ 25°C | |
|---|-----------------------|-----------------------|---------------------------|
| | | NOMINAL INPUT VOLTAGE | NOMINAL RESISTANCE (OHMS) |
| AC OPERATED, 12 AMP | | | |
| A314XBX48P-24A | DPDT | 24 VAC, 50/60Hz | 85 Ω |
| A314XBX48P-120A | DPDT | 120VAC, 50/60Hz | 2250 Ω |
| A314XBX48P-240A | DPDT | 220/240 VAC, 50/60Hz | 9110 Ω |
| AC OPERATED, 10 AMP | | | |
| A314XCX48P-24A | 3PDT | 24 VAC, 50/60Hz | 85 Ω |
| A314XCX48P-120A | 3PDT | 120 VAC, 50/60Hz | 1700 Ω |
| A314XCX48P-240A | 3PDT | 220/240 VAC, 50/60Hz | 9110 Ω |
| DC OPERATED, 12 AMP | | | |
| A314XBX48P-12D | DPDT | 12VDC | 120 Ω |
| A314XBX48P-24D | DPDT | 24 VDC | 472 Ω |
| DC OPERATED, 10 AMP | | | |
| A314XCX48P-12D | 3PDT | 12 VDC | 120 Ω |
| A314XCX48P-24D | 3PDT | 24 VDC | 472 Ω |
| AC OPERATED WITH BLOW - OUT MAGNET, 3 AMP FOR DC SWITCHING | | | |
| A314XBX48P69-24A | DPDT | 24 VAC | 85 Ω |
| A314XBX48P69-120A | DPDT | 120VAC | 1700 Ω |
| DC OPERATED WITH BLOW - OUT MAGNET, 3 AMP FOR DC SWITCHING | | | |
| A314XBX48P69-12D | DPDT | 12 VDC | 120 Ω |
| A314XBX48P69-24D | DPDT | 24 VDC | 472 Ω |
| A314XBX48P69-110D | DPDT | 110 VDC | 10,000 Ω |

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

FEATURES

BENEFITS

| | |
|---------------------------------------|---|
| FLAG INDICATOR: | SHOWS RELAY STATUS IN MANUAL OR POWERED CONDITION. |
| BI - POLAR L.E.D. STATUS LAMP: | SHOWS COIL "ON" OR "OFF" STATUS. IDEAL IN LOW LIGHT CONDITIONS. |
| PUSHBUTTON: | ALLOWS FOR MANUAL OPERATION OF RELAY WITHOUT THE NEED FOR COIL POWER. IDEAL FOR FIELD SERVICE PERSONNEL TO TEST CONTROL CIRCUITS. |
| LOCK-DOWN DOOR: | WHEN ACTIVATED, HOLDS PUSH BUTTON AND CONTACTS IN THE OPERATE POSITION. EXCELLENT FOR ANALYZING CIRCUIT PROBLEMS. |
| FINGER-GRIP COVER: | ALLOWS OPERATOR TO REMOVE RELAYS FROM SOCKETS MORE EASILY THAN CONVENTIONAL RELAYS. |
| I.D. TAG/WRITE LABEL: | USED FOR IDENTIFICATION OF RELAYS IN MULTI - RELAY CIRCUITS. |

DPDT & 3PDT, 12 AMPS

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File No. E43641

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WHEN USED WITH
SOCKET 70-463-1

CURRENT LIMITED TO
RATING OF RELAY OR
SOCKET WHICHEVER
IS LESS

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

GENERAL SPECIFICATIONS

MANUFACTURED UNDER
ISO 9002 & QS 9000

COIL

| | |
|------------------------|---|
| Pull-in Voltage: | 80% of nominal voltage or less for DC coils, 85% of nominal voltage or less for AC coils |
| Dropout Voltage: | DC-10%, AC-30% of nominal voltage or more |
| Max. Voltage: | 110% |
| Resistance: | ±10% measured @ 25°C |
| Coil Power: | 1.4 watts DC., 2 VA to 3.55 VA (60Hz) AC @ 25°C |
| Insulation System: | Class "B" (130°C per UL standard 1446) |
| Max. Coil Dissipation: | 3.0 watts DC. 3.4 VA (60Hz) AC. @ 25°C |
| Duty: | Continuous |

CONTACTS

| | |
|---------------------|---|
| Contact Material: | Silver alloy, gold flashed |
| Contact Rating: | 12 amps, 120/240 VAC 50/60Hz, 12 amps, 28 VDC 1/3Hp 120 VAC, 1/2Hp 240 VAC. |
| Contact Resistance: | 50 milliohms max. @ 10 amps, 120 VAC or 24 VDC contacts conditioned for 50 make and break operations @ 1 second "ON" & 1 second "OFF" |

DIELECTRIC STRENGTH

| | |
|------------------------|-----------------------|
| Contacts to Coil: | 2500 V rms |
| Across Open Contacts: | 1500 V rms |
| Pole to Pole: | 2500 V rms |
| Contacts to Frame: | 2500 V rms |
| Insulation Resistance: | 100 megohms @ 500 VDC |

TEMPERATURE

| | |
|------------|---|
| Operating: | -40°C to +50°C. (AC), -40°C +65°C. (DC) |
| Storage: | -40°C to +100°C |

LIFE EXPECTANCY

| | |
|-------------|---|
| Electrical: | 200,000 operations @ rated resistive load |
| Mechanical: | 5,000,000 operations @ no load |

MISCELLANEOUS

| | |
|----------------------|--------------------------|
| Operating Position: | Any |
| Insulation Material: | Molded plastic |
| Enclosure: | Polycarbonate dust cover |
| Weight: | 88 grams approx. |



Mating Sockets

70-463-1: SCREW/DIN

70-124-1: SOLDER

70-178-1, 70-178-2: PRINTED CIRCUIT

70-124-2: QUICK CONNECT

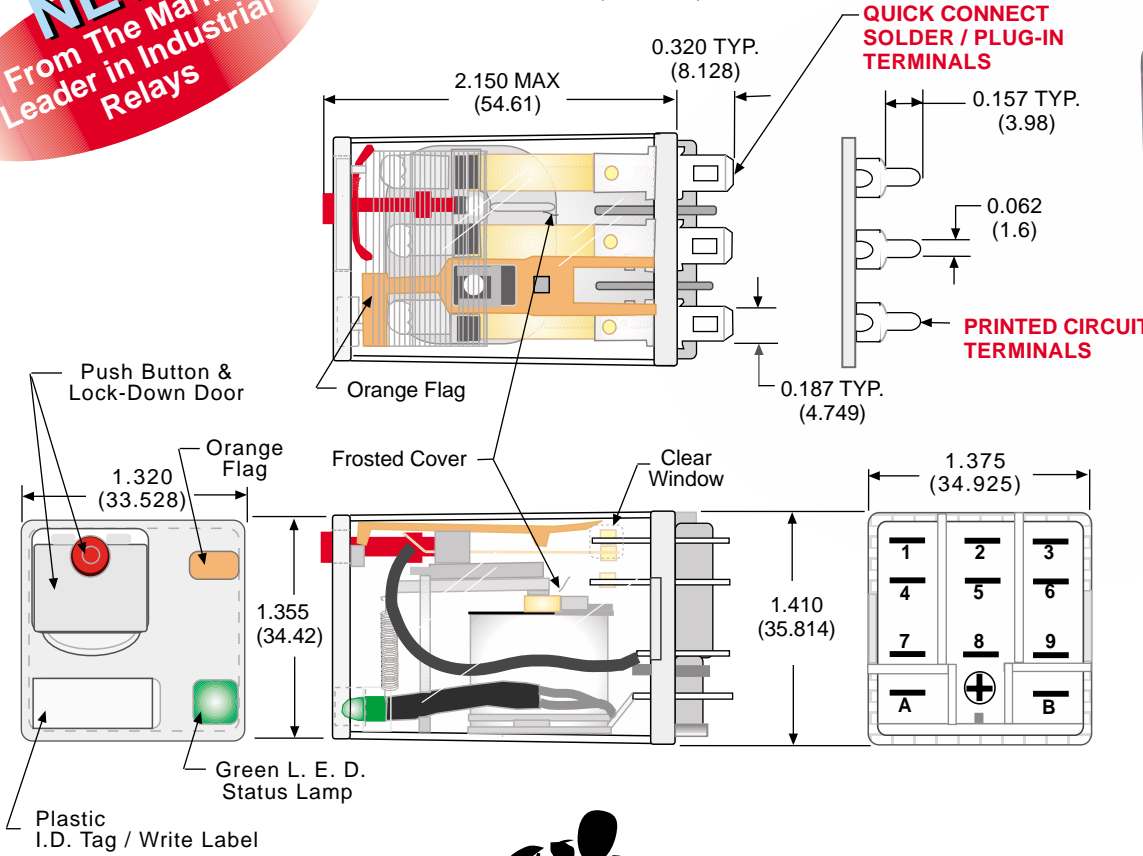
See section 8, page 16, 17



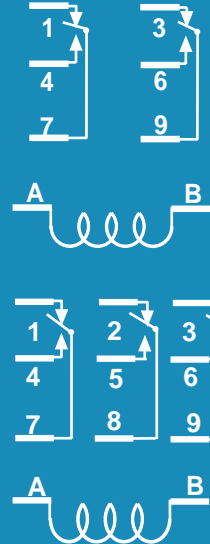
DPDT & 3PDT, 12 AMPS

NEW
From The Market
Leader in Industrial
Relays

OUTLINE DIMENSIONS
DIMENSIONS SHOWN IN INCHES & (MILLIMETERS).



WIRING DIAGRAMS
(VIEWED FROM PIN END)



**BI - POLAR
L.E.D. STATUS LAMP
ALLOWS FOR REVERSE
POLARITY APPLICATIONS**

ORDERING CODE FOR RELAYS

CLASS: 788

CONTACT CONFIGURATION: **XBX**

TERMINAL STYLE: **M4L - 120A**

STANDARD FEATURES:
PUSH BUTTON & LOCK DOWN DOOR: **CODE M4**
BI - POLAR L.E.D. STATUS LAMP: **CODE L**

OPTIONAL FEATURES:
PUSH BUTTON WITHOUT LOCK DOWN DOOR: **CODE M**

COIL VOLTAGE:
6, 12, 24, 120, 220 / 230, 240 **ADD "A" FOR AC COILS**
6, 12, 24, 48, 110 **ADD "D" FOR DC COILS**

| STANDARD PART NUMBERS | CONTACT CONFIGURATION | COIL MEASURED @ 25°C | |
|---|-----------------------|-----------------------|---------------------------|
| | | NOMINAL INPUT VOLTAGE | NOMINAL RESISTANCE (OHMS) |
| AC OPERATED - SOLDER/PLUG-IN, 12 AMP | | | |
| 788XBXM4L-24A | DPDT | 24 VAC, 50/60Hz | 72 Ω |
| 788XBXM4L-120A | DPDT | 120 VAC, 50/60Hz | 1,700 Ω |
| 788XBXM4L-240A | DPDT | 240 VAC, 50/60Hz | 9,100 Ω |
| DC OPERATED - SOLDER/PLUG-IN, 12 AMP | | | |
| 788XBXM4L-12D | DPDT | 12 VDC | 120 Ω |
| 788XBXM4L-24D | DPDT | 24 VDC | 470 Ω |
| 788XBXM4L-110D | DPDT | 110 VDC | 10,000 Ω |
| AC OPERATED - SOLDER/PLUG-IN, 12 AMP | | | |
| 788XCXM4L-24A | 3PDT | 24 VAC, 50/60Hz | 72 Ω |
| 788XCXM4L-120A | 3PDT | 120 VAC, 50/60Hz | 1,700 Ω |
| 788XCXM4L-240A | 3PDT | 240 VAC, 50/60Hz | 9,100 Ω |
| DC OPERATED - SOLDER/PLUG-IN, 12 AMP | | | |
| 788XCXM4L-12D | 3PDT | 12 VDC | 120 Ω |
| 788XCXM4L-24D | 3PDT | 24 VDC | 470 Ω |
| 788XCXM4L-110D | 3PDT | 110 VDC | 10,000 Ω |

CADMIUM-FREE CONTACTS AVAILABLE,
CONTACT FACTORY FOR DETAILS

SPDT, DPDT & 3PDT, 15 AMPS

UL CONTACT LOAD RATINGS TABLE

| POLES | CURRENT OR HORSE POWER | LOAD VOLTAGE | LOAD VOLTAGE FREQUENCY | TYPE OF LOAD |
|---------------------|------------------------|--------------|------------------------|--------------|
| 1 POLE THRU 3 POLES | 15 AMP | 120/240 VAC | 50/60 Hz | RESISTIVE |
| | 10 AMP | 28 VDC | DC | RESISTIVE |
| | 1/3 HP | 120 VAC | 50/60 Hz | MOTOR |
| | 1/2 HP | 240 VAC | 50/60 Hz | MOTOR |
| | 3 AMP | 600 VAC | 50/60 Hz | RESISTIVE |

UL **us** 168986
 UL Recognized
 File No. E13224

UL LISTED 367G
 IND. CONT. EQ.
C **US**
 WHEN USED WITH
 SOCKETS 70-463-1



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

CURRENT LIMITED TO RATING OF RELAY OR SOCKET WHICHEVER IS LESS

MANUFACTURED UNDER ISO 9002 & QS 9000

GENERAL SPECIFICATIONS

COIL

Pull-in Voltage: 80% of nominal voltage or less for DC coils
 85% of nominal voltage or less for AC coils

Dropout Voltage: 10% of nominal voltage or more

Max. Voltage: 110%

Resistance: ± 10 % measured at 25°C

Coil Power: 1.2 watts for DC coils,
 2 VA to 2.75 VA for AC @ 25°C

Insulation System: Class "B" (130°C per UL standard 1446)

Maximum Coil Dissipation: 3.0 watts max. DC

Duty: Continuous

CONTACTS

Contact Material: 0.187 silver alloy, gold flashed

Contact Resistance: 50 milliohms maximum initial resistance at rated current

Contact Ratings: See "UL CONTACT LOAD RATINGS TABLE"

DIELECTRIC STRENGTH

Contacts to Coil: 2000 V rms

Across Open Contacts: 500 V rms

Pole to Pole: 2000 V rms

Contacts to Frame: 2000 V rms

Insulation Resistance: 1000 megohms @ 500 VDC

TEMPERATURE

Operating: -30°C to +50°C. (AC), -30°C to +65°C. (DC)

Storage: -30°C to +100°C

LIFE EXPECTANCY

Electrical: 100,000 operations @ rated resistive load

Mechanical: 5,000,000 operations @ no load

MISCELLANEOUS

Operating Position: Any

Insulation material: Molded plastic

Enclosure: Polycarbonate dust cover

Terminals: 0.187 x 0.032 quick connect flange or 0.187 x 0.020 solder/plug-in. Optional printed circuit terminals available

Weight: 88 grams approx.



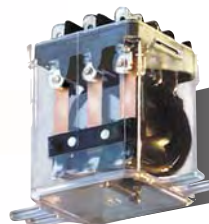
PLUG-IN



FLANGE MOUNT



OPTIONAL PRINTED CIRCUIT TERMINAL CONSULT FACTORY.



OPTIONAL TOP FLANGE COVER CONSULT FACTORY.



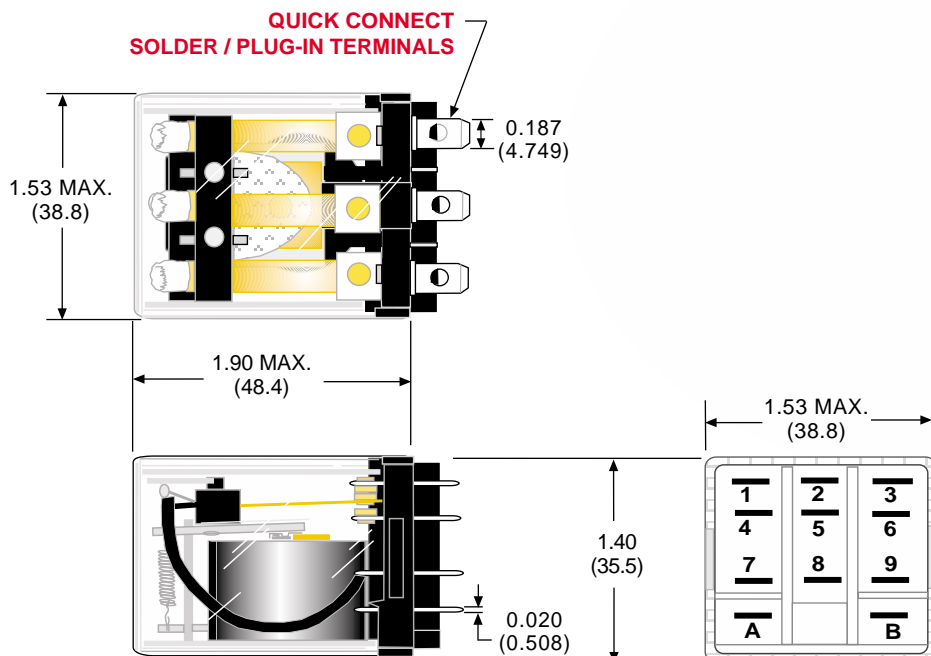
OPTIONAL DIN COVER CONSULT FACTORY.

Mating Sockets
 70-463-1: SCREW/DIN
 70-124-1: SOLDER
 70-178-1, 70-178-2: PRINTED CIRCUIT
 70-124-2: QUICK CONNECT
 See section 8, page 16, 17



SPDT, DPDT & 3PDT, 15 AMPS

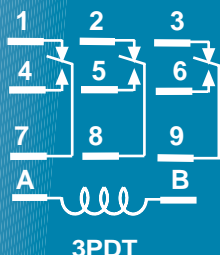
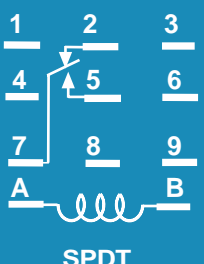
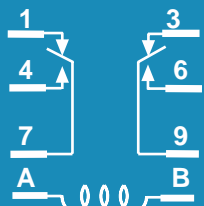
OUTLINE DIMENSIONS
DIMENSIONS SHOWN IN INCHES & (MILLIMETERS).



SEE CLASS 788 FOR
PART NUMBERS WITH
L.E.D. STATUS LAMP
AND PUSH BUTTON

WIRING DIAGRAMS

(VIEWED FROM PIN END)

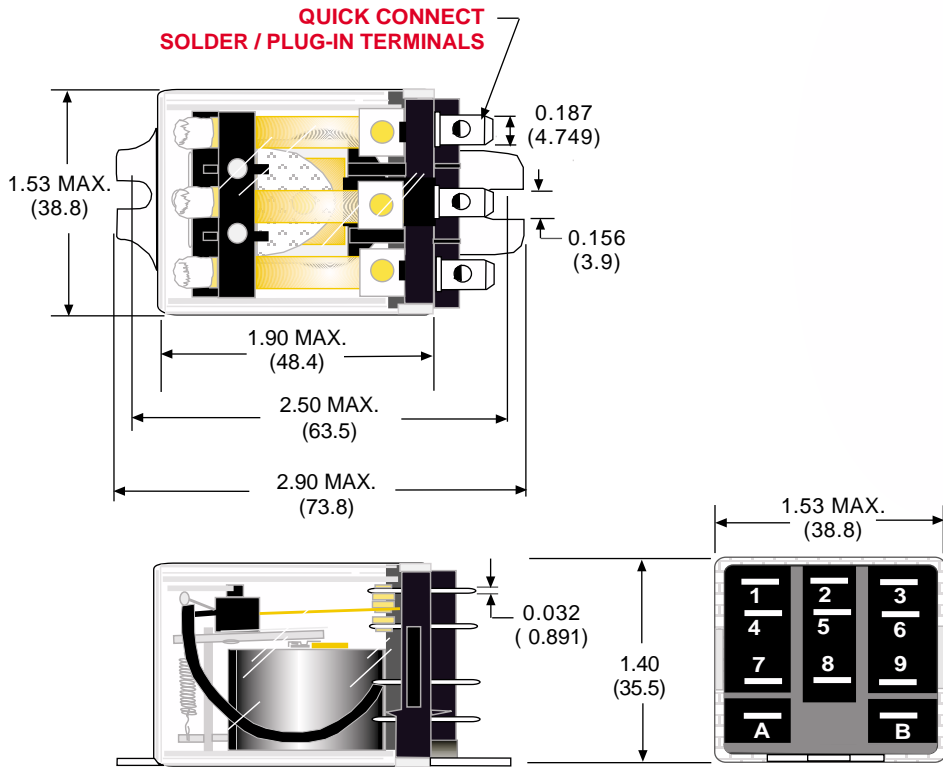


| STANDARD PART NUMBERS | CONTACT CONFIGURATION | COIL MEASURED @ 25°C | |
|---|-----------------------|-----------------------|---------------------------|
| | | NOMINAL INPUT VOLTAGE | NOMINAL RESISTANCE (OHMS) |
| AC OPERATED SOLDER/PLUG-IN, 15 AMP | | | |
| A283XAXC-120A | SPDT | 120 VAC, 50/60Hz | 2250 Ω |
| A283XAXC-240A | SPDT | 220/240 VAC, 50/60Hz | 9100 Ω |
| A283XBXC-24A | DPDT | 24 VAC, 50/60Hz | 75 Ω |
| A283XBXC-120A | DPDT | 120 VAC, 50/60Hz | 2250 Ω |
| A283XBXC-240A | DPDT | 220/240 VAC, 50/60Hz | 9100 Ω |
| A283XCXC-24A | 3PDT | 24 VAC, 50/60Hz | 72 Ω |
| A283XCXC-120A | 3PDT | 120 VAC, 50/60Hz | 1700 Ω |
| A283XCXC-240A | 3PDT | 220/240 VAC, 50/60Hz | 7200 Ω |
| DC OPERATED SOLDER/PLUG-IN, 15 AMP | | | |
| A283XAXC-12D | SPDT | 12 VDC | 120 Ω |
| A283XAXC-24D | SPDT | 24 VDC | 472 Ω |
| A283XBXC-12D | DPDT | 12 VDC | 120 Ω |
| A283XBXC-24D | DPDT | 24 VDC | 472 Ω |
| A283XBXC-110D | DPDT | 110 VDC | 10,000 Ω |
| A283XCXC-12D | 3PDT | 12 VDC | 120 Ω |
| A283XCXC-24D | 3PDT | 24VDC | 472 Ω |

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

SPDT, DPDT & 3PDT, 15 AMPS

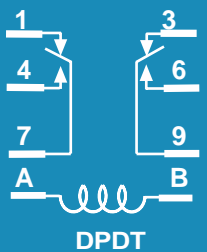
OUTLINE DIMENSIONS
DIMENSIONS SHOWN IN INCHES & (MILLIMETERS).



