

# WHITE-RODGERS DC PRODUCTS

## Type 120

### solenoid

#### FEATURES

- Water resistant
- Capable of handling low and high current requirements
- Versatile mounting and termination

#### ENGINEERING DATA

##### Contacts

- Pole form—SPNO
- Material—silver alloy or copper
- Termination— $\frac{5}{16}$ "-24 UNF-2A thread or  $\frac{1}{4}$ "-20 UNC-2A thread

RATINGS				
Volts DC	Cont.	Inrush	Elec. Life	Contact Material
12 VDC	80A	400 A	10,000	Copper
12 VDC	100 A	400 A	50,000	Silver Alloy
36 VDC	100 A	400 A	25,000	Silver Alloy

Consult factory for additional ratings.

##### Coils

- Voltage—6 VDC through 48 VDC
- Termination—#8-32 UNC-2A, #10-32 UNF-2A thread or  $\frac{1}{4}$ " quick-connect
- Power (approximate)  
Continuous 8.1 watts  
Intermittent 14.4 watts
- Connections
  1. Coil isolated (two terminals)
  2. One coil lead grounded to bracket (one terminal)
- Operate (77°F/25°C)  
67% of nominal (Int.)  
75% of nominal (Cont.)  
110% max. safe of nominal coil voltage

COIL DATA		
Volts DC	Resistance in Ohms	
	Intermittent	Continuous
6	*	4.0
12	6.0	16.0
14	*	26.0
15	9.4	23.0
24	24.0	64.0
36	54.0	160.0
48	*	256.0

\* SPECIAL COILS AVAILABLE UPON REQUEST



#### GENERAL DATA

##### Dielectric Strength

- 500 Volts

##### Temperature Range

- -20°F to 150°F (-28.9°C to 65.6°C) (Intermittent)
- -20°F to 120°F (-28.9°C to 48.9°C) (Continuous)

##### Mechanical Life (no load)

- 100,000 cycles

##### Mounting Position

- Recommended mounting is coil terminals up or horizontal

##### Weight (approximate)

- SPNO—6.0 oz.

##### Duty Cycle

- Continuous
- Intermittent—30 seconds "on" maximum and minimum 6 minutes "off"

##### Hardware Torque Specification

- Contact Terminal: 45-55 inch-lbs.
- Coil Terminal: 12-18 inch-lbs.

# TYPE 120 PART NUMBERING SYSTEM

**120 - 1 XX X X X - X**

Basic Part Number Series

SPNO

Coil Voltage/Duty
02 – 6 Volt continuous
05 – 12 Volt continuous
06 – 12 Volt intermittent
07 – 14 Volt continuous
08 – 15 Volt continuous
14 – 24 Volt continuous
17 – 36 Volt continuous (special, 100 ohm coil)
19 – 36 Volt continuous
20 – 48 Volt continuous

Coil Termination (15 in-lb torque spec.)
1 – Isolated w/ #10-32 terminal (0.220 min. length)
2 – Grounded w/ #10-32 terminal (0.220 min. length)
3 – Isolated w/ 1/4" Q.C. terminal
4 – Grounded w/ 1/4" Q.C. terminal
6 – Grounded w/ #8-32 tapered terminal
7 – Isolated w/ #10-32 terminal (0.451 min. length)
8 – Grounded w/ #10-32 terminal (0.451 min. length)

Mounting Bracket
1 – Standard bracket
2 – "L" shaped bracket

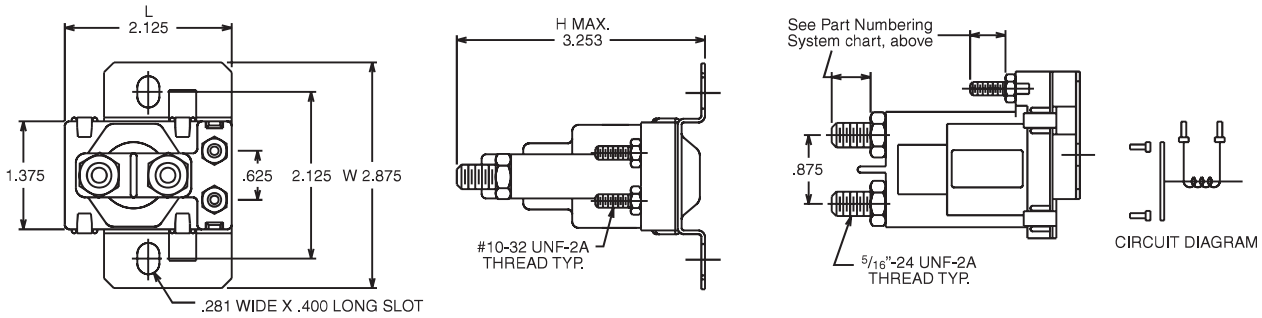
Contact Material and Termination (55 in-lb torque spec.)
1 – AgCdO w/ 5/16"-24 terminal (0.388 min. length)
3 – Cu w/ 5/16"-24 terminal (0.388 min. length)
4 – Cu w/ 1/4"-20 terminal
5 – AgCdO w/ 5/16"-24 terminal (0.495 min. length)

Factory Assigned Specials (where undefined, contact factory)
No dash – Standard assembly, hardware sent bulk
1 – Without hardware
2 – Extra hardware loosely mounted to solenoid
4 – Customer requested markings
5 – Mounting bracket zinc-plated and dichromate dip
6 – Customer requested markings
7 – Customer requested markings
8 – No hardware, mounting bracket as -5 option
9 – Customer requested markings
11 – Customer requested markings

## APPLICATION NOTES

- Not all part number combinations are available. Please contact your Sales Representative for available part numbers.
- Solenoids applied in battery charging circuits should be protected from higher than rated voltage during charging. The service life may be affected by this condition and the solenoid may or may not operate the circuit as intended.
- Circuits should be designed to provide safe operation should the solenoid fail in either the open or closed position.
- A back-up wrench must be used to hold the bottom nut stationary during installation.

## Terminal Type 4 - Isolated Coil (STD Bracket)



## Terminal Type 4 - Isolated Coil (L Bracket)

