

# 165ML/166ML



## 165ML/166ML 5 & 10 Amp Plug-In Magnetic Latching Relays

Magnetic latching relay that controls electrical loads

### Features

- Compact Size - Fits in standard rectangular 11 blade socket
- Positive Magnetic Latch- Maintains status without power
- Single coil resets by reversing Polarity
- Dual coil resets by energizing reset winding

### Typical Applications

- Laundry and Textile Equipment • HVAC

### Models

**165ML:** 5 Amp single or dual coil **166ML:** 10 Amp single or dual coil  
 Other suffixes available: F - flange cover, P- printed circuit terminals  
 TM-Top Mount Cover



166ML



Contact Data		
Configuration	AC and DC Single Coil Thru 3PDT   DC Dual Coil Thru DPDT	
Materials	5 Amp: 1/8" Diameter Moveable Fine Silver 3/16" Diameter Stationary Fine Silver 10 Amp: 3/16" Diameter Moveable Silver Cadmium Oxide   3/16" Diameter Stationary Fine Silver Gold Flash is Standard on all Contacts Gold Diffused Available on Special Order - Min. Qty. Req'd	
Contact Ratings		
Model	Pole Configuration	UL Ratings
165ML	Thru 3PDT	5 Amp or 1/8 HP at 120 VAC 5 Amp or 1/4 HP at 277 VAC 2 Amp at 600 VAC 5 Amp at 28 VDC
166ML	Thru 3PDT	10 Amp or 1/3 HP at 120 VAC 10 Amp or 1/2 HP at 277 VAC* 10 Amp at 28 VDC 1 HP at 277 VAC - 3 phase 3 amp or 1/2 HP at 600 VAC 12 FLA, 35 LRA at 15 VAC
Expected Life	Electrical at Rated Load (Min.) 100,000 Operations   Mechanical Life 10,000,000 Operations	
Dielectric Strength	800 VRMS, 60 Hz Between Contacts   2200 VRMS, 60 Hz Between Other Elements	
Agency Approvals	UL Recognized File No. E37066 (USA and Canada Recognition)	

\* 3 Pole devices rated at 6-2/3 Amp when switching greater than 150 VAC unless polarity is the same on all poles.

All dimensions in Inches

Rynite® is a registered trademark of DuPont

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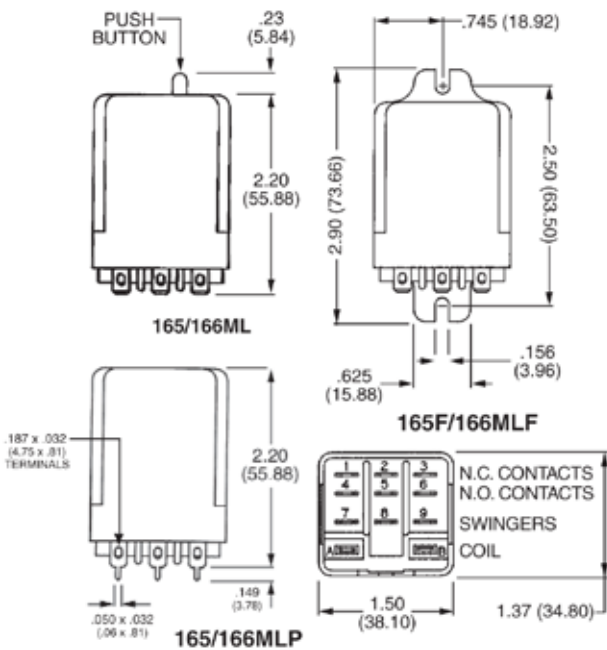
Coil Data			
	Nominal Voltage	Resistance In Ohms ± 10%	Nominal Coil Power
AC Single Coil	6 VAC 12 VAC 24 VAC 120 VAC 240 VAC	4.5 18 72 1,850 7,200	4.0 VA
DC Single Coil	6 VDC 12 VDC 24 VDC 48 VDC 110 VDC	24 96 375 1,500 8,000	1.5 W
DC Dual Coil	6 VDC 12 VDC 24 VDC 48 VDC 110 VDC	19 75 300 1,200 6,300	1.9 W
Coil Voltages	AC: Up to 277 Volts/60 Hz   DC: Up to 125 Volts		
Coil Treatment	Single Coil: Molded Rynite® PET Std. Class F   Dual Coil: Acetate Wrapped Class B		
Insulation Resistance	100 Megohms Minimum		
UL Insulation System File No.	E74443 S130 130°C Total Temperature Class B   S115D 155°C Total Temperature - Class F		
Operate Data			
Pick Up (at 25°C)	AC Volts 85% or Less of Nominal DC Volts 75% or Less of Nominal		
Operate Time	Approx. 20 Milliseconds		
Environmental Data			
Operating Ambient	AC: -45° to 70°   DC: -45° to 85°C		
Coil Temperature Rise	(25°C Ambient - Continuous Duty) AC: 45°C Approx. @ 60Hz - Use at 50 Hz will cause slight increase in Coil Rise DC: 35°C Approx.		
Mechanical Data			
Terminals	All versions (except P suffix) .187 x .020 Quick Connect/Solder P suffix version - Printed circuit pins		
Cover	Clear Polycarbonate - Flammability Rating 94V2		
Weight	All Versions Approx. 3.5 oz. (100 g)		

