Magnecraft & Struthers-Dunn

Your Contact for Industrial Relays

SECTION 1

SOCKET COMPATIBLE AND FLANGE MOUNTED RELAYS 1 TO 30 AMPERES

SOCKET COMPATIBLE & FLANGE MOUNT RELAYS

RELAY SERIES	781	782H	782XBX/XDX
	 ISO 9002 QS 9000	 CERTIFIED CLASS 1 DIVISION 2 FOR HAZARDOUS LOCATIONS ISO 9001	 ISO 9002 QS 9000
	L W H 1.521 x 0.551 x 1.082	L W H 1.281 x 0.910 x 1.156	L W H 1.61 x 0.858 x 1.410
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: STORAGE:	-40˚C TO +70˚C -40˚C TO +100˚C	-45˚C TO +70˚C -60˚C TO +130˚C	-40˚C TO +70˚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** PAGE 18, 19	**70-461-1, 70-378-1, 70-379-1** PAGE 14, 15	**70-461-1, 70-378-1, 70-379-1** PAGE 14, 15
AGENCY APPROVALS	c UL us UL Recognized File No. E43641; CSA 97899; CE; UL LISTED	c UL us UL Recognized File No. E209950; CSA 168986; CE; UL LISTED	c UL us UL Recognized File No. E43641; CSA 40787; UL LISTED
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782XBX

ISO 9002
QS 9000

L W H
1.61 x 0.858 x 1.410

- 0.187 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
- UL LISTED WHEN USED WITH 70-782D-1 OR 70-459-1 SOCKETS

DPDT

SILVER ALLOY, GOLD FLASHED

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

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

1.2 VA
0.9 WATTS

CLASS “B” (130˚C)

-40˚C TO +70˚C

-40˚C TO +105˚C

1500 V rms

200,000 OPERATIONS
10,000,000 OPERATIONS

70-459-1, 70-401-1, 70-402-1, 70-782D-1

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c UL us
UL Recognized
File No. E43641

40787

LISTED

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783XCX

ISO 9002
QS 9000

L W H
1.60 x 1.215 x 1.080

- 0.187 QUICK CONNECT/ SOLDER PLUG-IN OR PRINTED CIRCUIT TERMINALS
- FLAG INDICATOR
- PUSH BUTTON
- FINGER GRIP COVER
- I.D. TAG/WRITE LABEL
- OPTIONAL FLANGE AND DIN ADAPTERS
- UL LISTED WHEN USED WITH 70-783D-1 SOCKET

3PDT

SILVER ALLOY, GOLD FLASHED

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

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

1.7 VA
1.5 WATTS

CLASS “B” (130˚C)

-30˚C TO +70˚C

-30˚C TO +105˚C

1500 V rms

150,000 OPERATIONS
10,000,000 OPERATIONS

70-783D-1

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c UL us
UL Recognized
File No. E43641

40787

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784XDX

ISO 9002
QS 9000

L W H
1.60 x 1.595 x 1.080

- 0.187 QUICK CONNECT/ SOLDER PLUG-IN ORPRINTED CIRCUIT TERMINALS
- FLAG INDICATOR
- PUSH BUTTON
- FINGER GRIP COVER
- I.D. TAG/WRITE LABEL
- OPTIONAL FLANGE AND DIN ADAPTERS
- UL LISTED WHEN USED WITH 70-784D-1 SOCKET

4PDT

SILVER ALLOY, GOLD FLASHED

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

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

2.0 VA
1.5 WATTS

CLASS “B” (130˚C)

-30˚C TO +70˚C

-30˚C TO +105˚C

1500 V rms

150,000 OPERATIONS
10,000,000 OPERATIONS

70-784D-1

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c UL us
UL Recognized
File No. E43641

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SOCKET COMPATIBLE & FLANGE MOUNT RELAYS

RELAY SERIES	78	750	A314
	 ISO 9002 QS 9000	 ISO 9002 QS 9000	 ISO 9002 QS 9000
	L W H 1.375 x 0.858 x 1.10	L W H 2.150 x 1.375 x 1.410	L W H 2.25 x 1.37 x 1.37
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: DC:	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	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: STORAGE:	-40˚C TO +70˚C -40˚C TO +100˚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
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	c UL us UL Recognized File No. E52197 · CSA 168986 · CE · UL LISTED	c UL us UL Recognized File No. E43641 · CSA 40787 · CE · UL LISTED	c UL us UL Recognized File No. E43641 · CSA 168986 · CE · UL LISTED
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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

DPDT, 3PDT

SILVER ALLOY,
GOLD FLASHED

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

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

2 TO 3.55 VA
1.4 WATTS

CLASS “B” (130˚C)

-30˚C TO +50˚C (AC)
-30˚C TO +65˚C (DC)
-30˚C TO +100˚C

2500 V rms

200,000 OPERATIONS
5,000,000 OPERATIONS

**70-463-1, 70-124-1,70-124-2,
70-178-1, 70-178-2**

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cULus
UL Recognized
File No. E43641

40787

LISTED

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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

SPDT, DPDT, 3PDT

SILVER ALLOY,
GOLD FLASHED

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

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

2.275 VA
1.2 WATTS

CLASS “B” (130˚C)

-30˚C TO +50˚C (AC)
-30˚C TO +65˚C (DC)
-30˚C TO +100˚C

2000 V rms

100,000 OPERATIONS
5,000,000 OPERATIONS

**70-463-1, 70-124-1, 70-124-2,
70-178-1, 70-178-2**

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UL Recognized
File No. E13224

168986

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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, SPST-NO-DM

SILVER ALLOY,
GOLD FLASHED

15 AMPS, 120/240 VAC 50/60Hz
10 AMPS, 28 VDC
DPDT: 3 AMPS, 150 VDC
SPST-NO-DM: 10 AMPS, 150 VDC

120 VAC
12, 24,110 VDC

2.275 VA
1.2 WATTS

CLASS “B” (130˚C)

-30˚C TO +50˚C (AC)
-30˚C TO +65˚C (DC)
-30˚C TO +100˚C

2000 V rms

100,000 OPERATIONS
5,000,000 OPERATIONS

**70-463-1, 70-124-1, 70-124-2 ,
70-178-1, 70-178-2**

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cULus
UL Recognized
File No. E43641

168986

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SOCKET COMPATIBLE & FLANGE MOUNT RELAYS

RELAY SERIES	388J	388V	389F
	  ISO 9002 QS 9000	  ISO 9002 QS 9000	  ISO 9002 QS 9000
	L W H 1.90 x 1.53 x 1.40	L W H 1.90 x 1.53 x 1.40	L W H 1.90 x 1.53 x 1.40
FEATURES	• 0.187 QUICK CONNECT / SOLDER PLUG-IN TERMINALS • FLAG INDICATOR • PUSH BUTTON • FINGER GRIP COVER • UL LISTED WHEN USED WITH 70-463-1 SOCKET	• 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	• FLANGE MOUNT, 0.250 QUICK CONNECT/ SOLDER TERMINALS • SWITCHING UP TO 25 AMPS • FLAG INDICATOR • PUSH BUTTON
CONTACT DATA			
CONTACT CONFIGURATION:	**DPDT, 3PDT**	**DPST-NO, 3PST-NO**	**DPDT**
CONTACT MATERIAL:	SILVER ALLOY, GOLD FLASHED	SILVER ALLOY, GOLD FLASHED	SILVER ALLOY, GOLD FLASHED
MAX. CONTACT RATING:	**DPDT:** 20 AMPS, 300 VAC 50/60Hz 20 AMPS, 28 VDC **3PDT:** 16 AMPS, 250 VAC 50/60Hz 16 AMPS, 28 VDC	15 AMPS, 120/240 VAC 50/60Hz 15 AMPS, 28 VDC	25 AMPS, 300 VAC 50/60Hz 13 AMPS, 28 VDC
COIL DATA			
STANDARD VOLTAGE AC: DC:	24, 120, 240 VAC 12, 24 VDC	24, 120, 240 VAC 12, 24 VDC	24,120, 240 VAC 12, 24 VDC
NOMINAL COIL POWER VA: (VAC) WATTS: (VDC)	2 TO 3.5 VA 1.44 WATTS	1 TO 1.2 VA 3.0 WATTS	2 TO 3.5 VA 1.44 WATTS
INSULATION SYSTEM PER UL STANDARD 1446	CLASS “B” (130˚C)	CLASS “B” (130˚C)	CLASS “B” (130˚C)
GENERAL DATA			
AMBIENT TEMPERATURE OPERATING: STORAGE:	-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
DIELECTRIC STRENGTH: (COIL TO FRAME)	2200 V rms	2000 V rms	2200 V rms
LIFE EXPECTANCY ELECTRICAL: MECHANICAL:	100,000 OPERATIONS 5,000,000 OPERATIONS	100,000 OPERATIONS 5,000,000 OPERATIONS	100,000 OPERATIONS 5,000,000 OPERATIONS
MATING SOCKETS SEE SECTION 8	**70-463-1, 70-124-1, 70-124-2 , 70-178-1, 70-178-2** PAGE 16, 17	**70-463-1, 70-124-1, 70-124-2, 70-178-1, 70-178-2** PAGE 16, 17	—
AGENCY APPROVALS	c UL us UL Recognized File No. E43641; CSA 168986; CE; UL LISTED	c UL us UL Recognized File No. E43641; CSA 168986; CE; UL LISTED	c UL us UL Recognized File No. E43641; CSA 168986; CE
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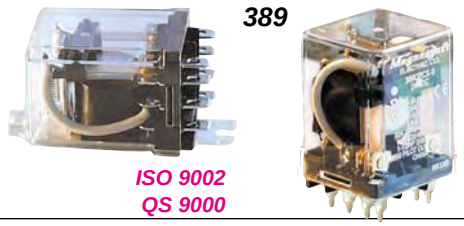

ISO 9002
QS 9000

L W H
1.90 x 1.53 x 1.40

- FLANGE MOUNT, 0.250 QUICK CONNECT/ SOLDER TERMINALS
- SWITCHING UP TO 30 AMPS

SPDT, DPDT, 3PDT, SPST-NO-DM
SPST-NO-NC-DM-DB

SILVER ALLOY,
GOLD FLASHED

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

24,120, 240 VAC
12, 24 VDC

2 TO 3.5 VA
1.44 WATTS

CLASS “B” (130˚C)

-30˚C TO +50˚C (AC)
-30˚C TO +65˚C (DC)
-30˚C TO +100˚C

2200 V rms

100,000 OPERATIONS
5,000,000 OPERATIONS

—

cULus
UL Recognized
File No. E43641
168986

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300

ISO 9002
QS 9000

L W H
1.90 x 1.53 x 1.40

- 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

DPDT-SPDT-NO-NC-DM-DB

SILVER ALLOY,
GOLD FLASHED

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

6, 12, 24, 120, 240 VAC
6,12, 24, 48, 110/125, 220/225 VDC

3.0 VA
2.0 WATTS

CLASS “B” (130˚C)
CLASS “F” (155˚C) AVAILABLE

-30˚C TO +50˚C (AC)
-30˚C TO +60˚C (DC)
-40˚C TO +105˚C

4000 V rms

100,000 OPERATIONS
10,000,000 OPERATIONS

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cULus
UL Recognized
File No. E13224
50758

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9A

L W H
1.980 x 1.08 x 1.10

- 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

SPST-NO & SPDT

SILVER ALLOY

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),

5, 12, 24, 48 & 110 VDC

0.95 VA
2.8 WATTS MAX.

- 55˚C TO +85˚C

- 55˚C TO +130˚C

2500 V rms

100,000 OPERATIONS
10,000,000 OPERATIONS

OPTIONAL DIN ADAPTER
16-9A DIN-1

cULus
UL Recognized
File No. E43641

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SOCKET COMPATIBLE & FLANGE MOUNT RELAYS

RELAY SERIES	92 	W67 	219  ISO 9002 QS 9000
	L W H 2.70 x 1.36 x 1.495	L W H 1.20 x 0.735 x 0.978 to 1.592	L W H 2.59 x1.468 x 2.625 / 3.062
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 3AMPS, 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: STORAGE:	- 40˚C TO +65˚C (AC) - 40˚C TO +85˚C (DC) - 55˚C TO +155 C	-55˚C TO +70˚C -55˚C TO +105˚C	-40˚C TO +70˚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	c US UL Recognized File No. E43641	c US UL Recognized File No. E52197 168986	c US UL Recognized File No. E13224 168986 LISTED
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 PAGE 7, 8	—
c UL us UL Recognized File No. E43641 UL LISTED	c UL us UL Recognized File No. E43641 CSA 168986
PAGE 53 - 54	PAGE 55

Magnecraft & Struthers-Dunn
Your Contact for Industrial Relays

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SPDT, 15 AMPS

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.

c UL us — UL Recognized File No. E43641

CSA 97899

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

WHEN USED WITH SOCKETS **70-781D-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

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

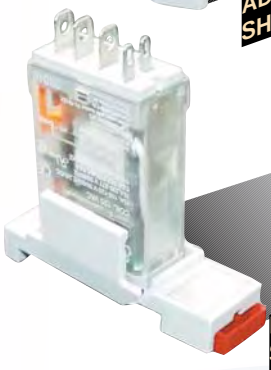
MISCELLANEOUS

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

Mating Sockets

70-781D-1: SCREW/DIN
70-781F-1: SOLDER
70-781T-1: PRINTED CIRCUIT

See section 8, page 18, 19

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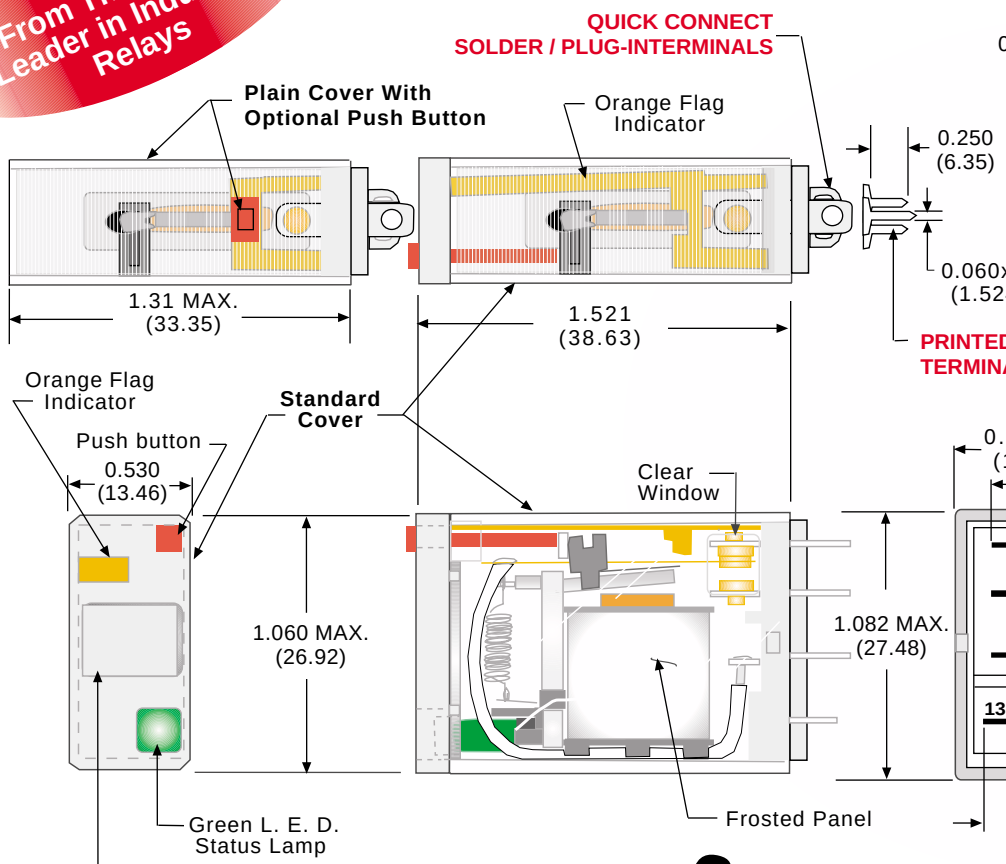
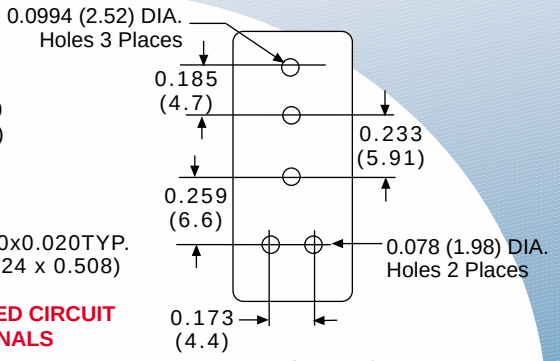
SPDT, 15 AMPS

NEW From The Market Leader in Industrial Relays

OUTLINE DIMENSIONS
DIMENSIONS SHOWN IN INCHES & (MILLIMETERS).

