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Find the *L-3 / Narda / Miteq SEM163LD* at our website: *Click HERE*

Stocked Electro-Mechanical Switches

DC-18 GHz

SP4T SEM Series

- Standard Features Include:
  Normally Open and Latching Models
  TTL Logic Control, Suppression Diodes,
  Indicator Circuits



Specifications

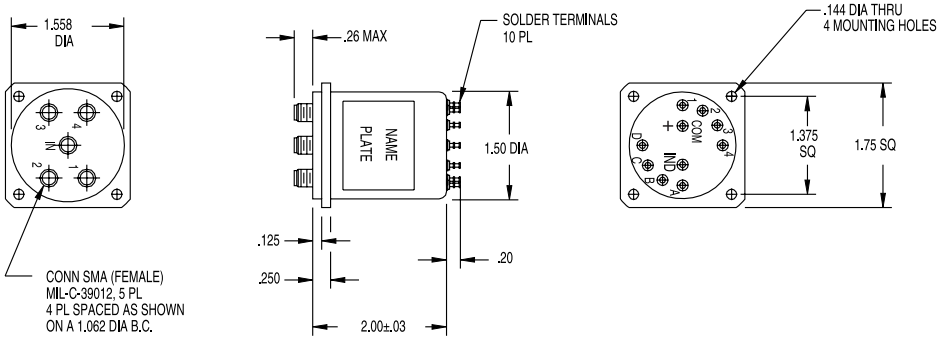
SP4T, SMA (F), DC to 18 GHz

MODEL	FEATURES	ACTUATING CURRENT (mA @28Vdc & 25°C)	FREQUENCY RANGE (GHz)	INSERTION LOSS (dB max.)	VSWR (max.)	ISOLATION (dB min.)
SEM143	NORMALLY OPEN / INDICATOR CKT	140	DC-3 3-8 8-12.4 12.4-18	0.2 0.3 0.4 0.5	1.2 1.3 1.4 1.5	80 70 60 60
SEM143D	NORMALLY OPEN / TTL* / INDICATOR CKT / SUPPRESSION DIODE	140	DC-3 3-8 8-12.4 12.4-18	0.2 0.3 0.4 0.5	1.2 1.3 1.4 1.5	80 70 60 60
SEM143T	NORMALLY OPEN / TERMINATED / INDICATOR CKT	140	DC-3 3-8 8-12.4 12.4-18	0.2 0.3 0.4 0.5	1.2 1.3 1.4 1.5	80 70 60 60
SEM143DT **SEM143DT-24**	NORMALLY OPEN / TERMINATED / TTL* / SUPPRESSION DIODE / INDICATOR CKT	140 225 @24V	DC-3 3-8 8-12.4 12.4-18	0.2 0.3 0.4 0.5	1.2 1.3 1.4 1.5	80 70 60 60

* APPLIES TO ALL SWITCHES WITH TTL:
1. Selected position of the switch is controlled by TTL Logic
2. Switch requires only nominal +28 Vdc for coils (additional 5 Vdc is not required)
3. TTL LOGIC LEVEL: Low 0 to .8 Vdc High 2.5 to 5.0 Vdc
4. TTL LOGIC INPUT CURRENT: Low 0 mA High 1.6 mA max @ 3.85 Vdc

Outline Drawings and Schematics

Dimensions in inches, unless otherwise specified.



