

Section















Advantages of the 70-SM Module System

Magnecraft plug in modules are available in many variations allowing coverage for most applications on the market. The Metal Oxide Varistor (MOV) circuit protects by shunting potentially damaging electrical spikes away from the relay coil. The Resistor Capacitor (R/C) circuit snubs back Electro Motive Force (EMF) of relay coil. The Diode circuit protects external drive circuitry from inductive voltages generated when removing coil voltage. Finally, the Light Emitting Diode (LED) circuit is to quickly inform the user when power is present at the coil. All of the plug in modules connect their respective circuits in parallel with the relay coil. No additional wiring is required, and the modules fit within maximum dimensions of relay and socket.

Diode Circuit

Protects External Drive Circuitry from Inductive Voltages Generated when Removing Coil Voltage.

Polarity Sensitive.



LED Circuit

LED Status Lamp Verifies that Power is Being Supplied to the Coil. Ideal for Both AC and DC Applications, Polarity Sensitive for DC Application.



The Complete System Solution!

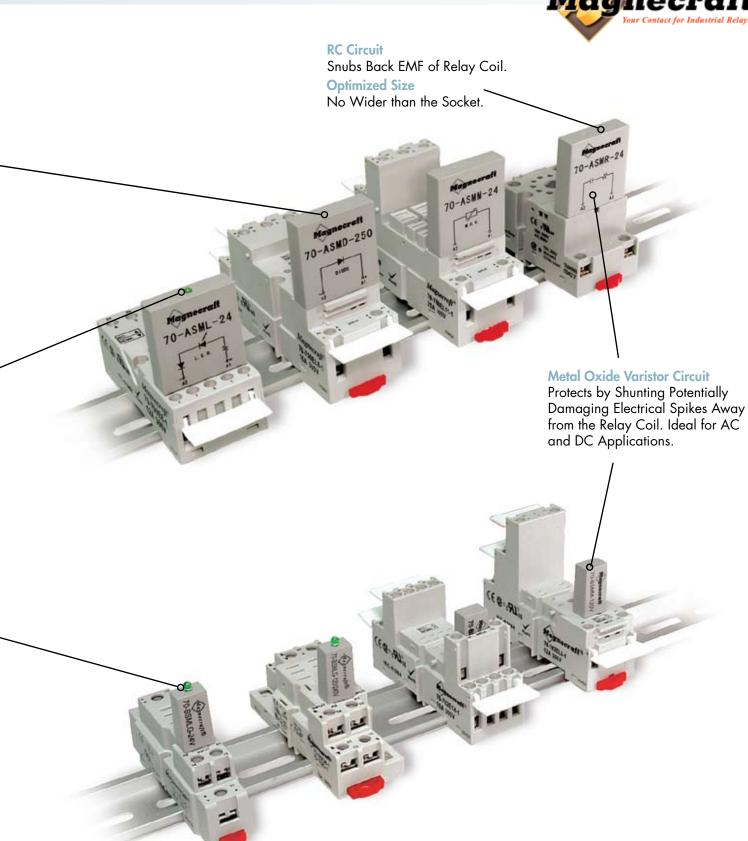


Modules

Plugging a module into a socket, connects the circuit in parallel with the relay coil. No additional wiring is required. No additional tools are required. The modules fit within the maximum dimensions of both the relay and socket.







70-SM (A) Socket Modules

The Complete System Solution!





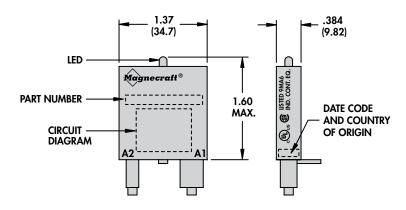


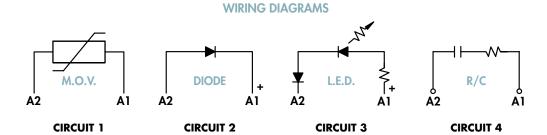




Characteristics	70-ASMD-250	70-ASMLG-24	70-ASMLG-120/240
Package Style	A	A	A
Function	Protection Diode	LED, Green	LED, Green
Input Voltage	6 - 250 VDC	24 VAC/VDC	120/240 VAC/VDC
Mating Sockets	'	·	·
•	7	70-783D11-1 (Sec. 2, p.10-11)	
	7	70-784D14-1 (Sec. 2, p.12-13)	
		70-750DL8-1 (Sec. 2, p.30-31)	
	7	70-750DL11-1 (Sec. 2, p.30-31)	
		70-750EL8-1 (Sec. 2, p.26-27)	
	7	70-750EL11-1 (Sec. 2, p.26-27)	
		70-750E8-1 (Sec. 2, p.28-29)	
		70-750E11-1 (Sec. 2, p.28-29)	
	7	70-788EL11-1 (Sec. 2, p.24-25)	

