
RADIALL
R594473617
0 - 20 GHz
Un : 24 V
SN : 08 XXX
RADIALL
R591702610
0 - 26.5 GHz
Un: 12V
Lot 1128

SPnT

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SPNT PART NUMBER SELECTION GUIDE[1]

DIGITAL POSITION	R 1-3/ MODEL:				4: RF CONNECTORS				5: TYPE		6: VOLTAGE				7: POS.	8: OPTIONS					9: TERMINALS			10: DOCUMENT-ATION		
Series		RAMSES		TITANIUM		USB	SUBMIN.																			
Configuration	-	SPnT		SPnT		SPnT	SPnT								Number of positions	Without option	Positive common	TTL driver	Suppression diodes	Positive common and suppression diodes	BCD TTL driver compatible	Solder pins	D-Sub connector	Mini USB	Micro-D connector	HE 10 receptacle	Certificate of conformity	Calibration certificate	Calibration certificate + RF curves
		R57	R57	R51		R57	R591																						
Not terminated	-	0/1	0/1	-	DIN 1.6/5.6/2.5 GHz	-	-	0	Normally open	0/1	5 V	12 V	24 V	28 V	4/6	0	0	1	2	3	4	0	0	-	5	7	-	-	-
Terminated	-	2/3/4/5/8/9	2/3/4/5/8/9	2	N 3 GHz	-	-	2/6	Latching	1	-	-	-	-	6/8	0	1	2	3	4	8	0	5	1	-	-	-	-	-
SMA 3 GHz	-	-	3	-	-	-	-	-		-	-	2	-	3	4/6	0	1	2	3	4	8	0	5	-	-	-	-	-	-
SMA 6 GHz	-	-	-	-	-	-	-	3		-	2	-	-	2	3-12	0	1	2	3	4	8	0	5	-	-	-	-	-	-
SMA 18 GHz	-	-	4	-	-	-	-	-		-	-	-	3	-	0	1	2	3	4	8	0	5	-	-	-	-	-	-	-
SMA 20 GHz	-	-	-	-	-	-	-	-		-	-	-	-	-	1	1	2	3	4	8	0	5	-	-	-	-	-	-	-
SMA 26.5 GHz	F	-	F	F	-	F	7	-		-	-	-	-	-	2	2	2	3	4	8	0	5	-	-	-	-	-	-	-
SMA 2.9 40 GHz	8	-	7/8	8	-	8	8	-		-	-	-	3	-	3	3	3	3	4	8	0	5	-	-	-	-	-	-	-
2.4mm 50 GHz	-	-	J	-	-	-	-	-		-	-	-	-	-	4/6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QMA 6 GHz	-	-	E	-	-	-	E	-		-	-	-	-	-	4/6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DIN 1.6/5.6/2.5 GHz	-	-	9	-	-	-	-	-		-	-	-	-	-	4/6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N 3 GHz	-	0	-	-	-	-	-	-		-	-	-	-	-	4/6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N 12.4 GHz	-	1	-	-	-	-	-	-		-	-	-	-	-	4/6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BNC 3 GHz	-	2	-	-	-	-	-	-		-	-	-	-	-	4/6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TNC 3 GHz	-	5	-	-	-	-	-	-		-	-	-	-	-	4/6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TNC 12.4 GHz	-	6	-	-	-	-	-	-		-	-	-	-	-	4/6	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Notes

Example of P/N: R591703400 is a SP4T SMA up to 26.5 GHz, normally open, 28 Vdc, without option, solder pins.

1. For part number creation and available options, see detailed part number selection for each series.

Subminiature Series

SUBMINIATURE SPNT UP TO 40 GHz

SMA – SMA 2.9 - QMA

Radiall's R591 coaxial subminiature switches have a typical operating life exceeding 25 million cycles; Providing excellent RF performance, repeatability, and a guaranteed life of 10 million cycles, which makes switches ideal for Automated Test Equipment (ATE) and other measurement applications. These subminiature switches are also an excellent choice for Mil/ Aero applications due to their small size, light weight, and outstanding shock and vibration handling capabilities.

Example of P/N: R591302420 is a SP4T SMA up to 6 GHz, normally open, 12 Vdc with TTL driver and solder pins.

PART NUMBER SELECTION

R591

SERIES PREFIX

RF CONNECTORS
3: SMA up to 6 GHz
7: SMA up to 26.5 GHz
8: SMA 2.9 up to 40 GHz [6]
E: QMA up to 6 GHz [5]

TYPE
0: Normally open
2: Latching, global reset
6: Latching, separated reset [1]

ACTUATOR VOLTAGE
2: 12 Vdc
3: 28 Vdc

NUMBER OF POSITIONS
4: 4 positions
6: 6 positions

OPTIONS
0: Without option
1: Positive common
2: With TTL driver [2, 3 & 4]
3: With suppression diodes
4: With suppression diodes and positive common

ACTUATOR TERMINALS
0: Solder pins
5: Micro-D connector

Notes

1. Available with "solder pins" models only.
2. Polarity is not relevant to application for switches with TTL driver.
3. Suppression diodes are already included with TTL option.
4. Available with "normally open" models only.
5. The QLF tradermark (Quick Lock Formula®) standard applies to QMA and QN series and guaranties the full intermateability between suppliers using this tradermark. Using QLF certified connectors also guarantees the specified level of RF performance.
6. Connector SMA2.9 is equivalent to "K connector®", registered trademark of Anritsu.

Subminiature Series

GENERAL SPECIFICATIONS

OPERATING MODE		NORMALLY OPEN		LATCHING	
Nominal operating voltage (across operating temperature)	Vdc	12 (10.2 / 13)	28 (21 / 30)	12 (10.2 / 13)	28 (21 / 30)
Coil resistance (+/-10%)	Ω	48	250	60	285
Operating current at 23 ºC	mA	250	110	200	98
Average power		See RF Power Rating Chart page 1-13			
TTL input	High Level	2.2 to 5.5 Volts		800 µA max 5.5 Volts	
	Low Level	0 to 0.8 Volts		20 µA max 0.8 Volts	
Switching time (max)	ms	10			
Life	SMA-QMA	10 million cycles			
	SMA 2.9	2 million cycles			
Connectors		SMA - QMA - SMA 2.9			
Actuator terminals		Solder Pins: double row connector for wrapping, soldering (250 ºC max / 30 sec), or connecting to 2.54 mm pitch female connector. 9 pin micro-D receptacle M83513/07-A according to MIL-C-85513.			
Operating temperature range		-40 ºC to +85 ºC			
Storage temperature range		-55 ºC to +85 ºC			
Sine vibration (According to MIL STD 202, Method 204D, Cond. D)		10 - 2,000 Hz, 20 g - operating			
Random vibration (According to MIL STD 202, Method 214A, Profile I, Cond. F)		50 - 2,000 Hz, 20.71 g - operating			
Shock (According to MIL STD 202, Method 213B, Cond. C)		100 g / 6 ms, 1/2 sine - operating			

RF PERFORMANCE

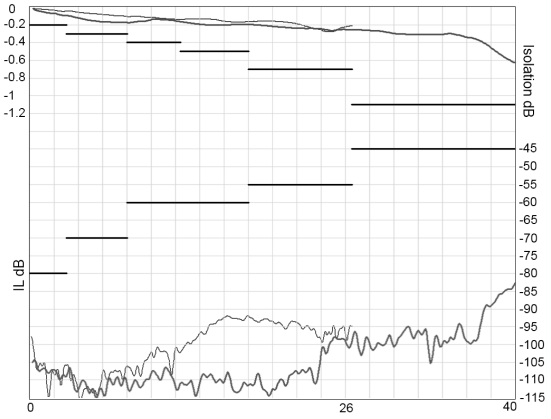
CONNECTORS	FREQUENCY RANGE GHz		V.S.W.R. (MAX)	INSERTION LOSS (MAX) dB	ISOLATION (MIN) dB	IMPEDANCE Ω
QMA / SMA	DC - 6	DC - 3	1.20	0.20	80	50
		3 - 6	1.30	0.30	70	
SMA	DC - 26-5	DC - 3	1.20	0.20	80	
		3 - 8	1.30	0.30	70	
		8 - 12.4	1.40	0.40	60	
		12.4 - 18	1.50	0.50	60	
		18 - 26.5	1.60	0.60	55	
SMA 2.9	DC - 40	DC - 3	1.20	0.20	80	
		3 - 8	1.30	0.30	70	
		8 - 12.4	1.40	0.40	60	
		12. 4 - 18	1.50	0.50	60	
		18 - 26.5	1.70	0.70	55	
		26.5 - 40	2.20	1.10	45	

Notes

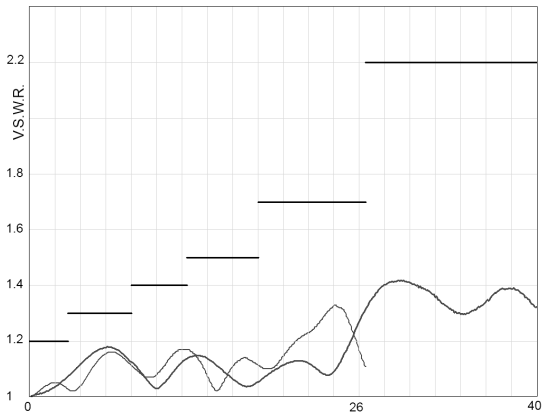
See page 5-4 for typical RF performance.

TYPICAL RF PERFORMANCE

INSERTION LOSS & ISOLATION

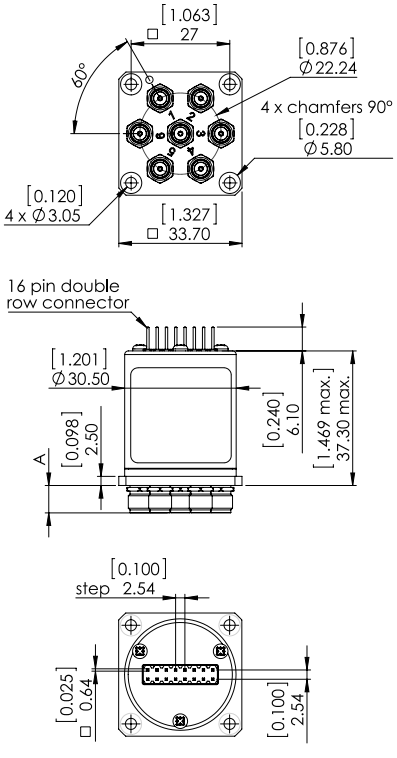


V.S.W.R

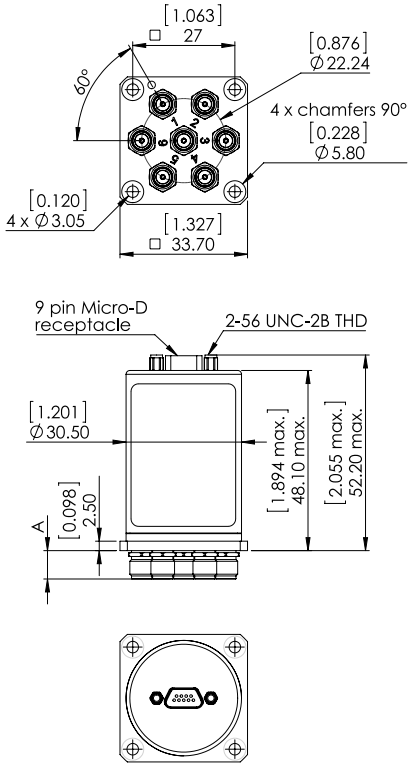


TYPICAL OUTLINE DRAWING [1]

SOLDER PIN MODEL



MICRO-D MODEL



CONNECTORS	SMA	SMA 2.9	QMA
A max (mm/ [inches])	7.7 [0.303]	6.7 [0.264]	10.8 [0.394]

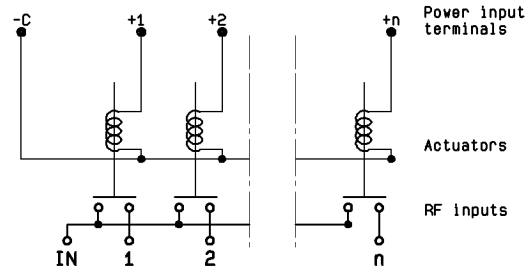
Notes

1. For SP4T, ways 3 and 6 not connected

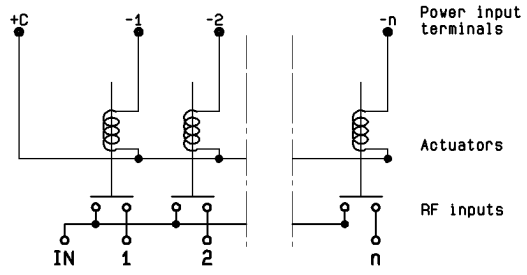
2. All dimensions are in millimeters [inches].

R591 SERIES ELECTRICAL SCHEMATICS

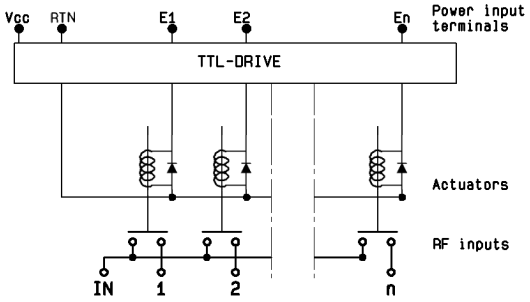
NORMALLY OPEN WITHOUT OPTION
R591-0- -0-



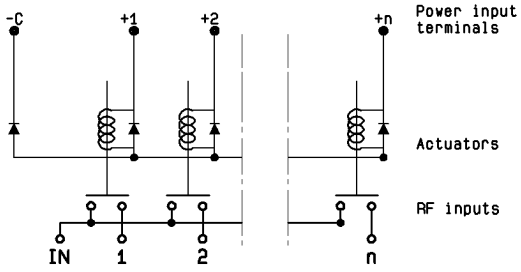
NORMALLY OPEN WITH POSITIVE COMMON
R591-0- -1-



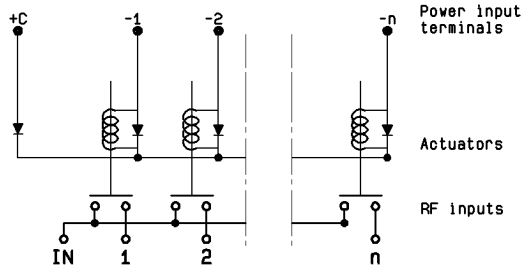
NORMALLY OPEN WITH TTL DRIVE
R591-0- -2-



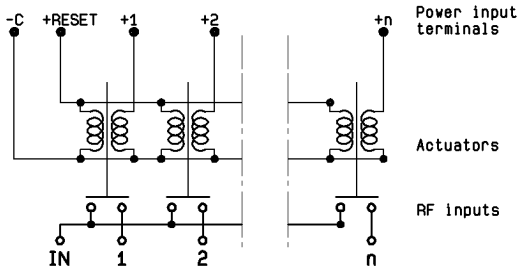
NORMALLY OPEN WITH SUPPRESSION DIODES
R591-0- -3-



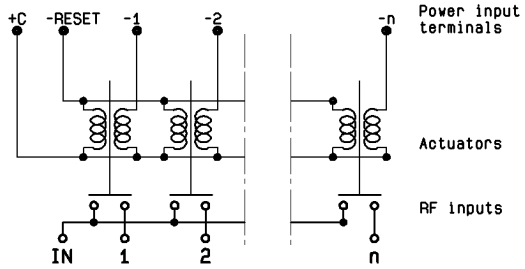
NORMALLY OPEN WITH POSITIVE COMMON & SUPPRESSION DIODES
R591-0- -4-



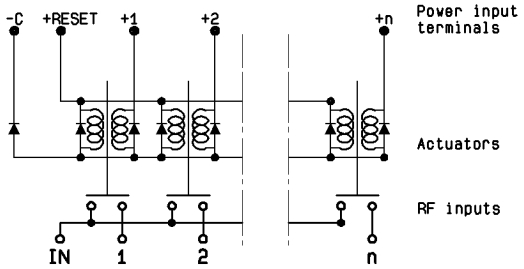
LATCHING GLOBAL RESET WITHOUT OPTION
R591-2- -0-



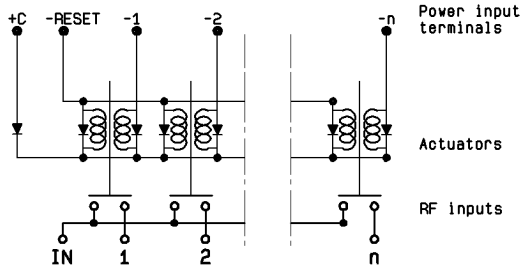
LATCHING GLOBAL RESET WITH POSITIVE COMMON
R591-2- -1-



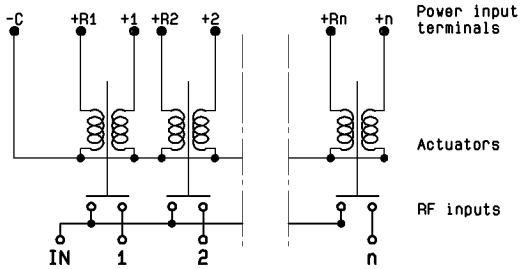
LATCHING GLOBAL RESET WITH SUPPRESSION DIODES
R591-2- -3-



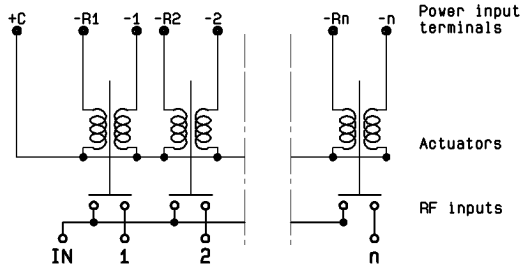
LATCHING GLOBAL RESET WITH POSITIVE COMMON & SUPPRESSION DIODES
R591-2- -4-



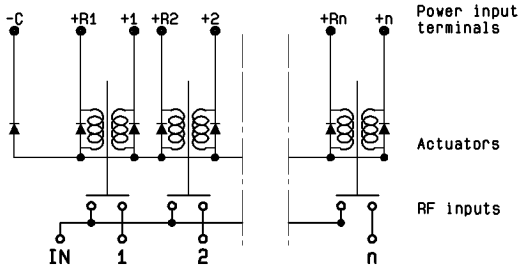
LATCHING SEPARATED RESET WITHOUT OPTION
R591-6- -0-



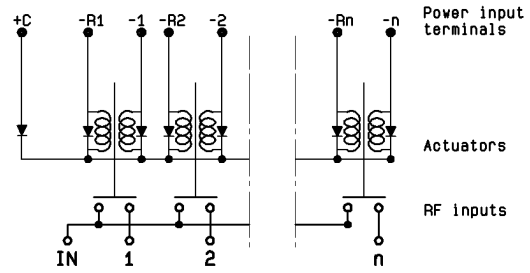
LATCHING SEPARATED RESET WITH POSITIVE COMMON
R591-6- -1-



LATCHING SEPARATED RESET WITH SUPPRESSION DIODES
R591-6- -3-

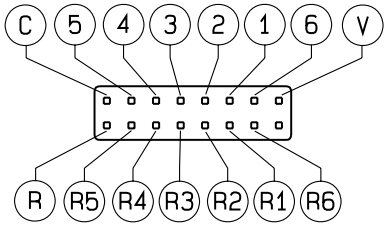


LATCHING SEPARATED RESET WITH POSITIVE COMMON & SUPPRESSION DIODES
R591-6- -4-

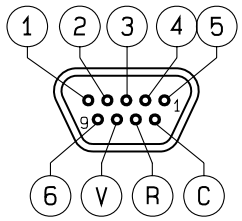


PIN IDENTIFICATION

SOLDER PINS (TOP VIEW) [1]



9 PIN MICRO-D (TOP VIEW)



- 16 contact female connector
- NC: not connected
- For SP4T, ways 3 and 6 not connected
- Pin R = reset of all paths

TYPE		C	V	1	2	3	4	5	6	R	R1	R2	R3	R4	R5	R6
Normally open	Negative common	-C	NC	+1	+2	+3	+4	+5	+6	NC	NC	NC	NC	NC	NC	NC
	Positive common	+C	NC	-1	-2	-3	-4	-5	-6	NC	NC	NC	NC	NC	NC	NC
Latching global reset	Negative common	-C	NC	+1	+2	+3	+4	+5	+6	+reset	NC	NC	NC	NC	NC	NC
	Positive common	+C	NC	-1	-2	-3	-4	-5	-6	-reset	NC	NC	NC	NC	NC	NC
Latching individual reset[2]	Negative common	-C	NC	+1	+2	+3	+4	+5	+6	NC	+res.1	+res.2	+res.3	+res.4	+res.5	+res.6
	Positive common	+C	NC	-1	-2	-3	-4	-5	-6	NC	-res.1	-res.2	-res.3	-res.4	-res.5	-res.6
Normally open with TTL drive	-	RTN	VCC	E1	E2	E3	E4	E5	E6	NC	NC	NC	NC	NC	NC	NC

Notes

1. Compatible with 2.54 mm pitch double row and HE10 connector.
2. Available with "solder pins" models only.

USB Series

SPNT USB UP TO 40 GHz

SMA – SMA 2.9

Utilizing Radiall's proven and patented RAMSES concept, our team of experts and engineers integrated a mini-USB terminal on SP6T and SP8T switches for simplified use especially in test & lab applications.

Featuring an easy-to-integrate design, USB Coaxial Switches are delivered with a 1 meter long USB cable for power supply and switch drive. A soft front panel is provided to control the switches but commonly used software programming platforms such as Visual Basic, C#, C++, LabVIEW and VEE are also compatible.

Example of P/N: R573F11601 is a non-terminated SP6T SMA up to 26.5 GHz, Normally Open, 5 Vdc, Indicators with a mini USB port.

PART NUMBER SELECTION

R57 _ _ 1 1 _ 0 1

SERIES PREFIX

MODEL
3: Without 50 Ω termination
4: With 50 Ω termination

RF CONNECTORS
F: SMA up to 26.5 GHz
8: SMA 2.9 up to 40 GHz [1 & 2]

TYPE
1: Normally open I. + C.

ACTUATOR VOLTAGE
1: 5 Vdc

NUMBER OF POSITIONS
6: 6 positions
8: 8 positions

OPTIONS
0: Without option

ACTUATOR TERMINALS
1: Mini USB socket

Notes
I.C.: Indicator contact
1. Available only with 6 positions.
2. Connector SMA 2.9 is equivalent to "K connector®", registered trademark of Anritsu.

USB Series

APPLICATION NOTE

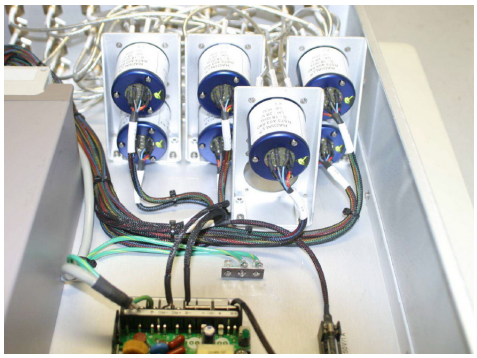
USB coaxial switch as cascade

You can use as many USB switches in cascade as you want. Each product is recognized by its automatic affectation to the ComPort and in order to differentiate them, each product has its own serial number which can be read by the software.

In order to provide power supply (5V / 420mA) and drive as many switches as you want with your computer, you will need a hub USB which can provide same power as a classic USB port of the computer (500mA / 5V) or a PCI expansion card USB (if it is a desktop).

APPLICATION EXAMPLE

BEFORE



DC power from a power supply and wires to provide power to PF Paths

Control with computer

AFTER

USB Cable mini B to Type A

GRAPHICAL USER INTERFACE WITH MORE THAN ONE PRODUCT

- Every product has its own serial port. To control manually you can also open many soft front panel.
- Each product has its own serial number and different communication port.
- The user has also the possibility to manage the control automatically using LabView drivers provided or using Vb.net, C++ , C# with DLL provided also.

