

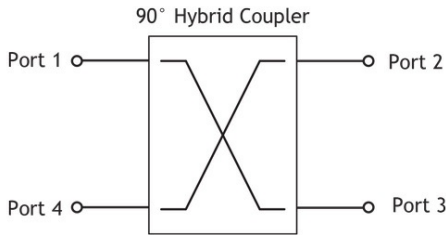
200 W 3 dB Coupler (90° Hybrid)

DESCRIPTION

- Hybrid Coupler with 3 dB coupling covering the 117 - 137 MHz band.
- Excellent high-power performance - 200 W.
- Very low insertion loss over the entire frequency range.
- Available with N(f), 4.3/10(f) or 7/16-DIN(f) connectors.
- 3 dB 90° Hybrid Couplers also known as quadrature hybrids are a passive four port device that can be used in many different modes depending on the application. It can be used as a splitter, combiner or injection of a signal into a signal path.



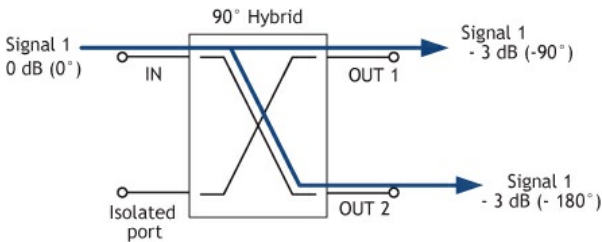
BLOCK DIAGRAM



DIFFERENT MODES OF THE 3 DB HYBRID COUPLER

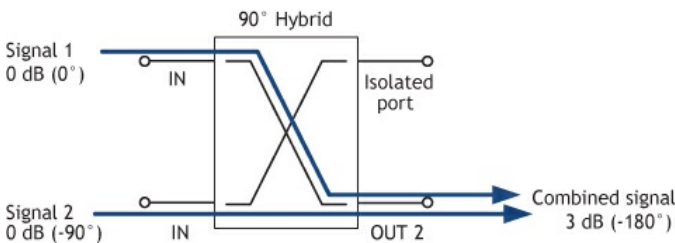
Coupler splitter mode:

Divides the signal into two equal components with a 90° phase difference that can be used to split signals from tower top amplifiers to the base station receivers.



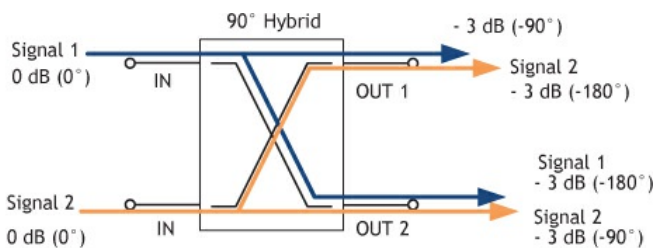
Coupler combiner mode 1:

If the same signals is applied at the input ports with a 90° phase difference the signals adds up on one port.



Coupler combiner mode 2:

Combining two non-coherent signals that are available at both ports.



COMMON APPLICATIONS OF 3 DB 90° HYBRID COUPLERS

- Combining two transmitters with very narrow spacing to one common antenna or to a DAS network.
- Combining two carrier inputs to one or two antennas or leaky feeder/radiating cables.
- Splitting signals from tower mounted amplifiers to base station receivers.

SPECIFICATIONS

Electrical	
Model	PRO-PHY 117-137-3 dB-...
Frequency	117 - 137 MHz
Max. Input Power	200 W (composite)
Insertion Loss	3.3 ±0.6 dB (Port 1 to 2 or 1 to 3)
Impedance	50 Ω
Port-Port Isolation	Min. 30 dB Typ. 35 dB (Port 1 to 4 or 2 to 3)
VSWR	< 1.3:1

