

Model Numbering System

Example: SPDT-0A-18A-D-S9

SPDT - 0 A - 18 A - D - S9

TYPE

- SPDT
- TRAN
- SPMT
- MSPDT
- MSPMT
- MTRAN
- Multi-Port Matrix

CONTROL OPTIONS

SPDT / TRAN
 Not specified: Pin Terminal Control
 S9: 9Pins D-Sub Control
 S15: 15Pins D-Sub Control

SPMT
 Not specified: D-Sub Control
 PIN: Pin Terminal Control

CONNECTOR

- 0: SMA
- 1: N
- 2: TNC
- 3: RF PIN
- 4: F
- 5: NC
- 6: CUSTOM

OPTIONS

C: Custom
 - Customer specified requirements

D: TTL Driver
 - Available for all models

N: Narrow Body
 - SPDT only

P: Positive + Common
 - Latching and Normally Open only

S: Self Cutoff
 - Latching only

T: Internal Terminations
 - SPDT/SPMT, SMA models only

ACTUATOR TYPE

- A: Failsafe without Indicator
- B: Failsafe with Indicator
- C: Latching without Indicator
- D: Latching with Indicator
- E: Normally open without Indicator
- F: Normally open with Indicator

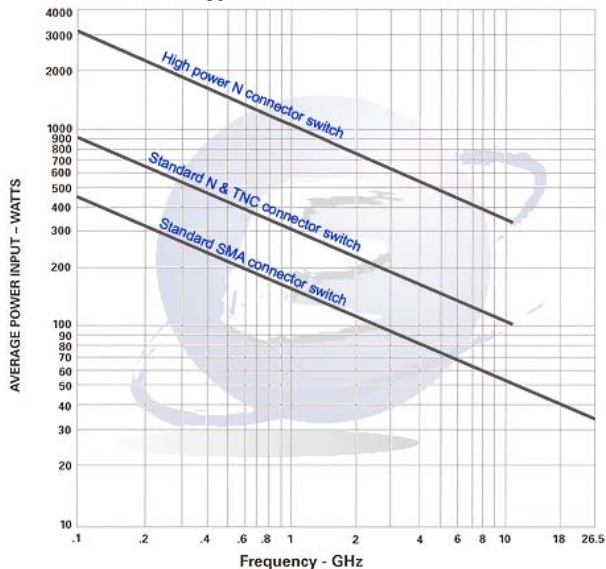
ACTUATOR VOLTAGE

- A: 12VDC
- B: 15VDC
- C: 28VDC
- D: 24VDC
- E: 20VDC
- F: 5VDC

FREQUENCY RANGE

- 03: DC-3GHz
- 08: DC-8GHz
- 12: DC-12GHz
- 18: DC-18GHz
- 22: DC-22GHz
- 26: DC-26.5GHz

Power Handling



Note: Power handling measurements of switches are made with the assumption of VSWR 1.10:1

Mechanical Specification

Switch Type:	Electromechanical, Coaxial
RF Contacts:	Break before Make
Characteristic Impedance:	50Ω (75Ω available for SPDT upon request)
Temperature Range:	-25°C to +65°C Operating (wider range upon request)
Humidity:	Moisture Seal Available
Shock:	MIL-STD-202 Method 213, Condition D (500G Non Operating)
Vibration:	MIL-STD-202 Method 214, Condition D (10G RMS Non Operating)
Operating Life:	1 Million Cycles
MTBF:	MIL-HDBK-217F Fixed, 25°C, <1 Cycle per hour

RF Performance

SPDT Series

	DC-6GHz	6-12GHz	12-18GHz	18-26.5GHz
VSWR (max.)	1.25 : 1	1.40 : 1	1.50 : 1	1.80 : 1
Insertion Loss (max.)	0.20 dB	0.40 dB	0.50 dB	0.70 dB
Isolation (min.)	70 dB	60 dB	60 dB	50 dB

SPMT Series

	DC-6GHz	6-12GHz	12-18GHz	18-26.5GHz
VSWR (max.)	1.25 : 1	1.40 : 1	1.50 : 1	2.00 : 1
Insertion Loss (max.)	0.20 dB	0.40 dB	0.50 dB	0.80 dB
Isolation (min.)	70 dB	60 dB	60 dB	50 dB