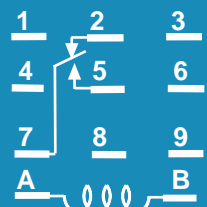
SEE CLASS 388J FOR PART NUMBERS WITH L.E.D. STATUS LAMP AND PUSH BUTTON

WIRING DIAGRAMS

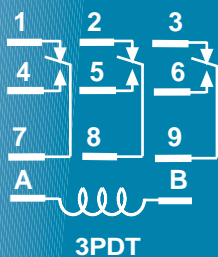
(VIEWED FROM PIN END)



DPDT



SPDT

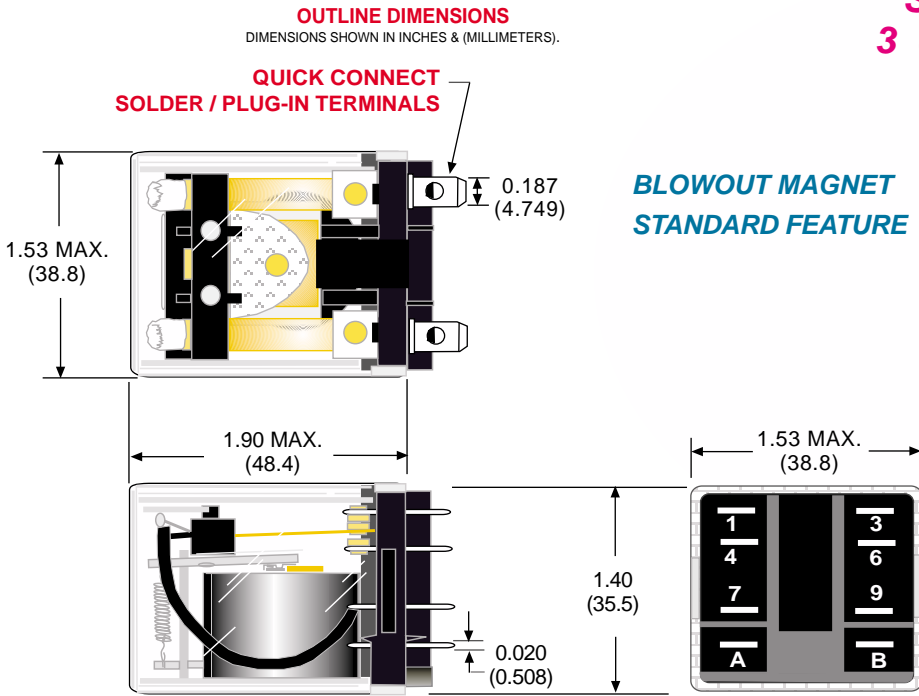


3PDT

| STANDARD PART NUMBERS | CONTACT CONFIGURATION | COIL MEASURED @ 25°C | |
|----------------------------|-----------------------|-----------------------|---------------------------|
| | | NOMINAL INPUT VOLTAGE | NOMINAL RESISTANCE (OHMS) |
| AC OPERATED, 15 AMP | | | |
| A283XAXC1-120A | SPDT | 120 VAC, 50/60Hz | 2250 Ω |
| A283XAXC1-240A | SPDT | 220/240 VAC, 50/60Hz | 9100 Ω |
| A283XBXC1-120A | DPDT | 120 VAC, 50/60Hz | 2250 Ω |
| A283XBXC1-240A | DPDT | 220/240 VAC, 50/60Hz | 9100 Ω |
| A283XCXC1-120A | 3PDT | 120 VAC, 50/60Hz | 1700 Ω |
| A283XCXC1-240A | 3PDT | 220/240 VAC, 50/60Hz | 7200 Ω |
| DC OPERATED, 15 AMP | | | |
| A283XAXC1-12D | SPDT | 12 VDC | 120 Ω |
| A283XAXC1-24D | SPDT | 24 VDC | 472 Ω |
| A283XBXC1-12D | DPDT | 12 VDC | 120 Ω |
| A283XBXC1-24D | DPDT | 24 VDC | 472 Ω |
| A283XCXC1-24D | 3PDT | 24 VDC | 472 Ω |

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

DPDT, DPST-NO, SPST-NO-DM, SPDT-NO-DM-DB & SPST-NO-DM, 3 & 10 AMPS, 150 VDC SWITCHING

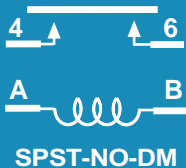
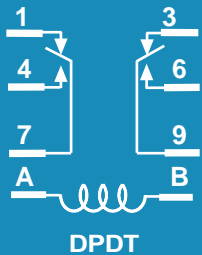


UL CONTACT LOAD RATINGS TABLE FOR DC SWITCHING

| POLES | CURRENT OR HORSE POWER | LOAD VOLTAGE | TYPE OF LOAD |
|---------------------|------------------------|--------------|--------------|
| DPDT | 3 AMP | 150 VDC | RESISTIVE |
| SPST (DM and/or DB) | 10 AMP | 150 VDC | RESISTIVE |
| SPST (N.O or N.C) | 10 AMP | 150 VDC | RESISTIVE |

THE BLOWOUT MAGNET STYLES HAVE THE SAME LOAD SPECIFICATIONS AS THE A283 ENCLOSED PLUG-IN RELAYS, PLUS THE ADDITIONAL LOAD RATINGS CHARTED IN TABLE ABOVE. SEE A283 GENERAL SPECIFICATIONS.

WIRING DIAGRAMS
(VIEWED FROM PIN END)



| STANDARD PART NUMBERS | CONTACT CONFIGURATION | COIL MEASURED @ 25°C | |
|--|-----------------------|-----------------------|---------------------------|
| | | NOMINAL INPUT VOLTAGE | NOMINAL RESISTANCE (OHMS) |
| AC OPERATED WITH BLOWOUT MAGNET, 3 AMP | | | |
| A283XBX69C-120A | DPDT | 120 VAC, 50/60 Hz | 2250 Ω |
| DC OPERATED WITH BLOWOUT MAGNET, 3 AMP | | | |
| A283XBX69C-12D | DPDT | 12 VDC | 120 Ω |
| A283XBX69C-24D | DPDT | 24 VDC | 472 Ω |
| A283XBX69C-110D | DPDT | 110 VDC | 10,000 Ω |
| AC OPERATED WITH BLOWOUT MAGNET, 10 AMP | | | |
| A283HXX69C-120A | SPST-NO (DM) | 120 VAC, 50/60 Hz | 2250 Ω |
| DC OPERATED WITH BLOWOUT MAGNET, 10 AMP | | | |
| A283HXX69C-48D | SPDT-NO (DM-DB) | 48 VDC | 1800 Ω |
| DC OPERATED WITH BLOWOUT MAGNET, 5 AMP | | | |
| A283BXX69C-24D | DPST-NO | 24 VDC | 472 Ω |
| A283BXX69C-48D | DPST-NO | 48 VDC | 1800 Ω |
| DC OPERATED WITH BLOWOUT MAGNET, 10 AMP | | | |
| A283HXX69C-12D | SPST-NO (DM) | 12 VDC | 120 Ω |
| A283HXX69C-24D | SPST-NO (DM) | 24 VDC | 472 Ω |
| A283HXX69C-48D | SPST-NO (DM) | 48 VDC | 1800 Ω |
| A283HXX69C-110D | SPST-NO (DM) | 110 VDC | 10,000 Ω |

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

DPDT & 3PDT, 16 & 20 AMPS**UL CONTACT LOAD RATINGS TABLE**

| POLES | CURRENT OR HORSE POWER | LOAD VOLTAGE | LOAD VOLTAGE FREQUENCY | TYPE OF LOAD |
|-------------|------------------------|--------------|------------------------|--------------|
| 2 POLES | 20 AMP | 300 VAC | 50/60 Hz | RESISTIVE |
| | 20 AMP | 28 VDC | DC | RESISTIVE |
| 3 POLES | 16 AMP | 277 VAC | 50/60 Hz | RESISTIVE |
| | 16 AMP | 28 VDC | DC | RESISTIVE |
| 2 & 3 POLES | 3/4 HP | 120 VAC | 50/60 Hz | MOTOR |
| | 1 HP | 208-600 VAC | 50/60 Hz | MOTOR |

UP TO 20 AMP SWITCHING

cRU us
UL Recognized
File No. E43641



UL LISTED 367G
IND. CONT. EQ.
C US

WHEN USED WITH
SOCKET 70-463-1

CURRENT LIMITED TO
RATING OF RELAY OR
SOCKET WHICHEVER
IS LESS



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

GENERAL SPECIFICATIONS**COIL**

| | |
|---------------------------|--|
| Pull-in Voltage: | 80% of nominal voltage or less for DC coils 85% of nominal voltage or less for AC coils |
| Dropout Voltage: | 10% of nominal voltage or more |
| Resistance: | ±10% measured at 25°C |
| Coil Power: | 1.2 watts for DC coils, 2 VA to 2.75 VA for AC @ 25°C |
| Insulation System: | Class "B" (130°C per UL standard 1446) |
| Maximum Coil Dissipation: | 3.0 watts max. DC |
| Duty: | Continuous |

CONTACTS

| | |
|---------------------|---|
| Contact material: | 0.187 silver alloy, gold flashed |
| Contact Resistance: | 50 milliohms maximum initial resistance at rated current |
| Contact Ratings: | See "UL CONTACT RATINGS TABLE" |

DIELECTRIC STRENGTH

| | |
|------------------------|------------------------|
| Contacts to Coil: | 2000 V rms |
| Across Open Contacts: | 1500 V rms |
| Pole to Pole: | 2000 V rms |
| Contacts to Frame: | 2000 V rms |
| Insulation Resistance: | 1000 megohms @ 500 VDC |

TEMPERATURE

| | |
|------------|--|
| Operating: | -30°C to +50°C. (AC), -30°C to +65°C. (DC) |
| Storage: | -30°C to +100°C |

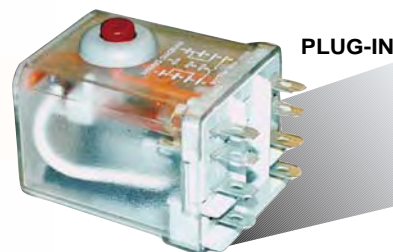
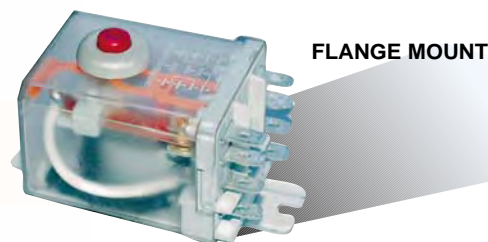
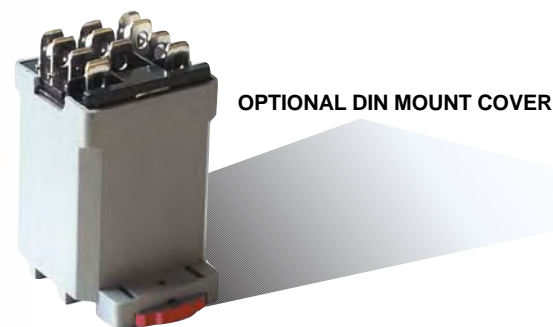
LIFE EXPECTANCY

| | |
|-------------|---|
| Electrical: | 100,000 operations @ rated resistive load |
| Mechanical: | 5,000,000 operations @ no load |

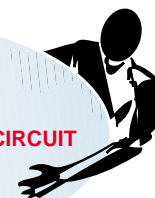
MISCELLANEOUS

| | |
|----------------------|---|
| Operating Position: | Any |
| Insulation material: | Molded plastic |
| Enclosure: | Polycarbonate dust cover |
| Terminals: | 0.187 x 0.032 quick connect flange or 0.187 x 0.20 plug-in. Optional printed circuit terminals available |
| Weight: | 94 grams approx. |

**MANUFACTURED UNDER
ISO 9002 & QS 9000**

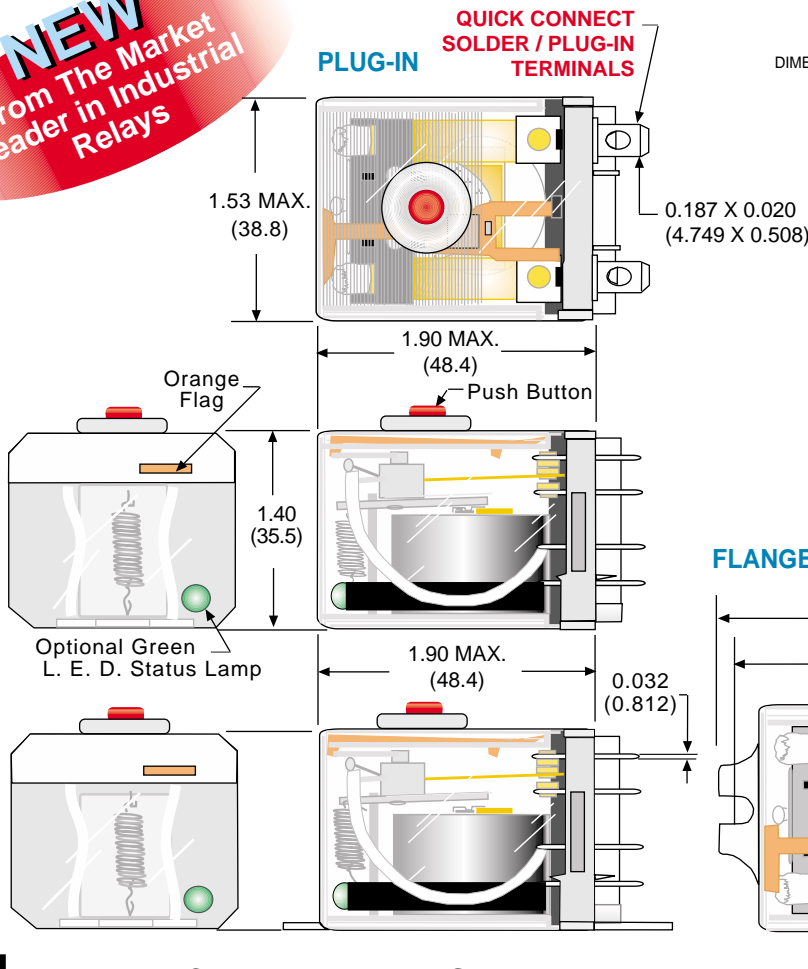
**PLUG-IN****FLANGE MOUNT****OPTIONAL DIN MOUNT COVER**

Mating Sockets
70-463-1: SCREW/DIN
70-124-1: SOLDER
70-178-1, 70-178-2: PRINTED CIRCUIT
70-124-2: QUICK CONNECT
See section 8, page 16, 17

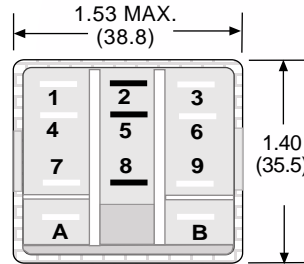


DPDT & 3PDT, 16 & 20 AMPS

NEW
From The Market
Leader in Industrial
Relays

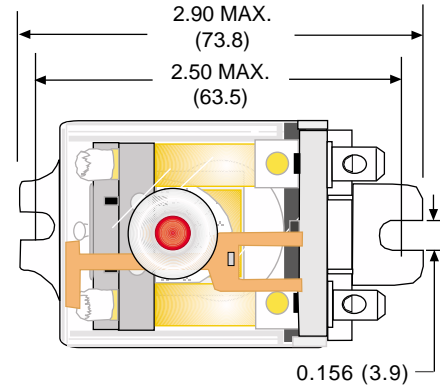


OUTLINE DIMENSIONS
DIMENSIONS SHOWN IN INCHES & (MILLIMETERS).

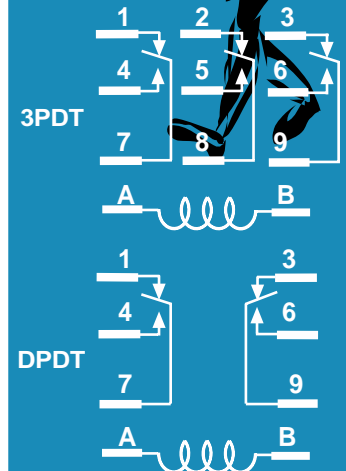


FLAG INDICATOR & PUSH BUTTON STANDARD ON 388J RELAYS.

FLANGE COVER



WIRING DIAGRAMS
(VIEWED FROM PIN END)



ORDERING CODE FOR RELAYS

CLASS: 388J XCX C1 M- 240A
FLAG INDICATOR STANDARD FEATURE

CONTACT CONFIGURATION: DPDT: XBX, 3PDT: XCX

CONSTRUCTION STYLE:
* ENCLOSED, PLAIN COVER: **CODE C**
ENCLOSED, FLANGE COVER: **CODE C1**
ENCLOSED, 6-32 TAPPED CORE & ANTI-ROTATION TAB: **CODE C2**
ENCLOSED 6-32 STUD & ANTI-ROTATION TAB: **CODE CS2**
ENCLOSED TOP FLANGE MOUNT: **CODE C3**
ENCLOSED DIN MOUNT: **CODE C4**

TERMINAL STYLE:
† 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**
MAGNETIC BLOWOUT: **CODE 69**
DC COIL SUPPRESSION: **CODE V**
AC COIL SUPPRESSION: **CODE V1**
RECTIFIED COIL: **CODE V2**

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

| STANDARD PART NUMBERS | CONTACT CONFIGURATION | COIL MEASURED @ 25°C | |
|--|-----------------------|-----------------------|---------------------------|
| | | NOMINAL INPUT VOLTAGE | NOMINAL RESISTANCE (OHMS) |
| AC OPERATED FLANGE MOUNT WITH PUSH BUTTON, 16 AMP | | | |
| 388JXCXC1M-240A | 3PDT | 240 VAC,50/60Hz | 7200 Ω |
| 388JXCXC1M-120A | 3PDT | 120 VAC,50/60Hz | 1700 Ω |
| DC OPERATED FLANGE MOUNT WITH PUSH BUTTON, 16 AMP | | | |
| 388JXCXC1M-12D | 3PDT | 12 VDC | 120 Ω |
| 388JXCXC1M-24D | 3PDT | 24 VDC | 470 Ω |
| AC OPERATED PLUG-IN WITH PUSH BUTTON, 16 AMP | | | |
| 388JXCXCM-240A | 3PDT | 240 VAC,50/60Hz | 7200 Ω |
| 388JXCXCM-120A | 3PDT | 120 VAC,50/60Hz | 1700 Ω |
| DC OPERATED PLUG-IN WITH PUSH BUTTON, 16 AMP | | | |
| 388JXCXCM-12D | 3PDT | 12 VDC | 120 Ω |
| 388JXCXCM-24D | 3PDT | 24 VDC | 470 Ω |
| AC OPERATED FLANGE MOUNT WITH PUSH BUTTON, 20 AMP | | | |
| 388JXBXC1M-240A | DPDT | 240 VAC,50/60Hz | 9100 Ω |
| 388JXBXC1M-120A | DPDT | 120 VAC,50/60Hz | 2250 Ω |
| DC OPERATED FLANGE MOUNT WITH PUSH BUTTON, 20 AMP | | | |
| 388JXBXC1M-12D | DPDT | 12 VDC | 120 Ω |
| 388JXBXC1M-24D | DPDT | 24 VDC | 470 Ω |
| AC OPERATED PLUG-IN WITH PUSH BUTTON, 20 AMP | | | |
| 388JXBXCM-240A | DPDT | 240 VAC,50/60Hz | 9100 Ω |
| 388JXBXCM-120A | DPDT | 120 VAC,50/60Hz | 2250 Ω |
| DC OPERATED PLUG-IN WITH PUSH BUTTON, 20 AMP | | | |
| 388JXBXCM-12D | DPDT | 12 VDC | 120 Ω |
| 388JXBXCM-24D | DPDT | 24 VDC | 470 Ω |

RETROFITS SCHRACK RM. SEE END OF SECTION 1 FOR CROSS REFERENCE
CADMIUM-FREE CONTACTS AVAILABLE, CONTACT FACTORY FOR DETAILS

* Note: Code C recommended to be used with printed circuit terminals or Plug-in applications only.
† 0.187 Quick connect or Solder terminals are socket Compatible.