PACKAGE - A













BOLD-FACED PART NUMBERS ARE NORMALLY STOCKED

70-ASMM-24	70-ASMM-120	70-ASMR-24	70-ASMR-240		
A	A	Α	Α		
MOV Suppressor	MOV Suppressor	R/C Suppressor	R/C Suppressor		
24 VAC/VDC	120/240 VAC/VDC	6 - 24 VAC/VDC	110/240 VAC/VDC		
	70-783D11-1	(Sec. 2, p.10-11)			
	70-784D14-1	(Sec. 2, p.12-13)			
	70-750DL8-1	(Sec. 2, p.30-31)			
	70-750DL11-1	(Sec. 2, p.30-31)			
	70-750EL8-1	(Sec. 2, p.26-27)			
	70-750EL11-1	(Sec. 2, p.26-27)			
70-750E8-1 (Sec. 2, p.28-29)					
	70-750E11-1 (Sec. 2, p.28-29)				
	70-788EL11-1 (Sec. 2, p.24-25)				

Part Number Builder

70-	Α	SM	M	-24
Series	Package Style	Socket Module	Function	Input Voltage
Module Family	A		M=M.O.V. (Metal Oxide Varistor)	24
			R= Resistor/Capacitor	120
			D= Diode	240
			LG= LED, Green	250

Metal Oxide Varistor Circuit

Protects by Shunting Potentially Damaging Electrical Spikes Away from the Relay Coil. Ideal for AC and DC Applications.

RC Circuit

Snubs Back EMF of Relay Coil.

Diode Circuit

Protects External Drive Circuitry from Inductive Voltages Generated when Removing Coil Voltage. Ideal for DC Applications. Polarity Sensitive.



LED Status Lamp Verifies that Power is Being Supplied to the Coil. Ideal for Both AC and DC Applications, Polarity Sensitive for DC Application.

Optimized Size

No Wider than the Socket.

Modules

Plugging a module into a socket, connects the circuit in parallel with the relay and coil. No additional wiring is required. No additional tools are required. The modules fit within the maximum dimensions of both the relay and socket.

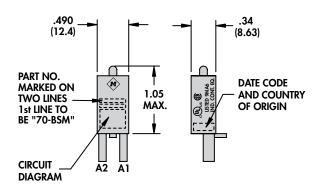


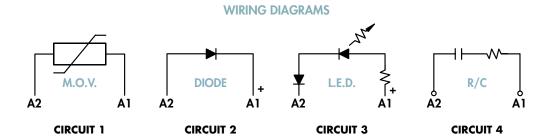




Characteristics	70-BSMD-250	70-BSMLG-24
Package Style	В	В
Function	Protection Diode	LED Indicator
Input Voltage	6 - 250 VDC	24 VAC/VDC
Mating Sockets		
		\ (Sec. 2, p.6-7)
	70-782D8-1	(Sec. 2, p.8-9)
	70-782D14-1	(Sec. 2, p.22-23)
	70-782E14-1	(Sec. 2, p.20-21)
	70-782EL8-1	Sec. 2, p.14-15)
	70-782EL11-1	(Sec. 2, p.16-17)
	70-782EL14-1	(Sec. 2, p.18-19)

PACKAGE - B











BOLD-FACED PART NUMBERS ARE NORMALLY STOCKED

	2012 111012 1	
70-BSMLG-120/240	70-BSMM-24	70-BSMM-120/240
В	В	В
LED Indicator	MOV Suppressor	MOV Suppressor
120/240 VAC/VDC	24 VAC/VDC	120/240 VAC/VDC
'	·	
	70-781D5-1A (Sec. 2, p.6-7)	
	70-782D8-1 (Sec. 2, p.8-9)	
	70-782D14-1 (Sec. 2, p.22-23)	
	70-782E14-1 (Sec. 2, p.20-21)	
	70-782EL8-1 (Sec. 2, p.14-15)	
	70-782EL11-1 (Sec. 2, p.16-17)	
	70-782FI14-1 (Sec. 2 n. 18-19)	

Part Number Builder

70-	В	SM	М	-24
Series	Package Style	Socket Module	Function	Input Voltage
Module Family	В		M=M.O.V. (Metal Oxide Varistor)	24
,			R= Resistor/Capacitor	120
			D= Diode	240
			LG= LED, Green	250

Metal Oxide Varistor Circuit

Protects by Shunting Potentially Damaging Electrical Spikes Away from the Relay Coil. Ideal for AC and DC Applications.

RC Circuit

Snubs Back EMF of Relay Coil.

Diode Circuit

Protects External Drive Circuitry from Inductive Voltages Generated when Removing Coil Voltage. Ideal for DC Applications. Polarity Sensitive.

LED Circuit

LED Status Lamp Verifies that Power is Being Supplied to the Coil. Ideal for Both AC and DC Applications, Polarity Sensitive for DC Application.

Optimized Size

No Wider than the Socket.

