

# Couplers

Adapters Attenuators **Couplers** DC Blocks Detectors Isolators & Circulators Phase Shifters Power Dividers and Hybrids Terminations (50 Ohm Loads) Waveguide

## SMA (F) 0.5 to 18 GHz 50 Watt



### Features

- Multi-Octave Frequency Coverage from 0.5 to 18 GHz
- Flat Frequency Response
- Small and Lightweight
- Operational to 105°C without Degredation (125°C Storage)
- Designed for MIL Environments

### Models

- 4011C-10, 4011C-20, 4012C-6, 4012C-10, 4012C-20, 4012C-30, 4013C-6, 4013C-10, 4013C-20, 4013C-30, 4014C-6, 4014C-10, 4014C-20, 4014C-30, 4015C-6, 4015C-10, 4015C-20, 4015C-30, 4055-6, 4055-10, 4055-20, 4055-30, 4016D-6, 4016D-10, 4016C-20, 4016C-30, 4216-10, 4216-20

Model	4011C-10	4011C-20	4012C-6	4012C-10	4012C-20
Low Frequency (GHz)	0.5	0.5	1.0	1.0	1.0
High Frequency (GHz)	1.0	1.0	2.0	2.0	2.0
Coupling dB	10 +/- 1.25	20 +/- 1.25	6 +/- 1.00	10 +/- 1.25	20 +/- 1.25
Minimum Directivity (dB)	25	25	25	25	27
Insertion Loss, Coupled Power Excluded (dB)	0.20	0.20	0.20	0.20	0.20
True Insertion Loss (dB)	0.80	0.80	1.80	0.90	0.20
VSWR Maximum for Primary Line	1.15	1.15	1.15	1.10	1.10
VSWR Maximum for Secondary Line	1.15	1.15	1.15	1.10	1.10
Frequency Sensitivity (dB Max)	+/- 0.75	+/- 0.75	+/- 0.6	+/- 0.75	+/- 0.75
Power Input (Watts) Max	50	50	50	50	50
Reflected Power (Avg.) in Watts Max	5	50	2	5	50
Peak Power (Kw)	3	3	3	3	3
Maximum Weight (gr)	37	34	26	26	26
Maximum Weight (oz)	1.3	1.2	0.9	0.9	0.9
Special Notes:	A	A	A	A	A

**Special Notes:**

A: Frequency Sensitivity is included in coupling.

# Couplers

Adapters Attenuators **Couplers** DC Blocks Detectors Isolators & Circulators Phase Shifters Power Dividers and Hybrids Terminations (50 Ohm Loads) Waveguide

## SMA (F) 0.5 to 18 GHz 50 Watt

Model	4012C-30	4013C-6	4013C-10	4013C-20	4013C-30
Low Frequency (GHz)	1.0	2.0	2.0	2.0	2.0
High Frequency (GHz)	2.0	4.0	4.0	4.0	4.0
Coupling dB	30 +/- 1.25	6 +/- 1.00	10 +/- 1.25	20 +/- 1.25	30 +/- 1.25
Minimum Directivity (dB)	27	22	22	22	22
Insertion Loss, Coupled Power Excluded (dB)	0.20	0.20	0.20	0.20	0.20
True Insertion Loss (dB)	0.20	1.80	0.80	0.20	0.20
VSWR Maximum for Primary Line	1.10	1.15	1.15	1.15	1.15
VSWR Maximum for Secondary Line	1.10	1.15	1.15	1.15	1.15
Frequency Sensitivity (dB Max)	+/- 0.75	+/- 0.60	+/- 0.75	+/- 0.75	+/- 0.75
Power Input (Watts) Max	50	50	50	50	50
Reflected Power (Avg.) in Watts Max	50	2	5	50	50
Peak Power (Kw)	3	3	3	3	3
Maximum Weight (gr)	26	18	18	18	18
Maximum Weight (oz)	0.9	0.6	0.6	0.6	0.6
Special Notes:	A	A	A	A	A

**Special Notes:**

A: Frequency Sensitivity is included in coupling.