DPST-NO, 3PST-NO, 15 AMPS

UL CONTACT LOAD RATINGS TABLE

| POLES | CURRENT OR HORSE POWER | LOAD VOLTAGE | LOAD VOLTAGE FREQUENCY | TYPE OF LOAD |
|---------------------|------------------------|--------------|------------------------|--------------|
| 1 POLE THRU 3 POLES | 15 AMP | 120/240 VAC | 50/60 Hz | RESISTIVE |
| | 15 AMP | 28 VDC | DC | RESISTIVE |
| | 1/3 HP | 120 VAC | 50/60 Hz | MOTOR |
| | 1/2 HP | 240 VAC | 50/60 Hz | MOTOR |

BENEFITS OF 3mm CONTACT GAP DESIGN:

1. HIGH DIELECTRIC STRENGTH ACROSS CONTACTS.
2. IMPROVED ARC QUENCHING WHEN BREAKING HIGH CURRENT LOADS.
3. MEETS EUROPEAN SPACING REQUIREMENTS OF 8mm ACROSS SURFACES



UL Recognized
File No. E43641



WHEN USED WITH
SOCKET 70-463-1

CURRENT LIMITED TO
RATING OF RELAY OR
SOCKET WHICHEVER
IS LESS

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

**MANUFACTURED UNDER
ISO 9002 & QS 9000**

GENERAL SPECIFICATIONS

COIL

| | |
|---------------------------|--|
| Pull-in Voltage: | 80% of nominal voltage or less for DC coils 85% of nominal voltage or less for AC coils |
| Dropout Voltage: | 10% of nominal voltage or more |
| Resistance: | ±10% measured at 25°C |
| Coil Power: | 1.2 watts for DC coils, 2 VA to 2.75 VA for AC @ 25°C |
| Insulation System: | Class "B" (130°C per UL standard 1446) |
| Maximum Coil Dissipation: | 3.0 watts max. DC |
| Duty: | Continuous |

CONTACTS

| | |
|---------------------|--|
| Contact material: | Silver alloy, gold flashed |
| Contact Resistance: | 50 milliohms maximum initial resistance at rated current |
| Contact Ratings: | See "UL CONTACT LOAD RATINGS TABLE" |

DIELECTRIC STRENGTH

| | |
|------------------------|------------------------|
| Contacts to Coil: | 3 mm gap, 4000 V rms |
| Across Open Contacts: | 3 mm gap, 1000 V rms |
| Pole to Pole: | 2000 V rms |
| Contacts to Frame: | 2000 V rms |
| Insulation Resistance: | 1000 megohms @ 500 VDC |

TEMPERATURE

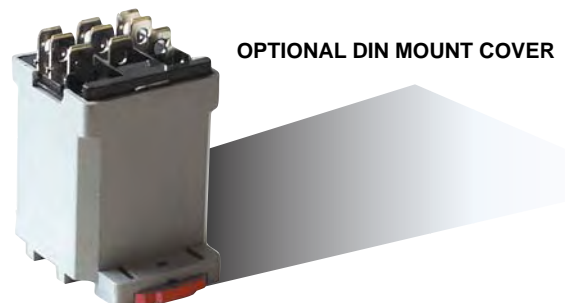
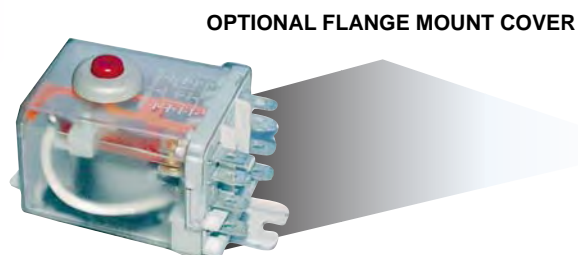
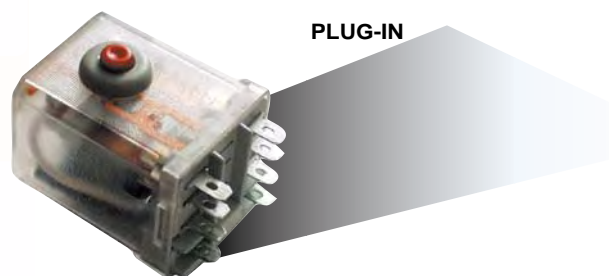
| | |
|------------|--|
| Operating: | -30°C to +50°C. (AC), -30°C to +65°C. (DC) |
| Storage: | -30°C to +100°C |

LIFE EXPECTANCY

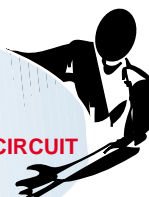
| | |
|-------------|---|
| Electrical: | 100,000 operations @ rated resistive load |
| Mechanical: | 5,000,000 operations @ no load |

MISCELLANEOUS

| | |
|----------------------|--|
| Operating Position: | Any |
| Insulation material: | Molded plastic |
| Enclosure: | Polycarbonate dust cover |
| Terminals: | 0.187 x 0.032 quick connect flange or 0.187 x 0.020 solder/plug-in. Optional printed circuit terminals available |
| Weight: | 88 grams approx. |



Mating Sockets
70-463-1: SCREW/DIN
70-124-1: SOLDER
70-178-1, 70-178-2: PRINTED CIRCUIT
70-124-2: QUICK CONNECT
 See section 8, page 16, 17



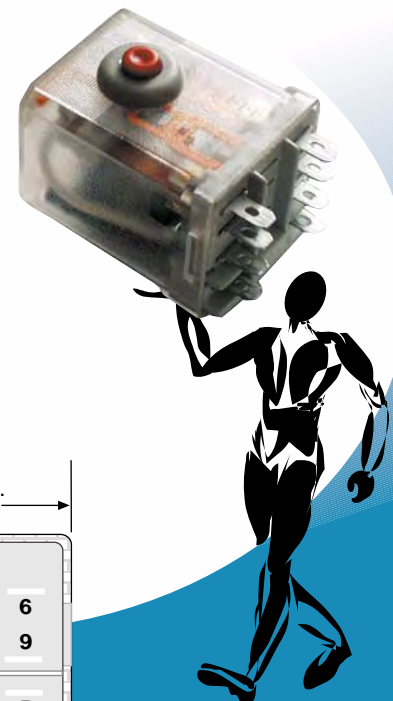
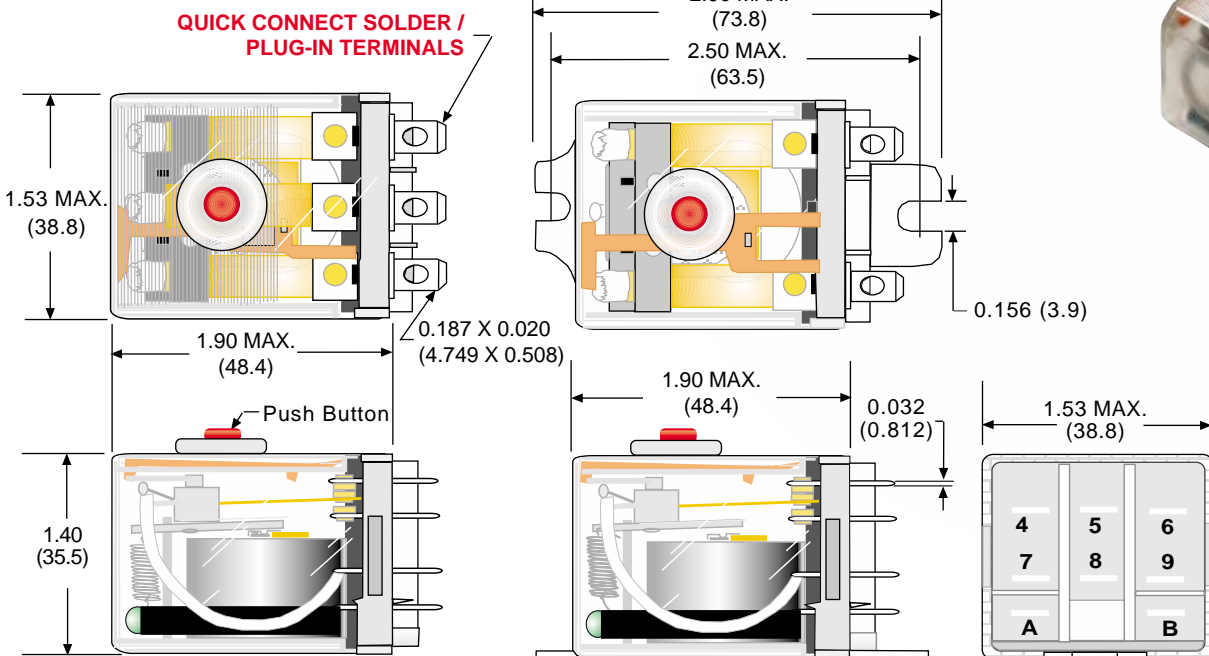
DPST-NO, 3PST-NO, 15 AMPS

OUTLINE DIMENSIONS

DIMENSIONS SHOWN IN INCHES & (MILLIMETERS).

PLUG-IN

FLANGE COVER



ORDERING CODE FOR RELAYS

388V CXX C1 M 24A

CLASS: _____

CONTACT CONFIGURATION: _____

BXX - (DPST-NO) 3 MM CONTACT GAP,
CXX - (3PST-NO) 3 MM CONTACT GAP,

CONSTRUCTION STYLE: _____

* ENCLOSED, PLAIN COVER: **CODE C**
ENCLOSED, FLANGE COVER: **CODE C1**
ENCLOSED, 6-32 TAPPED CORE &
ANTI-ROTATION TAB: **CODE C2**
ENCLOSED 6-32 STUD
& ANTI-ROTATION TAB: **CODE CS2**
ENCLOSED TOP FLANGE MOUNT: **CODE C3**
ENCLOSED DIN MOUNT: **CODE C4**

TERMINAL STYLE: _____

† QUICK CONNECT SOLDER/PLUG-IN
TERMINALS: **NO CODE**
PRINTED CIRCUIT TERMINALS: **CODE T**

OPTIONS: _____

BI - POLAR L.E.D. STATUS LAMP: **CODE L**
PUSH BUTTON: **CODE M**
MAGNETIC BLOWOUT: **CODE 69**
DC COIL SUPPRESSION: **CODE V**
AC COIL SUPPRESSION: **CODE V1**
RECTIFIED COIL: **CODE V2**

COIL VOLTAGE: _____

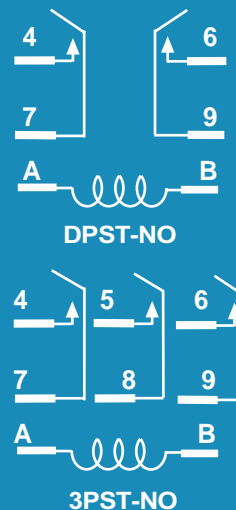
6, 12, 24, 120, 240 ADD "A" FOR AC COILS
6, 12, 24, 48, 110 ADD "D" FOR DC COILS

* Note: Code C recommended to be used with printed circuit terminals or Plug-in applications only.
† 0.187 Quick connect or solder terminals are socket compatible.

3 MILLIMETER CONTACT GAP. PUSH BUTTON STANDARD.

WIRING DIAGRAMS

(VIEWED FROM PIN END)



| STANDARD PART NUMBERS | CONTACT CONFIGURATION | COIL MEASURED @ 25°C | |
|---|-----------------------|-----------------------|---------------------------|
| | | NOMINAL INPUT VOLTAGE | NOMINAL RESISTANCE (OHMS) |
| AC OPERATED PLUG-IN WITH PUSH BUTTON 3mm GAP, 15 AMP | | | |
| 388VCXXCM-220/240A | 3PST-NO | 220/240 VAC,50/60Hz | 9100 Ω |
| 388VCXXCM-120A | 3PST-NO | 120 VAC,50/60Hz | 1100 Ω |
| 388VCXXCM-24A | 3PST-NO | 24 VAC,50/60Hz | 75 Ω |
| 388VBXXCM-220/240A | DPST-NO | 220/240 VAC,50/60Hz | 9100 Ω |
| 388VBXXCM-120A | DPST-NO | 120 VAC,50/60Hz | 1100 Ω |
| 388VBXXCM-24A | DPST-NO | 24 VAC,50/60 Hz | 75 Ω |
| DC OPERATED PLUG-IN WITH PUSH BUTTON 3mm GAP, 15 AMP | | | |
| 388VCXXCM-24D | 3PST-NO | 24 VDC | 240 Ω |
| 388VCXXCM-12D | 3PST-NO | 12 VDC | 120 Ω |
| 388VBXXCM-24D | DPST-NO | 24 VDC | 240 Ω |
| 388VBXXCM-12D | DPST-NO | 12 VDC | 120 Ω |

20, 25 & 30 AMPS

DIELECTRIC STRENGTH CHART (V rms)

| | SPDT | DPDT | 3PDT | SPDT-DM,DB,DM-DB |
|--|------|------|------|------------------|
| COIL TO FRAME | 1600 | 1600 | 1600 | 1600 |
| ACROSS OPEN CONTACTS | 1000 | 1000 | 1000 | 1500 |
| CONTACT TO FRAME | 1600 | 1600 | 1600 | 1600 |
| COIL TO CONTACTS | 2200 | 2200 | 1600 | 2200 |
| POLE TO POLE | - | 2200 | 1600 | - |
| CONTACTS TO METAL MOUNTING PLATE (COVER INSTALLED) | 2200 | 2200 | 1600 | 2200 |
| COIL TO METAL MOUNTING PLATE (COVER INSTALLED) | 2200 | 2200 | 2200 | 2200 |

UL us
UL Recognized
File No. E 43641

SP 168986

CE

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

**MANUFACTURED UNDER
ISO 9002 & QS 9000**

GENERAL SPECIFICATIONS

COIL
 Pull-in Voltage: 80% of nominal voltage or less for DC coils
 85% of nominal voltage or less for AC coils
 Dropout Voltage: 10% of nominal voltage or more
 Resistance: ±10% measured @ 25°C
 Coil Power: 1.44 watts for DC coils, 2 VA to 3.5 VA for AC coils
 Insulation System: Class "B" Coil system. (130°C per UL standard 1446)
 Max. Coil Dissipation: 2.5 watts max. DC
 Duty: Continuous

CONTACTS
 Contact Material: 0.250 silver alloy, gold flashed
 Contact Rating: See next page
 Contact Resistance: 50 milliohms maximum initial resistance at rated current

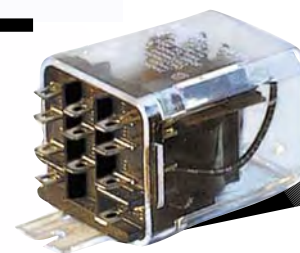
TIMING
 Operate Time: 20 mS max. @ nominal voltage
 Release Time: 20 mS max. @ nominal voltage

DIELECTRIC STRENGTH
 Dielectric Strength: See "DIELECTRIC STRENGTH CHART"
 Insulation Resistance: 1,000 megohms min. @ 500 VDC

TEMPERATURE
 Operating: -30°C to +50°C. (AC), -30°C to +65°C. (DC)
 Storage: -30°C to +100°C

LIFE EXPECTANCY
 Electrical: 100,000 operations @ rated resistive load
 Mechanical: 5,000,000 operations @ no load

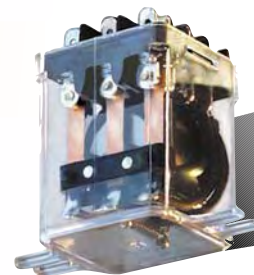
MISCELLANEOUS
 Operating Position: Any
 Insulation Material: Molded plastic
 Enclosure: Polycarbonate dust cover
 Terminals: 0.250 x 0.032 quick connect/solder terminals
 Optional printed circuit terminals. (0.090 x 0.032) available
 Weight: 94 grams approx with cover



**STANDARD SIDE
FLANGE COVER**



**OPTIONAL PRINTED
CIRCUIT TERMINAL
CONSULT FACTORY.**



**OPTIONAL TOP FLANGE COVER
CONSULT FACTORY.**



**OPTIONAL DIN COVER
CONSULT FACTORY.**



CLASS 389 LOAD RATINGS

| POLES | ENCLOSED STYLE 1, 2 AND 3 POLE | | | |
|---------|--------------------------------|--------------|------------------------|--------------|
| | CURRENT OR HORSEPOWER | LOAD VOLTAGE | LOAD VOLTAGE FREQUENCY | TYPE OF LOAD |
| 1 POLES | 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 |
| | 915VA | 208 | 50/60 Hz | PILOT DUTY |
| | 960VA | 240 | 50/60 Hz | PILOT DUTY |
| | 765VA | 480/600 | 50/60Hz | PILOT DUTY |
| | •B600 | | 50/60Hz | PILOT DUTY |
| | 2 POLES | 13A | 28 | DC |
| 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 |
| 915VA | | 208 | 50/60 Hz | PILOT DUTY |
| 960VA | | 240 | 50/60 Hz | PILOT DUTY |
| 765VA | | 460/600 | 50/60Hz | PILOT DUTY |
| B600 | | | 50/60Hz | PILOT DUTY |
| 3 POLES | | 13A | 28 | DC |
| | 15A | 28 | DC (NO) | RESISTIVE |
| | 20A | 15 | DC | RESISTIVE |
| | 20A | 150 | 50/60 Hz | RESISTIVE |
| | ††15A | 250 | 50/60 Hz | RESISTIVE |
| | †10A | 300 | 50/60 Hz | RESISTIVE |
| | 20A | 150 | 50/60 Hz | BALLAST |
| | 6-2/3HP | 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 |
| | 445VA | 208 | 50/60Hz | PILOT DUTY |
| | B300 | | 50/60Hz | PILOT DUTY |

CLASS 389D LOAD RATINGS

| POLE | ENCLOSED STYLE 1, 2 AND 3 POLE | | | |
|--------|--------------------------------|--------------|------------------------|--------------|
| | CURRENT OR HORSE POWER | LOAD VOLTAGE | LOAD VOLTAGE FREQUENCY | TYPE OF LOAD |
| 1 POLE | 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 |
| | 915VA | 208 | 50/60 Hz | PILOT DUTY |
| | 960VA | 240,480,600 | 50/60 Hz | PILOT DUTY |
| | A600 | | 50/60 Hz | PILOT DUTY |

CLASS 389 BALLAST LOAD RATINGS

| POLES | ENCLOSED STYLE | | |
|--|----------------|---------|---------|
| SPDT | 20 AMP | 277 VAC | 50/60Hz |
| DPDT | 20 AMP | 277 VAC | 50/60Hz |
| 3PDT | 20 AMP | 150 VAC | 50/60Hz |
| | 6 2/3 AMP | 277 VAC | 50/60Hz |
| DOUBLE BREAK DOUBLE MAKE (1 FORM "X" & "Z") | | | |
| SPDT | 25 AMP | 277 VAC | 50/60Hz |

†† UL APPLIANCE RATED. ALL OTHER RATINGS NOT SO MARKED ARE INDUSTRIAL RATED
 † CSA RATING ONLY, NOT UL



1, 2 & 3 POLE NEMA PILOT DUTY CONTACT RATINGS

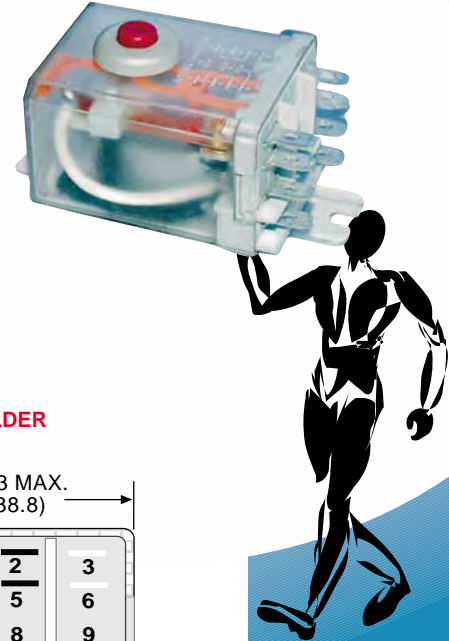
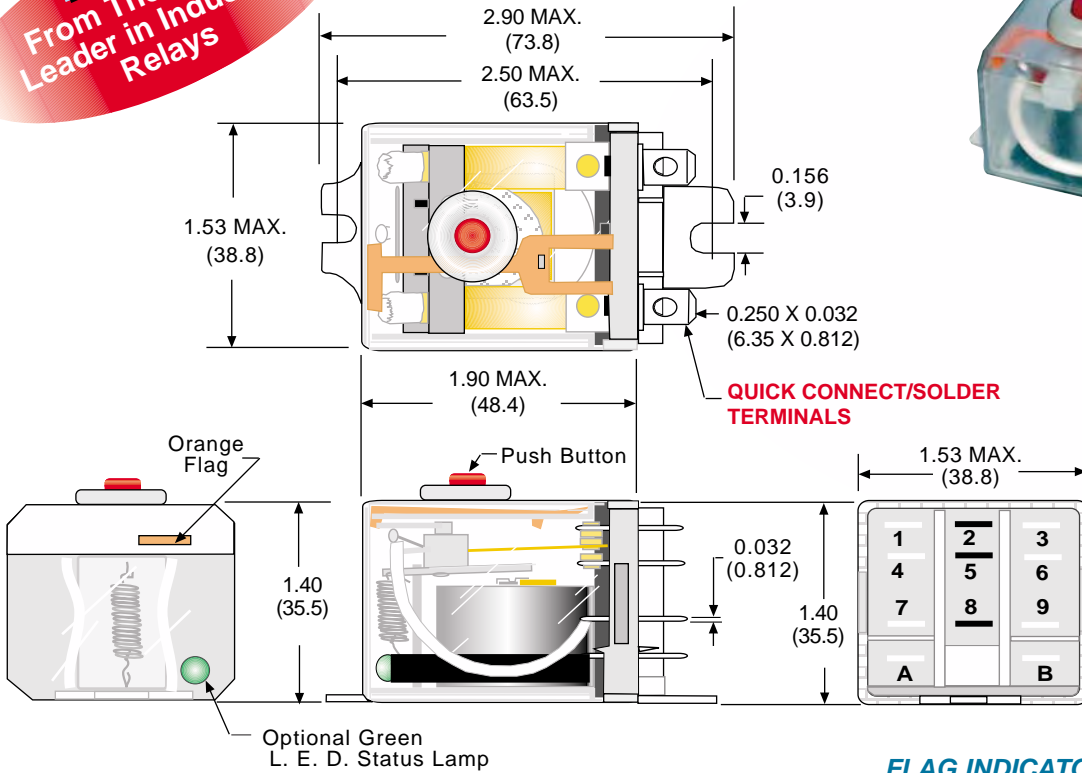
| NEMA CONTACT CODE DESIGNATION | THERMAL CONTINUOUS TEST CURRENT AMPERES | MAXIMUM CURRENT, AMPERES | | | | | | | | | |
|-------------------------------|---|--------------------------|-------|-------------------|-------|-------------------|-------|-------------------|-------|----------------------|-------|
| | | 120 VOLTS 50/60Hz | | 240 VOLTS 50/60Hz | | 480 VOLTS 50/60Hz | | 600 VOLTS 50/60Hz | | MAXIMUM VOLT-AMPERES | |
| | | MAKE | BREAK | MAKE | BREAK | MAKE | BREAK | MAKE | BREAK | MAKE | BREAK |
| A600 | 10 | 60 | 6.00 | 30 | 3.00 | 15 | 1.50 | 12 | 1.20 | 7200 | 720 |
| B300 | 5 | 30 | 3.00 | 15 | 1.50 | | | | | 3600 | 360 |
| B600 | 5 | 30 | 3.00 | 15 | 1.50 | 0.75 | 0.75 | 0.6 | 0.6 | 3600 | 360 |

DPDT, 3PDT, 20 & 25 AMPS

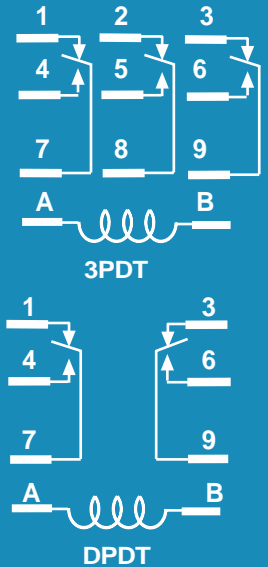
NEW
From The Market
Leader in Industrial
Relays

OUTLINE DIMENSIONS

DIMENSIONS SHOWN IN INCHES & (MILLIMETERS).



WIRING DIAGRAMS
(VIEWED FROM PIN END)



FLAG INDICATOR & PUSH BUTTON STANDARD ON 389F RELAYS.