TRAN Series

	DC-6GHz	6-12GHz	12-18GHz	18-26.5GHz
VSWR (max.)	1.25 : 1	1.40 : 1	1.50 : 1	2.00 : 1
Insertion Loss (max.)	0.20 dB	0.40 dB	0.50 dB	0.80 dB
Isolation (min.)	70 dB	60 dB	60 dB	50 dB

MULTI-PORT MATRIX Series

	DC-6GHz	6-12GHz	12-18GHz
VSWR (max.)	1.25 : 1	1.50 : 1	1.60 : 1
Insertion Loss (max.)	0.20 dB	0.50 dB	0.60 dB
Isolation (min.)	70 dB	60 dB	50 dB

SWITCHING MATRIX Series

	DC-4GHz	4-8GHz	8-12GHz	12-18GHz
VSWR (max.)	1.25 : 1	1.40 : 1	1.50 : 1	1.80 : 1
Insertion Loss (max.)	0.50 dB	2.00 dB	2.50 dB	3.00 dB
Isolation (min.)	75 dB	70 dB	65 dB	60 dB

Specifications subject to change without notice

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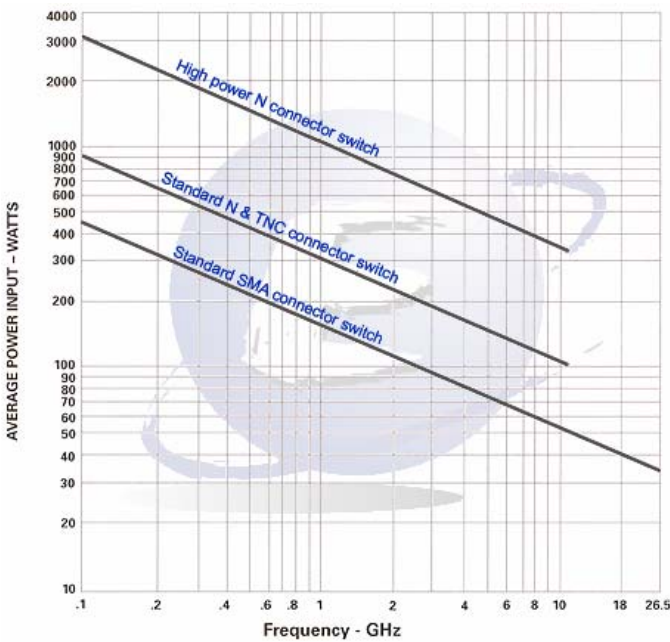
AUG 2009



The MTRAN (Transfer) is a four port switch with two independent pairs of RF paths. These pairs are actuated simultaneously. This actuation is similar to that of a double-pole-double-throw switch. They have an operating temperature range -54°C to $+85^{\circ}\text{C}$. It is designed for use in 50 Ohms coaxial transmission lines operating up to maximum 18GHz. Latching and Failsafe switching modes are available. In a latching switch, the switch remains in the position set by the input control voltage when power is removed. In the failsafe switch, removal of the control voltage results in the switch returning to the selected (failsafe) or default position. Other options include position indicator contacts and choices of connectors. See Model Numbering System for other options.

Specifications:

Switch Type:	Electromechanical, Coaxial
RF Contacts:	Break before Make
Actuator:	Latching, Failsafe, 12/15/24/28 VDC
Switching Time:	15-30ms (max)
Connectors:	SMA/N/TNC (female)
Temperature Range:	$- 54^{\circ}\text{C}$ to $+ 85^{\circ}\text{C}$
Humidity:	100% Humidity, No Condensation
Shock:	MIL-STD-202 Method 213, Condition D (500G Non Operating)
Vibration:	MIL-STD-202 Method 214, Condition D (10G RMS Non Operating)
Operating Life:	1 million cycles (min)
MTBF	6.8 million hours (MIL-HDBK-217F Fixed, 25°C , <1 Cycle per hour)