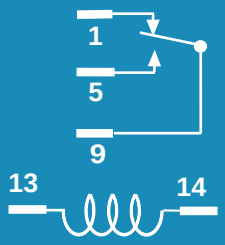


PRINTED CIRCUIT MOUNTING HOLE LAYOUT
(BOTTOM VIEW)



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

WIRING DIAGRAM
(VIEWED FROM PIN END)



ORDERING CODE FOR RELAYS

781 XAX ML -120A

CLASS:

CONTACT CONFIGURATION:
SPDT: **XAX**

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

OPTIONAL PLAIN COVER:
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	PLAIN COVER	COIL MEASURED @ 25˚C 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

CLASS **782H**

HERMETICALLY SEALED RELAY

4PDT, 1, 3 & 5 AMPS

FEATURES	BENEFITS
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. WHEN RELAY IS USED WITH 70-461-1 SOCKET, THE HOLD-DOWN CLIP 16-1328 IS REQUIRED.
CHOICE OF CONTACT RATINGS 1 AMP, 3 AMPS AND 5 AMPS	PROVIDES FOR LOW LEVEL SWITCHING APPLICATIONS UP TO 5 AMPS POWER LOADS.
PLUG-IN STYLE OR SIDE MOUNTING STUD WITH ANTI- ROTATION TAB	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.

c UL us UL Recognized File No. E209950

168986

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

WHEN USED WITH SOCKET **70-461-1**

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 9001

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

CONTACTS

Contact Material:	See ordering code
Contact Rating:	See ratings table

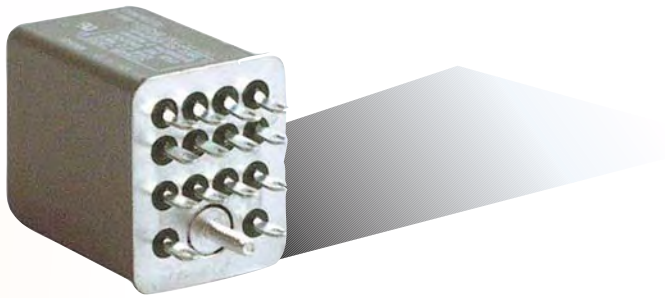
UL GROUPS A, B, C & D CERTIFIED CLASS 1 DIVISION 2 FOR HAZARDOUS LOCATIONS

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

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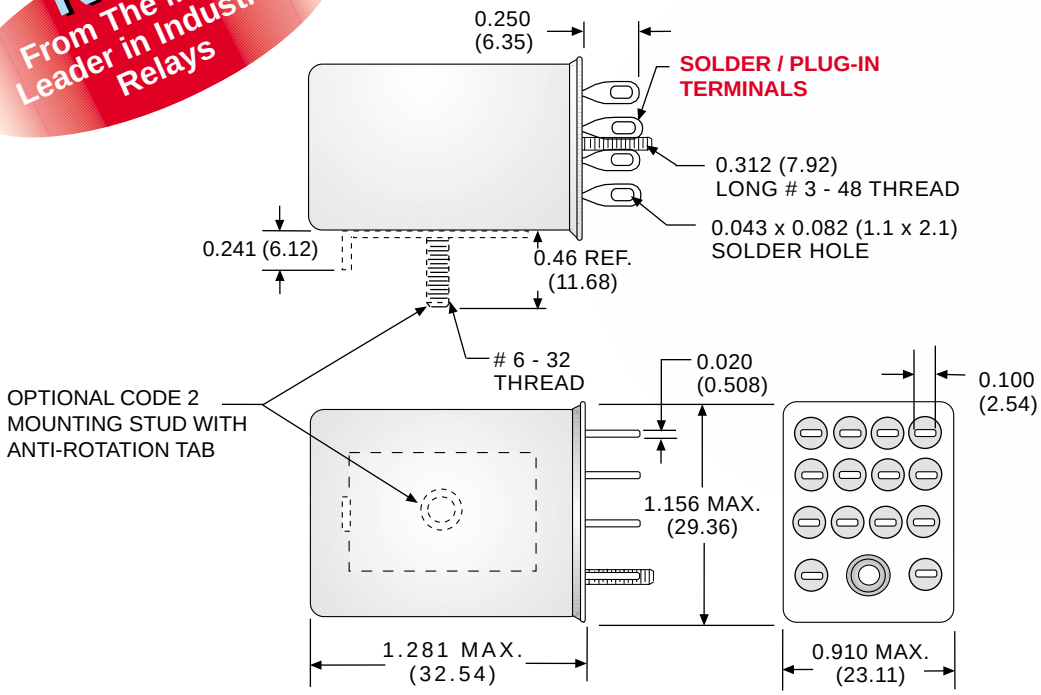
HERMETICALLY SEALED RELAY

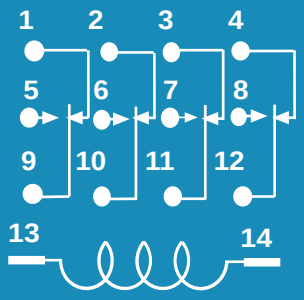
4PDT, 1, 3 & 5 AMPS

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		
782XDXH10-24A	24 VAC, 50/60Hz	7160 Ω
782XDXH10-120A	120 VAC, 50/60Hz	3,900 Ω
DC OPERATED - SOLDER/PLUG-IN, 3 AMP		
782XDXH10-12D	12 VDC	160 Ω
782XDXH10-24D	24 VDC	650 Ω
782XDXH10-110D	110 VDC	11,000 Ω
AC OPERATED - SOLDER/PLUG-IN, 5 AMP		
782XDXH21-120A	120 VAC, 50/60Hz	3,900 Ω
DC OPERATED - SOLDER/PLUG-IN, 5 AMP		
782XDXH21-12D	12 VDC	160 Ω
782XDXH21-24D	24 VDC	650 Ω

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

ICE CUBE STYLE POWER RELAY

DPDT & 4PDT
3, 10 & 15 AMPS

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.
COVER ADAPTERS:	DIN RAIL FLANGE ADAPTER OR TOP/BOTTOM FLANGE ADAPTER, ALLOWS THE 782 RELAY TO BE DIRECT MOUNTED TO A DIN RAIL OR PANEL.

c UL us
UL Recognized
File No. E43641

c 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

STANDARD COVER

STANDARD COVER WITH FLANGE ADAPTER 16-782C1 ON TOP

TOP OR BOTTOM FLANGE ADAPTER ORDERED AND SHIPPED SEPARATELY

STANDARD COVER WITH FLANGE ADAPTER 16-782C1 ON BOTTOM

TOP OR BOTTOM FLANGE ADAPTER ORDERED AND SHIPPED SEPARATELY

STANDARD COVER WITH DIN ADAPTER 16-782C

DIN ADAPTER ORDERED AND SHIPPED SEPARATELY

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

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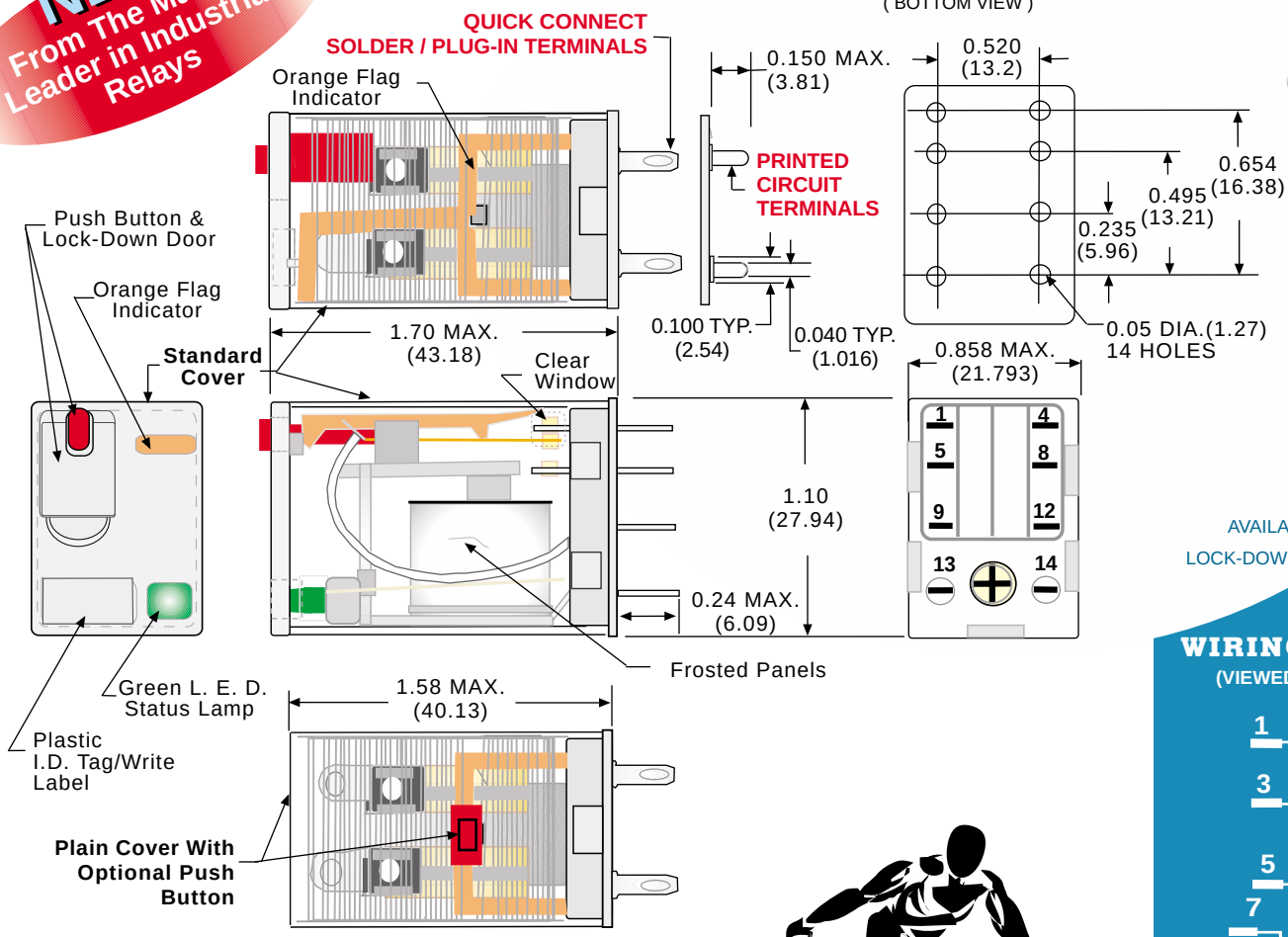
DPDT, 3 & 10 AMPS

NEW From The Market Leader in Industrial Relays

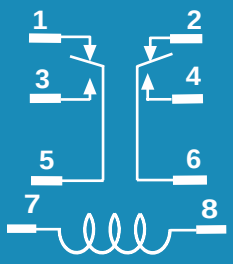
OUTLINE DIMENSIONS
DIMENSIONS SHOWN IN INCHES & (MILLIMETERS).

PRINTED CIRCUIT MOUNTING HOLE LAYOUT
(BOTTOM VIEW)



AVAILABLE WITHOUT LOCK-DOWN DOOR: CODE "M"

WIRING DIAGRAM
(VIEWED FROM PIN END)



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**

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**

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

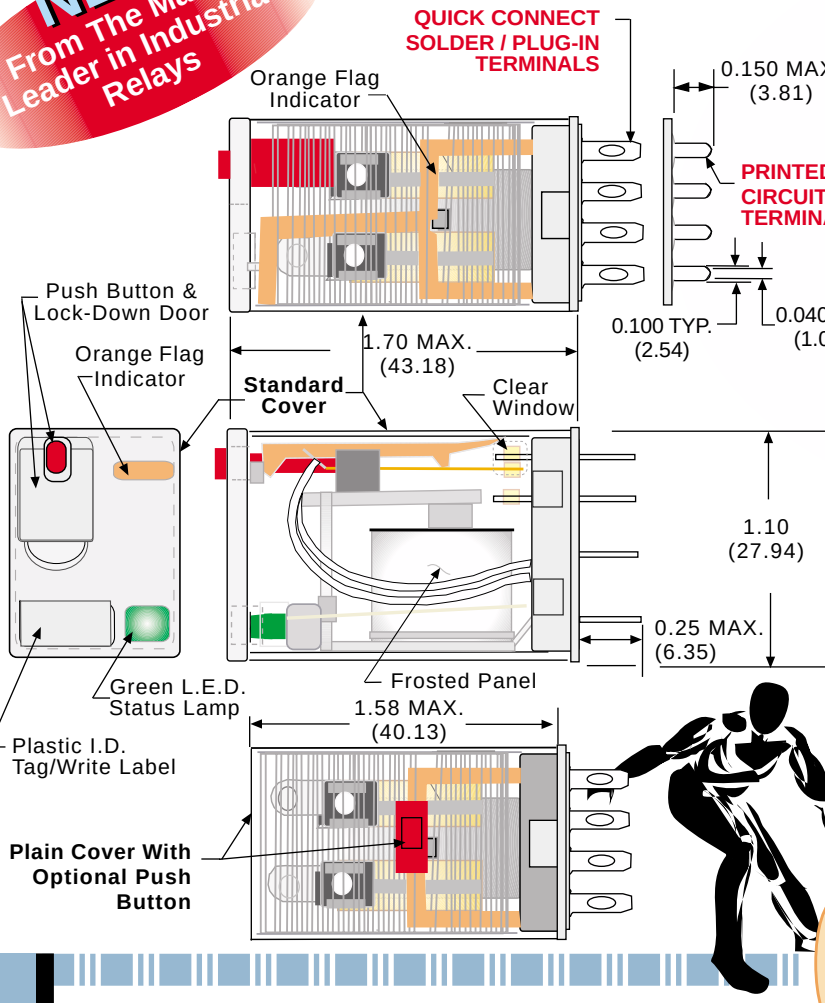
RETROFITS SCHRACK PT.
SEE END OF SECTION 1 FOR CROSS REFERENCE
CADMIUM-FREE CONTACTS AVAILABLE, CONTACT FACTORY FOR DETAILS

ICE CUBE STYLE POWER RELAY

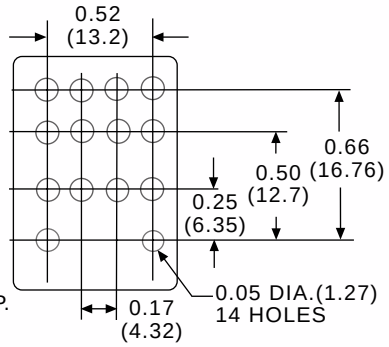
4PDT, 3 & 10 AMPS

NEW From The Market Leader in Industrial Relays

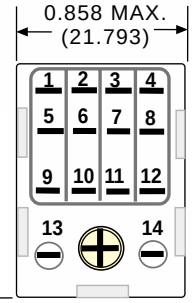
OUTLINE DIMENSIONS
DIMENSIONS SHOWN IN INCHES & (MILLIMETERS).



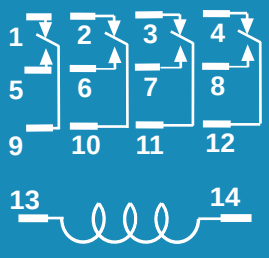
PRINTED CIRCUIT MOUNTING HOLE LAYOUT
(BOTTOM VIEW)



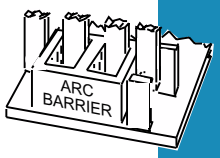
AVAILABLE WITHOUT LOCK-DOWN DOOR: CODE "M"



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

782 XDX M4L -120A

CLASS:

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

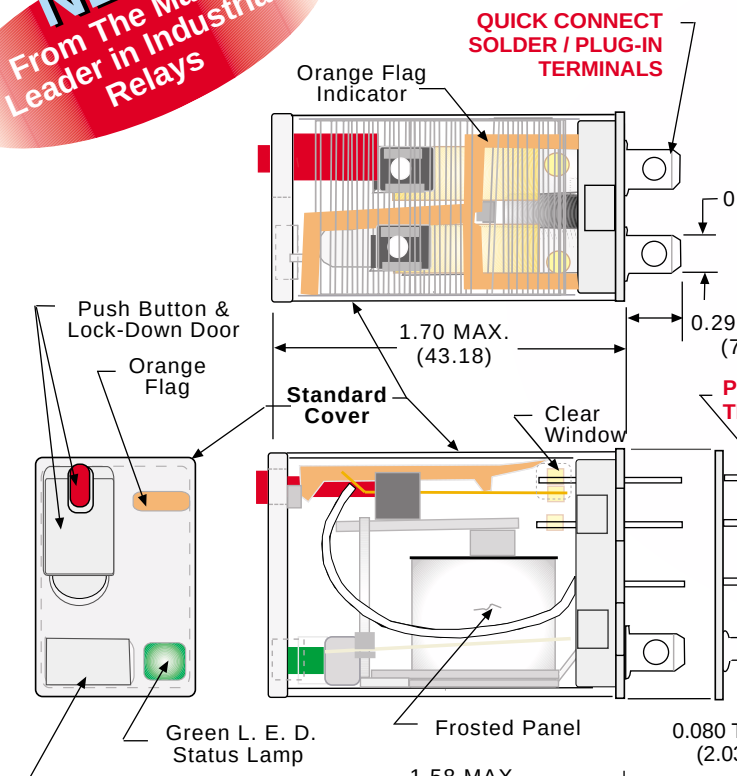
RETROFITS SCHRACK PT.
SEE END OF SECTION 1 FOR CROSS REFERENCE

FULL FEATURED ICE CUBE STYLE POWER RELAY

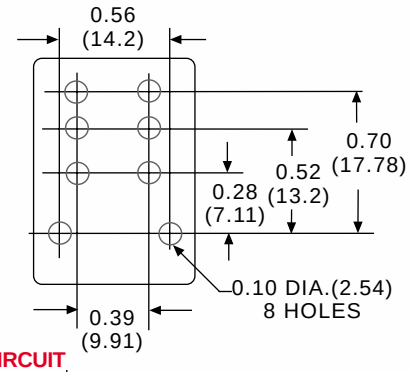
DPDT, 15 AMPS

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

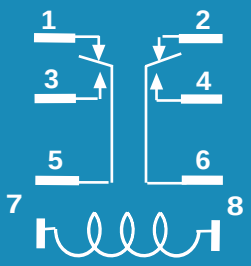
STANDARD COVER FEATURES:
PUSH BUTTON & LOCK-DOWN DOOR: **CODE M4**
BI - POLAR L.E.D. STATUS LAMP: **CODE L**

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

c UL us
UL Recognized
File No. E43641

LR40787

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 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.
COVER ADAPTERS:	DIN RAIL FLANGE ADAPTER OR TOP/BOTTOM FLANGE ADAPTER, ALLOWS THE 783 RELAY TO BE DIRECT MOUNTED TO A DIN RAIL OR PANEL.

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

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.

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

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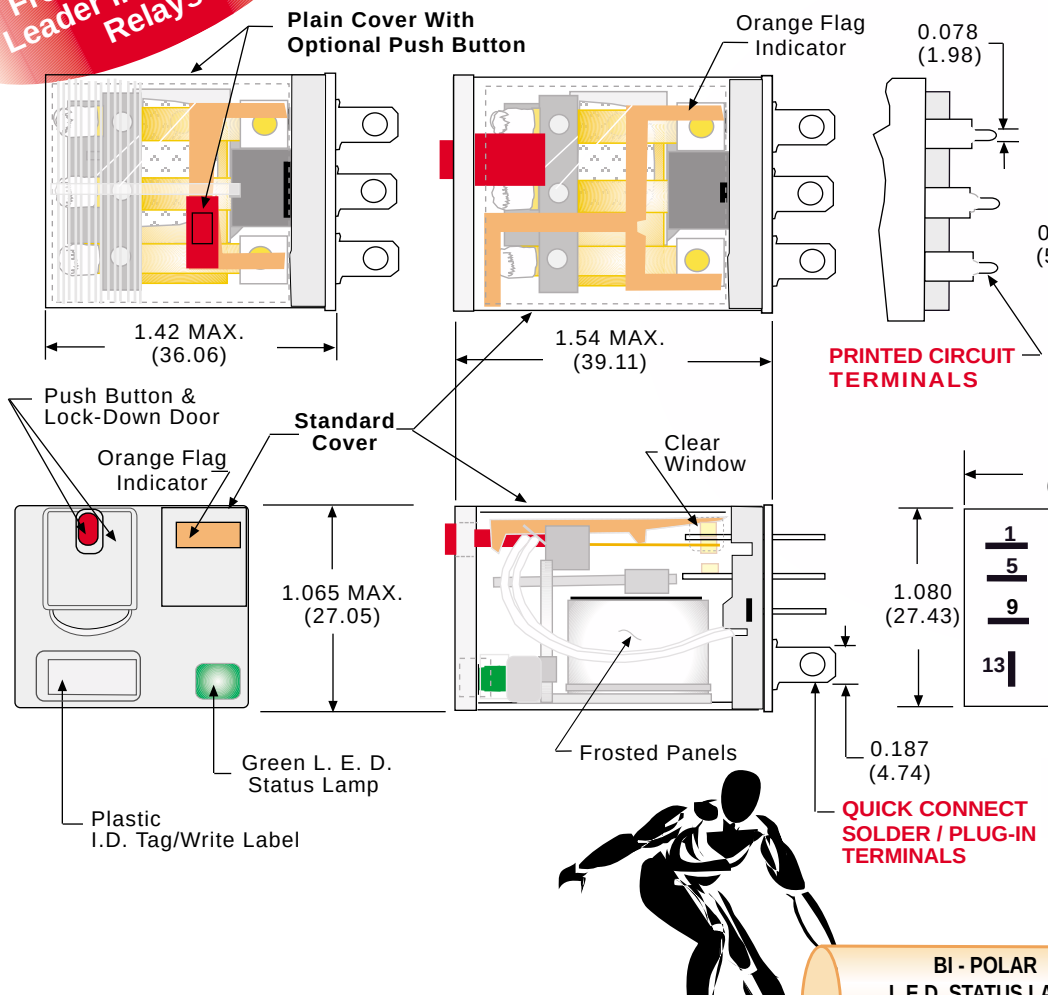
ICE CUBE STYLE POWER RELAY

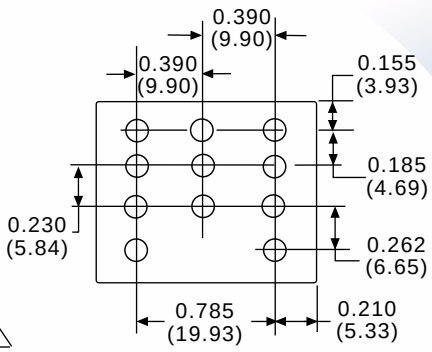
3PDT, 15 AMPS

NEW From The Market Leader in Industrial Relays

OUTLINE DIMENSIONS
DIMENSIONS SHOWN IN INCHES & (MILLIMETERS).