USB Series

GENERAL SPECIFICATIONS

OPERATING MODE		NORMALLY OPEN	
Nominal operating voltage	Vdc	5	
Coil resistance (+/-10%)	Ω	11.9	
Nominal operating current at 23 °C	mA	420	
Average Power		See Power Rating Chart page 1-13	
Indicator rating		Indicators status are returned by software	
Switching time (max)	ms	15 ms	
Life (min)	Non-terminated SP6T (R573 series)	SMA	SMA 2.9
		5 million cycles	2 million cycles
	Terminated SP6T (R574 series)	2 million cycles	
	SP8T (all models)		
Connectors		SMA - SMA 2.9	
Actuator terminals		Mini USB socket	
Operating temperature range	SMA - SMA 2.9	-25 °C to +75 °C	
Storage temperature range	SMA - SMA 2.9	-55 °C to +85 °C	
Vibration (MIL STD 202, method 204D, cond.D)		10 - 2,000 Hz , 20 g operating - switch only	
Shock (MIL STD 202, method 213B, cond.C)		100 g / 6 ms, 1/2 sine operating - switch only	

RF PERFORMANCE - SP6T

CONNECTORS	FREQUENCY RANGE GHz		V.S.W.R. (MAX)	INSERTION LOSS (MAX) dB	ISOLATION (MIN) dB	IMPEDANCE Ω
SMA	DC - 26.5	DC - 6	1.20	0.3 + 0.015 x frequency (GHz)	80	50
		6 - 12.4	1.35		70	
		12.4 - 20	1.45		65	
		20 - 26.5	1.70		60	
SMA 2.9	DC - 40	DC - 6	1.20		80	
		6 - 12.4	1.35		70	
		12.4 - 18	1.45		65	
		18 - 26.5	1.70		60	
		26.5 - 40	1.90		55	

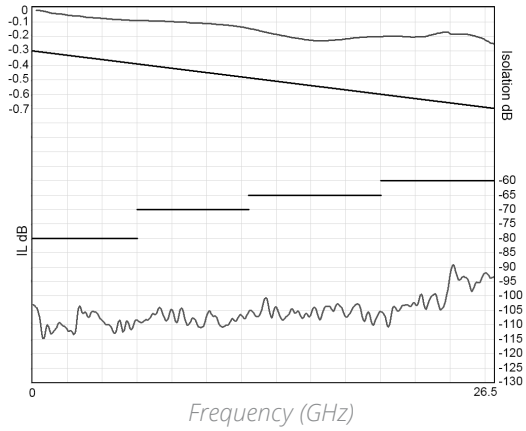
RF PERFORMANCE - SP8T

CONNECTORS	FREQUENCY RANGE GHz		V.S.W.R. (MAX)	INSERTION LOSS (MAX) dB	ISOLATION (MIN) dB	IMPEDANCE Ω
SMA	DC - 26.5	DC - 3	1.20	0.20	80	50
		3 - 8	1.30	0.30	70	
		8 - 12.4	1.40	0.40	60	
		12.4 - 16	1.50	0.55	60	
		16 - 18	1.60	0.60	60	
		18 - 22	1.70	0.70	60	
		22 - 26.5	2.00	1.10	55	

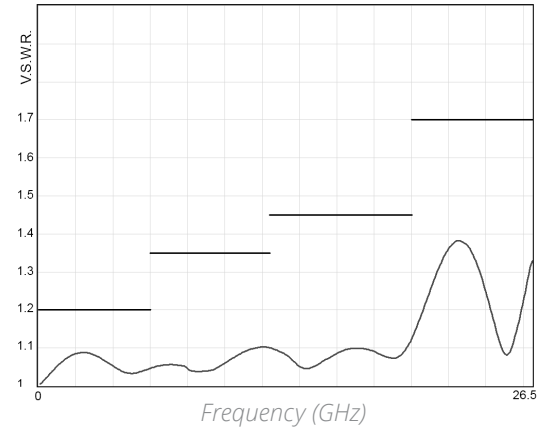
TYPICAL RF PERFORMANCE

Example: SP6T SMA up to 26.5 GHz

INSERTION LOSS & ISOLATION

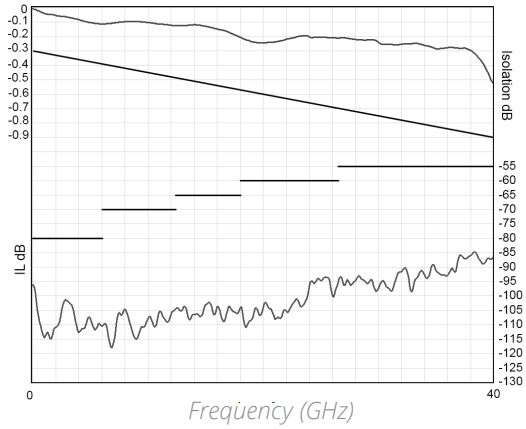


V.S.W.R

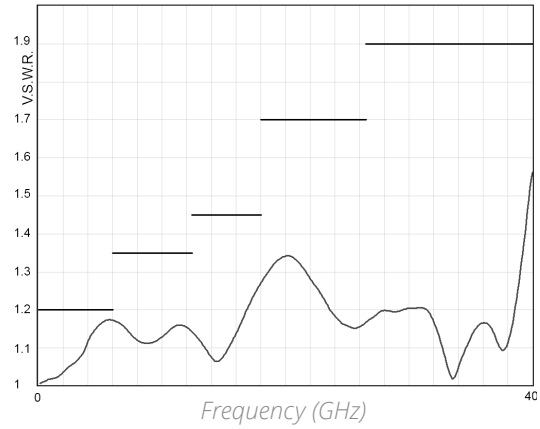


Example: SP6T SMA 2.9 up to 40 GHz

INSERTION LOSS & ISOLATION

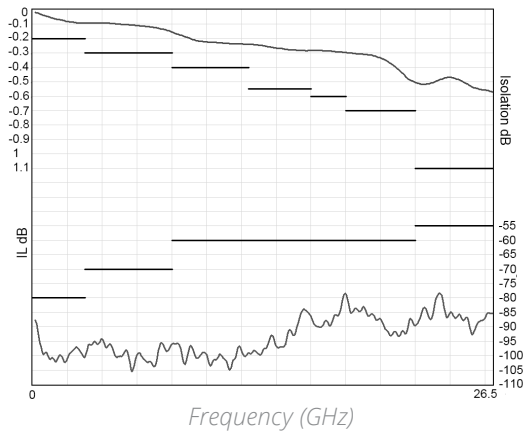


V.S.W.R

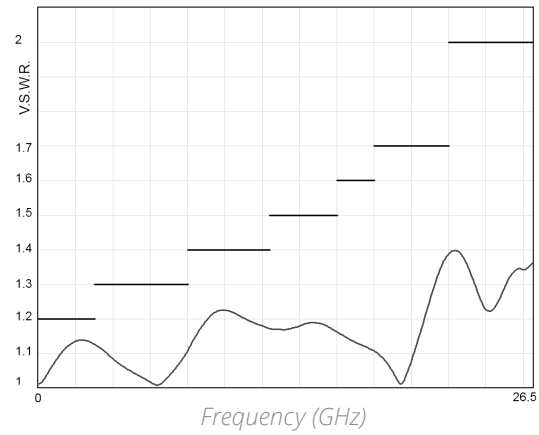


Example: SP8T SMA 2.9 up to 26.5 GHz

INSERTION LOSS & ISOLATION



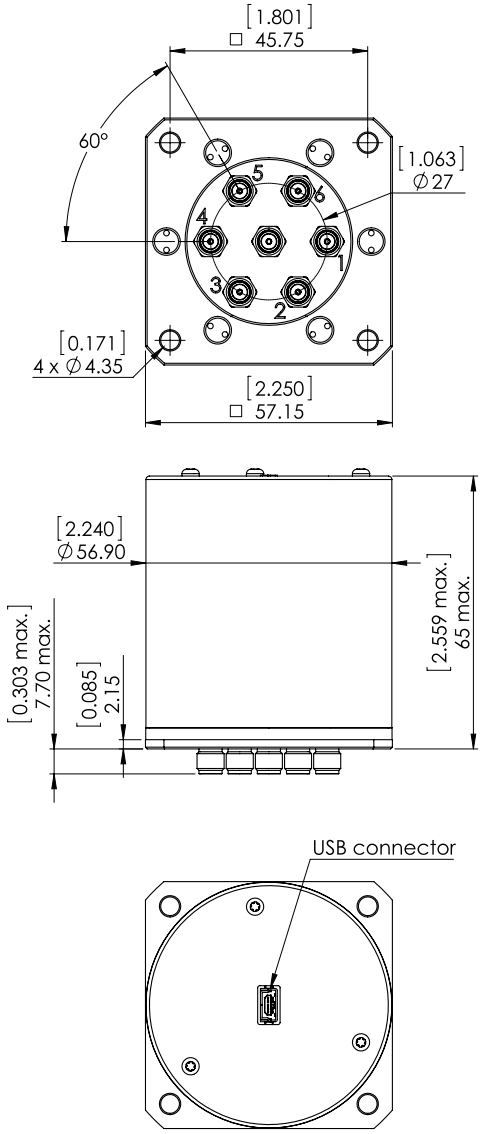
V.S.W.R



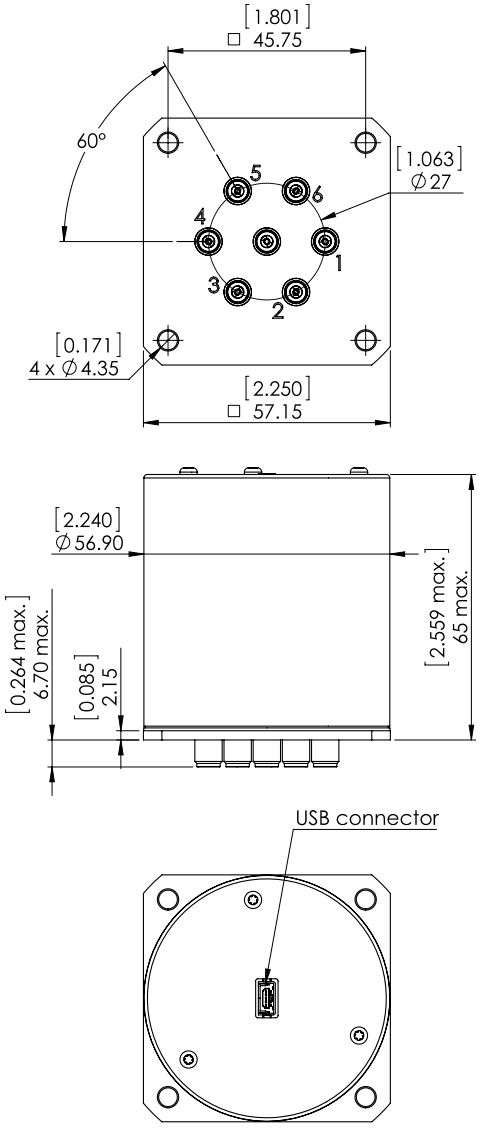
TYPICAL OUTLINE DRAWINGS

Non-terminated or terminated 6 positions

SMA MODEL



SMA 2.9 MODEL



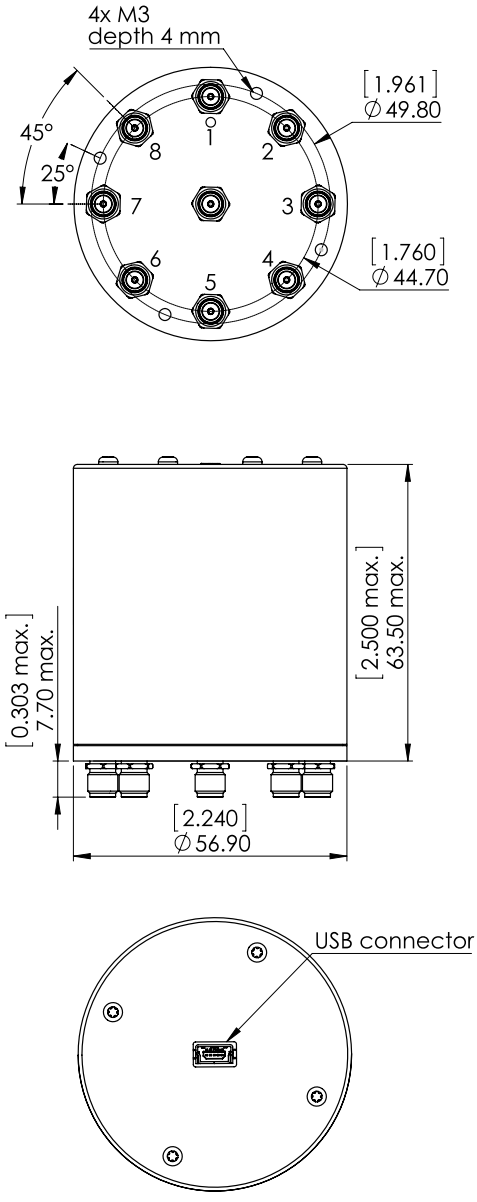
Notes

All dimensions are in millimeters [inches].

TYPICAL OUTLINE DRAWINGS

Non-terminated or terminated 8 positions

SMA MODEL



Notes
All dimensions are in millimeters [inches].
For electrical schematics see page 5-43.

SPNT TERMINATED & NON-TERMINATED UP TO 50 GHz

SMA – SMA 2.9 - 2.4 MM - QMA - DIN 1.6 / 5.6

Radiall's R573 and R574 multi-throw coaxial switches are offered in many configurations (over 40,000 possible combinations) including terminated and non-terminated options. Radiall offers reliable products, with shorter delivery times and competitive pricing. Excellent typical RF performance make RAMSES switches (40 GHz) ideal for Automated Test Equipment (ATE) and other measurement applications. These switches are suitable for defense, industrial, instrumentation and telecommunication applications.

Example of P/N: R574453605 is a terminated SP6T SMA up to 18 GHz, Latching, Self Cut-Off, 28 Vdc, Indicators and male 25 pin D-Sub connector.

PART NUMBER SELECTION

R57

SERIES PREFIX

MODEL
3: Without 50 Ω termination
4: With 50 Ω termination

RF CONNECTORS
3: SMA up to 3 GHz
E: QMA up to 6 GHz [4, 5 & 13]
4: SMA up to 18 GHz [2]
F: SMA up to 26.5 GHz [6]
8: SMA 2.9 up to 40 GHz [4 & 14]
J: 2.4 mm up to 50 GHz [11]
9: DIN 1.6/5.6 up to 2.5 GHz [4 & 5]

TYPE
0: Normally open
1: Normally open I. + C.
2: Latching
3: Latching + I.C.
4: Latching + S.C.O. [1 & 4]
5: Latching + S.C.O. + I.C. [1 & 4]
8: Latching + S.C.O. + A.R. [1]
9: Latching + S.C.O. + I.C. + A.R. [1]

ACTUATOR VOLTAGE
2: 12 Vdc
3: 28 Vdc

NUMBER OF POSITIONS
3: 3 positions
4: 4 positions
5: 5 positions
6: 6 positions
8: 8 positions
0: 10 positions
2: 12 positions

OPTIONS[15]
0: Without option
1: Positive common [7]
2: Compatible TTL driver [1, 9 & 10]
3: With suppression diodes
4: With suppression diodes and positive common [12]
8: BCD TTL driver compatible [1, 3, 8 & 9]

ACTUATOR TERMINALS
0: Solder pins
5: D-Sub connector

Notes

I.C.: Indicator contact / S.C.O. : Self Cut-Off / A.R. : Auto Reset
1. These models are already equipped with suppression diodes
2. 12 positions are available only up to 12.4 GHz, for 12 positions up to 18 GHz select digit F
3. Latching BCD driver enables also a global reset through driver code 0000 (see BCD logic coding page 1-11)
4. Available only up to 6 positions
5. Model "3" only
6. 10 positions are available only up to 22 GHz, 12 positions only up to 18 GHz
7. From 3 to 8 positions, this option is only available for type 0, 1, 2, 3 and for type 8 and 9 combined with 28 Vdc. From 10 to 12 positions, only for type 0, 1, 2 and 3
8. Option available only with type 0, 1, 8 and 9
9. Polarity is not relevant to application for switches with TTL driver
10 From 8 to 12 positions, this option is only available with type 0, 1, 8 and 9.
11. Available only with 4 and 6 positions.
12. Option available only with type 0, 1, 2, and 3.
13. The QLF tradermark (quick lock formula®) standard applies to QMA and QN series and guaranties the full intermateability between suppliers using this tradermark. Using QLF certificied connectors also guarantees the specified level of RF performance
14. Connector SMA 2.9 is equivalent to "K connector®", registered trademark of Anritsu
15. For precisions see availabilty of options chart page 5-9

GENERAL SPECIFICATIONS

Type 2, 3, 4 and 5:
Latching models have a RESET pin which commands the reset of all positions. This command should be used before switching from one position to another. If not, two positions will be set at the same time.

Note: During the RESET operation the global current is: the nominal operating current multiplied by the number of positions.

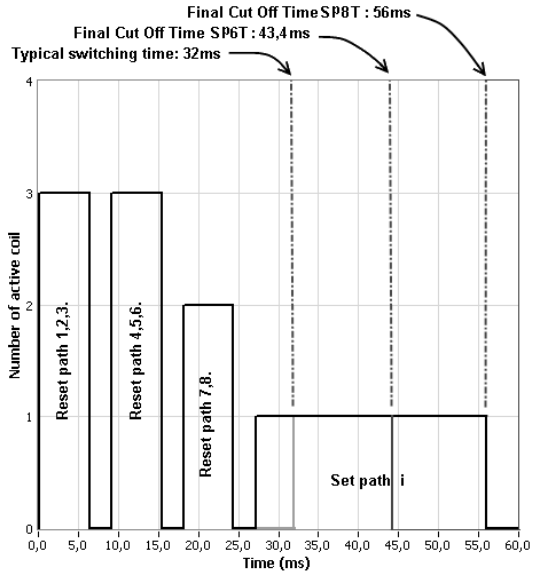
Type 8, 9:
Latching models with AUTOMATIC RESET are available; these products have an internal SET/RESET circuit which automatically resets all the non-selected positions and sets the desired position. This option simplifies the use of latching switches by suppressing the RESET command in switching sequence.

An electronic circuit supplies successively groups of 2, 3 or 4 actuators, in order to limit the maximum current. The current with this option is the total current of 2, 3 or 4 reset coils in the same time (see table below).

Example: During the AUTOMATIC RESET operation, at 28 Vdc, 4 position switch has a temporary consumption of only 250 mA, during 40 ms maximum.

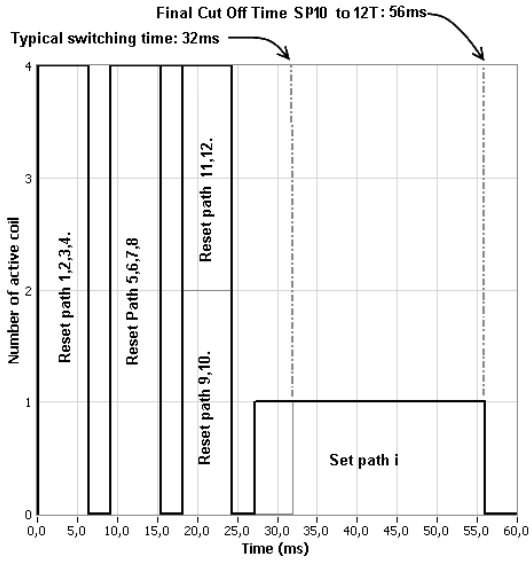
SWITCHING SEQUENCE

FOR SP6 TO 8T



n = number of positions

FOR SP10 & 12 T



Availability of options according to both type and number of positions.

OPERATING TOTAL CURRENT AT 23 °C (MA) SPNT LATCHING

NUMBER OF POSITIONS	12 VOLTS		28 VOLTS	
	MANUAL RESET	AUTOMATIC RESET	MANUAL RESET	AUTOMATIC RESET
3 to 4	320 × n	640	125 × n	250
5 to 8	320 × n	960	125 × n	375
10 to 12	320 × n	1280	125 × n	500

TYPE	NUMBERS OF POSITIONS	AVAILABLE OPTIONS
0 or 1	3 to 12	0 - 1 - 2 - 3 - 4 - 8
2 or 3	3 to 6	0 - 1 - 2 - 3 - 4
	8 to 12	0 - 1 - 3 - 4
4 or 5	3 to 6	0 - 2
	8 to 12	N/A
8 or 9	3 to 8	0 - 1 - 2 - 8
	10 & 12	0 - 2 - 8

GENERAL SPECIFICATIONS

OPERATING MODE		NORMALLY OPEN		LATCHING	
Nominal operating voltage (across operating temperature)	Vdc	12 (10.2/13)	28 (24/30)	12 (10.2/13)	28 (24/30)
Coil resistance (+/-10%)	Ω	47.5	275	See table on previous page	
Nominal operating current at 23 °C	mA	250	102		
Average power		See Power Rating Chart page 1-13			
TTL input	High Level	2.2 to 5.5 V (TTL Option) / 800 µA max 5.5 volts 3.5 to 5.5 V (BCD Option)			
	Low Level	0 to 0.8 V (TTL Option) / 20 µA max 0.8 volts 0 to 1.5 V (BCD Option)			
Indicator rating		1 W / 30 V / 100 mA			
Switching time (Max)	ms	15 ms For automatic reset models: SP3T to SP6T = 40 ms SP8T to SP12T = 50 ms			
Life (Min)	Non-terminated SP3 to 6T (R573 series)	SMA - QMA		SMA 2.9 - 2.4 mm - 1.6/5.6	
		5 million cycles		2 million cycles	
	Terminated SP3 to 6T (R574 series)	2 million cycles			
	SP8 to 12T (all models)				
Connectors		SMA - SMA 2.9 - 2.4 mm - QMA - DIN 1.6/5.6			
Actuator terminals		Solder pins or male 25 pin D-sub connector			
Operating temperature range	2.4 mm - DIN 1.6/5.6	-25 °C to +70 °C			
	SMA - SMA 2.9 - QMA	-40 °C to +85 °C			
Storage temperature range	2.4 mm - DIN 1.6/5.6	-40 °C to +85 °C			
	SMA - SMA 2.9 - QMA	-55 °C to +85 °C			
Vibration (MIL STD 202, method 204D, cond.D)		10 - 2,000 Hz , 20 g operating for SP3 to 6T, survival for SP8 to 12T			
Shock (MIL STD 202, method 213B, cond.C)		100 g / 6 ms, 1/2 sine operating for SP3 to 6T, survival for SP8 to 12T			

RF PERFORMANCE - SMA CONNECTOR

NUMBER OF POSITIONS	FREQUENCY RANGE GHz		V.S.W.R. (MAX)	INSERTION LOSS (MAX) dB	ISOLATION (MIN) dB	IMPEDANCE Ω
3 to 6	DC - 3 DC - 18 DC - 26.5	DC - 3	1.20	0.20	80	50
		3-8	1.30	0.30	70	
		8 - 12.4	1.40	0.40	60	
		12.4 - 18	1.50	0.50	60	
		18 - 26.5	1.70	0.70	50	
8	DC - 3 DC - 26.5	DC - 3	1.20	0.20	80	
		3 - 8	1.30	0.30	70	
		8 - 12.4	1.40	0.40	60	
		12.4 - 16	1.50	0.55	60	
		16 - 18	1.60	0.60	60	
		18 - 22	1.70	0.70	60	
		22 - 26.5	2.00	1.10	55	
10	DC - 3 DC - 22	DC - 3	1.20	0.20	80	
		3 - 8	1.30	0.30	70	
		8 - 12.4	1.40	0.40	60	
		12.4 - 15.5	1.50	0.50	60	
		15.5 - 18	1.70	0.70	55	
		18 - 22	1.80	0.80	55	
12	DC - 3 DC - 18	DC - 3	1.20	0.20	80	
		3 - 8	1.40	0.40	70	
		8 - 12.4	1.60	0.60	60	
		12.4 - 15	1.70	0.70	60	
		15 - 18	1.80	0.80	50	

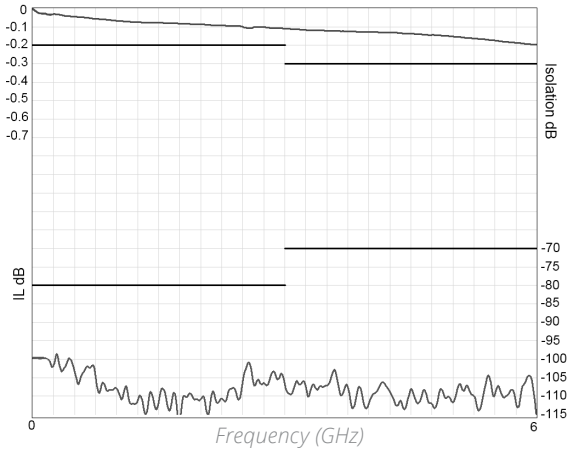
RF PERFORMANCE

CONNECTORS	NUMBER OF POSITIONS	FREQUENCY RANGE GHz		V.S.W.R. (MAX)	INSERTION LOSS (MAX) DB	ISOLATION (MIN) DB	IMPEDANCE Ω
SMA 2.9	3 to 6	DC - 40	DC - 6	1.30	0.20	70	50
			6 - 12.4	1.40	0.40	60	
			12.4 -18	1.50	0.50	60	
			18 - 26.5	1.70	0.70	55	
			26.5 - 40	2.20	1.10	50	
2.4 mm	4 or 6	DC - 50	DC - 6	1.30	0.20	70	
			6 - 12.4	1.40	0.40	60	
			12.4 - 18	1.50	0.50	60	
			18 - 26.5	1.70	0.70	55	
			26.5 - 40	1.90	0.90	50	
			40 - 50	2.20	1.20	50	
1.6/5.6	3 to 6	DC - 2.5	DC - 1	1.30	0.20	80	75
			1 - 2.5	1.40	0.30	70	
QMA	3 to 6	DC - 6	DC - 3	1.20	0.20	80	50
			3 - 6	1.30	0.30	70	

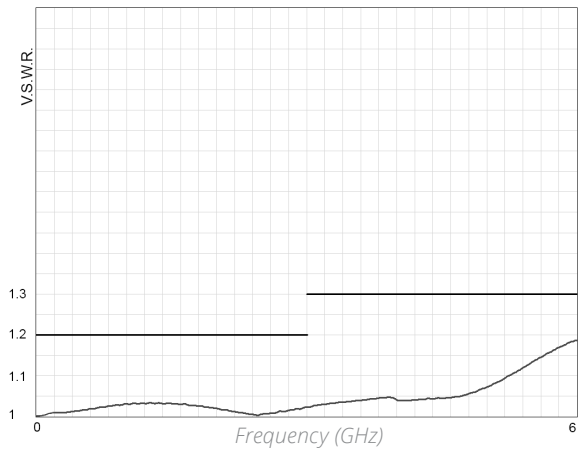
R573 & R574 TYPICAL PERFORMANCE

Example: SP6T QMA up to 6 GHz

INSERTION LOSS & ISOLATION

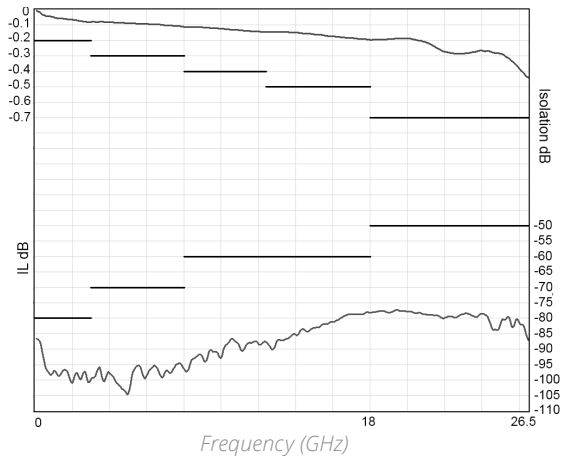


V.S.W.R.

