

## Advantages of a Full Featured 700 Series Relay

Since the launch of the 700 series relays in 2000, this product line has continuously evolved both functionally and visually. The 700 series product line has the perfect mix of historical Magnecraft relay quality combined with a dynamic arsenal of options. When mated with the Magnecraft sockets and accessories, these RoHs compliant relays provide a complete modular system that will meet all your plug-in relay requirements in a package that is both visually appealing and functionally outstanding.

- Offers a “one stop solution” for your power management system.
- Several Contact configurations and materials to meet your individual needs.
- Plug-In switching capabilities from 10 mA to 20 Amps.
- Several Feature Code and Operation combinations available for all budgets.
- Ejector clips, ribbed relay housings and space-saving sockets allow for easy removal from crowded DIN rails.
- Color and appearance designed for high visibility in all environments.
- Wiring diagrams include NEMA and IEC standards.
- Engineering availability allows for customized relay solutions.



### Removable Lock-Down Door

When Activated, Locks Push Button and Contacts in the Powered Position.

### Color-Coded Push Button

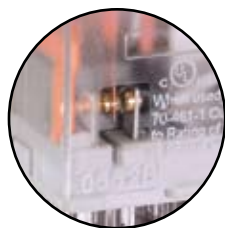
Allows Manual Operation of Relay.  
AC Coils Red or DC Coils Blue.

### Finger Grip Cover

Easy Removal of Relay from Socket.

### Gold Flashed Contacts

Prevents Premature Oxidation and Increases Shelf-life.



### Contact Viewing Window

Shows Position of Contacts.

### Isolated Input and Output Terminals

Separates Control Circuits from Load Circuits.



### Slim Design

Minimizes Space on DIN Rail.

### Module Compatible

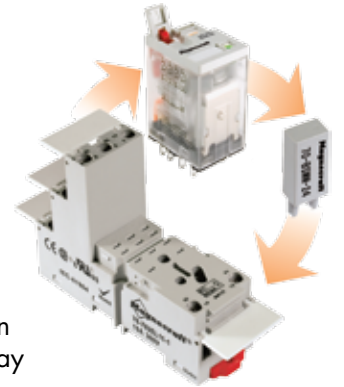
Allows for Optional Protection or LED Modules to be Used With Sockets.



### 2-Way Side or DIN Rail Mounting System

Retrofits Existing Panel Mounting and 35mm DIN Rail.

# The Complete System Solution!



**Flag Indicator**  
Shows Relay Status in Manual or Powered Condition.



**Bi-Polar LED Status Lamp**  
Shows Coil "ON" or "OFF" Status.

**I.D. Tag/Write-On Plastic Label**  
Used for Identification of Relays in Multi-Relay Circuits.

**Mating Hold-Down Clip Available**  
Safely Secures Relay to Socket.



**Finger-Safe**  
Protects Operators from Live Circuits.

**I.D. Tag/Write-On Plastic Label**  
Used to Match Wire Identification Tags with Socket Connections.

**Internal Coil Bus Jumper System**  
Allows Connection to Adjacent Sockets Without Additional Wiring.



## Advantages of a Plain Cover 700 Series Relay

The Plain Cover Super Series relays support budget minded applications with premium performance. Maintaining the same ratings and internal components as the Full Feature Series; the Plain Cover Series perform as well as premium relays while maintaining low costs by offering several option configurations.

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Prevents Premature Oxidation and Increases Shelf-life.

