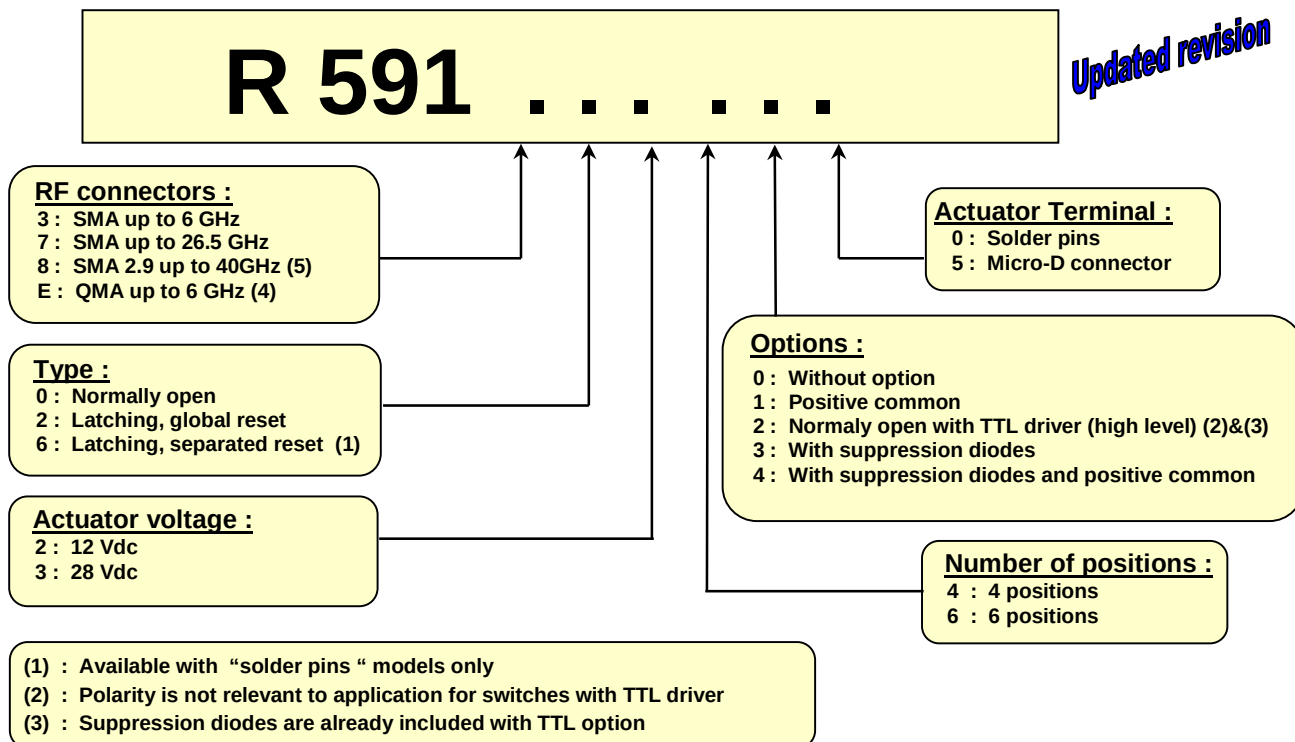


R591 RADIALL coaxial subminiature switches have a typical operating life exceeding 25 million cycles. Excellent RF & repeatability characteristics along with a guaranteed life of 10 million cycles make these switches ideal for Automated Test Equipment (ATE) and other measurement applications. These miniature switches are also an excellent choice for Mil/Aero applications due to their small size, light weight, as well as outstanding shock and vibration handling capabilities.

PART NUMBER SELECTION



(4) : The "QLF" trademark (quick lock formula®) standard applies to QMA and QN series and guarantees the full intermateability between suppliers using this trademark. Using QLF certified connectors also guarantees the specified level of RF performances.

(5) : Connector SMA 2.9 is equivalent to "K connector®", registered trademark of Anritsu.