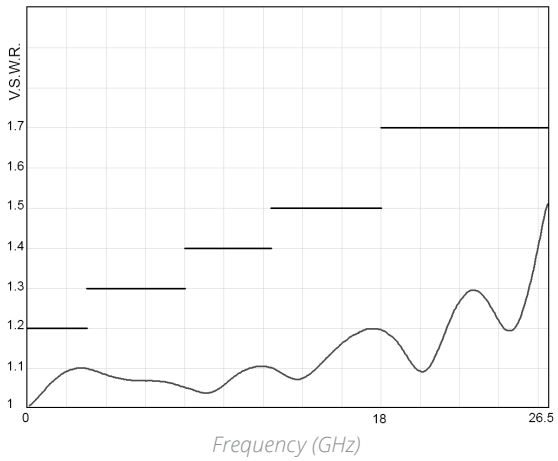


Example: Non-terminated SP6T up to 26.5 GHz

INSERTION LOSS & ISOLATION

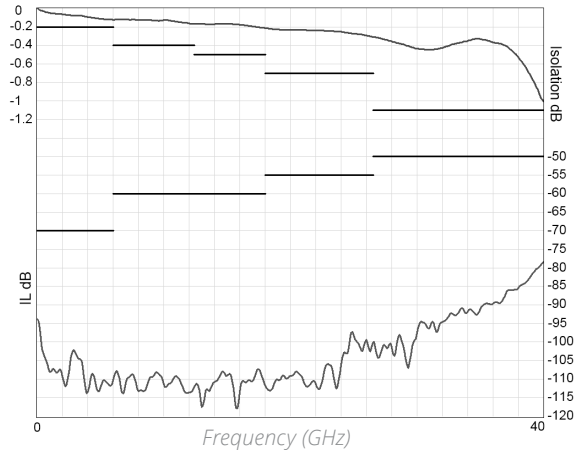


V.S.W.R

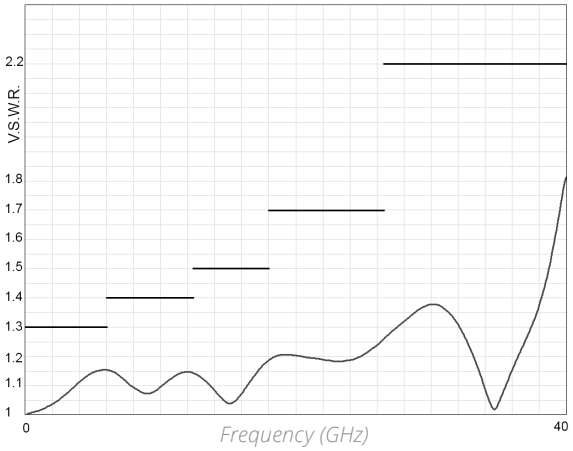


Example: Non-terminated SP6T SMA 2.9 up to 40 GHz

INSERTION LOSS & ISOLATION

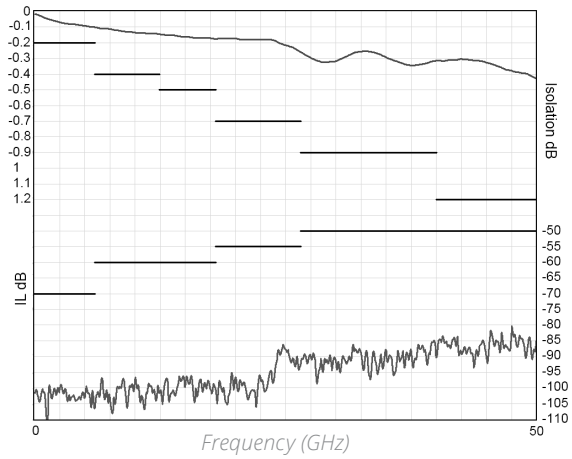


V.S.W.R

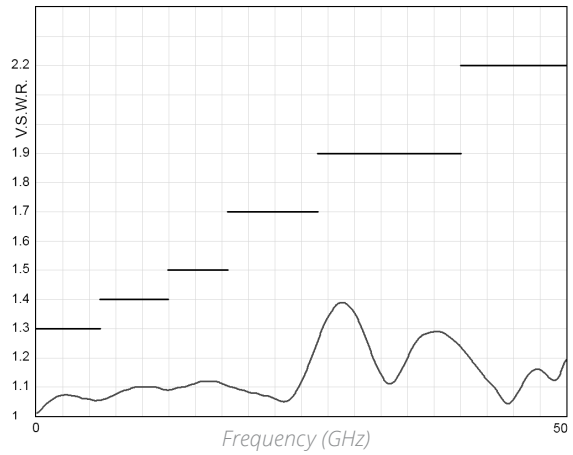


Example: Non-terminated SP6T 2.4 mm up to 50 GHz

INSERTION LOSS & ISOLATION

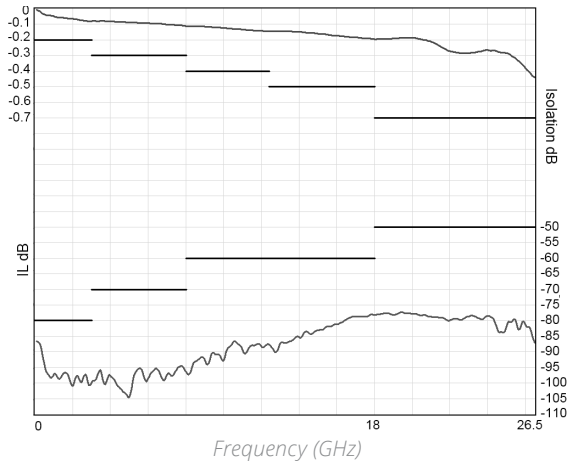


V.S.W.R

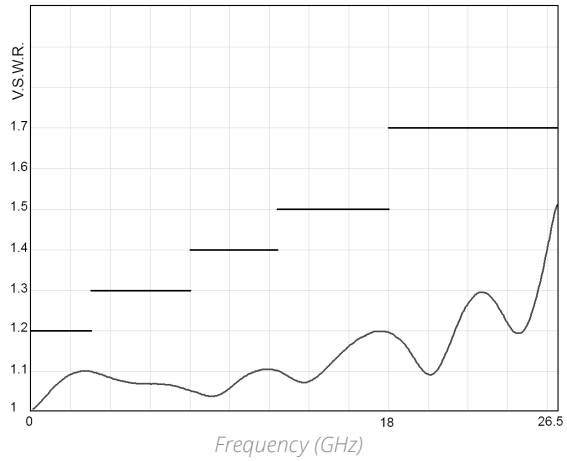


Example: Terminated SP6T up to 26.5 GHz

INSERTION LOSS & ISOLATION

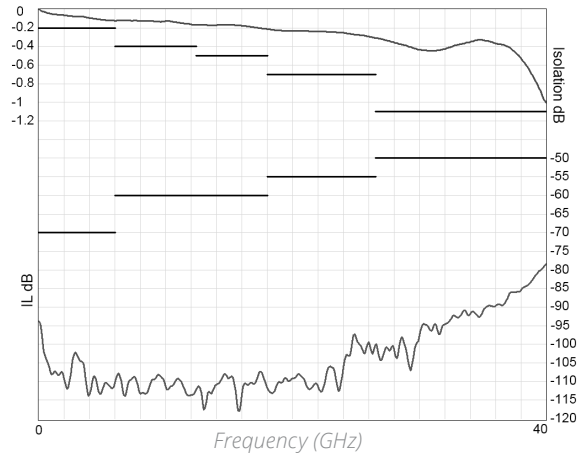


V.S.W.R

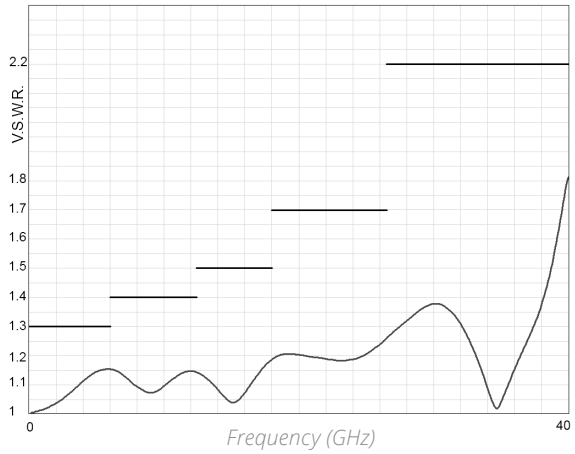


Example: Terminated SP6T SMA 2.9 up to 40 GHz

INSERTION LOSS & ISOLATION

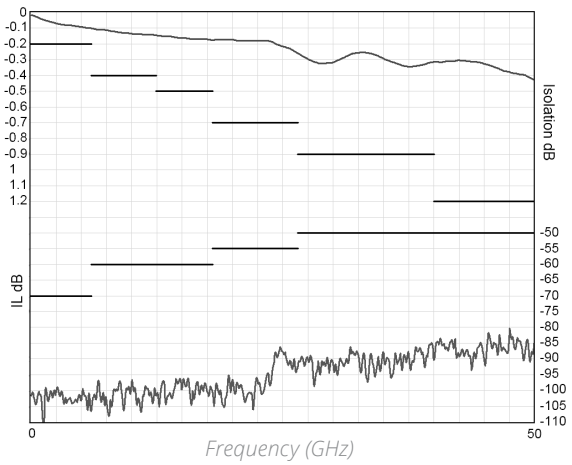


V.S.W.R

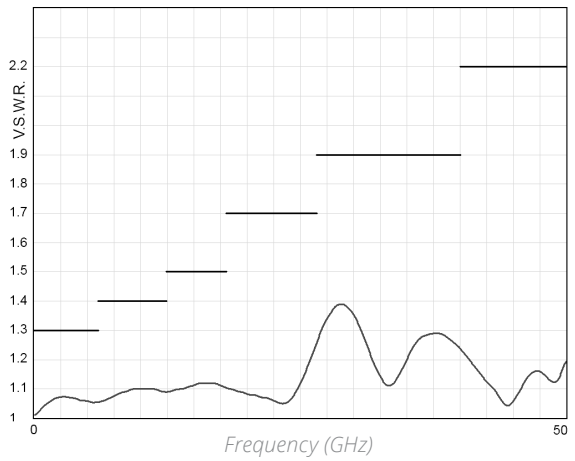


Example: Terminated SP6T 2.4 mm up to 50 GHz

INSERTION LOSS & ISOLATION

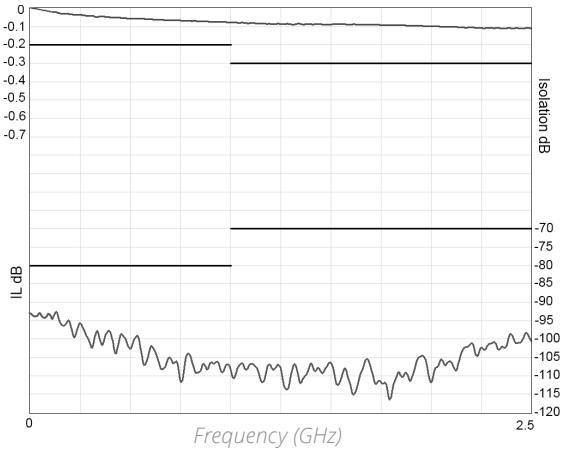


V.S.W.R

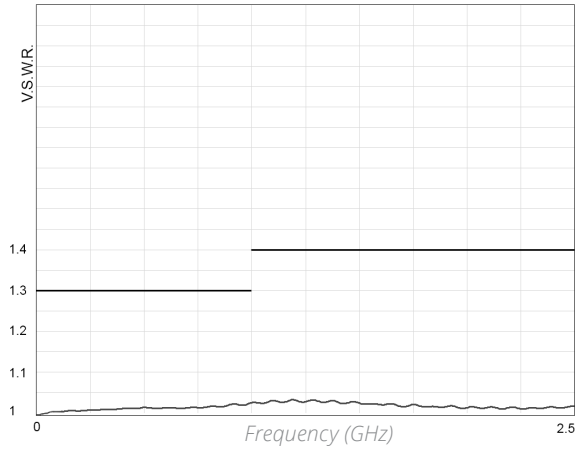


Example: Non-terminated SP6T 1.6/5.6 up to 2.5 GHz

INSERTION LOSS & ISOLATION

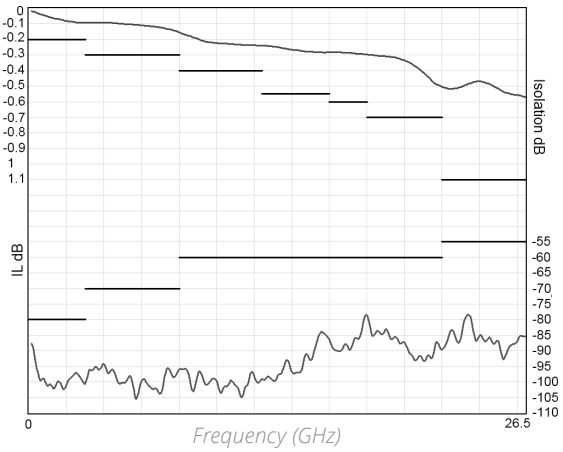


V.S.W.R

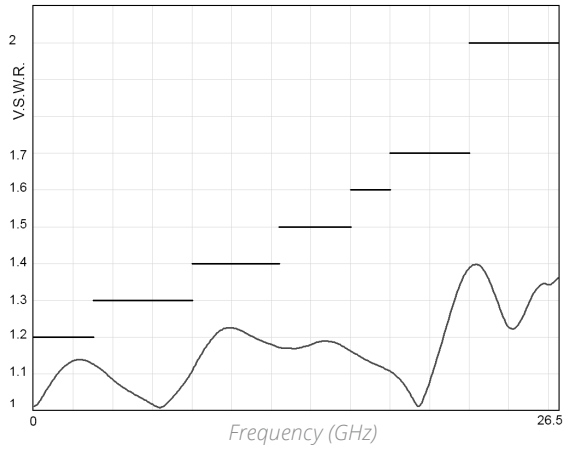


Example: SP8T SMA up to 26.5 GHz

INSERTION LOSS & ISOLATION

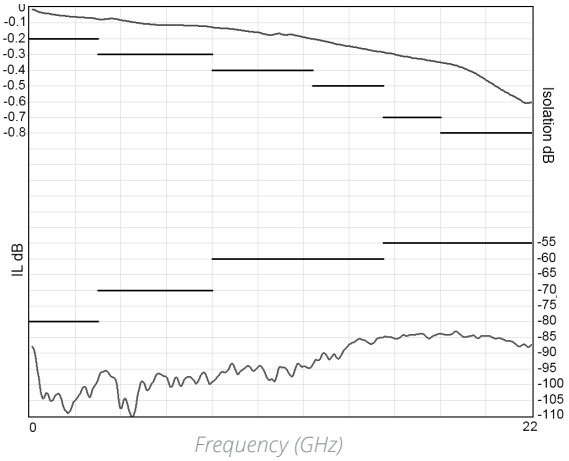


V.S.W.R

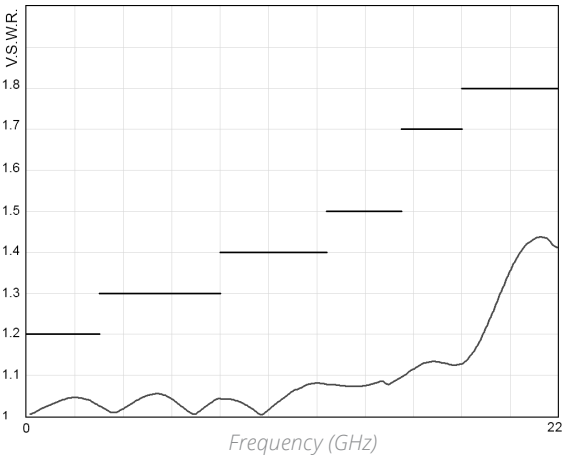


Example: SP10T SMA up to 22 GHz

INSERTION LOSS & ISOLATION

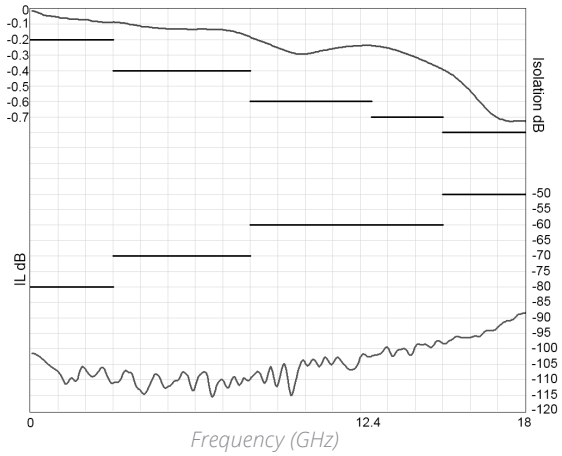


V.S.W.R

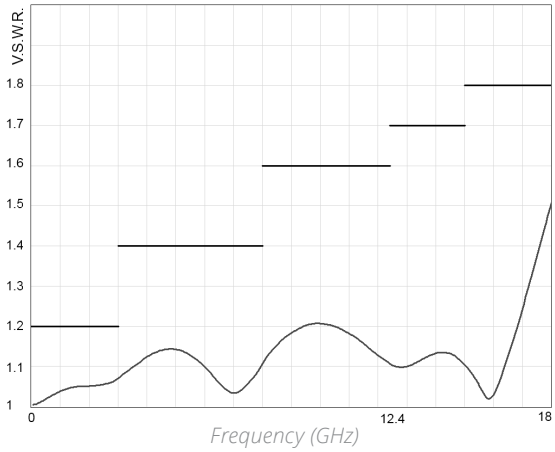


Example: SP12T SMA up to 18 GHz

INSERTION LOSS & ISOLATION



V.S.W.R

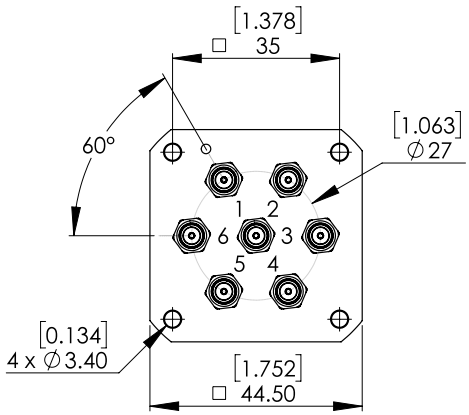


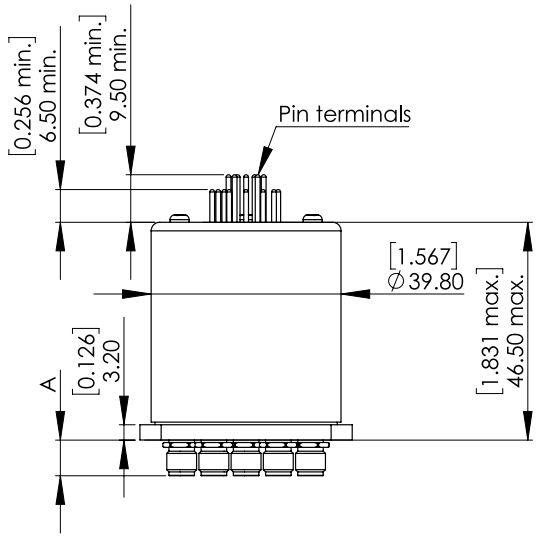
TYPICAL OUTLINE DRAWINGS

NON-TERMINATED 3 TO 6 POSITIONS

CONNECTORS	A MAX (MM [INCHES])
SMA up to 26.5 GHz	7.7 [0.303]
SMA 2.9 up to 40 GHz	6.7 [0.264]
2.4 mm up to 50 GHz	6.7 [0.264]
QMA up to 6 GHz	10.8 [0.394]
DIN 1.6 / 5.6 up to 2.5 GHz	11.5 [0.433]

SOLDER PINS	Type 0 or 1 with option 0 - 1 - 3 or 4
	Type 2 or 3 with option 0 or 1





Notes

All dimensions are in millimeters [inches].

