

- ◆ Guaranteed Low PIM performance,
- ◆ **Models for Outdoor Environments**
- ◆ High Isolation, Low VSWR and Loss
- ◆ Single and Dual Band Ranges Tetra, SMR/PMR, Cellular, PCS and UMTS
- ◆ High Reliability, Moisture sealed
- ◆ Easy mounting to pole or wall



These Hybrid Couplers have been designed to meet the special needs of the wireless market. They are most commonly used to combine two wireless carriers in the band to a single antenna feed or distribution cable. This requires the termination of one output port in 50Ω and results in a 3 dB loss in each signal. In situations where two similar feeds are required, as required for an in-building application, both outputs may be used eliminating the need for a termination and the 3 dB loss. For powers to 400W see CA-86D.

Connectors, spaced to allow controlled wrench tightening, are available with alternate genders. See below for models with integral terminations, and for outdoor environments add suffix 'P' to Model No. (e.g. **CA-84NP**). (11/14)

Coupling:	3 dB nominal
Impedance:	50Ω nominal
Environment:	-35 to +65°C
PIM (Intermod):	-165 dBc typical, <-155 dBc guarantee (2 tones at +43 dBm)
Housing Finish:	
Indoor/IP64:	Standard model Passivated Al.
Outdoor/IP67:	Painted Add P to Model No.
RoHS	Compliant
Connectors:	Triplate

Model Number	Frequency Range, MHz	Isolation dB	VSWR Max	Sensitivity dB	Dissipative Loss, dB	Power/Input max. Avg. Peak			
CA-84N	CA-84D	CA-84C[†]	698 - 2,700	>30	1.20:1	±0.40dB	<0.2 dB	80W	1.5 kW
CA-94N	CA-94D	-	380 - 520	>30	1.15:1	±0.25dB	<0.2 dB	100W	3.0 kW

Add 'P' to Model Number for Outdoor Finish

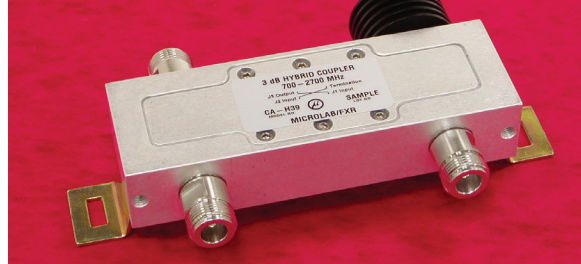
*Mini-DIN connector †CA-84 Isolation > 25 dB

Models with Integrated Terminations

The Hybrid Combiner is a network that allows the combination of signals without those signals interacting, however close they are in frequency, and at higher powers than would be possible with standard Wilkinson Dividers. If both outputs cannot be used (as would be the case in an in-building distribution system) the unused output must be terminated with a load. The rating for this load must be at least half the sum of the power of the two inputs.

Any of the above catalog products are available with either a 2W or a 10W integrated load, by the addition of a 'G' or 'H' in the Model Number, examples of which are shown at right. Note that the isolation will degrade by up to 5dB due to the effect of the load VSWR and the PIM performance of the coupler will not be maintained. If guaranteed low PIM is a requirement, then a low PIM termination must be used, either externally or integrated as in the CT series.

CA-84HN 10W 2:1 Combiner



Model No/Conn	Integrated Load	Input Power	Added Isolation	Added Wt. (g) nom
CA-84GN	CA-84GD	2W avg.	>25 dB	None
CA-84HN	CA-84HD	10W avg.*	>25 dB	1 (28)