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GENERAL SPECIFICATIONS

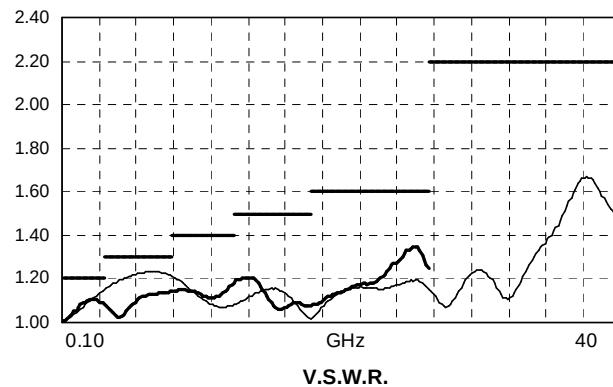
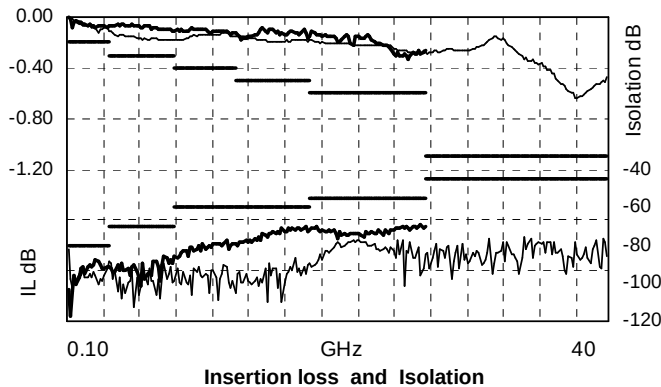
Operating mode		Normally open		Latching	
Nominal operating voltage (across operating temperature) Vdc		12 (10.2 / 13)	28 (21 / 30)	12 (10.2 / 13)	28 (21 / 30)
Coil resistance (+/-10%) Ohms		48	250	60	285
Operating current at 23°C mA		250	110	200	98
Average power		See Power Rating Chart on general catalog			
TTL input	High Level	2.2 to 5.5 Volts			
	Low Level	0 to 0.8 Volts			
Switching time (max) ms		10			
Life		10 million cycles (SMA, QMA) / 2 million cycles (SMA 2.9)			
Connectors		SMA / QMA / SMA 2.9			
Actuator terminals		Solder Pins : double row connector for wrapping, soldering (250°C 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 °C		-40 to +85			
Storage temperature range °C		-55 to +85			
Sine vibration (According to MIL STD 202, Method 204D, Cond. D)		10-2000 Hz, 20g		operating	
Random vibration (According to MIL STD 202, Method 214A, Profile I, Cond. F)		50-2000 Hz, 20.71grms		operating	
Shock (According to MIL STD 202, Method 213B, Cond. C)		100g / 6 ms, ½ sine		operating	

