

FEATURES

FLAG INDICATOR:

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

COLOR CODED PUSH BUTTON:

LOCK-DOWN DOOR:

FINGER - GRIP COVER:

WHITE PLASTIC I.D. TAG/WRITE LABEL:

COVER ADAPTERS:

BENEFITS

SHOWS RELAY STATUS IN MANUAL OR POWERED CONDITION.

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

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.

WHEN ACTIVATED, HOLDS PUSH BUTTON AND CONTACTS IN THE OPERATE POSITION. EXCELLENT FOR ANALYZING CIRCUIT PROBLEMS.

ALLOWS OPERATOR TO REMOVE RELAYS FROM SOCKETS MORE EASILY THAN CONVENTIONAL RELAYS.

USED FOR IDENTIFICATION OF RELAYS IN MULTI-RELAY CIRCUITS.

DIN RAIL ADAPTER OR TOP/BOTTOM FLANGE ADAPTER, ALLOWS THE 700 RELAYS TO BE DIRECT MOUNTED TO A DIN RAIL OR PANEL.

UL
US
UL Recognized
File No. E43641

SP
40787

TÜV

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

UL
C
US

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



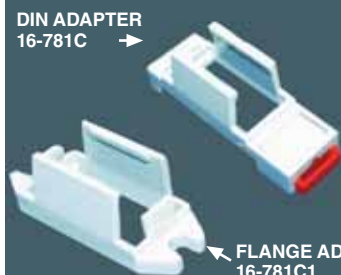
783
3PDT
15 AMPS



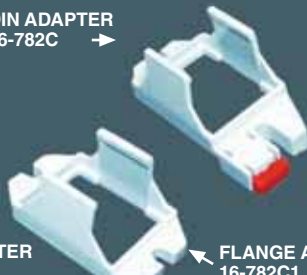
784
4PDT
15 AMPS



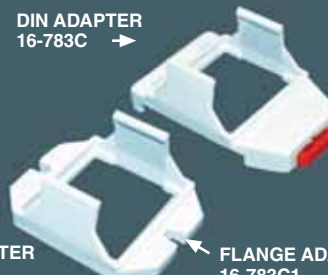
DIN ADAPTER
16-781C →



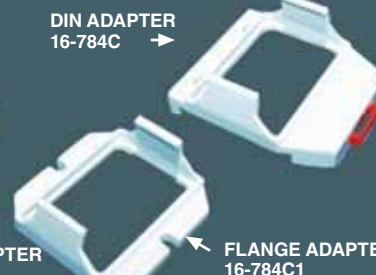
DIN ADAPTER
16-782C →



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
COIL						
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
CONTACTS						
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
TIMING						
Operate Time:	ms	20	20	25	25	20
Release Time:	ms	20	20	20	20	20
DIELECTRIC STRENGTH						
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
VIBRATION RESISTANCE						
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
SHOCK RESISTANCE						
Functional:	g's	10	10	10	10	10
TEMPERATURE						
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
LIFE EXPECTANCY						
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
MISCELLANEOUS						
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

