166ML

DELTROL controls | DC DIVISION OF DELTROL CORP.

165ML/166ML

5 &10 AMP PLUG-IN MAGNETIC LATCHING RELAYS

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

CONTACT DATA

CONFIGURATION:
AC & 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 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 120VAC 5 amp or 1/4 HP at 277VAC 2 amp at 600VAC 5 amp at 28VDC
166ML	thru 3PDT	10 amp or 1/3 HP at 120VAC 10 amp or 1/2 HP at 277VAC* 10 amp at 28VDC 1 HP at 277VAC – 3 phase 3 amp or 1/2 HP at 600VAC 12 FLA, 35 LRA at 15VAC

* 3 Pole Devices Rated at 6-2/3 Amp When Switching Greater Than 150VAC, Unless Polarity is the Same on All Poles.

UL RECOGNIZED FILE NO.: E37066
US and Canadian Recognition

EXPECTED LIFE

Electrical At Rated Load (Minimum)
100,000 Operations Except as Noted
Mechanical Life
10,000,000 Operations

DIELECTRIC STRENGTH

800 VRMS, 60 Hz Between Contacts
2200 VRMS, 60 Hz Between All Other Elements

MODELS

165ML: 5 Amp Single or Dual Coil
166ML: 10 Amp Single or Dual Coil
165MLB: 5 Amp ML Relay with Push to Test Button
166MLB: 10 Amp ML Relay with Push to Test Button
Other Suffixes Available
F-Flange Cover, P-Printed Circuit Terminals
TM-Top Mount Cover

COIL DATA

	NOMINAL VOLTAGE	RESISTANCE IN OHMS ± 10%	NOMINAL COIL POWER
AC Single Coil	6VAC 12VAC 24VAC 48VAC 120VAC 240VAC	4.5 18 72 285 1850 7200	4.0VA
DC Single Coil	6VDC 12VDC 24VDC 48VDC 110VDC	24 96 375 1500 8000	1.5W
DC Dual Coil	6VDC 12VDC 24VDC 48VDC 110VDC	19 75 300 1200 6300	1.9W

Coil Voltages: AC: Up to 277 Volts/60 Hz
DC: Up to 125 Volts
Coil Treatment: Single Coil: Molded Rynite® 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
S155D 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

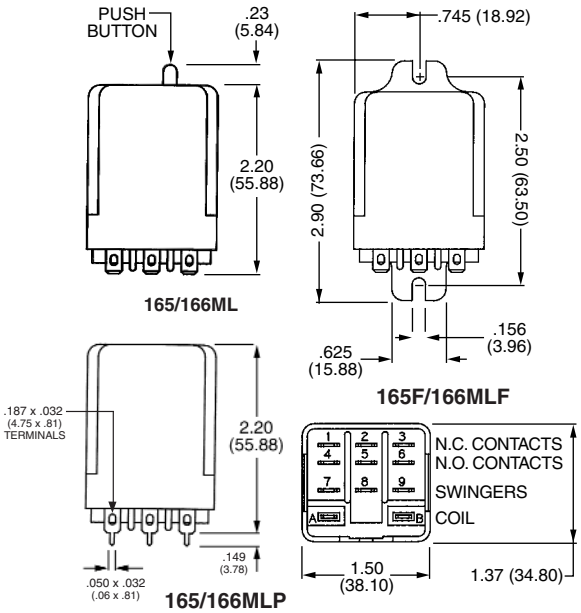
ENVIRONMENTAL DATA

Operating Ambient: AC: -45° to 70°C
DC: -45° to 85°C
Coil Temperature Rise: (25°C Ambient – Continuous Duty)
AC: 45°C Approx. @ 60 Hz – Use at 50 Hz will Cause Slight Increase in Coil Rise
DC: 35°C Approx.

MECHANICAL DATA

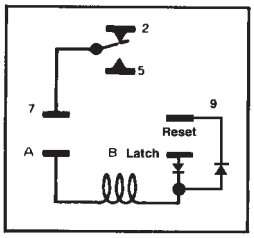
Terminals: All Versions (Except P suffix)
.187" x .020" Quick Connect/Solder
P Suffix Version Printed Circuit Pins
Cover: Clear Polycarbonate – Flammability Rating 94V2
Weight: Approx. 3.5 oz. (142 g)

DIMENSIONS [Unit Inch (mm)]

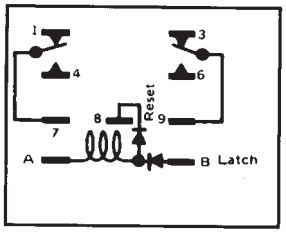


SCHEMATICS

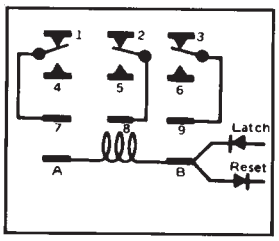
AC COIL SPDT



AC COIL DPDT

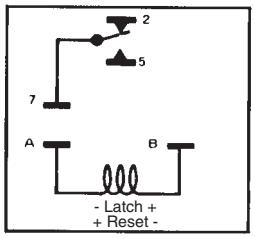


AC COIL 3PDT

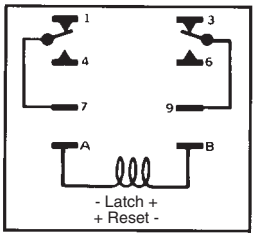


DIODES ARE EXTERNALLY WIRED AND SUPPLIED BY CUSTOMER. TYPE IN4005 OR EQUIVALENT RECOMMENDED 3PDT ONLY

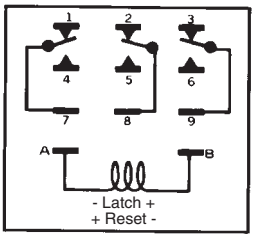
DC SINGLE COIL SPDT



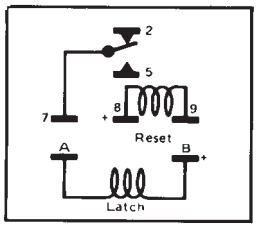
DC SINGLE COIL DPDT



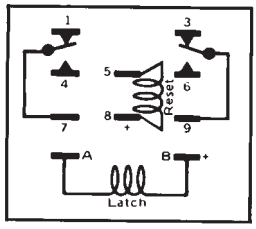
DC SINGLE COIL 3PDT



DC DUAL COIL SPDT



DC DUAL COIL DPDT



DC DUAL COIL 3PDT NOT AVAILABLE

ORDERING INFORMATION

10 AMP Part Numbers – Single Coil Versions

		AC Coils			DC Coils		
MODEL	POLE CONFIGURATION	24VAC	120VAC	240VAC	12VDC	24VDC	110VDC
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	– – –	– – –	– – –	– – –	– – –	– – –

* Black Items are Normally Stocked.
Blue Items are Non-Stock. Minimum may be required.

SOCKETS

See Page 30 for Dimensions and Specifications

DIN Rail Mtg		Hold Down Springs		Back Connecting			
							
				Quick-Connect	Solder	Deep Barrier Type	Printed Circuit
DPDT	20982-81	For DIN Sockets	20902-03*	SPDT 20313-80	20312-80*	20395-80	20314-80*
3PDT	20982-82*	For Back Connecting	20902-00*	DPDT 20313-81*	20312-81*	20395-81	20314-81*
				3PDT 20313-82*	20312-82*	20395-82	20314-82*