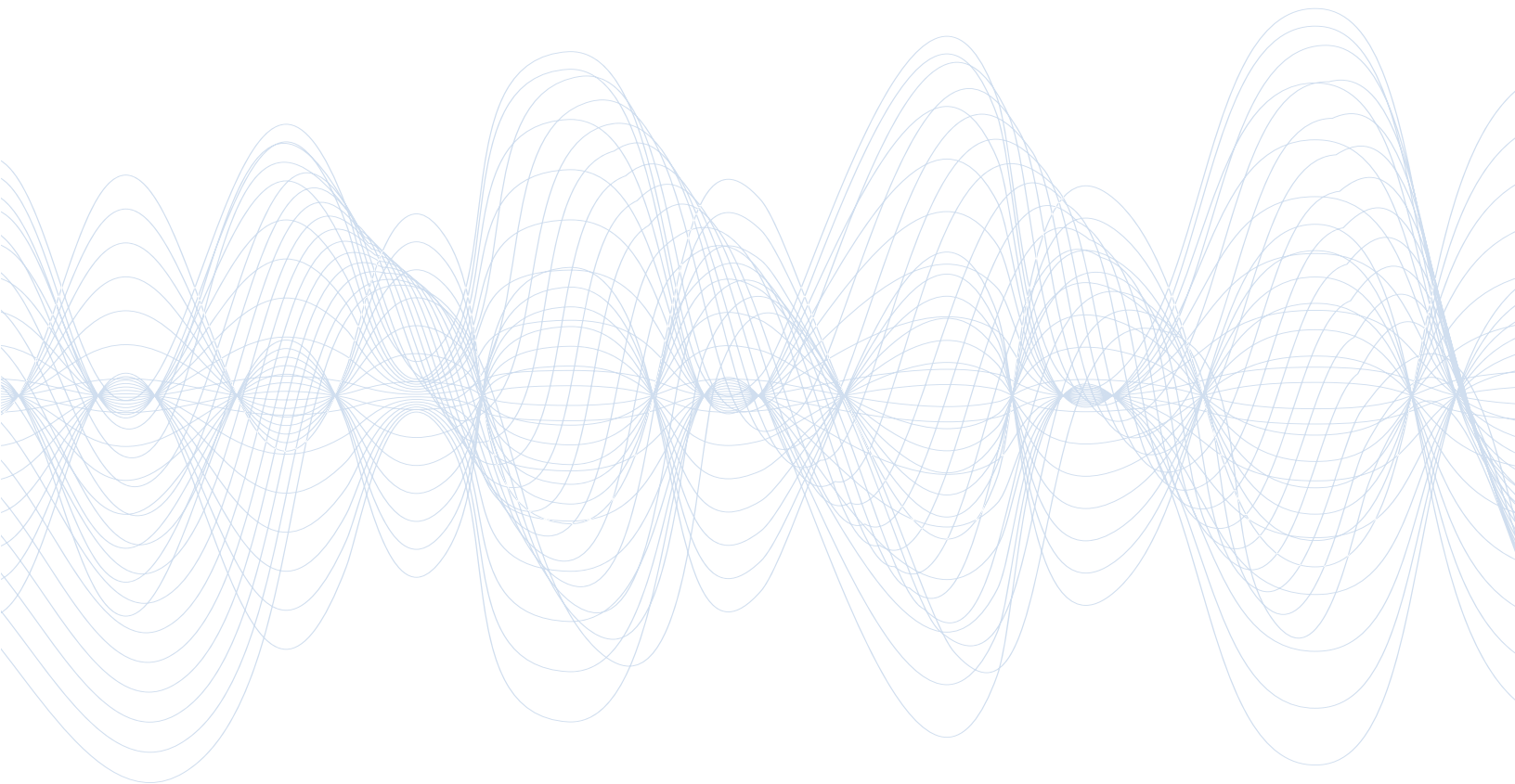


# Miniature MS-Series Matrix



**DowKey<sup>®</sup> Microwave**

CORPORATION

A **DOVER** COMPANY



## Features

<b>Configuration</b>	Multiple Switches (bidirectional): SPDT, Terminated SPDT, Terminated SP6T
<b>Operating Frequency</b>	DC-26.5 GHz
<b>Impedance</b>	50-Ohm
<b>Insertion Loss</b>	0.03 dB (max)
<b>Repeatability</b>	0.03 dB (max)
<b>Operating Life</b>	SPDT: 10 Million Cycles (min) SP6T: 5 Million Cycles (min)
<b>Control Options</b>	Ethernet (TCP/IP), Embedded Web Server (HTTP) & USB port

## Application

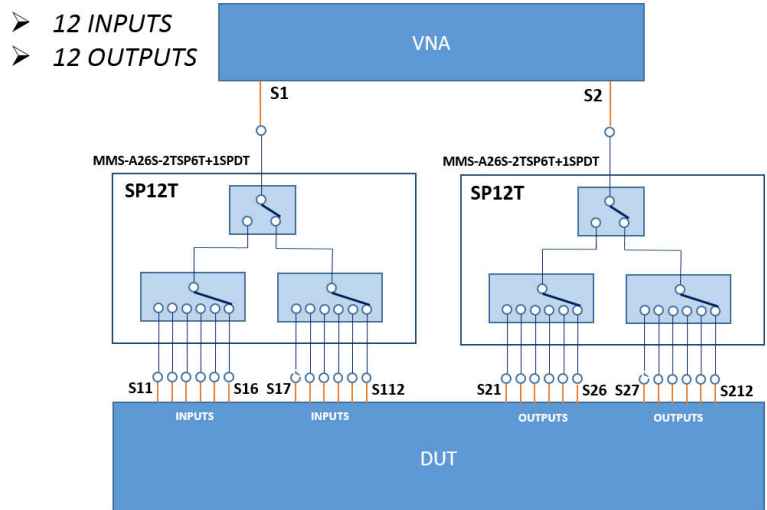
The Miniature MS-series is an ideal switch solution for Test & Measurement requirements. It is equipped with high performance switches with 0.03 dB insertion loss repeatability across DC to 26.5 GHz, and a minimum of 10 Million Life Cycles for the SPDT and 5 Million Life Cycles for the SP6T.