RF PERFORMANCES

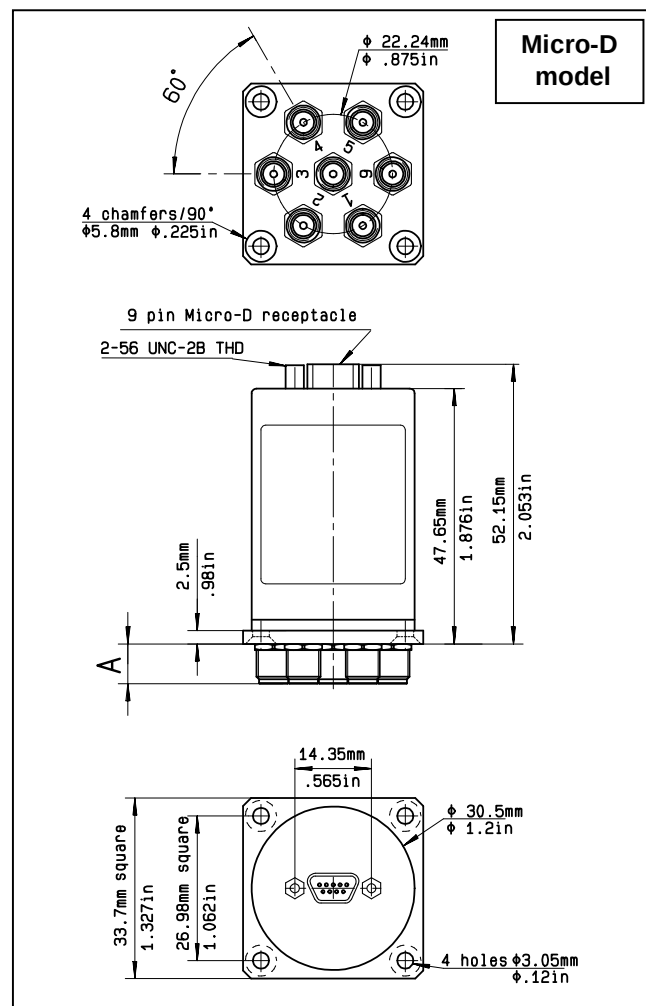
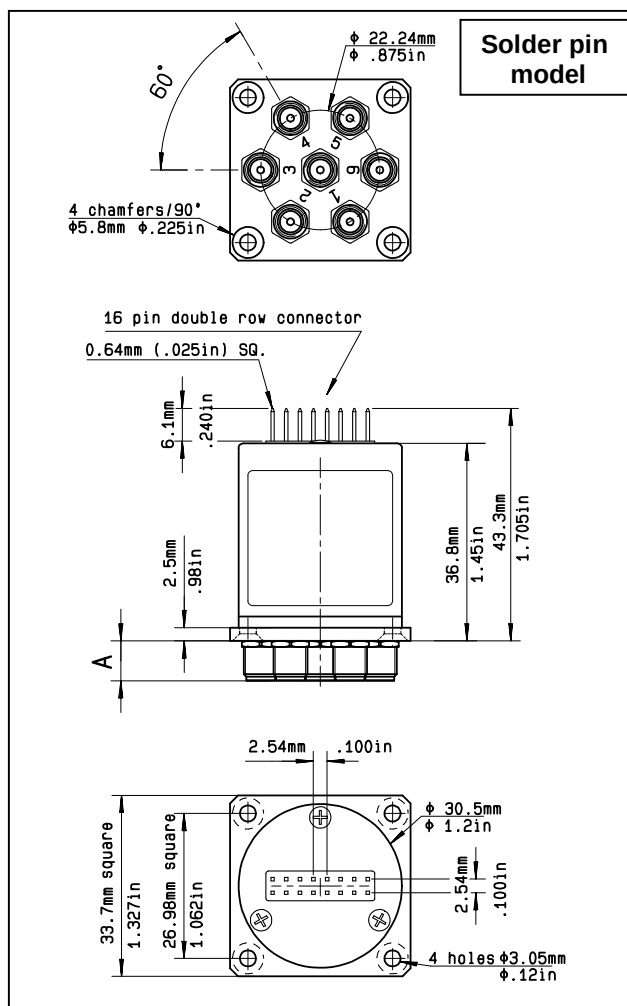
Connectors	Frequency Range GHz		V.S.W.R. (max)	Insertion Loss (max) dB	Isolation (min) dB	Max. average power (W) (1)	Impedance Ohms
SMA / QMA	DC – 6	DC – 3	1.20	0.20	80	80	50
		3 – 6	1.30	0.30	70	70	
SMA	DC – 26.5	DC – 3	1.20	0.20	80	250	50
		3 – 8	1.30	0.30	70	150	
		8 – 12.4	1.40	0.40	60	120	
		12.4 – 18	1.50	0.50	60	100	
		18 – 26.5	1.60	0.60	55	40	
SMA2.9	DC – 40	DC – 3	1.20	0.20	80	60	50
		3 – 8	1.30	0.30	70	35	
		8 – 12.4	1.40	0.40	60	30	
		12.4 – 18	1.50	0.50	60	25	
		18 – 26.5	1.70	0.70	55	15	
		26.5 – 40	2.20	1.10	45	5	

(1) : At 25°C, per RF path

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TYPICAL RF PERFORMANCES

TYPICAL OUTLINE DRAWING (1)

