

RX/TX SPLITTER



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

FEATURES

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.

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RX/TX SPLITTER ORDERING INFORMATION

(Specify stock # when ordering)

Differential = A,A', B,B', Z,Z'

Single Ended = A, B, Z

Stock #	Input Type ¹	Input Voltage (From Encoder)	Output Voltages (single ended or differential-7272) ^{3,6}	
			CH1	CH2
100020-20	Differential	5V	5V	5V
100020-21	Differential	5V	Vcc ⁴	Vcc ⁴
10002022	Differential	5V	Vcc ⁴	5V
100020-23	Differential	6-12V	5V	5V
100020-24	Differential	6-12V	Vcc ⁴	Vcc ⁴
100020-25	Differential	6-12V	Vcc ⁴	5V
100020-26	Differential	13-24V	5V	5V
100020-27	Differential	13-24V	Vcc ⁴	Vcc ⁴
100020-28	Differential	13-24V	Vcc ⁴	5V
100020-29	Single Ended ⁵	5V OC ²	5V	5V
100020-30	Single Ended ⁵	5-24V OC ²	Vcc ⁴	Vcc ⁴
100020-31	Single Ended ⁵	5V OC ²	Vcc ⁴	5V
100020-32	Single Ended ⁵	5V PP, PU, TTL	5V	5V
100020-33	Single Ended ⁵	5-24V PP, PU, TTL	Vcc ⁴	Vcc ⁴
100020-34	Single Ended ⁵	5V PP, PU, TTL	Vcc ⁴	5V

¹Choose 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.

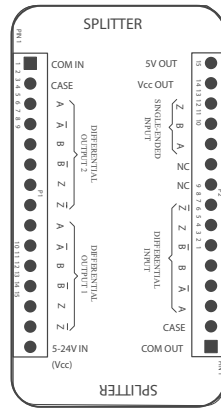
²For OC type inputs, 2K ohm resistors are used for pull-up internally.

³The 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.

⁴Vcc is the RXTX Splitter supply voltage and ranges from 5 to 24 VDC.

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

⁶Vcc (5-24VDC) or a PCB generated 5V is supplied to the output drivers (channels).



NOTES UNLESS OTHERWISE SPECIFIED

1. TERMINATE CABLE SHIELD/DRAIN WIRES TO THE CASE TERMINAL OF P1 AND P2, IF APPLICABLE. BARE CONDUCTORS MUST BE ELECTRICALLY INSULATED FROM THE CIRCUIT BOARD WITH A NONCONDUCTIVE SLEEVE SUCH AS HEAT SHRINK TUBING.
2. RECOMMENDED CABLE FOR DIFFERENTIAL/ COMPLEMENTARY ENCODER SIGNALS: *LOW CAPACITANCE, TWISTED-SHIELDED PAIR: SEE ACCESSORIES SECTION FOR 4XXC CABLES/CONNECTORS. 4XXC CABLES MUST HAVE OUTER INSULATION STRIPPED OFF IN ORDER TO FIT THROUGH CABLE ENTRY GLANDS.
3. SEE CONFIGURATION ORDERING GUIDE FOR INPUT/OUTPUT VOLTAGE PER THE SELECTED RXTX MODEL NUMBER
4. P2-14 (Vcc) or P2-15 (5V) CAN BE USED TO POWER ENCODER.
5. P1-15 (5-24VDC IN (Vcc)) IS FOR CUSTOMER SUPPLIED POWER TO OPERATE RXTX.