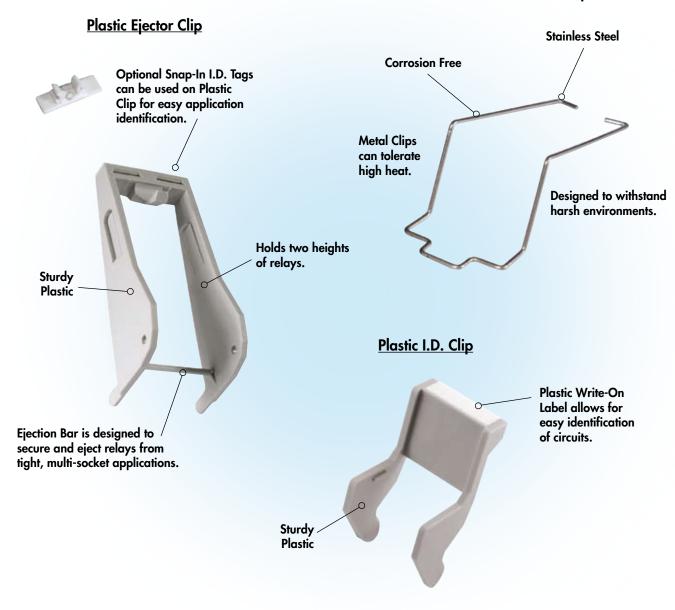
Modules

Plugging a module into a socket, connects the circuit in parallel with the relay and coil. No additional wiring is required. No additional tools are required. The modules fit within the maximum dimensions of both the relay and socket.

Advantages of Using Clips

- Metal hold-down clips are ideal for use where high heat or humid conditions are a factor, thus
 holding their shape and tension. The clips are made of stainless steel and are designed to withstand
 harsh environments.
- Plastic ejector/hold-down clips are ideal in applications where sockets are located in dense or tight areas. These clips allow for quick, safe and firm securing of relays in the sockets with the added benefit that the relay can be ejected with one finger. Plastic clips also aid in keeping operator's fingers away from live circuits. The optional snap-in identification tag allows for custom marking of sockets when used in multi-socket applications.
- Plastic I.D. clips are ideal for easy identification of circuits in multi-relay applications. They are designed for labeling and are not ideal for securing the relay in the socket.

Metal Hold-Down Clip



Magnecraft Solution Guide 105A

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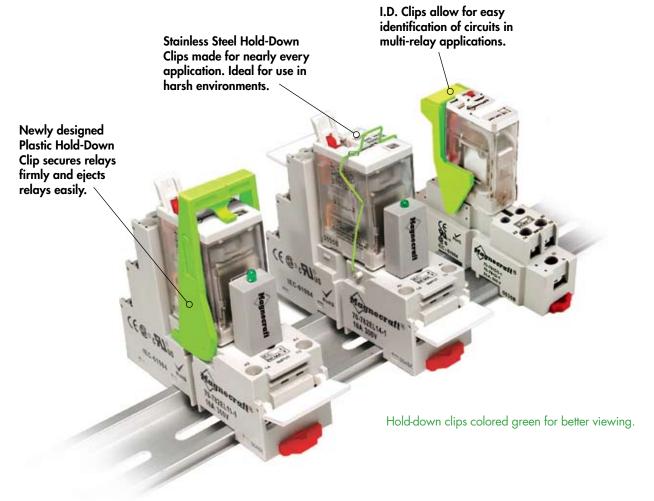






The Complete System Solution!





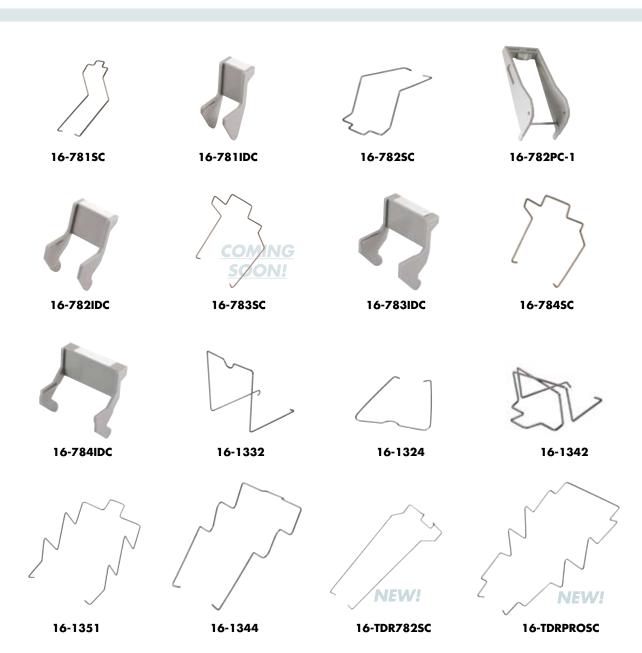
Metal and Plastic Clips



 Stainless Steel Clips are Designed to be Corrosion Resistant in Harsh Environments and are Ideal for Use Under Shock and Vibration Conditions.

- Plastic Ejector/Hold-Down Clips are Ideal for Use in High-Density, Multi-Socket Applications.
- Plastic Identification Tag is Perfect for Use in Multi-Socket Applications for Custom Identification of Circuits.





