

# 150/150IS THREE-WAY SPLITTER RNG-SP3, RIS-SP3



Varis' three-way splitters enable branching of Leaky Feeder cable in a Smart Com 150 or Smart Com 150IS (Intrinsically Safe) system. The RNG-SP3 and RIS-SP3 are fully functional VHF splitters for the frequencies 10-200 MHz. Each branch has jumpers to select:

- TERMINATE:** 75  $\Omega$  Termination.
- NO DC:** Blocks DC voltage to/from branch.
- NORMAL:** Passes RF and DC.



RNG-SP3 (left), RIS-SP3 (right)

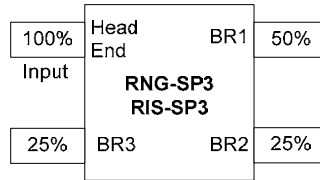
## Product Specifications

	3-WAY SPLITTER	IS 3-WAY SPLITTER
Part Number	RNG-SP3	RIS-SP3
<b>Physical</b>		
Construction	Single Printed Circuit Board	
Enclosure	NEMA 4x (IP66), Polystyrene	NEMA 4x (IP66), Fiberglass reinforced polyester plastic
Dimensions (L x H x W)	200 x 75 x 130 mm (7.9 x 3.0 x 5.1 in)	230 x 91 x 160 mm (9.1 x 3.6 x 6.3 in)
Weight (nominal)	0.4 kg (0.88 lbs)	1.7 kg (3.75 lbs)
Connectors	4 Three terminal Lug Connectors, PG21 cable grips	
Conformal Coating	No	2 coats, CTI > 100
<b>Environmental</b>		
Temperature Range	-20 to +60° C (-4 to +140 °F)	
<b>Electrical</b>		
Input Voltage Range	0-40 Vdc	0-12 Vdc
Current Consumption	0 mA	
DC Blocking	Jumper Select on BR 1, BR 2 and BR 3	
<b>RF Characteristics</b>		
75 ohm Termination	Jumper Select on BR 1, BR 2 and BR 3	
Input Impedance	75 ohms	
Output Impedance	75 ohms	
Frequency Range	10-200 MHz	
RF Loss	BR1: 4 dB BR2: 8 dB BR3: 8 dB	
<b>Approvals</b>		
Intrinsic Safety	No	MSHA
CE Certification	Yes	Yes

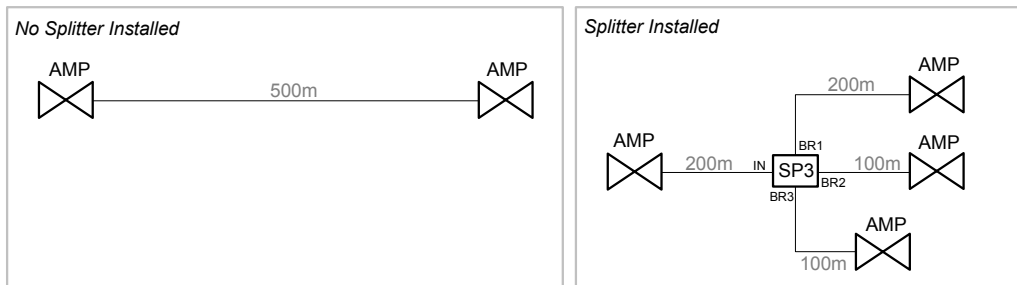
## Installation

Use the following guidelines to ensure proper installation of Three-way Splitters:

- Branch 1 of the SP3 counts as one “splitter”, equivalent to 100 m (328 ft) of LF cable or ~4 dB of loss. Branches 2 and 3 count as two “splitters”, equivalent to 200 m (656 ft) of LF cable or ~8 dB of loss on each branch.



- Reduce Leaky Feeder cable length by 100 m (328 ft) for Branch 1 and by 200 m (656 ft) for Branches 2 and 3 as shown below.



- Ensure that Branch jumpers are in the correct position:

**TERMINATE:** 75  $\Omega$  termination, use when branch is deactivated or damaged.  
**NO DC:** Blocks DC power to/from branch, can be used to isolate short circuit.  
**NORMAL:** Passes RF and DC.

## WARNINGS



The Smart Com 150IS Three-way splitter (RIS-SP3) is approved for use only when installed according to the requirements of Varis Mine Technology System Layout Drawing MSHA-IS-01.



Any changes in the Intrinsically Safe circuitry or components may result in an unsafe condition.

