

# Coaxial Bi-Directional Coupler

## ZFBDC20-970HP

50Ω Up to 10W 860 to 970 MHz

### Maximum Ratings

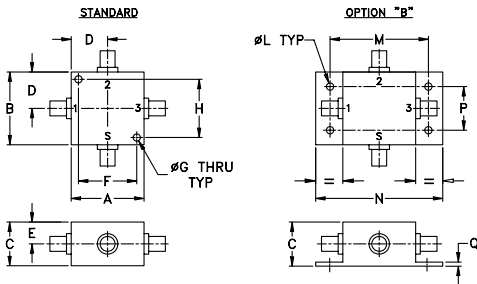
Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C

Permanent damage may occur if any of these limits are exceeded.

### Coaxial Connections

INPUT	2
OUTPUT	3
COUPLED (forward)	1
COUPLED (reverse)	S

### Outline Drawing



### Outline Dimensions (inch/mm)

A	B	C	D	E	F	G	H
1.25	1.25	.75	.63	.38	1.000	.125	1.000
31.75	31.75	19.05	16.00	9.65	25.40	3.18	25.40
J	K	L	M	N	P	Q	wt
--	--	.125	1.688	2.18	.75	.07	grams
--	--	3.18	42.88	55.37	19.05	1.78	75.0

For option B with N-Type connectors, dimension "C" increases to 0.94 inches.

### Features

- very low mainline loss, 0.1 dB typ.
- excellent directivity, 28 dB typ.
- excellent VSWR, 1.1: typ.
- high power operation, 10W

### Applications

- VSWR measurement
- power monitoring of cellular transmitters
- power levelling



Generic photo used for illustration purposes only

CASE STYLE: J17

Connectors	Model
SMA	ZFBDC20-970HP
BRACKET (OPTION "B")	

### Bi-Directional Coupler Electrical Specifications

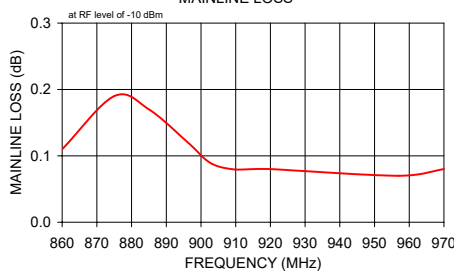
FREQ. (MHz)	COUPLING (dB)		MAINLINE LOSS <sup>1</sup> (dB)		DIRECTIVITY (dB)		VSWR (:1)	POWER INPUT (W)	
	Nom.	Flatness	Typ.	Max.	Typ.	Min.		Typ.	L Max.
$f_c$ - $f_u$									
860-970	20.4±0.6	±0.6	0.1	0.4	28	20	1.1	10	10

1. Mainline loss includes theoretical power loss at coupled port.

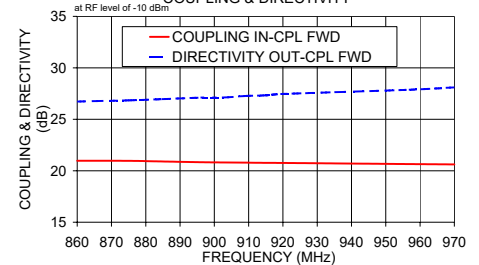
### Typical Performance Data

Frequency (MHz)	Mainline Loss (dB)		Coupling (dB)		Directivity (dB)		Return Loss (dB)			
	In-Out	In-Cpl Fwd	In-Cpl Rev	Out-Cpl Rev	Out-Cpl Fwd	In-Cpl Rev	In	Out	Cpl Fwd	Cpl Rev
860.00	0.11	20.97	21.06	21.06	26.72	22.08	25.04	25.31	28.46	27.67
875.00	0.19	20.96	21.06	21.06	26.84	21.99	24.74	24.96	27.84	27.16
885.00	0.17	20.90	21.01	21.01	26.96	21.92	24.57	24.75	27.46	26.85
896.25	0.12	20.83	20.95	20.95	27.11	21.92	24.37	24.52	27.06	26.50
902.50	0.09	20.81	20.93	20.93	27.12	21.84	24.27	24.42	26.87	26.34
908.75	0.08	20.79	20.90	20.90	27.26	21.83	24.15	24.29	26.65	26.15
915.00	0.08	20.77	20.89	20.89	27.33	21.78	24.06	24.17	26.44	25.96
920.00	0.08	20.76	20.87	20.87	27.46	21.77	24.00	24.08	26.29	25.84
957.00	0.07	20.65	20.76	20.76	27.87	21.87	23.46	23.47	25.28	24.93
970.00	0.08	20.62	20.73	20.73	28.10	21.55	23.30	23.36	24.99	24.66

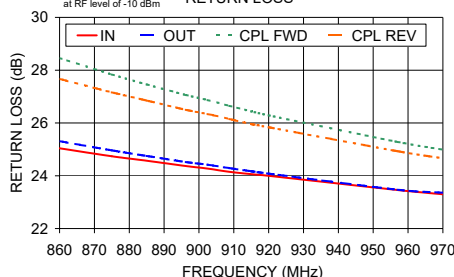
ZFBDC20-970HP MAINLINE LOSS



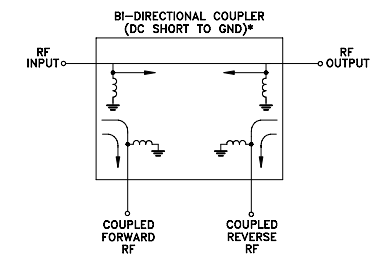
ZFBDC20-970HP COUPLING & DIRECTIVITY



ZFBDC20-970HP RETURN LOSS



### Electrical Schematic



\* ELECTRICAL SCHEMATIC IS FOR BI-DIRECTIONAL COUPLER WITH INTERNAL TRANSFORMER(S) THAT ROUTES DC FROM RF PORTS TO GROUND.

### Notes

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