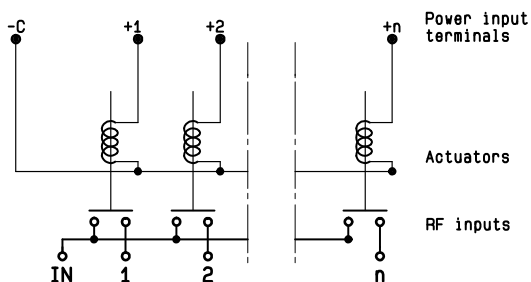
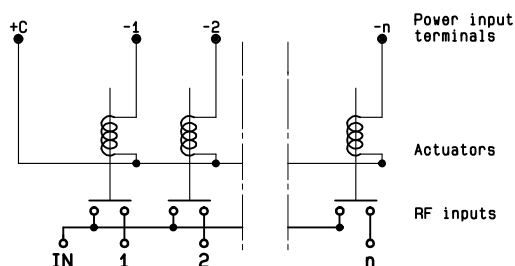
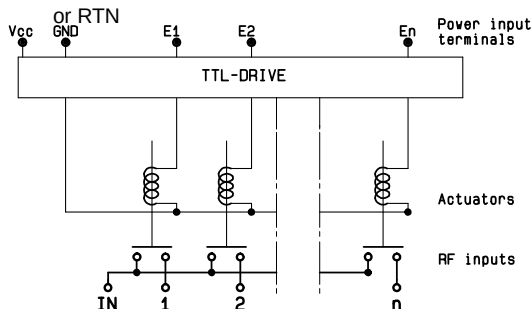
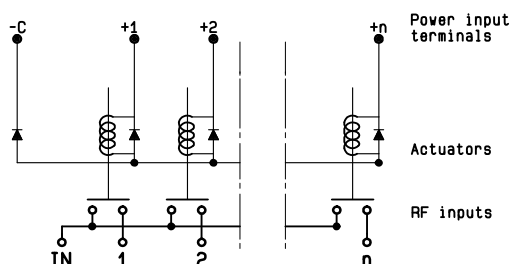
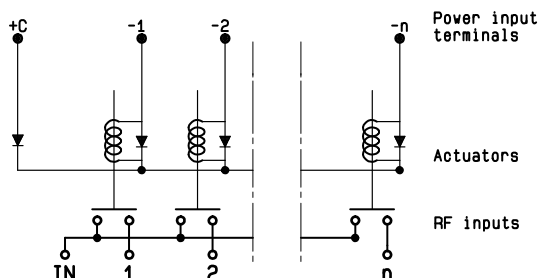
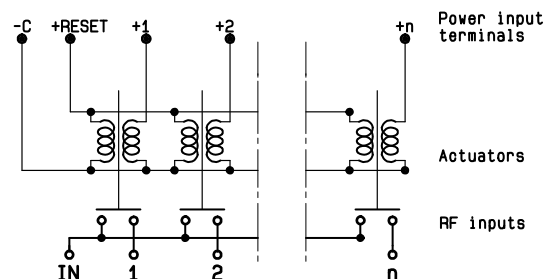
Connectors	SMA	SMA 2.9	QMA
A max (mm/ inches)	7.4/ 0.291	6.5/0.26	10.8/ 0.425