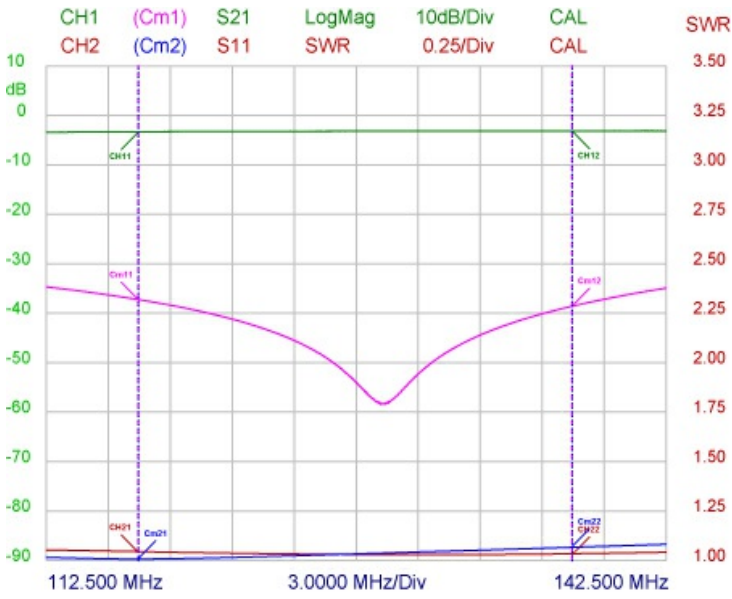
Mechanical			
Connector Torque	25 - 30 Nm	0.68 - 1.13 Nm	5 - 6 Nm
Compliance	RoHS		
Connection(s)	N(f), 4.3/10(f) or 7/16 DIN(f)		
Dimensions	125.6 x 99.6 x 46.1 mm / 4.94 x 3.92 x 1.81 in. (incl. connectors and flanges)		
Tools	Torque wrench		
Weight	Approx. 0.865 kg / 1.91 lb.		
Mounting	5.2 mm / 0.205 in. dia. (4 holes)		

Environmental	
Operating Temperature Range	-30°C to +60°C
Ingress Protection	IP67

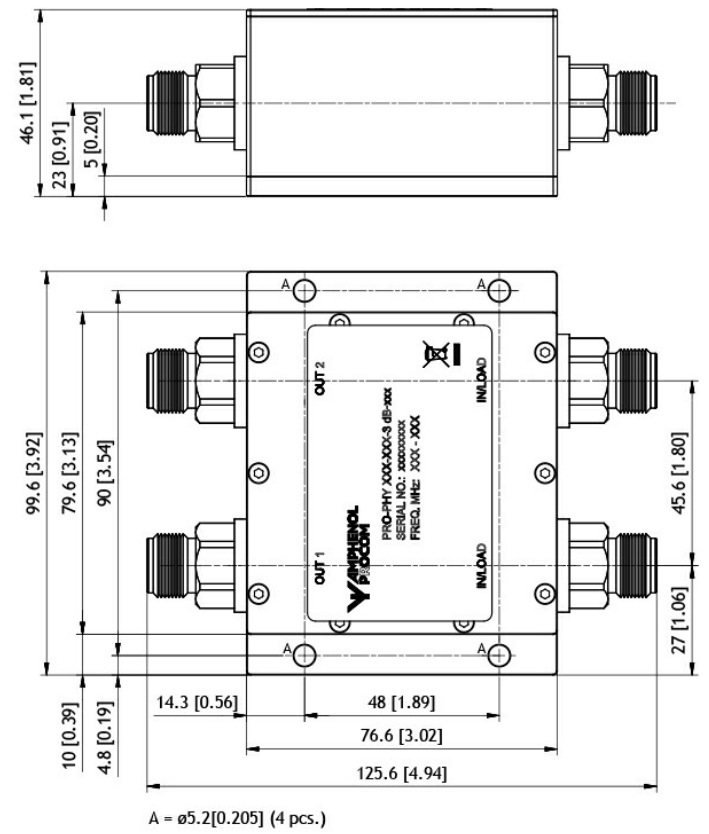
ORDERING

Model	Product No.
PRO-PHY 117-137-3 dB-N(f)	200002411
PRO-PHY 117-137-3 dB-4.3/10(f)	200002724
PRO-PHY 117-137-3 dB-7/16(f)	200002412

TYPICAL COUPLING, ISOLATION AND VSWR CURVES



MOUNTING DETAILS



All dimensions are given in mm [in.]