**Isolated Input and Output Terminals**  
Separates Control Circuits from Load Circuits.



**Slim Design**  
Minimizes Space on DIN Rail.

**Module Compatible**  
Allows for Optional Protection or LED Modules to be Used With Sockets.



**2-Way Side or DIN Rail Mounting System**  
Retrofits Existing Panel Mounting and 35mm DIN Rail.

**Finger Grip Cover**  
Easy Removal of Relay from Socket.

# The Complete System Solution!

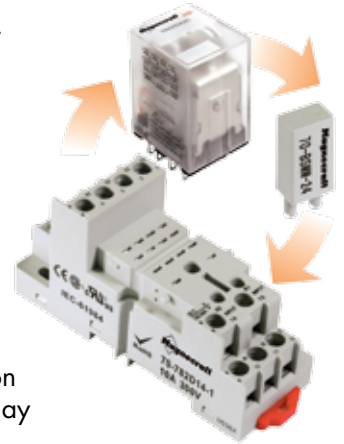
**Flag Indicator**  
Shows Relay Status in Manual or Powered Condition.



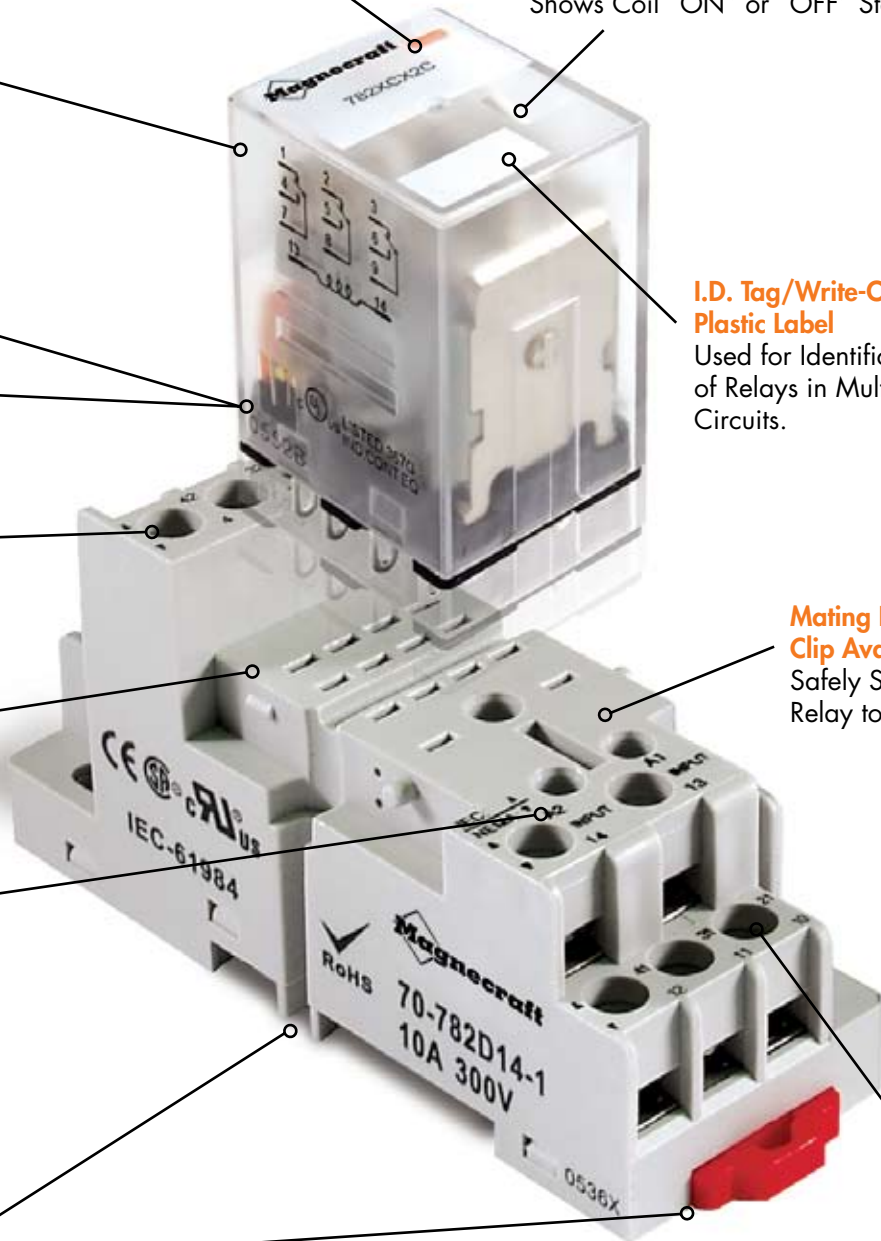
**Optional Bi-Polar LED Status Lamp**  
Shows Coil "ON" or "OFF" Status.