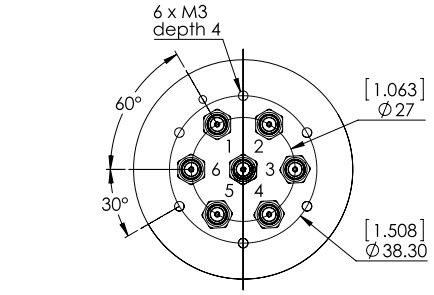
TYPICAL OUTLINE DRAWINGS

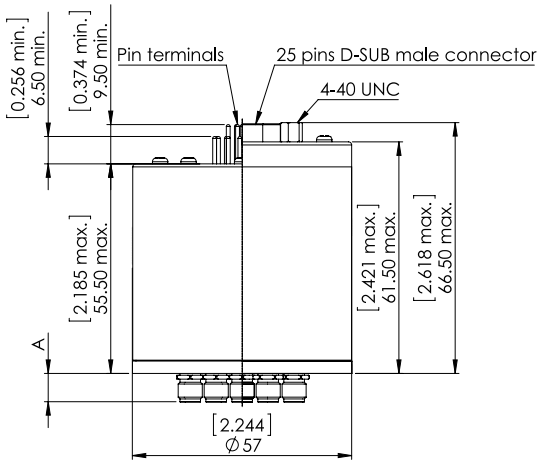
NON-TERMINATED 3 TO 6 POSITIONS (CONTINUED)

SOLDER PINS	Type 0 or 1 with option 2 or 8
	Type 2 or 3 with option 2 - 3 - 4 or 8
	Type 4 - 5 - 8 or 9 with option 0 - 1 - 2 or 8

D-SUB CONNECTOR	All models

CONNECTORS	A MAX (MM [INCHES])
SMA up to 26.5 GHz	7.7 [0.303]
SMA 2.9 up to 40 GHz	6.7 [0.264]
2.4 mm up to 50 GHz	6.7 [0.264]
QMA up to 6 GHz	10.8 [0.394]
DIN 1.6 / 5.6 up to 2.5 GHz	11.5 [0.433]



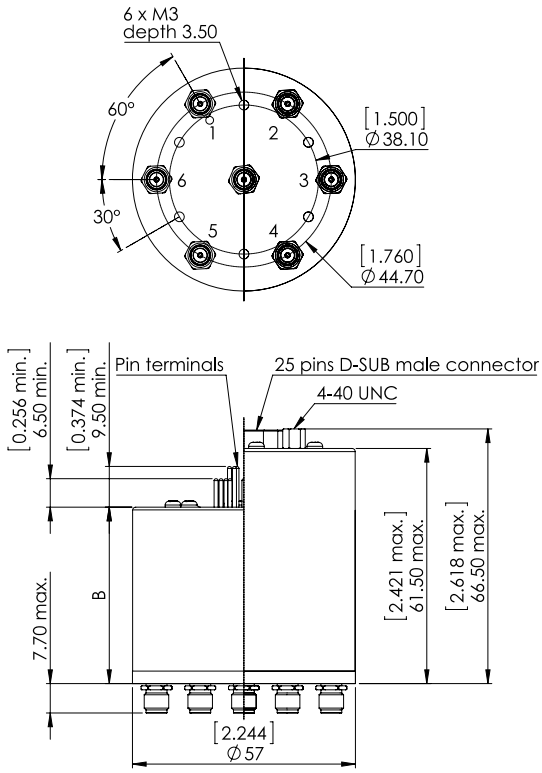


TYPICAL OUTLINE DRAWINGS

TERMINATED 3 TO 6 POSITIONS

	B
	SOLDER PINS
Type 0 - 1 - 2 or 3 with option 0 - 1 - 3 or 4	46.5 [1.811]
Type 0 - 1 - 2 or 3 with option 2 or 8	55.5 [2.17]
Type 4 - 5 - 8 or 9 with option 0 - 1 - 2 or 8	55.5 [2.17]

SMA 3 GHz & 18 GHz MODELS



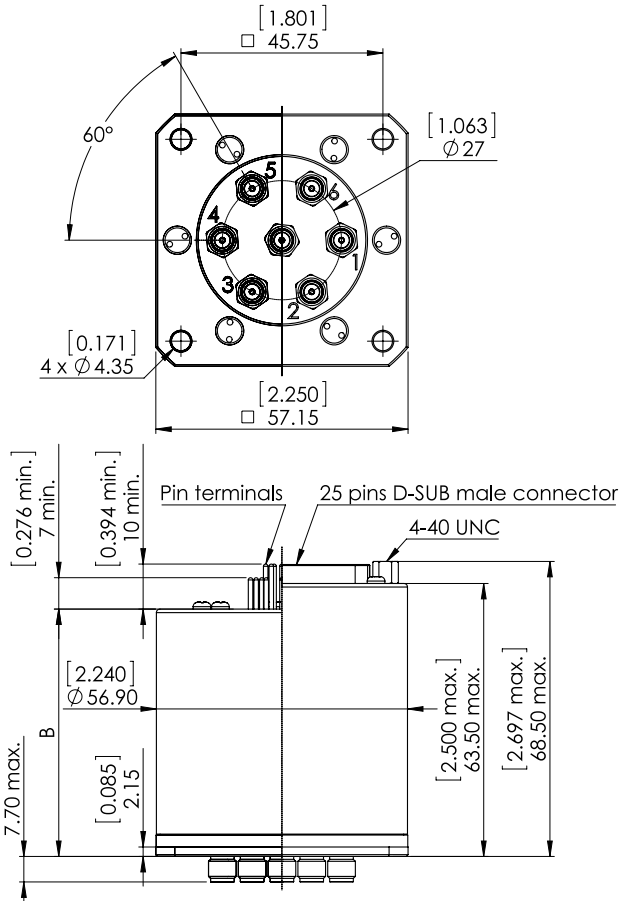
Notes

All dimensions are in millimeters [inches].

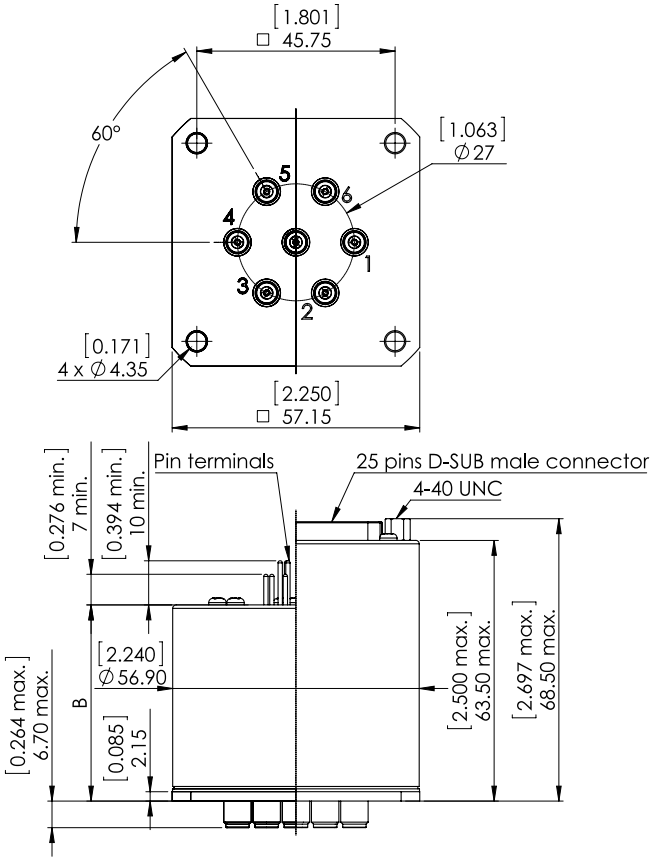
TYPICAL OUTLINE DRAWINGS

Terminated 3 to 6 positions 26.5 GHz, 40 GHz and 50 GHz

SMA 26.5 GHz MODEL



SMA 2.9 40 GHz & 2.4 MM 50 GHz MODEL



	B
	SOLDER PINS
Type 0 - 1 - 2 or 3 with option 0 - 1 - 3 or 4	48.5 [1.89]
Type 0 - 1 - 2 or 3 with option 2 or 8	57.5 [2.24]
Type 4 - 5 - 8 or 9 with option 0 - 1 - 2 or 8	57.5 [2.24]

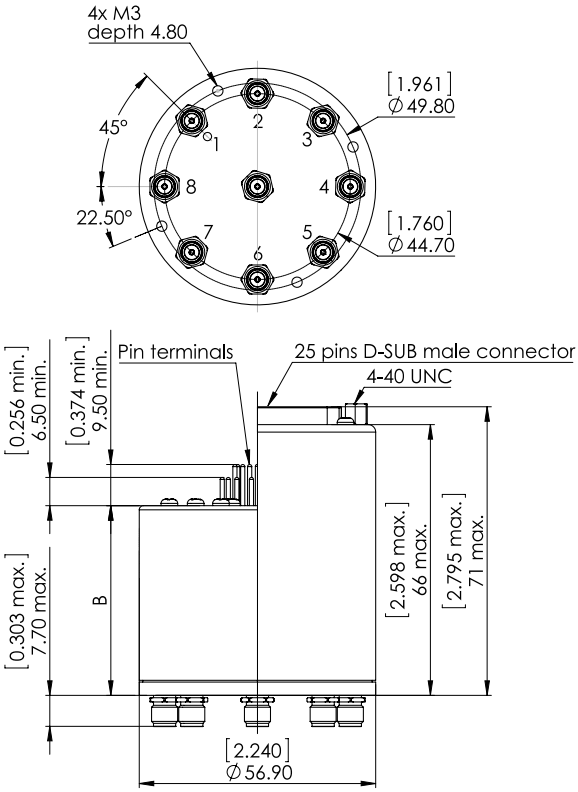
Notes

All dimensions are in millimeters [inches].

TYPICAL OUTLINE DRAWINGS

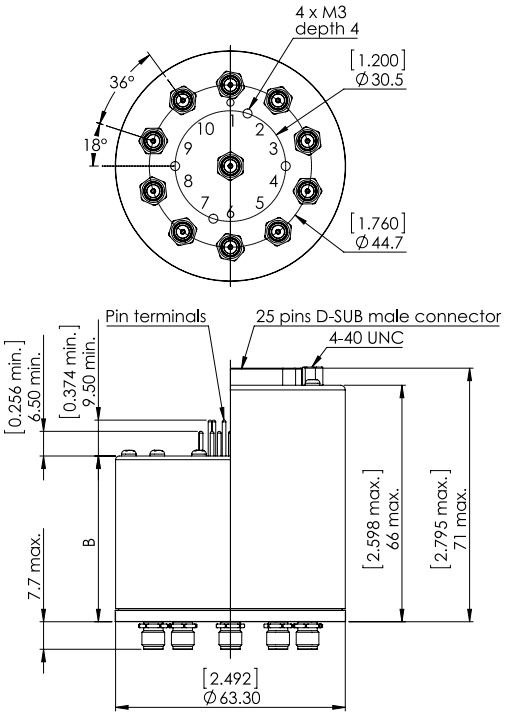
Terminated or non-terminated 8 to 12 positions

TERMINATED 8 POSITIONS SMA 26.5 GHz MODEL

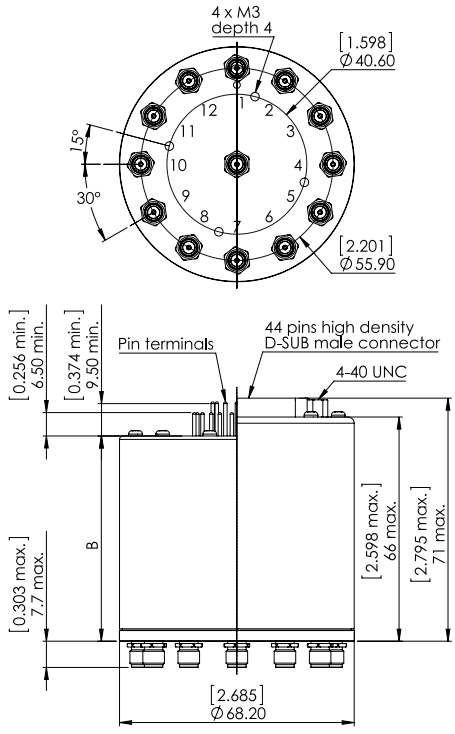


TYPE	B MAX (MM [INCHES])
	SOLDER PINS
Type 0 - 1 - 2 or 3 with option 0 - 1 - 3 or 4	50 [1.97]
Type 0 - 1 - 2 or 3 with option 2 or 8 and Type 4 - 5 - 8 or 9 with option 0 - 1 - 2 or 8	61 [2.40]

TERMINATED 10 POSITIONS SMA 22 GHz MODEL



TERMINATED 12 POSITIONS SMA 18 GHz MODEL

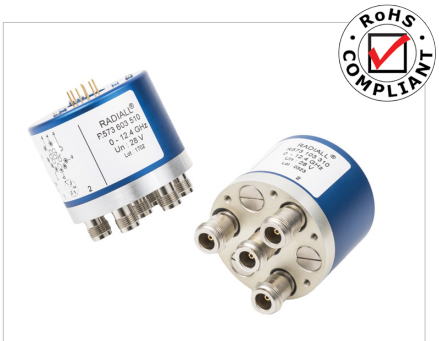


Notes

All dimensions are in millimeters [inches].

SPNT UP TO 12.4 GHz - RAMSES CONCEPT

N - BNC - TNC



Radiall's R573 and R574 multi-throw coaxial switches are offered in many configurations (over 40,000 possible combinations), including terminated and non-terminated options. Radiall offers reliable products, with shorter delivery times and competitive pricing. Excellent typical RF performance make RAMSES switches (12.4 GHz) ideal for Automated Test Equipment (ATE) and other measurement applications. These switches are suitable for defense, industrial, and telecommunication applications.

Example of P/N: R573103600 is a SP6T N up to 12.4 GHz, Normally Open, 28 Vdc, and solder pins.

PART NUMBER SELECTION

R57

SERIES PREFIX

MODEL
3: Without 50 Ω termination
4: With 50 Ω termination

RF CONNECTORS
0: N up to 3 GHz [10]
1: N up to 12.4 GHz [8 & 10]
2: BNC up to 3 GHz [3 & 4]
5: TNC up to 3 GHz [3 & 4]
6: TNC up to 12.4 GHz [3 & 4]

TYPE
0: Normally open
1: Normally open I. + C.
2: Latching
3: Latching + I.C.
4: Latching + S.C.O. [1 & 3]
5: Latching + S.C.O. + I.C. [1 & 3]
8: Latching + S.C.O. + A.R. [1]
9: Latching + S.C.O. + I.C. + A.R. [1]

ACTUATOR VOLTAGE
2: 12 Vdc
3: 28 Vdc

NUMBER OF POSITIONS
3: 3 positions
4: 4 positions
5: 5 positions
6: 6 positions
8: 8 positions
0: 10 positions
2: 12 positions

OPTIONS[11]
0: Without option
1: Positive common [5]
2: Compatible TTL driver [1, 7 & 9]
3: With suppression diodes
4: With suppression diodes and positive common [5]
8: BCD TTL driver compatible [1, 2, 6 & 7]

ACTUATOR TERMINALS
0: Solder pins
5: D-Sub connector

Notes

I.C.: Indicator contact / S.C.O. : Self Cut-Off / A.R. : Auto Reset
Standard products are equipped with negative common
1. These models are already equipped with suppression diodes
2. Latching BCD driver enables also a global reset through driver code 0000 (see BCD logic coding page 1-13)
3. Available only up to 6 positions
4. Model "3" only
5. Available only for type 0, 1, 2 and 3
6. Available only with type 0, 1, 8 and 9
7. Polarity is not relevant to application for switches with TTL driver
8. 8 to 12 positions are available only up to 8 GHz
9. From 8 to 12 positions, this option is only available with type 0, 1, 8 and 9
10. From 8 to 12 positions, this connector is only available without 50 Ω termination
11. For precisions see availabilty of options chart page 5-27

GENERAL SPECIFICATIONS

Type 2, 3, 4 and 5:
Latching models have a RESET pin which commands the reset of all positions. This command should be used before switching from one position to another. If not, two positions will be set at the same time.

Note: During the RESET operation, the global current and the nominal operating current are multiplied by the number of positions.

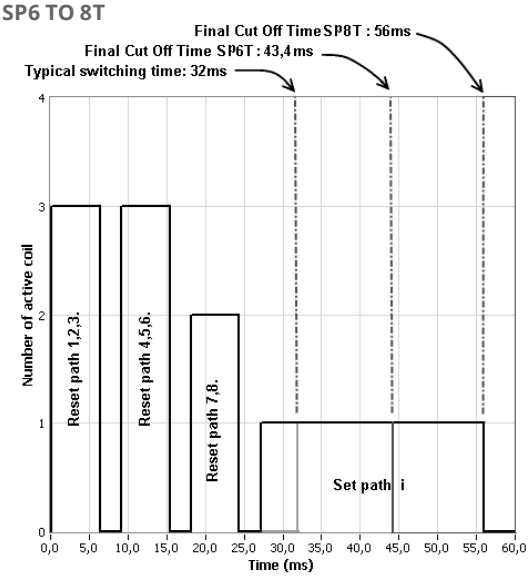
Type 8, 9:
Latching models with AUTOMATIC RESET are available; these products have an internal SET/RESET circuit which automatically resets all the non-selected positions and sets the desired position. This option simplifies the use of latching switches by suppressing the RESET command in switching sequence.

An electronic circuit supplies successively groups of 2, 3 or 4 actuators, in order to limit the maximum current. The current with this option is the total current of 2, 3 or 4 reset coils in the same time (see table below).

Example: During the AUTOMATIC RESET operation, at 28 Vdc, 4 position switch has a temporary consumption of only 250 mA, during 40 ms maximum.

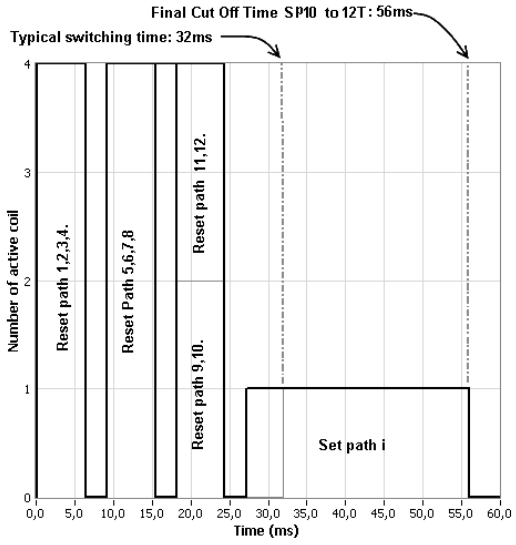
SWITCHING SEQUENCE

FOR SP6 TO 8T



n = number of positions

FOR SP10 TO 12T



Availability of options according to both type and number of positions.

OPERATING TOTAL CURRENT AT 23 °C (MA) SPNT LATCHING

NUMBER OF POSITIONS	12 VOLTS		28 VOLTS	
	MANUAL RESET	AUTOMATIC RESET	MANUAL RESET	AUTOMATIC RESET
3 to 4	320 × n	640	125 × n	250
5 to 8	320 × n	960	125 × n	375
9 to 12	320 × n	1280	125 × n	500

TYPE	NUMBERS OF POSITIONS	AVAILABLE OPTIONS
0 or 1	3 to 12	0 - 1 - 2 - 3 - 4 - 8
2 or 3	3 to 6	0 - 1 - 2 - 3 - 4
	8 to 12	0 - 1 - 3 - 4
4 or 5	3 to 6	0 - 2
	8 to 12	N/A
8 or 9	3 to 12	0 - 2 - 8

GENERAL SPECIFICATIONS

OPERATING MODE		NORMALLY OPEN		LATCHING	
Nominal operating voltage (across operating temperature)	Vdc	12 (10.2/13)	28 (24/30)	12 (10.2/13)	28 (24/30)
Coil resistance (+/-10%)	Ω	47.5	275	See table on previous page	
Nominal operating current at 23 °C	mA	250	102		
Average power		See Power Rating Chart page 1-13			
TTL input	High Level	2.2 to 5.5 V (TTL Option)			
		3.5 to 5.5 V (BCD Option)	800 µA max 5.5 volts		
	Low Level	0 to 0.8 V (TTL Option)			
		0 to 1.5 V (BCD Option)	20 µA max 0.8 volts		
Indicator rating		1 W/30 V/100 mA			
Switching time (max)	ms	15 ms For automatic reset models: SP3T to SP6T = 40 ms SP8T to SP12T = 50 ms			
Life (min)	Non-terminated SP3 to 6T (R573 series)	2 million cycles			
	Terminated SP3 to 6T (R574 series)				
	SP8 to 12T (all models)				
Connectors		N - TNC - BNC			
Actuator terminals		Solder pins or male 25 pin D-Sub connector			
Operating temperature range		-40 °C to +85 °C			
Storage temperature range		-55 °C to +85 °C			
Vibration (MIL STD 202, method 204D, cond.C)		10 - 2,000 Hz, 10 g	operating		
Shock (MIL STD 202, method 213B, cond.C)		50 g/1 ms, 1/2 sine	operating		

RF PERFORMANCE

N - TNC - BNC Connector

NUMBER OF POSITIONS	FREQUENCY RANGE GHz		V.S.W.R. (MAX)	INSERTION LOSS (MAX) dB	ISOLATION (MIN) dB	IMPEDANCE Ω
3 to 6	DC - 12.4	DC - 3	1.20	0.20	80	50
		3 - 8	1.35	0.35	70	
		8 - 12.4	1.50	0.50	60	
8 & 10	DC - 8	DC - 3	1.30	0.30	80	
		3 - 8	1.50	0.50	70	
12	DC - 8	DC - 3	1.35	0.50	70	
		3 - 8	1.70	1.00	60	

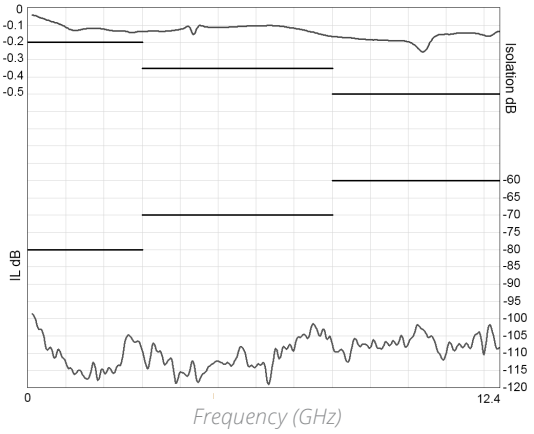
Notes

See page 5-29 for typical RF performance.

