

## FEATURES

## BENEFITS

**FLAG INDICATOR:**

SHOWS RELAY STATUS IN MANUAL OR POWERED CONDITION.

**BI - POLAR L.E.D. STATUS LAMP:**

ALLOWS FOR REVERSE POLARITY APPLICATIONS, SHOWS COIL "ON" OR "OFF" STATUS. IDEAL IN LOW LIGHT CONDITIONS.

**COLOR CODED PUSH BUTTON:**

IDENTIFIES AC COILS WITH RED OR DC COILS WITH BLUE PUSH BUTTONS. 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.

**WHITE PLASTIC 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 700 RELAYS TO BE DIRECT MOUNTED TO A DIN RAIL OR PANEL.



UL Recognized  
File No. E43641



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



LISTED 367G  
IND. CONT. EQ.

WHEN USED WITH SOCKETS:

781:70-781D-1

782:70-782D-1

70-459-1

70-461-1

783:70-783D-1

784:70-784D-1

CURRENT LIMITED TO RATING OF RELAY OR SOCKET WHICHEVER IS LESS

**MANUFACTURED UNDER ISO 9002 & QS 9000**

**781**  
SPDT  
15 AMPS



**782**  
SPDT  
20 AMPS  
DPDT  
15 AMPS



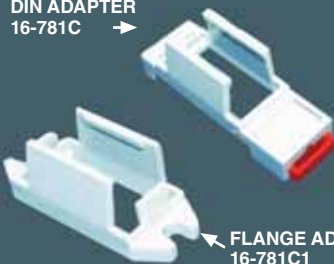
**783**  
3PDT  
15 AMPS



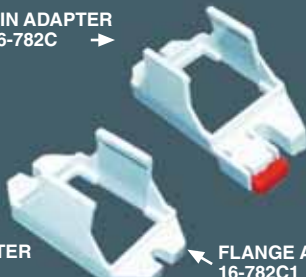
**784**  
4PDT  
15 AMPS



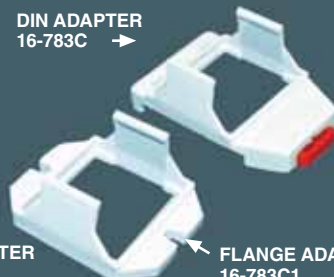
DIN ADAPTER  
16-781C



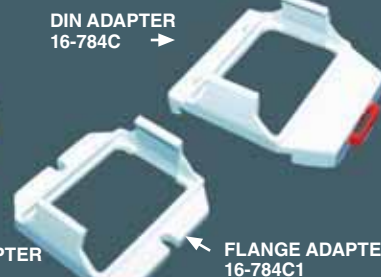
DIN ADAPTER  
16-782C



DIN ADAPTER  
16-783C



DIN ADAPTER  
16-784C



FLANGE ADAPTER  
16-781C1

FLANGE ADAPTER  
16-782C1

FLANGE ADAPTER  
16-783C1

FLANGE ADAPTER  
16-784C1

OPTIONAL ADAPTERS ORDERED SEPARATELY





## GENERAL SPECIFICATIONS (@ 25°C)

	UNITS	781XAX	782XAX	782XBX	783	784
<b>COIL</b>						
Pull-in Voltage AC (50/60 Hz):≤	% of nominal	85	85	85	85	85
Pull-in Voltage DC:≤	% of nominal	80	80	80	80	80
Dropout Voltage AC (50/60 Hz):≥	% of nominal	10	10	10	10	10
Dropout Voltage DC:≥	% of nominal	10	10	10	10	10
Maximum Voltage:	% of nominal	110	110	110	110	110
Resistance:	% ±	15	15	15	15	15
Coil Power AC (60 Hz):	VA	0.9	1.2	1.2	1.5	1.5
Coil Power DC:	W	0.7	0.9	0.9	1.7	2
Insulation System Per UL Standard 1446:		Class B (130 °C)	Class B (130 °C)	Class B (130 °C)	Class B (130 °C)	Class B (130 °C)
Maximum Coil Dissipation, AC (60 Hz):	VA	2.55	2.55	2.55	3	3
Maximum Coil Dissipation, DC:	W	2.3	2.3	2.3	3.4	2.3
Duty:		Continuous	Continuous	Continuous	Continuous	Continuous
<b>CONTACTS</b>						
Contact Material:		Silver alloy, gold flashed	Silver alloy, gold flashed	Silver alloy, gold flashed	Silver alloy, gold flashed	Silver alloy, gold flashed
Contact Rating AC Amperes (AC1):	A	15	20	15 / 12	15 / 12	15 / 12
Contact Rating AC Voltage:	V	277	277	120 / 277	120 / 277	120 / 277
Contact Rating DC Amperes (DC1):	A	15 / 0.5	20 / 0.5	12 / 0.5	15 / 0.5	15 / 0.5
Contact Rating DC Voltage:	V	28 / 220	28 / 220	28 / 220	28 / 220	28 / 220
General Purpose Rating (75%-80% pf):	A @ V	10 @ 240				
Horse Power (AC):	HP	1/2 @ 120 V	1/2 @ 120 V	1/2 @ 120 V	1/2 @ 120 V	1/2 @ 120 V