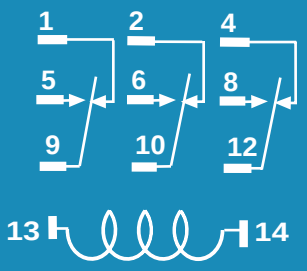
PRINTED CIRCUIT MOUNTING HOLE LAYOUT
(BOTTOM VIEW)



AVAILABLE WITHOUT LOCK-DOWN DOOR: CODE "**M**"

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

WIRING DIAGRAM
(VIEWED FROM PIN END)



ORDERING CODE FOR RELAYS

783 XCX M4L -120A

CLASS:

CONTACT CONFIGURATION:
3PDT: **XCX**

TERMINAL STYLE:
QUICK CONNECT SOLDER / 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**

STANDARD PART NUMBERS	PLAIN COVER	COIL MEASURED @ 25˚C 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

CLASS **784**

FULL FEATURED ICE CUBE STYLE POWER RELAY

4PDT, 15 AMPS

c UL us — UL Recognized File No. E43641

LR40787

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

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.
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.

STANDARD COVER

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

TOP OR BOTTOM FLANGE ADAPTER ORDERED AND SHIPPED SEPARATELY

STANDARD COVER WITH FLANGE ADAPTER 16-784C1 ON BOTTOM

TOP OR BOTTOM FLANGE ADAPTER ORDERED AND SHIPPED SEPARATELY

STANDARD COVER WITH DIN ADAPTER 16-784C

DIN ADAPTER ORDERED AND SHIPPED SEPARATELY

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.

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

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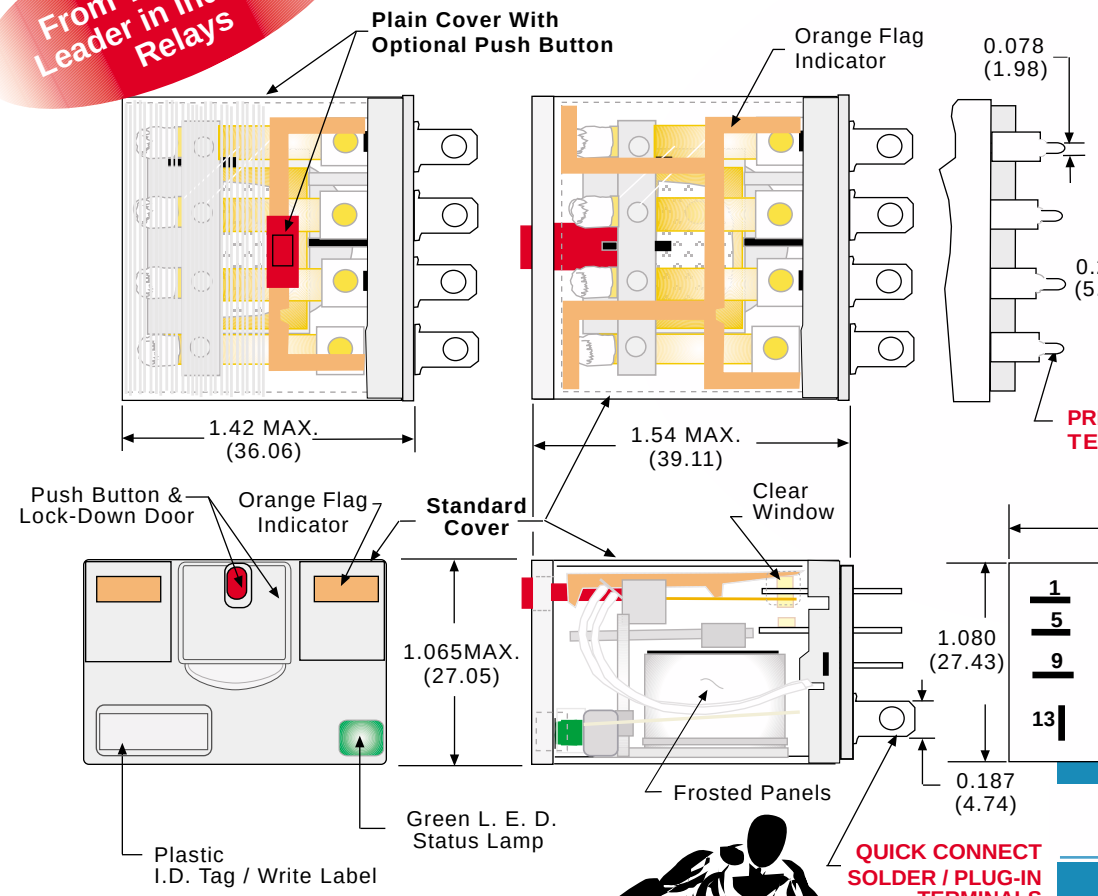
ICE CUBE STYLE POWER RELAY

4PDT, 15 AMPS

NEW From The Market Leader in Industrial Relays

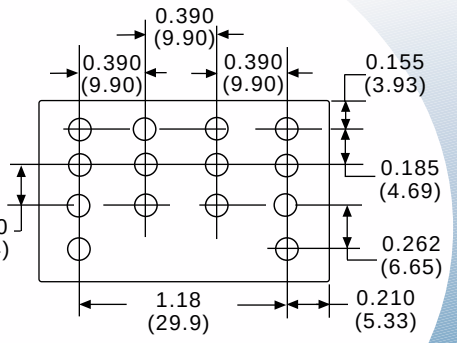
OUTLINE DIMENSIONS

DIMENSIONS SHOWN IN INCHES & (MILLIMETERS).



PRINTED CIRCUIT MOUNTING HOLE LAYOUT

(BOTTOM VIEW)



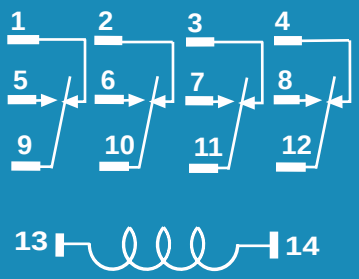
PUSH BUTTON WITH LOCK-DOWN DOOR

AVAILABLE WITHOUT LOCK-DOWN DOOR: CODE "M"

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

WIRING DIAGRAM

(VIEWED FROM PIN END)



ORDERING CODE FOR RELAYS

784 XDX M4L -120A

CLASS:

CONTACT CONFIGURATION:
4PDT: **XDX**

TERMINAL STYLE:
QUICK CONNECT SOLDER / 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**
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	PLAIN COVER	COIL MEASURED @ 25°C NOMINAL INPUT VOLTAGE	NOMINAL RESISTANCE (OHMS)
AC OPERATED - SOLDER/PLUG-IN, 15 AMP			
784XDXM4L-24A	784XDXC-24A	24 VAC, 50/60 Hz	84.5 Ω
784XDXM4L-120A	784XDXC-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	784XDXC-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

SPDT, DPDT & 4PDT, 3, 5 & 15 AMPS

c UL us
UL Recognized
File No. E52197

LISTED 367G
IND. CONT. EQ.
C US
WHEN USED WITH SOCKETS **70-459-1** OR **70-461-1**

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

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

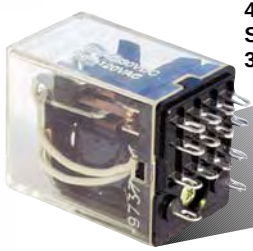
Functional:	20 g
Mechanical:	100 g

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.



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/DIN
70-401-1, 70-378-1: SOLDER
70-402-1, 70-379-1: PRINTED CIRCUIT
See section 8, page 13, 14, 15, 20

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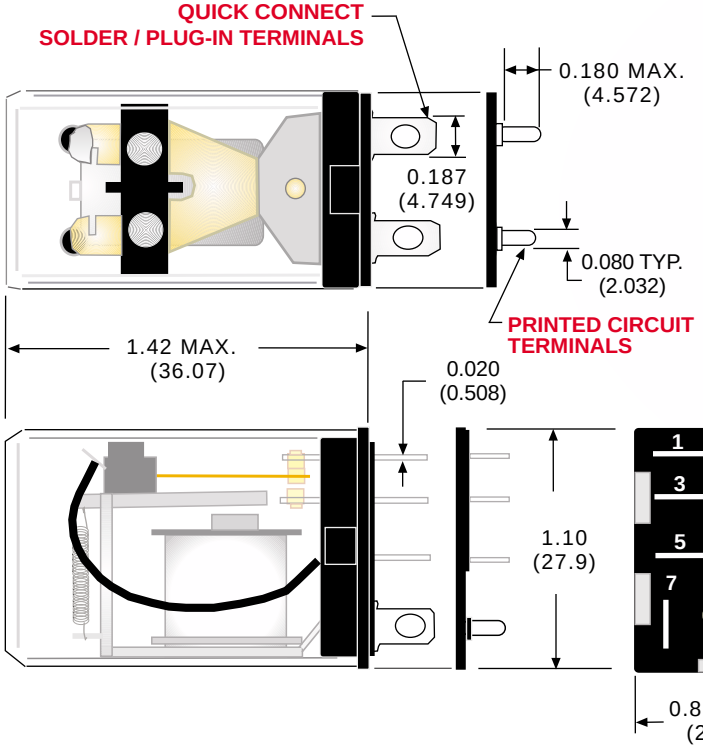
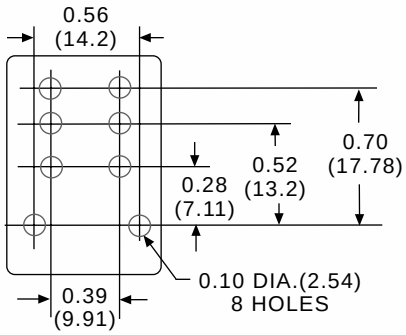
ICE CUBE STYLE SOLDER/PLUG-IN OR PRINTED CIRCUIT BOARD RELAY

SPDT , 15 AMPS

OUTLINE DIMENSIONS
DIMENSIONS SHOWN IN INCHES & (MILLIMETERS).



PRINTED CIRCUIT MOUNTING HOLE LAYOUT
(BOTTOM VIEW)



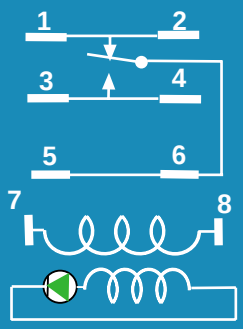
DIN ADAPTER 16-782C

FLANGE ADAPTER 16-782C1

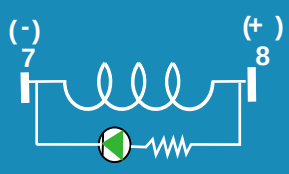
NEW SLOTTED PLAIN COVER, ALLOWS FOR INSTALLATION OF THE OPTIONAL TOP MOUNT DIN OR TOP/BOTTOM MOUNT FLANGE ADAPTERS. ADAPTERS SOLD SEPARATELY

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

WIRING DIAGRAMS
(VIEWED FROM PIN END)



AC STYLES



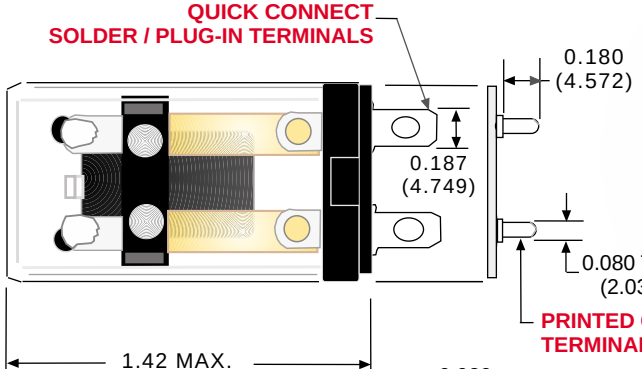
DC STYLES

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

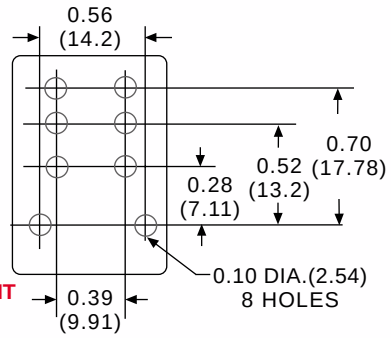
ICE CUBE STYLE SOLDER/PLUG-IN OR PRINTED CIRCUIT BOARD RELAY

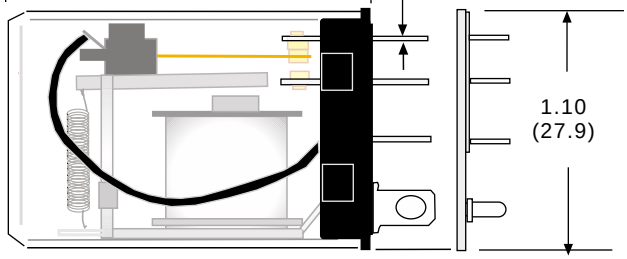
DPDT, 15 AMPS

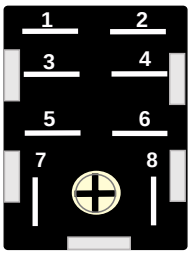
OUTLINE DIMENSIONS
DIMENSIONS SHOWN IN INCHES & (MILLIMETERS).



PRINTED CIRCUIT MOUNTING HOLE LAYOUT
(BOTTOM VIEW)







0.858 MAX.
(21.793)

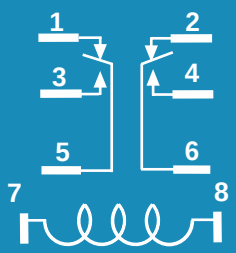
DIN ADAPTER 16-782C

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

FLANGE ADAPTER 16-782C1

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

WIRING DIAGRAM
(VIEWED FROM PIN END)



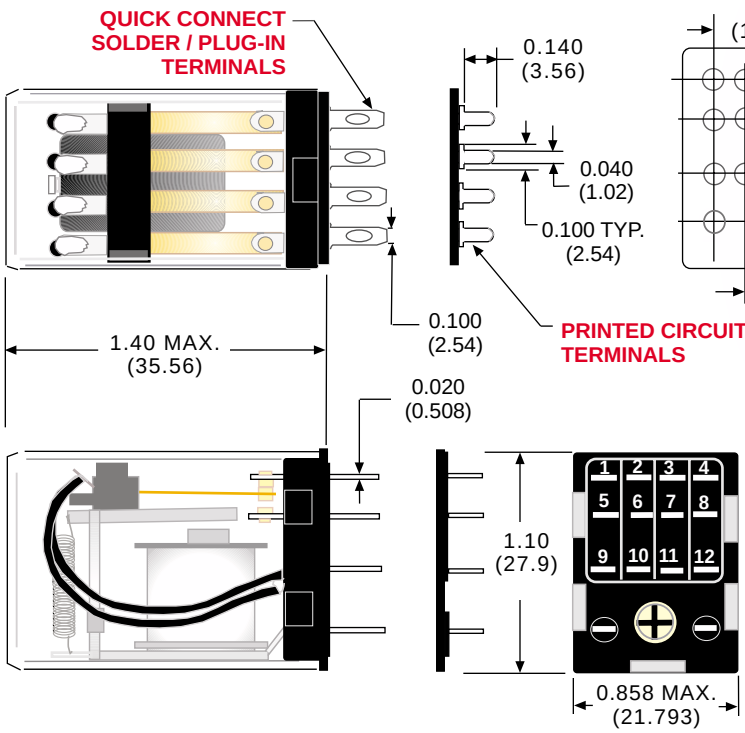
STANDARD PART NUMBERS DPDT	COIL MEASURED @ 25°C NOMINAL INPUT VOLTAGE	NOMINAL RESISTANCE (OHMS)
AC OPERATED - SOLDER/PLUG-IN, 15 AMP		
W78ARCSX-7	6 VAC, 50/60 Hz	12.2 Ω
W78ARCSX-9	24VAC, 50/60 Hz	180 Ω
W78ARCSX-11	120 VAC, 50/60 Hz	4430 Ω
W78ARCSX-12	240 VAC, 50/60 Hz	15,700 Ω
DC OPERATED - SOLDER/PLUG-IN, 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

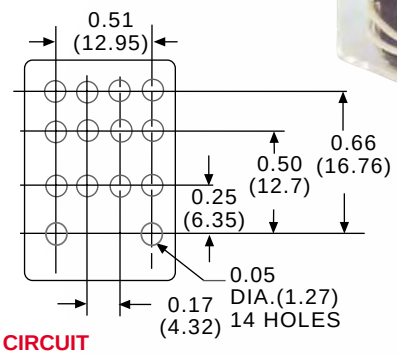
ICE CUBE STYLE SOLDER/PLUG-IN OR PRINTED CIRCUIT BOARD RELAY

4PDT, 3 & 5 AMPS

OUTLINE DIMENSIONS
DIMENSIONS SHOWN IN INCHES & (MILLIMETERS).