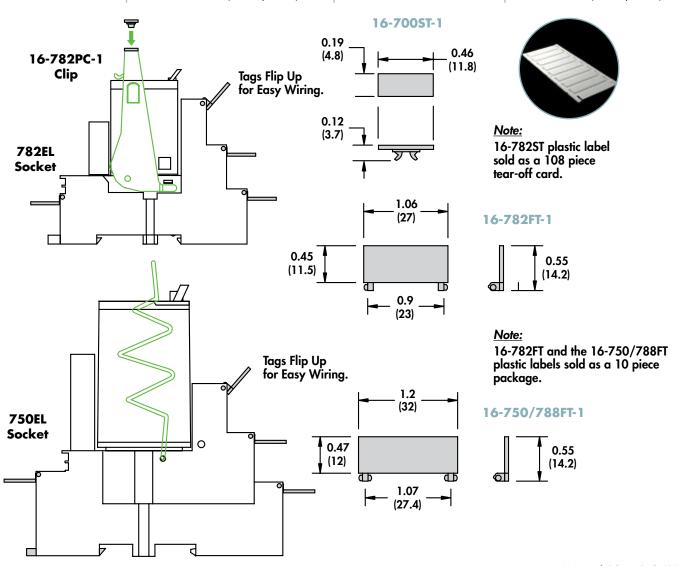
Socket Part Number	Clip Part Number	Supercedes	Relays	Remarks
70-124-1	16-1351	16-722-2	788, 711, 388J (All)	Front Back (North South) Mount
70-124-2	16-1351	16-722-2	788, 711, 388J (All)	Front Back (North South) Mount
70-178-1	16-1351	16-722-2	788, 711, 388J (All)	Front Back (North South) Mount
70-178-2	16-1351	16-722-2	788, 711, 388J (All)	Front Back (North South) Mount
	16-1342	10-7 22-2		Side Mount
70-378-1			782 (All & Hermetic)	
70-378-1	16-1324		782C and Hermetic Only	Front Back (North South) Mount
70-378-1	16-TDR782SC		TDR782	Side Mount
70-379-1	16-1342		782 (All & Hermetic)	Side Mount
70-379-1	16-TDR782SC		TDR782	Side Mount
70-401-1	16-1342		782 With .187 Term.	Side Mount
70-401-1	16-1324		782C With .187 Term. Only	Front Back (North South) Mount
70-402-1	16-1342		782 With .187 Term.	Side Mount
70-402-1				
	16-1324	1 / 1000	782C With .187 Term. Only	Front Back (North South) Mount
70-459-1	16-1342	16-1329	782 With .187 Term.	Side Mount
70-461-1	16-1342	16-1328	782 (All & Hermetic)	Side Mount
70-461-1	16-TDR782SC		TDR782	Side Mount
70-463-1	16-1351	16-1329	788 (All), 785	Side Mount
70-463-1	16-1344		TDR (SOX/SRX) B	Side Mount
70-464-1	16-1351	16-1352		Side Mount
		10-1332	750 (All), 750H	
70-464-1	16-1344		TDRSOXP, 712	Side Mount
70-464-1	16-TDRPROSC		TDRPRO	Side Mount
70-465-1	16-1351	13-1352	750 (All), 750H, 755	Side Mount
70-465-1	16-1344		TDR (SRXP), 712	Side Mount
70-465-1	16-TDRPROSC		TDRPRO	Side Mount
70-750DL8-1	16-1332		750 (All)	Front Back (North South) Mount
70-750DL8-1	16-1344		TDRSOXP	Side Mount
		1 / 1050		
70-750DL8-1	16-1351	16-1352	750H	Side Mount
70-750DL8-1	16-TDRPROSC		TDRPRO	Side Mount
70-750DL11-1	16-1332		750 (All)	Front Back (North South) Mount
70-750DL11-1	16-1344		TDRSRXP	Side Mount
70-750DL11-1	16-1351	16-1352	750H	Side Mount
70-750DL11-1	16-TDRPROSC	10 1002	TDRPRO	Side Mount
		1/ 1050		
70-750E8-1	16-1351	16-1352	750 (All), 750H	Side Mount
70-750E8-1	16-1344		750 (All), TDRSRXP, 712	Side Mount
70-750E8-1	16-TDRPROSC		TDRPRO	Side Mount
70-750E11-1	16-1351	16-1352	750 (All), 750H, 755	Side Mount
70-750E11-1	16-1344		TDRSRXP, 712	Side Mount
70-750E11-1	16-TDRPROSC		TDRPRO	Side Mount
70-750EL8-1	16-1351	16-1352	750 (All), 750H	Side Mount
				Side Mount
70-750EL11-1	16-1351	16-1352	750 (All), 750H, 755	
70-781D5-1A	16-781SC	16-1326	781 (All)	Side Mount
70-781D5-1A	16-781IDC	16-1327 (Plastic)	781 (All)	Side Mount
70-781F-1	16-781SC	16-1326	781 (All)	Side Mount
70-781T-1	16-781SC	16-1326	781 (All)	Side Mount
70-782D8-1	16-1342		782 With .187 Term.	Side Mount
70-782D8-1	16-782IDC	16-1349 (Plastic)	782 (All)	Side Mount
		10-1347 (1103110)	782, 4 Pole (Plain & Full Featured)	Side Mount
70-782D14-1	16-782SC			
70-782D14-1	16-782PC		782, 4 Pole (Full Featured)	Side Mount
70-782D14-1	16-1342		782 Hermetic Only	Side Mount
70-782D14-1	16-TDR782SC		TDR782	Side Mount
70-782E14-1	16-782SC		782, 4 Pole (Plain & Full Featured)	Side Mount
70-782E14-1	16-782PC-1		782, 4 Pole (Full Featured)	Side Mount
70-782E14-1	16-1342		782 Hermetic Only	Side Mount
70-782E14-1				
	16-TDR782SC		TDR782	Side Mount
70-782EL8-1	16-782SC		782 2 Pole (All)	Side Mount
70-782EL8-1	16-782PC-1		782, 2 Pole (Full Featured)	Side Mount
70-782EL8-1	16-TDR782SC		TDR782	Side Mount
70-782EL11-1	16-782SC		782, 3 Pole (All)	Side Mount
70-782EL11-1	16-782PC-1		782. 3 Pole (Full Featured)	Side Mount
70-782EL14-1	16-782SC		782, 4 Pole (Plain & Full Featured)	Side Mount
70-782EL14-1	16-782PC-1		782, 4 Pole (Full Featured)	Side Mount
70-782EL14-1	16-1342		782 Hermetic Only	Side Mount
70-782EL14-1	16-TDR782SC		TDR782	Side Mount
70-783D11-1	16-783SC COMING	SOON!	783 (All)	Side Mount
70-783D11-1	16-783IDC	16-1350 (Plastic)	783 (All)	Side Mount
70-784D14-1	16-784SC	. 5 . 500 (1 105110)	784 (All)	Side Mount
70-784D14-1		14 1051 (0)		Side Mount
/ U-/ 84D I 4- l	16-784IDC	16-1351 (Plastic)	784 (All)	Side inionit
70-788EL11-1	16-1351		788 (All), 711	Side Mount

