

# Coaxial Directional Coupler

## ZX30-13-4+

50Ω 5 to 1200 MHz

### Maximum Ratings

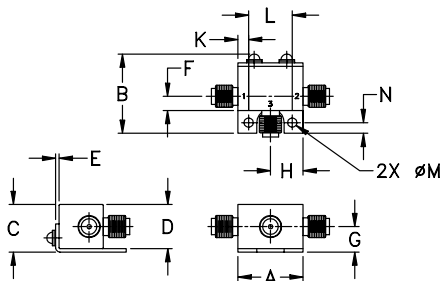
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C

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

### Coaxial Connections

INPUT	1
OUTPUT	2
COUPLED	3

### Outline Drawing



### Outline Dimensions (inch/mm)

A	B	C	D	E	F	G
.74	.90	.54	.50	.04	.16	.29
18.80	22.86	13.72	12.70	1.02	4.06	7.37
H	J	K	L	M	N	wt
.37	--	.122	.496	.106	.122	grams
9.40	--	3.10	12.60	2.69	3.10	20.0

### Features

- very flat coupling
- very broad, multi-octave
- all welded construction
- protected by U.S. Patents 6,140,887 & 6,784,521 & 6,790,049

### Applications

- VHF/UHF
- communications receivers & transmitters
- cellular
- instrumentation

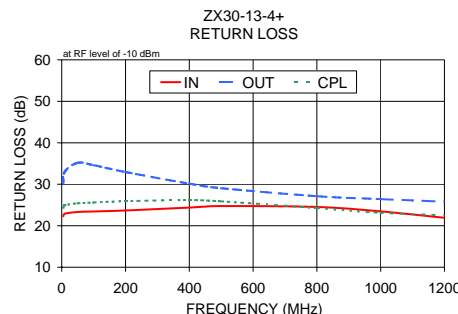
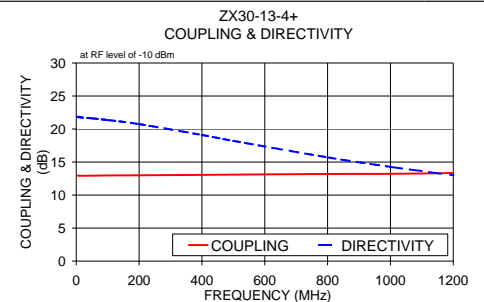
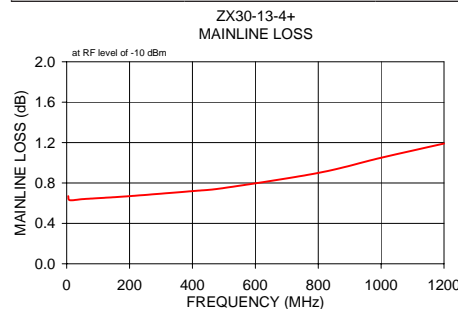
### Directional Coupler Electrical Specifications (T<sub>AMB</sub> = 25°C)

FREQ. (MHz)	COUPLING (dB)		MAINLINE LOSS <sup>1</sup> (dB)						DIRECTIVITY (dB)						VSWR (:1)	POWER INPUT, W			
	Nom.	Typ. Flatness	L		M		U		L		M		U			Typ.	L	MU	
f <sub>L</sub> -f <sub>U</sub>			Typ.	Max.	Typ.	Max.	Typ.	Max.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Max.	Max.
5-1200	13.0±0.5	±0.3	.06	0.9	0.7	1.1	0.9	1.5	21	18	19	15	15	10	1.15	0.5	1.0		

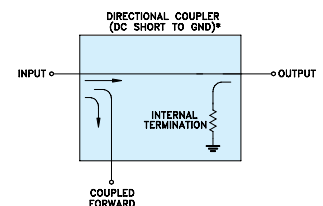
L = low range [f<sub>L</sub> to 10 f<sub>L</sub>] M = mid range [10 f<sub>L</sub> to f<sub>U</sub>/2] U = upper range [f<sub>U</sub>/2 to f<sub>U</sub>]  
 1. Mainline loss includes theoretical power loss at coupled port.

### Typical Performance Data

Frequency (MHz)	Mainline Loss (dB) In-Out	Coupling (dB) In-Cpl	Directivity (dB)	Return Loss (dB)		
				In	Out	Cpl
5.00	0.67	12.93	21.86	22.28	30.20	24.37
10.00	0.63	12.92	21.79	22.90	33.04	24.96
50.00	0.64	12.94	21.62	23.33	35.18	25.41
100.00	0.65	12.97	21.36	23.44	34.61	25.60
200.00	0.67	13.00	20.75	23.69	32.95	25.93
400.00	0.72	13.06	19.10	24.38	30.15	26.19
500.00	0.75	13.10	18.21	24.74	29.05	25.88
800.00	0.90	13.20	15.71	24.52	27.13	24.26
1000.00	1.05	13.22	14.27	23.46	26.43	23.13
1200.00	1.19	13.34	12.99	21.92	25.81	22.53



### Electrical Schematic



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

For detailed performance specs & shopping online see web site

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