PRINTED CIRCUIT MOUNTING HOLE LAYOUT
(BOTTOM VIEW)



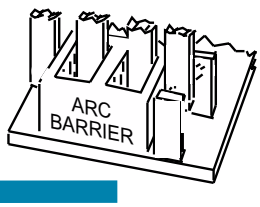
DIN ADAPTER 16-782C

FLANGE ADAPTER 16-782C1

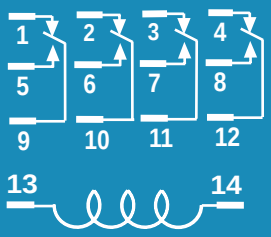
NEW SLOTTED PLAIN COVER, ALLOWS FOR INSTALLATION OF THE OPTIONAL TOP MOUNT DIN OR TOP/BOTTOM MOUNT FLANGE ADAPTERS. ADAPTERS SOLD SEPARATELY

SEE CLASS 782XDX 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)



STANDARD PART NUMBERS 4PDT	COIL MEASURED @ 25°C 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

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

CLASS **750** FULL FEATURED

OCTAL STYLE GENERAL PURPOSE RELAY

DPDT & 3PDT, 12 AMPS

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.

c UL us — UL Recognized File No. E43641

CSA 40787

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

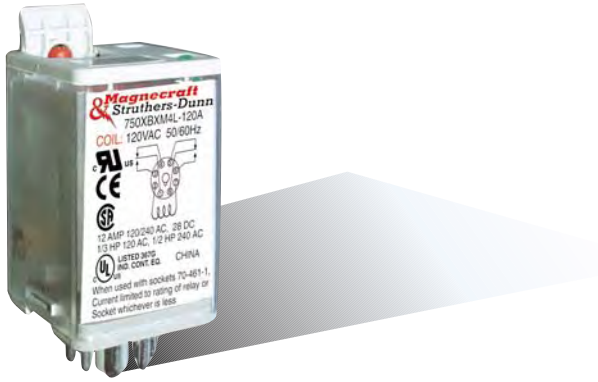
Operating:	-40˚C to +50˚C. (AC), -40˚C +65˚C. (DC)
Storage:	-40˚C to +100˚C

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

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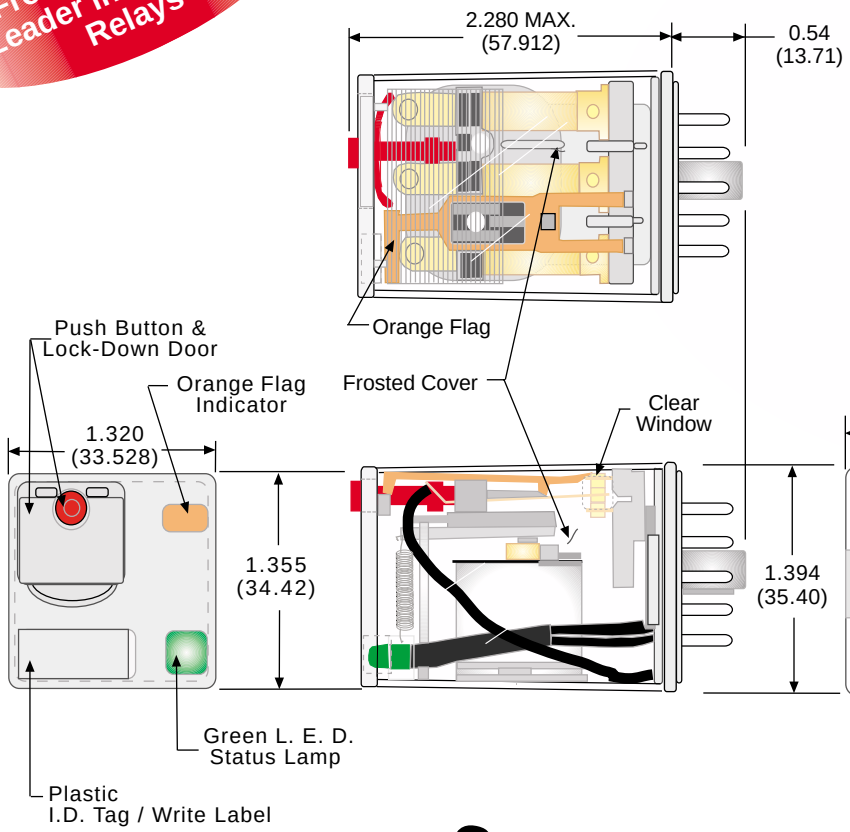
FULL FEATURED OCTAL STYLE GENERAL PURPOSE RELAY

DPDT & 3PDT , 12 AMPS

NEW From The Market Leader in Industrial Relays

OUTLINE DIMENSIONS

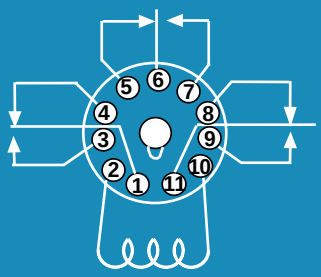
DIMENSIONS SHOWN IN INCHES & (MILLIMETERS).

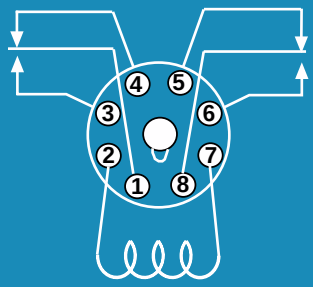


8 PIN OCTAL BASE
NOT SHOWN

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 CONFIGU-RATION	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

CLASS **A314**

OCTAL STYLE GENERAL PURPOSE RELAY

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

c UL us
UL Recognized
File No. E 43641

SA 168986

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

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

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

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.

MANUFACTURED UNDER
ISO 9002 & QS 9000

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

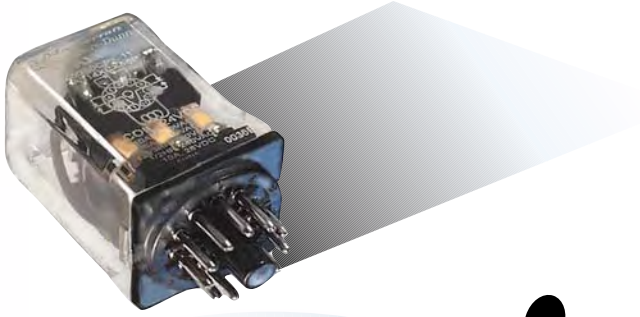
Functional:	10 g's
Mechanical:	100 g's

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.



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

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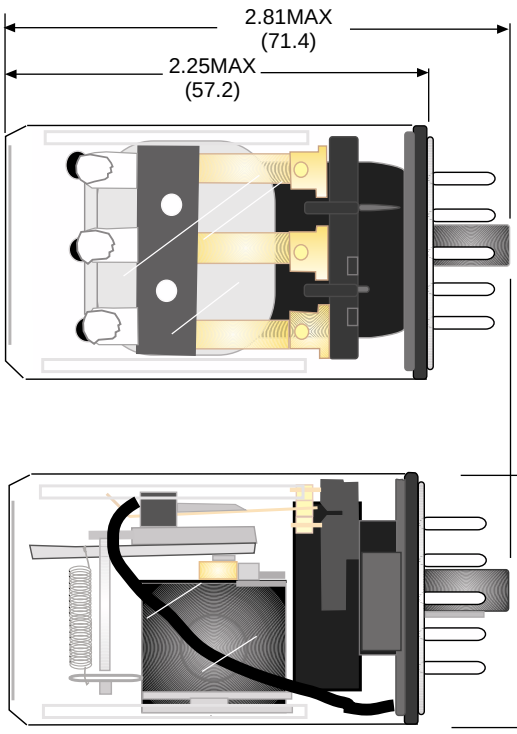
OCTAL STYLE GENERAL PURPOSE RELAY

DPDT & 3PDT
3, 10 & 12 AMPS

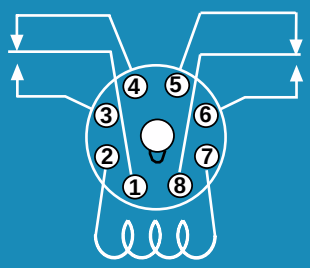
OUTLINE DIMENSIONS
DIMENSIONS SHOWN IN INCHES & (MILLIMETERS).



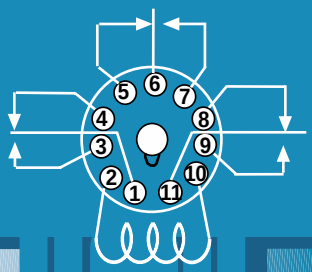
8 PIN OCTAL BASE
NOT SHOWN

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

WIRING DIAGRAMS
(VIEWED FROM PIN END)



DPDT



3PDT

STANDARD PART NUMBERS	CONTACT CONFIGU-RATION	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

DPDT & 3PDT, 12 AMPS

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.

c UL us
UL Recognized
File No. E43641

SA LR40787

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

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:	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

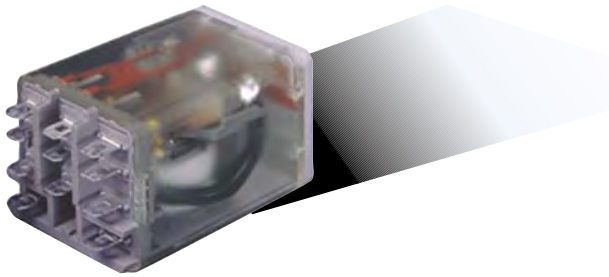
Operating:	-40˚C to +50˚C. (AC), -40˚C +65˚C. (DC)
Storage:	-40˚C to +100˚C

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

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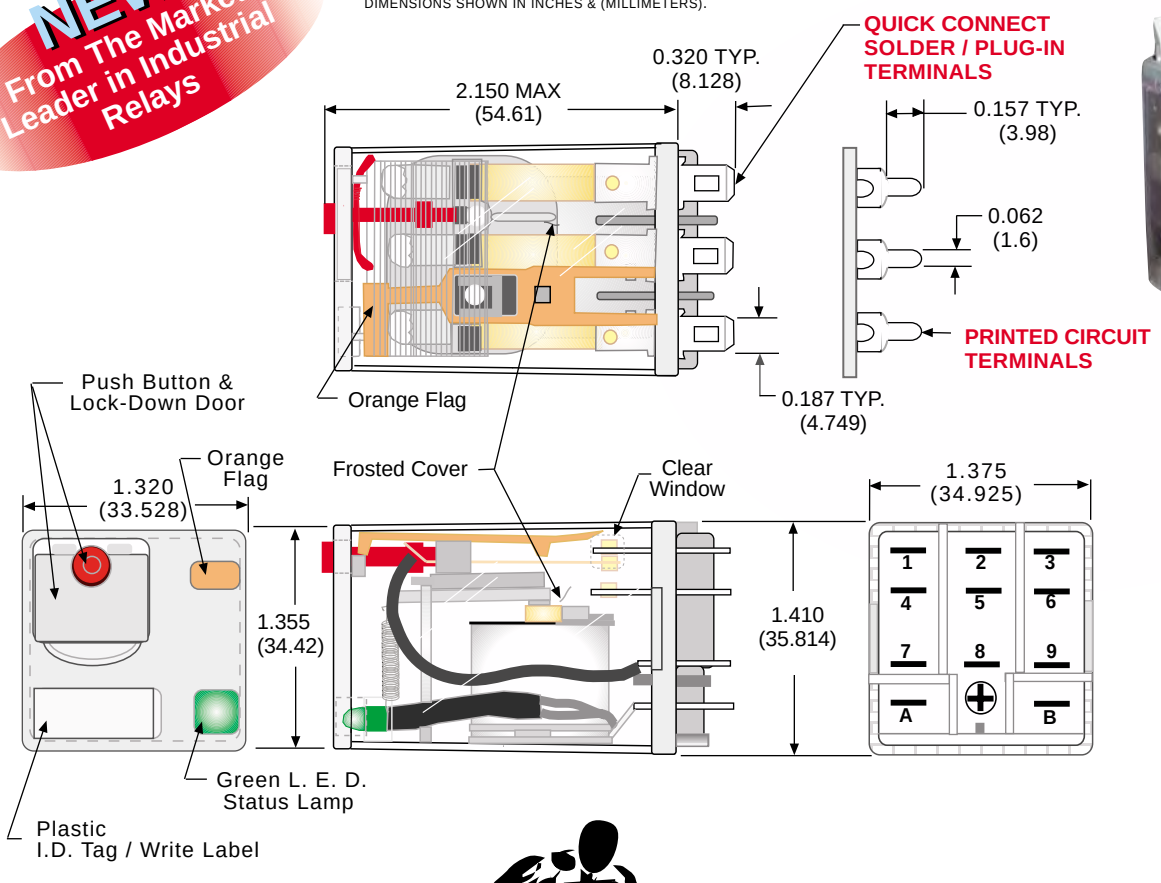
DPDT & 3PDT, 12 AMPS

NEW From The Market Leader in Industrial Relays

OUTLINE DIMENSIONS

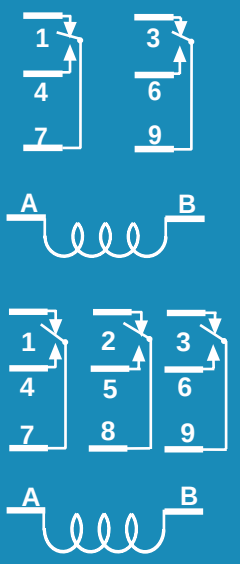
DIMENSIONS SHOWN IN INCHES & (MILLIMETERS).



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

WIRING DIAGRAMS

(VIEWED FROM PIN END)



ORDERING CODE FOR RELAYS

788 XBX M4L - 120A

CLASS:

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

TERMINAL STYLE:
SOLDER PLUG-IN TERMINALS: **NO CODE**
PRINTED CIRCUIT TERMINALS: **CODE T**

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 CONFIGU-RATION	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

PLUG-IN & FLANGE MOUNT RELAY

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

c UL us
UL Recognized
File No. E13224

SA 168986

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

CURRENT LIMITED TO RATING OF RELAY OR SOCKET WHICHEVER IS LESS

CE

COMPLIES WITH REQUIREMENTS OF

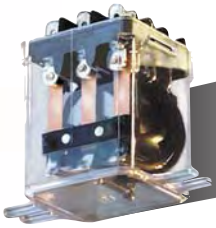
* IEC STANDARDS 947-4-1 AND 947-5-1 LOW VOLTAGE DIRECTIVE
* IEC = INTERNATIONAL ELECTROTECHNICAL COMMISSION
* CE TESTING AND EVALUATION PERFORMED BY THE UNDERWRITERS LABORATORIES AS A THIRD PARTY PARTICIPANT

MANUFACTURED UNDER ISO 9002 & QS 9000

PLUG-IN

FLANGE MOUNT

OPTIONAL PRINTED CIRCUIT TERMINAL CONSULT FACTORY.



OPTIONAL TOP FLANGE COVER CONSULT FACTORY.

OPTIONAL DIN COVER CONSULT FACTORY.

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

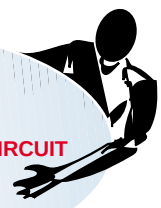
Operating:	-30˚C to +50˚C. (AC), -30˚C to +65˚C. (DC)
Storage	-30˚C to +100˚C

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.



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

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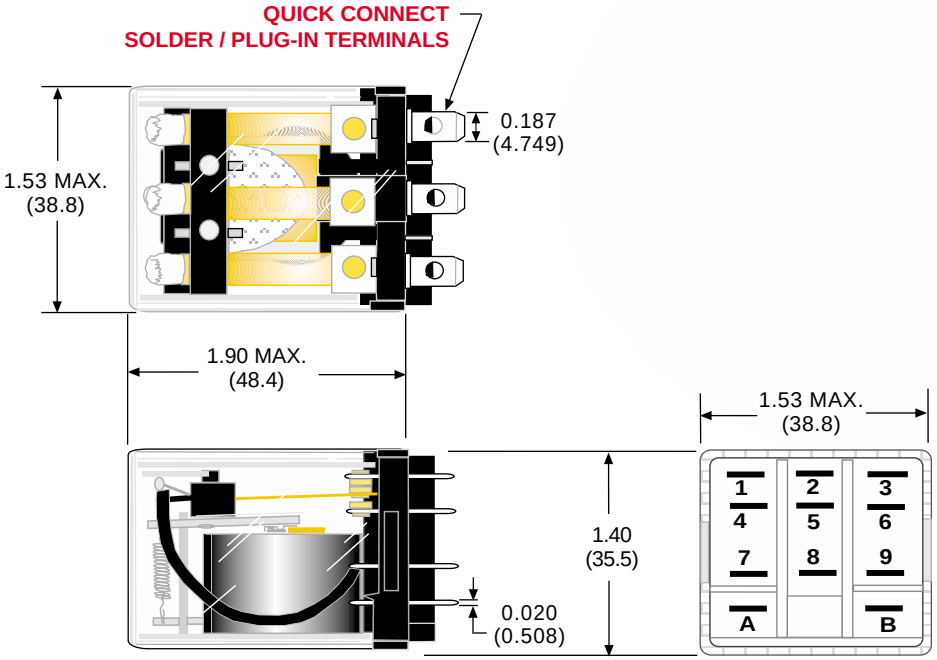
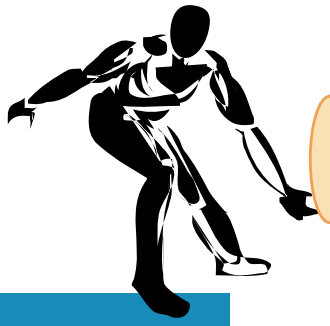
PLUG-IN RELAY

SPDT, DPDT & 3PDT, 15 AMPS

OUTLINE DIMENSIONS

DIMENSIONS SHOWN IN INCHES & (MILLIMETERS).

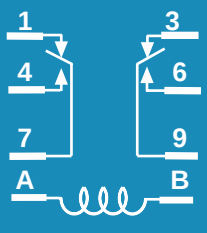




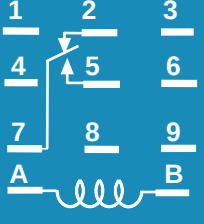
SEE CLASS 788 FOR PART NUMBERS WITH L.E.D. STATUS LAMP AND PUSH BUTTON

WIRING DIAGRAMS

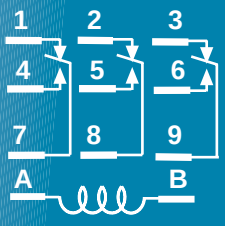
(VIEWED FROM PIN END)



DPDT



SPDT



3PDT

STANDARD PART NUMBERS	CONTACT CONFIGU-RATION	COIL MEASURED @ 25˚C NOMINAL INPUT VOLTAGE	COIL MEASURED @ 25˚C 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

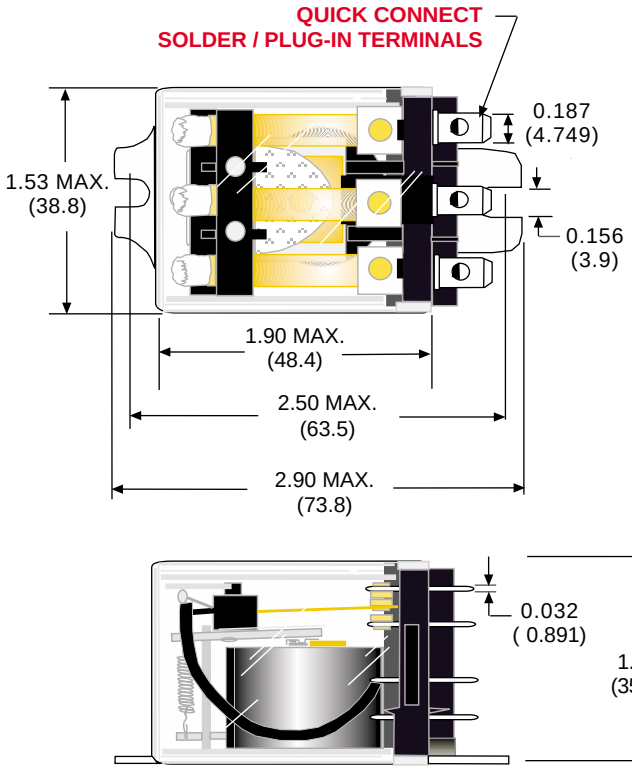
RETROFITS POTTER & BRUMFIELD KUP.
SEE END OF SECTION 1 FOR CROSS REFERENCE

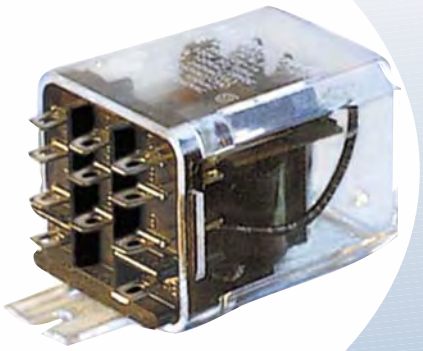
FLANGE MOUNT RELAY

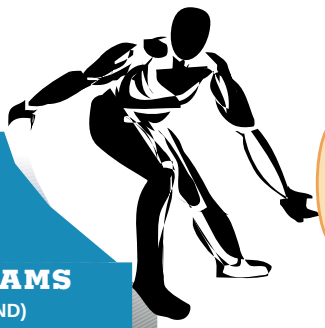
SPDT, DPDT & 3PDT, 15 AMPS

OUTLINE DIMENSIONS

DIMENSIONS SHOWN IN INCHES & (MILLIMETERS).