I.D. Tag/Write-On Plastic Labels





Characteristics	16-700ST-1*	16-782FT-1	16-750/788FT-1
Description	Write-On Plastic Label *for 16-782PC-1 Clip	Write-On Plastic Label for Sockets	Write-On Plastic Label for Sockets
Function	Identification of Relays in Multi-Relay Apps.	Identification of Circuits in Multi-Relay Apps.	Identification of Circuits in Multi-Relay Apps.
Packaging Minimum	Tear-off card/108 pieces	10 pieces	10 pieces
Used with these Sockets			
	70-782D14-1 (Sec. 2, p.22-23)	70-782EL8-1 (Sec. 2, p.14-15)	70-750E8-1 (Sec. 2, p.28-29)
	70-782EL8-1 (Sec. 2, p.14-15)	70-782EL11-1 (Sec. 2, p.16-17)	70-750E11-1 (Sec. 2, p.28-29)
	70-782EL11-1 (Sec. 2, p.16-17)	70-782EL14-1 (Sec. 2, p.18-19)	70-750EL8-1 (Sec. 2, p.26-27)
	70-782EL14-1 (Sec. 2, p.18-19)	70-782E14-1 (Sec. 2, p.20-21)	70-750EL11-1 (Sec. 2, p.26-27)
	70-782E14-1 (Sec. 2, p.20-21)		70-788EL11-1 (Sec. 2, p.24-25)



Allows Inputs to be Jumped to Adjacent Sockets Without Additional Wiring.

- Infinite number of connections.
- Eliminates need to insert stripped jumper wires into terminals.
- Installs quickly.NO tools needed.



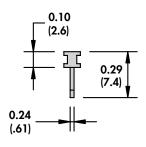


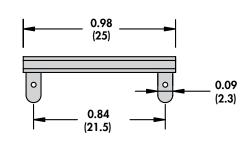
Characteristics	16-782CBJ-1	16-750/788CBJ-1
Description	Internal Coil Bus Jumper System	Internal Coil Bus Jumper System
Function	Wireless Socket Connection	Wireless Socket Connection
Packaging Minimum	20 pieces	20 pieces
Used with these Sockets		
	70-782EL8-1 (Sec. 2, p.14-15)	70-750DL8-1 (Sec. 2, p.30-31)
	70-782EL11-1 (Sec. 2, p.16-17)	70-750DL11-1 (Sec. 2, p.30-31)
	70-782EL14-1 (Sec. 2, p.18-19)	70-750EL8-1 (Sec. 2, p.26-27)
		70-750EL11-1 (Sec. 2, p.26-27)
		70-788EL11-1 (Sec. 2, p.24-25)



Coil Bus Jumpers colored green for better viewing.

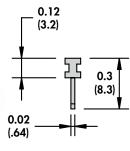
16-782CBJ-1

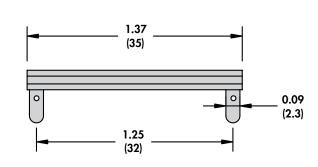




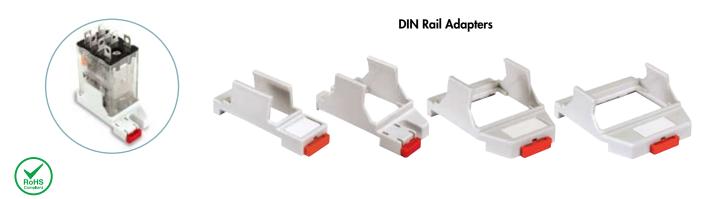
16-750/788CBJ-1







Relay Adapters

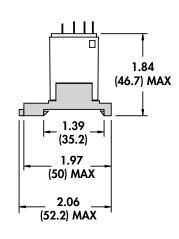


Characteristics	16-781C	16-782C	16-783C	16-784C
Package Style	С	С	С	С
Function	Mount Relay Directly to	Mount Relay Directly to	Mount Relay Directly to	Mount Relay Directly to
	DIN Rail	DIN Rail	DIN Rail	DIN Rail
Mating Relays	781XAX (Sec. 1, p.10-11)	All 782s (Sec. 1, p.12-18)	783XCX (Sec. 1, p.19-20)	784XDX (Sec. 1, p.20-22)