**I.D. Tag/Write-On Plastic Label**  
Used for Identification of Relays in Multi-Relay Circuits.

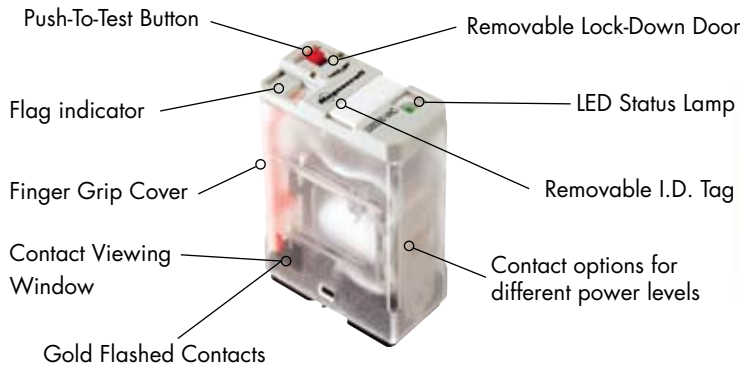
**Mating Hold-Down Clip Available**  
Safely Secures Relay to Socket.



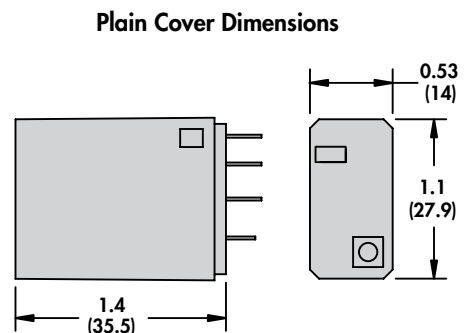
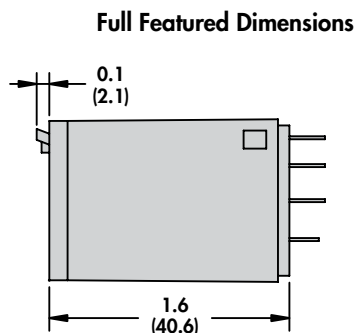
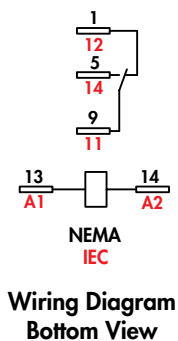
**Finger-Safe**  
Protects Operators from Live Circuits.