ORDERING CODE FOR RELAYS

389F XCX C1 M - 120A

- CLASS:** _____
FLAG INDICATOR STANDARD FEATURE
- CONTACT CONFIGURATION:** _____
DPDT: **XBX**, 3PDT: **XCX**
- CONSTRUCTION STYLE:** _____
* ENCLOSED, PLAIN COVER: **CODE C**
ENCLOSED, FLANGE COVER: **CODE C1**
ENCLOSED, 6-32 TAPPED CORE & ANTI-ROTATION TAB: **CODE C2**
ENCLOSED 6-32 STUD & ANTI-ROTATION TAB: **CODE CS2**
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**
MAGNETIC BLOWOUT: **CODE 69**
DC COIL SUPPRESSION: **CODE V**
AC COIL SUPPRESSION: **CODE V1**
RECTIFIED COIL: **CODE V2**
- COIL VOLTAGE:** _____
6, 12, 24, 120, 240 ADD "A" FOR AC COILS
6, 12, 24, 48, 110 / 125, 220 / 250 ADD "D" FOR DC COILS

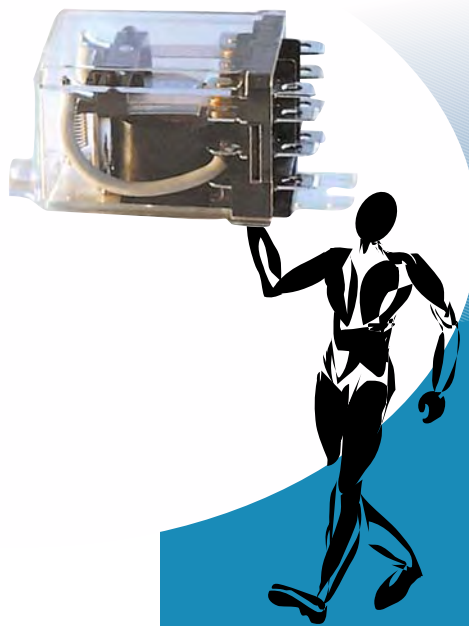
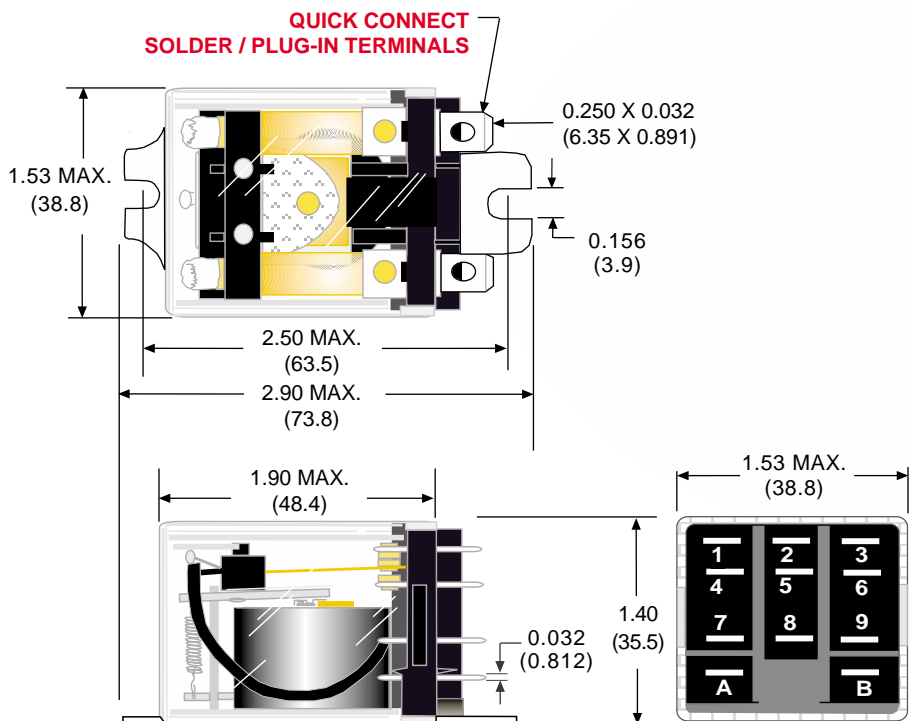
* Note: Code C recommended to be used with printed circuit terminals only.

| STANDARD PART NUMBERS | CONTACT CONFIGURATION | COIL MEASURED @ 25°C | |
|--|-----------------------|-----------------------|---------------------------|
| | | NOMINAL INPUT VOLTAGE | NOMINAL RESISTANCE (OHMS) |
| AC OPERATED FLANGE MOUNT WITH PUSH BUTTON, 20 AMP | | | |
| 389FXCXC1M-240A | 3PDT | 240 VAC, 50/60Hz | 4600 Ω |
| 389FXCXC1M-120A | 3PDT | 120 VAC, 50/60Hz | 1200 Ω |
| AC OPERATED FLANGE MOUNT WITH PUSH BUTTON, 25 AMP | | | |
| 389FBXC1M-240A | DPDT | 240 VAC, 50/60Hz | 7200 Ω |
| 389FBXC1M-120A | DPDT | 120 VAC, 50/60Hz | 1700 Ω |
| DC OPERATED FLANGE MOUNT WITH PUSH BUTTON, 20 AMP | | | |
| 389FXCXC1M-12D | 3PDT | 12 VDC | 100 Ω |
| 389FXCXC1M-24D | 3PDT | 24 VDC | 400 Ω |
| DC OPERATED FLANGE MOUNT WITH PUSH BUTTON, 25 AMP | | | |
| 389FBXC1M-12D | DPDT | 12 VDC | 100 Ω |
| 389FBXC1M-24D | DPDT | 24 VDC | 400 Ω |

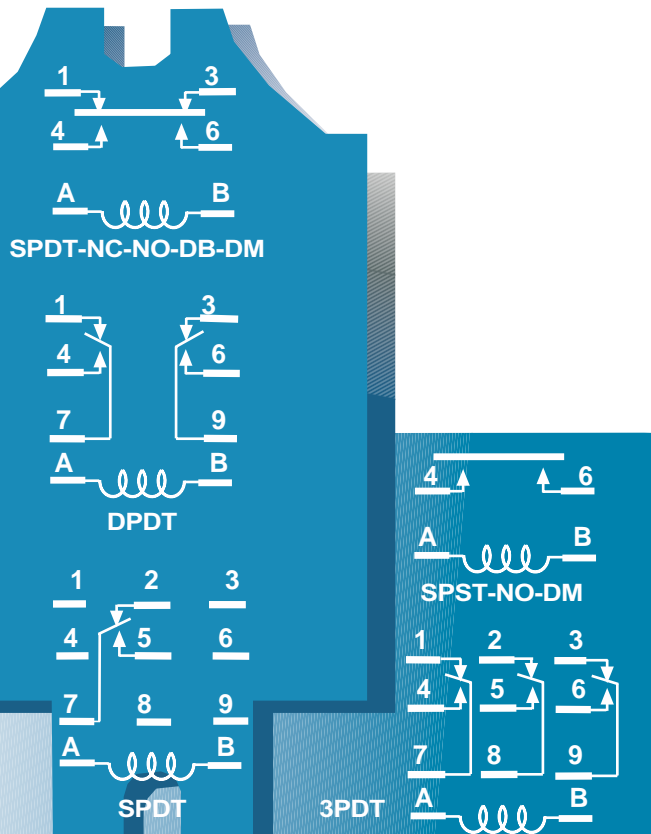
RETROFITS SCHRACK RM.
SEE END OF SECTION 1 FOR CROSS REFERENCE

20, 25 & 30 AMPS

OUTLINE DIMENSIONS
DIMENSIONS SHOWN IN INCHES & (MILLIMETERS).



WIRING DIAGRAMS
(VIEWED FROM PIN END)



| STANDARD PART NUMBERS | CONTACT CONFIGURATION | COIL MEASURED @ 25°C | |
|---|-----------------------|-----------------------|---------------------------|
| | | NOMINAL INPUT VOLTAGE | NOMINAL RESISTANCE (OHMS) |
| AC OPERATED FLANGE MOUNT, 30 AMP | | | |
| W389ADCX-4 | SPST-NO (DM) | 120 VAC,50/60Hz | 1100 Ω |
| W389ADCX-5 | SPST-NO (DM) | 220/240 VAC,50/60Hz | 4300 Ω |
| W389ADZCX-3 | SPDT-NO-NC (DM-DB) | 24 VAC,50/60Hz | 44 Ω |
| W389ADZCX-4 | SPDT-NO-NC (DM-DB) | 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 (DM-DB) | 12 VDC | 100 Ω |
| W389DZCX-3 | SPST-NO-NC (DM-DB) | 24VDC | 400 Ω |
| AC OPERATED FLANGE MOUNT, 25 AMP | | | |
| W389ACX-4 | SPDT | 120 VAC,50/60Hz | 1700 Ω |
| W389ACX-8 | DPDT | 24 VAC,50/60Hz | 72 Ω |
| W389ACX-9 | DPDT | 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 | 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 & KUHF
SEE END OF SECTION 1 FOR CROSS REFERENCE

FEATURES

BENEFITS

| | |
|---|--|
| OPTIONAL BLOWOUT MAGNET | HIGH VOLTAGE DC SWITCHING |
| WIDE SPACING BETWEEN STATIONARY CONTACT TERMINALS | CLEARANCE FOR FULLY BOOTED QUICK CONNECT TERMINALS |
| ARC BARRIERS BETWEEN CONTACTS | IMPROVED DIELECTRIC STRENGTH BETWEEN CONTACT SETS. |
| 2 MILLIMETER CONTACT GAPS | 8 MILLIMETER CREEPAGE AND CLEARANCE TO MEET INTERNATIONAL REQUIREMENTS. |
| IMPROVED DIELECTRIC STRENGTH BETWEEN CONTACT | 4000 Vrms DIELECTRIC BETWEEN MUTUALLY INSULATED CONDUCTIVE ELEMENTS AND FRAME. |
| WIDE SELECTION OF MOUNTING OPTIONS | ALLOWS INSTALLATIONS TO BE "CUSTOMIZED" |

**DPDT, UP TO 30 AMPS
UP TO 600 VAC OR 150 VDC**

cULus
UL Recognized
File No. E13224

SA 50758

**MANUFACTURED UNDER
ISO 9002 & QS 9000**

GENERAL SPECIFICATIONS

COIL

| | |
|------------------------|--|
| Pull-in Voltage: | 85% of nominal voltage or less for AC coils, 80% of nominal voltage or less for DC coils |
| Dropout Voltage: | 10% min. of nominal voltage or more |
| Max. Voltage: | 110% |
| Resistance: | ±10% measured @ 25°C |
| Coil Power: | 2.0 watts DC, 3.0 VA (60Hz) AC. @ 25°C |
| Insulation System: | Class "B" (130°C per UL standard 1446), Class "F" (155°C available) |
| Max. Coil Dissipation: | 3.0 watts DC., 3.4 VA (60Hz) AC |
| Duty: | Continuous |

CONTACTS

| | |
|-------------------|---|
| Contact Material: | Silver alloy, gold flashed |
| Contact Rating: | 30 amps @ 120/240/277 VAC. 20 amps @ 480 VAC (general purpose) 15 amps @ 600 VAC (resistive load). 30 amps @ 28 VDC (resistive load). 1Hp @ 120 VAC 50/60 Hz. 2 Hp @ 208, 240, 480, 600 VAC. 50/60 Hz (motor load). Code 69 - DPDT: 5 amps @ 150 VDC; SPDT-DM-DB: 10 amps @ 150 VDC; 20 amps @ 72 VDC; DPTS-NO: 3 amps @ 220 VDC |

TIMING

| | |
|---------------|------------------------------|
| Operate Time: | 20 mS max. @ nominal voltage |
| Release Time: | 15 mS max. @ nominal voltage |

DIELECTRIC STRENGTH

| | |
|-----------------------|----------------------------|
| Contacts to Coil: | 4000 V rms; (8mm creepage) |
| Coil to Frame: | 4000 V rms |
| Across Open Contacts: | 1000 V rms |
| Contact To Frame: | 4000 V rms |

TEMPERATURE

| | |
|------------|--|
| Operation: | -30°C to +50°C. (AC), -30°C to +60°C. (DC) |
| Storage: | -40°C to +105°C |

LIFE EXPECTANCY

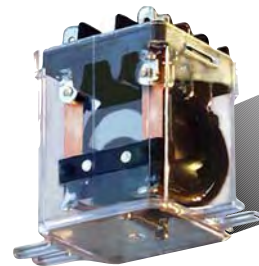
| | |
|-------------|---|
| Electrical: | 100,000 operations @ rated resistive load |
| Mechanical: | 10,000,000 operations @ no load |

MISCELLANEOUS

| | |
|---------------------|--------------------------|
| Operating Position: | Any |
| Enclosure: | Polycarbonate dust cover |
| Weight: | 85 grams approx. |



STANDARD SIDE FLANGE COVER



OPTIONAL TOP FLANGE MOUNT COVER



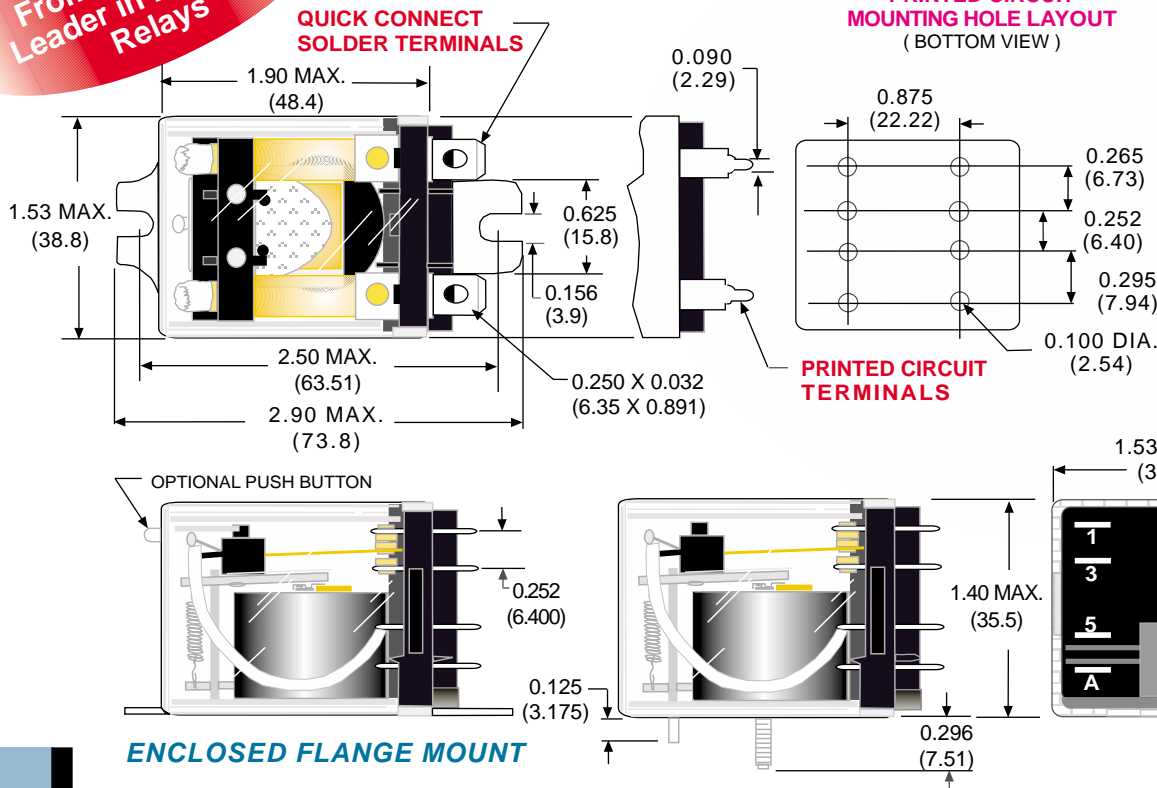
OPTIONAL DIN MOUNT COVER



**DPDT, UP TO 30 AMPS
UP TO 600 VAC OR 150 VDC**

NEW
From The Market
Leader in Industrial
Relays

OUTLINE DIMENSIONS
DIMENSIONS SHOWN IN INCHES & (MILLIMETERS).



ORDERING CODE FOR RELAYS

F 300 XBXC C1 LM -24D

TEMPERATURE RATING:
 †† 130°C COIL: **CODE B**
 155°C COIL: **CODE F**

CLASS: _____

CONTACT CONFIGURATION:
 DPDT: **XBXC**

CONSTRUCTION STYLE:
 * ENCLOSED, PLAIN COVER: **CODE C**
 ENCLOSED, FLANGE COVER: **CODE C1**
 ENCLOSED, 6-32 TAPPED CORE &
 ANTI-ROTATION TAB: **CODE C2**
 ENCLOSED 6-32 STUD & ANTI-ROTATION TAB: **CODE CS2**
 ENCLOSED TOP FLANGE MOUNT: **CODE C3**
 ENCLOSED DIN MOUNT: **CODE C4**

TERMINAL STYLE:
 † QUICK CONNECT SOLDER TERMINALS: **NO CODE**
 PRINTED CIRCUIT TERMINALS: **CODE T**

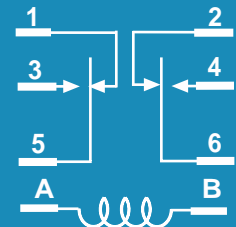
OPTIONS:
 BI - POLAR L.E.D. STATUS LAMP: **CODE L**
 PUSH BUTTON: **CODE M**
 MAGNETIC BLOWOUT: **CODE 69**
 DC COIL SUPPRESSION: **CODE V**
 AC COIL SUPPRESSION: **CODE V1**
 RECTIFIED COIL: **CODE V2**

COIL VOLTAGE:
 6, 12, 24, 120, 240 ADD "A" FOR AC COILS
 6, 12, 24, 48, 110-125, 220-250 ADD "D" FOR DC COILS

* Note: Code C recommended to be used with printed circuit terminals only.
 †† Standard coil temperature Rating. Code letter not required in part number.
 Add code letter required in part number when a higher nonstandard coil temperature rating is required.

**OPTIONAL 6-32
STUD OR TAPPED
CORE WITH
ANTI-ROTATION TAB.**

WIRING DIAGRAM (VIEWED FROM PIN END)



| STANDARD PART NUMBERS | CONTACT CONFIGURATION | COIL MEASURED @ 25°C | |
|--|-----------------------|-----------------------|---------------------------|
| | | NOMINAL INPUT VOLTAGE | NOMINAL RESISTANCE (OHMS) |
| AC OPERATED, 30 AMP | | | |
| 300XBXC1-240A | DPDT | 240 VAC, 50/60Hz | 7200 Ω |
| 300XBXC1-120A | DPDT | 120 VAC, 50/60Hz | 1700 Ω |
| 300XBXC1-24A | DPDT | 24 VAC, 50/60Hz | 72 Ω |
| 300XBXC1-12A | DPDT | 12 VAC, 50/60Hz | 18 Ω |
| DC OPERATED, 30 AMP | | | |
| 300XBXC1-110D | DPDT | 110 VDC | 10,000 Ω |
| 300XBXC1-24D | DPDT | 24 VDC | 470 Ω |
| 300XBXC1-12D | DPDT | 12 VDC | 51 Ω |
| DC OPERATED, 30 AMP WITH MAGNETIC BLOWOUT | | | |
| 300XB69C1-125D | DPDT | 110 VDC | 10,000 Ω |
| 300XB69C1-24D | DPDT | 24 VDC | 470 Ω |
| 300XB69C1-12D | DPDT | 12 VDC | 51 Ω |

UL CONTACT LOAD RATINGS TABLE

| LOAD | LOAD VOLTAGE | SPST | | SPDT | | OPERATIONS |
|------------------------|--------------|-----------|-----------|-----------|-----------|------------|
| | | N.O. LOAD | N.O. LOAD | N.C. LOAD | N.C. LOAD | |
| GENERAL PURPOSE | 240 VAC | 30 AMP | 30 AMP | 15 AMP | | 100,000 |
| RESISTIVE | 28 VDC | 30 AMP | 30 AMP | 10 AMP | | 100,000 |
| MOTOR | 125 VAC | 1 HP | 1 HP | 1/4 HP | | 1,000 |
| | 240 VAC | 2 HP | 2 HP | 1/2 HP | | 6,000 |
| FLA/LRA ‡ | 120 VAC | 22/98 AMP | 22/98 AMP | - | | 100,000 |
| | 240 VAC | 30/80 AMP | 30/80 AMP | 12/30 AMP | | 30,000 |
| TUNGSTEN | 240 VAC | TV - 5 | TV - 5 | - | | 25,000 |
| BALLAST | 277 VAC | 10 AMP | 10 AMP | 3 AMP | | 6,000 |
| PILOT DUTY | 240 VAC | 470 VA | 470 VA | 275 VA | | 6,000 |

‡ FLA = Full load amps, LRA = Locked rotor amps.

SPST-N.O. & SPDT, 30 AMPS

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CLASS "F" INSULATION 155 °C.
FLANGE MOUNTED. EPOXY SEALED
WITH REMOVABLE TAPE SEAL OVER
VENT HOLE (REMOVED AFTER CLEANING)

GENERAL SPECIFICATIONS

COIL

Pull-in Voltage: 80% of nominal voltage or less for AC coils, 75% of nominal voltage or less for DC coils
Dropout Voltage: 10% of nominal voltage or more
Max. Coil Voltage: 120% max.
Power Consumption: 2.8 watts max.
Insulation System: Class "F" (155°C)
Coil Resistance: ±10% measured @ 25°C
Duty: Continuous

CONTACT

Contact Material: Silver alloy
Switching Voltage: 277 VAC, 28 VDC max.
Contact Resistance: 75 milliohms @ 1 amp rated current
Minimum Load: 1 amp, 5 VDC, 12 VAC

TIMING

Operate Time: DC: 15 mS typ. Including bounce
Release Time: DC: 15 mS typ. Including bounce

DIELECTRIC STRENGTH

Contacts to Coil: 2500 V rms
Between Open Contacts: 1500 V rms
Insulation Resistance: 1000 mΩ min. @ 500 VDC, 25°C 50% RH

TEMPERATURE

Operating: -55°C to +85°C
Storage: -55°C to +155°C

VIBRATION RESISTANCE

Functional: 10 to 55Hz 1.65 mm max.
No contact opening > 100 uS

SHOCK RESISTANCE

Functional: 10 g's for 11 mS, no contact opening > 100 μS
Mechanical: 100 g's

LIFE EXPECTANCY

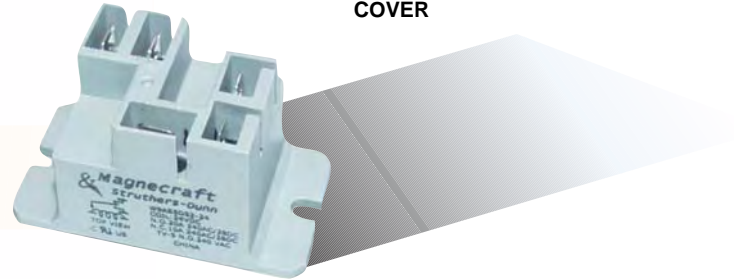
Electrical: 100,000 operations @ rated resistive load
Mechanical: 10,000,000 operations @ no load

MISCELLANEOUS

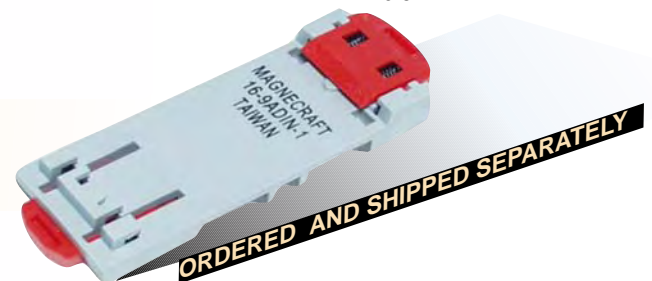
Operating Position: Any
Enclosure: Epoxy sealed immersion cleanable suitable for automatic circuit board processing, max. Exposure soldering temperature is 4 sec. @ 500°F
Enclosure: 94V-O flammability rating
Terminals: 0.25" quick connect & safety wells accept insulated female quick connect terminals
Weight: 33 grams approx.