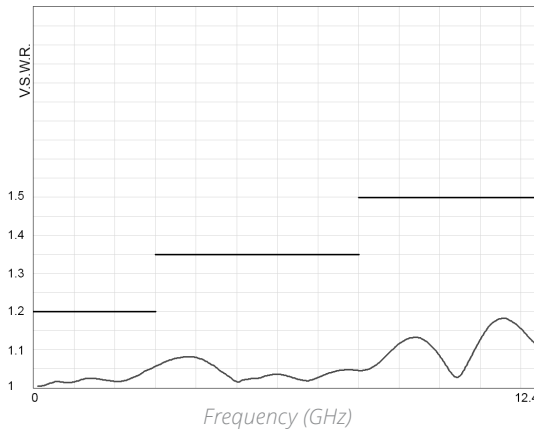
R573 & R574 TYPICAL PERFORMANCE

Example: SP6T N up to 12.4 GHz

INSERTION LOSS & ISOLATION

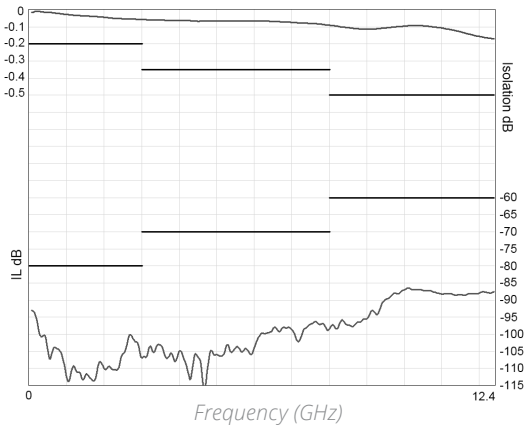


V.S.W.R

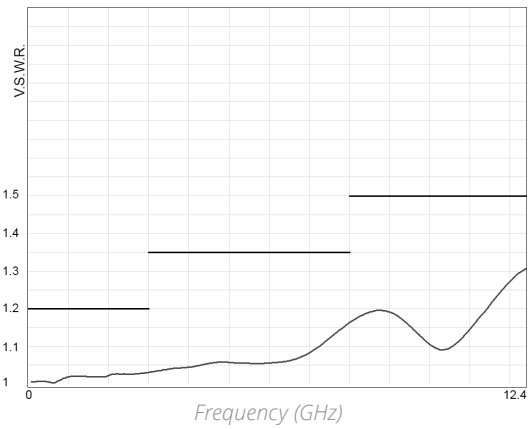


Example: SP6T TNC up to 12.4 GHz

INSERTION LOSS & ISOLATION

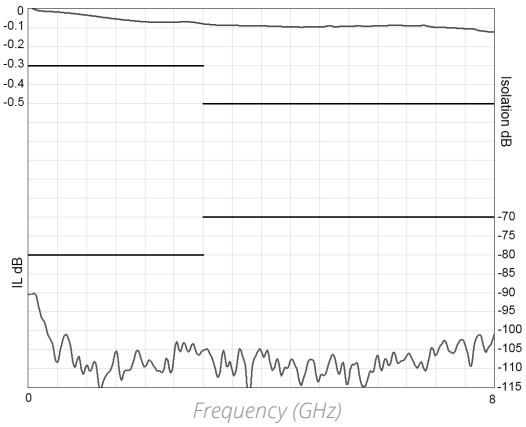


V.S.W.R

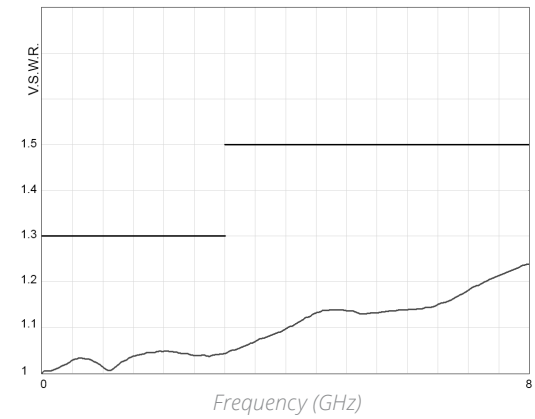


Example: SP8T up to 8 GHz

INSERTION LOSS & ISOLATION



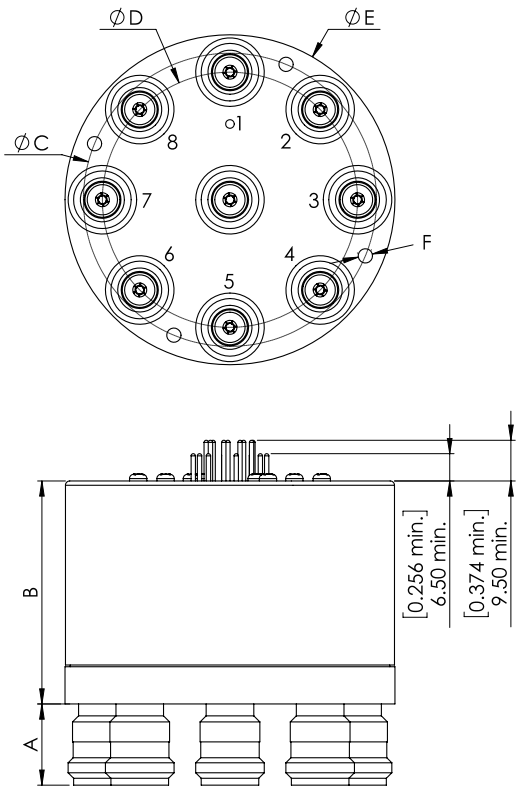
V.S.W.R



TYPICAL OUTLINE DRAWINGS

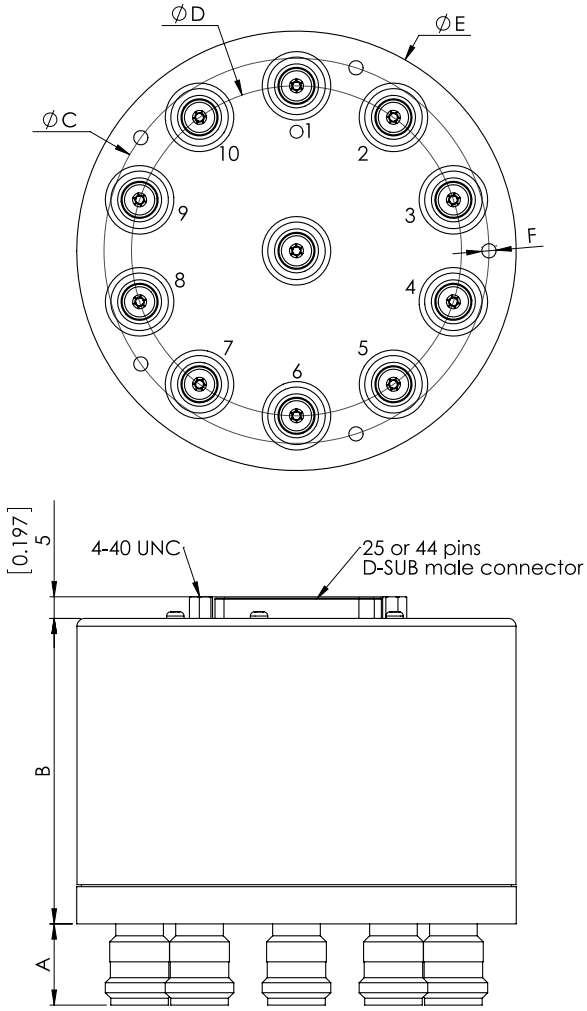
Terminated or non-terminated 3 to 12 positions

8 POSITIONS 8 GHz WITH SOLDER PINS MODEL



CONNECTORS	A MAX (MM [INCHES])
N	19.5 [0.748]
BNC	12.5 [0.472]
TNC	12.5 [0.472]

10 POSITIONS 8 GHz WITH D-SUB CONNECTOR MODEL



TYPE	B MAX (MM [INCHES])	
	SOLDER PINS	D-SUB CONNECTOR
Type 0 - 1 - 2 or 3 with option 0 - 1 - 3 or 4	56 [2.205]	66 [2.598]
Type 0 - 1 - 2 or 3 with option 2 or 8	71 [2.80]	71 [2.80]
Type 4 - 5 - 8 or 9 with option 0 - 1 - 2 or 8		

NUMBER OF POSITIONS	C DIAMETER	D DIAMETER	E DIAMETER	F
3 - 6	54 [2.126]	44.7 [1.732]	63.5 [2.480]	6 holes M4/60°
8	67.7 [2.738]	58.9 [2.283]	76.2 [2.99]	4 holes M4/90°
10	88.9 [3.465]	76.2 [2.992]	101.6 [3.976]	5 holes M4/72°
12	67.7 [2.738]	101.6 [3.976]	127 [5]	6 holes M4/60°

Notes

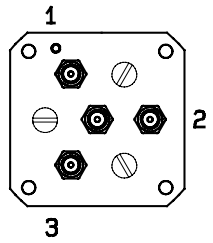
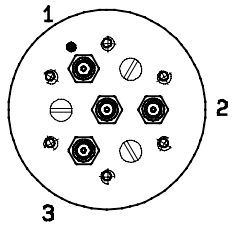
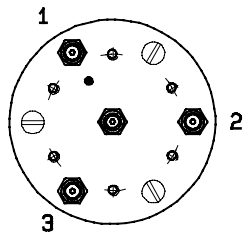
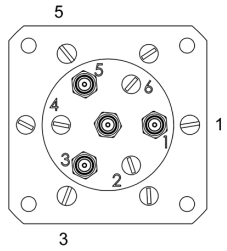
All dimensions are in millimeters [inches].

RF CONNECTOR ALLOCATION FOR SPNT SERIES

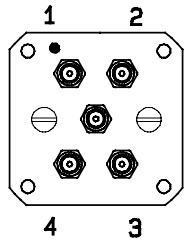
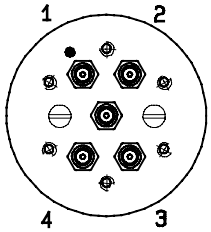
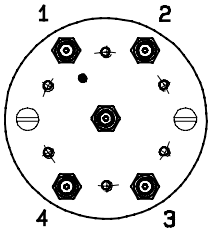
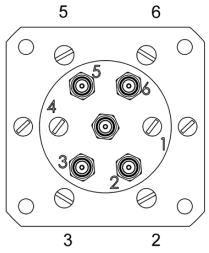
ALL CONNECTORS

Connectors A: 1.6/5.6, QMA, SMA, SMA 2.9, 2.4 mm
Other Connectors: N, BNC, TNC

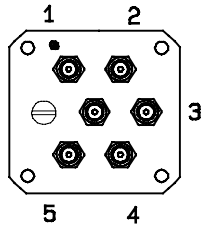
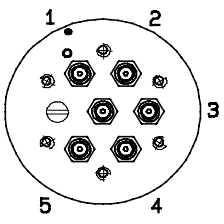
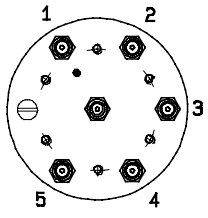
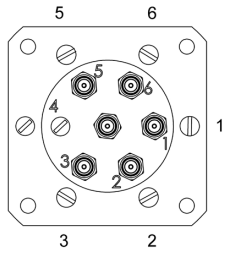
SPNT 3 WAYS

NON-TERMINATED VERSION		TERMINATED VERSION	
Up to 40 GHz models Without option Connectors A (except 2.4 mm)	Up to 40 GHz models With option Connectors A and other connectors (except 2.4 mm)	Up to 18 GHz models Connectors A and other connectors (except 2.4 mm)	26.5 GHz and 40 GHz models with SMA - SMA 2.9
			

SPNT 4 WAYS

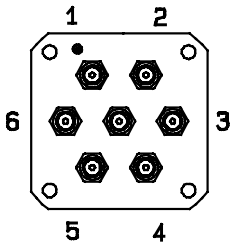
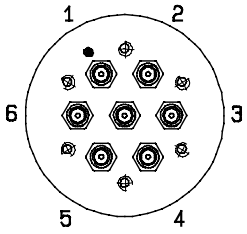
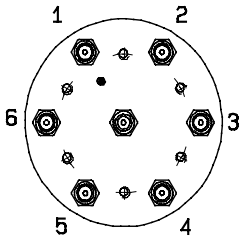
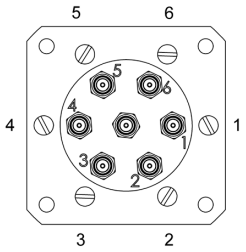
NON-TERMINATED VERSION		TERMINATED VERSION	
Up to 50 GHz models Without option Connectors A	Up to 50 GHz models With option Connectors A and other connectors	Up to 18 GHz models Connectors A and other connectors (except 2.4 mm)	26.5 GHz, 40 GHz and 50 GHz models with SMA - SMA 2.9 - 2.4 mm
			

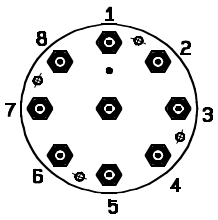
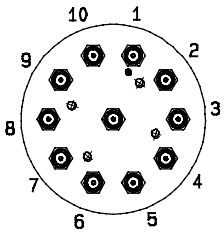
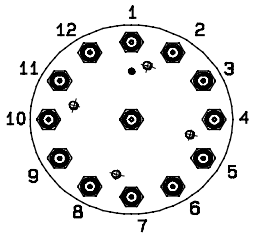
SPNT 5 WAYS

NON-TERMINATED VERSION		TERMINATED VERSION	
Up to 40 GHz models Without option Connectors A (except 2.4 mm)	Up to 40 GHz models With option Connectors A and other connectors (except 2.4 mm)	Up to 18 GHz models Connectors A and other connectors (except 2.4 mm)	26.5 GHz and 40 GHz models with SMA - SMA 2.9
			

Connectors A: 1.6/5.6, QMA, SMA, SMA 2.9, 2.4 mm
Other Connectors: N, BNC, TNC

SPNT 6 WAYS

NON-TERMINATED VERSION		TERMINATED VERSION	
Up to 50 GHz models Without Option Connectors A	Up to 50 GHz models With Option Connectors A and other connectors	Up to 22 GHz models Connectors A and other connectors	26.5 GHz, 40 GHz and 50 GHz models with SMA - SMA 2.9 - 2.4 mm
			

SPNT 8 WAYS	SPNT 10 WAYS	SPNT 12 WAYS
SMA and N connectors	SMA and N connectors	SMA and N connectors
		

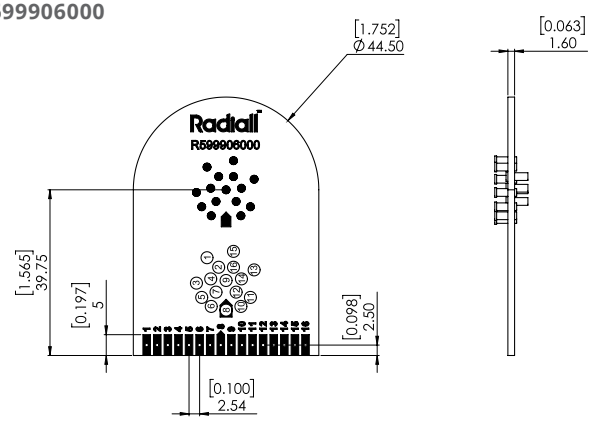
COAXIAL SPNT - ACCESSORIES

PRINTED CIRCUIT BOARD INTERFACE CONNECTOR

A printed circuit board interface connector (ordered separately) has been designed for easy mounting on terminals

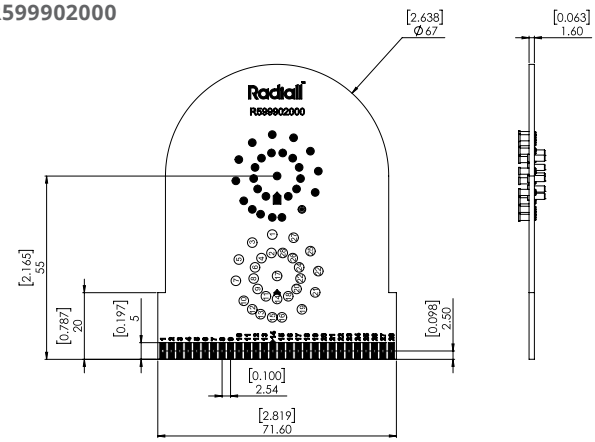
For SPnT model R573 and R574 series: Radiall part number: **R599 906 000 for 3 to 6 positions, R599 908 000 for 8 positions, R599 900 000 for 10 positions, and R599 902 000 for 12 positions.**

R599906000



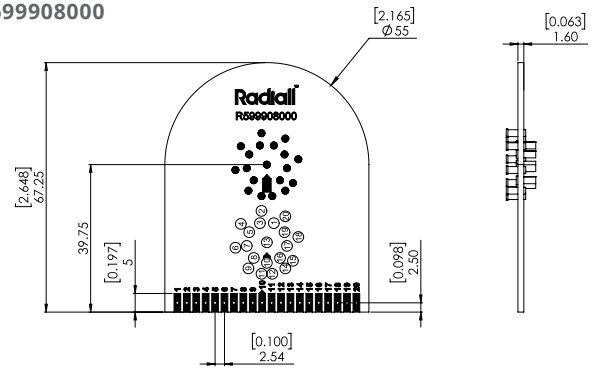
(Ø0.8 [0.031] metallized holes, double side tracks)

R599902000



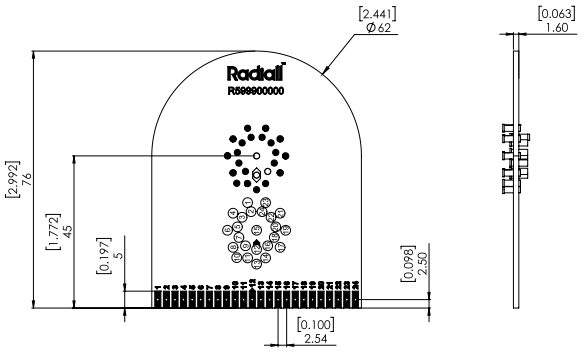
(Ø0.8 [0.031] metallized holes, double side tracks)

R599908000



(Ø0.8 [0.031] metallized holes, double side tracks)

R599900000

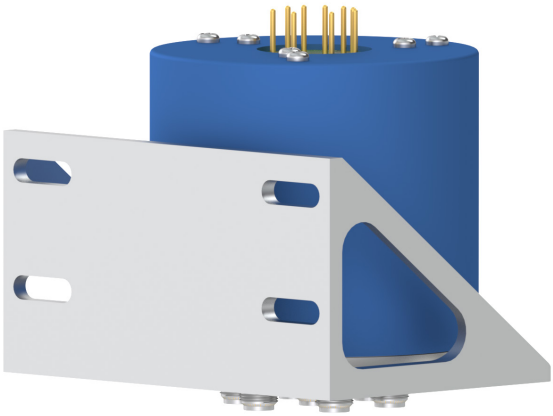


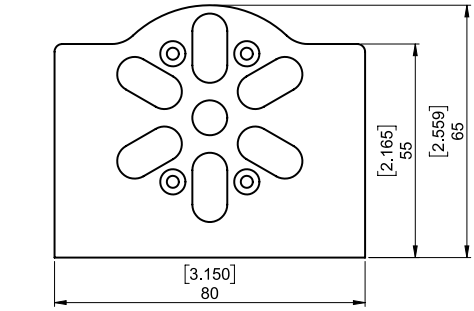
(Ø0.8 [0.031] metallized holes, double side tracks)

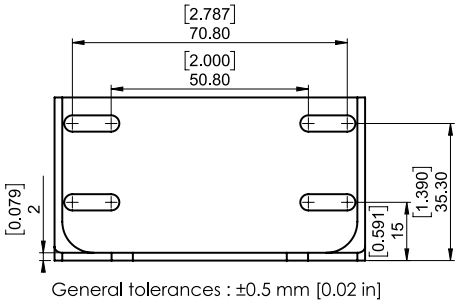
Mounting Bracket

Two different metal brackets have been designed for an easy mechanical mounting of our SPnT switches with a circular flange for customer installation. These brackets must be ordered separately and assembled according to our recommended process on the Technical Data Sheets.

MODEL WITH SCREWS (R599320000)





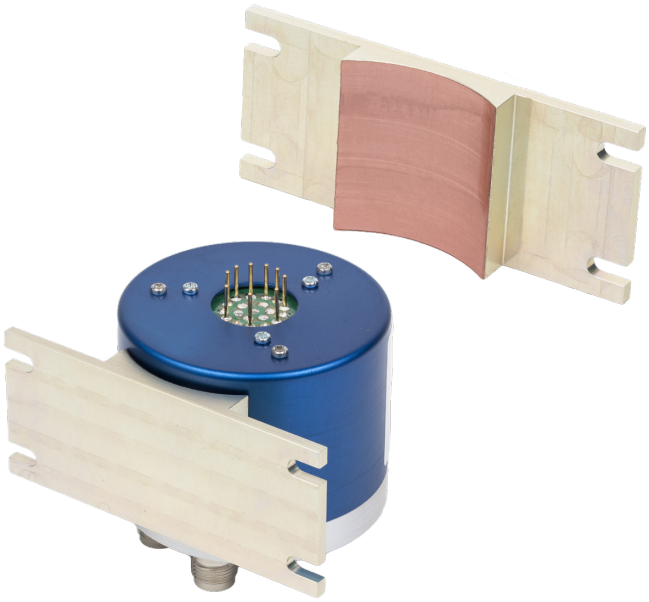


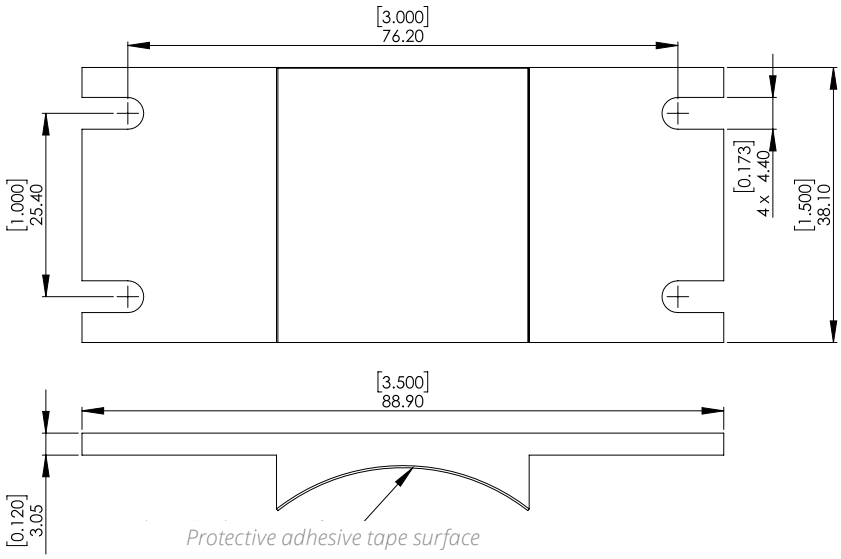
General tolerances : ±0.5 mm [0.02 in]

Notes

All dimensions are in millimeters [inches].
For assembling process please see Technical Data Sheet.

MODEL WITH ADHESIVE (R59992X000)





GENERAL TOLERANCES: ±0.5 MM [0.02]

Notes

All dimensions are in millimeters [inches].
This model can also be mounted on our SPnT switches with a square flange.
For adhesive bonding process please see Technical Data Sheet.

FOR MODELS WITH CONNECTORS SMA, QMA, SMA 2.9, 2.4 MM, DIN 1.6/5.6

NUMBER OF POSITIONS	MODEL	PART NUMBER
3 to 6 positions	R573 series	R599320000
	R574 series	R599920000
8 positions	R573 series	R599920000
	R574 series	
10 positions	R573 series	R599921000
	R574 series	
12 positions	R573 series	R599922000
	R574 series	

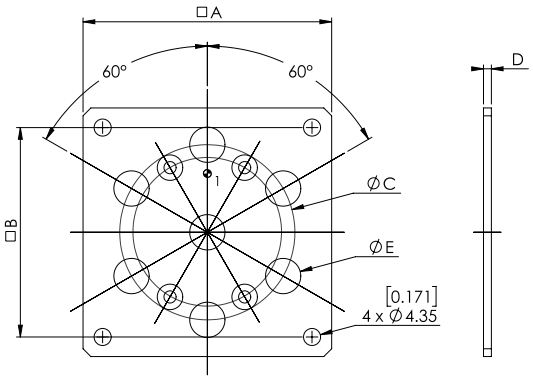
FOR MODELS WITH CONNECTORS N, TNC, BNC

NUMBER OF POSITIONS	MODEL	PART NUMBER
3 to 6 positions	R573 series	R599921000
	R574 series	
8 to 12 positions	R573 series	Not Available
	R574 series	

MOUNTING SQUARE FLANGE

A square flange has been designed for easy mechanical mounting of our SPnT switches with a circular flange for customer installation. These flanges must be ordered separately (similar to the mounting bracket) and assembled according to our recommended process on the following page.