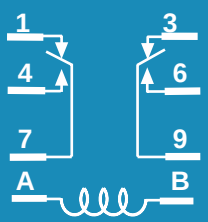




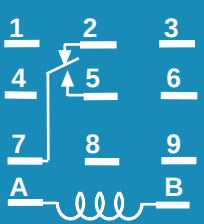
SEE CLASS 388J FOR PART NUMBERS WITH L.E.D. STATUS LAMP AND PUSH BUTTON

WIRING DIAGRAMS

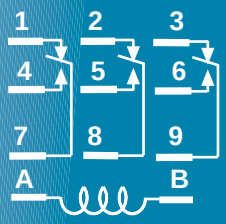
(VIEWED FROM PIN END)



DPDT



SPDT



3PDT

STANDARD PART NUMBERS	CONTACT CONFIGURATION	COIL MEASURED @ 25˚C NOMINAL INPUT VOLTAGE	COIL MEASURED @ 25˚C 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

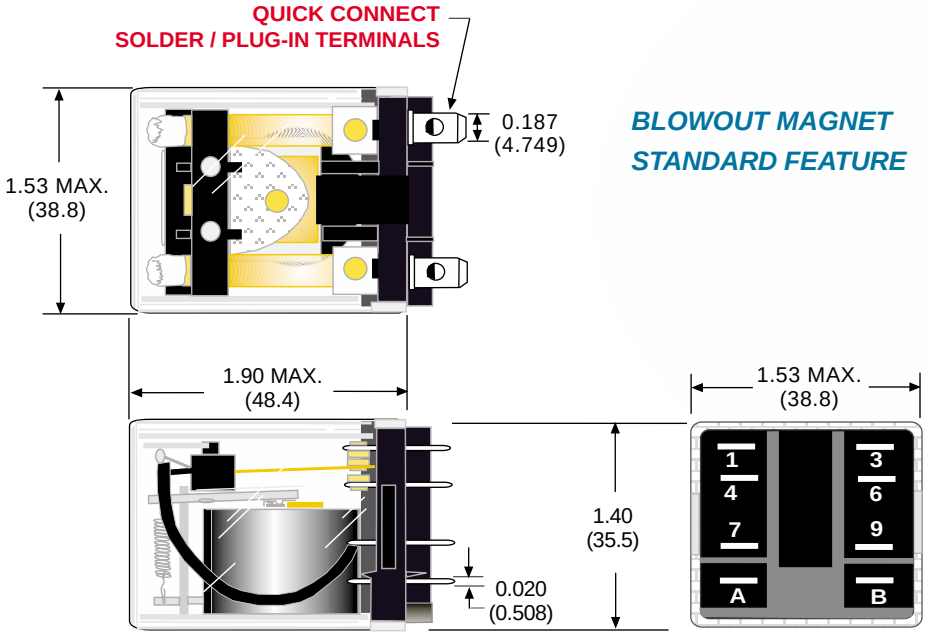
RETROFITS POTTER & BRUMFIELD KUP.
SEE END OF SECTION 1 FOR CROSS REFERENCE

PLUG-IN RELAY FOR DC SWITCHING

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

OUTLINE DIMENSIONS

DIMENSIONS SHOWN IN INCHES & (MILLIMETERS).



BLOWOUT MAGNET STANDARD FEATURE

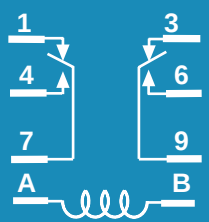
UL CONTACT LOAD RATINGS TABLE FOR DC SWITCHING

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

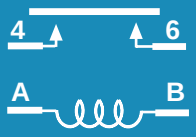
THE BLOWOUT MAGNET STYLES HAVE THE SAME LOAD SPECIFICATIONS AS THE A283 ENCLOSED PLUG-IN RELAYS, PLUS THE ADDITIONAL LOAD RATINGS CHARTED IN TABLE ABOVE. SEE A283 GENERAL SPECIFICATIONS.

WIRING DIAGRAMS

(VIEWED FROM PIN END)



DPDT



SPST-NO-DM

STANDARD PART NUMBERS	CONTACT CONFIGU-RATION	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			
A283XHX69C-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

HIGH CURRENT PLUG-IN & FLANGE MOUNT RELAY

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

c UL us
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File No. E43641

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

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:	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

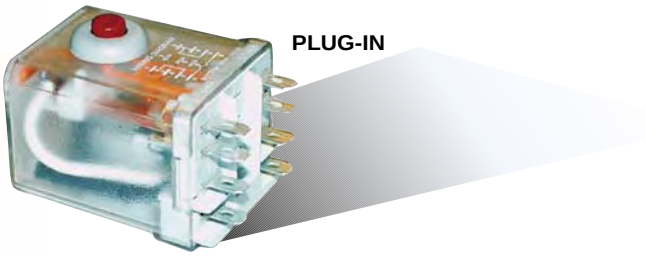
Operating:	-30˚C to +50˚C. (AC), -30˚C to +65˚C. (DC)
Storage:	-30˚C to +100˚C

LIFE EXPECTANCY

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

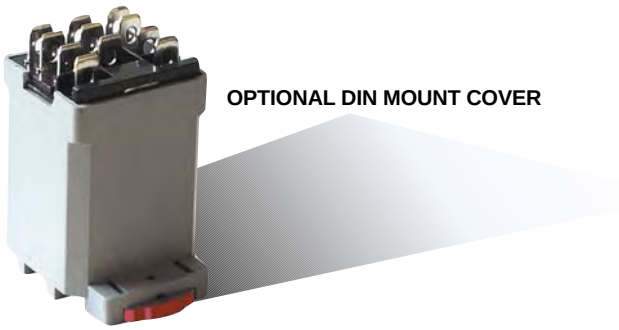
MISCELLANEOUS

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.



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

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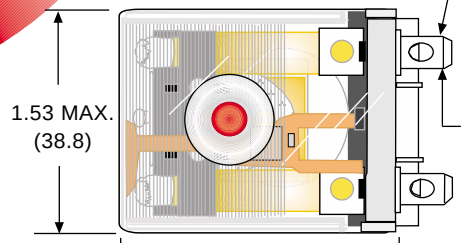
HIGH CURRENT PLUG-IN & FLANGE MOUNT RELAY

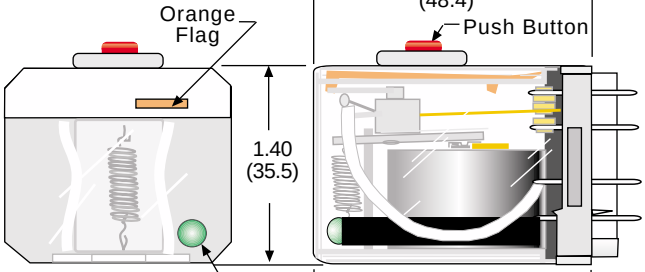
DPDT & 3PDT, 16 & 20 AMPS

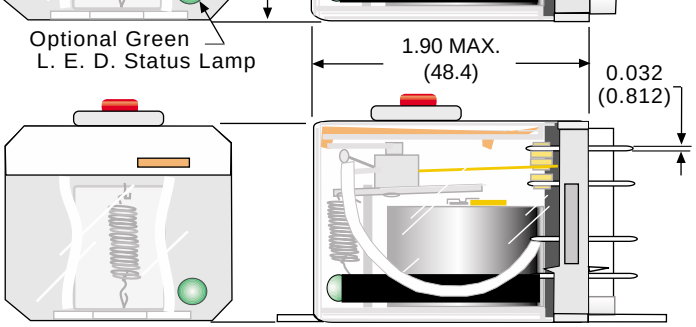
NEW From The Market Leader in Industrial Relays

PLUG-IN

QUICK CONNECT SOLDER / PLUG-IN TERMINALS

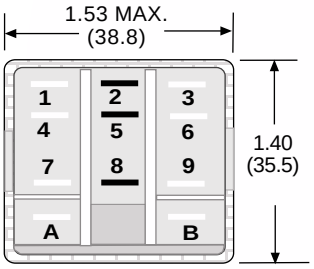






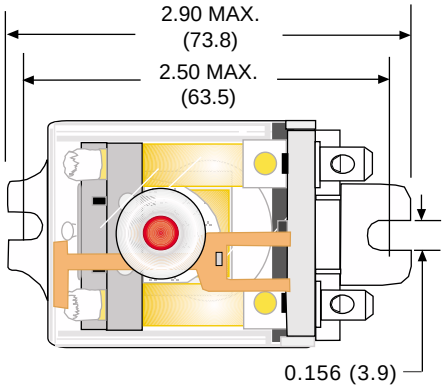
OUTLINE DIMENSIONS

DIMENSIONS SHOWN IN INCHES & (MILLIMETERS).



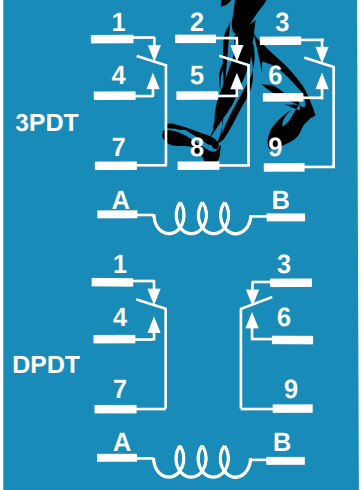
FLAG INDICATOR & PUSH BUTTON STANDARD ON 388J RELAYS.

FLANGE COVER



WIRING DIAGRAMS

(VIEWED FROM PIN END)



ORDERING CODE FOR RELAYS

388J XCX C1 M- 240A

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:
† 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**

* 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.

STANDARD PART NUMBERS	CONTACT CONFIGU-RATION	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

HIGH VOLTAGE PLUG-IN & FLANGE MOUNT RELAY

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

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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

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 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

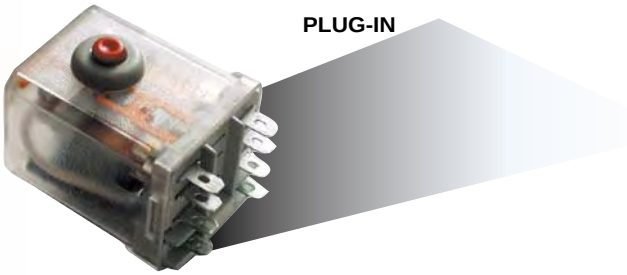
LIFE EXPECTANCY

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

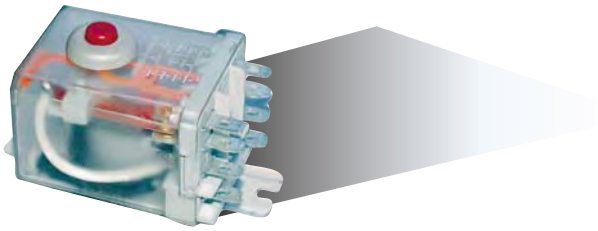
MISCELLANEOUS

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.

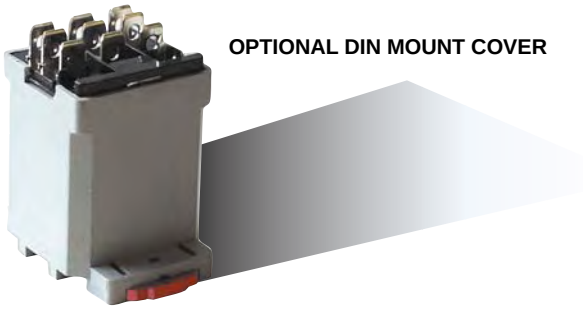
PLUG-IN



OPTIONAL FLANGE MOUNT COVER



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

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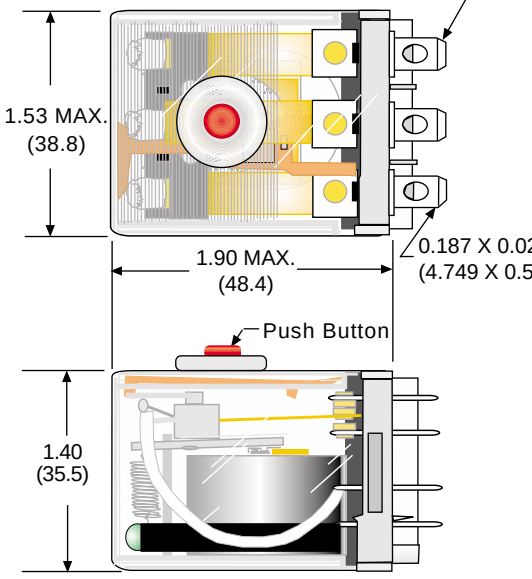
HIGH VOLTAGE PLUG-IN & FLANGE MOUNT RELAY

DPST-NO, 3PST-NO, 15 AMPS

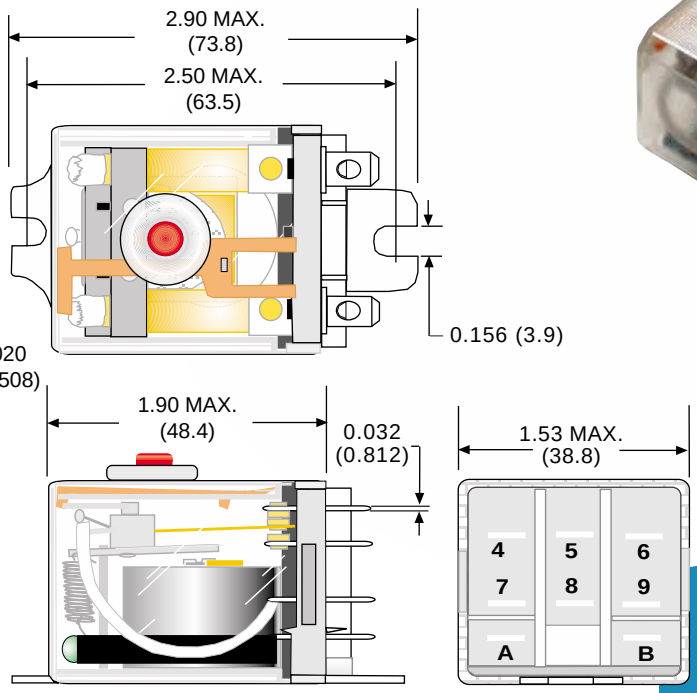
OUTLINE DIMENSIONS

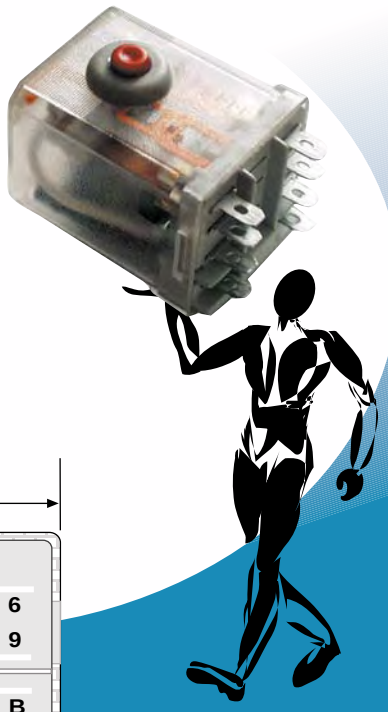
DIMENSIONS SHOWN IN INCHES & (MILLIMETERS).

PLUG-IN



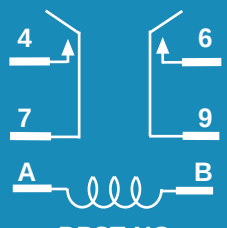
FLANGE COVER



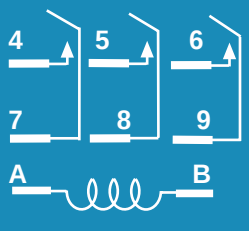


WIRING DIAGRAMS

(VIEWED FROM PIN END)



DPST-NO



3PST-NO

3 MILLIMETER CONTACT GAP. PUSH BUTTON STANDARD.

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.

STANDARD PART NUMBERS	CONTACT CONFIGURATION	COIL MEASURED @ 25°C: NOMINAL INPUT VOLTAGE	COIL MEASURED @ 25°C: 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

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

FLANGE MOUNT POWER RELAYS

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

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CE

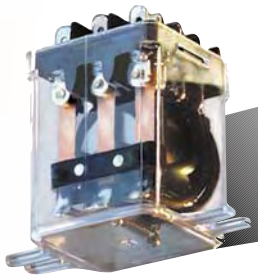
COMPLIES WITH REQUIREMENTS OF

* 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

STANDARD SIDE FLANGE COVER

OPTIONAL PRINTED CIRCUIT TERMINAL CONSULT FACTORY.



OPTIONAL TOP FLANGE COVER CONSULT FACTORY.

OPTIONAL DIN COVER CONSULT FACTORY.