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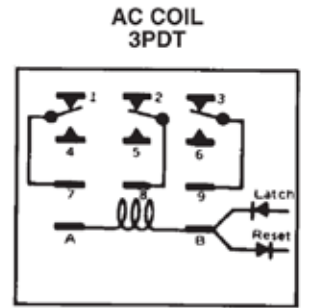
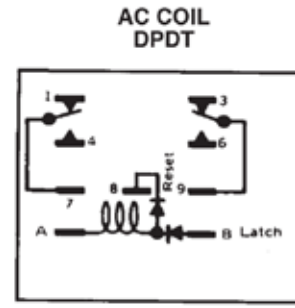
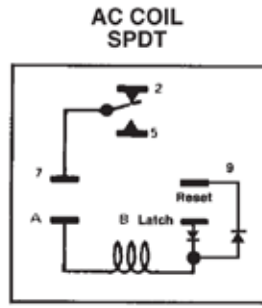


## Dimensional View Reference Only

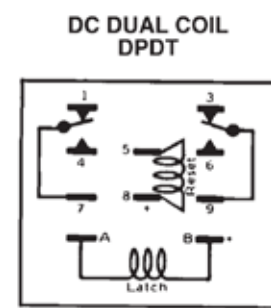
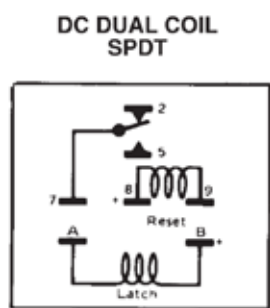
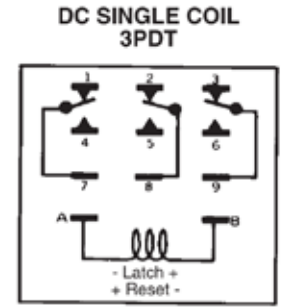
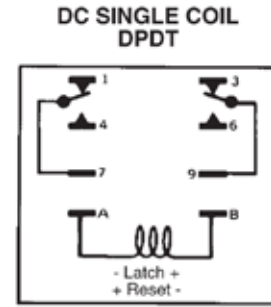
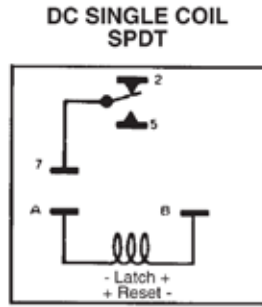
Units: Inches [mm]



## Schematics



DIODES ARE EXTERNALLY WIRED AND SUPPLIED BY CUSTOMER. TYPE IN4005 OR EQUIVALENT RECOMMENDED 3PDT ONLY



DC DUAL COIL 3PDT NOT AVAILABLE

## Ordering Information

### 10 Amp Part Numbers - Single Coil Versions

		AC Coils			DC Coils		
Model	Pole Config.	24 VAC	120 VAC	240 VAC	12 VDC	24 VDC	110 VDC
166ML	SPDT	20523-82	20523-84	20523-85	20529-81	20529-82	20529-84
	DPDT	20525-82	20525-84*	20525-85	20531-81	20531-82	20531-84
	3PDT	20527-82	20527-84	20527-85	20533-81	20533-82	20533-84