TYPICAL OUTLINE DRAWING



MATERIAL: ALUMINIUM WITH CR3 PASSIVATION

RADIALL PART NUMBER	A (MM [INCHES])	B (MM [INCHES])	C (MM [INCHES])	D (MM [INCHES])	E (MM [INCHES])
R599 308 000	57.15 [2.244]	45.75 [1.772]	27 [1.063]	2 [0.079]	9 [0.354]
R599 309 000	57.15 [2.244]	45.75 [1.772]	44.70 [1.732]	2 [0.079]	9 [0.354]
R599 310 000	63.45 [2.480]	53.45 [2.087]	27 [1.063]	2 [0.079]	9 [0.354]
R599 311 000	63.45 [2.480]	53.45 [2.087]	44.70 [1.732]	2 [0.079]	9 [0.354]
R599 312 000	63.45 [2.480]	53.45 [2.087]	44.70 [1.732]	2 [0.079]	9 [0.354]
R599 313 000	69.80 [2.717]	59.80 [2.323]	44.70 [1.732]	2 [0.079]	9 [0.354]
R599 314 000	74.60 [2.913]	64.60 [2.520]	55.88 [2.165]	2 [0.079]	9 [0.354]
R599 315 000	71.10 [2.795]	60.30 [2.362]	44.70 [1.732]	3 [0.118]	16.20 [0.630]

FOR MODELS WITH CONNECTORS SMA, QMA, SMA 2.9, 2.4 MM, DIN 1.6/5.6

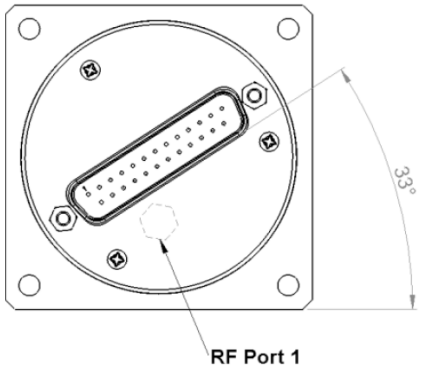
NUMBER OF POSITIONS	MODEL	PART NUMBER
3 to 6 positions	R573 series	R599310000
		R599308000
	R574 series	R599311000
		R599309000
8 positions	R573 series	R599312000
	R574 series	
10 positions	R573 series	R599313000
	R574 series	
12 positions	R573 series	R599314000
	R574 series	

FOR MODELS WITH CONNECTORS N, TNC, BNC

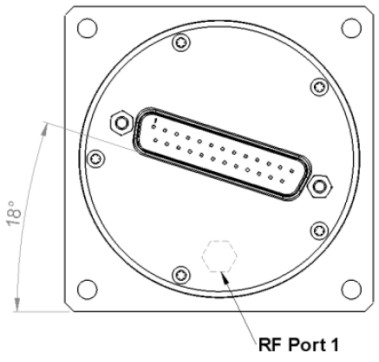
NUMBER OF POSITIONS	MODEL	PART NUMBER
3 to 6 positions	R573 series	R599315000
	R574 series	

D-SUB CONNECTOR LOCATION

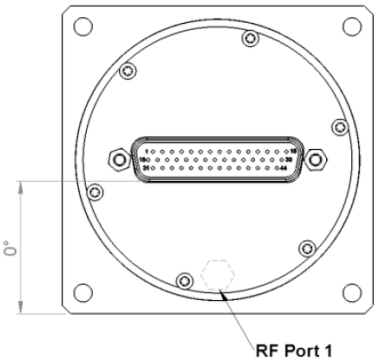
R573 & R574
3 to 6 positions



R573 & R574
10 positions



R573 & R574
8 & 12 positions



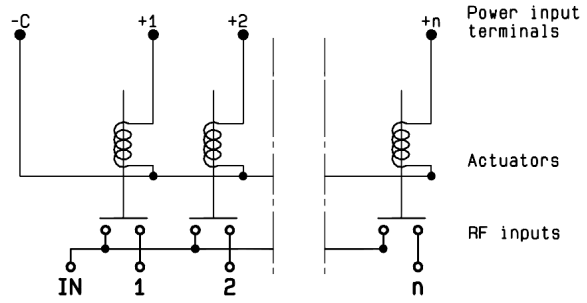
Notes
All dimensions are in millimeters [inches]. For assembling process please see Technical Data Sheet.

COAXIAL SPNT - ELECTRICAL SCHEMATICS

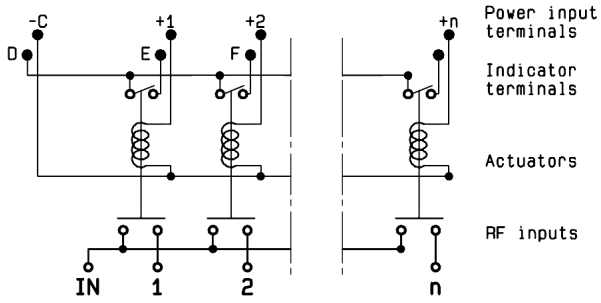
R573 - R574 SERIES

NORMALLY OPEN

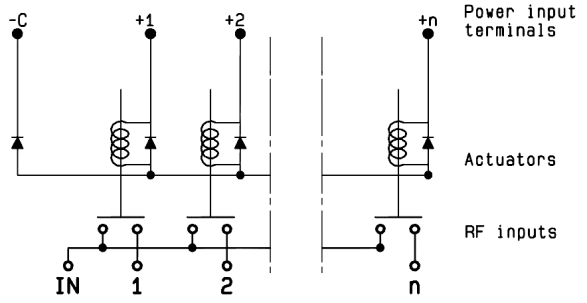
WITHOUT OPTION
R573-0--0- / R574-0--0-



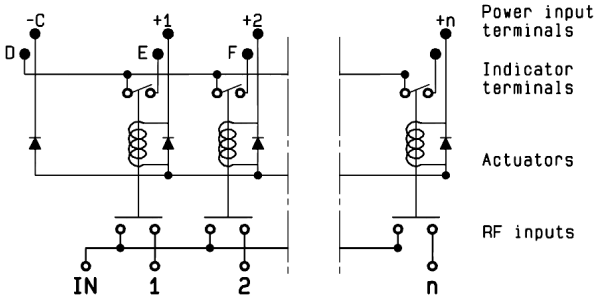
WITH INDICATOR CONTACT
R573-1--0- / R574 -1- -0-



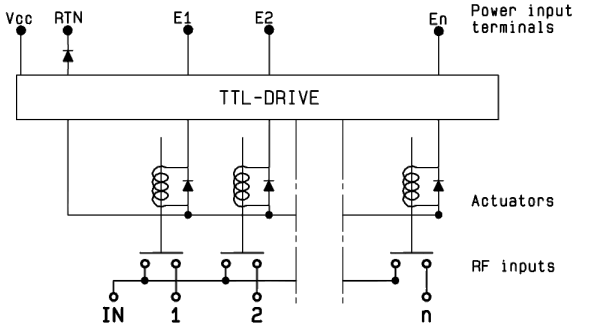
WITH SUPPRESSION DIODES
R573-0--3- / R574 -0- -3-



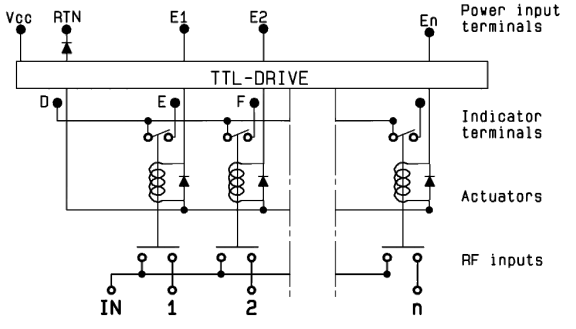
WITH SUPPRESSION DIODES & INDICATOR CONTACT
R573-1--3- / R574 -1- -3-



WITH TTL DRIVER (SUPRESSION DIODES ARE INCLUDED)
R573-0--2- / R574 -0- -2-



WITH TTL DRIVER & INDICATOR CONTACT (SUPRESSION DIODES ARE INCLUDED)
R573-1--2- / R574 -1- -2-

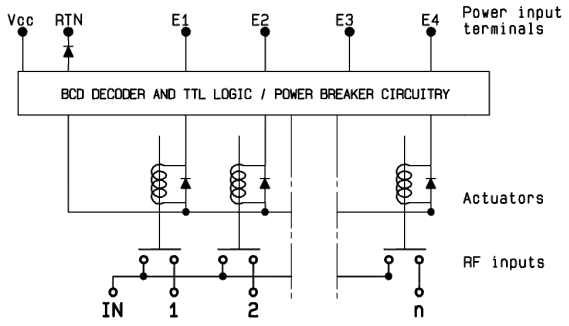


COAXIAL SPNT - ELECTRICAL SCHEMATICS (CONTINUED)

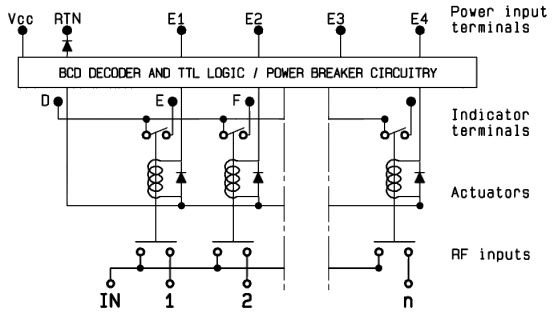
R573 - R574 SERIES

NORMALLY OPEN

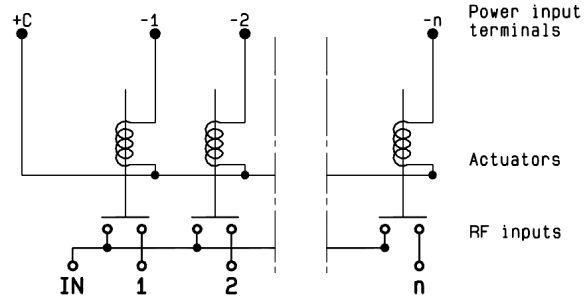
WITH BCD DRIVER, TTL COMPATIBLE (SUPPRESSION DIODES ARE INCLUDED)
R573-0--8- / R574-0--8-



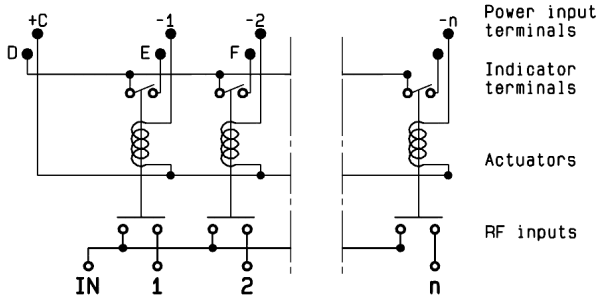
WITH BCD DRIVER, TTL COMPATIBLE & INDICATOR CONTACT (SUPPRESSION DIODES ARE INCLUDED)
R573-1--8- / R574 -1- -8-



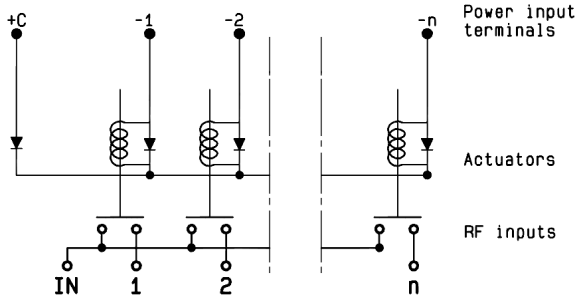
WITH POSITIVE COMMON
R573-0--1- / R574 -0- -1-



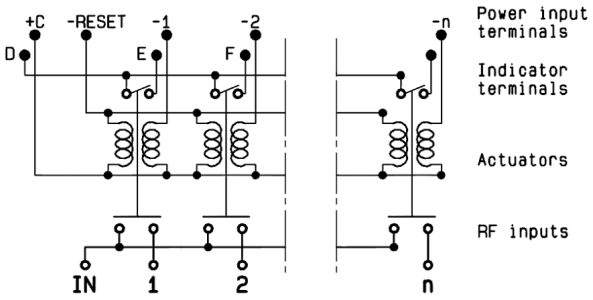
WITH POSITIVE COMMON AND INDICATOR CONTACT
R573-1--1- / R574 -1- -1-



WITH POSITIVE COMMON AND SUPPRESSION DIODES
R573-0--4- / R574 -0- -4-



WITH POSITIVE COMMON, SUPPRESSION DIODES & INDICATOR CONTACT
R573-1--4- / R574 -1- -4-

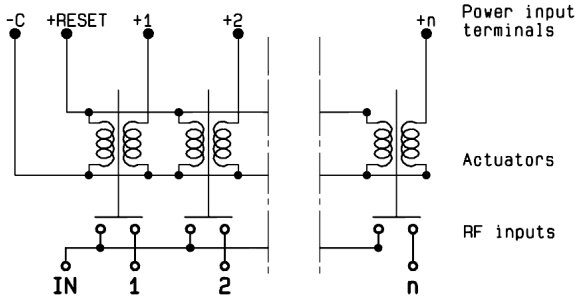


COAXIAL SPNT - ELECTRICAL SCHEMATICS

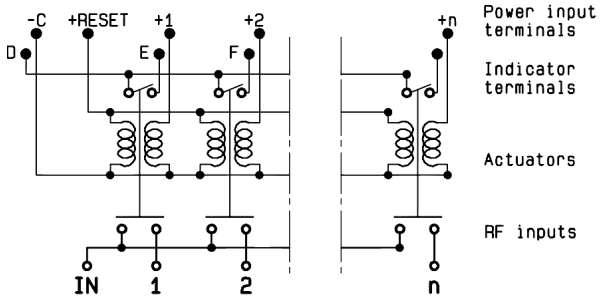
R573 - R574 SERIES

LATCHING

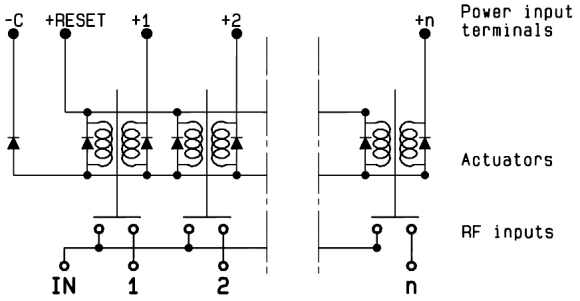
WITHOUT OPTION
R573-2--0- / R574-2--0-



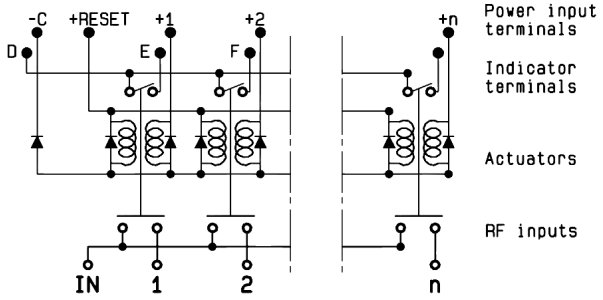
WITH INDICATOR CONTACT
R573-3--0- / R574 -3- -0-



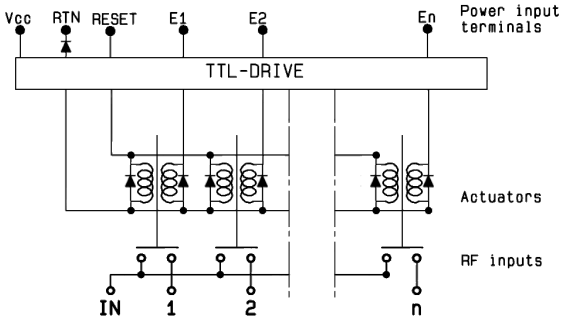
WITH SUPPRESSION DIODES
R573-2--3- / R574 -2- -3-



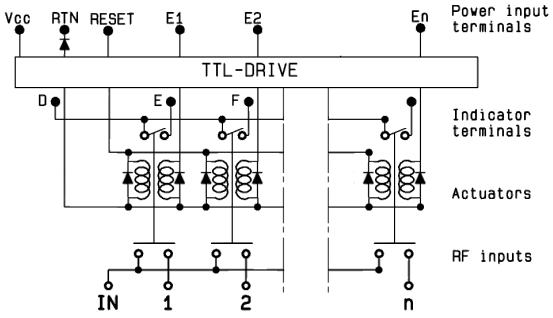
WITH SUPPRESSION DIODES AND INDICATOR CONTACT
R573-3--3- / R574 -3- -3-



WITH TTL DRIVER (SUPRESSION DIODES ARE INCLUDED)
R573-2--2- / R574 -2- -2-



WITH TTL DRIVER & INDICATOR CONTACT (SUPRESSION DIODES ARE INCLUDED)
R573-3--2- / R574 -3- -2-

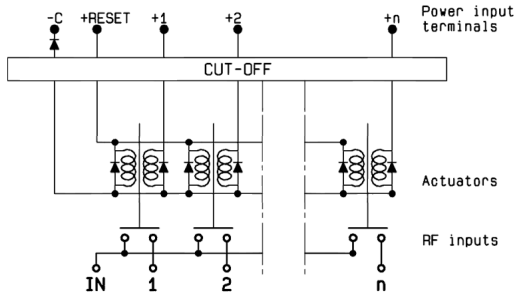


COAXIAL SPNT - ELECTRICAL SCHEMATICS (CONTINUED)

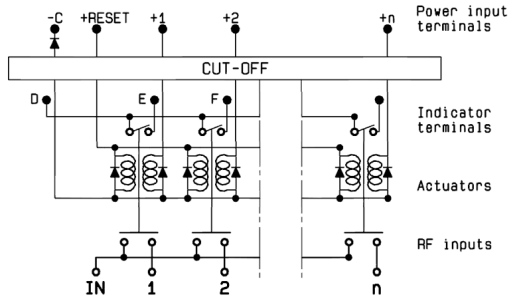
R573 - R574 SERIES

LATCHING

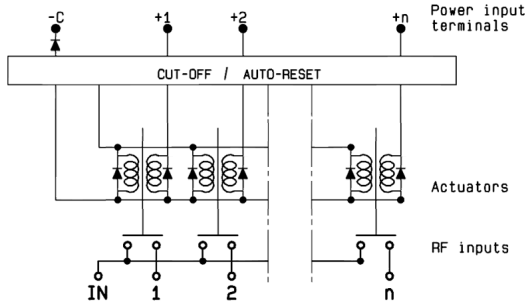
WITH CUT-OFF (SUPPRESSION DIODES ARE INCLUDED)
R573-4--0- / R574-4--0-



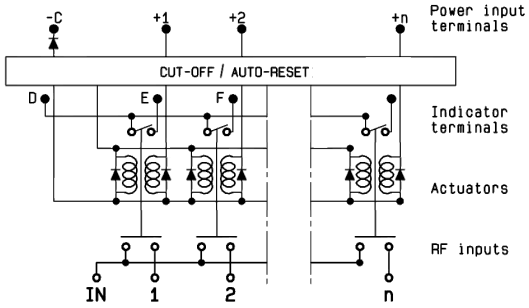
WITH CUT-OFF AND INDICATOR CONTACT (SUPPRESSION DIODES ARE INCLUDED)
R573-5--0- / R574 -5- -0-



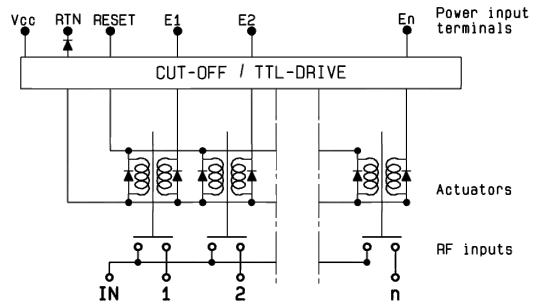
WITH CUT-OFF & AUTO REST (SUPPRESSION DIODES ARE INCLUDED)
R573 -8- -0- / R574 -8- -0-



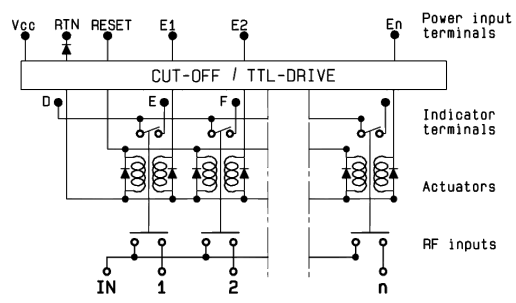
WITH CUT-OFF, AUTO REST & INDICATOR CONTACT (SUPPRESSION DIODES ARE INCLUDED)
R573-9--0- / R574 -9- -0-



WITH TTL DRIVER AND CUT-OFF (SUPPRESSION DIODES ARE INCLUDED)
R573-4--2- / R574 -4- -2-



WITH TTL DRIVER, CUT-OFF & INDICATOR CONTACT (SUPPRESSION DIODES ARE INCLUDED)
R573-5--2- / R574 -5- -2-

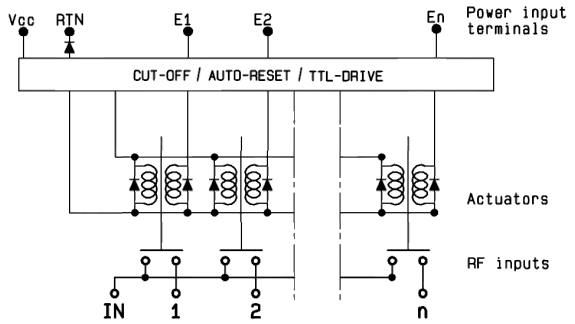


COAXIAL SPNT - ELECTRICAL SCHEMATICS (CONTINUED)

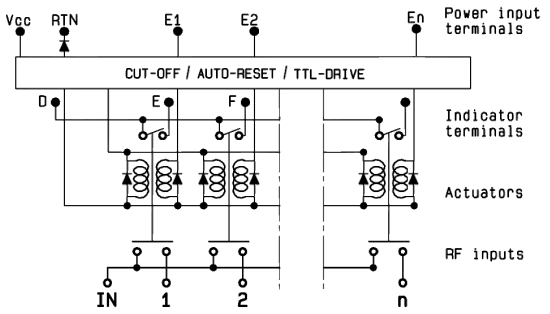
R573 - R574 SERIES

LATCHING

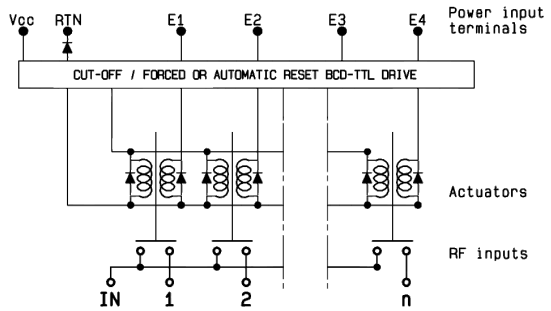
WITH TTL DRIVER, CUT-OFF & AUTO RESET (SUPPRESSION DIODES ARE INCLUDED)
R573-8--2- / R574-8--2-



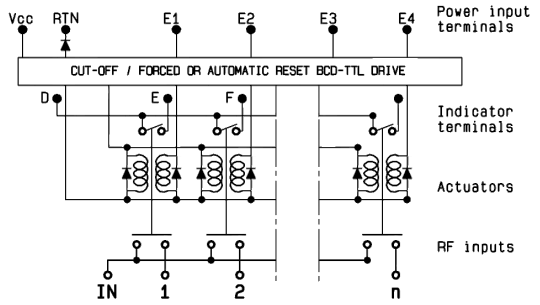
WITH TTL DRIVER, CUT-OFF, AUTO RESET & INDICATOR CONTACT (SUPPRESSION DIODES ARE INCLUDED)
R573-9--2- / R574 -9- -2-



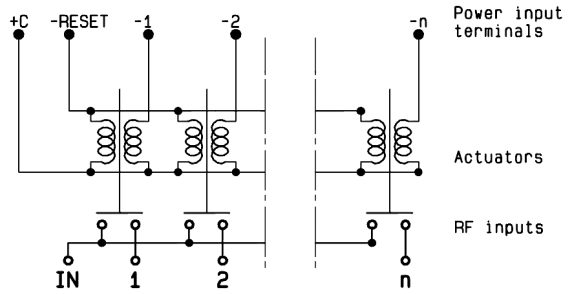
WITH CUT-OFF, FORCE OR AUTO RESET, BCD DRIVER, TTL COMPATIBLE (SUPPRESSION DIODES ARE INCLUDED)
R573-8--8- / R574 -8- -8-



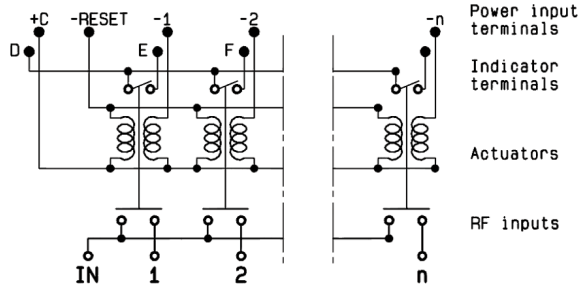
WITH CUT-OFF, FORCE OR AUTO RESET, BCD DRIVER, TTL COMPATIBLE & INDICATOR CONTACT (SUPPRESSION DIODES ARE INCLUDED)
R573-9--8- / R574 -9- -8-



WITH POSITIVE COMMON
R573-2--1- / R574 -2- -1-



WITH POSITIVE COMMON & INDICATOR CONTACT (SUPRESSION DIODES ARE INCLUDED)
R573-3--1- / R574 -3- -1-

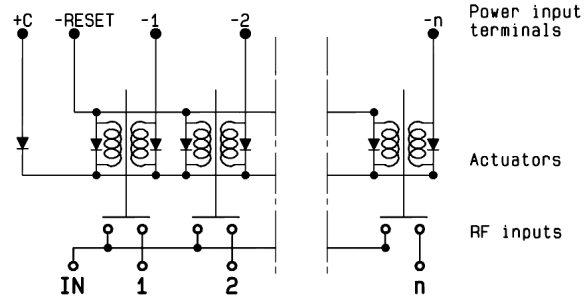


COAXIAL SPNT - ELECTRICAL SCHEMATICS (CONTINUED)