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

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FLANGE MOUNT POWER RELAY

CLASS 389 LOAD RATINGS

POLES	ENCLOSED STYLE 1, 2 AND 3 POLE			
	CURRENT OR HORSEPOWER	LOAD VOLTAGE	LOAD VOLTAGE FREQUENCY	TYPE OF LOAD
1 POLE	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	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	460/600	50/60Hz	PILOT DUTY
	B600		50/60Hz	PILOT DUTY
3 POLES	13A	28	DC	RESISTIVE
	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

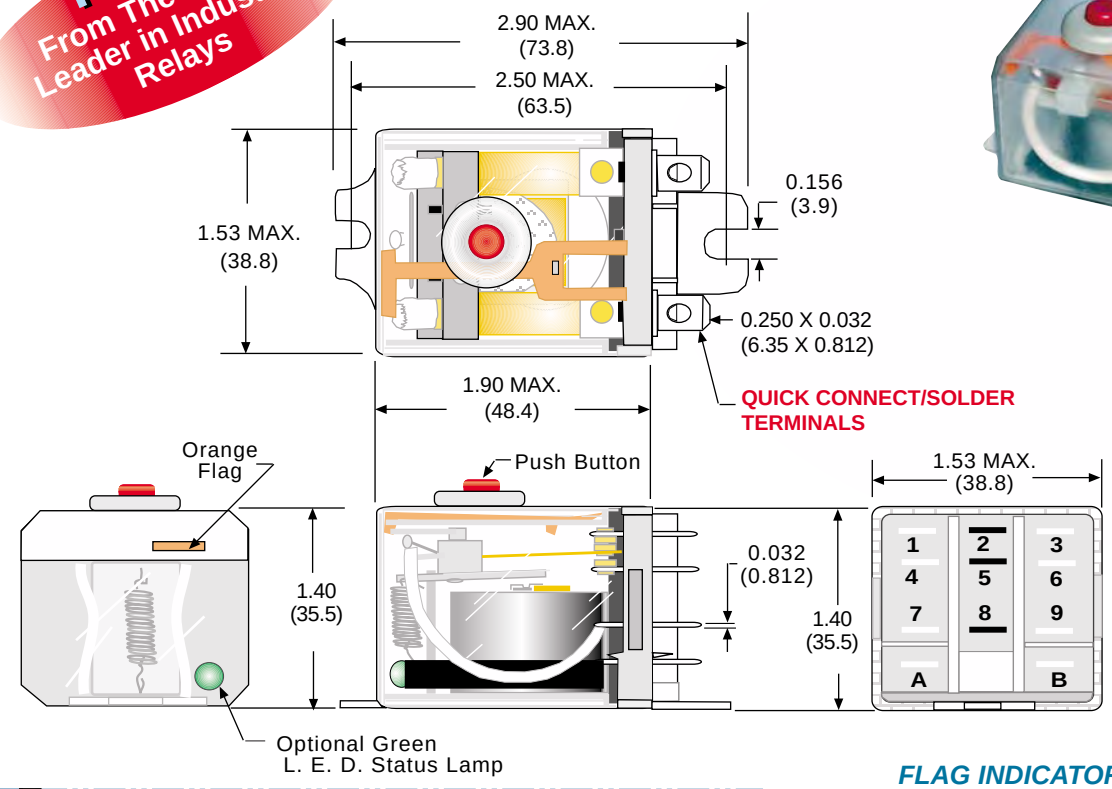
NEMA CONTACT CODE DESIGNATION	THERMAL CONTINUOUS TEST CURRENT AMPERES	MAXIMUM CURRENT, AMPERES									
		120 VOLTS 50/60Hz		240 VOLTS 50/60Hz		480 VOLTS 50/60Hz		600 VOLTS 50/60Hz		MAXIMUM VOLT-AMPERES	
		MAKE	BREAK	MAKE	BREAK	MAKE	BREAK	MAKE	BREAK	MAKE	BREAK
A600	10	60	6.00	30	3.00	15	1.50	12	1.20	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

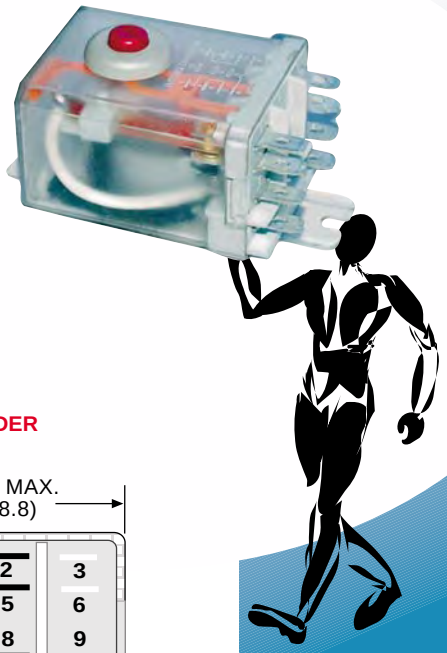
FLANGE MOUNT POWER RELAY

DPDT, 3PDT, 20 & 25 AMPS

NEW From The Market Leader in Industrial Relays

OUTLINE DIMENSIONS
DIMENSIONS SHOWN IN INCHES & (MILLIMETERS).

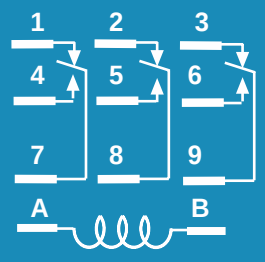




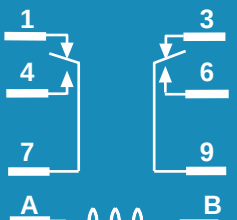
FLAG INDICATOR & PUSH BUTTON STANDARD ON 389F RELAYS.

WIRING DIAGRAMS

(VIEWED FROM PIN END)



3PDT



DPDT

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	COIL MEASURED @ 25°C 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			
389FXBXC1M-240A	DPDT	240 VAC, 50/60Hz	7200 Ω
389FXBXC1M-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			
389FXBXC1M-12D	DPDT	12 VDC	100 Ω
389FXBXC1M-24D	DPDT	24 VDC	400 Ω

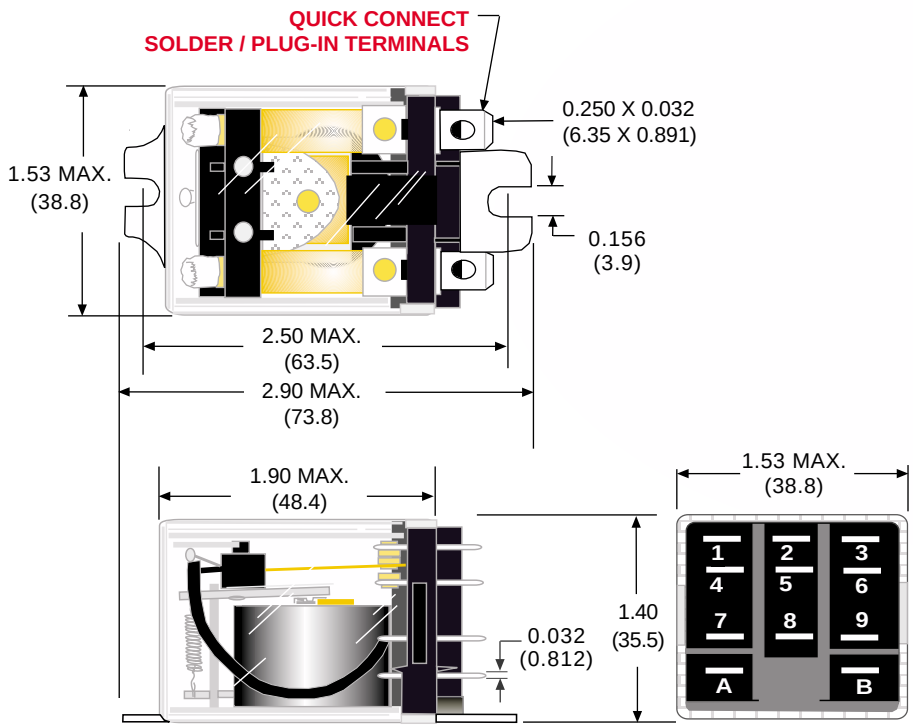
RETROFITS SCHRACK RM.
SEE END OF SECTION 1 FOR CROSS REFERENCE

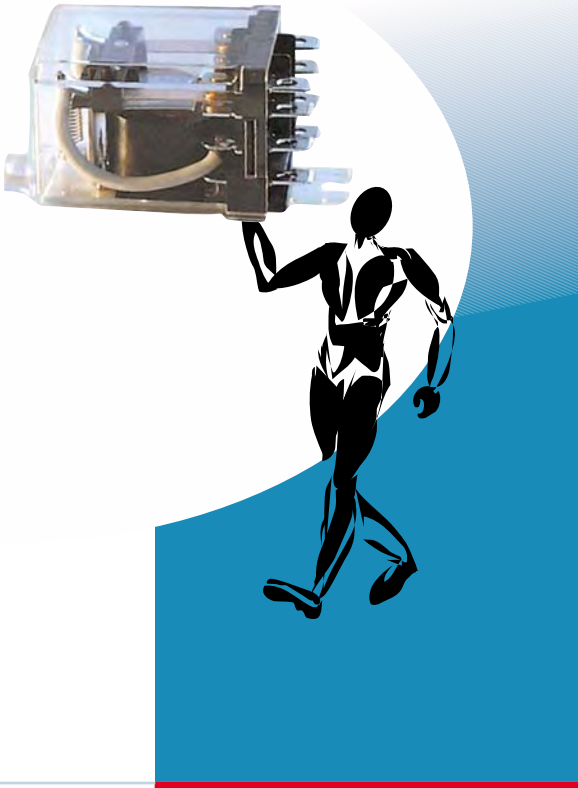
FLANGE MOUNT POWER RELAY

20, 25 & 30 AMPS

OUTLINE DIMENSIONS

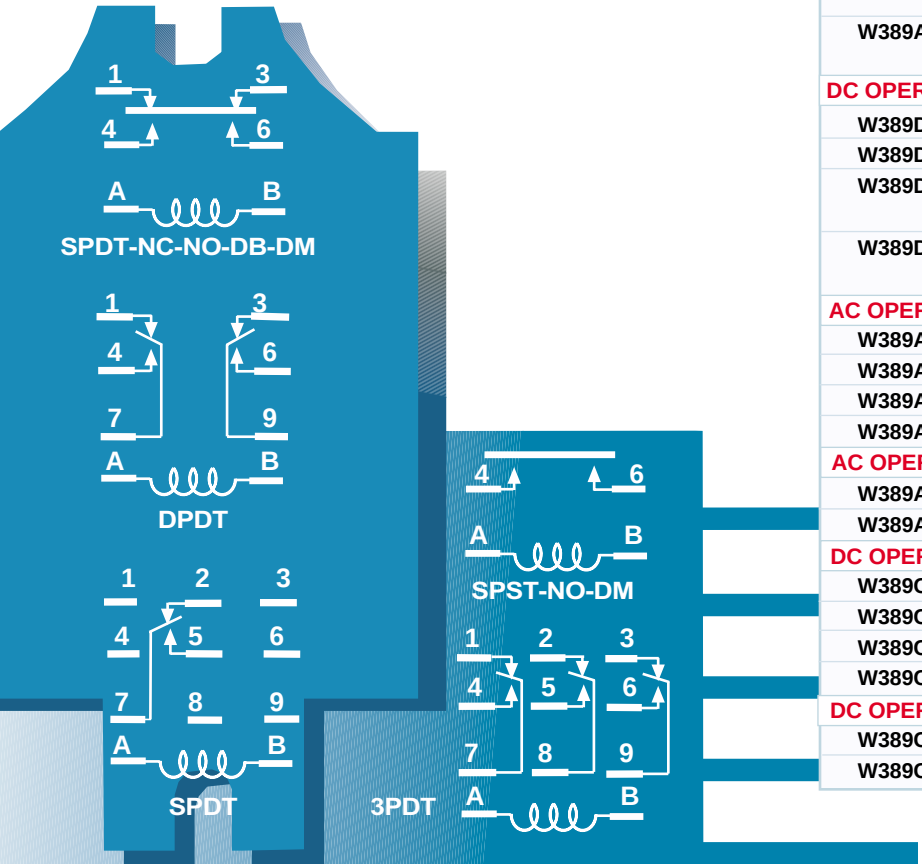
DIMENSIONS SHOWN IN INCHES & (MILLIMETERS).





WIRING DIAGRAMS

(VIEWED FROM PIN END)



STANDARD PART NUMBERS	CONTACT CONFIGU-RATION	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 & KUHP.
SEE END OF SECTION 1 FOR CROSS REFERENCE

HIGH CURRENT & HIGH VOLTAGE POWER RELAY

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

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"

c UL us
UL Recognized
File No. E13224

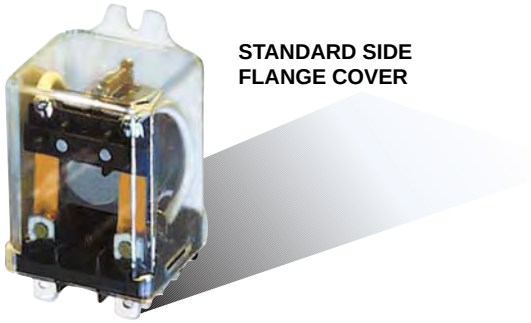
50758

MANUFACTURED UNDER
ISO 9002 & QS 9000

GENERAL SPECIFICATIONS

COIL

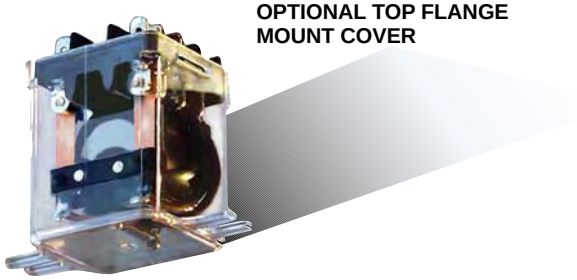
Pull-in Voltage:	85% of nominal voltage or less for AC coils, 80% of nominal voltage or less for DC coils
Dropout Voltage:	10% min. of nominal voltage or more
Max. Voltage:	110%
Resistance:	±10% measured @ 25˚C
Coil Power:	2.0 watts DC, 3.0 VA (60Hz) AC. @ 25˚C
Insulation System:	Class "B" (130˚C per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



STANDARD SIDE FLANGE COVER

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



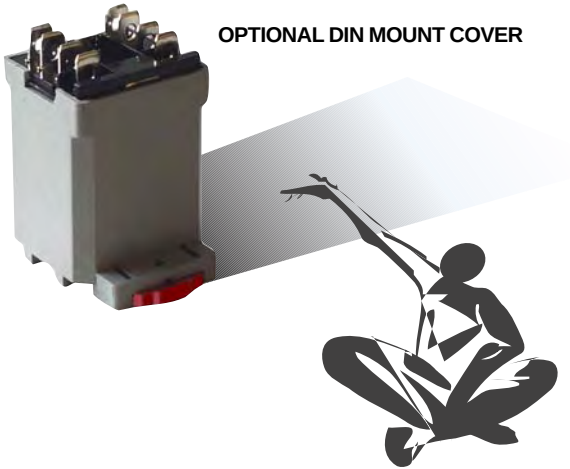
OPTIONAL TOP FLANGE MOUNT COVER

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



OPTIONAL DIN MOUNT COVER

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.

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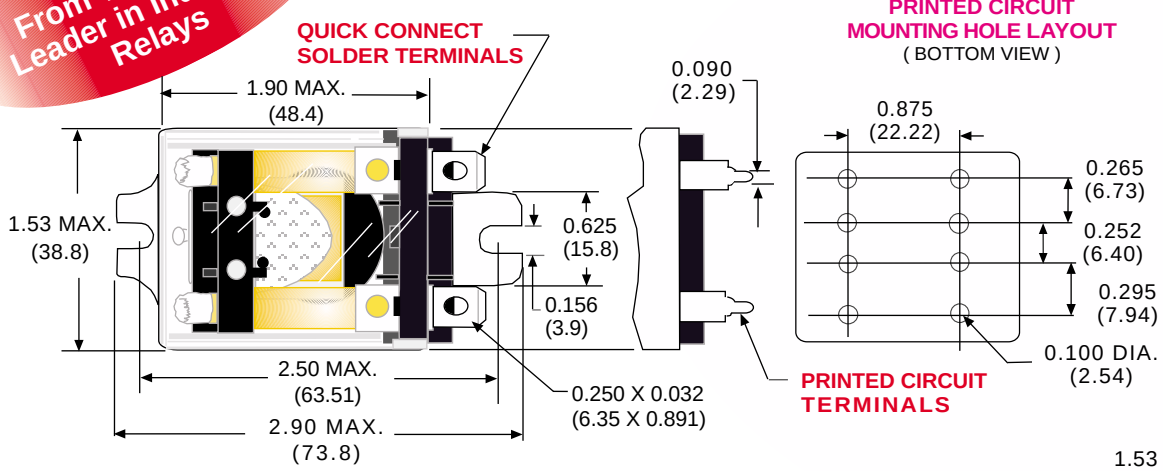
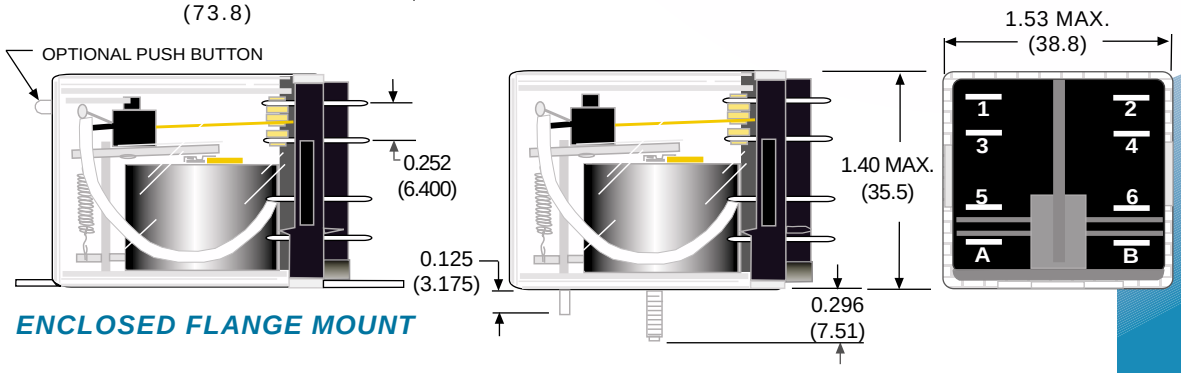
HIGH CURRENT & HIGH VOLTAGE POWER RELAY

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).





ENCLOSED FLANGE MOUNT

ORDERING CODE FOR RELAYS

F 300 XBX C1 LM -24D

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

CLASS:

CONTACT CONFIGURATION:
DPDT: **XBX**

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**

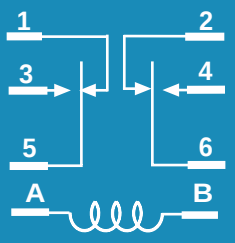
TERMINAL STYLE:
† QUICK CONNECT SOLDER TERMINALS: **NO CODE**
PRINTED CIRCUIT TERMINALS: **CODE T**

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**

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

WIRING DIAGRAM
(VIEWED FROM PIN END)



STANDARD PART NUMBERS	CONTACT CONFIGU-RATION	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			
300XBX69C1-125D	DPDT	110 VDC	10,000 Ω
300XBX69C1-24D	DPDT	24 VDC	470 Ω
300XBX69C1-12D	DPDT	12 VDC	51 Ω

* Note: Code C recommended to be used with printed circuitterminals 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.

FLANGE MOUNT MINIATURE RELAY

SPST-N.O. & SPDT, 30 AMPS

UL CONTACT LOAD RATINGS TABLE

LOAD	LOAD VOLTAGE	SPST	SPDT		OPERATIONS
		N.O. LOAD	N.O.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.

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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

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

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

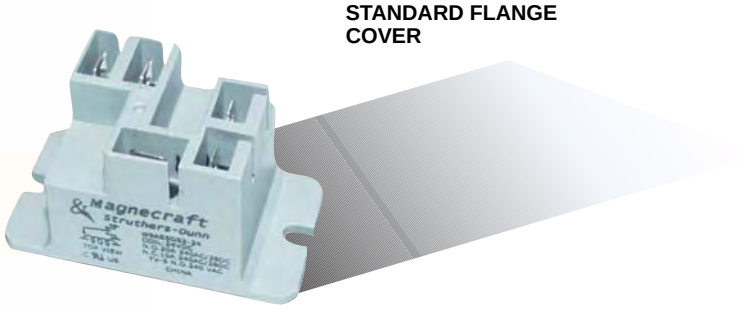
VIBRATION RESISTANCE
- Functional: 10 to 55Hz 1.65 mm max. No contact opening > 100 uS

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

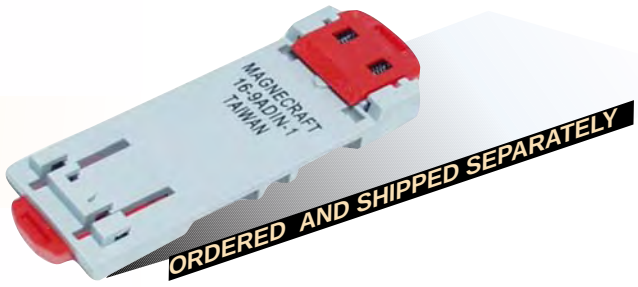
LIFE EXPECTANCY
- Electrical: 100,000 operations @ rated resistive load
- Mechanical: 10,000,000 operations @ no load

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.

