

WIREPAC®

FEATURES

- Octave Band Performance
- Higher Power Handling Capability
- Low Loss – Low Cost
- Prepared Ready to Install
- Aerospace and Commercial Heritage

The Wirepac® family of products offer the advantage of Wireline® design technology in a lower loss higher power capability package. The product features the performance characteristics of an octave band 3dB quadrature hybrids in a construction similar to semi-rigid cable. Installation options include drop-in, surface mount and flange mounted alternatives. Although the product is not pic-n-place compatible it continues to be used in many moderate volume applications due to its performance and flexibility advantages. The product boasts a considerable aerospace heritage and is fabricated using military grade materials and processing.

SPECIFICATIONS – ELECTRICAL

Part Number	FA*1, FA*1, KC*1, LC*1	FA*2, FA*2, KC*2, LC*2
Bandwidth Optimization	Narrow	Octave
Coupling, Coupled Path (dB)	3.00 ± 0.15	2.70 ± 0.15
Unbalance, max (dB), Coupled path to Main Line	0.3	1.1
Insertion Loss (I ² R), max (dB)	0.2	0.2
Isolation, min (dB)	30	30
Directivity, min (dB)	27	27
VSWR	1.1	1.1
Power, Average (W)	500	500
Power, Peak (W)	2500	2500
Power Quadrature Error, max (°)	± 1	± 1
Dielectric Breakdown, min (V RMS)	1000	1000

* Shield finish code per Wirepac® Part Number Key at end of section.

NOTE: Electrical specifications summarized in the table above are determined by measurements at 300 MHz in a matched 50 Ohm system and are independent of physical length and frequency with the exception of power. At jacket temperatures above 55°C, the power should be de-rated linearly to 50% at 105°C and to 0 at 155°C.

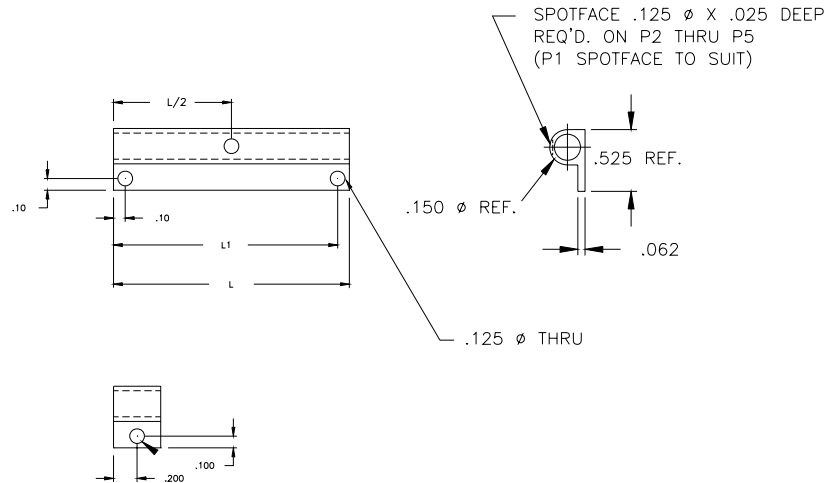
SPECIFICATIONS – MECHANICAL

Part Number	FA*1, FA*2	KC*1, KC*2	LC*1, LC*2
Weight (grams/inch)	4.3	3.0	3.0
Outer Shield Material	6063-T6 AL	Brass	Brass

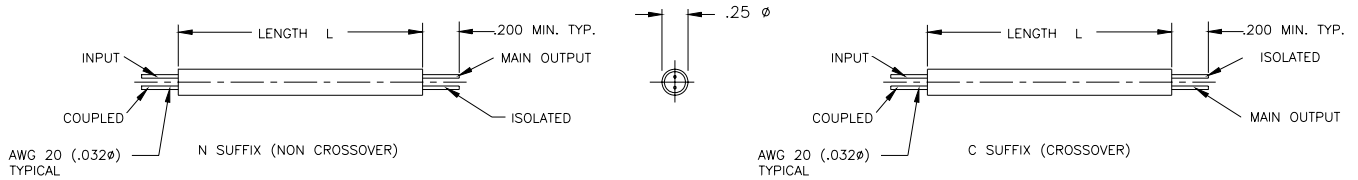
1. Standard length 8 inches, max; bare copper wire diameter is 0.032 inch.
2. Primary insulation is Kapton polyimide film per insulation MIL-P-46112 with FEP binder per ASTM-3368; PTFE Sylguard inner jacket



