

Phase Adjustable Semi-Rigid Cable Assemblies

Mechanically Adjustable

Features

- Available as .141 dia. and .085 dia. semi-rigid assemblies
- Phase range = $10^\circ \times F(\text{GHz})$
- DC to 18 GHz, low VSWR
- Meets applicable paragraphs of MIL-STD-202

Specifications: Phase Adjustable SMA Connector

Electrical

Phase Change	$0.636^\circ \times F(\text{GHz})$ per rev. of adjustment nut
Frequency	DC-18 GHz
VSWR	See Adapter section
Insertion Loss	$0.08 \times F^{1/2} (\text{GHz})$
Impedance	50 ohms

Material

Conductor	Gold plated BeCu
Body	Gold plated brass or BeCu
Adjusting nut	Nickel plated brass
Coupling nut	Passivated Steel
Insulator	TFE

Mechanical

Mating	MIL-C-39012/55
Durability	500 cycles

Cable Compatibility

Because of its stability, .141" and 0.086" semi-rigid cable is most often used with the Midisco Phase Adjustable SMA Male Plug. However, in certain applications, Ultra-Flex, and the flexible MDC8402 MDC 8405 will be suitable, and can use the same connectors.

Phase Adjustable Cable Assembly Part Number Construction

Part Numbers for the phase adjustable cable assemblies are constructed in a manner similar to what is used on standard cables throughout this catalog. ØSM is a unique code for the Phase Adjustable SMA Male Plug.

Example: ØSM-5141-NM-6 is a 6-inch long .141 Snake semi-rigid with the phase adjustable SMA Male plug on one end, and a type N Male Plug on the other. See page 53 of this catalog for connector codes, and consult the factory for those not shown.

MIDISCO'S mechanically adjustable semi-rigid

cable assemblies provide the user a convenient, stable method of adjusting the phase (electrical length) of interconnecting cables at the end level. They offer a precise, yet simple means of phase adjustment for phased arrays, test equipment, instrument landing systems, and any application using phase matching techniques. They also find use in applications where a precise in-line electrical length is required.

A phase adjustable cable assembly replaces the labor intensive operation of cable trimming with the ease of mechanical screw adjustment. Once established, the phase setting for each cable is maintained by a connector locking nut. To compensate for system aging, the locking nut may be released, with a new adjustment made at any time.

Midisco phase adjustable cable assemblies are available with the phase adjustable SMA connector on one end, and a wide choice of connectors on the other end. These choices include type N, SMA, TNC, and 7 mm to name a few. Configurations available include right angle SMAs, and bulkheads in SMA, TNC, and N.

Electrical Performance

Midisco's phase adjustable cable assemblies, unlike other phase matching techniques, are broadband. They cover the frequency range to 18 GHz in a single assembly. Other phase matching methods with limited frequency range may require more than one unit, and hinder performance.

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Cable Codes

- 5141 (Snake .141 semi-rigid)
- 8141 (Ultra-Flex .141)
- 8402 (Flexible .141 equivalent)
- 5085 (Snake .086 semi-rigid)
- 8085 (Ultra-Flex .086)
- 8405 (Flexible .086 equivalent)

Phase Range vs. Frequency