STANDARD FLANGE COVER



OPTIONAL DIN ADAPTER 16-9A DIN-1



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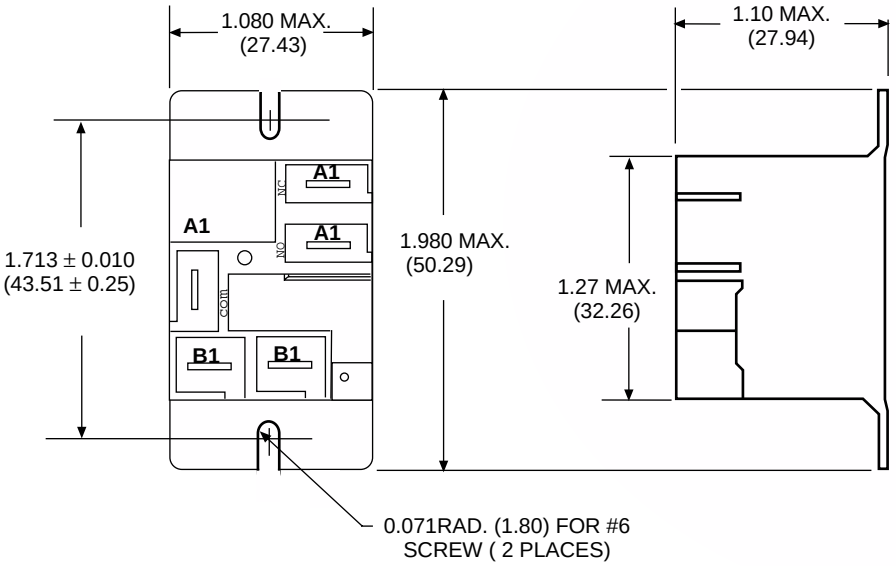
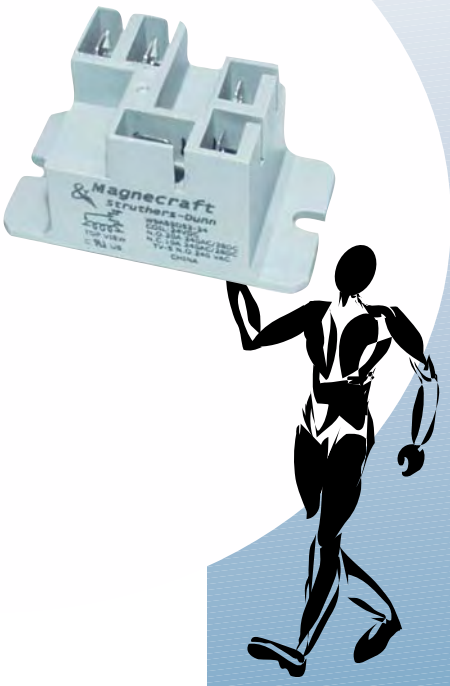
FLANGE MOUNT MINIATURE RELAY

SPST-N.O. & SPDT 30 AMPS

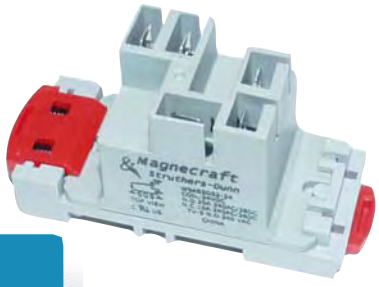
OUTLINE DIMENSIONS

DIMENSIONS SHOWN IN INCHES & (MILLIMETERS).



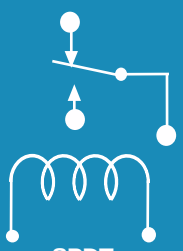


A1 = 0.250 X 0.032 (6.35 X 0.81) Quick Connect Terminal
B1 = 0.187 x 0.020 (4.78 x 0.508) Quick Connect Terminal

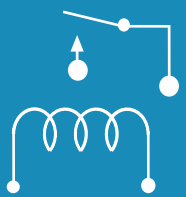


WIRING DIAGRAM

(BOTTON VIEW)



SPDT



SPST-N.O.

STANDARD PART NUMBERS	CONTACT CONFIGU-RATION	COIL MEASURED @ 25°C NOMINAL INPUT VOLTAGE	COIL MEASURED @ 25°C 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	

FLANGE MOUNT RELAY

DPST-N.O. & DPDT 30 AMPS

UL CONTACT LOAD RATINGS TABLE

RATING	LOAD VOLTAGE	DPST-N.O. & DPDT N.O. LOAD	DPDT N.C. LOAD	OPERATIONS
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	120 VAC	TV-10	-	25,000
LRA/FLA‡	240 VAC	96/22	-	30,000
		110/25.3	-	
PILOT DUTY	240 VAC	3 AMP	-	6,000

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File No. E43641

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

GENERAL SPECIFICATIONS

COIL

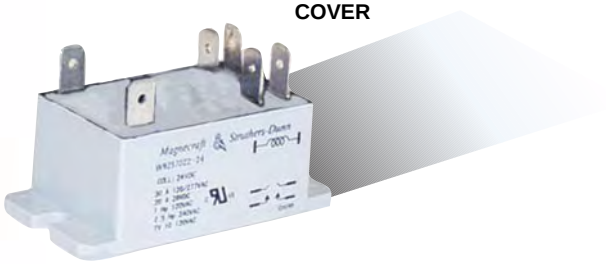
Pull-in Voltage:	80% of nominal voltage or less for AC coils, 75% of nominal voltage or less for DC coils
Dropout Voltage:	10% of nominal voltage or more
Max. Operating Frequency:	14 operations per minute
Nominal Power:	AC coil: 4.0 VA, DC coil: 1.7W
Insulation System:	Class "F" (155˚C)
Coil Resistance: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

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

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

STANDARD FLANGE COVER



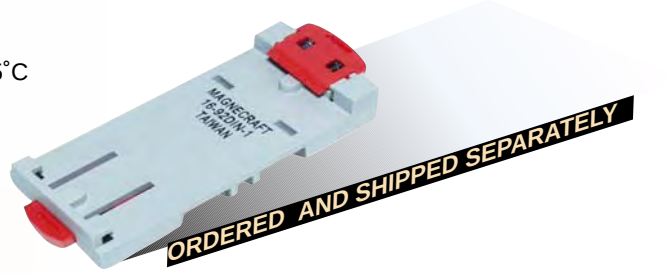
TIMING

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:	10^3 meg Ω min. @ 500 VDC, 25˚C 50% RH

OPTIONAL DIN ADAPTER 16-92 DIN-1



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

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

MISCELLANEOUS

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

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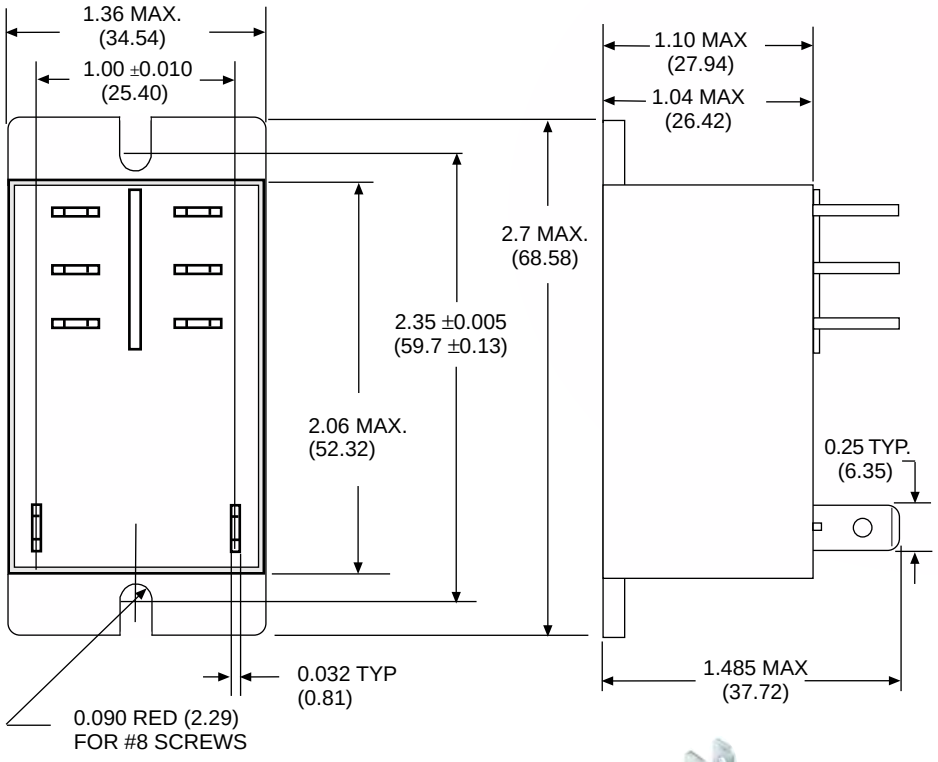
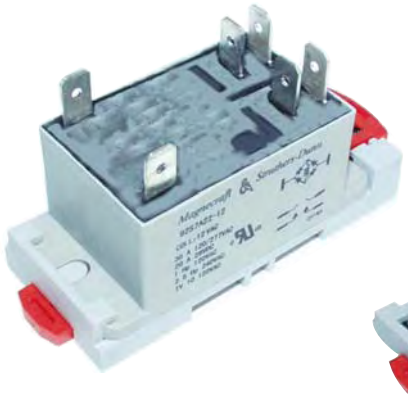
FLANGE MOUNT RELAY

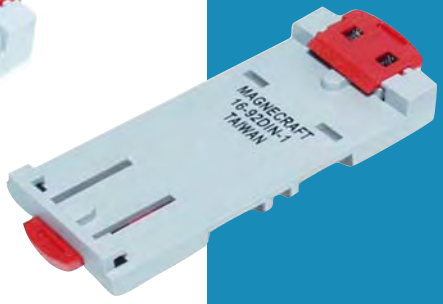
DPST-N.O. & DPDT 30 AMPS

OUTLINE DIMENSIONS

DIMENSIONS SHOWN IN INCHES & (MILLIMETERS).



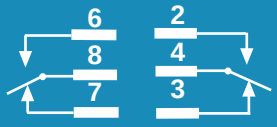




WIRING DIAGRAM

(VIEWED FROM PIN END)

DPST-N.O.



DPDT

STANDARD PART NUMBERS	COIL MEASURED @ 25˚C CONTACT CONFIGU-RATION	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

MINIATURE ENCLOSED INDUSTRIAL RELAY

DPDT THRU 6PDT, 3 & 5 AMPS

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File No. E52197

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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

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.

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 (60 Hz) 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

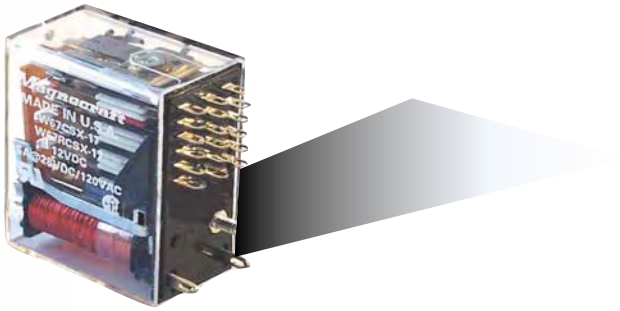
Operating:	-55˚C to +70˚C
Storage:	-55˚C to +105˚C

LIFE EXPECTANCY

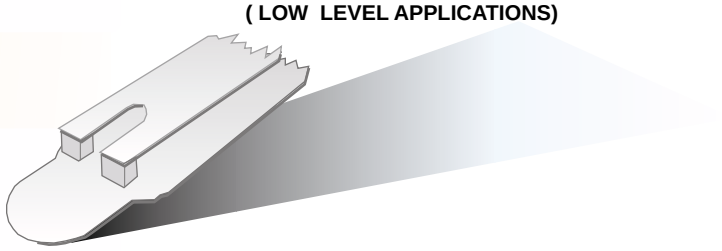
Electrical:	200,000 operations @ rated resistive load
Mechanical:	1,000,000 operations @ no load

MISCELLANEOUS

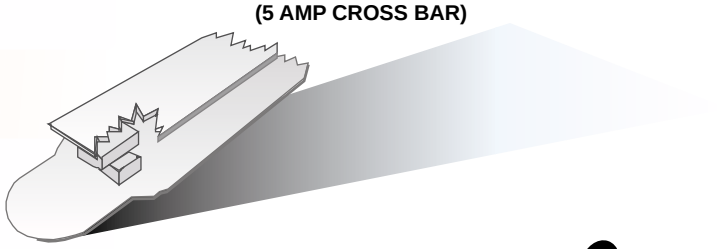
Operating Position:	Any
Insulation Material	Molded plastic
Enclosure:	Polycarbonate dust cover
Weight:	22 to 40 grams approx.



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

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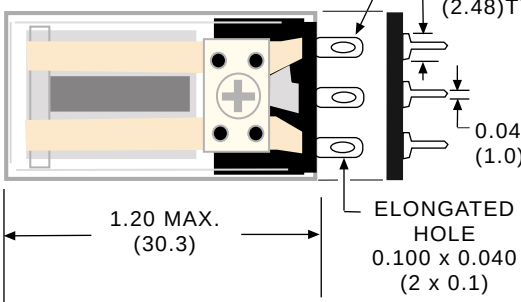
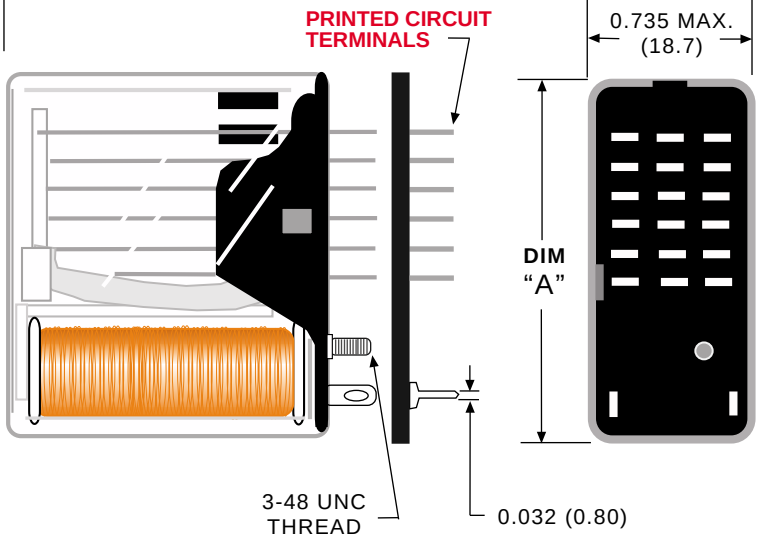
MINIATURE ENCLOSED INDUSTRIAL RELAY

DPDT THRU 6PDT, 3 & 5 AMPS

OUTLINE DIMENSIONS

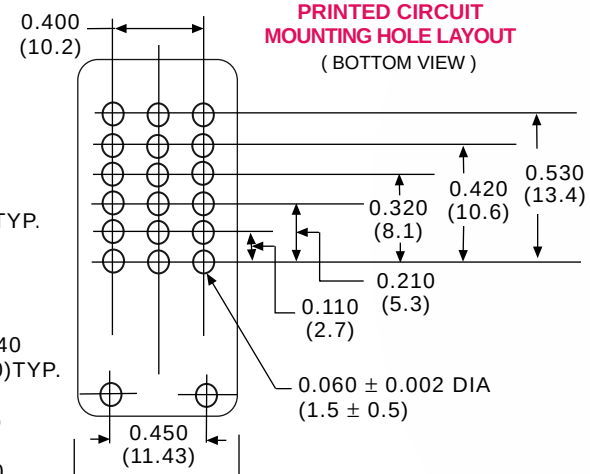
DIMENSIONS SHOWN IN INCHES & (MILLIMETERS).





PRINTED CIRCUIT MOUNTING HOLE LAYOUT

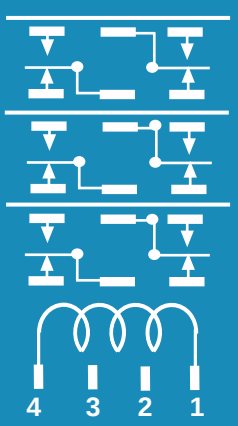
(BOTTOM VIEW)



STANDARD PART NUMBERS	CONTACT CONFIGU-RATION	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

WIRING DIAGRAM

(VIEWED FROM PIN END)



DIMENSIONS

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

RETROFITS POTTER & BRUMFIELD R10.

SEE END OF SECTION 1 FOR CROSS REFERENCE

PLUG-IN RELAY WITH INTEGRAL LOCKING CLIP

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

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168986

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

WHEN USED WITH SOCKETS **27390** OR **33377**

CURRENT LIMITED TO RATING OF RELAY OR SOCKET WHICHEVER IS LESS

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

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 Inrush (Open)	Milliamperes Sealed (Pull-In)	Impedance Ohms	Nominal Voltage	Resistance Ohms ±10%	Milliamperes Cold	Milliamperes 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

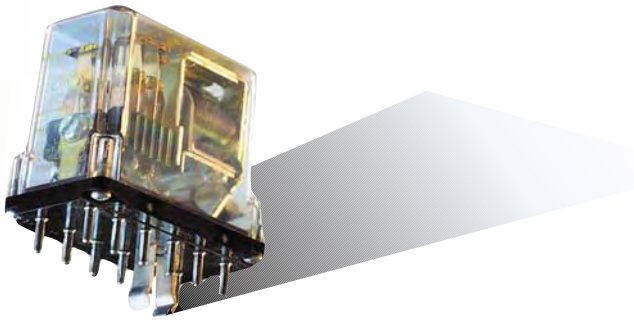
TIMING
Operate Time: 25 mS max. @ nominal voltage
Release Time: 20 mS max. @ nominal voltage

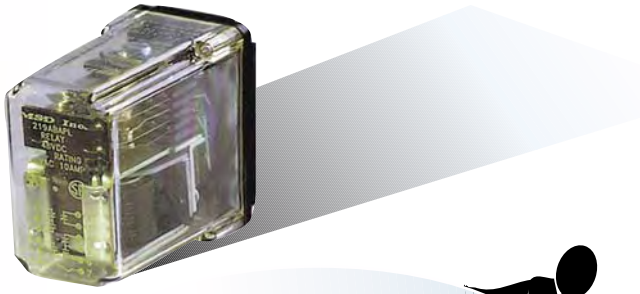
DIELECTRIC STRENGTH
All Mutually Insulated Points: 1500 V rms

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

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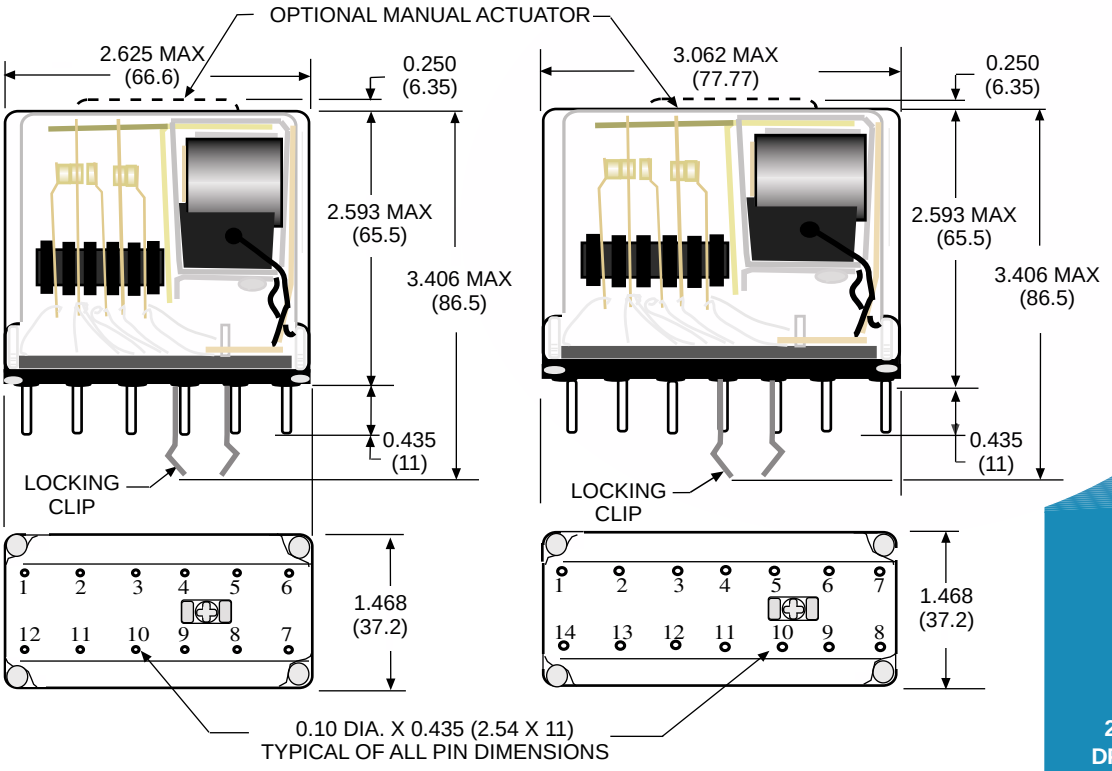
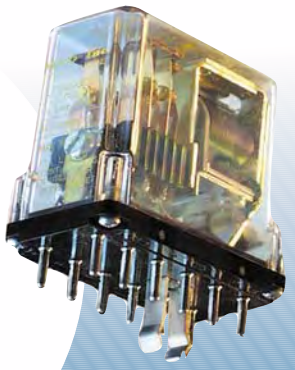
PLUG-IN RELAY WITH INTEGRAL LOCKING CLIP

12 & 14 PIN, 10 AMPS

OUTLINE DIMENSIONS

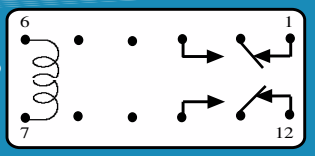
DIMENSIONS SHOWN IN INCHES & (MILLIMETERS).