MEETS UL 508,
UL 873 AND
UL 1950 - 1/8"
THRU AIR - 1/4"
OVER SURFACE

STANDARD FLANGE COVER



OPTIONAL DIN ADAPTER 16-9A DIN-1



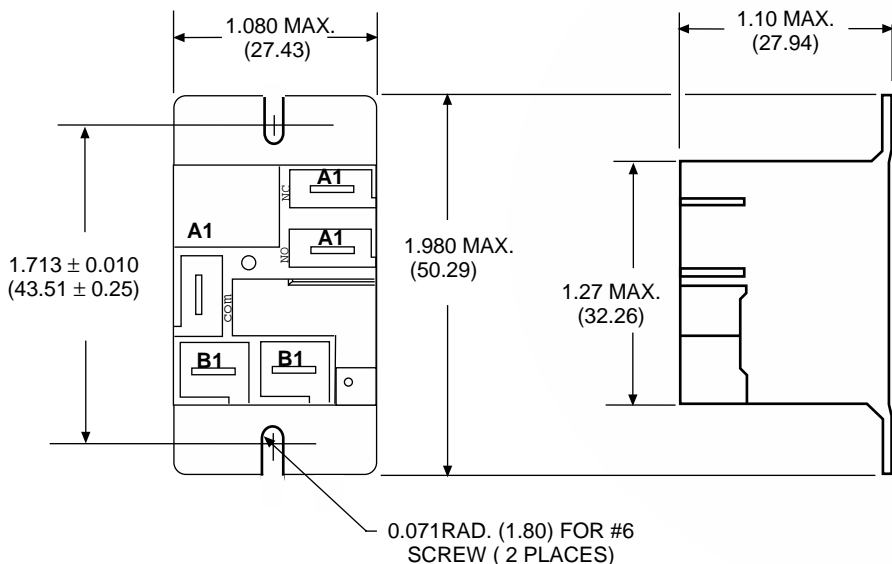
ORDERED AND SHIPPED SEPARATELY



SPST-N.O. & SPDT 30 AMPS

OUTLINE DIMENSIONS

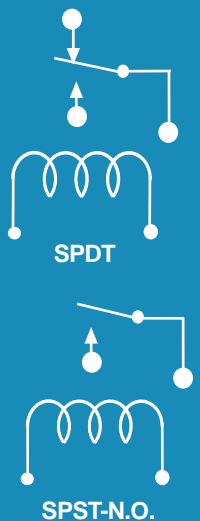
DIMENSIONS SHOWN IN INCHES & (MILLIMETERS).



A1 = 0.250 X 0.032 (6.35 X 0.81) Quick Connect Terminal
B1 = 0.187 x 0.020 (4.78 x 0.508) Quick Connect Terminal



WIRING DIAGRAM
(BOTTOM VIEW)



COIL MEASURED @ 25°C

| STANDARD PART NUMBERS | CONTACT CONFIGURATION | NOMINAL INPUT VOLTAGE | NOMINAL RESISTANCE (OHMS) |
|-----------------------------|-----------------------|-----------------------|---------------------------|
| FLANGE MOUNT, 30 AMP | | | |
| W9AS1D52-5 | SPST-NO | 5 VDC | 25 Ω |
| W9AS1D52-12 | SPST-NO | 12 VDC | 144 Ω |
| W9AS1D52-24 | SPST-NO | 24 VDC | 576 Ω |
| W9AS1D52-110 | SPST-NO | 110 VDC | 12100 Ω |
| FLANGE MOUNT, 20 AMP | | | |
| W9AS5D52-5 | SPDT | 5 VDC | 25 Ω |
| W9AS5D52-12 | SPDT | 12 VDC | 144 Ω |
| W9AS5D52-24 | SPDT | 24 VDC | 576 Ω |
| W9AS5D52-110 | SPDT | 110 VDC | 12100 Ω |
| FLANGE MOUNT, 30 AMP | | | |
| W9AS1A52-24 | SPST-NO | 24 VAC | |
| W9AS1A52-120 | SPST-NO | 120 VAC | |
| W9AS1A52-240 | SPST-NO | 240 VAC | |
| FLANGE MOUNT, 20 AMP | | | |
| W9AS5A52-24 | SPDT | 24 VAC | |
| W9AS5A52-120 | SPDT | 120 VAC | |
| W9AS5A52-240 | SPDT | 240 VAC | |

UL CONTACT LOAD RATINGS TABLE

| RATING | LOAD VOLTAGE | DPST-N.O. & DPDT | DPDT | OPERATIONS |
|-------------------|--------------|-------------------|-----------|------------|
| | | N.O. LOAD | N.C. LOAD | |
| RESISTIVE LOAD | 120/277 VAC | 30 AMP | 3 A MP | 6,000 |
| | 28 VDC | 20 AMP | 3 A MP | 100,000 |
| MOTOR | 120 VAC | 1 HP | - | 1000 |
| | 240 VAC | 3 HP | - | 1000 |
| TUNGSTEN LRA/FLA‡ | 120 VAC | TV-10 | - | 25,000 |
| | 240 VAC | 96/22 110/25.3 | - | 30,000 |
| PILOT DUTY | 240 VAC | 3 AMP | - | 6,000 |

DPST-N.O. & DPDT 30 AMPS



UL Recognized
File No. E43641

Note:

‡ FLA = full load amps, LRA = Locked rotor amps.

GENERAL SPECIFICATIONS

COIL

Pull-in Voltage: 80% of nominal voltage or less for AC coils, 75% of nominal voltage or less for DC coils
 Dropout Voltage: 10% of nominal voltage or more
 Max. Operating Frequency: 14 operations per minute
 Nominal Power: AC coil: 4.0 VA, DC coil: 1.7W
 Insulation System: Class "F" (155°C)
 Coil Resistance: ±10% measured @ 25°C
 Duty: Continuous

CONTACT

Contact Material: Silver alloy
 Contact Load Ratings: See: "UL CONTACT LOAD RATINGS TABLE"
 Contact Resistance: 100, 000, 000 @ initial rated current (switched)
 Minimum Load: N.O. 500 mA @ 12 VAC/VDC
 N.C. 100 mA @ 6 VAC/VDC

TIMING

Operate Time: DC: 15 mS typ. 25ms W/ Bounce
 Release Time: DC: 10 mS typ. 25 ms W/ Bounce

DIELECTRIC STRENGTH

Between Open Contacts: 1500 V rms
 Contacts to Coil: 4000V rms
 Insulation Resistance: 10³ meg Ω min. @ 500 VDC, 25°C 50% RH

TEMPERATURE

Operating: AC coil rectified: -40°C to +85°C, DC: -40°C to +85°C
 Storage: -55°C to +155°C

VIBRATION RESISTANCE

Functional: 0.065 (1.65 mm) double
 Amplitude -10 thru 55 Hz

SHOCK RESISTANCE

Functional: 10 g's for 11 mS, 1/2 sign wave pulse with no contact opening > 100µs
 Mechanical: 100 g's for 11 mS, 1/2 sine wave pulse

LIFE EXPECTANCY

Electrical: 100,000 operations @ rated resistive load
 Mechanical: 5,000,000 operations @ no load

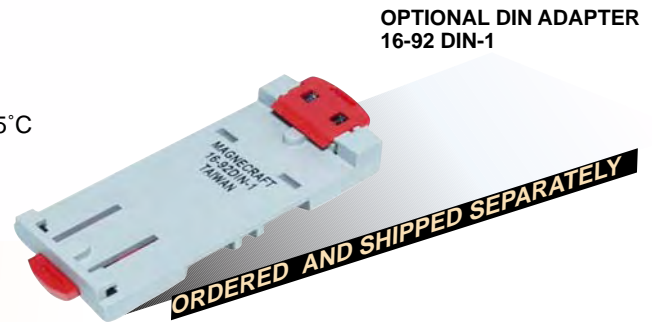
MISCELLANEOUS

Operating Position: Any
 Enclosure: Epoxy sealed immersion cleanable tape sealed plastic cover
 Flammability: 94V-O flammability rating
 Weight: 86 grams approx.

CLASS "F" INSULATION 155 °C.
EPOXY SEALED WITH REMOVABLE
TAPE SEAL OVER VENT HOLE
(REMOVED AFTER CLEANING)



STANDARD FLANGE COVER



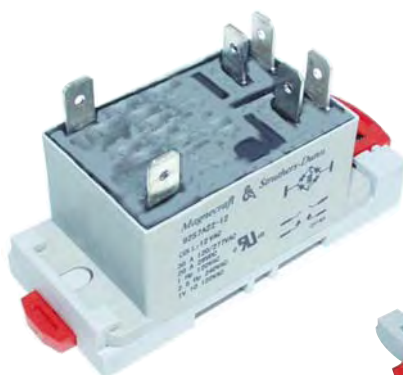
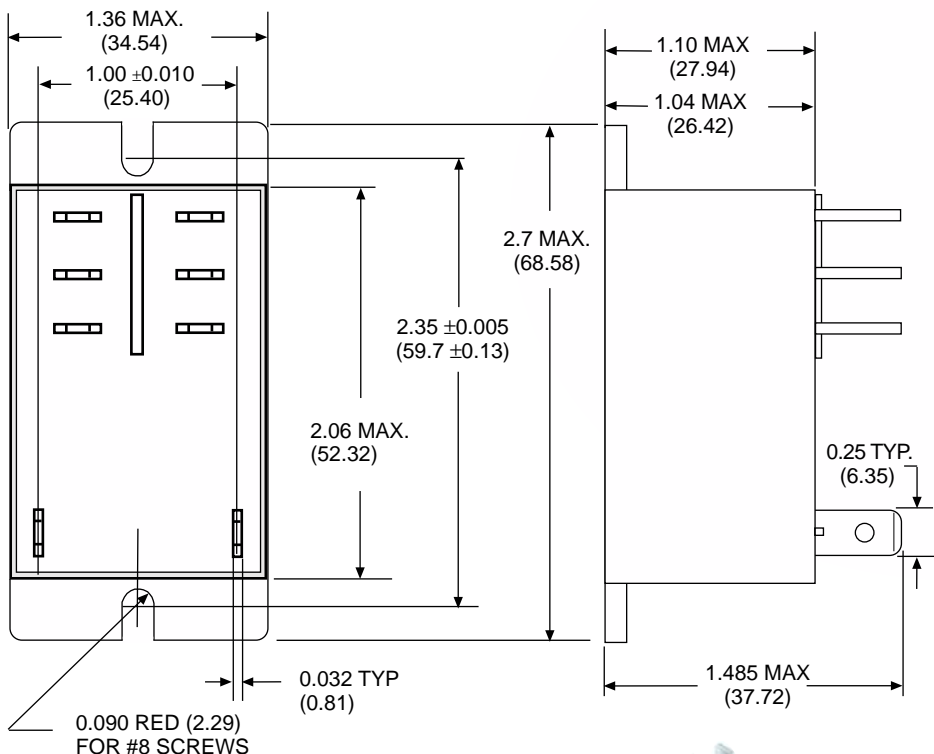
OPTIONAL DIN ADAPTER
16-92 DIN-1

MEETS UL 873
AND UL 508
SPACING - (8MM)
THRU AIR, (9.5 MM)
OVER SURFACE



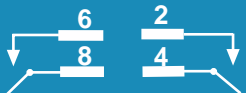
DPST-N.O. & DPDT 30 AMPS

OUTLINE DIMENSIONS
DIMENSIONS SHOWN IN INCHES & (MILLIMETERS).

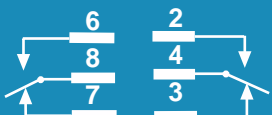


WIRING DIAGRAM

(VIEWED FROM PIN END)



DPST-N.O.



DPDT

| STANDARD PART NUMBERS | COIL MEASURED @ 25°C | | |
|--|-----------------------|-----------------------|---------------------------|
| | CONTACT CONFIGURATION | NOMINAL INPUT VOLTAGE | NOMINAL RESISTANCE (OHMS) |
| AC OPERATED COIL FLANGE MOUNT, 30 AMP | | | |
| W92S7A22-24 | DPST-NO | 24 VAC | - |
| W92S7A22-120 | DPST-NO | 120 VAC | - |
| W92S7A22-240 | DPST-NO | 240 VAC | - |
| W92S11A22-24 | DPDT | 24 VAC | - |
| W92S11A22-120 | DPDT | 120 VAC | - |
| W92S11A22-240 | DPDT | 240 VAC | - |
| DC OPERATED COIL FLANGE MOUNT, 30 AMP | | | |
| W92S7D22-12 | DPST-NO | 12 VDC | 86 Ω |
| W92S7D22-24 | DPST-NO | 24 VDC | 350 Ω |
| W92S7D22-110 | DPST-NO | 110 VDC | 7,255 Ω |
| W92S11D22-12 | DPDT | 12 VDC | 86 Ω |
| W92S11D22-24 | DPDT | 24 VDC | 350 Ω |
| W92S11D22-110 | DPDT | 110 VDC | 7,255 Ω |

UL CONTACT LOAD RATINGS TABLE

| POLES | CURRENT OR HORSE POWER | LOAD VOLTAGE | LOAD VOLTAGE FREQUENCY | TYPE OF LOAD | MINIMUM LOAD |
|---------------------|------------------------|--------------|------------------------|--------------|--------------|
| 1 POLE THRU 6 POLES | 5 AMP | 120 VAC | 50/60 Hz | RESISTIVE | |
| | 5 AMP | 28 VDC | DC | RESISTIVE | 50 mA, 6 VDC |
| | 3 AMP | 120 VAC | 50/60 Hz | RESISTIVE | |
| | 3 AMP | 28 VDC | DC | RESISTIVE | 10 mA, 6 VDC |

**DPDT THRU 6PDT,
3 & 5 AMPS**

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File No. E52197

168986

GENERAL SPECIFICATIONS

COIL

Pull-in Voltage : 80% of nominal voltage or less
 Dropout Voltage: DC-10% of nominal voltage or more
 Max. Voltage : 110%
 Resistance: ±10% measured @ 25°C
 Coil Power: 0.5 to 1.5 watts DC, 1.5 VA to 2 VA (60Hz) AC @ 25°C.
 Max. Coil Dissipation: 2.2 watts @ 25°C.
 Duty: Continuous

CONTACTS

Contact Material: Silver gold overlay
 Coil Resistance: 50 megohms max.
 Contact Rating: See "UL CONTACT LOAD RATING TABLE"

CAPACITANCE

Between Contacts: 2 pf, typ.
 Contacts to Coil: 2 pf, typ.
 Contacts to Frame: 30 pf, typ.

TIMING

Operate Time: DPDT=12 mS, 4PDT=14 mS, 6PDT=16 mS,
 Release Time: 8 mS

DIELECTRIC STRENGTH

Contacts to Coil: 1500 V rms
 Coil to Frame: 1000 V rms
 Across Open Contacts: 500 V rms
 Contacts to Frame: 1500 V rms
 Insulation Resistance: 1000 megohms @ 500 VDC

TEMPERATURE

Operating: -55°C to +70°C
 Storage: -55°C to +105°C

LIFE EXPECTANCY

Electrical: 200,000 operations @ rated resistive load
 Mechanical: 1,000,000 operations @ no load

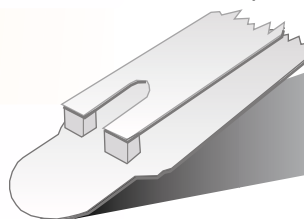
MISCELLANEOUS

Operating Position: Any
 Insulation Material: Molded plastic
 Enclosure: Polycarbonate dust cover
 Weight: 22 to 40 grams approx.

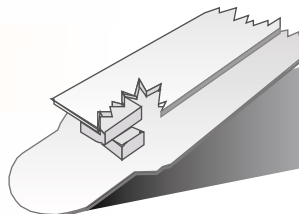
Standard **Class 67** miniature industrial relays are designed for applications requiring DPDT to 6PDT contacts where space and weight are of prime importance. Shatter resistant, see-thru plastic covers are utilized to protect against dust, tampering and electrical shock. The 67T models have Bifurcated Contacts and are designed for low level switching applications.



**BIFURCATED CONTACTS
(LOW LEVEL APPLICATIONS)**



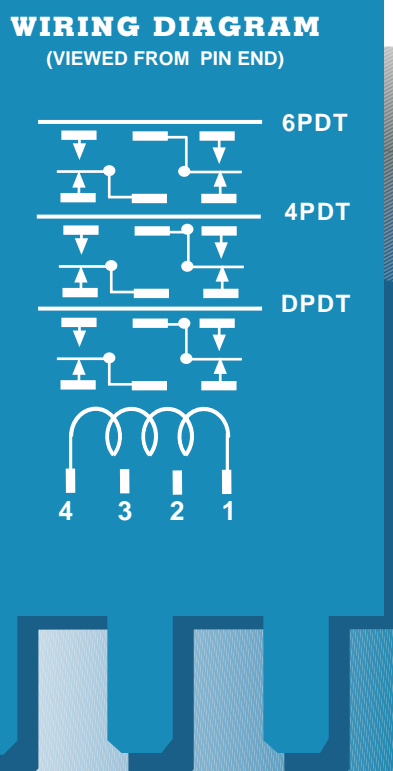
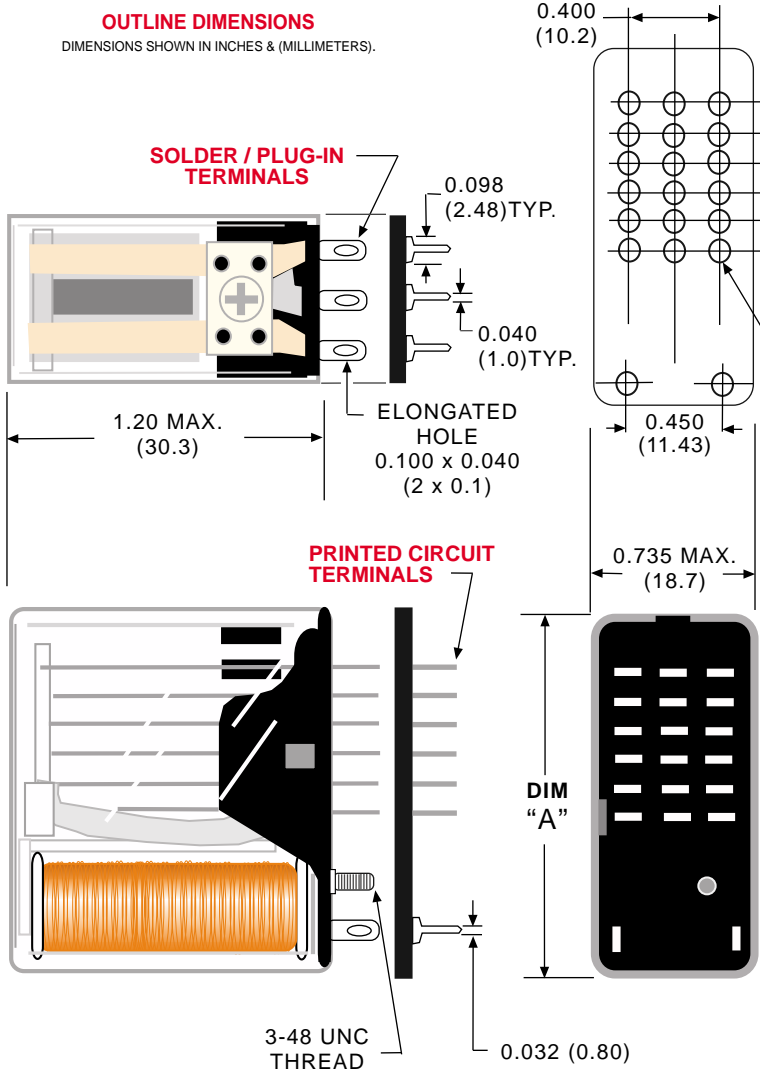
**STANDARD CONTACTS
(5 AMP CROSS BAR)**



Mating Sockets
70-303-1, 70-305-1, 70-307-1: SOLDER
70-304-1, 70-306-1, 70-308-1:
PRINTED CIRCUIT
 See section 8, page 23, 24