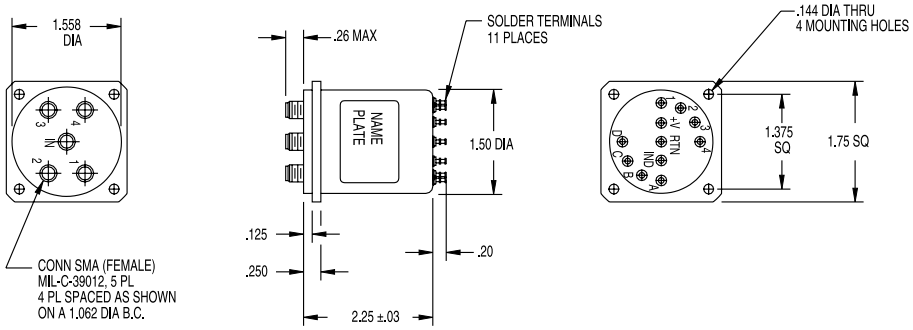
SEM143

SCHEMATIC SHOWN IN NORMALLY OPEN POSITION

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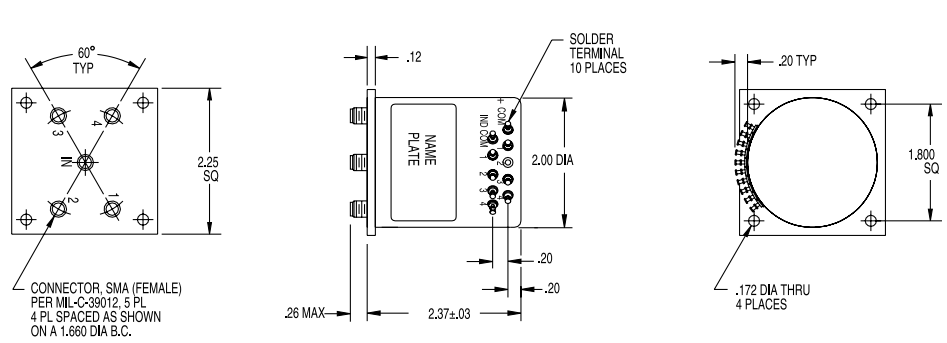
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Stocked Electro-Mechanical Switches



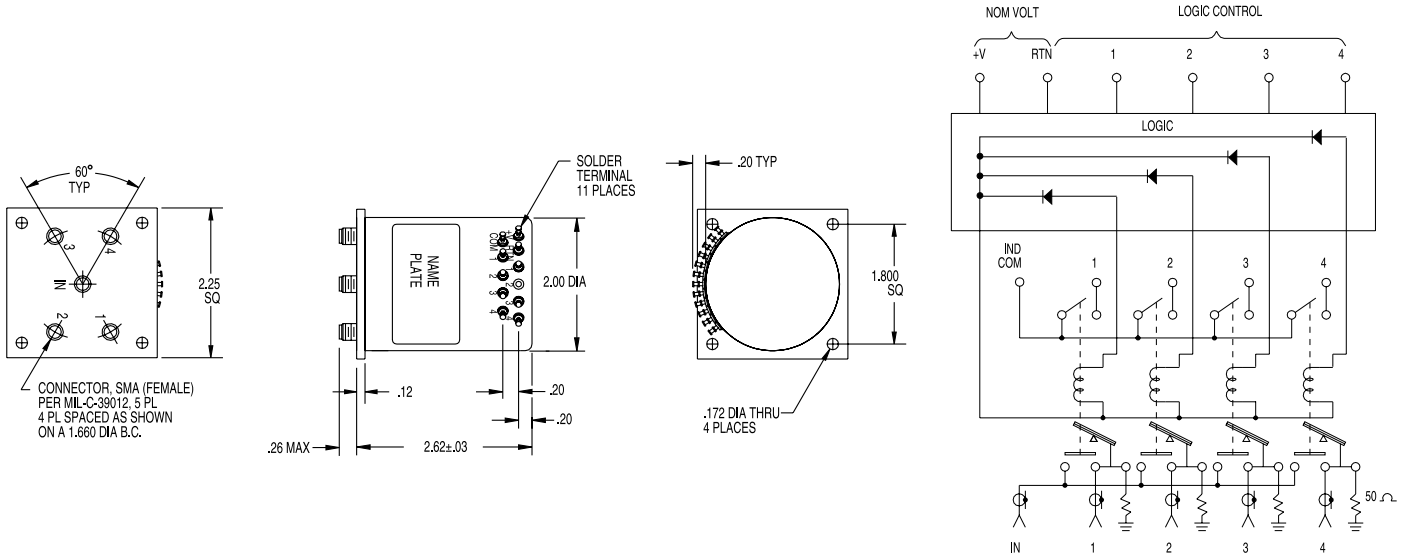
SCHEMATIC SHOWN IN NORMALLY OPEN POSITION

SEM143D



SCHEMATIC SHOWN IN 50 Ω TERMINATED POSITION

SEM143T



SCHEMATIC SHOWN IN 50 Ω TERMINATED POSITION

SEM143DT and SEM143DT-24

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Stocked Electro-Mechanical Switches

Glossary

All switches are bi-directional. Inputs and Outputs are interchangeable.