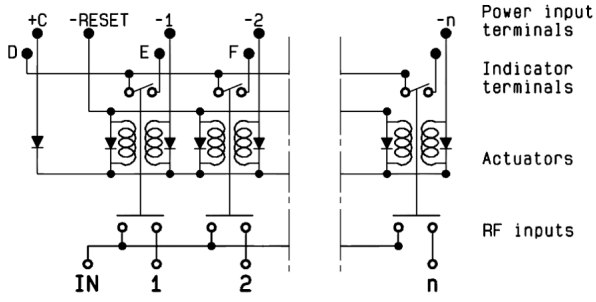
R573 - R574 SERIES

LATCHING

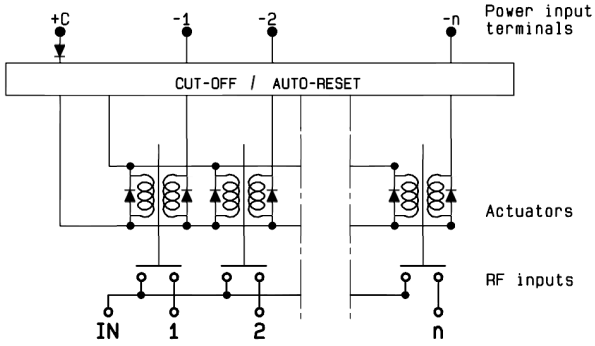
WITH POSITIVE COMMON & SUPPRESSION DIODES (SUPPRESSION DIODES ARE INCLUDED)
R573-2--4- / R574-2--4-



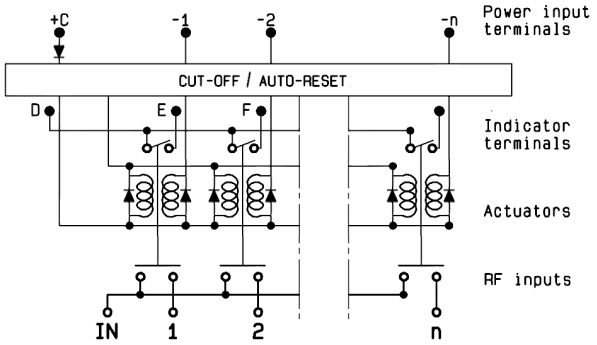
WITH POSITIVE COMMON, SUPPRESSION DIODES & INDICATOR CONTACT
R573-3--4- / R574 -3- -4-



WITH POSITIVE COMMON, CUT-OFF, AUTO RESET
R573-8--1- / R574-8--1-

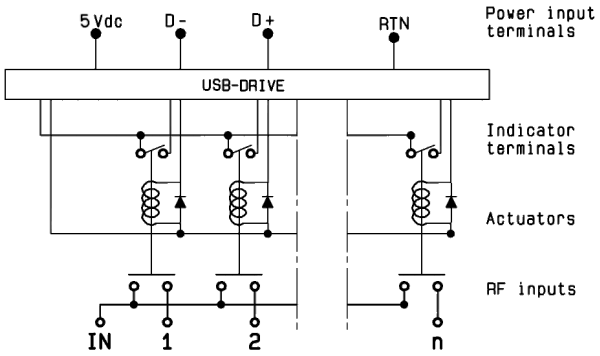


WITH POSITIVE COMMON, CUT-OFF, AUTO RESET & INDICATOR CONTACT
R573-9--1- / R574-9--1-



USB SERIES

NORMALLY OPEN WITH INDICATOR CONTACT
R573-11-01 / R574-11-01



HIGH PERFORMANCE MULTIPORT SWITCHES

SPNT UP TO 40 GHz

Radiall's TITANIUM switches are optimized to perform at a high level over an extended life cycle. With outstanding RF performance, and a guaranteed insertion loss repeatability of 0.03 dB over a life span of 2.5 million switching cycles, Radiall's TITANIUM switches are a perfect solution for automated test and measurement equipment, as well as signal monitoring devices.

Example of P/N: R514F73617 is a SP6T SMA up to 26.5 GHz, Latching, Indicators, Self cut-off, Auto-Reset, 24 Vdc and HE10 receptacle.

PART NUMBER SELECTION

R51

SERIES PREFIX

MODEL
3: Without 50 Ω termination
4: With 50 Ω termination

RF CONNECTORS
3: SMA up to 6 GHz
4: SMA up to 20 GHz
F: SMA up to 26.5 GHz
8: SMA 2.9 up to 40 GHz [1]

TYPE
7: Latching + Self cut-off + Auto Reset + Indicators

ACTUATOR VOLTAGE
3: 24 Vdc

NUMBER OF POSITIONS
4: 4 positions
6: 6 positions

OPTIONS*
1: Positive common (without TTL)
2: TTL/5 V logic with 24 Vdc supply [2]

ACTUATOR TERMINAL
7: HE 10 receptacle, delivered with 750 mm (30 inches) ribbon cable + HE10 connector

DOCUMENTATION
-: Certificate of conformity
C: Calibration certificate
R: Calibration certificate + RF curves

Notes
1. Connector SMA 2.9 is equivalent to "K connector®", registered trademark of Anritsu.
2. Polarity is not relevant to application for switches with TTL driver

GENERAL SPECIFICATIONS

OPERATING MODE		LATCHING	
Nominal operating voltage (across operating temperature)	Vdc	24 (20/32)	
Coil resistance (+/-10%)	Ω	120	
Operating current at 23 °C	mA	200	
Maximum stand-by current	mA	50	
Average power Terminated Model	All models	RF path Cold switching: See Power page 5-50 Hot switching: 1 Watt Cw	
		Internal terminations 1 Watt average into 50 Ω	
TTL input	High level	3 to 7 V	1.4 mA max at Vcc = Max
	Low level	0 to 0.8 Volts	-
Indicator specifications		Maximum withstanding voltage	60 V
		Maximum current capacity	150 mA
		Maximum "ON" resistance	2.5 Ω
		Minimum "OFF" resistance	100 MΩ
Switching time (max)	ms	15	
Life (min)	SMA	2.5 million cycles	
	SMA 2.9	1 million cycles	
Connectors		SMA - SMA 2.9	
Actuator terminals		HE10 ribbon receptacle	
Weight (max)	g	230	

ENVIRONMENTAL SPECIFICATIONS

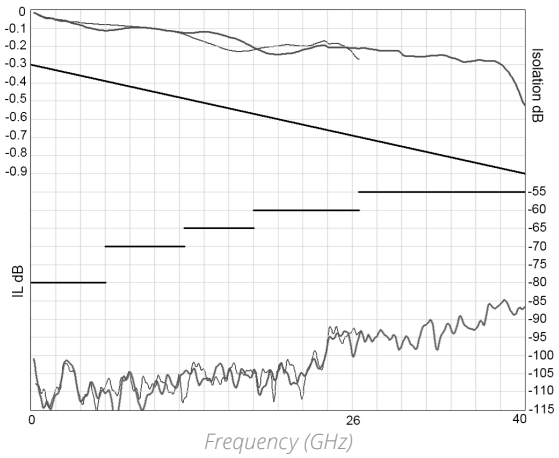
Operating temperature range	-25 °C to +75 °C
Storage temperature range	-55 °C to +85 °C
Temperature cycling (MIL-STD-202, Method 107D, Cond.A)	-55 °C to +85 °C (10 cycles)
Vibration (MIL STD 202, Method 204D, Cond.D)	10 - 2,000 Hz, 10 g - operating
Shock (MIL STD 202, Method 213B, Cond.C)	50 g/6 ms, 1/2 sine - operating
Moisture resistance (MIL STD 202, Method 106E, Cond.E)	65 °C, 95% RH, 10 days
Altitude storage (MIL STD 202, Method 105C, Cond.B)	50,000 ft (15,240 meters)
RFI (MIL STD 1344, Method 3008 or IEC 61726)	55 dB at 20 GHz
Magnetic field	< 5.10-5 gauss at 1 meter

RF PERFORMANCE

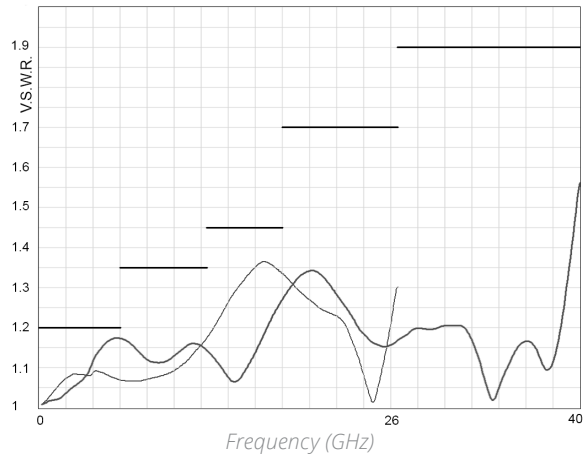
PART NUMBER		R51-3-34-7 R51-3-36-7	R51-4-34-7 R51-4-36-7		R51-F-34-7 R51-F-36-7		R51-8-34-7 R51-8-36-7	
Frequency Range	GHz	DC to 6	DC to 20		DC to 26.5		DC to 40	
Impedance	Ω	50						
Insertion Loss (max)	dB	0.3 + 0.015 × frequency (GHz)						
Isolation (min)	dB	80	DC to 6 GHz	80	DC to 6 GHz	80	DC to 6 GHz	80
			6 to 12.4 GHz	70	6 to 12.4 GHz	70	6 to 12.4 GHz	70
			12.4 to 20 GHz	65	12.4 to 20 GHz	65	12.4 to 18 GHz	65
			-		20 to 26.5 GHz	60	18 to 26.5 GHz	60
			-		-		26.5 to 40 GHz	55
V.S.W.R. (max)		1.20	DC to 6 GHz	1.20	DC to 6 GHz	1.20	DC to 6 GHz	1.20
			6 to 12.4 GHz	1.35	6 to 12.4 GHz	1.35	6 to 12.4 GHz	1.35
			12.4 to 20 GHz	1.45	12.4 to 20 GHz	1.45	12.4 to 18 GHz	1.45
			-		20 to 26.5 GHz	1.70	18 to 26.5 GHz	1.70
			-		-		26.5 to 40 GHz	1.90
Third order inter Modulation		- 120 dBC typical (2 carriers 20w)						
Repeatability (measured at 25 °C)		0.03 dB					0.05 dB	

TYPICAL RF PERFORMANCE

INSERTION LOSS & ISOLATION



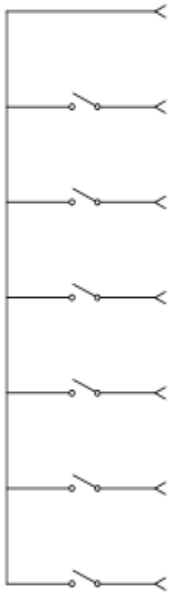
V.S.W.R



SMA —— **SMA 2.9** ▬

ELECTRONIC POSITION INDICATORS

The electronic position indicators use photo-MOS transistors, which are driven by the mechanical position of the RF paths moving elements. The circuitry consists of a common which can be connected to an output corresponding to a selected RF path. If one or several RF paths are closed, the corresponding indicators are connected to the common. The photo-MOS transistors are configured for AC and/or DC operation. The electronic position indicators require the supply (20 to 32 VDC) to be connected to pin 1 and ground connected to pin 15.



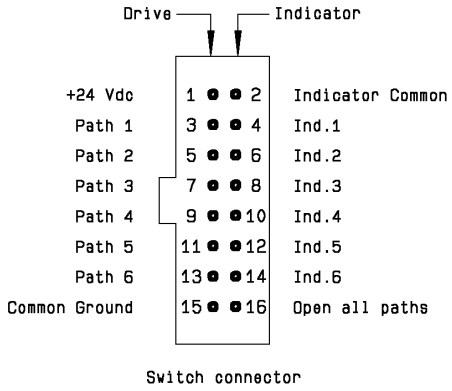
Pin number	Function
2	Indicator Common
4	Indicator RF path 1
6	Indicator RF path 2
8	Indicator RF path 3
10	Indicator RF path 4
12	Indicator RF path 5
14	Indicator RF path 6

Notes

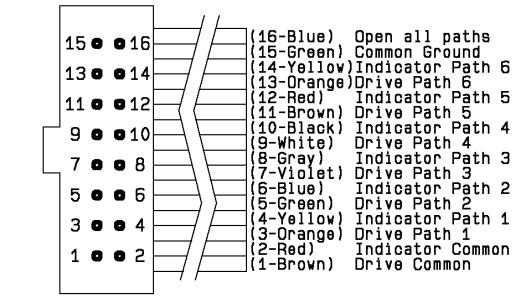
Ways 1 and 4 are not connected for SP4T switches.

TYPE 7: WITH TTL (OPTION "2") / WITHOUT TTL (OPTION "1") & INDICATORS

Each RF path can be closed by applying ground or TTL "High" for option 2 to the corresponding "drive" pin. In general, except for Make-Before-Break drive, all other RF paths are simultaneously opened by internal logic.



Switch connector



Mating cable connector

Standard drive option "1":

- Connect pin 15 to ground
- Connect pin 1 to supply (+20 VDC to +32 VDC)
- Select (close) desired RF path by applying ground to the corresponding "drive" pin (Ex: apply ground to pin 3 to close RF path 1)
- To select another path, ensure that all unwanted RF path "drive" pins are disconnected from ground (to prevent multiple RF path engagement), then apply ground to the "drive" pin which corresponds to the desired RF path
- To open all RF paths, ensure that all RF path "drive" pins are disconnected from ground. Complete the operation by applying ground to pin 16

TTL drive option "2":

- Connect pin 15 to ground
- Connect pin 1 to supply (+20 VDC to +32 VDC)
- Select (close) desired RF path by applying TTL "High" to the corresponding "drive" pin (Ex: apply TTL "High" to pin 3 to close RF path 1)
- To select another path, ensure that all unwanted RF path "drive" pins are in TTL "low" position (to prevent multiple RF path engagement), then apply TTL "high" to the "drive" pin which corresponds to the desired RF path
- To open all RF paths, ensure that all RF path "drive" pins are in TTL "Low" position. Complete the operation by applying TTL "High" to pin 16

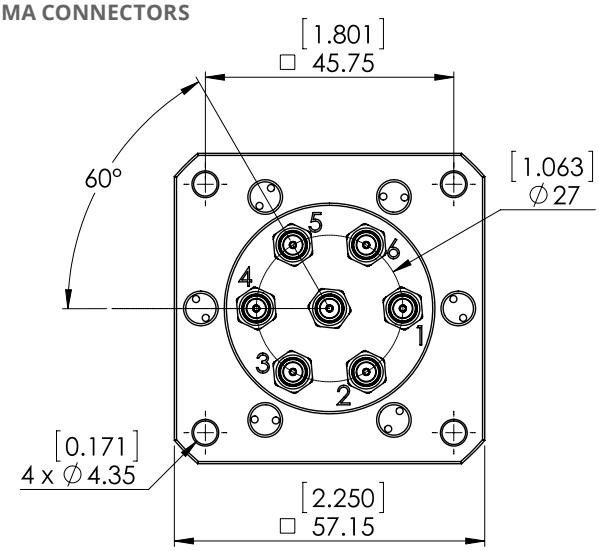
Break-Before-Make:
Open the undesired RF path for at least 15 minutes (minimum), then close the new RF port

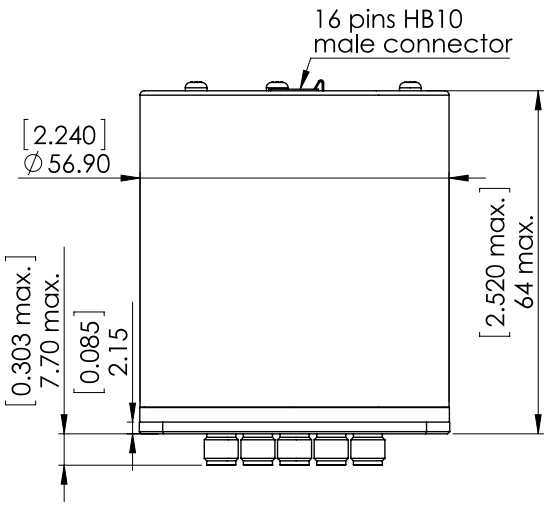
Make-Before-Break:
Ensure that the previously selected RF path "drive" is connected to ground (or TTL "High" for option "2"), then close the new RF path

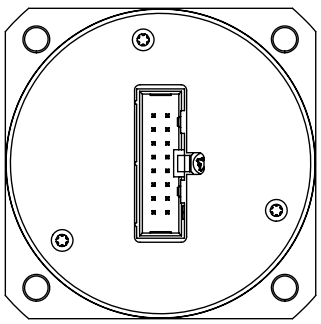
Notes
Ways 1 and 4 are not connected for SP4T switches.

TYPICAL OUTLINE DRAWING

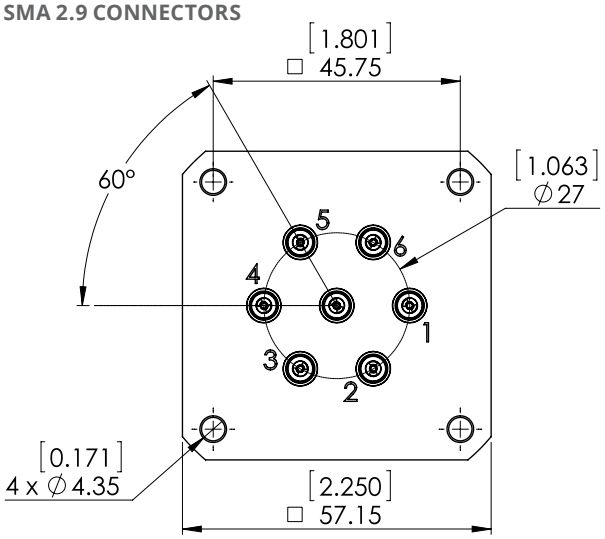
SMA CONNECTORS

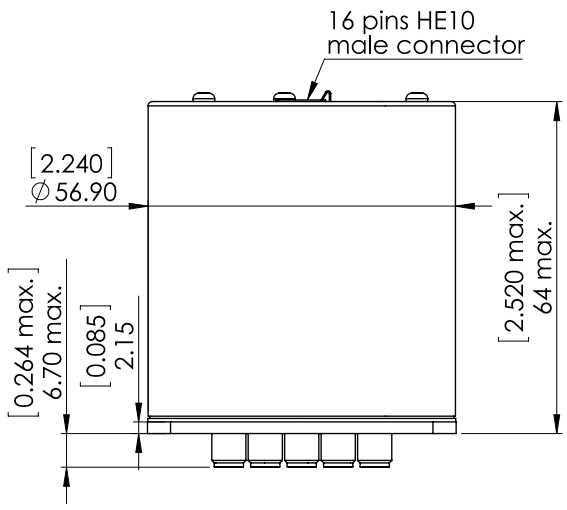


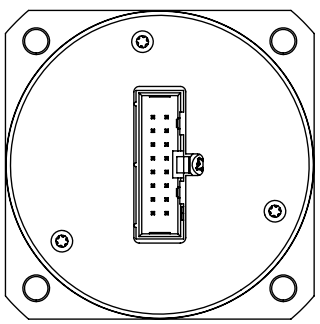




SMA 2.9 CONNECTORS







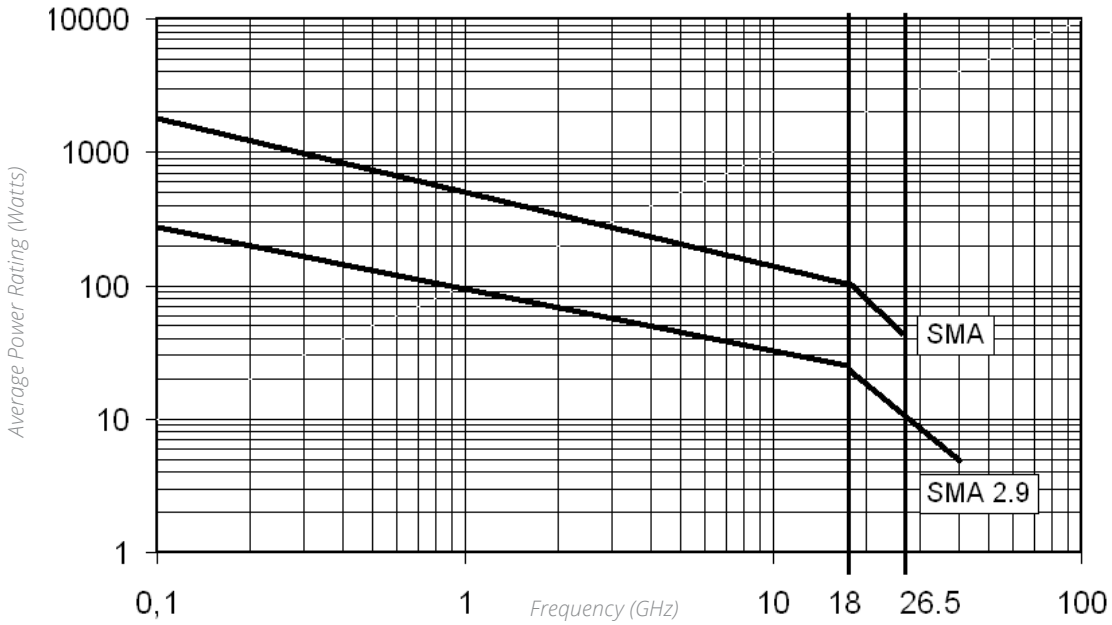
Notes

All dimensions are in millimeters [inches].
Ways 1 and 4 are not connected for SP4T switches.

POWER RATING CHART

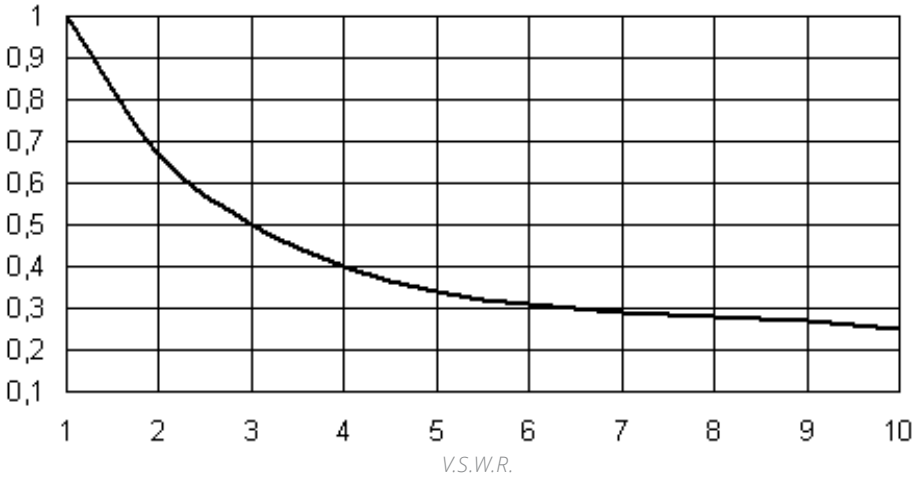
This graph is based on the following conditions:

- *Ambient temperature: + 25 °C*
- *Sea level*
- *V.S.W.R.: 1 and cold switching*



DERATING FACTOR VERSUS VSWR

The average power input must be reduced for load V.S.W.R. above 1:1.



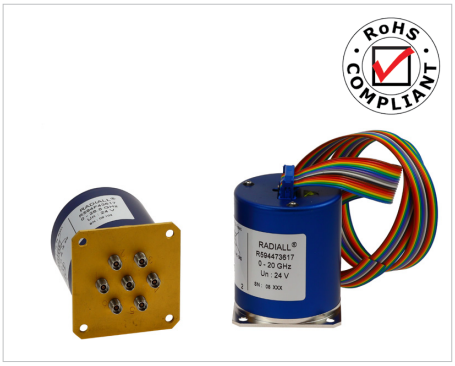
Notes

Ways 1 and 4 are not connected for SP4T switches.