DPDT THRU 6PDT, 3 & 5 AMPS



DIMENSIONS

| CONTACT CONFIGURATION | "A" DIM |
|-----------------------|--------------|
| 6PDT | 1.374 (34.9) |
| 4PDT | 1.156 (29.4) |
| DPDT | 0.978 (24.8) |

| STANDARD PART NUMBERS | CONTACT CONFIGURATION | COIL MEASURED @ 25°C | |
|---|-----------------------|--------------------------|---------------------------|
| | | NOMINAL INPUT VOLTAGE OR | NOMINAL RESISTANCE (OHMS) |
| DC OPERATED COIL - SOLDER/PLUG-IN, 5 AMP | | | |
| W67RCSX-1 | DPDT | 5 VDC | 52 Ω |
| W67RCSX-2 | DPDT | 12 VDC | 185 Ω |
| W67RCSX-3 | DPDT | 24 VDC | 700 Ω |
| W67RCSX-4 | DPDT | 48 VDC | 2,500 Ω |
| W67RCSX-5 | DPDT | 110 VDC | 15,000 Ω |
| W67RCSX-6 | 4PDT | 5 VDC | 52 Ω |
| W67RCSX-7 | 4PDT | 12 VDC | 185 Ω |
| W67RCSX-8 | 4PDT | 24 VDC | 700 Ω |
| W67RCSX-9 | 4PDT | 48 VDC | 2,500 Ω |
| W67RCSX-10 | 4PDT | 110 VDC | 15,000 Ω |
| W67RCSX-12 | 6PDT | 12 VDC | 90 Ω |
| W67RCSX-13 | 6PDT | 24 VDC | 430 Ω |
| DC OPERATED COIL-BIFURCATED CONTACTS, 3 AMP | | | |
| W67TRCSX-2 | DPDT | 12 VDC | 185 Ω |
| W67TRCSX-3 | DPDT | 24 VDC | 700 Ω |
| W67TRCSX-7 | 4PDT | 12 VDC | 185 Ω |
| W67TRCSX-8 | 4PDT | 24 VDC | 700 Ω |
| W67TRCSX-12 | 6PDT | 12 VDC | 90 Ω |
| W67TRCSX-13 | 6PDT | 24 VDC | 430 Ω |
| DC OPERATED PRINTED CIRCUIT, 5 AMP | | | |
| W67RPCX-2 | DPDT | 12 VDC | 185 Ω |
| W67RPCX-3 | DPDT | 24 VDC | 700 Ω |
| W67RPCX-7 | 4PDT | 12 VDC | 185 Ω |
| W67RPCX-8 | 4PDT | 24 VDC | 700 Ω |
| W67RPCX-12 | 6PDT | 12 VDC | 90 Ω |
| W67RPCX-13 | 6PDT | 24 VDC | 430 Ω |
| AC OPERATED COIL - SOLDER/PLUG-IN, 5 AMP | | | |
| W67ARCSX-5 | DPDT | 120 VAC, 50/60Hz | 9000 Ω |
| W67ARCSX-10 | 4PDT | 120 VAC, 50/60Hz | 8000 Ω |
| W67ARCSX-15 | 6PDT | 120 VAC, 50/60Hz | 8000 Ω |
| DC OPERATED COIL ULTRA SENSITIVE - SOLDER/PLUG-IN, 3 AMP | | | |
| W67SCSX-1 | DPDT | 9.4 MADC | 1,000 Ω |
| W67SCSX-2 | DPDT | 6.4 MADC | 2,500 Ω |
| W67SCSX-3 | DPDT | 4.5 MADC | 5,000 Ω |
| W67SCSX-6 | 4PDT | 13.7 MADC | 1,000 Ω |
| W67SCSX-7 | 4PDT | 9.1 MADC | 2,500 Ω |
| W67SCSX-8 | 4PDT | 6.5 MADC | 5,000 Ω |

RETROFITS POTTER & BRUMFIELD R10.
SEE END OF SECTION 1 FOR CROSS REFERENCE

12 & 14 PIN, 10 AMPS

UL CONTACT LOAD RATINGS TABLE

| POLES | CURRENT OR HORSE POWER | LOAD VOLTAGE | LOAD VOLTAGE FREQUENCY | TYPE OF LOAD |
|---|------------------------|--------------|------------------------|--------------|
| ALL STYLES | 10 AMP | 120 VAC | 50/60 Hz | RESISTIVE |
| | 5 AMP | 240 VAC | 50/60 Hz | RESISTIVE |
| | 10 AMP | 28 VDC | DC | RESISTIVE |
| | 0.5 AMP | 125 VDC | DC | RESISTIVE |
| | 3 AMP | 120 VAC | 50/60 Hz | INDUCTIVE |
| | 1 AMP | 240 VAC | 50/60 Hz | INDUCTIVE |
| | 3 AMP | 28 VDC | DC | INDUCTIVE |
| | 0.1 AMP | 125 VDC | DC | INDUCTIVE |
| SUFFIX "69" WITH BLOWOUT MAGNET FOR DC SWITCHING (NOT UL OR CSA) | | | | |
| SPST-NO | 1.5 AMP | 125 VDC | DC | RESISTIVE |
| SPST-NO-DM | 4 AMP | 125 VDC | DC | RESISTIVE |
| SPST-NO | 0.5 AMP | 250 VDC | DC | RESISTIVE |
| SPST-NO-DM | 1.5 AMP | 250 VDC | DC | RESISTIVE |
| SPST-NO | 0.5 AMP | 125 VDC | DC | INDUCTIVE |
| SPST-NO-DM | 1.5 AMP | 125 VDC | DC | INDUCTIVE |
| SPST-NO | 150 mA | 250 VDC | DC | INDUCTIVE |
| SPST-NO-DM | 0.5 AMP | 250 VDC | DC | INDUCTIVE |

CONTACTS CAN CLOSE ON 30 AMP LOADS AND CARRY 10 AMPS CONTINUOUSLY AT VOLTAGES SHOWN IN UL CONTACT LOAD RATINGS TABLE.

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File No. E13224

SP 168986

UL LISTED 225G
IND. CONT. EQ.
C US

WHEN USED WITH
SOCKETS
27390 OR 33377

CURRENT LIMITED TO
RATING OF RELAY OR
SOCKET WHICHEVER
IS LESS

COIL SPECIFICATIONS @ 25°C

| AC RELAYS 50/60 HZ (COIL DATA @ 60HZ VOLTAGE) | | | | | DC RELAYS, 1.8 WATTS (2.5 W @ 125 VDC) | | | |
|---|----------------------|---------------|------------------|----------------|--|----------------------|--------------|-----|
| Nominal Voltage | Resistance Ohms ±10% | Milliamperes | | Impedance Ohms | Nominal Voltage | Resistance Ohms ±10% | Milliamperes | |
| | | Inrush (Open) | Sealed (Pull-In) | | | | Cold | Hot |
| 6 | 1.1 | 1500 | 840 | 7.2 | 6 | 15.5 | 385 | 304 |
| 12 | 4.2 | 750 | 410 | 27 | 12 | 63.5 | 189 | 147 |
| 24 | 15.5 | 375 | 200 | 120 | 24 (28)* | 250 | 96 | 77 |
| 120 | 540 | 75 | 40 | 2700 | 32 | 375 | 86 | 62 |
| 240 | 2100 | 32 | 17 | 13,400 | 115/125* | 6200 | 20 | 16 |

*** 24 VDC AND 115 VDC RELAYS HAVE NAME PLATES STAMPED 24-28 AND 115-125 VDC RESPECTIVELY. THESE RELAYS OPERATE AT 80% OF THE LOWER VOLTAGES AND OPERATE WITHIN ALLOWABLE TEMPERATURE RISES AT 110% OF HIGHER VOLTAGES. 250 VDC: USE 125 VDC RELAY AND SERIES RESISTOR (6000 Ω, 5 W) NOT SUPPLIED.**

GENERAL SPECIFICATIONS

COIL
Pull-in Voltage: 85% of nominal voltage or less for AC coils, 80% of nominal voltage or less for DC coils
Max. Voltage: 110%
Insulation System: Class "B" (130°C per UL standard 1446)

CONTACTS
Contact Material: Silver alloy, gold diffused

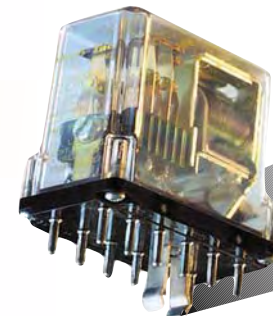
TIMING
Operate Time: 25 mS max. @ nominal voltage
Release Time: 20 mS max. @ nominal voltage

DIELECTRIC STRENGTH
All Mutually Insulated Points: 1500 V rms

TEMPERATURE
Operation: -40°C to +60°C
Storage: -40°C to +130°C

LIFE EXPECTANCY
Electrical: 100,000 operations @ rated resistive load
Mechanical: 10,000,000 operations @ no load

MISCELLANEOUS
Operating Position: Vertical, contacts up
Enclosure: Polycarbonate dust cover
Weight: 241 grams approx.

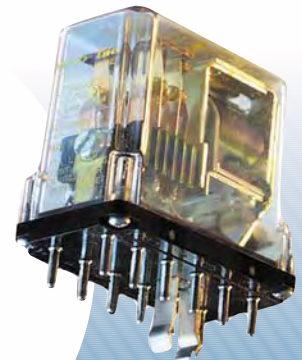
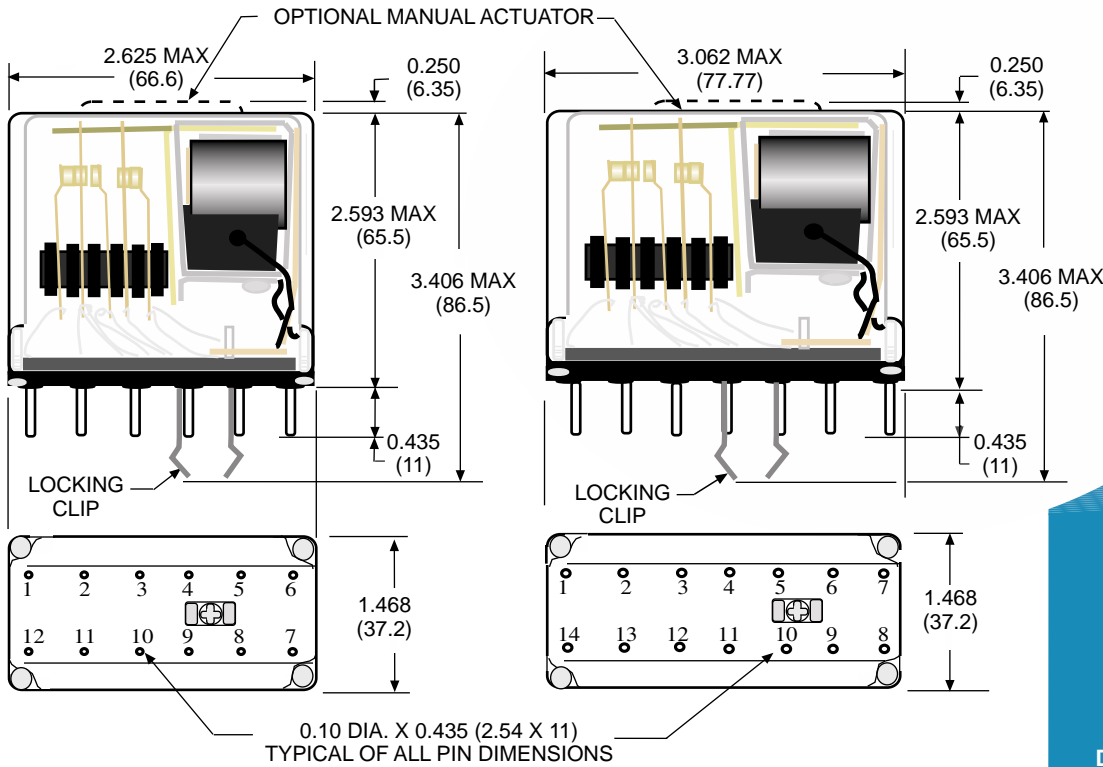


Mating Sockets
27390D, 33377D: SCREW/PANEL/DIN
See section 8, page 25

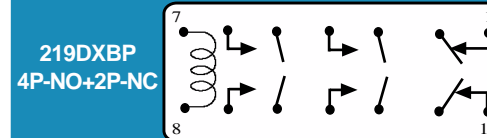
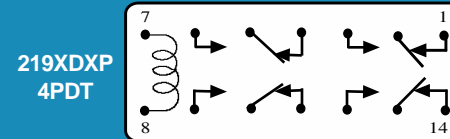
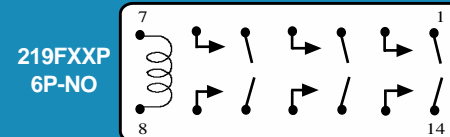
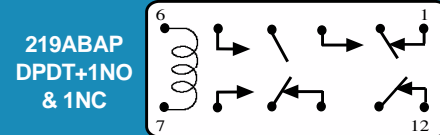
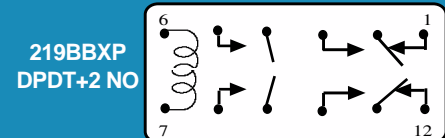
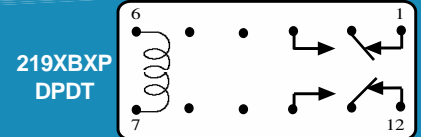


12 & 14 PIN, 10 AMPS

OUTLINE DIMENSIONS
DIMENSIONS SHOWN IN INCHES & (MILLIMETERS).



WIRING DIAGRAMS
(VIEWED FROM PIN END)



THE SERIES 219 GENERAL PURPOSE INDUSTRIAL PLUG-IN RELAYS FEATURE 12 PIN AND 14 PIN BASES. THE COIL IS ENCAPSULATED FOR PROTECTION. NUCLEAR QUALIFIED VERSIONS ARE AVAILABLE. CONSULT FACTORY.

ORDERING CODE FOR RELAYS

219 XBXP L-24D

CLASS: _____

CONTACT CONFIGURATION: _____

- DPDT: **XBX**
- DPDT +1 POLE: NO & 1 POLE NC: **ABA**
- 2 POLE: NO & DPDT: **BBX**
- 4 PDT: **XXD**
- 6 POLE: NO: **FXX**
- 4 POLE: NO & 2 POLE: NC: **DXB**

STANDARD FEATURES: _____

POLYCARBONATE COVER: **CODE P**

OPTIONAL FEATURES: _____

- STATUS LAMP: **CODE L**
- MANUAL ACTUATOR: **CODE M**
- BIFURCATED CONTACTS: **CODE 33**
- PERM. MAGNET BLOWOUT: **CODE 69**

COIL VOLTAGE: _____

- 6, 12, 24, 120, 240 **ADD "A" FOR AC COILS**
- 6, 12, (24-28), 32, 115/125 **ADD "D" FOR DC COILS**

COIL VOLTAGES & FREQUENCIES MUST BE SPECIFIED.

Make before break and other contact configurations available limited only by the number of terminal pins. Contact factory.

| 12 PIN MODELS | CONTACT CONFIGURATION | 14 PIN MODELS | CONTACT CONFIGURATION |
|---------------|-----------------------|---------------|-----------------------|
| 219BBXP | DPDT + 2 NO | 219DXDP | 4PDT |
| 219XBXP | DPDT | 219FXXP | 6P-NO |
| 219ABAP | DPDT + 1 NO & 1 NC | 219DXBP | 4P-NO + 2P-NC |

FEATURES**VACUUM BAKED & DRY
NITROGEN FILLED**REMOVES CONTAMINANTS AND PROVIDES A CLEAN & DRY
ATMOSPHERE FOR CONTACTS.**HERMETICALLY SEALED
METAL ENCLOSURE**IDEAL FOR USE IN HAZARDOUS LOCATIONS. UL CERTIFIED FOR
CLASS 1 DIVISION 2 GROUP A, B, C & D HAZARDS.**PLUG-IN STYLE
MOUNTING**WHEN USED WITH 70-464-1 OR 70-465-1 SOCKETS, THE 750H CAN BE
DIN RAIL MOUNTED OR PANEL MOUNTED.**BENEFITS****DPDT, 12 AMPS
3PDT, 10 AMPS****UL** **us**
UL Recognized
File No. E43641**UL** LISTED 367G
IND. CONT. EQ.
C USWHEN USED WITH
SOCKETS
70-464-1 OR 70-465-1CURRENT LIMITED TO
RATING OF RELAY OR
SOCKET WHICHEVER
IS LESS**GENERAL SPECIFICATIONS****COIL**

| | |
|------------------------|---|
| Pull-in Voltage: | 85% of nominal voltage or less for AC coils, 80% of nominal voltage or less for DC coils |
| Dropout Voltage: | 10% of nominal voltage or more |
| Max. Voltage: | 110% |
| Resistance: | ±10% measured @ 25°C |
| Coil Power: | 1.2 watts DC, 2 VA to 2.75 VA (60Hz) AC @ 25°C. |
| Max. Coil Dissipation: | 3.0 watts DC @ 25°C. |
| Duty: | Continuous |

CONTACTS

| | |
|---------------------|---|
| Contact Material: | Silver alloy, gold flashed |
| Contact Rating: | 10 amps, 120 VAC. 6 amps, 240 VAC 50/60Hz for 3 pole 12 amps, 120 VAC. 8 amps, 240 VAC 50/60Hz for 2 pole 1/3Hp 120 VAC, 1/2Hp 240 VAC. 10 amps, 30 VDC |
| Contact Resistance: | 50 milliohms max. Initial at rated current |

TIMING

| | |
|---------------|-----------------------------|
| Operate Time: | 15 mS max @ nominal voltage |
| Release Time: | 10 mS max @ nominal voltage |

DIELECTRIC STRENGTH

| | |
|------------------------|-----------------------------|
| Contacts to Coil: | 1250 V rms |
| Across open Contacts: | 500 V rms |
| Pole to Pole: | 1250 V rms |
| Contacts to Frame: | 1250 V rms |
| Insulation Resistance: | 1000 megohms min. @ 500 VDC |

TEMPERATURE

| | |
|------------|--|
| Operating: | -45°C to +55°C. (AC) -45°C +70°C. (DC) |
| Storage: | -45°C to +105°C |

VIBRATION RESISTANCE

| | |
|-------------|--------------------------------------|
| Functional: | 6 g's, 10 to 55Hz (double amplitude) |
|-------------|--------------------------------------|

SHOCK RESISTANCE

| | |
|-------------|--------|
| Functional: | 5 g's |
| Mechanical: | 20 g's |

LIFE EXPECTANCY

| | |
|-------------|---|
| Electrical: | 100,000 operations @ rated resistive load |
| Mechanical: | 5,000,000 operations @ no load |

MISCELLANEOUS

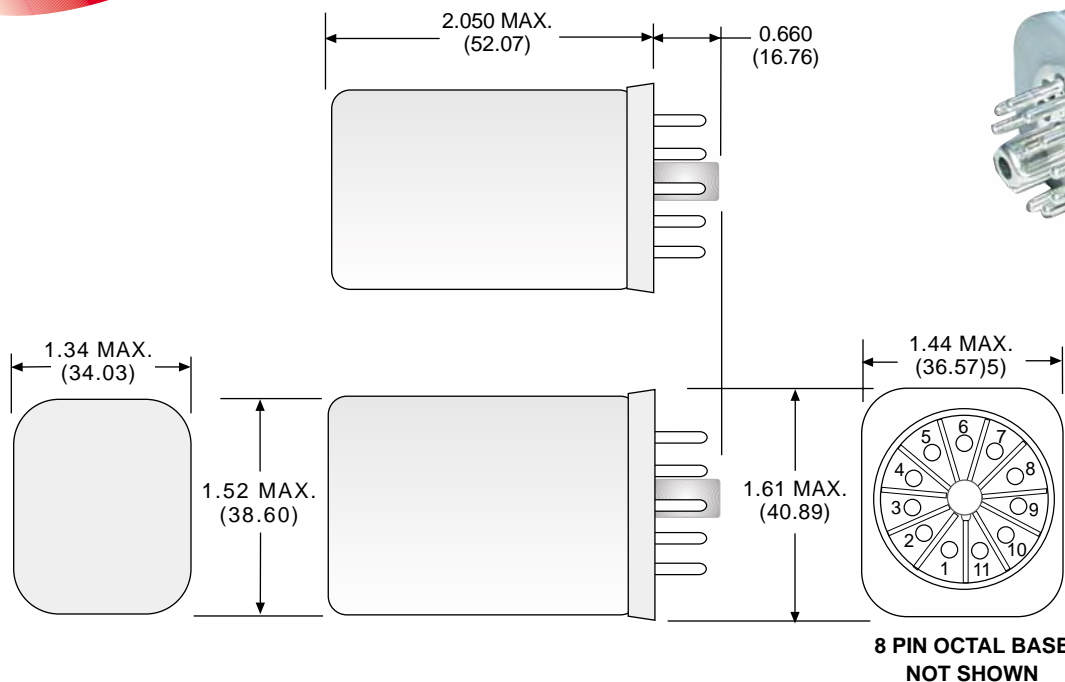
| | |
|----------------------|--------------------------------------|
| Operating Position: | Any |
| Insulation Material: | Molded plastic |
| Enclosure: | Grey metal case, hermetically sealed |
| Weigh: | 130 grams approx. |

**UL GROUPS A, B, C & D CERTIFIED
CLASS 1 DIVISION 2 FOR
HAZARDOUS LOCATIONS****Mating Sockets****70-750D8-1, 70-750D11-1,
70-464-1, 70-465-1: SCREW/DIN
70-169-1, 70-170-1: SCREW/PANEL
See Section 8, page 7 - 12**

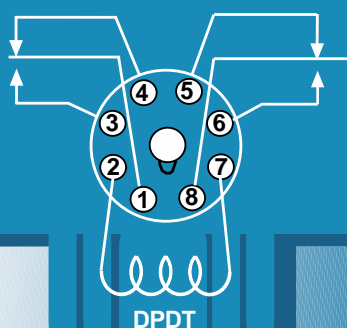
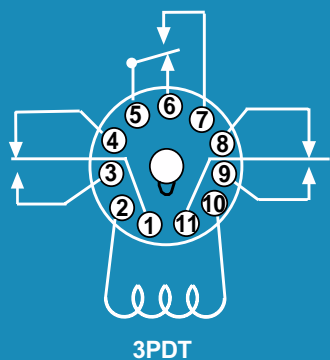
**DPDT, 12 AMPS
3PDT, 10 AMPS**

NEW
From The Market
Leader in Industrial
Relays

OUTLINE DIMENSIONS
DIMENSIONS SHOWN IN INCHES & (MILLIMETERS).