# 781 Ice Cube Relays/SPDT 3- 20 Amp Rating (DC & AC)



General Specifications		(UL 508)		781XAX	781XAX3
Contact Characteristics			Units	Standard	Low Level
Number and type of Contacts				SPDT	SPDT
Contact materials				Silver Alloy	Bifurcated Silver
Thermal (Carrying) Current			A	20	3
Maximum Switching Voltage			V	300	300
Switching Current @ Voltage		~	Resistive	20A @ 120V 50/60Hz	3A @ 240V 50/60Hz
		~	Resistive	20A @ 277V 50/60Hz	
		⋮	Resistive	20A @ 28V	
			HP	1/2 @ 120VAC	
			HP	1 @ 277 VAC	
			Pilot Duty	B300	
Minimum Switching Requirement			mA	100 @ 5VDC (.5W)	3 @ 17VDC (.04W)
Coil Characteristics					
Voltage Range		~	V	6...240	6...240
		⋮	V	6...125	6...125
Operating Range	% of Nominal	~		85% to 110%	85% to 110%
		⋮		80% to 110%	80% to 110%
Average consumption		~	VA	0.9	0.9
		⋮	W	0.7	0.7
Drop-out voltage threshold		~		15%	15%
		⋮		10%	10%
Performance Characteristics					
Electrical Life (UL508)	Operations @ Rated Current		(Resistive)	100,000	100,000
Mechanical Life	Unpowered			10,000,000	10,000,000
Operating time (response time)			ms	20	20
Dielectric strength	Between coil and contact	~	V(rms)	2500	2500
	Between poles	~	V(rms)	1500	1500
	Between contacts	~	V(rms)	1500	1500
Environment					
Product certifications	Standard version			UL, CSA, CE	UL, CSA, CE
Ambient air temperature around the device	Storage		°C	-40...+85	-40...+85
	Operation		°C	-40...+55	-40...+55
Vibration resistance	Operational		g-n	3, 10 - 55 Hz	3, 10 - 55 Hz
Shock resistance			g-n	10	10
Degree of protection				IP 40	IP 40
Weight			grams	29	29





Full Featured



Plain Cover

Standard Part Numbers

**BOLD-FACED PART NUMBERS ARE NORMALLY STOCKED**

Nominal Voltage	Coil Resistance	SPDT Part Number (Full-Featured) 20 Amp	SPDT Part Number (Plain Cover) 20 Amp	SPDT Part Number (Full-Featured) 3 Amp, Bifurcated
AC Operated				
6 VAC 50/60 Hz	12.2 Ohms	781XAXM4L-6A	<b>781XAXC-6A</b>	781XAX3M4L-6A
12 VAC 50/60 Hz	46 Ohms	781XAXM4L-12A	<b>781XAXC-12A</b>	781XAX3M4L-12A
24 VAC 50/60 Hz	180 Ohms	<b>781XAXM4L-24A</b>	<b>781XAXC-24A</b>	781XAX3M4L-24A
120 VAC 50/60 Hz	4430 Ohms	<b>781XAXM4L-120A</b>	<b>781XAXC-120A</b>	781XAX3M4L-120A
220-230 VAC 50/60 Hz	15000 Ohms	<b>781XAXM4L-220/230A</b>	<b>781XAXC-220/230A</b>	781XAX3M4L-220/230A
240 VAC 50/60 Hz	15720 Ohms	<b>781XAXM4L-240A</b>	<b>781XAXC-240A</b>	781XAX3M4L-240A
DC Operated				
6 VDC	47 Ohms	781XAXM4L-6D	<b>781XAXC-6D</b>	781XAX3M4L-6D
12 VDC	188 Ohms	<b>781XAXM4L-12D</b>	<b>781XAXC-12D</b>	781XAX3M4L-12D
24 VDC	750 Ohms	<b>781XAXM4L-24D</b>	<b>781XAXC-24D</b>	781XAX3M4L-24D
48 VDC	2600 Ohms	<b>781XAXM4L-48D</b>	<b>781XAXC-48D</b>	781XAX3M4L-48D
110-125 VDC	13800 Ohms	<b>781XAXM4L-110/125D</b>	<b>781XAXC-110/125D</b>	781XAX3M4L-110/125D

Custom Relay Part Number Builder

Series	Contact Configuration	Contact Material	Cover Options	Terminal Style	Feature Options	Coil Voltage
781	XAX	20 Amp Silver Alloy = No Code 3 Amp Bifurcated = 3	Full Feature = No Code Plain Cover = C	T Plug In = No Code PC terminal = T	M4L- Side Push Button = M Locking Push Button = M4 Bi-Polar LED = L	240A VAC = 6 - 240A VDC = 6 - 125D

For other mating sockets, see Section 2: 70-781F-1, 70-781T-1

Relay Adapters



16-781C1  
Section 3, p.14-16



16-781C  
Section 3, p.14-16

