

ARRIS Line Passives

9-TFC/17 A Series 1 GHz Line Passives

FEATURES

- 17-Amp current handling capacity, with 90 VDC power capacity on all Directional Couplers and Line Splitters
- 22-Amp current rating for Line Power Inserter
- Excellent hum-modulation performance
- 1/2 inch hard-line ports have extra length, creating a better seal between heat shrink and port
- Easily configured to block/restore AC power and/or add fuses
- 1 GHz capacity prepares your system for future expansion
- Backward compatibility, so that faceplates fit into both 8-TFC and 9-TFC housings
- Weather and RFI gaskets installed in each housing
- Line Power Inserter available in heavy-duty surge suppression to protect system electronics



APPLICATION

A directional coupler is an unequal power divider; a splitter is an equal power divider. Both have the abbreviation TFC (trunk/feeder coupler) in their model names because they split your network's trunk and feederlines.

A line power inserter passively combines radio frequency (RF) signals with up to 90 volts alternating current (VAC) from a line power supply. This device enables a single cable to service the power and signal requirements of active modules in a broadband telecommunications network.

Directional couplers, line splitters, and line power inserters consist of a main circuit board and a housing. The housing's environmental coating protects the module from the most severe conditions. A wire mesh gasket maintains RF integrity, while a rubber gasket prevents weather from affecting the module's operation. A 90° rotating seizure mechanism lets you install directional couplers and splitters easily in a variety of configurations.

Feed-thru connectors can be used with cable up to 0.625-inch in diameter. Pin connectors, which enable you to accommodate larger diameters, also give better RF performance than feed-thru connection. All models have direct-entry ports with heat-shrink ridges and cable strip gauges. Line power inserter is available in two models: 9-LPI/22A and 9-LPI/22A-ACM-3. The ACM-3 model provides heavy-duty surge protection.

SPECIFICATIONS

Insertion Loss

Frequency (MHz)	5-10	11-50	51-300	301-450	451-550	551-750	751-860	861-1002
Directional Couplers								
9-TFC-8/17A	1.70	1.55	1.70	1.90	1.95	2.17	2.50	2.80
9-TFC-12/17A	0.90	0.80	0.87	1.05	1.10	1.30	1.65	1.90
9-TFC-16/17A	0.70	0.65	0.80	0.90	0.90	1.07	1.30	1.50
Line Splitters								
9-TFC-4/17A	3.70	3.50	3.60	3.80	3.95	4.10	4.35	4.65
9-TFC-488/17A								
In/High Out	3.80	3.65	3.70	3.90	4.05	4.26	4.60	4.90
In/Low Out	7.20	7.10	7.20	7.40	7.45	7.70	8.20	8.60
9-TFC-777-17A	5.70	5.45	5.60	5.90	6.00	6.20	6.80	7.45
Power Inserter								
9-LPI/22A (-ACM-3)	1.0	.55	.63	.85	1.0	1.67	1.30	1.55

Return Loss (In/Out, Minimum)

Frequency (MHz)	5-10	11-50	51-300	301-450	451-550	551-750	751-860	861-1002
Directional Couplers								
9-TFC-8/17A	16	17	17	17	17	17	17	16
9-TFC-12/17	16	17	17	17	17	17	17	16
9-TFC-16/17A	16	17	17	17	17	17	17	16
Line Splitters								
9-TFC-4/17A	16	16	17	17	17	17	17	16
9-TFC-488/17A	15	16	17	17	17	17	17	16
9-TFC-777-17A	16	16	17	17	17	17	17	16
Power Inserter								
9-LPI/22A (-ACM-3)	16	17	17	17	17	17	17	16

Tap Loss

Frequency (MHz)	5-10	11-50	51-300	301-450	451-550	551-750	751-860	861-1002
Directional Couplers								
9-TFC-8/17A	8.50	8.50	8.20	8.20	8.20	8.20	8.20	8.30
9-TFC-12/17A	12.50	12.50	11.90	11.90	11.90	11.90	11.90	12.20
9-TFC-16/17A	16.60	16.60	16.00	16.00	16.00	16.00	16.00	16.10

Isolation (Minimum)

Frequency (MHz)	5-10	11-50	51-300	301-450	451-550	551-750	751-860	861-1002
Directional Couplers								
9-TFC-8/17A	18	18	22	21	21	20	18	18
9-TFC-12/17A	20	20	25	24	24	22	19	18
9-TFC-16/17A	20	20	27	26	26	23	20	20
Line Splitters								
9-TFC-4/17A	19	19	26	26	27	25	20	20
9-TFC-488/17A	20	20	27	27	27	25	20	20
9-TFC-777-17A	21	21	21	21	22	20	18	18
Power Inserter								
9-LPI/22A (-ACM-3)	67	63	63	63	61	55	50	48

SPECIFICATIONS (CONTINUED)

Bandwidth	5-1002 MHz
Hum Modulation (Time Domain) @ 15 Amps	
5-750 MHz	-70 dBc
751-1002 MHz	-60 dBc
Frequency Response	± 0.3 dB Max / 6 MHz
Tap Loss Tolerance	± 0.5 dB Max
Line Passive Current Capability	17A @ 90 V
Power Inserter Current Capability	22A @ 90 V on AC In Port
Operational Temperature Range	-40 to +60 °C
Operational Environmental Protection, IP Rating	IP-67 per IEC529
Corrosion Protected Housing	Polyester Powder Coating
Physical Dimensions in. (cm)	4.8 x 5.7 x 3.4 (12.2 x 14.5 x 8.6)
Typical Weight lbs. (kg)	1.4 (0.64)

Ordering Information

ARRIS #	Product #	Mfg #	Description
723909	1200569	9-TFC-4/17A	2-Way Splitter
724024	1200573	9-TFC-488/17A	3-Way Splitter
724288	1200574	9-TFC-777-17A	3-Way Splitter Balanced
723904	1200570	9-TFC-8/17A	8 dB Directional Coupler
723956	1200571	9-TFC-12/17A	12 dB Directional Coupler
724649	1200572	9-TFC-16/17A	16 dB Directional Coupler
724061	1200575	9-LPI/22A	Power Inserter
724444	1200576	9-LPI/22A-ACM-3	Power Inserter with Surge Protection

RELATED PRODUCTS

Digital Return Transmitter	Optical Patch Cords
SFPs	Optical Passives
Fiber Service Cable	Installation Services

Note: Specifications are subject to change without notice.

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