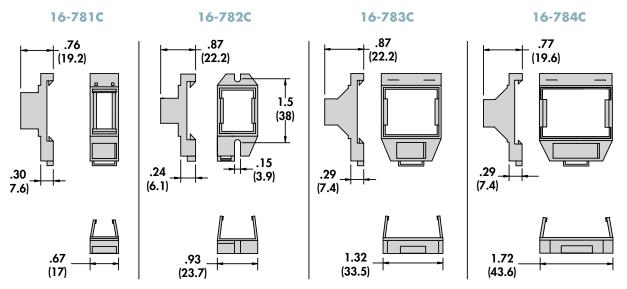
Relay DIN Adapters

There is No Need to Purchase a Socket.

- DIN mounting.
- Plastic construction.
- Light weight.
- Low cost.
- Low profile.
- Write-On label.
- Narrow mounting.
- Easy termination.



DIN Rail Adapters allow the 700 Series relays to be direct mounted on a DIN rail.



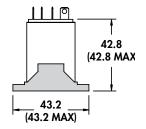


Characteristics	16-781C1	16-782C1	16-783C1	16-784C1
Package Style	C1	C1	C1	C1
Function	Mount Relay Directly	Mount Relay Directly	Mount Relay Directly	Mount Relay Directly
	to Panel	to Panel	to Panel	to Panel
Mating Relays	781XAX (Sec. 1, p.10-11)	All 782s (Sec. 1, p.12-18)	783XCX (Sec. 1, p.19-20)	784XDX (Sec. 1, p.20-22)

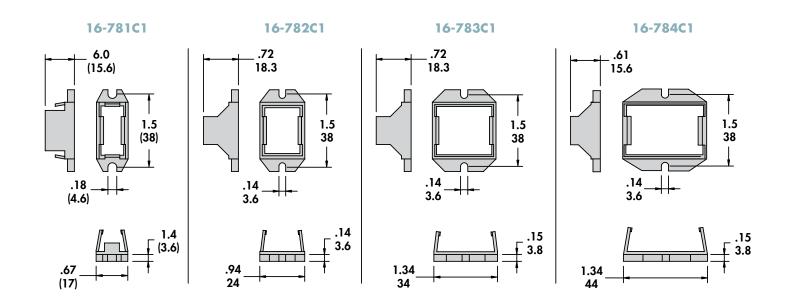
Relay Flange Adapters

There is No Need to Purchase a Socket.

- Flange mounting.
- Plastic construction.
- Light weight.
- Low cost.
- Low profile.
- Narrow mounting.
- Easy termination.



Top/Bottom Flange Adapters allow the 700 Series relays to be direct mounted on a panel.







Flange Adapter







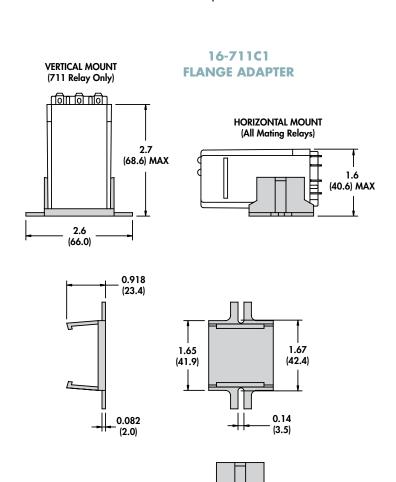


Characteristics	16-711C1	16-711C4	
Function	Mount Relay Directly to Panel	Mount Relay Directly to DIN Rail	
Mating Relays	711 (Sec. 7, p.4-5)	711 (Sec. 7, p.4-5)	
	712 (Sec. 7, p.6-11)	712 (Sec. 7, p.6-11)	
	TDRSRX/SOX (Sec. 5, p.22-27)	TDRSRX/SOX (Sec. 5, p. 22-27)	

16-711 Adapters allow the 711, 712, TDRSRX/SOX Series relays to be directly mounted to a panel or on a DIN rail. There is no need to purchase a socket.

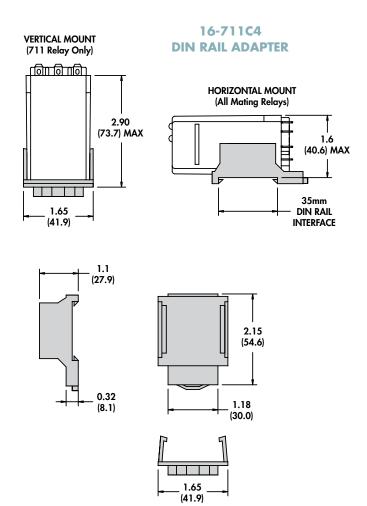
- DIN or Panel Mounting.
- Plastic Construction.
- Light Weight.
- Low Cost.

- Low Profile.
- Narrow Mounting.
- Easy Termination.