*Also available as special with 20W load

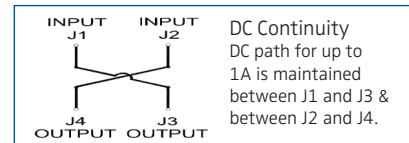
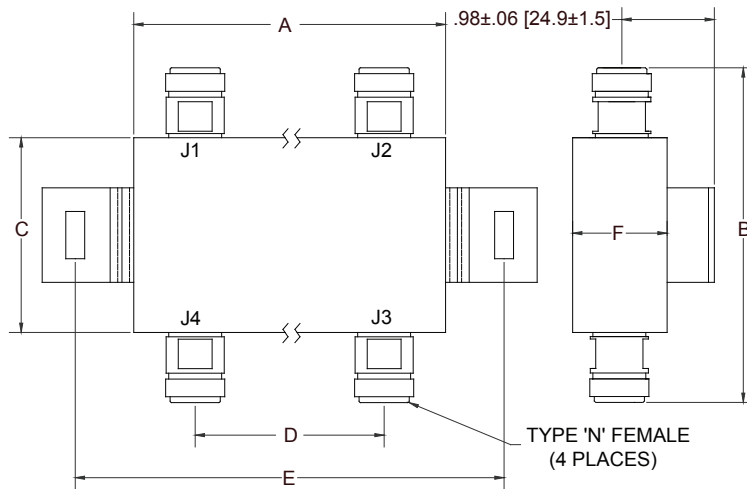


CA-84N Hybrid Coupler
N connector 4 port Model



CA-84NP Hybrid Coupler
suitable for outdoor environments

Standard N connector 4 port Models

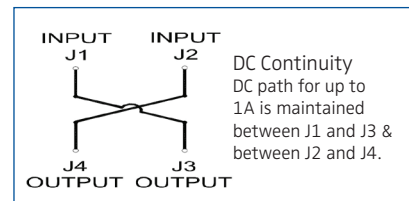
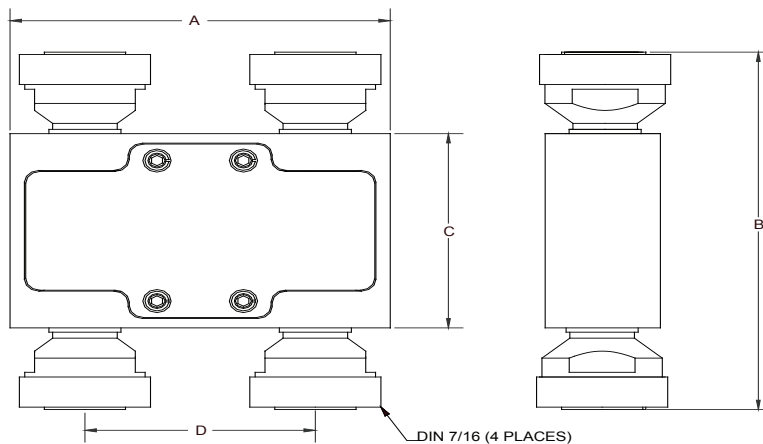


Dimensions and Weight:
Inches (mm); Wt: oz (g) nom.

	CA-84N	CA-94N
A	5.20 (132)	5.35 (136)
B	3.21 (82)	3.14 (80)
C	1.73 (44)	1.66 (42)
D	3.30 (84)	4.10 (104)
E	5.99 (152)	5.99 (152)
F	1.00 (25)	1.00 (25)
Wt.	23 (644)	23 (644)

All dimensions ±0.60 inches unless otherwise noted. Dimensions in mm are for reference only.

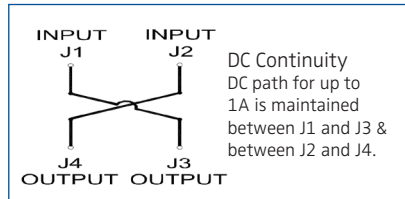
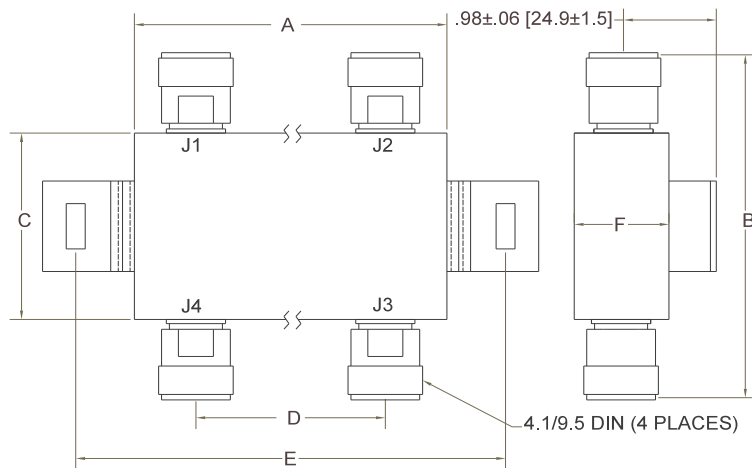
Standard 7-16 mm DIN connector 4 port Models