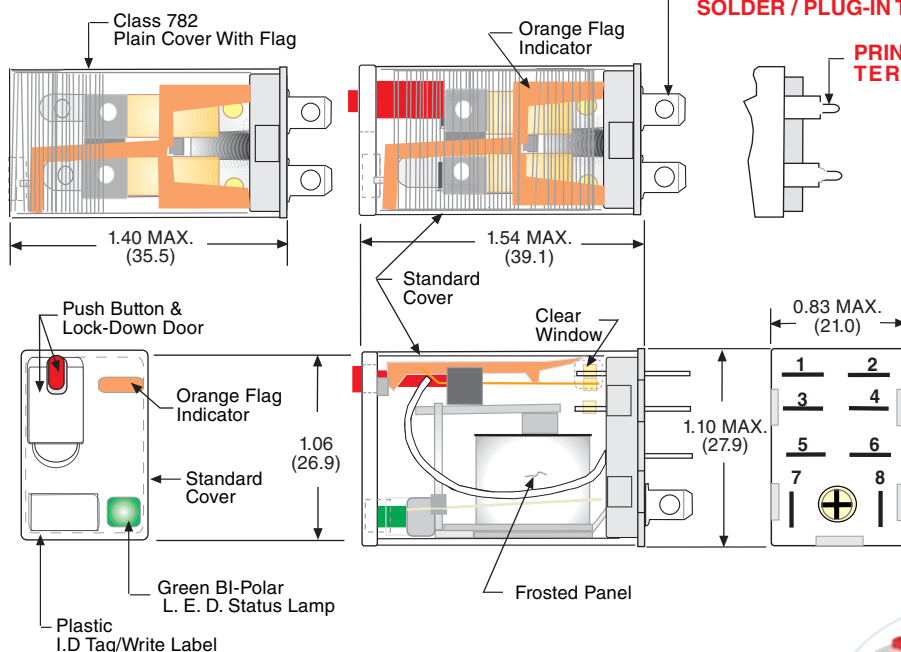
782/78 - 2 POLE "ICE CUBE" POWER RELAYS



DPDT, 15 AMPS

WIRING DIAGRAM
(VIEWED FROM PIN END)

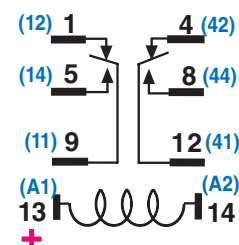
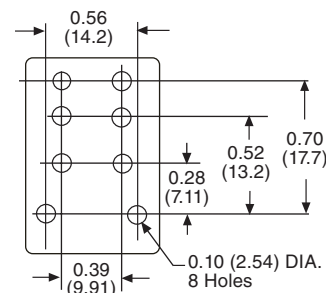
OUTLINE DIMENSIONS
DIMENSIONS SHOWN IN INCHES & (MILLIMETERS).



**QUICK CONNECT
SOLDER / PLUG-IN TERMINALS**

**PRINTED CIRCUIT
TERMINALS**

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



ALTERNATE NEMA
OR IEC () NUMBERS
VIEWED FROM
PIN SIDE

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)
SOLDER/PLUG-IN, 15 AMP				
	DUAL MARKED			
	NEW PART NUMBER	SUPERCEDES		
	782XBXC-6A	W78ARCSX-7	6 VAC, 50/60Hz	9.6 Ω
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
PRINTED CIRCUIT, 15 AMP				
	782XBXCT-24A	W78ARPCX-3	24 VAC, 50/60Hz	180 Ω
	782XBXCT-120A	W78ARPCX-6	110/120 VAC, 50/60Hz	4,430 Ω
	782XBXCT-6D	W78RPCX-1	6 VDC	40 Ω
	782XBXCT-12D	W78RPCX-2	12 VDC	160 Ω
	782XBXCT-24D	W78RPCX-3	24 VDC	650 Ω

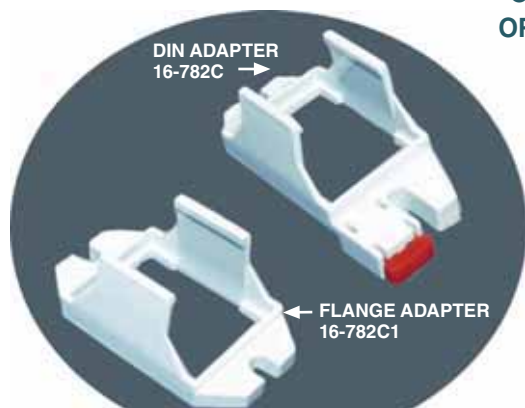
NOTE: CLASS 782C IS AN ENHANCED VERSION OF THE 78, IT HAS SUPERIOR RATINGS, A FLAG INDICATOR, & DISPLAYS BOTH PART NUMBERS.

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					
SOLDER/PLUG -IN, BIFURCATED CONTACTS 3 AMP					
	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
SOLDER/PLUG -IN, CONTACTS 3 AMP					
	782XDX1C-12A	W78ACSX-2		12 VAC, 50/60 Hz	46 Ω
782XDX1M4L-24A	782XDX1C-24A	W78ACSX-3	782XDXH10-24A	24 VAC, 50/60 Hz	180 Ω
782XDX1M4L-120A	782XDX1C-120A	W78ACSX-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	W78ACSX-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
SOLDER/PLUG -IN, CONTACTS 10 AMP					
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
PRINTED CIRCUIT BIFURCATED CONTACTS 3 AMP					
	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.

9/04