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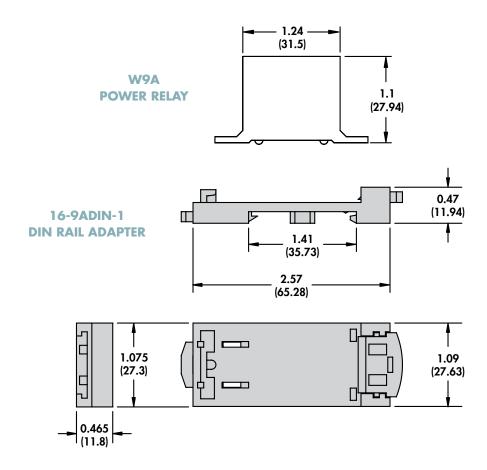








Characteristics	16-9ADIN-1
Function	Creates a Solid Base which Allows the W9A
	to be Mounted Directly to the DIN Rail
Mating Relay	W9A (Sec. 6, p.22-25)



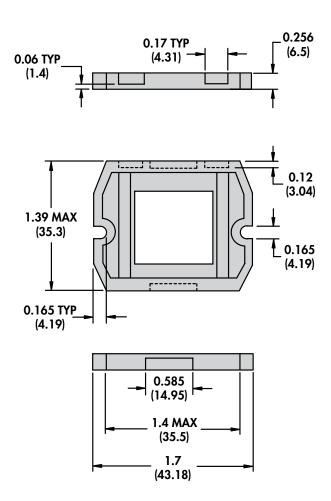








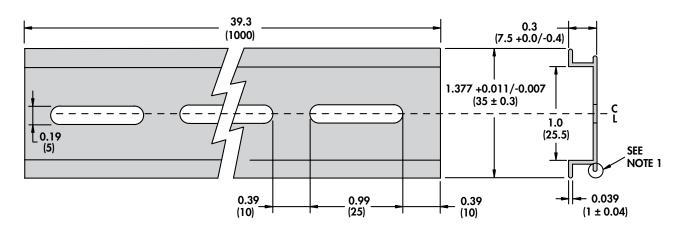
Characteristics	16-788C1	
Function	A Solid Panel Mounting Base which Adapts to the 70-788EL11-1 Socket and 800 Series Timing, Sensing and Solid State Relays	
Mating Socket	70-788EL11-1 (Sec. 2, p.24-25)	
Mating Relays	820 Series (Sec. 5, p.4-7)	
	831 (Sec. 5, p.8-9)	
	841 (Sec. 5, p. 10-13)	
	861 (Sec. 4, p.6-11)	

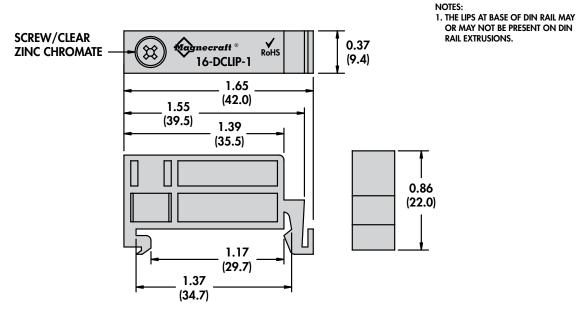






Characteristics	16-DCLIP-1	16-700DIN
Description	Plastic End Clip with Locking Screw	Extruded Aluminum DIN Rail, 39.37" (1000mm)
Function	Holds Sockets Firmly in Place on DIN Rail	Provides for Quick Installation and Removal of Sockets
Weiaht	4.5 grams	125 grams





* The 16-700DIN is produced from high strength extruded aluminum and is designed to be a direct replacement for standard 35mm wide DIN rails.



Thermal management is a fundamental consideration in the design and use of Solid State Relays (SSRs) because of the contact dissipation (typically 1 W per amp). It is vital that sufficient heat sinking is provided, or the life and switching reliability of the SSR will be compromised. The unique design of the Magnecraft aluminum heat sink maximizes heat dissipation. Available for Magnecraft's panel mount SSRs and ensures reliable operation when properly selected for the specific application. For ease of installation, all mounting holes are pre-drilled and tapped.

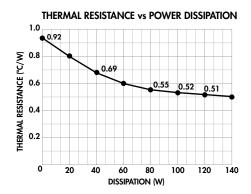
Characteristics	SSR-HS-1
Description	Aluminum Heat Sink for Class 6 Relay
Function	Maximizes Heat Dissipation
Weight	19.7 ounces (558.5 grams)
Used With these Solid State Relays	
Up to 50 Amps	6 Series (Sec. 4, p. 18-27)

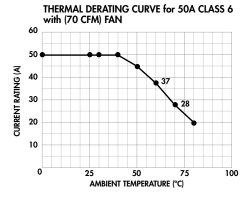
TOP VIEW SIDE VIEW 0.13 (3.18)0.19 (4.95)5.51 1.75 (139.95)(44.45)TYP. 4.73 0.07 (120.14)(1.69)3.86 (97.92)1.99 (50.63)(67.31)0.24 (6.04)0.34 (8.69)**FRONT VIEW**

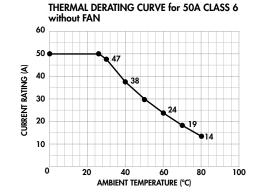
User Guide:

The Magnecraft SSR should be firmly mounted on a clean, smooth heat sink surface using thermally conductive or suitable thermal transfer pads.