Dimensions and Weight:
Inches (mm); Wt: oz (g) nom.

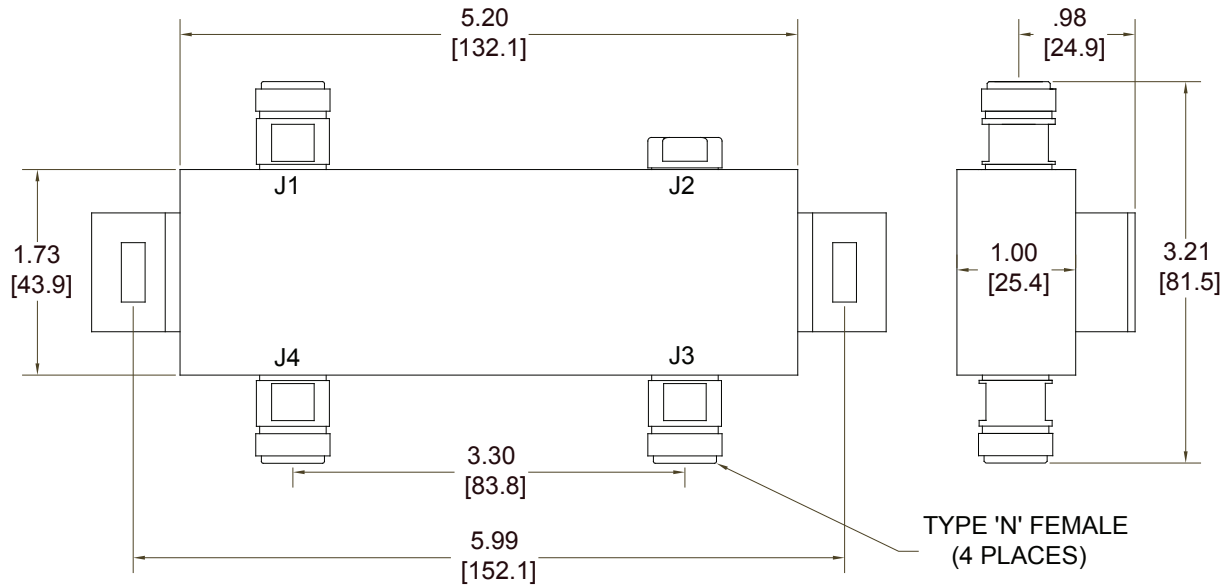
	CA-84D	CA-94D
A	5.20 (132)	5.35 (136)
B	3.46 (88)	3.39 (86)
C	1.73 (44)	1.66 (42)
D	3.30 (84)	4.10 (104)
E	5.99 (152)	5.99 (152)
F	1.00 (25)	1.00 (25)
Wt.	25 (700)	23 (644)

All dimensions ±0.60 inches unless otherwise noted. Dimensions in mm are for reference only.

Example CA-84C with 4.1-9.5 DIN connectors


Dimensions and Weight:	
Inches (mm); Wt: oz (g) nom.	
CA-84C	
A	5.20 (132)
B	3.51 (89)
C	1.73 (44)
D	3.30 (84)
E	5.99 (152)
F	1.00 (25)
Wt.	25 (700)

All dimensions ± 0.60 inches unless otherwise noted. Dimensions in mm are for reference only.

Example CA-84GN Models with 2W Integrated Termination

Example CA-84HN Model with 10W Integrated Termination