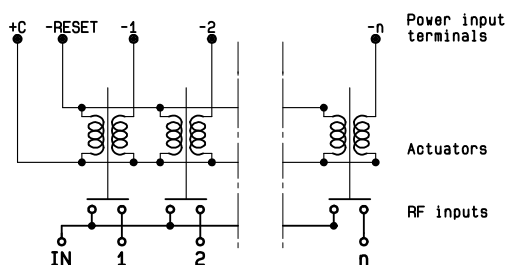
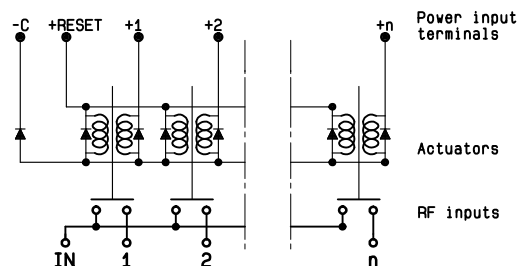
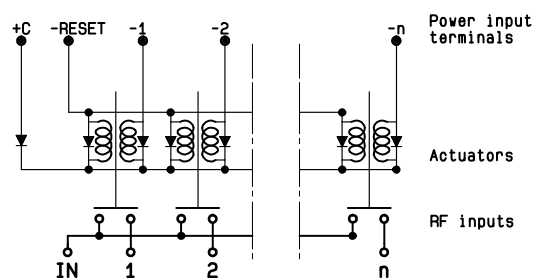
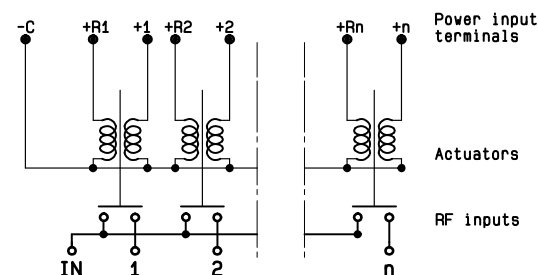
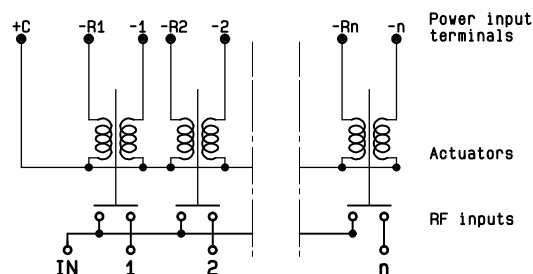
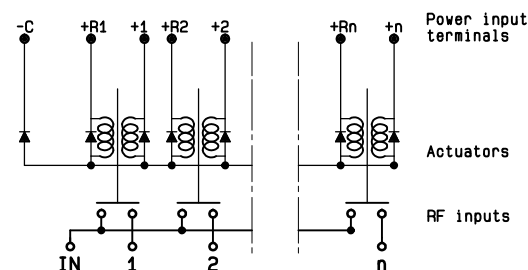
(1) : For SP4T, ways 3 and 6 not connected

all dimensions are in mm/ inches

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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 AND
SUPPRESSION DIODES
R591 -0- -4-**

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


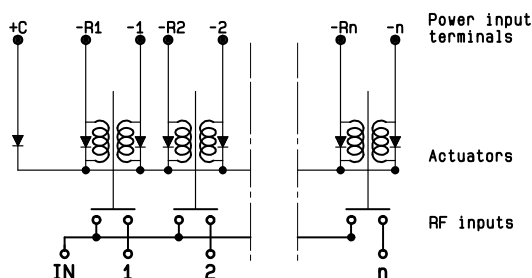
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R591 series electrical schematics
**LATCHING GLOBAL RESET WITH POSITIVE COMMON
R591 -2- -1-**

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

**LATCHING GLOBAL RESET WITH POSITIVE COMMON AND
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-**


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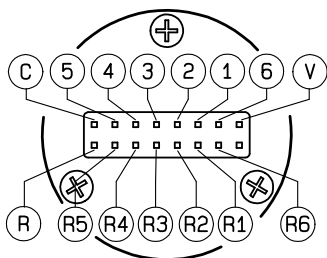
R591 series electrical schematics

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

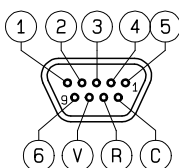


Pin identification

Solder pins (top view)*



9 pin Micro-D (top view)



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

* : compatible with 2.54 mm pitch double row 16 contact femelle connector

		PIN														
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	negative common	-C	NC	+1	+2	+3	+4	+5	+6	+reset	NC	NC	NC	NC	NC	NC
global reset	positive common	+C	NC	-1	-2	-3	-4	-5	-6	-reset	NC	NC	NC	NC	NC	NC
Latching	negative common	-C	NC	+1	+2	+3	+4	+5	+6	NC	+res.1	+res.2	+res.3	+res.4	+res.5	+res.6
individual reset	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		Gnd or RTN	Vcc	E1	E2	E3	E4	E5	E6	NC	NC	NC	NC	NC	NC	NC

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