The miniature sized enclosure can be populated on the front panel with maximum of non-terminated and/or terminated:

- (8) SPDT Switches
- (2) SP6T Switches
- (1) SP6T + (4) SPDT Switches
- (2) SP6T + (1) SPDT Switches
- 

The MMS-series requires a 12Vdc / 2.5A power supply and the switches can be controlled remotely via TCP/IP Ethernet and HTTP-Server, which has a built-in “Sequencer” feature that allows the user to program up to ten 500-step sequence programs. It can also be controlled via USB port as a virtual RS-232 serial port.

## Typical Application extending VNA ports



No RF cables are provided with MMS-Series

## Specifications

I/O port Connector	
<b>DC Connector</b>	2.1 mm Center Pos. DC Socket
<b>RF Switch</b>	SMA
<b>USB</b>	USB Type A Receptacle
<b>Ethernet</b>	RJ-45
<b>Switching Time</b>	50 ms (incl. control delay)
<b>Operating Life (min)</b>	10,000,000 (cold)
<b>Operating Temperature</b>	0°C to +50°C
<b>Storage Temperature</b>	-20°C to +70°C
<b>Operating Humidity</b>	10-80% non-condensing
<b>Dimensions (max)</b>	6.29" x 3.30" x 7.05"
<b>Weight</b>	Varies per part number

Remote Control Options	
<b>Ethernet</b>	TCP/IP, 10/100 BASE-T, manual or DHCP IP address assignment
<b>Embedded Web Server</b>	HTTP (built-in webpage) Built-in Sequencer Feature with up to ten 500-step sequence programs
<b>USB Port</b>	Operates as a virtual RS-232
<b>Commands/Syntax</b>	Dow-Key SCPI commands
Electrical Specifications	
<b>Operating Voltage</b>	12 V +/- 5%
<b>Operating Current</b>	2.5 A (max) @ 12 Vdc
<b>RF Power</b>	2W max. (hot-switching), see chart for cold-switching

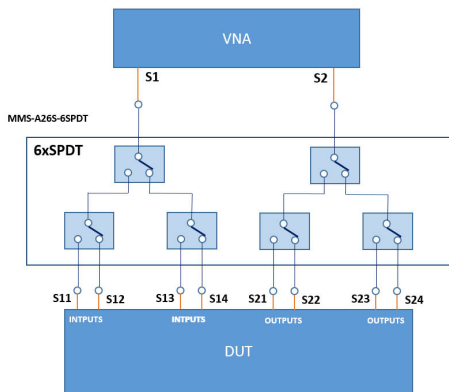
# 0.03 dB Insertion Loss Repeatability

## RF Specifications

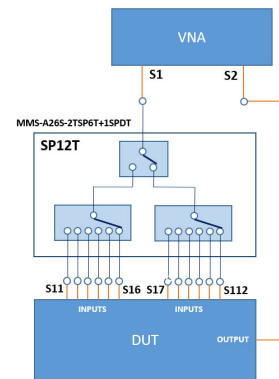
DC-26.5 GHz, Latching, Non-Terminated or Terminated SPDT				
Frequency [GHz]	VSWR Max.	Isolation Min. [dB]	Insertion Loss Max. [dB]	CW Power Max. [W]
DC-4	1.15	85	0.42	30
4-12.4	1.25	76	0.56	20
12.4-20	1.35	67	0.69	16
20-26.5	1.50	60	0.80	13

DC-26.5 GHz, Latching, Terminated SP6T				
Frequency [GHz]	VSWR Max.	Isolation Min. [dB]	Insertion Loss Max. [dB]	CW Power Max. [W]
DC-4	1.20	100	0.42	30
4-12.4	1.35	80	0.56	20
12.4-20	1.45	70	0.69	16
20-26.5	1.70	65	0.80	13

## Typical Applications for extending VNA ports



No RF cables are provided with MMS-Series



## Part Number Selector

MMS - A 26 S - 1 TSP6T + 2 SPDT						
Chassis Size	Frequency	Connector	Quantity <sup>(1)</sup>	Switch Type	Quantity <sup>(1)</sup>	Switch Type
A = 6.29" x 3.30" x 7.05"	26 = DC-26.5 GHz	S = SMA female	1 = 1 Switch	SPDT = 1X2	1 = 1 Switch	SPDT = 1X2
			2 = 2 Switches	TSPDT = Terminated 1X2	2 = 2 Switches	TSPDT = Terminated 1X2
			3 = 3 Switches	TSP6T = Terminated 1X6	3 = 3 Switches	TSP6T = Terminated 1X6
			...		...	
			8 = 8 Switches		8 = 8 Switches	

<sup>(1)</sup> Maximum Switches Allowed (terminated and/or non-terminated):

- (8) SPDT Switches
- (2) SP6T Switches
- (1) SP6T + (4) SPDT Switches
- (2) SP6T + (1) SPDT Switches