Platinum Series

HIGH PERFORMANCE MULTIPORT SWITCHES

SPNT TERMINATED UP TO 40 GHz



Radiall's PLATINUM series switches are optimized to perform at a high level over an extended life cycle. With outstanding RF performance, and a guaranteed insertion loss repeatability of 0.03 dB over a life span of 10 million switching cycles, Radiall's PLATINUM series switches are a perfect solution for automated test and measurement equipment, as well as signal monitoring devices.

Example of P/N: R594873427 is a SPnT SMA 2.9 up to 40 GHz, Latching with Indicators, Self cut-off, Auto-Reset, TTL driver and HE10 connector.

PART NUMBER SELECTION

R594

SERIES PREFIX

RF CONNECTORS
3: SMA up to 6 GHz
4: SMA up to 20 GHz
F: SMA up to 26.5 GHz
8: SMA 2.9 up to 40 GHz [1]

TYPE
4: Latching + Self cut-off without indicator
7: Latching + Self cut-off + Auto Reset + Indicators

ACTUATOR VOLTAGE
3: 24 Vdc

NUMBER OF POSITIONS
4: 4 positions
6: 6 positions

OPTIONS
1: Positive common (without TTL)
2: TTL/5 V logic with 24 Vdc supply [2 & 3]

ACTUATOR TERMINAL
7: HE 10 receptacle, delivered with 750 mm (30 inches) ribbon cable + HE10 connector

DOCUMENTATION
-: Certificate of conformity
C: Calibration certificate
R: Calibration certificate + RF curves

Notes
Ways 1 and 4 are not connected for SP4T switches.
1. Connector SMA 2.9 is equivalent to "K connector®", registered trademark of Anritsu
2. Polarity is not relevant to application for switches with TTL driver
3. Only available with type "7"

GENERAL SPECIFICATIONS

OPERATING MODE		LATCHING	
Nominal operating voltage (across operating temperature)	Vdc	24 (20/32)	
Coil resistance (+/-10%)	Ω	120	
Operating current at 23 °C	mA	200	
Maximum stand-by current	mA	50	
Average power		RF path Cold switching: See Power page 5-59 Hot switching: 1 Watt Cw	
		Internal terminations 1 Watt average into 50 Ω	
TTL input	High level	3 to 7 V	1.4 mA max at Vcc = Max
	Low level	0 to 0.8 Volts	-
Indicator specifications		Maximum withstanding voltage	60 V
		Maximum current capacity	150 mA
		Maximum "ON" resistance	2.5 Ω
		Minimum "OFF" resistance	100 MΩ
Switching time (max)	ms	15	
Life (min)	SMA	10 million cycles	
	SMA 2.9	2.5 million cycles	
Connectors		SMA - SMA 2.9	
Actuator terminals		HE10 ribbon receptacle	
Weight (max)	g	230	

ENVIRONMENTAL SPECIFICATIONS

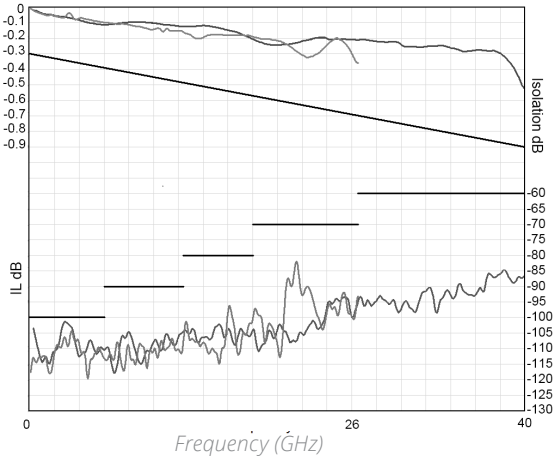
Operating temperature range	-25 °C to +75 °C
Storage temperature range	-55 °C to +85 °C
Temperature cycling (MIL-STD-202, Method 107D, Cond.A)	-55 °C to +85 °C (10 cycles)
Vibration (MIL STD 202, Method 204D, Cond.D)	10 - 2,000 Hz, 10 g - operating
Shock (MIL STD 202, Method 213B, Cond.C)	50 g/6 ms, 1/2 sine - operating
Moisture resistance (MIL STD 202, Method 106E, Cond.E)	65 °C, 95% RH, 10 days
Altitude storage (MIL STD 202, Method 105C, Cond.B)	50,000 ft (15,240 meters)
RFI (MIL STD 1344, Method 3008 or IEC 61726)	55 dB at 20 GHz
Magnetic field	< 5.10-5 gauss at 1 meter

RF PERFORMANCE

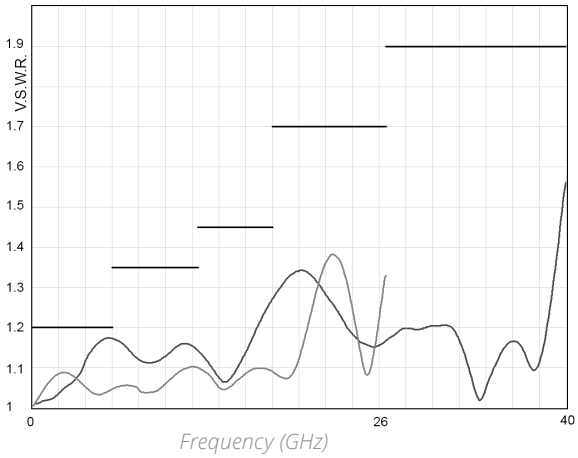
PART NUMBER		R5943-34-7	R5944-34-7 R5944-36-7	R594F-34-7 R594F-36-7	R5948-34-7 R5948-36-7
Frequency Range	GHz	DC to 6	DC to 20	DC to 26.5	DC to 40
Impedance	Ω	50			
Insertion Loss (max)	dB	0.3 + 0.015 × frequency (GHz)			
Isolation (min)	dB	100	DC to 6 GHz 100 6 to 12.4 GHz 90 12.4 to 20 GHz 80 - -	DC to 6 GHz 100 6 to 12.4 GHz 90 12.4 to 20 GHz 80 20 to 26.5 GHz 70 -	DC to 6 GHz 100 6 to 12.4 GHz 90 12.4 to 18 GHz 80 18 to 26.5 GHz 70 26.5 to 40 GHz 60
V.S.W.R. (max)		1.20	DC to 6 GHz 1.20 6 to 12.4 GHz 1.35 12.4 to 20 GHz 1.45 - -	DC to 6 GHz 1.20 6 to 12.4 GHz 1.35 12.4 to 20 GHz 1.45 20 to 26.5 GHz 1.70 -	DC to 6 GHz 1.20 6 to 12.4 GHz 1.35 12.4 to 18 GHz 1.45 18 to 26.5 GHz 1.70 26.5 to 40 GHz 1.90
Repeatability (measured at 25 °C)		0.03 dB			0.05 dB

TYPICAL RF PERFORMANCE

INSERTION LOSS & ISOLATION



V.S.W.R

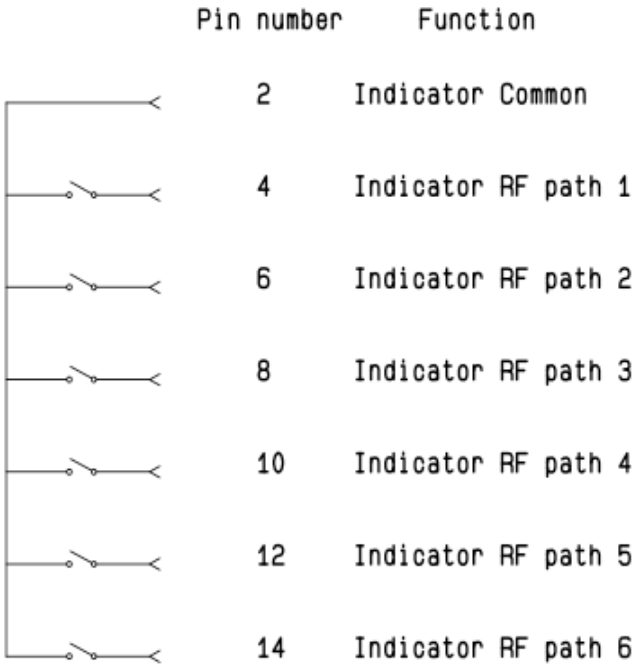


SMA —— **SMA 2.9** ▬

ELECTRONIC POSITION INDICATORS

(This option is not available with type 4)

The electronic position indicators use photo-MOS transistors, which are driven by the mechanical position of the RF paths moving elements. The circuitry consists of a common which can be connected to an output corresponding to selected RF path. If one or several RF paths are closed, the corresponding indicators are connected to the common. The photo-MOS transistors are configured for AC and/or DC operation. The electronic position indicators require the supply (20 to 32 VDC) to be connected to pin 1 and ground connected to pin 15.



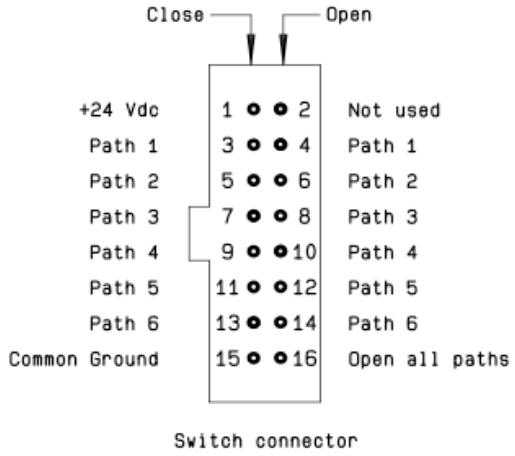
Notes

Ways 1 and 4 are not connected for SP4T switches.

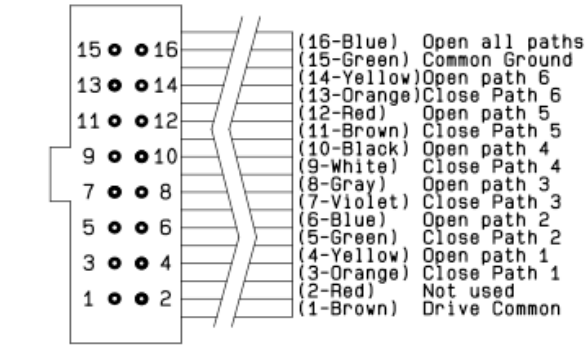
DRIVING THE SWITCH

Each RF path is driven independently, and can be closed or open by applying ground to the corresponding "open" or "close" pin.

TYPE 4: WITHOUT TTL AND WITHOUT INDICATOR



Switch connector



Mating cable connector

Standard drive:

- Connect pin 15 to ground
- Connect pin 1 to supply (+20 VDC to +32 VDC)
- Select desired RF path by applying ground to the corresponding "close" pin (Ex: ground pin 3 to close RF path 1)
- To open desired RF path connect ground to the corresponding "open" pin (Ex: ground pin 4 to open RF path 1)
- To open all RF paths, first ensure that all RF path "close" pins are disconnected from ground, then to complete the operation, connect pin 16 to ground

Make-Before-Break:

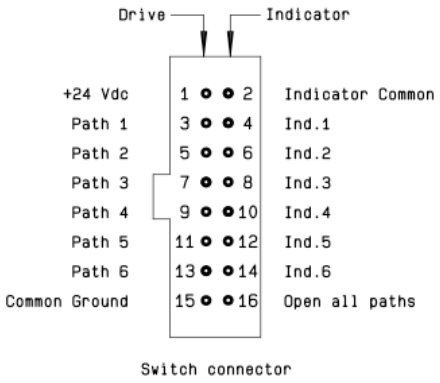
Make-Before-Break switching can be accomplished by closing the new RF path before opening the previously selected RF path. To complete the operation, close the new RF port for at least 15 minutes (minimum), then open the previously selected RF port.

Notes

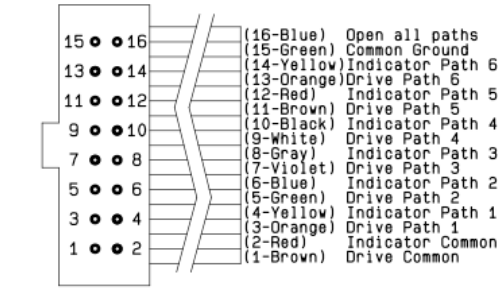
Ways 1 and 4 are not connected for SP4T switches.

TYPE 7: WITH TTL (OPTION “2”) / WITHOUT TTL (OPTION “1”) & INDICATORS

Each RF path can be closed by applying Ground or TTL "High" for option 2 to the corresponding "drive" pin. In general, except for Make-Before-Break drive, all other RF paths are simultaneously opened by internal logic.



Switch connector



Mating cable connector

Standard drive option “1”:

- Connect pin 15 to ground
- Connect pin 1 to supply (+20 VDC to +32 VDC)
- Select (close) desired RF path by applying ground to the corresponding "drive" pin (Ex: apply ground to pin 3 to close RF path 1)
- To select another path, ensure that all unwanted RF path "drive" pins are disconnected from ground (to prevent multiple RF path engagement), then apply ground to the "drive" pin which corresponds to the desired RF path
- To open all RF paths, ensure that all RF path "drive" pins are disconnected from ground, then complete the operation by applying ground to pin 16

TTL drive option “2”:

- Connect pin 15 to ground
- Connect pin 1 to supply (+20 VDC to +32 VDC)
- Select (close) desired RF path by applying TTL "High" to the corresponding "drive" pin (Ex: apply TTL "High" to pin 3 to close RF path 1)
- To select another path, ensure that all unwanted RF path "drive" pins are in TTL "Low" position (to prevent multiple RF path engagement), then apply TTL "High" to the "drive" pin which corresponds to the desired RF path
- To open all RF paths, ensure that all RF path "drive" pins are in TTL "Low" position, then complete the operation by applying TTL "High" to pin 16

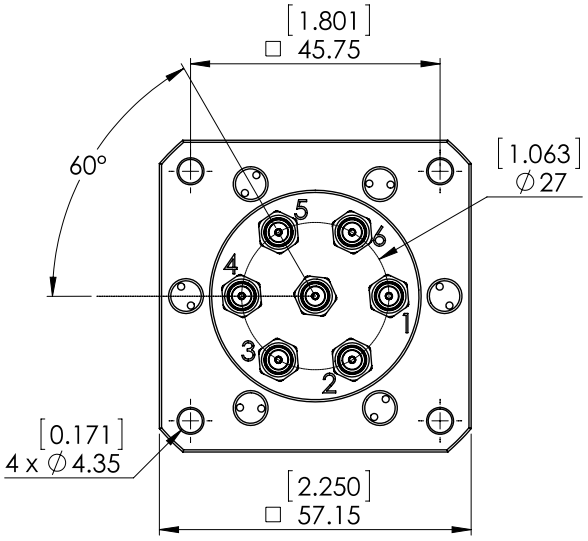
Break-Before-Make:
Open the undesired RF path after 15 minutes (minimum), then close the new RF port.

Make-Before-Break:
Ensure that the previously selected RF path “drive” is connected to ground (or TTL “High” for option “2”), then close the new RF path.

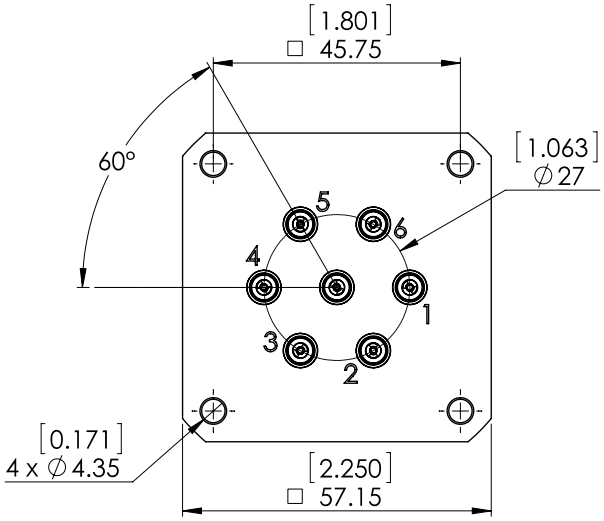
Notes
Ways 1 and 4 are not connected for SP4T switches.

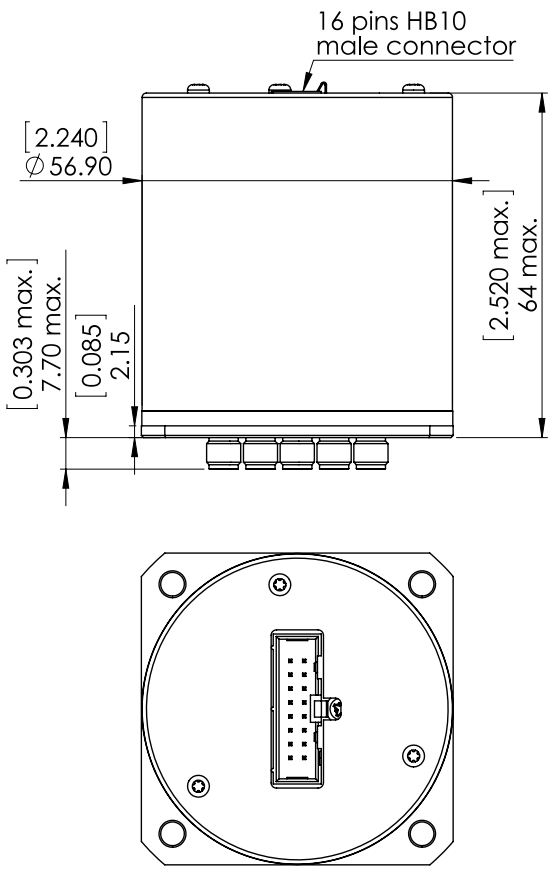
TYPICAL OUTLINE DRAWING

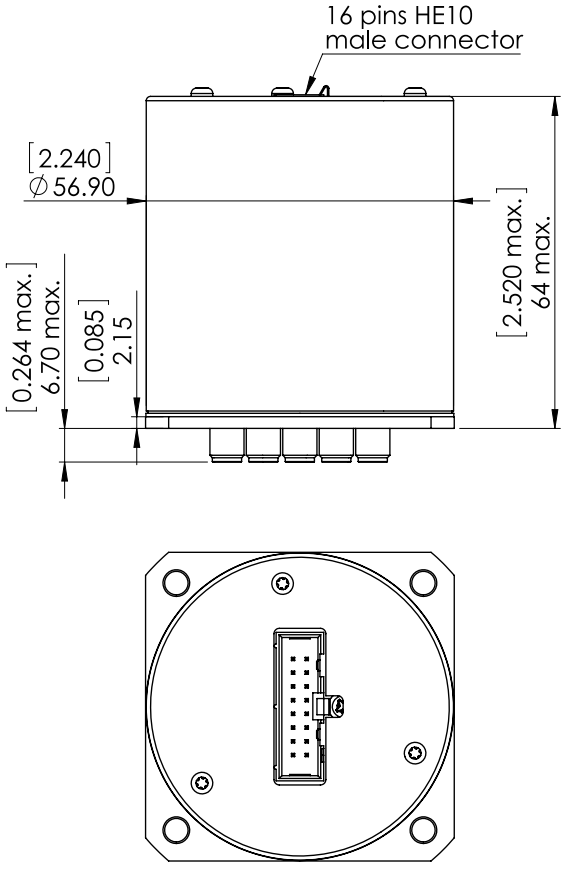
SMA CONNECTORS



SMA 2.9 CONNECTORS







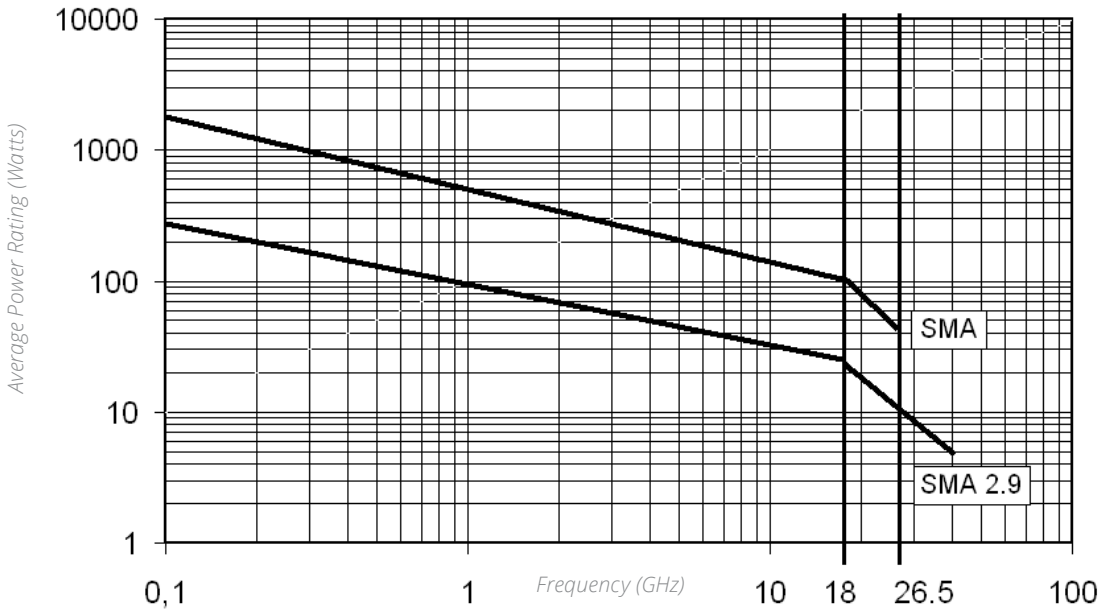
Notes

All dimensions are in millimeters [inches]. Ways 1 and 4 are not connected for SP4T switches.

POWER RATING CHART

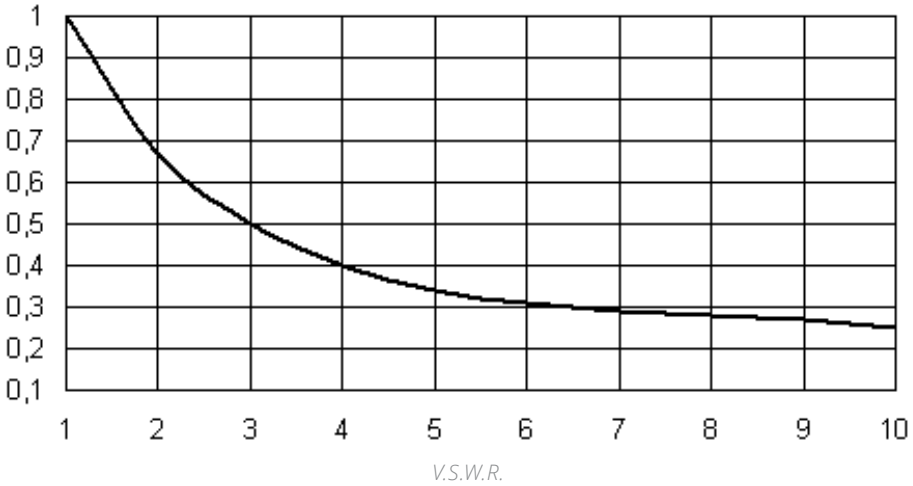
This graph is based on the following conditions:

- *Ambient temperature: + 25 °C*
- *Sea level*
- *V.S.W.R.: 1 and cold switching*



DERATING FACTOR VERSUS VSWR

The average power input must be reduced for load V.S.W.R. above 1:1.



OPTIONAL FEATURES

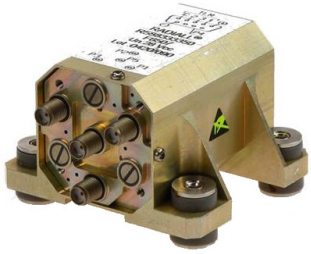
EXAMPLES OF DEDICATED APPLICATION OPTIONS

SPnT with flat ribbon cable for easy installation with limited space.

Thermal vacuum SPnT up to 50 GHz designed based on our expertise in Space. For more detailed information, see page 7-18 to 7-20.

SPnT models can be fitted with external loads (up to 50 GHz) for an easy maintenance of equipment.

7P6T switch for a Custom Matrix Switch (4P3T) with 4 Input ports and 4 Output ports configured for 3 transmission systems and one redundancy channel (N+1: N type) for example.



SP3T used for a military application with sequential access and severe environmental characteristics.

Unterminated SP3-6T with 9 pins D-sub connector instead of solder pins.

Notes

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

Radiall:

R574G13520 R574G03385