SP2T – A single pole, double throw switch has one input port and two selectable output ports.

Multiposition Switch – A multiposition switch has one input port and more than two selectable output ports. Unlike some switches, Narda models can be switched directly to any one of the available output positions without sequencing through intervening positions.

Transfer Switch – A transfer switch has two independent paths that operate simultaneously in one of two selected positions.

Failsafe – The switch moves to the closed position when the actuating voltage is applied and always returns to a predetermined position when the voltage is removed.

Latching – Also called Pulse Latching, the switch remains in a preselected position whenever the actuating voltage is removed or interrupted and holds that preselected position until a voltage is applied to another position. This configuration must be pulse controlled with a pulse width of 20 ms to 100 ms duration. Standard polarity is common positive.

Normally Open – All output ports of the switch are disconnected from the input port until a voltage is applied to a selected position.

Terminated Units – Each unused or open output RF port is internally terminated in a 50-ohm resistive load (1W CW max.).

TTL – Selected position of the switch is controlled by a TTL Logic High. The switch requires only nominal +28 Vdc (additional 5 Vdc is not required).

TTL Logic Voltage Level:
Low 0 to 0.8 Vdc
High 2.5 to 5.0 Vdc
TTL Logic Input Current:
Low 0 mA
High 1.6 mA max. @ 3.85 Vdc

TTL Units – Transistor-Transistor-Logic circuitry enables the status of the switch to be controlled by the level of TTL logic input.

Suppression Diodes – Fast recovery silicon rectifiers (diodes) connected in parallel with the coils of the switch to suppress any transient voltage that may be generated by the coils.

Indicator Circuitry – A set of internally mounted contacts that allows external monitoring of switch RF status. Some switch series include a steering diode drive due to the electronic indicator.

Solder Terminal – A turret terminal is standard on all switches.

Self De-energizing Circuitry – With this option, a set of internally mounted contacts or electronically generated pulses disconnects the driver voltage as soon as RF contact has been made. This option is only available with latching type switches. Suppression diodes must be specified with this option.

Common Specifications

RF Impedance..... 50 ohms nominal

Actuating Voltage..... 28 Vdc ± 2 V

Switching Time..... 15 ms (max.)

Switching Sequence..... Break Before Make

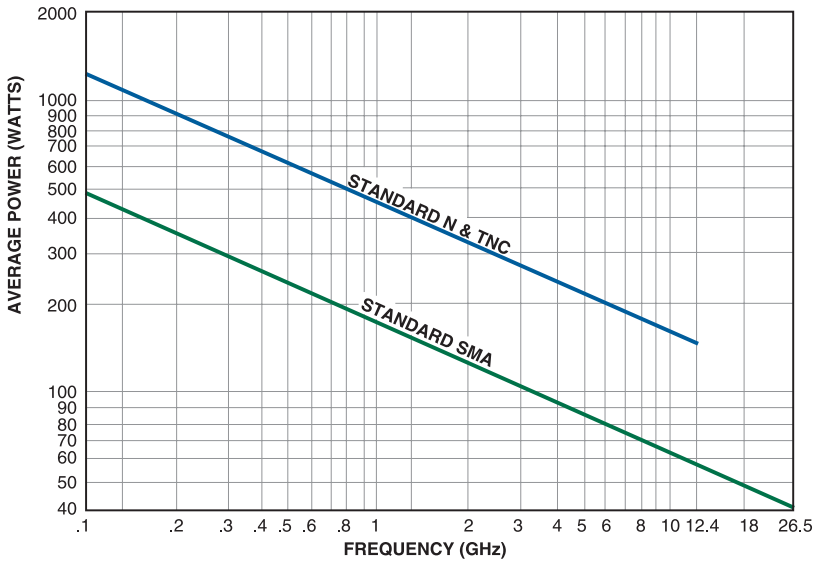
Operating Ambient Temp..... -35°C to +70°C

Operating Life.....1 million cycles/position

Designed to meet MIL-S-3928

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Power Handling Capability



Power Handling Capability of Narda Switches vs. Frequency for Common RF Connectors
(for 25°C ambient temperature, matched 50ohm systems, sea level and cold switching)

For VSWR above 1.1, Derate Power Handling Capability as shown:

VSWR	Derating Factor
1.5	.94
2.0	.88
2.5	.83
3.0	.78
3.5	.73
4.0	.70

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