Horse Power (AC):	HP	1 @ 250 V	1 @ 250 V	1 @ 250 V	3/4 @ 250 V	3/4 @ 250 V
Pilot Duty (60 Hz):		B300	B300	B300	B300	B300
Utilization Category:	IEC	AC15	AC15	AC15	AC15	AC15
VA Rating Make:	VA	3600	3600	3600	3600	3600
VA Rating Break:	VA	360	360	360	360	360
Minimum Recommended Load:	ma	100 @ 5 VDC or 0.5 W	100 @ 5 VDC or 0.5 W	100 @ 5 VDC or 0.5 W	100 @ 5 VDC or 0.5 W	100 @ 5 VDC or 0.5 W
<b>TIMING</b>						
Operate Time:	ms	20	20	25	25	20
Release Time:	ms	20	20	20	20	20
<b>DIELECTRIC STRENGTH</b>						
Coil to Contacts:	V rms	2500	2500	2500	2500	2500
Across Open Contacts:	V rms	1500	1500	1000	1000	1000
Pole to Pole:	V rms			2500	2500	2500
Insulation Resistance:	megohms minimum @ VDC	100 @ 500	100 @ 500	100 @ 500	100 @ 500	100 @ 500
<b>VIBRATION RESISTANCE</b>						
Functional:	g's	10-55 Hz, 6 g's, 1mm double amplitude	10-55 Hz, 6g's 1mm double amplitude	10-55 Hz, 6g's 1mm double amplitude	10-55 Hz, 6g's 1mm double amplitude	10-55 Hz, 6g's 1mm double amplitude
<b>SHOCK RESISTANCE</b>						
Functional:	g's	10	10	10	10	10
<b>TEMPERATURE</b>						
Operating, AC Lower:	°C	-40	-40	-40	-40	-40
Operating, AC Upper:	°C	+70	+70	+70	+70	+70
Operating, DC Lower:	°C	-40	-40	-40	-40	-40
Operating, DC Upper:	°C	+70	+70	+70	+70	+70
Storage, Lower:	°C	-40	-40	-40	-40	-40
Storage, Upper:	°C	+105	+105	+105	+105	+105
<b>LIFE EXPECTANCY</b>						
Electrical @ Rated Load (AC1):	operations	15 A: 100,000 20 A: 50,000	100,000	200,000	150,000	150,000
Mechanical @ no Load :	operations	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000
<b>MISCELLANEOUS</b>						
Operating Position:		Any	Any	Any	Any	Any
Insulation Material:	94V-0	Molded plastic	Molded plastic	Molded plastic	Molded plastic	Molded plastic
Enclosure Material:	94V-0	Polycarbonate	Polycarbonate	Polycarbonate	Polycarbonate	Polycarbonate
Cover Protection Category:	IP	40	40	40	40	40
Terminals:	Inch (mm)	0.187, 0.1, 0.08 x 0.020 (4.47, 2.54, 2.03 x 0.508)	0.187, 0.08 x 0.020 (4.47, 2.03 x 0.508)	0.187, 0.08 x 0.020 (4.47, 2.03 x 0.508)	0.187, 0.08 x 0.020 (4.47, 2.03 x 0.508)	0.187, 0.08 x 0.020 (4.47, 2.03 x 0.508)
Weight:	grams	29	36	36	60	80

# 782/78 - 2 POLE "ICE CUBE" POWER RELAYS



## DPDT, 15 AMPS

### WIRING DIAGRAM (VIEWED FROM PIN END)



ALTERNATE NEMA  
OR IEC ( ) NUMBERS  
VIEWED FROM  
PIN SIDE

### OUTLINE DIMENSIONS DIMENSIONS SHOWN IN INCHES & (MILLIMETERS).



### QUICK CONNECT SOLDER / PLUG-IN TERMINALS

### PRINTED CIRCUIT TERMINALS

### PRINTED CIRCUIT MOUNTING HOLE LAYOUT (TOP VIEW)



### ORDERING CODE

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

**CLASS:** \_\_\_\_\_  
**CONTACT CONFIGURATION:**  
 DPDT: **XBX**  
**OPTIONAL PLAIN COVER:** \_\_\_\_\_  
**CODE C**  
**TERMINAL STYLE:** \_\_\_\_\_  
 QUICK CONNECTSOLDER/  
 PLUG-IN TERMINALS: **NO CODE**  
 PRINTED CIRCUIT TERMINALS:  
**CODE T**

