

General

The MS2102A switching units are specifically designed for high performance coaxial signal switching within the DC-18GHz band. The unit's technology is leveraged from our field proven G2T product line and includes all of its many advanced features.

Designed for automating test platforms (ATE), antenna monitoring or replacing manual patch cords, this unit is can switch any coaxial signal within the DC-18GHz spectrum. Our proprietary high reliability relay elements coupled with our elegant and sophisticated rack-mount control and packaging gives you the performance and maintainability. **If a relay should be damaged or fail, it can be replaced with a spare by YOU in the field in less than two minutes.**

The signal path is passive and bidirectional. Configurations can be specified from 1x10 to as large as 1x100. The unit can also be configured up to a dual 1x50. The single port axis includes a transfer relay as a standard feature so you can loop multiple units together, use an external termination, and/or route to two different pieces of hardware. Multiple units can be connected together for even larger arrays with the A/B "looping" port. Our MS2103A unit has the same function, but each of the 100 ports are self-terminating.

The MS2102A units are designed to provide excellent signal performance with low crosstalk isolation, good phase matching and repeatability, high isolation and low signal loss specifications. These rugged units are both compact and cost-effective.

Built-in features include optional redundant hot-swap power supplies, integrated rack mounting, relay usage logs, web browser, plus a powerful command and status protocol (488.2 compliant). With a global installation base, they are considered the next generation of switching systems to meet today's and tomorrow's needs for high performance and cost-effective coaxial switching.

Applications

The advanced and sophisticated features of the MS2102A systems allow them to be used in numerous wideband applications:

- Signals with S-Band, L-Band, X-band, up to Ku-band
- Antenna signal routing
- Spectrum or network analyzer expander & selector
- High-speed digital data analysis or ATE
- Satellite or automated test (ATE) installations

Features

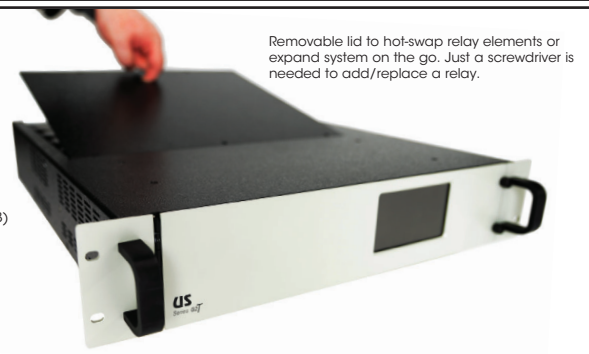
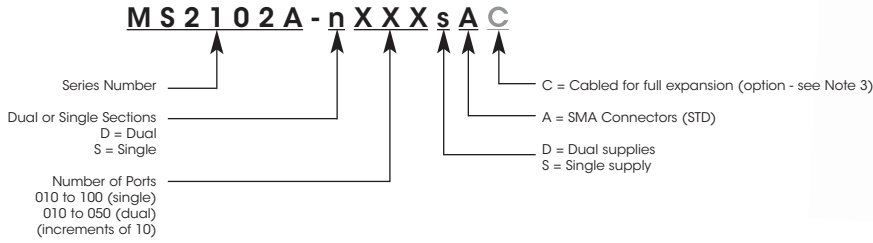
- High reliability hot-swap plug-in relay elements
- Low MTTR with simple field replaceable relays
- DC to 18GHz bandpass (min)
- SMA signal connectors
- Bidirectional passive signal path
- High crosstalk isolation
- Specify cabled for expansion, or fixed size
- Built-in coil current monitoring
- Integrated individual relay usage logs
- Monitored cooling fans and internal temperatures
- Front panel color touchscreen display
- Remote control Ethernet (10/100/1G) and Multi-Serial
- LXI with TCP/IP, SNMP (v1/v2C/v3), IPv4, IPv6
- Built-in web browser for control and monitor
- Command set is 488.2 compliant
- Rugged 2RU high aluminum chassis (3.50")
- Standard "looping" port to cascade units together
- International AC power range
- Self-monitoring hot-swap plug-in power supplies
- Rack mount design (19 inch)
- Built-in chassis slide mounting (slides not included)
- Certified CE EN61010 (LVD)