WIRING DIAGRAMS
(VIEWED FROM PIN END)



| STANDARD PART NUMBERS | CONTACT CONFIGURATION | COIL MEASURED @ 25°C | |
|---|-----------------------|-----------------------|---------------------------|
| | | NOMINAL INPUT VOLTAGE | NOMINAL RESISTANCE (OHMS) |
| AC OPERATED - 8 PIN OCTAL, 12 AMP | | | |
| 750XBXH-12A | DPDT | 12 VAC, 50/60Hz | 72 Ω |
| 750XBXH-24A | DPDT | 24 VAC, 50/60Hz | 1,700 Ω |
| 750XBXH-120A | DPDT | 120 VAC, 50/60Hz | 9,100 Ω |
| DC OPERATED - 8 PIN OCTAL, 12 AMP | | | |
| 750XBXH-12D | DPDT | 12 VDC | 120 Ω |
| 750XBXH-24D | DPDT | 24 VDC | 470 Ω |
| 750XBXH-110D | DPDT | 110 VDC | 10,000 Ω |
| AC OPERATED - 11 PIN OCTAL, 10 AMP | | | |
| 750XCXH-12A | 3PDT | 12 VAC, 50/60Hz | 72 Ω |
| 750XCXH-24A | 3PDT | 24 VAC, 50/60Hz | 1,700 Ω |
| 750XCXH-120A | 3PDT | 120 VAC, 50/60Hz | 9,100 Ω |
| DC OPERATED - 11 PIN OCTAL, 10 AMP | | | |
| 750XCXH-12D | 3PDT | 12 VDC | 120 Ω |
| 750XCXH-24D | 3PDT | 24 VDC | 470 Ω |
| 750XCXH-110D | 3PDT | 110 VDC | 10,000 Ω |

DPDT, 30 AMPS

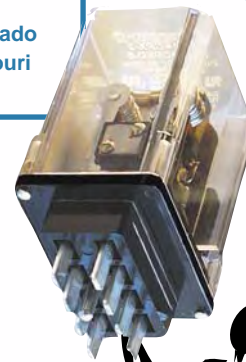
BENEFITS

| | MAGNECRAFT: W21ACPX-2 | MIDTEX: TYPE 136 |
|--------------------------------------|---|-------------------------------------|
| CURRENT RATING: | 30 AMPS @ 120/240 VAC, 20 AMPS @ 28 VDC | 15 AMPS @ 120 VAC, 15 AMPS @ 28 VDC |
| HORSEPOWER RATING: | 1-1/2 HP @ 120 VAC, 2 HP @ 240 VAC | 1/4HP @ 120 VAC, NOT UL RATED |
| TUNGSTEN LOAD RATING: | 2.4 KW @ 240 VAC | 1 KW @ 120/240 VAC |
| ELECTRICAL LIFE @ RATED LOAD: | 200,000 OPERATIONS | 100,000 OPERATIONS |

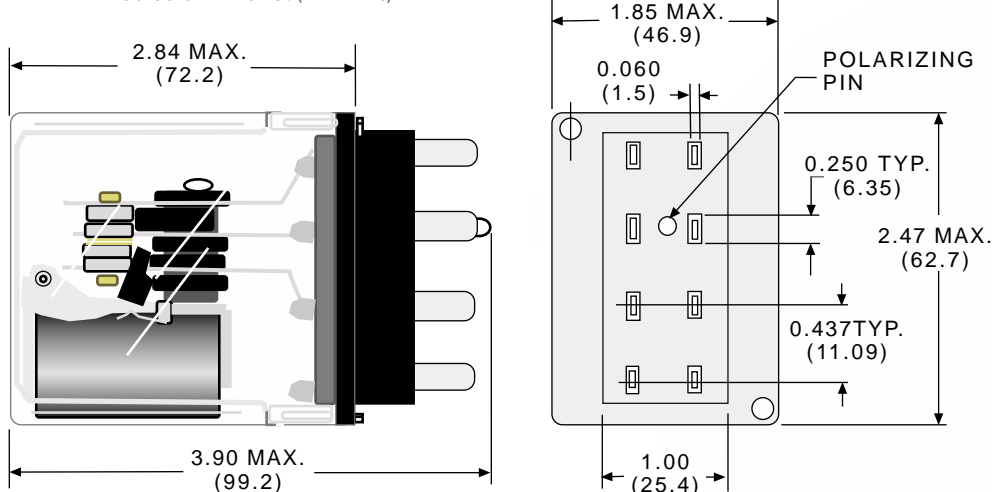


MANUFACTURED UNDER
ISO 9002

EXCEEDS NEMA STD. TS
2-1992 APPROVED BY
D.O.T FOR:
California Minnesota
Georgia New York
Illinois Texas
Oregon Colorado
Maryland Missouri
North Carolina



OUTLINE DIMENSIONS
DIMENSIONS SHOWN IN INCHES & (MILLIMETERS).



BENEFITS OF RECTIFIED COIL DESIGN:

1. Chatter Free Operation in Brownout Conditions Down to 85 VAC and Will not Overheat up to 140 VAC.
2. Less Power Consumption and Less Heating.

GENERAL SPECIFICATIONS

COIL

| | |
|------------------|--|
| Pull-in Voltage: | 65% of nominal voltage @ 20°C or less for AC coils |
| Dropout Voltage: | 10% of nominal voltage or more |
| Coil Insulation: | Class "B" system (130°C per UL standard 1446) |
| Nominal Power: | 4.0 VA |

CONTACTS

| | |
|-------------------|---|
| Contact Material: | Silver alloy |
| Contact Rating: | 30 amps, 120/240 VAC (resistive) 25 amps, 120/240 VAC (CSA) 20 amps, 28 VDC (resistive) 1-1/2Hp, 120 VAC, 2Hp, 240 VAC 20 amps, 120 VAC (tungsten lamp) 10 amps, 240 VAC (tungsten lamp) |

DIELECTRIC STRENGTH

| | |
|-----------------------|------------|
| Across Open Contacts: | 500 V rms |
| Contact to Coil: | 1500 V rms |
| Contact to Frame: | 1500 V rms |

TEMPERATURE

| | |
|------------|-----------------|
| Operating: | -40°C to +84°C |
| Storage: | -40°C to +105°C |

LIFE EXPECTANCY

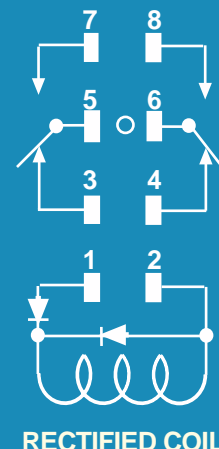
| | |
|-------------|--|
| Electrical: | 200,000 operations @ 20 amps tungsten, 120 VAC |
| Mechanical: | 5,000,000 operations @ no load |

MISCELLANEOUS

| | |
|---------------------|-------------------------------------|
| Enclosure: | Clear polycarbonate |
| Operating Position: | Vertical, contacts up or horizontal |
| Weight: | 204.7 grams approx. |

MOUNTING:
FITS STANDARD
8 PIN JONES PLUG

WIRING DIAGRAM
(VIEWED FROM PIN END)



**SWITCHES
TUNGSTEN LAMP
LOADS UP TO
20 AMPS**

RECTIFIED COIL

COIL MEASURED @ 25°C

| STANDARD PART NUMBER | CONTACT CONFIGURATION | NOMINAL INPUT VOLTAGE | NOMINAL POWER |
|---------------------------------------|-----------------------|-----------------------|---------------|
| AC RECTIFIED - PLUG-IN, 30 AMP | | | |
| W21ACPX-2 | DPDT | 120 VAC, 50/60Hz | 4.0 VA |



SECTION 1 CROSS REFERENCE GUIDE

| MAGNECRAFT & STRUTHERS-DUNN | IDEC | | | |
|-----------------------------|---------------------------|---------------------------------|----------|-----------------|
| 781XAXML-24A | RH1B-L-AC24 | | | |
| 781XAXML120A | RH1B-L-AC120 | | | |
| 781XAXML-240A | RH1B-L-AC240 | | | |
| 781XAXML-12D | RH1B-L-DC12 | | | |
| 781XAXML-24D | RH1B-L-DC24 | | | |
| 781XAXML-110D | RH1B-L-DC110 | | | |
| 781XAXTML-120A | RH1V2-L-AC120 | | | |
| 781XAXTML-12D | RH1V2-L-DC12 | | | |
| 781XAXTML-24D | RH1V2-L-DC24 | | | |
| MAGNECRAFT & STRUTHERS-DUNN | IDEC | | | |
| 781XAXC-24A | RH1B-U-AC24 | | | |
| 781XAXC-120A | RH1B-U-AC120 | | | |
| 781XAXC-24D | RH1B-U-DC24 | | | |
| MAGNECRAFT & STRUTHERS-DUNN | TYCO / POTTER & BRUMFIELD | OMRON | | |
| 782DXH10-24A | KHS17A11-24 | MY4H-US-24VAC | | |
| 782DXH10-120A | KHS17A11-120 | MY4H-US-120VAC | | |
| 782DXH10-12D | KHS17D11-12 | MY4H-US-12VDC | | |
| 782DXH10-24D | KHS17D11-24 | MY4H-US-24VDC | | |
| 782DXH10-110D | KHS17D11-110 | - | | |
| 782DXH21-120A | KHS17A12-120 | - | | |
| 782DXH21-12D | KHS17D12-12 | - | | |
| 782DXH21-24D | KHS17D12-24 | - | | |
| MAGNECRAFT & STRUTHERS-DUNN | FINDER | TYCO / SCHRACK (PT REPLACES ZT) | | ALLEN-BRADLEY |
| 782DX2M4L-24A | 55.34.8024.20.54 | PT570524 | ZT570524 | 700-HC24A24-1-4 |
| 782DX2M4L-120A | 55.34.8120.20.54 | PT570615 | ZT570615 | 700-HC24A1-1-4 |
| 782DX2M4L-240A | 55.34.8240.20.54 | PT570730 | ZT570730 | 700-HC24A2-1-4 |
| 782DX2M4L-12D | 55.34.9012.20.54 | PT570012 | ZT570012 | 700-HC24Z12-1-4 |
| 782DX2M4L-24D | 55.34.9024.20.54 | PT570024 | ZT570024 | 700-HC24Z24-1-4 |
| 782DX2M4L-110D | 55.34.9110.20.54 | PT570110 | ZT570110 | 700-HC24Z1-1-4 |
| 782XB2M4L-24A | 56.32.8024.20.54 | PT270524 | ZT270524 | |
| 782XB2M4L-120A | 56.32.8120.20.54 | PT270615 | ZT270615 | |
| 782XB2M4L-240A | 56.32.8240.20.54 | PT270730 | ZT270730 | |
| 782XB2M4L-12D | 56.32.9012.20.54 | PT270012 | ZT270012 | |
| 782XB2M4L-24D | 56.32.9024.20.54 | PT270024 | ZT270024 | |
| 782XB2M4L-110D | 56.32.9110.20.54 | PT270110 | ZT270110 | |
| 782XBXM4L-24A | 55.32.8024.20.54 | PT270524 | ZT270524 | |
| 782XBXM4L-120A | 55.32.8120.20.54 | PT270615 | ZT270615 | |
| 782XBXM4L-240A | 55.32.8240.20.54 | PT270730 | ZT270730 | |
| 782XBXM4L-12D | 55.32.9012.20.54 | PT270012 | ZT270012 | |
| 782XBXM4L-24D | 55.32.9024.20.54 | PT270024 | ZT270024 | |
| 782XBXM4L-110D | 55.32.9110.20.54 | PT270110 | ZT270110 | |
| MAGNECRAFT & STRUTHERS-DUNN | IDEC | OMRON | | |
| 782XB2C-24A | RY2S-U-AC24V | MY2-AC24 | | |
| 782XB2C-120A | RY2S-U-AC110/120V | MY2-AC120 | | |

THE CROSS REFERENCE IS INTENDED TO MATCH FOOT PRINT, INTERNAL WIRING, AND CONTACT LOAD RATINGS. CONSTRUCTION FEATURES AND GENERAL SPECIFICATIONS SHOULD BE COMPARED IF EXACT REPLACEMENT IS REQUIRED.



SECTION 1 CROSS REFERENCE GUIDE

| MAGNECRAFT & STRUTHERS-DUNN | IDEC | OMRON | | | |
|-----------------------------|---------------------------|--------------------|------------|------------|-----------------|
| 782XBX2C-24D | RY2S-U-DC24V | MY2-DC24 | | | |
| MAGNECRAFT & STRUTHERS-DUNN | IDEC | | | | |
| 782XBX3C-24A | RY22S-U-AC24V | | | | |
| 782XBX3C-120A | RY22S-U-AC110/120V | | | | |
| 782XBXC3-24D | RY22S-U-DC24V | | | | |
| MAGNECRAFT & STRUTHERS-DUNN | IDEC | | | | |
| 783XCXM4L-24A | RH3B-ULC-AC24 | | | | |
| 783XCXM4L-120A | RH3B-ULC-AC120 | | | | |
| 783XCXM4L-240A | RH3B-ULC-AC240 | | | | |
| 783XCXM4L-12D | RH3B-ULC-DC12 | | | | |
| 783XCXM4L-24D | RH3B-ULC-DC24 | | | | |
| 783XCXM4L-110D | RH3B-ULC-DC110 | | | | |
| 783XCXTM4L-120A | RH3V2-ULC-AC120 | | | | |
| 783XCXTM4L-12D | RH3V2-ULC-DC12 | | | | |
| 783XCXTM4L-24D | RH3V2-ULC-DC24 | | | | |
| MAGNECRAFT & STRUTHERS-DUNN | IDEC | OMRON | | | |
| 783XCXC-24A | RH3B-U-AC24 | LY3-AC24 | | | |
| 783XCXC-120A | RH3B-U-AC120 | LY3-AC120 | | | |
| 783XCXC-24D | RH3B-U-DC24 | LY3-DC24 | | | |
| MAGNECRAFT & STRUTHERS-DUNN | IDEC | OMRON | | | |
| 784DXM4L-24A | RH4B-ULC-AC24 | LY414N-AC24 | | | |
| 784DXM4L-120A | RH4B-ULC-AC120 | LY414N-AC120 | | | |
| 784DXM4L-240A | RH4B-ULC-AC240 | LY414N-AC240 | | | |
| 784DXM4L-12D | RH4B-ULC-DC12 | LY414N-DC12 | | | |
| 784DXM4L-24D | RH4B-ULC-DC24 | LY414N-DC24 | | | |
| 784DXM4L-110D | RH4B-ULC-DC110 | LY414N-DC110 | | | |
| 784XDXTM4L-120A | RH4V2-ULC-AC120 | - | | | |
| 784XDXTM4L-12D | RH4V2-ULC-DC12 | - | | | |
| 784XDXTM4L-24D | RH4V2-ULC-DC24 | - | | | |
| MAGNECRAFT & STRUTHERS-DUNN | IDEC | OMRON | | | |
| 784DXC-24A | RH4B-U-AC24 | LY4-AC24 | | | |
| 784DXC-120A | RH4B-U-AC120 | LY4-AC120 | | | |
| 784DXC-24D | RH4B-U-DC24 | LY4-DC24 | | | |
| MAGNECRAFT & STRUTHERS-DUNN | TYCO / POTTER & BRUMFIELD | IDEC | OMRON | AROMAT | ALLEN - BRADLEY |
| W78ATCSX-2 | KHAU17A96-12 | RY42S-U-AC12V | MY4Z-AC12 | HC4D-AC12 | 700-HC54A24 |
| W78ATCSX-3 | KHAU17A96-24 | RY42S-U-AC24V | MY4Z-AC24 | HC4D-AC24 | 700-HC54A1 |
| W78ATCSX-5 | KHAU17A96-120 | RY42S-U-AC110/120V | MY4Z-AC120 | HC4D-AC120 | |
| W78ATCSX-6 | KHAU17A96-240 | RY42S-U-AC220/240V | MY4Z-AC240 | HC4D-AC240 | |
| W78TCSX-1 | KHAU17D96-6 | RY42S-U-DC6V | MY4Z-DC6 | HC4D-DC6 | 700-HC54Z12 |
| W78TCSX-2 | KHAU17D96-12 | RY42S-U-DC12V | MY4Z-DC12 | HC4D-DC12 | 700-HC54Z24 |
| W78TCSX-3 | KHAU17D96-24 | RY42S-U-DC24V | MY4Z-DC24 | HC4D-DC24 | |

THE CROSS REFERENCE IS INTENDED TO MATCH FOOT PRINT, INTERNAL WIRING, AND CONTACT LOAD RATINGS. CONSTRUCTION FEATURES AND GENERAL SPECIFICATIONS SHOULD BE COMPARED IF EXACT REPLACEMENT IS REQUIRED.



SECTION 1 CROSS REFERENCE GUIDE

| MAGNECRAFT & STRUTHERS-DUNN | TYCO / POTTER & BRUMFIELD | IDEC | OMRON | AROMAT | ALLEN - BRADLEY |
|-----------------------------|---------------------------|--------------------|--------------|------------|-----------------|
| W78TCSX-5 | * KHAU17D16-110 | RY42S-U-DC100/110V | MY4Z-DC110 | HC4D-DC110 | 700-HC14A12 |
| W78ACSX-2 | * KHAU17A11-12 | RY4S-U-AC12V | MY4-AC12 | | 700-HC14A24 |
| W78ACSX-3 | * KHAU17A11-24 | RY4S-U-AC24V | MY4-AC24 | | 700-HC14A1 |
| W78ACSX-5 | * KHAU17A11-120 | RY4S-U-AC110/120V | MY4-AC120 | | 700-HC14A2 |
| W78ACSX-6 | * KHAU17A11-240 | RY4S-U-AC220/240V | MY4-AC240 | | 700-HC14Z06 |
| W78CSX-1 | * KHAU17D11-6 | RY4S-U-DC6V | MY4-DC6 | | 700-HC14Z12 |
| W78CSX-2 | * KHAU17D11-12 | RY4S-U-DC12V | MY4-DC12 | | 700-HC14Z24 |
| W78CSX-3 | * KHAU17D11-24 | RY4S-U-DC24V | MY4-DC24 | | 700-HC14Z1 |
| W78CSX-6 | * KHAU17D11-110 | RY4S-U-DC100/110V | MY4-DC110 | | |
| W78APCX-3 | KHAE17A11-24 | RY4V-U-AC24V | MY4-02-AC24 | | |
| W78APCX-5 | KHAE17A11-120 | RY4V-U-AC110/120V | MY4-02-AC120 | | |
| W78PCX-2 | KHAE17D11-12 | RY4V-U-DC12V | MY4-02-DC12 | | |
| W78PCX-3 | KHAE17D11-24 | RY4V-U-DC24V | MY4-02-DC24 | | |
| W78PCX-6 | KHAE17D11-110 | RY4V-U-DC100/110V | MY4-02-DC110 | | |
| W78KACSX-15 | KHAU17A12-24 | RY4S-U-AC24V | | HC4-AC24 | 700-HC24A24 |
| W78KACSX-17 | KHAU17A12-120 | RY4S-U-AC110/120V | | HC4-AC120 | 700-HC24A1 |
| W78KACSX-18 | KHAU17A12-240 | RY4S-U-AC220/240V | | HC4-AC240 | 700-HC24A2 |
| W78KCSX-12 | KHAU17D12-12 | RY4S-U-DC12V | | HC4-DC12 | 700-HC24Z12 |
| W78KCSX-13 | KHAU17D12-24 | RY4S-U-DC24V | | HC4-DC24 | 700-HC24Z24 |
| W78ARCSX-7 | K10P11A15-6 | RH2B-U-AC6V | LY2-AC6 | | 700-HF32A06 |
| W78ARCSX-9 | K10P11A15-24 | RH2B-U-AC24V | LY2-AC24 | | 700-HF32A24 |
| W78ARCSX-11 | K10P11A15-120 | RH2B-U-AC110/120V | LY2-AC120 | | 700-HF32A1 |
| W78ARCSX-12 | K10P11A15-240 | RH2B-U-AC220/240V | LY2-AC240 | | 700-HF32A2 |
| W78RCSX-6 | K10P11D15-6 | RH2B-U-DC6V | LY2-DC6 | | 700-HF32Z06 |
| W78RCSX-7 | K10P11D15-12 | RH2B-U-DC12V | LY2-DC12 | | 700-HF32Z12 |
| W78RCSX-8 | K10P11D15-24 | RH2B-U-DC24V | LY2-DC24 | | 700-HF32Z24 |
| W78RCSX-9 | K10P11D15-48 | RH2B-U-DC48V | LY2-DC48 | | 700-HF32Z48 |
| W78RCSX-10 | K10P11D15-110 | RH2B-UL-DC100/110V | LY2-DC110 | | 700-HF32Z1 |
| W78ARPCX-5 | K10P11A55-120 | RH2V2-U-AC110/120V | LY2-0-AC120 | | |
| W78ARPCX-6 | K10P11A55-240 | RH2V2-U-AC220/240V | LY2-0-AC240 | | |
| W78RPCX-1 | K10P11D55-6 | RH2V2-U-DC6V | LY2-0-DC6 | | |
| W78RPCX-2 | K10P11D55-12 | RH2V2-U-DC12V | LY2-0-DC12 | | |
| W78RPCX-3 | K10P11D55-24 | RH2V2-U-DC24V | LY2-0-DC24 | | |
| W78ARCSX-108 | | | LY1-AC12 | | |
| W78ARCSX-109 | | | LY1-AC24 | | |
| W78ARCSX-111 | | | LY1-AC120 | | |
| W78ARCSX-112 | | | LY1-AC240 | | |
| W78ARNCSX-8 | | | LY1N-AC24 | | |
| W78ARNCSX-9 | | | LY1N-AC120 | | |
| W78ARNCSX-10 | | | LY1N-AC240 | | |
| W78RCSX-96 | | | LY1-DC6 | | |
| W78RCSX-97 | | | LY1-DC12 | | |
| W78RCSX-98 | | | LY1-DC24 | | |
| W78RCSX-100 | | | LY1-DC110 | | |
| W78RNCSX-10 | | | LY1N-DC24 | | |
| W78ARPCX-81 | | | LY1-0-AC12 | | |
| W78ARPCX-82 | | | LY1-0-AC24 | | |

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* 91 STYLE SAME AS 11 STYLE EXCEPT NO STUD