- Model matches heat dissipation requirements for Magnecraft 6 Series SSRs; up to 50 amps.
- Magnecraft design achieves outstanding thermal efficiency.
 Pre-drilled and tapped to suit Magnecraft SSR 6 Series "hockey puck style" range.



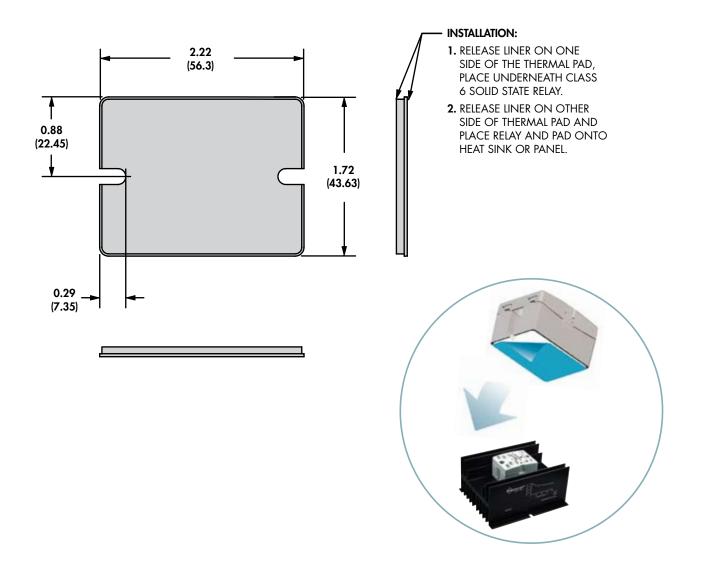






One of the major considerations when using a SSR is properly managing the heat that is generated when switching currents higher than about 5 amps. In this scenario one must mount the base plate of the SSR onto a good heat conductor, typically aluminum; along with utilizing a good thermal transfer medium such as thermal grease or heat transfer pad. Magnecraft's thermal pad eliminates the need for messy thermal grease and simplifies installation with a simple peel-and-stick solution.

Characteristics	SSR-TP-1
Description	Thermal Pad for Class 6 Relay
Function	Eliminates the need for Thermal Grease
Packaging minimum	10 pieces
Used With these Solid State Relays	
Up to 50 Amps	6 Series (Sec. 4, p. 18-27)



Metal Enclosure/199 Power Relay



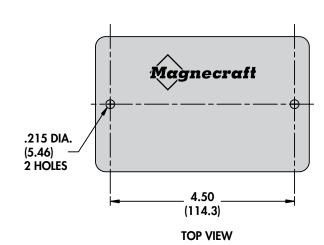
Relays Used With



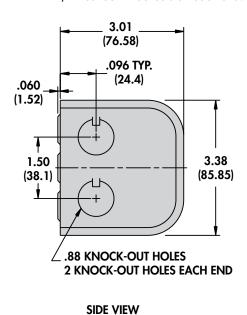
BOLD-FACED PART NUMBERS ARE NORMALLY STOCKED

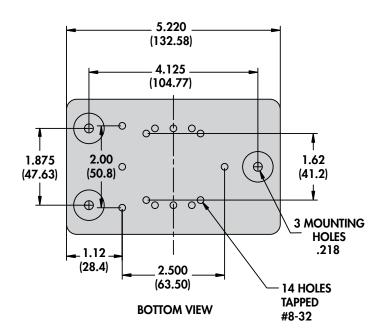
3U-1 2 0 9-1	
Universal Mount Metal Enclosure	
Covers and Protects Relays	
Approx. 1 lb.	

199 (Sec. 6, p.2-11)



1/2" conduit knockouts on each end.





Section 3

			00 1010100
Magnecraft	Finder	Phoenix Contact	Tyco/Shrack
70-BSMDLG-6/24	99.80.9.024.99	2833657	0-1393161-3
70-BSMDLG-24/60	99.80.9.060.99	2833660	2-1419152-4
70-BSMDLG-120/240	99.80.9.220.99	2833673	2-1419152-5
70 DCMANC / /04	00.00.004.00	0000710	
70-BSMMLG-6/24	99.80.0.024.98	2833712	
70-BSMMLG-24/60	99.80.0.060.98	2833725	
70-BSMMLG-120/240	99.80.0.230.98	2833738	
70-BSMLG-6/24	99.80.0.024.59		
70-BSMLG-24/60	99.80.0.060.59		
70-BSMLG-120/240	99.80.0.230.59		
70-BSMD-250	99.80.3.000.00		1-1393161-1
70-BSMR-6/24	99.80.0.024.09	2833741	
70-BSMR-24/60	99.80.0.060.09	2833754	1-1393161-3
70-BSMR-120/240	99.80.0.230.09	2833767	1-1393161-4
70-BSMM-6/24		2833864	
70-BSMM-24/60		2833877	
70-BSMM-120/240		2833880	
Magnecraft	Finder	Phoenix Contact	Tyco/Schrack
70-ASMLG-6/24			6-1419149-6
70-ASMLG-24/60			
70-ASMLG-120/240			6-1419149-7
70-ASMD-250			7-1393163-6
70-ASMR-6/24			7-1393163-7
70-ASMR-24/60			
70-ASMR-110/240			7-1393163-8

NOTES:	www.magnecraft.com	847-441-2540