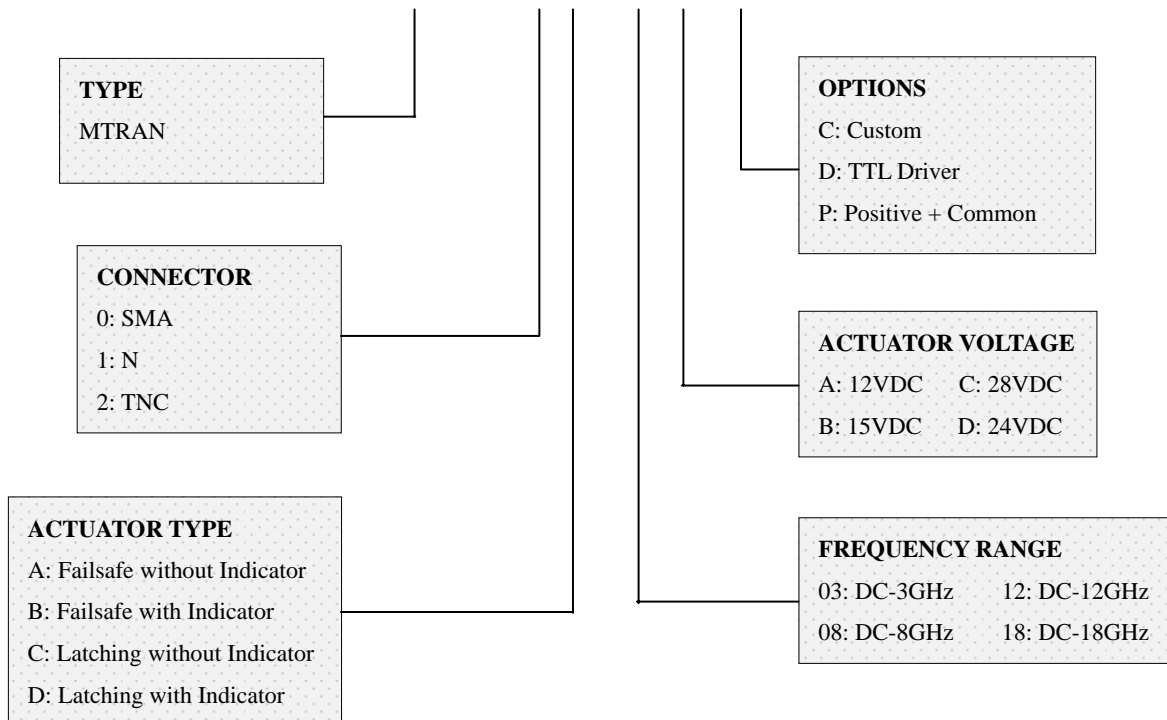
Note: The power handling measurements of switches are made with the assumption of VSWR 1.10:1.

	VSWR (max.)	Insertion Loss (max.)	Isolation (min.)
DC-6GHz	1.25 : 1	0.20 dB	70 dB
6-12GHz	1.40 : 1	0.40 dB	60 dB
12-18GHz	1.50 : 1	0.50 dB	60 dB