Model	4014C-6	4014C-10	4014C-20	4014C-30	4015C-6
Low Frequency (GHz)	4.0	4.0	4.0	4.0	7.0
High Frequency (GHz)	8.0	8.0	8.0	8.0	12.4
Coupling dB	6 +/- 1.00	10 +/- 1.25	20 +/- 1.25	30 +/- 1.25	6 +/- 1.00
Minimum Directivity (dB)	18	20	20	20	15
Insertion Loss, Coupled Power Excluded (dB)	0.25	0.25	0.25	0.25	0.40
True Insertion Loss (dB)	2.00	1.00	0.30	0.25	2.00
VSWR Maximum for Primary Line	1.25	1.25	1.25	1.25	1.30
VSWR Maximum for Secondary Line	1.25	1.25	1.25	1.25	1.30
Frequency Sensitivity (dB Max)	+/- 0.6	+/- 0.75	+/- 0.75	+/- 0.75	+/- 0.5
Power Input (Watts) Max	50	50	50	50	50
Reflected Power (Avg.) in Watts Max	2	5	50	50	2
Peak Power (Kw)	3	3	3	3	3
Maximum Weight (gr)	18	18	18	18	23
Maximum Weight (oz)	0.6	0.6	0.6	0.6	0.7
Special Notes:	A	A	A	A	A

**Special Notes:**

A: Frequency Sensitivity is included in coupling.

# Couplers

Adapters Attenuators **Couplers** DC Blocks Detectors Isolators & Circulators Phase Shifters Power Dividers and Hybrids Terminations (50 Ohm Loads) Waveguide

## SMA (F) 0.5 to 18 GHz 50 Watt

Model	4015C-10	4015C-20	4015C-30	4055-6	4055-10
Low Frequency (GHz)	7.0	7.0	7.0	7.5	7.5
High Frequency (GHz)	12.4	12.4	12.4	16.0	16.0
Coupling dB	10 +/- 1.25	20 +/- 1.00	30 +/- 1.00	6 +/- 1.10	10 +/- 1.50
Minimum Directivity (dB)	17	17	17	12	12
Insertion Loss, Coupled Power Excluded (dB)	0.40	0.30	0.30	0.60	0.60
True Insertion Loss (dB)	1.00	0.35	0.30	2.00	1.00
VSWR Maximum for Primary Line	1.30	1.25	1.25	1.35	1.35
VSWR Maximum for Secondary Line	1.30	1.25	1.25	1.40	1.40
Frequency Sensitivity (dB Max)	+/- 0.5	+/- 0.5	+/- 0.5	+/- 0.6	+/- 0.75
Power Input (Watts) Max	50	50	50	50	50
Reflected Power (Avg.) in Watts Max	5	50	50	2	5
Peak Power (Kw)	3	3	3	2	2
Maximum Weight (gr)	23	23	23	23	23
Maximum Weight (oz)	0.7	0.7	0.7	0.7	0.7
Special Notes:	A	A	A	A, B	A, B

**Special Notes:**

A: Frequency Sensitivity is included in coupling.  
B: Special-order devices. Minimum quantity may apply.

Model	4055-20	4055-30	4016D-6	4016D-10	4016C-20
Low Frequency (GHz)	7.5	7.5	12.4	12.4	12.4
High Frequency (GHz)	16.0	16.0	18.0	18.0	18.0
Coupling dB	20 +/- 1.25	30 +/- 1.25	6 +/- 1.00	10 +/- 1.00	20 +/- 1.00
Minimum Directivity (dB)	15	15	15	15	15
Insertion Loss, Coupled Power Excluded (dB)	0.50	0.50	0.55	0.55	0.50
True Insertion Loss (dB)	0.50	0.50	2.00	1.10	0.55
VSWR Maximum for Primary Line	1.35	1.35	1.35	1.35	1.30
VSWR Maximum for Secondary Line	1.40	1.40	1.45	1.40	1.40
Frequency Sensitivity (dB Max)	+/- 0.75	+/- 0.75	+/- 0.5	+/- 0.5	+/- 0.5
Power Input (Watts) Max	50	50	50	50	50
Reflected Power (Avg.) in Watts Max	50	50	2	5	50
Peak Power (Kw)	2	2	1	1	1
Maximum Weight (gr)	23	23	20	20	23
Maximum Weight (oz)	0.7	0.7	0.7	0.7	0.8
Special Notes:	A, B	A, B	A	A	A

**Special Notes:**

A: Frequency Sensitivity is included in coupling.  
B: Special-order devices. Minimum quantity may apply.