### 10 Amp Part Numbers - Dual Coil Versions

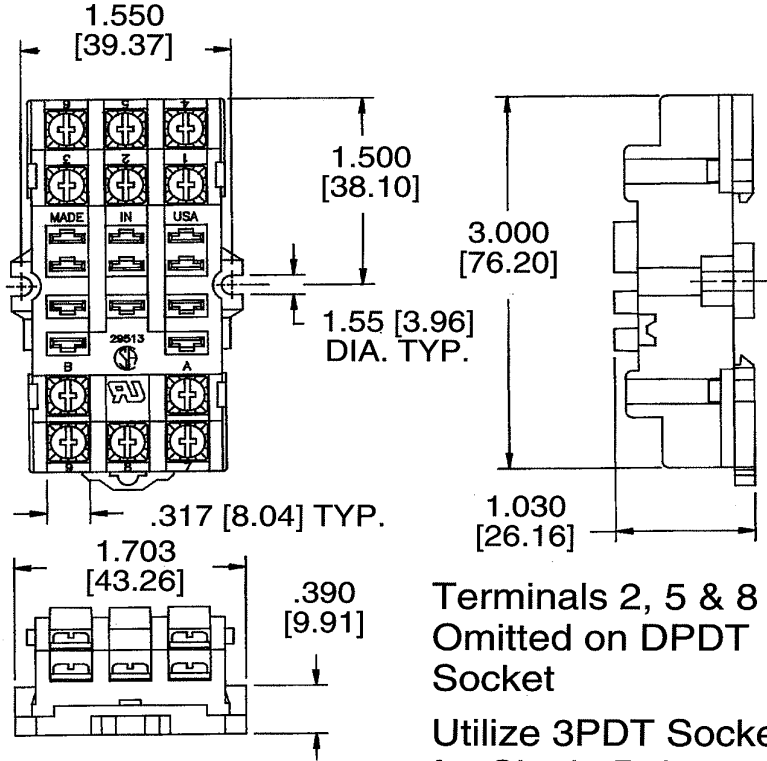
166ML	SPDT	---	---	---	20535-81	20535-82	20535-84
	DPDT	---	---	---	20537-81	20537-82	20537-84
	3PDT	---	---	---	---	---	---

(\*) Normally Stocked

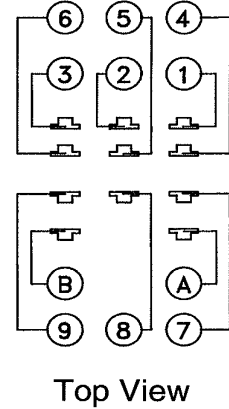
Non stocked items require a minimum order

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## DIN Rail Mounting Sockets



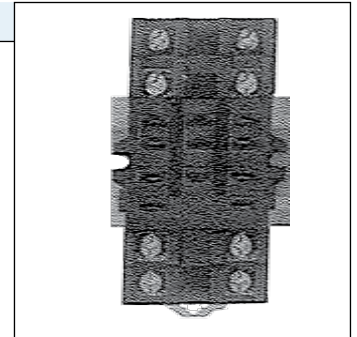
### Terminal Location



Terminals 2, 5 & 8 Omitted on DPDT Socket  
Utilize 3PDT Socket for Single Pole Applications

Part Number	Rating	Configuration	Description
20982-81	10 Amps at 300 VAC	DPDT	8 TERMINAL SOCKET

- Din Rail or surface mount
- Pressure clamp screws nickel plated 6-32
- UL Recognized File E66240
- CSA Certified File LR29513M36
- Accepts .187" Terminals

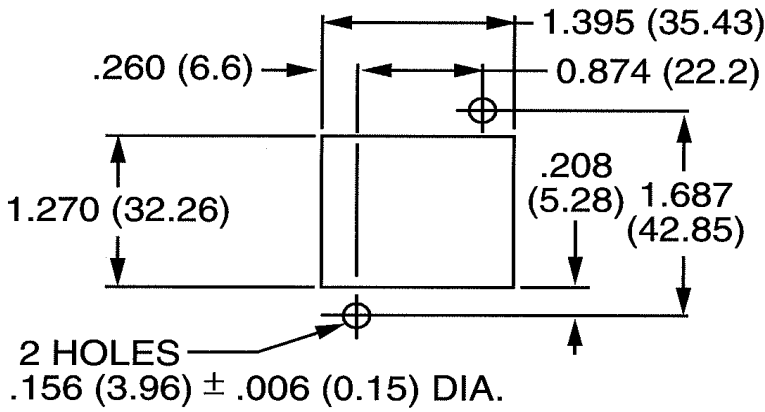


Part Number	Rating	Configuration	Description
20982-82*	10 Amps at 300 VAC	3PDT	11 TERMINAL SOCKET