Power Handling

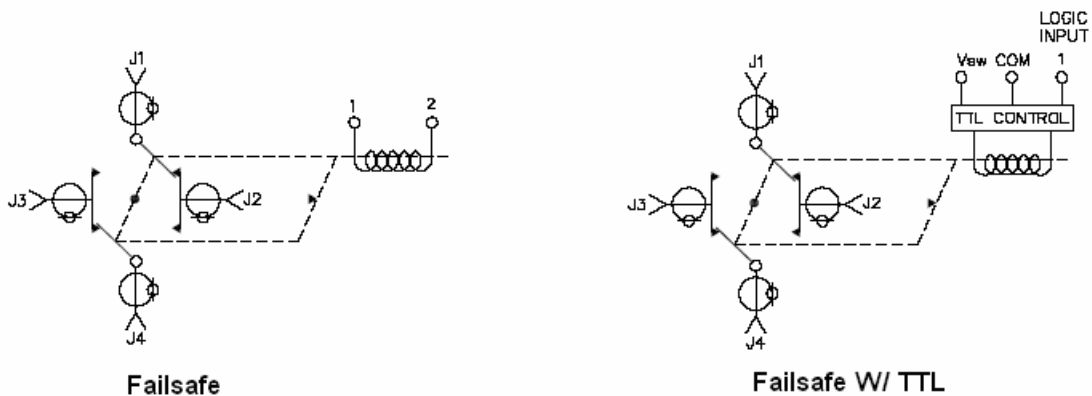
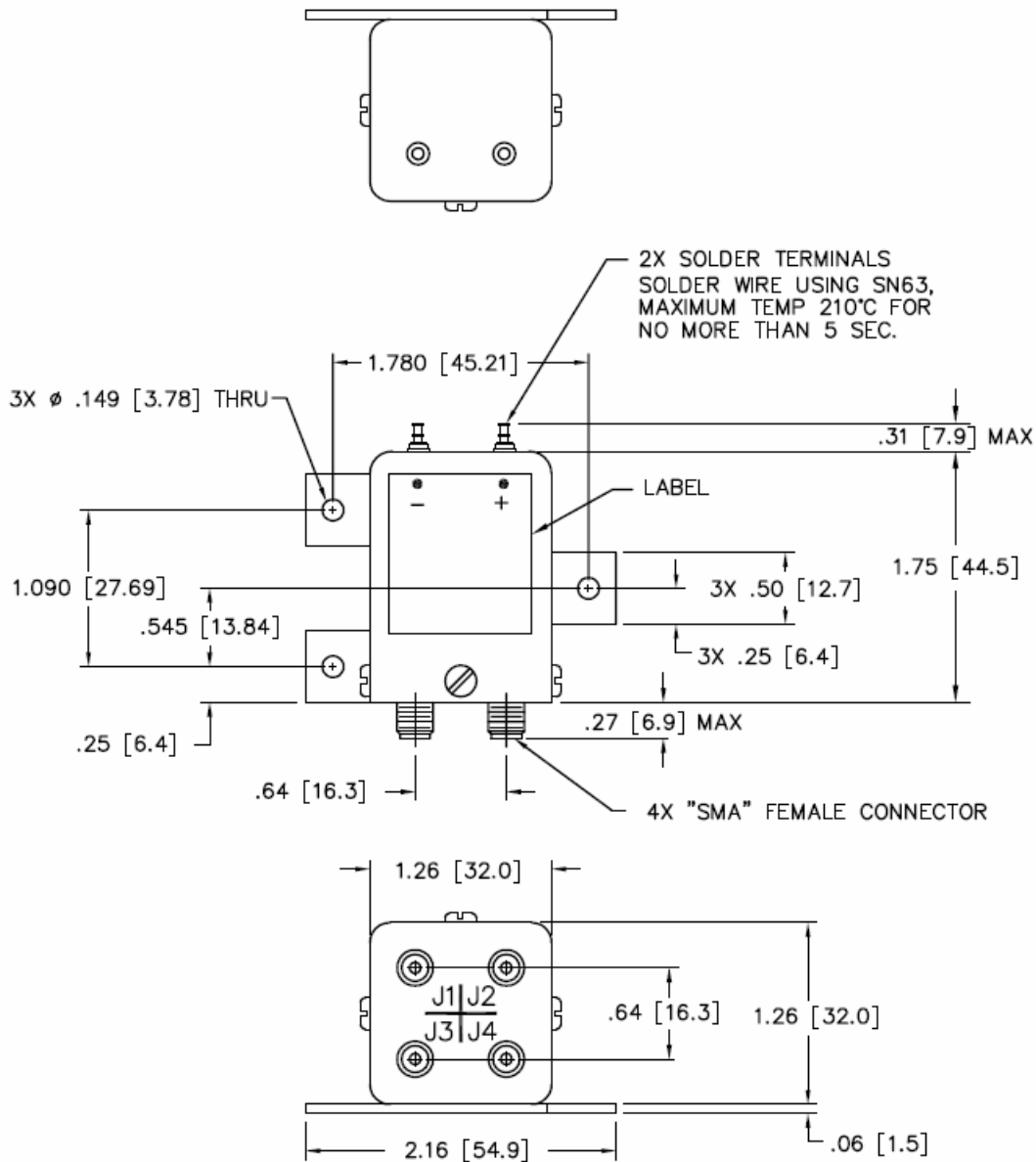
Model Numbering System