# Couplers

Adapters Attenuators **Couplers** DC Blocks Detectors Isolators & Circulators Phase Shifters Power Dividers and Hybrids Terminations (50 Ohm Loads) Waveguide

## SMA (F) 0.5 to 18 GHz 50 Watt

Model	4016C-30	4216-10	4216-20
Low Frequency (GHz)	12.4	0.5	0.5
High Frequency (GHz)	18.0	8.0	8.0
Coupling dB	30 +/- 1.00	10 +/- 1.50	20 +/- 1.50
Minimum Directivity (dB)	15	15	14
Insertion Loss, Coupled Power Excluded (dB)	0.50	N/A	N/A
True Insertion Loss (dB)	0.55	1.40	0.80
VSWR Maximum for Primary Line	1.30	1.40	1.30
VSWR Maximum for Secondary Line	1.40	1.40	1.30
Frequency Sensitivity (dB Max)	+/- 0.5	N/A	N/A
Power Input (Watts) Max	50	50	50
Reflected Power (Avg.) in Watts Max	50	5	50
Peak Power (Kw)	1	3	3
Maximum Weight (gr)	23	60	60
Maximum Weight (oz)	0.8	2.1	2.1
Special Notes:	A , B	A	A

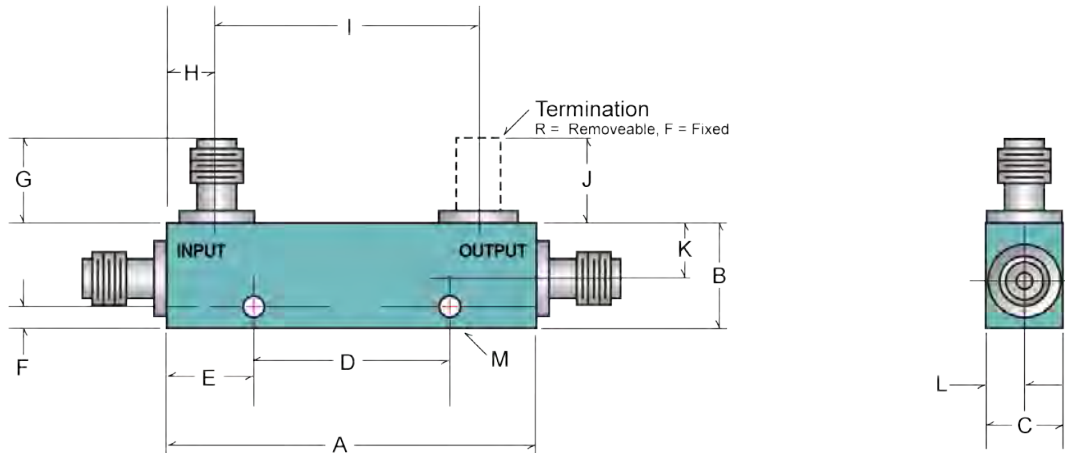
**Special Notes:**

A: Frequency Sensitivity is included in coupling.  
B: Special-order devices. Minimum quantity may apply.

# Couplers

Adapters Attenuators **Couplers** DC Blocks Detectors Isolators & Circulators Phase Shifters Power Dividers and Hybrids Terminations (50 Ohm Loads) Waveguide

## SMA (F) 0.5 to 18 GHz 50 Watt



**Outline Drawings For Models :** 4011C-10, 4011C-20, 4012C-6, 4012C-10, 4012C-20, 4012C-30, 4013C-6, 4013C-10, 4013C-20, 4013C-30

Units	A	B	C	D	E	F	G	H	I	J	K	L	M (Dia.)	Termination
<b>4011C-10</b>														
in.	3.06	0.58	0.42	1.50	0.78	0.11	0.38	0.27	2.52	0.47	0.34	0.21	0.104	R
mm	77.72	14.73	10.67	38.10	19.81	2.79	9.65	6.86	64.01	11.94	8.64	5.33	2.642	
<b>4011C-20</b>														
in.	3.04	0.55	0.42	1.75	0.65	0.11	0.38	0.27	2.52	0.47	0.30	0.21	0.104	R
mm	77.22	13.97	10.67	44.45	16.51	2.79	9.65	6.86	64.01	11.94	7.62	5.33	2.642	
<b>4012C-6, 4012C-10, 4012C-20</b>														
in.	1.82	0.55	0.42	0.938	0.44	0.11	0.38	0.27	1.28	0.47	0.30	0.21	0.104	R
mm	46.23	13.97	10.67	23.825	11.18	2.79	9.65	6.86	32.51	11.94	7.62	5.33	2.642	
<b>4012C-30</b>														
in.	1.82	0.58	0.42	0.938	0.44	0.11	0.38	0.27	1.28	0.47	0.34	0.21	0.104	R
mm	46.23	14.73	10.67	23.825	11.18	2.79	9.65	6.86	32.51	11.94	8.64	5.33	2.642	
<b>4013C-6, 4013C-10, 4013C-20</b>														
in.	1.20	0.55	0.42	0.344	0.43	0.11	0.38	0.27	0.66	0.47	0.30	0.21	0.104	R
mm	30.48	13.97	10.67	8.738	10.92	2.79	9.65	6.86	16.76	11.94	7.62	5.33	2.642	
<b>4013C-30</b>														
in.	1.20	0.59	0.42	0.344	0.43	0.11	0.38	0.27	0.66	0.47	0.35	0.21	0.104	R
mm	30.48	14.99	10.67	8.738	10.92	2.79	9.65	6.86	16.76	11.94	8.89	5.33	2.642	