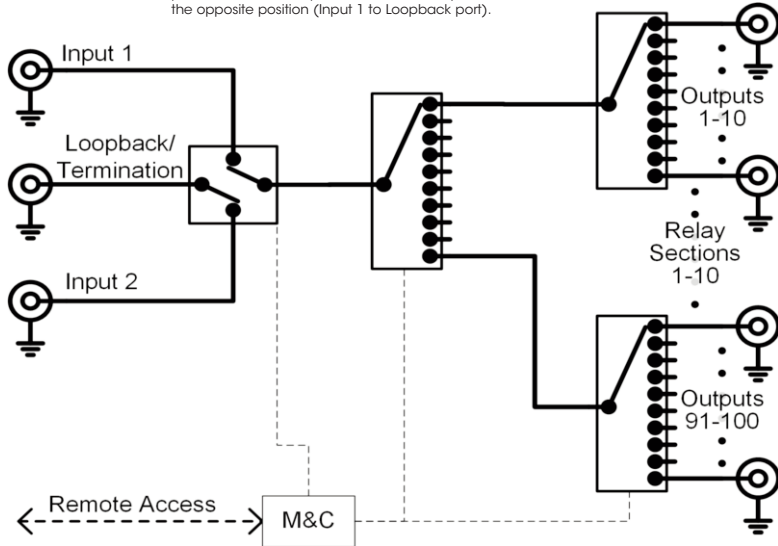
Download our Monitor & Control software **RouteWarePRO** for a FREE 30-day trial today!



Model Number Assignment



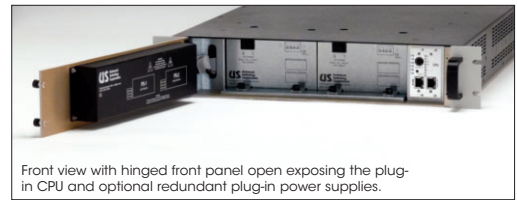
The input transfer relay is shown in the active position with Input 01 connected to Output 01. If power is off or no output selected, the relay is in the opposite position (Input 1 to Loopback port).



The 1x10 relays are normally open (not self-terminating) and not latching. If the unit has no power, there is no connectivity.



NOTE 1: To the left is a simplified schematic of a single 2x1x100 (w/transfer switch/two inputs).
NOTE 2: The signal path is bi-directional so "input and output" are for discussion reference only.
NOTE 3: Reduced configurations include cables for only that configuration. Add the "C" option for a completely cabled unit so it can be expanded.



Performance Specifications

Switching configurations.....	2x1x10 up to 2x1x100
Configuration type	Fixed size, or cabled for expansion
Switching elements.....	High reliability hot-swap relay
Terminations.....	No
Type of array	1xN or dual 1xN
Signal type	Single-ended passive
Signal connector	SMA
Frequency range	DC - 18GHz (min)
Signal coupling.....	DC coupled
Impedance	50 ohm
Transmission loss.....	<2.0dB @ 6GHz <3.0dB @ 12GHz <4.0dB @ 18GHz
Repeatability	<0.2dB max
Crosstalk isolation (min).....	>85dB @ 6GHz >75dB @ 12GHz >70dB @ 18GHz
VSWR.....	<2.0:1 @ 18GHz typ
Maximum input level.....	120 watts @ 2.5GHz (cold switching) 25 watts @ 18GHz
Power to "ready".....	<5 seconds (no connections)
Command to action	<20mS (with Ethernet)

General Specifications

Remote control ports.....	10/100/1G Ethernet and Multi-Serial Protocols
.....	SNMP (v1/v2C/v3), TCP/IP, IPv4, IPv6
Realtime clock	SNTP enabled
Local control	Color touchscreen
Configuration memory.....	Built-in FLASH or uSD card
Unit firmware	Field upgradable (via Ethernet)
Control GUI.....	Optional (RouteWarePRO)
Software drivers.....	LabVIEW VISA (download)
AC power switch.....	Behind hinged front panel (supply)
AC power	90-264VAC, 47 to 63Hz, <100W
Power cord	NEMA 15A (USA) 6 foot (1ea)
Power section.....	Hot-swap redundant supplies (option)
Power supply monitoring.....	Included
High temperature alarm	Included
Relay usage logs	Included
Front panel color	FED-STD-595B #26440 (light gray)
Front panel thickness	1/8"
Cooling	Fan assisted (monitored)
Venting	Side-To-Side, and out rear
Weight	<35lbs (varies with configuration)
Size	3.50"H x 19.00"W x 20.50"D
Operating temp.....	0 to +60C
Non-operating temp.....	-20 to +75C
Humidity.....	0 to 95% (non-condensing @ +25C)
Altitude	<10,000 feet ASL
Mounting	RETMA slots (EIA), 2RU high
Handles	Black anodized
Contact life.....	>1,000,000 operations (per port)
MTBF.....	>120,000 hours per MIL-STD-217E, N1
Certifications	CE EN61010 LVD

Universal Switching's policy is one of continuous development, and consequently the company reserves the right to vary from the descriptions and specifications shown in this publication.