



# Normally Open, High Frequency Multi-Throw Switches

(Connectors on 1.062" diameter circle.)

## CCR-38 Series

Normally Open DC-18 GHz  
SMA Connectors

### Description

The CCR-38 Switch is a broad-band, multi-throw, electromechanical coaxial switch designed to switch a microwave signal from a common input to any of 3, 4, 5, or 6 outputs. The characteristic impedance is 50 Ohms. The switches are small using the popular connector spacing on a 1.062" dia. circle. Each position has an individual actuator mechanism allowing random position selection. This also gives the minimum switching time. The standard actuator voltage is 28 VDC.

The CCR-38 comes with either a normally open or latching actuator. For the normally open actuator, all paths are open when the switch is de-energized. The latching switch remains in the last position selected when the switch is de-energized.

### Specifications

**RF Contacts:**  
Break before make

**Actuator Voltage:**  
24-30 VDC; 12, 15, 20 VDC

**Actuator Current:**  
Normally open:  
140 mA max @ 28 VDC and 20°C

**Switching Time:**  
15 msec max

**Weight:**  
6 oz. (typical)

**Temperature Range:**  
-25°C to +65°C

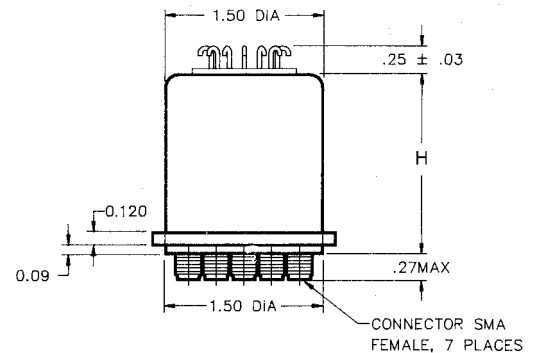
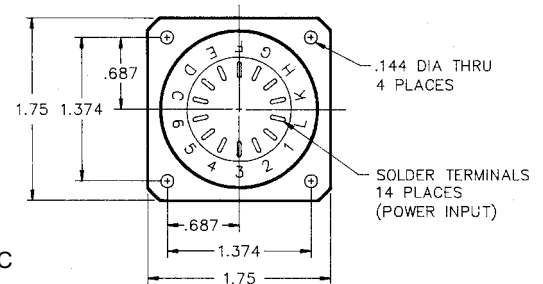
**Life:**  
2 million cycles

**RF Power Handling:**  
See Power Handling Capability graph

### Optional Features

- Indicator Circuits
- Special Actuator Voltages
- TTL Compatible Drivers
- Self-Cutoff Circuits (latching only)

\* TD (TTL with decoder) option increases current 50 mA max @ 28 VDC and +20°C



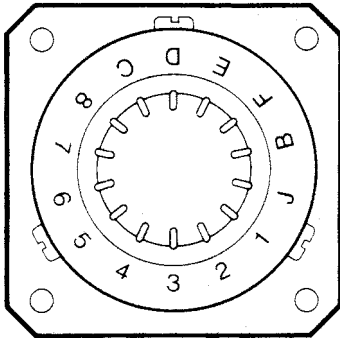
H = 1.48 STD Model

H = 2.50 TTL Model

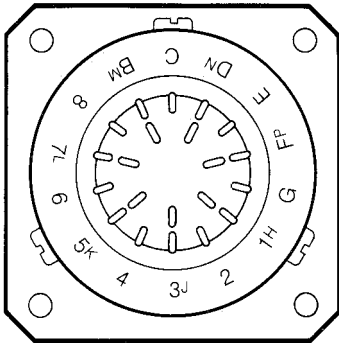
### RF Performance

Frequency	DC-6 GHz (-506)	DC-12.4 GHz (-512)	DC-18 GHz (-518)
VSWR (maximum)	1.25:1	1.40:1	1.50:1
Insertion Loss (maximum)	0.2 dB	0.4 dB	0.5 dB
Isolation (minimum)	70 dB	60 dB	60 dB

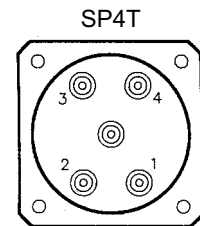
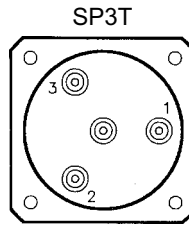
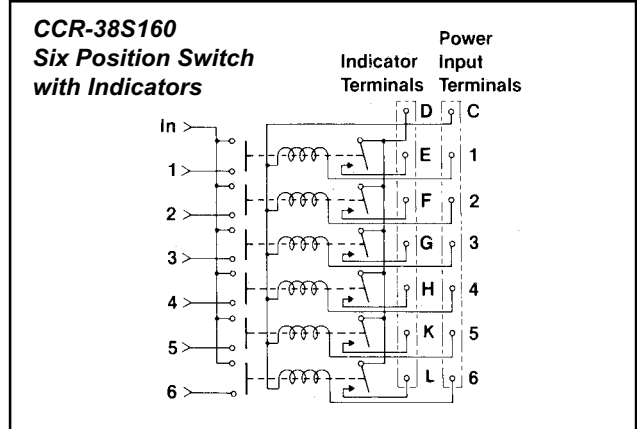
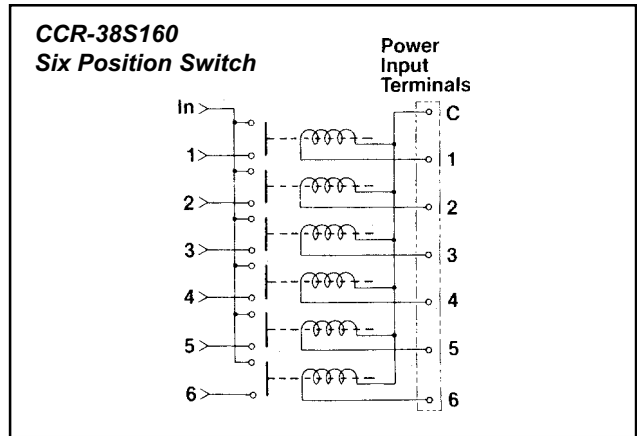
Specifications subject to change without notice.



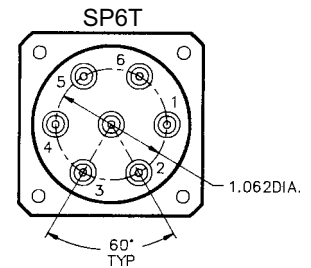
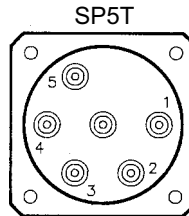
**CCR-38S160-T**  
**Input Terminals**  
*(TTL option*  
*without indicators)*



**CCR-38S160C-T**  
**Input Terminals**  
*(TTL option*  
*with indicators)*



**RF CONNECTOR PATTERNS**



**Model Number Table**

Actuator Type	Without Indicators	With Indicators
Normally Open	CCR-38S1(*)O	CCR-38S1(*)C

Note: The (\*) shown in the model number should be replaced with the desired number of switch positions, i.e., 3, 4, 5, 6. For example a 6 position switch with a 28 Volt actuator without indicators is model number CCR-38S160.

**Frequency**

- For DC - 6 GHz add - 506 for model number
- For DC - 12.4 GHz add - 512 for model number
- For DC - 18.0 GHz add - 518 for model number