**Notes:**

Dimensions are maximum unless otherwise noted and allow for 0.020" paint buildup per surface. All holes are thru unless stated as tapped.

Dimension:

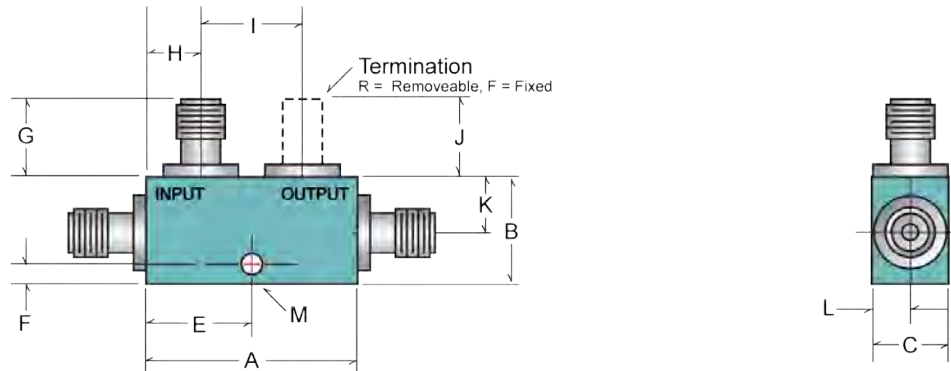
D: +/-0.015"

M: +/- 0.004"/-0.002"

# Couplers

Adapters Attenuators **Couplers** DC Blocks Detectors Isolators & Circulators Phase Shifters Power Dividers and Hybrids Terminations (50 Ohm Loads) Waveguide

## SMA (F) 0.5 to 18 GHz 50 Watt



**Outline Drawings For Models :** 4014C-6, 4014C-10, 4014C-20, 4014C-30, 4015C-6, 4015C-10, 4015C-20, 4015C-30, 4055-6, 4055-10, 4055-20, 4055-30, 4016D-6, 4016D-10, 4016C-20, 4016C-30

Units	A	B	C	E	F	G	H	I	J	K	L	M (Dia.)	Termination
<b>4014C-6 , 4014C-10, 4014C-20, 4015C-6, 4015C-10, 4015C-20, 4055-30, 4016D-6, 4016D-10</b>													
in.	1.04	0.55	0.42	0.52	0.11	0.38	0.27	0.50	0.81	0.30	0.21	0.104	R
mm	26.42	13.97	10.67	13.21	2.79	9.65	6.86	12.70	20.57	7.62	5.33	2.642	
<b>4014C-30</b>													
in.	1.04	0.58	0.42	0.52	0.11	0.38	0.27	0.5	0.81	0.34	0.21	0.104	R
mm	26.42	14.73	10.67	13.21	2.79	9.65	6.86	0.000	20.57	8.64	5.33	2.642	
<b>4015C-30</b>													
in.	1.04	0.67	0.42	0.52	0.11	0.38	0.27	0.50	0.81	0.43	0.21	0.104	R
mm	26.42	17.02	10.67	13.21	2.79	9.65	6.86	12.70	20.57	10.92	5.33	2.642	
<b>4055-6 , 4055-10</b>													
in.	1.04	0.67	0.42	0.52	0.11	0.38	0.27	0.50	0.81	0.30	0.21	0.104	R
mm	26.42	17.02	10.67	13.21	2.79	9.65	6.86	12.70	20.57	7.62	5.33	2.642	
<b>4055-20</b>													
in.	1.04	0.55	0.42	0.52	0.11	0.38	0.27	0.50	0.81	0.43	0.21	0.104	R
mm	26.42	13.97	10.67	13.21	2.79	9.65	6.86	12.70	20.57	10.92	5.33	2.642	
<b>4016C-20 , 4016C-30</b>													
in.	1.05	0.55	0.45	0.55	0.15	0.40	0.30	0.50	0.85	0.30	0.25	0.15	R
mm	26.67	13.97	11.43	13.97	3.81	10.16	7.62	12.70	21.59	7.62	6.35	3.81	

**Notes:**

Dimensions are maximum unless otherwise noted and allow for 0.020" paint buildup per surface. All holes are thru unless stated as tapped.

