The RX/TX Splitter has one input and two separate output channels. There are two different types of inputs available. One input type is a differential line receiver where differential input signals (A, A', B, B', Z, Z') are split into two identical differential output channels. Alternatively, the input can be configured for a single ended Push-Pull, NPN, Open Collector, or Pull-Up encoder (A, B, Z), which will split the signal into two independent differential line driver outputs (A, A', B, B', Z, Z'). Refer to the block diagram below for the signal flow through the device. Line Driver signals include complementary outputs A', B', and Z', and offer greater immunity from electrical noise, signal distortion, and interference especially with long cable runs. The output signal can be approximately 5 VDC or a voltage amplitude equivalent to the RXTX supply (Vcc).

To order, choose the type of input (differential or single ended), the expected encoder signal voltage and the voltage output options. Use the RXTX Splitter ordering guide below to establish the stock number.

**APPLICATIONS**

To split differential, or single ended signals for data transmission over long or short distances to two different devices. To properly terminate differential signals to eliminate/reduce signal distortion. To increase output current drive capability in order to drive multiple receivers. To split the input signal and provide the two output channel drivers with differing voltage outputs.

**SPECIFICATIONS**

Supply Source (Vcc)............ 5 to 24 VDC
Current Consumption......... 20 mA max (plus encoder & output load requirements)
Max Frequency ............... Up to 1 MHz
Enclosure.......................... IP54 (dust proof)
Earth Circuit ................. Grounded to Case
Input Voltage................... 24 VDC Max Diff
Output Voltage................ 5 VDC or Vcc
Output Current............... 30 mA/Channel Max

**NOTES UNLESS OTHERWISE SPECIFIED**

1. TERMINATE CABLE SHIELD/DRAIN WIRES TO THE LEAST TERMINAL OF P1 AND P2.
2. RECOMMEND CABLE FOR DIFFERENTIAL/COMPLEMENTARY ENCODER SIGNALS:
   - LOW CAPACITANCE, TWISTED-SHIELDED PAIR:
   - HEAT SHRINK TUBING.
3. SEE ACCESSORIES SECTION FOR 4XXC.

**FEATURES**

Choose an input channel of signal type differential or single ended that is to be split into two output channels. These input signals are typically from an incremental encoder. Refer to the block diagram below for the input and output signal flow.

For OC type inputs, 2k ohm resistors are used for pull-up internally.

The output channels may be used in the differential mode (A, A', B, B', Z, Z') or as A, B, Z (PP) referenced to circuit common.

Vcc is the RXTX Splitter supply voltage and ranges from 5 to 24 VDC.

Single ended input voltage must be less than or equal to the output voltage (Vcc or 5V). Whichever is applicable.

Vcc (5-24VDC) or a PCB generated 5V is supplied to the output drivers (channels).