



## Regal®

### 1 GHz Line Passives



#### Features

- Optional 90 Volt surge protection
- Standard fuse holders provided for bus bar or fuses
- Aerial or pedestal installation with 5/8" port entry extensions
- Cast-in strip gauge facilitates proper center conductor trim length
- Conical center conductor to guide feeder line installation
- Glass epoxy printed circuit board with premium components for superior RF performance
- Water tight, sealed housing eliminates water damage
- Stainless steel hardware
- Directional couplers, line splitters and power inserters available in 15 amp current capacity
- Higher current rating essential for central powering application and new telephony services
- Improved RF performance from 5 MHz to 1 GHz
- Plated 360 aluminum housing with double polyurethane coating resists corrosion
- Interlocking tongue-and-groove housing prohibits ingress/egress providing excellent EMI isolation

#### Application

The Regal family of directional couplers and splitters offer a variety of options for dividing RF signal along multiple trunk and feeder lines. The Regal power inserter allows ac power to be added to the trunk and feeder lines for the purpose of powering active devices.

## Specifications

### 15 amp Line Passives

#### Insertion Loss

Frequency (MHz)	5-10	11-50	51-300	301-400	401-500	501-600	601-900	901-1002
Directional Couplers								
RLDC10-8-15A (SP)	2.5	2.3	2.5	2.6	2.9	3.2	3.5	4.1
RLDC10-12-15A (SP)	2.0	1.8	2.0	2.0	2.2	2.3	2.9	3.7
RLDC10-16-15A (SP)	1.7	1.5	1.8	1.9	2.2	2.3	2.9	3.7
Line Splitters								
RLS10-2-15A (SP)	4.8	4.4	4.6	4.5	4.8	5.1	5.3	6.1
RLS10-3-15A (SP)								
Port 4	4.7	4.3	4.7	4.6	5.0	5.2	5.6	6.0
Port 2 and 3	8.2	8.2	8.2	8.2	8.3	8.5	9.0	9.5
RLS10-3B-15A(SP)	6.4	6.1	7.0	7.1	7.3	7.3	7.8	8.5
Power Inserter								
RPI-100-15A (SP)	1.1	0.8	1.2	1.0	1.2	1.0	1.6	1.6

#### Return Loss (In/Out, Min)

Frequency (MHz)	5-10	11-50	51-300	301-400	401-500	501-600	601-900	901-1002
Directional Couplers								
RLDC10-8-15A (SP)	15	15	15	17	18	18	17	16
RLDC10-12-15A (SP)	15	15	16	17	18	18	17	16
RLDC10-16-15A (SP)	15	15	16	17	18	18	17	16
Line Splitters								
RLS10-2-15A (SP)	16	17	17	18	18	18	17	16
RLS10-3-15A (SP)	16	17	17	18	18	18	17	16
RLS10-3B-15A(SP)	16	17	17	18	17	17	16	16
Power Inserter								
RPI-100-20A (SP)	16	18	18	18	18	18	16	16

#### Tap Loss

Frequency (MHz)	5-10	11-50	51-300	301-400	401-500	501-600	601-900	901-1002
Directional Couplers								
RLDC10-8-15A (SP)	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8
RLDC10-12-15A (SP)	13	13	13	12.5	12.5	12.5	12.5	12.5
RLDC10-16-15A (SP)	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5
Tap Loss Tolerance	±1.2	±1.2	±1.2	±1.2	±1.2	±1.2	±1.3	±1.6

Specifications are subject to change without notice.

## Specifications (Cont'd)

### 15 amp Line Passives

#### Isolation (Min)

Frequency (MHz)	5-10	11-50	51-300	301-400	401-500	501-600	601-900	901-1002
-----------------	------	-------	--------	---------	---------	---------	---------	----------

#### Directional Couplers

RLDC10-8-15A (SP)	24	30	26	25	24	21	18	18
RLDC10-12-15A (SP)	25	28	28	27	25	23	18	18
RLDC10-16-15A (SP)	24	25	27	27	27	24	18	18

#### Line Splitters

RLS10-2-15A (SP)	20	25	25	23	22	20	20	18
RLS10-3-15A (SP)	22	28	23	21	20	20	18	18
RLS10-3B-15A (SP)	18	28	23	21	20	20	19	18

#### Power Inserter

RPI-100-20A (SP)	60	60	60	60	60	56	52	52
------------------	----	----	----	----	----	----	----	----

Power Rating Input (RPI)	20 Amps AC/DC (input port), 60 - 90 Volts, 1 - 60 Hz
Power Rating on RF Ports (RLDC, RLS, RPI)	15 amps ac/dc, 60-90 Volts, 1-60 Hz
Power Rating Input (RPI)	20 amps ac/dc, 60-90 Volts, 1-60 Hz
Hum Modulation @ 15 amps 90 Volts	5-1000 MHz, 60 dB minimum, 70 typical
Over Voltage Threshold (Trigger Voltage) (with SP)	Minimum: 190 Volts, maximum 215 Volts
Trigger Response (with SP)	<200 ns (bi-directional voltage sensing)
Current Clamping (capacity) (with SP)	40 amps (steady state), 400 amps (8.3 milliseconds)
Output Flatness	±1.5 dB
Impedance	75 ohms
Hard Line Surge	6 kV @ 3 kA
Drop Line Surge	2 kV @ 1 kA
EMI Shielding	100 dB, minimum
Water Tight	15 PSI
Line Connector Entry Specifications	¾ x 24 to SCTE Specification IPS-SP-500
Pedestal Port Spacing, in. (cm)	3.0 (7.62) (center-to-center)
Physical Dimensions (L x W x H) in. (cm)	5.25 x 4.5 x 2.5 (13.33 x 10.79 x 6.35)
Torque Specifications	Housing closure screws: 20-30 in./lbs.
Operating Temperature Range	-40 to 60 °C

Specifications are subject to change without notice.

# 1 GHz Line Passives

## Ordering Information

ARRIS # (Non-Surge Protection)	ARRIS # (90 V Surge Protection)	Mfg #	15 amp Line Passives
251395	251402	RLS10-2-15A	2-Way Splitter
251396	251403	RLS10-3-15A	3-Way Splitter
251401	251408	RLS10-3B-15A	3-Way Balance Splitter
251397	251404	RLDC10-8-15A	8 dB Directional Coupler
251398	251405	RLDC10-12-15A	12 dB Directional Coupler
251399	251406	RLDC10-16-15A	16 dB Directional Coupler
251400	251407	RPI-100-20A	Power Inserter

The capabilities, system requirements and/or compatibility with third-party products described herein are subject to change without notice. ARRIS, the ARRIS logo, Auspice®, C3™, C4®, C4c™, Cadant®, C-COR®, CHP Max®, ConvergeMedia™, Cornerstone®, CXM™, D5™, Digicon®, Flex Max®, Keystone™, MONARCH®, n5™, nABLE™, nVision®, OpsLogic®, OpsLogic® Service Visibility Portal™, PLEXIS®, PowerSense™, Regal®, ServAssure™, Service Visibility Portal™, TeleWire Supply®, TLX®, Touchstone®, VoiceAssure™, VSM™, and WorkAssure™ are all trademarks of ARRIS Group, Inc. Other trademarks and trade names may be used in this document to refer to either the entities claiming the marks and the names of their products. ARRIS disclaims proprietary interest in the marks and names of others. © Copyright 2009 ARRIS Group, Inc. All rights reserved. Reproduction in any manner whatsoever without the express written permission of ARRIS Group, Inc. is strictly forbidden. For more information, contact ARRIS.