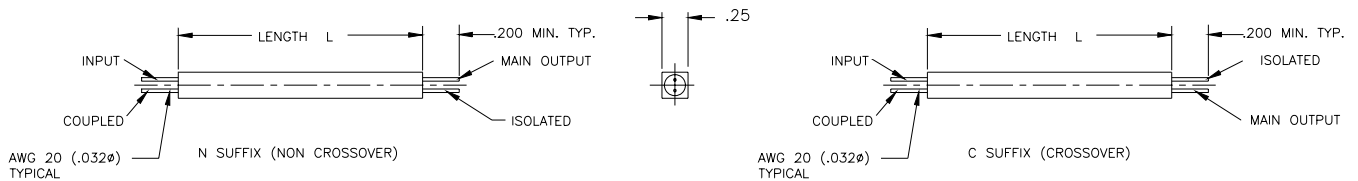
OUTLINE DRAWINGS



FA SERIES (FLANGED), ALL OTHER FEATURES PER BELOW



KC SERIES (ROUND), CROSSOVER & NON-CROSSOVER



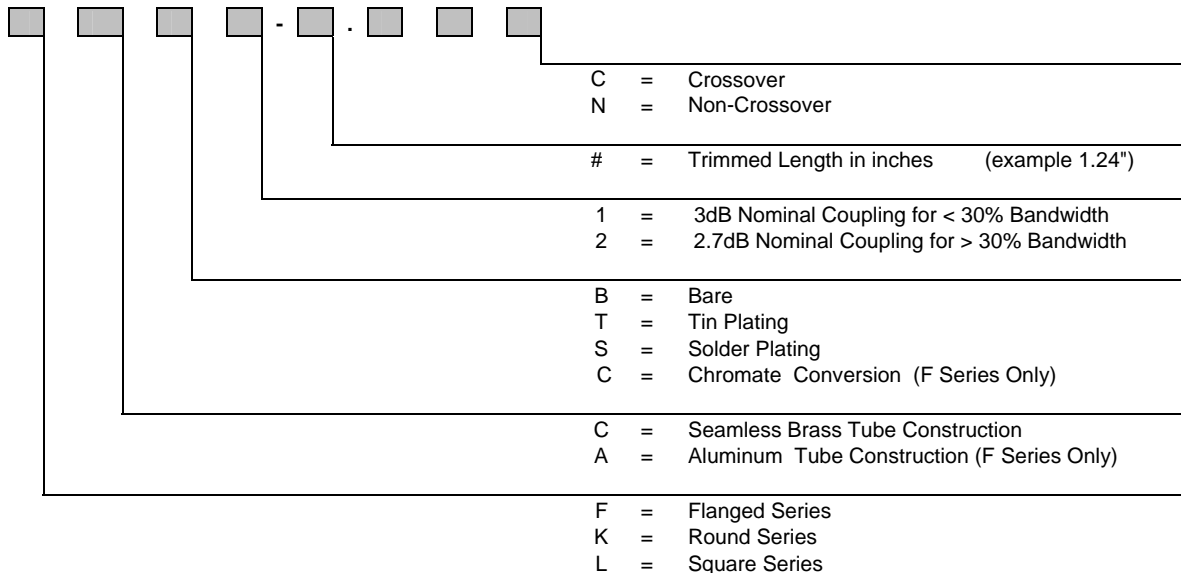
LC SERIES (SQUARE), CROSSOVER & NON-CROSSOVER



ORDERING INFORMATION

Wirepac is purchase in prefabricated lengths ready for installation. The following ordering key is provided to assist in the creation of ordering part numbers. The formulas in the next section should be used to determine the length corresponding to your center frequency and coupling value. The maximum trimmed length for Wirepac® is 8”.

PART NUMBER KEY



COMPUTING THE LENGTH OF CUT & TRIMMED WIRELINE® 3dB QUADRATURE HYBRIDS:

To determine the length “L” of a 3 dB Wirepac® quadrature hybrid:

1. Compute the quarter wavelength frequency (center frequency of your band of use) as follows:

$$F_q \text{ (MHz)} = (F_{\text{min}} + F_{\text{max}}) / 2$$

2. Compute the hybrid length “L” as follows;

$$\text{For LC, KC \& FA Series - "L" (inches) = } 1970 / F_q \text{ (MHz) \quad or \quad "L" (centimeters) = } 5004 / F_q \text{ (MHz)}$$

Alternately, this function is available in the online calculator provided at www.sagelabs.com.

RECOMMENDED INSTALLATION ALTERNATIVES AND OTHER MOUNTING OPTION:

See Trimming, Mounting and Installation Guide.

PRODUCT SAMPLES

Small quantities of parts can be provided free of charge for design prototyping. Contact the Sales department for more information or complete the sample request form provided at www.sagelabs.com.

MISCELLANIOUS:

1. Sage Laboratories Inc. “Standard Warranty and Order Terms and Conditions” apply to all orders.
2. All specifications subject to change without notice.
3. Parts are available from stock. Contact factory for delivery confirmation for all quantities over 10,000.
4. Contact our local Manufacturers Representative for pricing.

Specification Revision – 032608