**FULL FEATURED VERSION:** \_\_\_\_\_  
 PUSH BUTTON &  
 LOCK-DOWN DOOR: **CODE M4**  
 BI - POLAR L.E.D. STATUS LAMP: **CODE L**

**OPTIONAL FULL FEATURED DELETION:** \_\_\_\_\_  
 PUSH BUTTON WITHOUT  
 LOCK-DOWN DOOR: **CODE M**

**OPTIONAL PLAIN COVER FEATURES:** \_\_\_\_\_  
 PUSH BUTTON WITHOUT  
 LOCK-DOWN DOOR: **CODE M**  
 POLARIZED L.E.D. STATUS LAMP: **CODE L**  
 (OBSERVE POLARITY+)

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



**Mating Sockets**  
 70-782D-1, 70-459-1: SCREW/DIN  
 70-402-1: PRINTED CIRCUIT  
 70-401-1: SOLDER TERMINAL  
 See section 7

STANDARD PART NUMBERS			COIL MEASURED @ 25°C	
FULL FEATURED	PLAIN COVER WITH FLAG		NOMINAL INPUT VOLTAGE	NOMINAL RESISTANCE (OHMS)
<b>SOLDER/PLUG-IN, 15 AMP</b>				
		<b>DUAL MARKED</b>		
		<b>NEW PART NUMBER</b>	<b>SUPERCEDES</b>	
		782XBXC-6A	W78ARCSX-7	6 VAC, 50/60Hz
782XBXM4L-24A	782XBXC-24A	W78ARCSX-9	24 VAC, 50/60Hz	180 Ω
782XBXM4L-120A	782XBXC-120A	W78ARCSX-11	110/120 VAC, 50/60Hz	4,430 Ω
782XBXM4L-220/230A			220/230 VAC, 50/60Hz	15,000 Ω
782XBXM4L-240A	782XBXC-240A	W78ARCSX-12	240 VAC, 50/60Hz	15,700 Ω
	782XBXC-6D	W78RCSX-6	6 VDC	40 Ω
782XBXM4L-12D	782XBXC-12D	W78RCSX-7	12 VDC	160 Ω
782XBXM4L-24D	782XBXC-24D	W78RCSX-8	24 VDC	650 Ω
	782XBXC-48D	W78RCSX-9	48 VDC	2600 Ω
782XBXM4L-110D	782XBXC-110D	W78RCSX-10	110/125 VDC	11,000 Ω
<b>PRINTED CIRCUIT, 15 AMP</b>				
	782XBXC-24A	W78ARPCX-3	24 VAC, 50/60Hz	180 Ω
	782XBXC-120A	W78ARPCX-6	110/120 VAC, 50/60Hz	4,430 Ω
	782XBXC-6D	W78RPCX-1	6 VDC	40 Ω
	782XBXC-12D	W78RPCX-2	12 VDC	160 Ω
	782XBXC-24D	W78RPCX-3	24 VDC	650 Ω

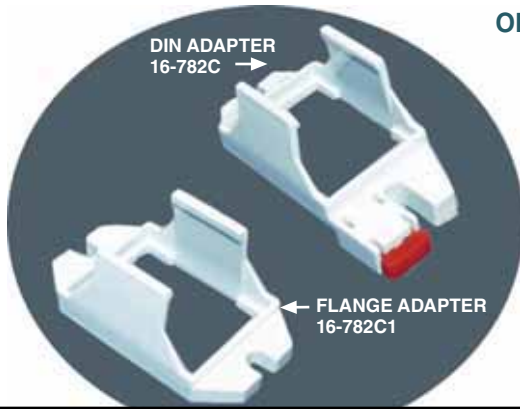
NOTE: CLASS 782C IS AN ENHANCED VERSION OF THE 78, IT HAS SUPERIOR RATINGS, A FLAG INDICATOR, & DISPLAYS BOTH PART NUMBERS.