Dimension:

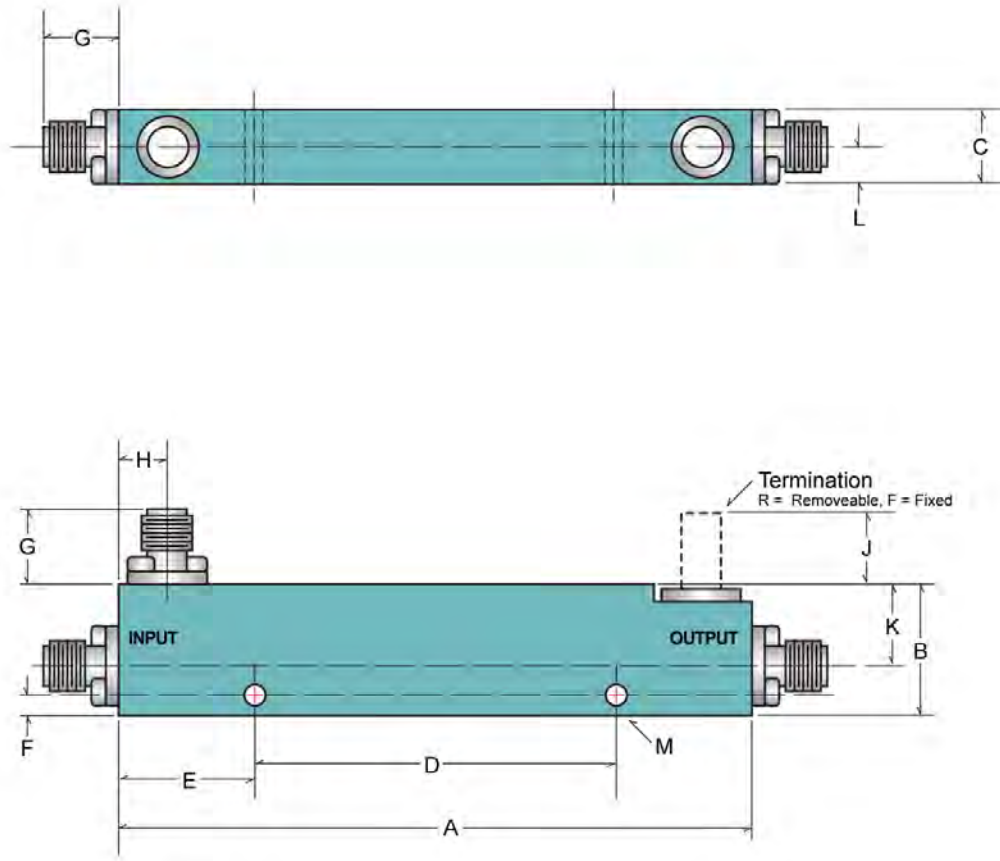
D: +/-0.010"

M: +/- 0.004"/-0.002"

# Couplers

Adapters Attenuators **Couplers** DC Blocks Detectors Isolators & Circulators Phase Shifters Power Dividers and Hybrids Terminations (50 Ohm Loads) Waveguide

## SMA (F) 0.5 to 18 GHz 50 Watt



Outline Drawings For Models : 4216-10, 4216-20

Units	A	B	C	D	E	F	G	H	J	K	L	M (Dia.)	Termination
4216-10 , 4216-20													
in.	3.51	0.74	0.42	2.00	0.76	0.11	0.38	0.27	0.40	0.46	0.21	0.104	R
mm	89.15	18.80	10.67	50.80	19.30	2.79	9.65	6.86	10.16	11.68	5.33	2.642	

**Notes:**

Dimensions are maximum unless otherwise noted and allow for 0.020" paint buildup per surface. All holes are thru unless stated as tapped.

Dimension:

D: +/-0.010"

M: +/- 0.004"/-0.002"