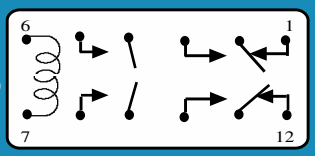


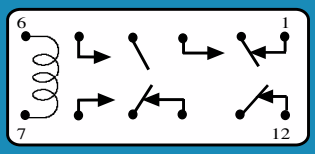


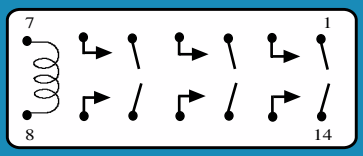
WIRING DIAGRAMS

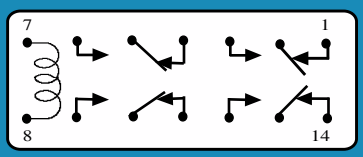
(VIEWED FROM PIN END)

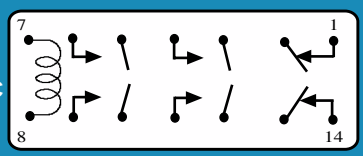












THE SERIES 219 GENERAL PURPOSE INDUSTRIAL PLUG-IN RELAYS FEATURE 12 PIN AND 14 PIN BASES. THE COIL IS ENCAPSULATED FOR PROTECTION. NUCLEAR QUALIFIED VERSIONS ARE AVAILABLE. CONSULT FACTORY.

ORDERING CODE FOR RELAYS

219 XBX P L -24D

CLASS:

CONTACT CONFIGURATION:
DPDT: **XBX**
DPDT +1 POLE: NO & 1 POLE NC: **ABA**
2 POLE: NO & DPDT: **BBX**
4 PDT: **XDX**
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 CONFIGU-RATION	14 PIN MODELS	CONTACT CONFIGU-RATION
219BBXP	DPDT + 2 NO	**219XDXP**	4PDT
219XBXP	DPDT	**219FXXP**	6P-NO
219ABAP	DPDT + 1 NO & 1 NC	**219DXBP**	4P-NO + 2P-NC

CLASS **750H**

OCTAL STYLE HERMETICALLY SEALED RELAY

DPDT, 12 AMPS
3PDT, 10 AMPS

FEATURES

- VACUUM BAKED & DRY NITROGEN FILLED
- HERMETICALLY SEALED METAL ENCLOSURE
- PLUG-IN STYLE MOUNTING

BENEFITS

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 USED WITH 70-464-1 OR 70-465-1 SOCKETS, THE 750H CAN BE DIN RAIL MOUNTED OR PANEL MOUNTED.

c UL us
UL Recognized
File No. E43641

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

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:	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

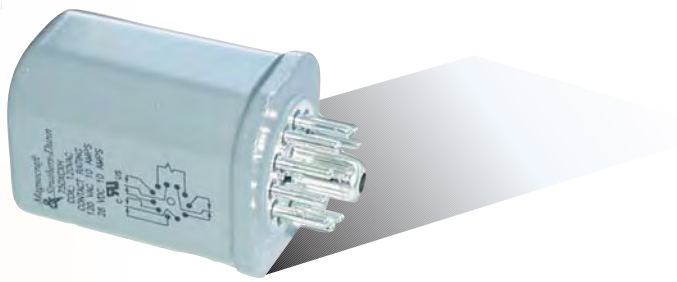
LIFE EXPECTANCY

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

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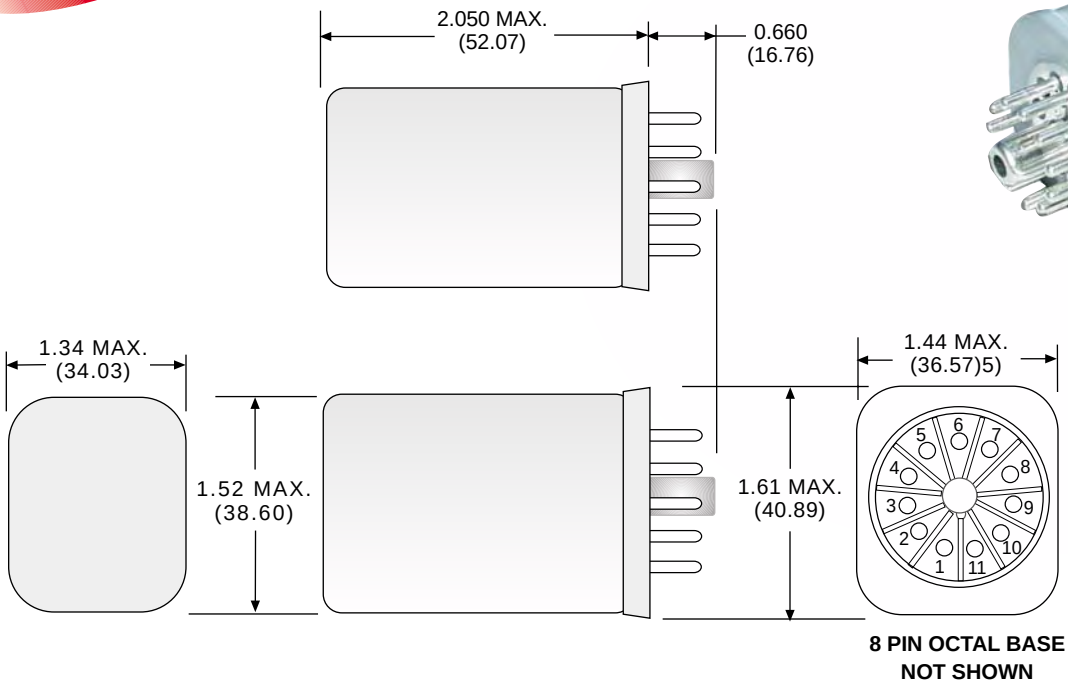
OCTAL STYLE HERMETICALLY SEALED RELAY

DPDT, 12 AMPS
3PDT, 10 AMPS

NEW From The Market Leader in Industrial Relays

OUTLINE DIMENSIONS

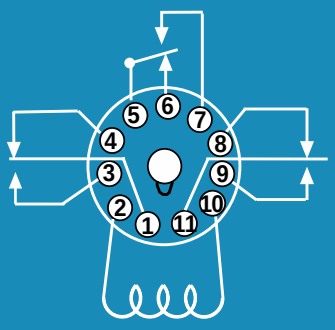
DIMENSIONS SHOWN IN INCHES & (MILLIMETERS).



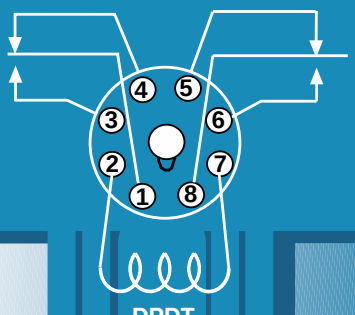
8 PIN OCTAL BASE
NOT SHOWN

WIRING DIAGRAMS

(VIEWED FROM PIN END)



3PDT



DPDT

STANDARD PART NUMBERS	CONTACT CONFIGU-RATION	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

FLASH TRANSFER POWER RELAY

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

c UL us — UL Recognized File No. E43641

CSA 168986

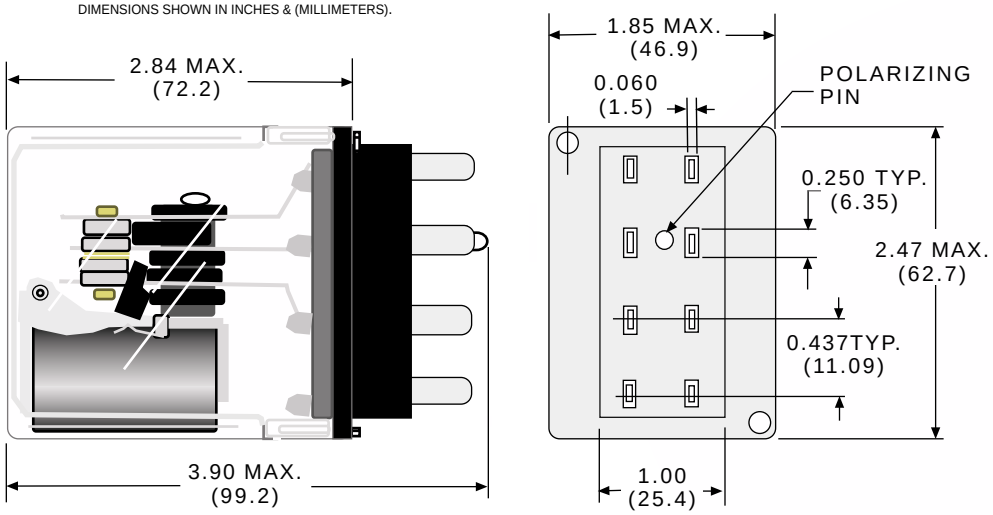
MANUFACTURED UNDER ISO 9002

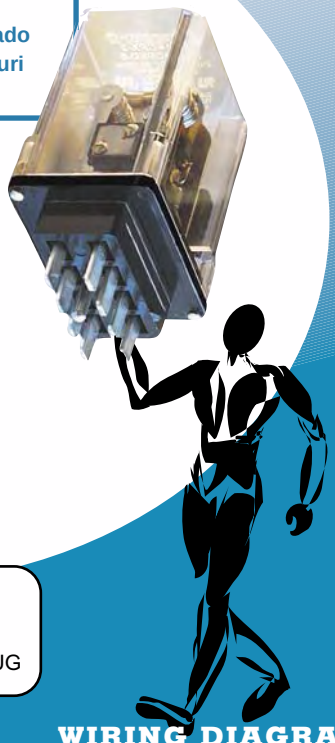
EXCEEDS NEMA STD. TS 2- 1992 APPROVED BY D.O.T FOR:

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

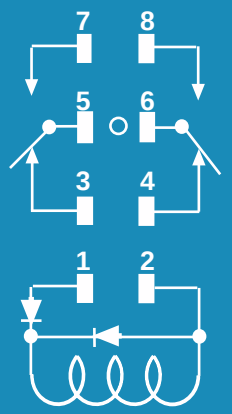
MISCELLANEOUS

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)



RECTIFIED COIL

SWITCHES TUNGSTEN LAMP LOADS UP TO 20 AMPS

STANDARD PART NUMBER	CONTACT CONFIGURATION	COIL MEASURED @ 25˚C NOMINAL INPUT VOLTAGE	NOMINAL POWER
AC RECTIFIED - PLUG-IN, 30 AMP			
W21ACPX-2	DPDT	120 VAC, 50/60Hz	4.0 VA

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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
782XDXH10-24A	KHS17A11-24	MY4H-US-24VAC
782XDXH10-120A	KHS17A11-120	MY4H-US-120VAC
782XDXH10-12D	KHS17D11-12	MY4H-US-12VDC
782XDXH10-24D	KHS17D11-24	MY4H-US-24VDC
782XDXH10-110D	KHS17D11-110	-
782XDXH21-120A	KHS17A12-120	-
782XDXH21-12D	KHS17D12-12	-
782XDXH21-24D	KHS17D12-24	-

MAGNECRAFT & STRUTHERS-DUNN	FINDER	TYCO / SCHRACK (PT REPLACES ZT)		ALLEN-BRADLEY
782XDX2M4L-24A	55.34.8024.20.54	PT570524	ZT570524	700-HC24A24-1-4
782XDX2M4L-120A	55.34.8120.20.54	PT570615	ZT570615	700-HC24A1-1-4
782XDX2M4L-240A	55.34.8240.20.54	PT570730	ZT570730	700-HC24A2-1-4
782XDX2M4L-12D	55.34.9012.20.54	PT570012	ZT570012	700-HC24Z12-1-4
782XDX2M4L-24D	55.34.9024.20.54	PT570024	ZT570024	700-HC24Z24-1-4
782XDX2M4L-110D	55.34.9110.20.54	PT570110	ZT570110	700-HC24Z1-1-4
782XBX2M4L-24A	56.32.8024.20.54	PT270524	ZT270524	
782XBX2M4L-120A	56.32.8120.20.54	PT270615	ZT270615	
782XBX2M4L-240A	56.32.8240.20.54	PT270730	ZT270730	
782XBX2M4L-12D	56.32.9012.20.54	PT270012	ZT270012	
782XBX2M4L-24D	56.32.9024.20.54	PT270024	ZT270024	
782XBX2M4L-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
782XBX2C-24A	RY2S-U-AC24V	MY2-AC24
782XBX2C-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.

Magnecraft & Struthers-Dunn
Your Contact for Industrial Relays

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**			
784XDXM4L-24A	RH4B-ULC-AC24	LY414N-AC24			
784XDXM4L-120A	RH4B-ULC-AC120	LY414N-AC120			
784XDXM4L-240A	RH4B-ULC-AC240	LY414N-AC240			
784XDXM4L-12D	RH4B-ULC-DC12	LY414N-DC12			
784XDXM4L-24D	RH4B-ULC-DC24	LY414N-DC24			
784XDXM4L-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**			
784XDXC-24A	RH4B-U-AC24	LY4-AC24			
784XDXC-120A	RH4B-U-AC120	LY4-AC120			
784XDXC-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.

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Your Contact for Industrial Relays

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		

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.
* 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
750XBXM4L-24A	KRPA-11ANFP-24	MT228024	MK2PN-S-AC24	700HA32A24-1-4
750XBXM4L-120A	KRPA-11ANFP-120	MT228115	MK2PN-S-AC120	700HA32A1-1-4
750XBXM4L-240A	KRPA-11ANFP-240	MT228230	MK2PN-S-AC240	700HA32A2-1-4L
750XBXM4L-12D	KRPA-11DNFP-12	MT223012	MK2PN-S-DC12	700HA32Z12-1-4
750XBXM4L-24D	KRPA-11DNFP-24	MT223024	MK2PN-S-DC24	700HA32Z24-1-4

MAGNECRAFT & STRUTHERS-DUNN	TYCO / POTTER & BRUMFIELD	TYCO / SCHRACK	OMRON	ALLEN - BRADLEY
750XBXM4L-110D	KRPA-11DNFP-110	MT223110	MK2PN-S-DC110	700HA32Z1-1-4
750XCXM4L-24A	KRPA-14ANFP-24	MT328024	MK3PN-S-AC24	700HA33A24-1-4
750XCXM4L-120A	KRPA-14ANFP120	MT328115	MK3PN-S-AC120	700HA33A1-1-4
750XCXM4L-240A	KRPA-14ANFP-240	MT328230	MK3PN-S-AC240	700HA33A2-1-4L
750XCXM4L-12D	KRPA-14DNFP-12	MT323012	MK3PN-S-DC12	700HA33Z12-1-4
750XCXM4L-24D	KRPA-14DNFP-24	MT323024	MK3PN-S-DC24	700HA33Z24-1-4
750XCXM4L-110D	KRPA-14DNFP-110	MT323110	MK3PN-S-DC110	700HA33Z1-1-4

MAGNECRAFT & STRUTHERS-DUNN	TYCO / POTTER & BRUMFIELD	IDEC	DELTROL
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
788XBXM4L-24A	KUP-11A45 (or F) -24	700HB32A24-1-4
788XBXM4L-120A	KUP-11A45- (or F) 120	700HB32A1-1-4
788XBXM4L-240A	KUP-11A45- (or F) 240	700HB32A2-1-4L
788XBXM4L-12D	KUP-11D45- (or F) 12	700HB32Z12-1-4
788XBXM4L-24D	KUP-11D45- (or F) 24	700HB32Z24-1-4
788XBXM4L-110D	KUP-11D45- (or F) 110	700HB32Z1-1-4
788XCXM4L-24A	KUP-14A45- (or F) 24	700HB33A24-1-4
788XCXM4L-120A	KUP-14A45- (or F) 120	700HB33A1-1-4
788XCXM4L-240A	KUP-14A45- (or F) 240	700HB33A2-1-4L
788XCXM4L-12D	KUP-14D45- (or F) 12	700HB33Z12-1-4
788XCXM4L-24D	KUP-14D45- (or F) 24	700HB33Z24-1-4
788XCXM4L-110D	KUP-14D45- (or F) 110	700HB33Z1-1-4

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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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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	
388JXBXCM-240A	KUMP-11A28-240	RM232740	6232 8240 0040
388JXBXCM-120A	KUMP-11A28-120	RM232615	6232 8120 0040
388JXBXCM-12D	KUMP-11D28-12	RM232012	6232 9012 0040
388JXBXCM-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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MAGNECRAFT & STRUTHERS-DUNN	TYCO / POTTER & BRUMFIELD
W389CX-7	
W389CX-8	
W389CX-12	
W389CX-13	

MAGNECRAFT & STRUTHERS-DUNN	DELTROL
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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W67RCSX-3	R10E1(X or Y)2-V700
W67RCSX-4	R10E1(X or Y)2-V2.5K
W67RCSX-5	R10E1(X or Y2-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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