SECTION 1 CROSS REFERENCE GUIDE

| MAGNECRAFT & STRUTHERS-DUNN | OMRON | | | |
|-----------------------------|---------------------------|-----------------|---------------|-----------------|
| W78ARPCX-84 | LY1-0-AC120 | | | |
| W78RPCX-79 | LY1-0-DC12 | | | |
| W78RPCX-83 | LY1-0-DC24 | | | |
| W78RPCX-85 | LY1-0-DC110 | | | |
| MAGNECRAFT & STRUTHERS-DUNN | TYCO / POTTER & BRUMFIELD | TYCO / SCHRACK | OMRON | ALLEN - BRADLEY |
| 750BXM4L-24A | KRPA-11ANFP-24 | MT228024 | MK2PN-S-AC24 | 700HA32A24-1-4 |
| 750BXM4L-120A | KRPA-11ANFP-120 | MT228115 | MK2PN-S-AC120 | 700HA32A1-1-4 |
| 750BXM4L-240A | KRPA-11ANFP-240 | MT228230 | MK2PN-S-AC240 | 700HA32A2-1-4L |
| 750BXM4L-12D | KRPA-11DNFP-12 | MT223012 | MK2PN-S-DC12 | 700HA32Z12-1-4 |
| 750BXM4L-24D | KRPA-11DNFP-24 | MT223024 | MK2PN-S-DC24 | 700HA32Z24-1-4 |
| MAGNECRAFT & STRUTHERS-DUNN | TYCO / POTTER & BRUMFIELD | TYCO / SCHRACK | OMRON | ALLEN - BRADLEY |
| 750BXM4L-110D | KRPA-11DNFP-110 | MT223110 | MK2PN-S-DC110 | 700HA32Z1-1-4 |
| 750CXM4L-24A | KRPA-14ANFP-24 | MT328024 | MK3PN-S-AC24 | 700HA33A24-1-4 |
| 750CXM4L-120A | KRPA-14ANFP120 | MT328115 | MK3PN-S-AC120 | 700HA33A1-1-4 |
| 750CXM4L-240A | KRPA-14ANFP-240 | MT328230 | MK3PN-S-AC240 | 700HA33A2-1-4L |
| 750CXM4L-12D | KRPA-14DNFP-12 | MT323012 | MK3PN-S-DC12 | 700HA33Z12-1-4 |
| 750CXM4L-24D | KRPA-14DNFP-24 | MT323024 | MK3PN-S-DC24 | 700HA33Z24-1-4 |
| 750CXM4L-110D | KRPA-14DNFP-110 | MT323110 | MK3PN-S-DC110 | 700HA33Z1-1-4 |
| MAGNECRAFT & STRUTHERS-DUNN | TYCO / POTTER & BRUMFIELD | IDEC | | DELTRON |
| A314XBX48P-24A | KRPA-11AG (or GF) -24 | RR2P-U-AC24V | | 20108-82 |
| A314XBX48P-120A | KRPA-11AG (or GF) -120 | RR2P-U-AC120V | | 20108-84 |
| A314XBX48P-240A | KRPA-11AG (or GF) -240 | RR2P-U-AC240V | | 20108-85 |
| A314XCX48P-24A | KRPA-14AG (or GF) -24 | RR3PA-U-AC24V | | 20110-82 |
| A314XCX48P-120A | KRPA-14AG (or GF) -120 | RR3PA-U-AC120V | | 20110-84 |
| A314XCX48P-240A | KRPA-14AG (or GF) -240 | RR3PA-U-AC240V | | 20110-85 |
| A314XBX48P-12D | KRPA-11DG (or GF) -12 | RR2P-U-DC12V | | 20114-81 |
| A314XBX48P-24D | KRPA-11DG (or GF) -24 | RR2P-U-DC24V | | 20114-82 |
| A314XCX48P-12D | KRPA-14DG (or GF) -12 | RR3PA-U-DC12V | | 20116-81 |
| A314XCX48P-24D | KRPA-14DG (or GF) -24 | RR3PA-U-DC24V | | 20116-82 |
| MAGNECRAFT & STRUTHERS-DUNN | TYCO / POTTER & BRUMFIELD | ALLEN - BRADLEY | | |
| 788BXM4L-24A | KUP-11A45 (or F) -24 | 700HB32A24-1-4 | | |
| 788BXM4L-120A | KUP-11A45- (or F) 120 | 700HB32A1-1-4 | | |
| 788BXM4L-240A | KUP-11A45- (or F) 240 | 700HB32A2-1-4L | | |
| 788BXM4L-12D | KUP-11D45- (or F) 12 | 700HB32Z12-1-4 | | |
| 788BXM4L-24D | KUP-11D45- (or F) 24 | 700HB32Z24-1-4 | | |
| 788BXM4L-110D | KUP-11D45- (or F) 110 | 700HB32Z1-1-4 | | |
| 788CXM4L-24A | KUP-14A45- (or F) 24 | 700HB33A24-1-4 | | |
| 788CXM4L-120A | KUP-14A45- (or F) 120 | 700HB33A1-1-4 | | |
| 788CXM4L-240A | KUP-14A45- (or F) 240 | 700HB33A2-1-4L | | |
| 788CXM4L-12D | KUP-14D45- (or F) 12 | 700HB33Z12-1-4 | | |
| 788CXM4L-24D | KUP-14D45- (or F) 24 | 700HB33Z24-1-4 | | |
| 788CXM4L-110D | KUP-14D45- (or F) 110 | 700HB33Z1-1-4 | | |

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SECTION 1 CROSS REFERENCE GUIDE

| MAGNECRAFT & STRUTHERS-DUNN | TYCO / POTTER & BRUMFIELD | IDEC | OMRON | DELTRON |
|-----------------------------|---------------------------|-----------------|----------------|----------|
| A283XAXC-24A | KUP5A15 (or F) - 24 | RR1BA-U-AC24V | MJN1C-AC24 | 20306-82 |
| A283XAXC-120A | KUP5A15 (or F) - 120 | RR1BA-U-AC120V | MJN1C-AC120 | 20306-84 |
| A283XAXC-240A | KUP5A15 (or F) - 240 | RR1BA-U-AC240V | MJN1C-AC240 | 20306-85 |
| A283XBXC-24A | KUP11A15 (or F) - 24 | RR2BA-U-AC24V | MJN2C-AC24 | 20307-82 |
| A283XBXC-120A | KUP11A15 (or F) - 120 | RR2BA-U-AC120V | MJN2C-AC120 | 20307-84 |
| A283XBXC-240A | KUP11A15 (or F) - 240 | RR2BA-U-AC240V | MJN2C-AC240 | 20307-85 |
| A283XCXC-24A | KUP14A15 (or F) - 24 | RR3B-U-AC24V | MJN3C-AC24 | 20308-82 |
| A283XCXC-120A | KUP14A15 (or F) - 120 | RR3B-U-AC120V | MJN3C-AC120 | 20308-84 |
| A283XCXC-240A | KUP14A15 (or F) - 240 | RR3B-U-AC240V | MJN3C-AC240 | 20308-85 |
| A283XAXC-12D | KUP5D15 (or F) - 12 | RR1BA-U-DC12V | MJN1C-DC12 | 20309-81 |
| A283XAXC-24D | KUP5D15 (or F) - 24 | RR1BA-U-DC24V | MJN1C-DC24 | 20309-82 |
| A283XBXC-12D | KUP11D15 (or F) - 12 | RR2BA-U-DC12V | MJN2C-DC12 | 20310-81 |
| A283XBXC-24D | KUP11D15 (or F) - 24 | RR2BA-U-DC24V | MJN2C-DC24 | 20310-82 |
| A283XBXC-110D | KUP11D15 (or F) - 110 | RR2B-U-DC110V | MJN2C-DC110 | 20310-84 |
| A283XCXC-12D | KUP14D15 (or F) - 12 | RR3B-U-DC12V | MJN3C-DC12 | 20311-81 |
| A283XCXC-24D | KUP14D15 (or F) - 24 | RR3B-U-DC24V | MJN3C-DC24 | 20311-82 |
| A283XAXC1-120A | KUP5A55 (or F) - 120 | RR1BA-US-AC120V | MJN1CF-AC120 | 20545-84 |
| A283XAXC1-240A | KUP5A55 (or F) - 240 | RR1BA-US-AC240V | MJN1CF-AC240 | 20545-85 |
| A283XBXC1-120A | KUP11A55 (or F) - 120 | RR2BA-US-AC120V | MJN2CF-AC120 | 20546-84 |
| A283XBXC1-240A | KUP11A55 (or F) - 240 | RR2BA-US-AC240V | MJN2CF-AC240 | 20546-85 |
| A283XCXC1-120A | KUP14A55 (or F) - 120 | RR3B-US-AC120V | MJN3CF-AC120 | 20547-84 |
| A283XCXC1-240A | KUP14A55 (or F) - 240 | RR1BA-US-DC240V | MJN3CF-AC240 | 20547-85 |
| A283XAXC1-12D | KUP5D55 (or F) - 12 | RR1BA-US-DC12V | MJN1CF-DC12 | 20551-81 |
| A283XAXC1-24D | KUP11D55 (or F) - 24 | RR2BA-US-DC24V | MJN1CF-DC24 | 20551-82 |
| A283XBXC1-12D | KUP11D55 (or F) - 12 | RR2BA-US-DC12V | MJN2CF-DC12 | 20552-81 |
| A283XBXC1-24D | KUP11D55 (or F) - 24 | RR2B-US-DC24V | MJN2CF-DC24 | 20552-82 |
| A283XCXC1-24D | KUP14D55 (or F) - 24 | RR3B-US-DC24V | MJN3CF-DC24 | 20553-82 |
| A283XBX69C-120A | KUEP-11A15-120 | | | |
| A283XBX69C-12D | KUEP-11D15-12 | | | |
| A283XBX69C-24D | KUEP-11D15-24 | | | |
| A283BXX69C-24D | KUEP-7D15-24 | | | |
| A283BXX69C-48D | KUEP-7D15-48 | | | |
| A283XBX69C-110D | KUEP-11D15-110 | | | |
| A283HXX69C-120A | KUEP-3A15-120 | | | |
| A283HXX69C-12D | KUEP-3D15-12 | | | |
| A283HXX69C-24D | KUEP-3D15-24 | | | |
| A283HXX69C-48D | KUEP-3D15-48 | | | |
| A283HXX69C-110D | KUEP-3D15-110 | | | |
| MAGNECRAFT & STRUTHERS-DUNN | TYCO / POTTER & BRUMFIELD | TYCO / SCHRACK | FINDER | |
| 388JXCXC1M-240A | KUMP-14A68-240 | RM333740 | | |
| 388JXCXC1M-120A | KUMP-14A68-120 | RM333615 | | |
| 388JXCXC1M-12D | KUMP-14D68-12 | RM333012 | | |
| 388JXCXC1M-24D | KUMP-14D68-24 | RM333024 | | |
| 388JXCXCM-240A | KUMP-14A28-240 | RM332740 | 6233 8240 0040 | |
| 388JXCXCM-120A | KUMP-14A28-120 | RM332615 | 6233 8120 0040 | |
| 388JXCXCM-12D | KUMP-14D28-12 | RM332012 | 6233 9012 0040 | |
| 388JXCXCM-24D | KUMP-14D28-24 | RM332024 | 6233 9024 0040 | |

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SECTION 1 CROSS REFERENCE GUIDE

| MAGNECRAFT & STRUTHERS-DUNN | TYCO / POTTER & BRUMFIELD | TYCO / SCHRACK | FINDER |
|-----------------------------|---------------------------|----------------|-----------------|
| 388JXBXC1M-240A | KUMP-11A68-240 | RM233740 | |
| 388JXBXC1M-120A | KUMP-11A68-120 | RM233615 | |
| 388JXBXC1M-12D | KUMP-11D68-12 | RM233012 | |
| 388JXBXC1M-24D | KUMP-11D68-24 | RM233024 | |
| 388JXBXC1M-240A | KUMP-11A28-240 | RM232740 | 6232 8240 0040 |
| 388JXBXC1M-120A | KUMP-11A28-120 | RM232615 | 6232 8120 0040 |
| 388JXBXC1M-12D | KUMP-11D28-12 | RM232012 | 6232 9012 0040 |
| 388JXBXC1M-24D | KUMP-11D28-24 | RM232024 | 6232 9024 0040 |
| MAGNECRAFT & STRUTHERS-DUNN | TYCO / POTTER & BRUMFIELD | TYCO / SCHRACK | FINDER |
| 388VCXXCM-220/240A | KUGP-12A15-240 | RM632740 | 62.33 8240.0310 |
| 388VCXXCM-120A | KUGP-12A15-120 | RM632615 | 62.33 8120.0310 |
| 388VCXXCM-24A | KUGP-12A15-24 | RM632524 | 62.32 8024.0310 |
| 388VBXXCM-220/240A | KUGP-7A15-240 | RM532740 | 62.22 8240.0310 |
| 388VBXXCM-120A | KUGP-7A15-120 | RM532615 | 62.23 8120.0310 |
| 388VBXXCM-24A | KUGP-7A15-24 | RM532524 | 62.23 8024.0310 |
| 388VCXXCM-24D | KUGP-12D15-24 | RM632024 | 62.32 9024.0310 |
| 388VCXXCM-12D | KUGP-12D15-12 | RM632012 | 62.32 9012.0310 |
| 388VBXXCM-24D | KUGP-7D15-24 | RM532024 | 62.32 9024.0310 |
| 388VBXXCM-12D | KUGP-7D15-12 | RM532012 | 62.33 9012.0310 |
| MAGNECRAFT & STRUTHERS-DUNN | | TYCO / SCHRACK | FINDER |
| 389FXCXC1M-240A | | RM735740 | 6283 8240 0040 |
| 389FXCXC1M-120A | | RM735615 | 6283 8120 0040 |
| 389FXBXC1M-240A | | RM835740 | 6282 8240 0040 |
| 389FXBXC1M-120A | | RM83561 | 6282 8240 0040 |
| 389FXCXC1M-12D | | RM735024 | 6283 9024 0040 |
| 389FXCXC1M-24D | | RM735012 | 6283 9012 0040 |
| 389FXBXC1M-12D | | RM835024 | 6282 9024 0040 |
| 389FXBXC1M-24D | | RM835012 | 6282 9012 0040 |
| MAGNECRAFT & STRUTHERS-DUNN | TYCO / POTTER & BRUMFIELD | TYCO / SCHRACK | DELTROL |
| W389ADCX-4 | KUMP-3A5G-120 | RMD 05 615 | 0840-84 |
| W389ADCX-5 | KUMP-3A5G-240 | RMD 05 740 | 20840-85 |
| W389ADZCX-3 | KUMP-6A5G-24 | RMC 05 524 | |
| W389ADZCX-4 | KUMP-6A5G-120 | RMC 05 615 | |
| W389DCX-2 | KUMP-3D5G-12 | RMD 05 012 | 20848-81 |
| W389DCX-3 | KUMP-3D5G-24 | RMD 05 024 | 20848-82 |
| W389DZCX-2 | KUMP-6D5G-12 | RMC 05 012 | |
| W389DZCX-3 | KUMP-6D5G-24 | RMC 05 024 | |
| W389ACX-4 | KUHP-5A51-120 | | |
| W389ACX-8 | KUHP11A51-24 | | |
| W389ACX-9 | KUHP11A51-120 | | |
| W389ACX-10 | KUHP11A51-240 | | |
| W389ACX-14 | - | | |
| W389ACX-15 | - | | |
| W389CX-2 | KUHP5D51-12 | | |
| W389CX-3 | KUHP5D51-24 | | |

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SECTION 1 CROSS REFERENCE GUIDE

| MAGNECRAFT & STRUTHERS-DUNN | TYCO / POTTER & BRUMFIELD | | | |
|-----------------------------|---------------------------|------------------|---------------------|----------------|
| W389CX-7 | | | | |
| W389CX-8 | | | | |
| W389CX-12 | | | | |
| W389CX-13 | | | | |
| MAGNECRAFT & STRUTHERS-DUNN | DELTRON | | | |
| 300XBXC1-240A | 20844-85 | | | |
| 300XBXC1-120A | 20844-84 | | | |
| 300XBXC1-24A | 20844-82 | | | |
| 300XBXC1-12A | 20844-81 | | | |
| 300XBXC1-110D | 20852-84 | | | |
| 300XBXC1-24D | 20852-82 | | | |
| 300XBXC1-12D | 20852-81 | | | |
| MAGNECRAFT & STRUTHERS-DUNN | TYCO / POTTER & BRUMFIELD | AMERICAN ZETTLER | | |
| W9AS1D52-5 | T9AS1D52-5 | AZ2280-1A-5DEF | | |
| W9AS1D52-12 | T9AS1D52-12 | AZ2280-1A-12DEF | | |
| W9AS1D52-24 | T9AS1D52-24 | AZ2280-1A-24DEF | | |
| W9AS1D52-48 | T9AS1D52-48 | AZ2280-1A-48DEF | | |
| W9AS1D52-110 | T9AS1D52-110 | AZ2280-1A-110DEF | | |
| W9AS5D52-5 | T9AS5D52-5 | AZ2280-1C-5DEF | | |
| W9AS5D52-12 | T9AS5D52-12 | AZ2280-1C-12DEF | | |
| W9AS5D52-24 | T9AS5D52-24 | AZ2280-1C-24DEF | | |
| W9AS5D52-48 | T9AS5D52-48 | AZ2280-1C-48DEF | | |
| W9AS5D52-110 | T9AS5D52-110 | AZ2280-1C-110DEF | | |
| W9AS1A52-24 | | AZ2280-1A-24AEF | | |
| W9AS1A52-120 | | AZ2280-1A-120AEF | | |
| W9AS1A52-240 | | AZ2280-1A-240AEF | | |
| W9AS5A52-24 | | AZ2280-1C-24AEF | | |
| W9AS5A52-120 | | AZ2280-1C-120AEF | | |
| W9AS5A52-240 | | AZ2280-1C-240AEF | | |
| MAGNECRAFT & STRUTHERS-DUNN | TYCO / POTTER & BRUMFIELD | AMERICAN ZETTLER | OMRON | AROMAT |
| W92S7D22-12 | T92P7D22-12 | AZ2800-2A-12D | G7L-2A-TUB-CB-DC24 | HE2aN-Q-DC24V |
| W92S7D22-24 | T92P7D22-24 | AZ2800-2A-24D | G7L-2A-TUB-CB-DC110 | HE2aN-Q-DC110V |
| W92S7D22-110 | T92P7D22-110 | AZ2800-2A-110D | | |
| W92S11D22-12 | T92P11D22-12 | AZ2800-2C-12D | | |
| W92S11D22-24 | T92P11D22-24 | AZ2800-2C-24D | | |
| W92S11D22-110 | T92P11D22-110 | AZ2800-2C-110D | G7L-2A-TUB-CB-AC24 | HE2aN-Q-AC24V |
| W92S7A22-24 | T92P7A22-24 | AZ2800-2A-24AE | G7L-2A-TUB-CB-AC120 | HE2aN-Q-AC120V |
| W92S7A22-120 | T92P7A22-120 | AZ2800-2A-120AE | G7L-2A-TUB-CB-AC240 | HE2aN-Q-AC240V |
| W92S7A22-240 | T92P7A22-240 | AZ2800-2A-240AE | | |
| W92S11A22-24 | T92P11A22-24 | AZ2800-2C-24AE | | |
| W92S11A22-120 | T92P11A22-120 | AZ2800-2C-120AE | | |
| W92S11A22-240 | T92P11A22-240 | AZ2800-2C-240AE | | |
| MAGNECRAFT & STRUTHERS-DUNN | TYCO / POTTER & BRUMFIELD | | | |
| W67RCSX-1 | R10E1(X or Y)2-V28 | | | |
| W67RCSX-2 | R10E1(X or Y)2-V185 | | | |

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SECTION 1 CROSS REFERENCE GUIDE

| MAGNECRAFT & STRUTHERS-DUNN | TYCO / POTTER & BRUMFIELD |
|-----------------------------|---------------------------|
| W67RCSX-3 | R10E1(X or Y)2-V700 |
| W67RCSX-4 | R10E1(X or Y)2-V2.5K |
| W67RCSX-5 | R10E1(X or Y)2-V15.0K |
| W67RCSX-6 | R10E1(X or Y)4-V28 |
| W67RCSX-7 | R10E1(X or Y)4-V185 |
| W67RCSX-8 | R10E1(X or Y)4-V700 |
| W67RCSX-9 | R10E1(X or Y)4-V2.5K |
| W67RCSX-10 | R10E1(X or Y)4-V15.0K |
| W67RCSX-12 | R10E1(X or Y)6-V90 |
| W67RCSX-13 | R10E1(X or Y)6-V430 |
| W67TRCSX-2 | R10E1(P or Z)2-V185 |
| W67TRCSX-3 | R10E1(P or Z)2-V700 |
| W67TRCSX-7 | R10E1(P or Z)4-V185 |
| W67TRCSX-8 | R10E1(P or Z)4-V700 |
| W67TRCSX-12 | R10E1(P or Z)6-V90 |
| W67TRCSX-13 | R10E1(P or Z)6-V430 |
| W67RPCX-2 | R10E2(X or Y)2-V185 |
| W67RPCX-3 | R10E2(X or Y)2-V700 |
| W67RPCX-7 | R10E2(X or Y)4-V185 |
| W67RPCX-8 | R10E2(X or Y)4-V700 |
| W67RPCX-12 | R10E2(X or Y)6-V90 |
| W67RPCX-13 | R10E2(X or Y)6-V430 |
| W67ARCSX-5 | R10E1(X or Y)2-120V |
| W67ARCSX-10 | R10E1(X or Y)4-120V |
| W67ARCSX-15 | R10E1(X or Y)6-120V |
| W67SCSX-1 | R10SE1(X or Y)2-J1.0K |
| W67SCSX-2 | R10SE1(X or Y)2-J2.5K |
| W67SCSX-3 | R10SE1(X or Y)2-J5.0K |
| W67SCSX-6 | R10SE1(X or Y)4-J1.0K |
| W67SCSX-7 | R10SE1(X or Y)4-J2.5K |
| W67SCSX-8 | R10SE1(X or Y)4-J5.0K |
| MAGNECRAFT & STRUTHERS-DUNN | TYCO / POTTER & BRUMFIELD |
| 750XBXH-12A | KR11AGE (or GF) 12 |
| 750XBXH-24A | KR11AGE (or GF) 24 |
| 750XBXH-120A | KR11AGE (or GF) 120 |
| 750XBXH-12D | KR11DGE (or GF) 12 |
| 750XBXH-24D | KR11DGE (or GF) 24 |
| 750XBXH-110D | KR11DGE (or GF) 110 |
| 750XCXH-12A | KR14AGE (or GF) 12 |
| 750XCXH-24A | KR14AGE (or GF) 24 |
| 750XCXH-120A | KR14AGE (or GF) 120 |
| 750XCXH-12D | KR14DGE (or GF) 12 |
| 750XCXH-24D | KR14DGE (or GF) 24 |
| 750XCXH-110D | KR14DGE (or GF) 110 |
| MAGNECRAFT & STRUTHERS-DUNN | MIDTEX |
| W21ACPX-2 | 136-62T3A1 |

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THE CROSS REFERENCE IS INTENDED TO MATCH FOOT PRINT, INTERNAL WIRING, AND CONTACT LOAD RATINGS. CONSTRUCTION FEATURES AND GENERAL SPECIFICATIONS SHOULD BE COMPARED IF EXACT REPLACEMENT IS REQUIRED.