# 782 - 2 & 4 POLE "ICE CUBE" CONTROL RELAY



## DPDT & 4PDT, 1, 3, 5 & 10 AMPS

OPTIONAL ADAPTERS  
ORDERED SEPARATELY



**Mating Sockets**  
70-461-1, SCREW/DIN  
70-378-1: SOLDER  
70-379-1: PRINTED CIRCUIT  
See section 7

STANDARD PART NUMBERS				COIL MEASURED @ 25 °C	
FULL FEATURED	PLAIN COVER WITH FLAG	HERMETICALLY SEALED	FULL FEATURED	NOMINAL INPUT VOLTAGE	NOMINAL RESISTANCE (OHMS)
4PDT				DPDT	
<b>SOLDER/PLUG -IN, BIFURCATED CONTACTS 3 AMP</b>					
	DUAL MARKED				
	NEW PART NUMBER	SUPERCEDES			
782XDX3M4L-24A	782XDX3C-12A	W78ATCSX-2		12 VAC, 50/60 Hz	46 Ω
782XDX3M4L-120A	782XDX3C-24A	W78ATCSX-3	782XBX3M4L-24A	24 VAC, 50/60 Hz	180 Ω
782XDX3M4L-220/230A	782XDX3C-120A	W78ATCSX-5	782XBX3M4L-120A	110/120 VAC, 50/60 Hz	4,430 Ω
782XDX3M4L-240A	782XDX3C-220/230A		782XBX3M4L-220/230A	220/230 VAC, 50/60 Hz	15,000 Ω
	782XDX3C-240A	W78ATCSX-6	782XBX3M4L-240A	240 VAC, 50/60 Hz	15,700 Ω
	782XDX3C-6D	W78TCSX-1		6 VDC	
782XDX3M4L-12D	782XDX3C-12D	W78TCSX-2	782XBX3M4L-12D	12 VDC	160 Ω
782XDX3M4L-24D	782XDX3C-24D	W78TCSX-3	782XBX3M4L-24D	24 VDC	650 Ω
782XDX3M4L-110D	782XDX3C-110D	W78TCSX-5	782XBX3M4L-110D	110/125 VDC	11,000 Ω
<b>SOLDER/PLUG -IN, CONTACTS 3 AMP</b>					
	782XDX1C-12A	W78ACXSX-2		12 VAC, 50/60 Hz	46 Ω
782XDX1M4L-24A	782XDX1C-24A	W78ACXSX-3	782XDXH10-24A	24 VAC, 50/60 Hz	180 Ω
782XDX1M4L-120A	782XDX1C-120A	W78ACXSX-5	782XDXH10-120A	110/120 VAC, 50/60 Hz	4,430 Ω
782XDX1M4L-220/230A	782XDX1C-220/230A			220/230 VAC, 50/60 Hz	15,000 Ω
782XDX1M4L-240A	782XDX1C-240A	W78ACXSX-6		240 VAC, 50/60 Hz	15,700 Ω
	782XDX1C-6D	W78CSX-1		6 VDC	
782XDX1M4L-12D	782XDX1C-12D	W78CSX-2	782XDXH10-12D	12 VDC	160 Ω
782XDX1M4L-24D	782XDX1C-24D	W78CSX-3	782XDXH10-24D	24 VDC	650 Ω
782XDX1M4L-110D	782XDX1C-110D	W78CSX-6	782XDXH10-110D	110/125 VDC	11,000 Ω
<b>SOLDER/PLUG -IN, CONTACTS 10 AMP</b>					
782XDX2M4L-24A	782XDX2C-24A	W78KACSX-15		24 VAC, 50/60 Hz	180 Ω
782XDX2M4L-120A	782XDX2C-120A	W78KACSX-17	782XDXH21-120A	110/120 VAC, 50/60 Hz	4,430 Ω
782XDX2M4L-220/230A	782XDX2C-220/230A			220/230 VAC, 50/60 Hz	15,000 Ω
782XDX2M4L-240A	782XDX2C-240A	W78KACSX-18		240 VAC, 50/60 Hz	15,700 Ω
782XDX2M4L-12D	782XDX2C-12D	W78KCSX-12	782XDXH21-12D	12 VDC	160 Ω
782XDX2M4L-24D	782XDX2C-24D	W78KCSX-13	782XDXH21-24D	24 VDC	650 Ω
782XDX2M4L-110D	782XDX2C-110D			110/125 VDC	11,000 Ω
<b>PRINTED CIRCUIT BIFURCATED CONTACTS 3 AMP</b>					
	782XDX3CT-24A	W78APCX-3		24 VAC, 50/60 Hz	180 Ω
	782XDX3CT-120A	W78APCX-5		110/120 VAC, 50/60 Hz	4430 Ω
	782XDX3CT-12D	W78PCX-2		12 VDC	15700 Ω
	782XDX3CT-24D	W78PCX-3		24 VDC	160 Ω
	782XDX3CT-110D	W78PCX-6		110/125 VDC	11,000 Ω

NOTE: CLASS 782C IS AN ENHANCED VERSION OF THE 78, IT HAS SUPERIOR RATINGS, A FLAG INDICATOR, & DISPLAYS BOTH PART NUMBERS.