

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 Ω Termination.
- NO DC:** Blocks DC voltage to/from branch.
- NORMAL:** Passes RF and DC.



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

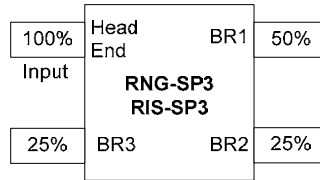
Product Specifications

| | 3-WAY SPLITTER | IS 3-WAY SPLITTER |
|---------------------------|---|---|
| Part Number | RNG-SP3 | RIS-SP3 |
| Physical | | |
| 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 |
| Environmental | | |
| Temperature Range | -20 to +60° C (-4 to +140 °F) | |
| Electrical | | |
| 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 | |
| RF Characteristics | | |
| 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 | |
| Approvals | | |
| Intrinsic Safety | No | MSHA, Approval #23-A050001-0 |
| CE Certification | Yes | Yes |

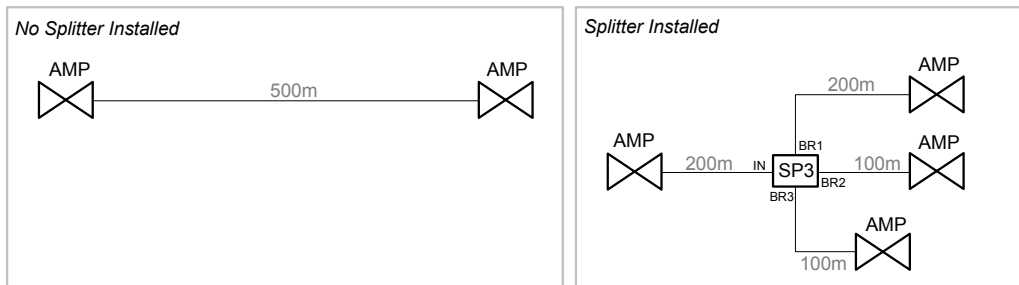
Installation

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 Ω 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.