MTRAN - 0 A - 18 A - D

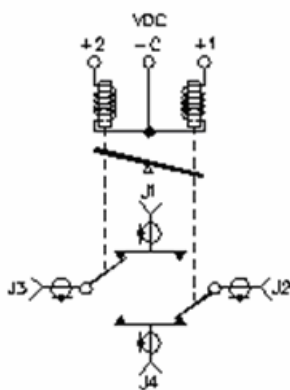
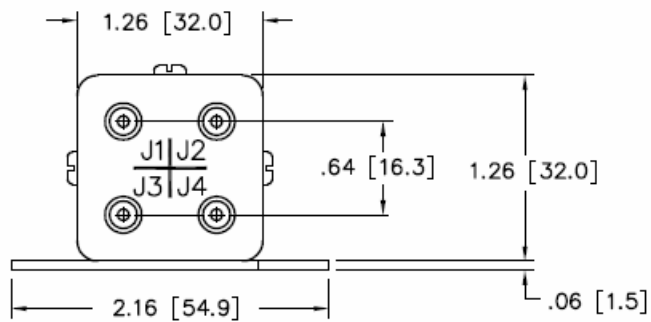
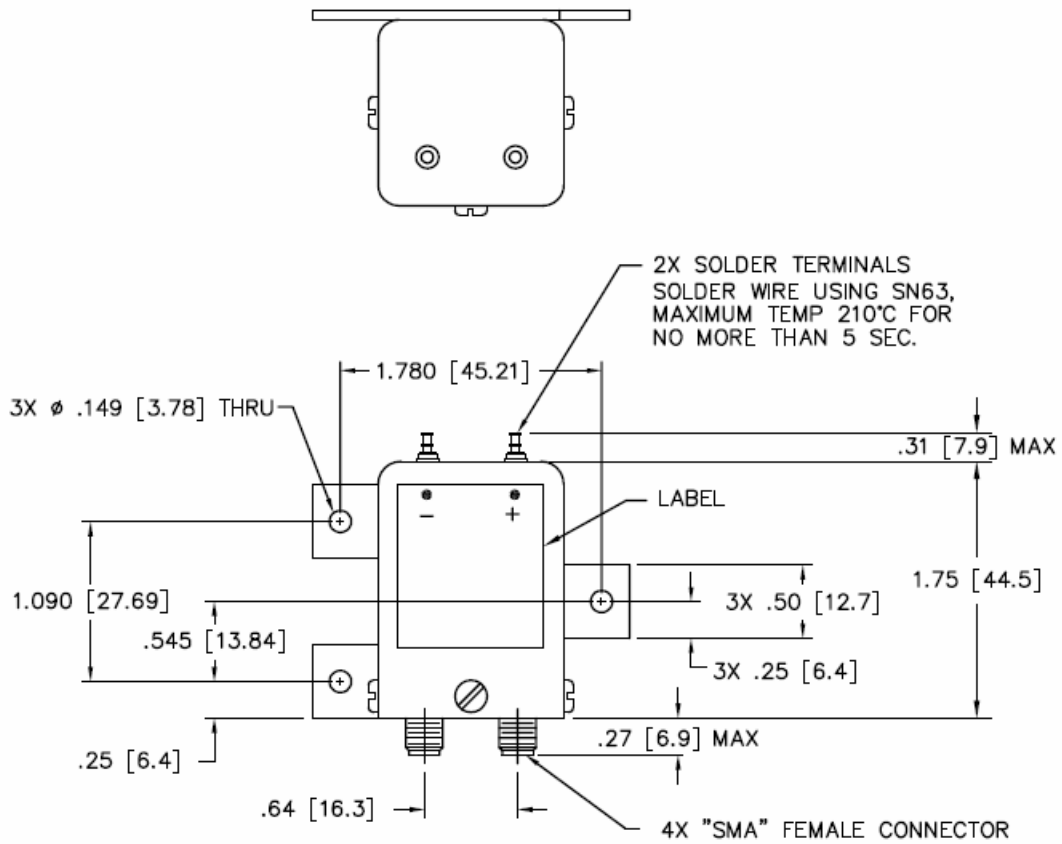


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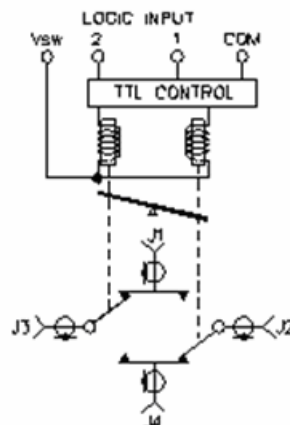
Failsafe Drawing (Dimensions in inches and [mm])



Latching Drawing



Latching



Latching W/ TTL