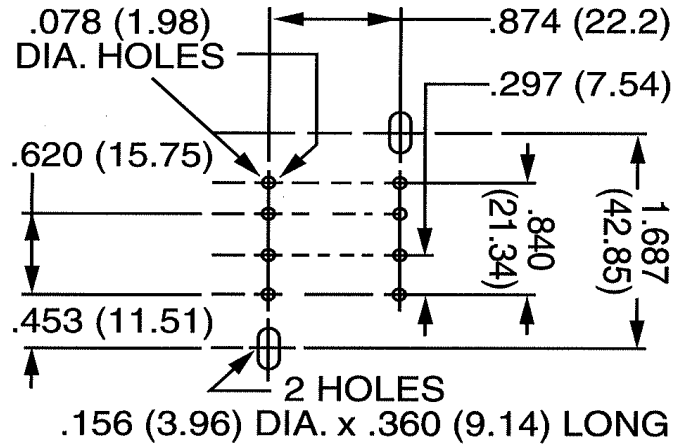
- Din Rail or surface mount
- Pressure clamp screws nickel plated 6-32
- UL Recognized File E66240
- CSA Certified File LR29513M36
- Accepts .187" Terminals



## Back Connecting Sockets



Tab Type Mounting



PC Mounting

Part Number	Rating	Configuration	Description
20312-80	10 Amps at 300 VAC	SPDT	160 SERIES SOLDER TYPE
20312-81*		DPDT	160 SERIES SOLDER TYPE
20312-82*		3PDT	160 SERIES SOLDER TYPE

- Surface Mount - Back Connect
- Accepts .187" Terminals
- UL Recognized File #E66240
- CSA Certified File LR29513M36



Part Number	Rating	Configuration	Description
20313-80	10 Amps at 300 VAC	SPDT	160 SERIES .187" QUICK CONNECT TYPE
20313-81		DPDT	160 SERIES .187" QUICK CONNECT TYPE
20313-82*		3PDT	160 SERIES .187" QUICK CONNECT TYPE

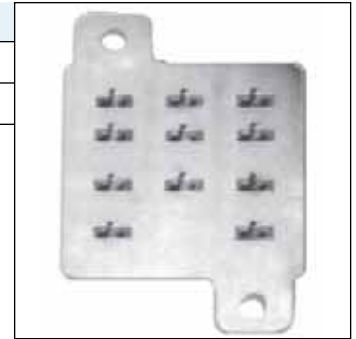
- Surface Mount - Back Connect
- Accepts .187" Terminals
- UL Recognized File #E66240
- CSA Certified File LR29513M36



## Sockets

Part Number	Rating	Configuration	Description
20314-80	10 Amps at 300 VAC	SPDT	160 SERIES PRINTED CIRCUIT TYPE
20314-81		DPDT	160 SERIES PRINTED CIRCUIT TYPE
20314-82*		3PDT	160 SERIES PRINTED CIRCUIT TYPE

- Surface Mount - Back Connect
- Accepts .187" Terminals
- UL Recognized File #E66240
- CSA Certified File LR29513M36



Part Number	Rating	Configuration	Description
20395-80	10 Amps at 300 VAC	SPDT	160 SERIES BARRIER TYPE WITH .187" Q.C.
20395-81		DPDT	160 SERIES BARRIER TYPE WITH .187" Q.C.
20395-82		3PDT	160 SERIES BARRIER TYPE WITH .187" Q.C.

- Surface Mount - Back Connect
- Accepts .187" Terminals
- UL Recognized File #E66240
- CSA Certified File LR29513M36



## Hold Down Springs

Part Number	Description
20902-03*	Din Rail/Surface Mount Hold Down Spring
20902-00*	Back Connecting Hold Down Spring

