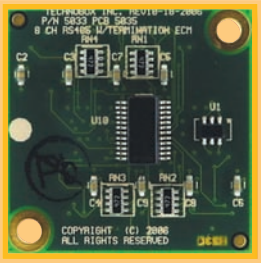
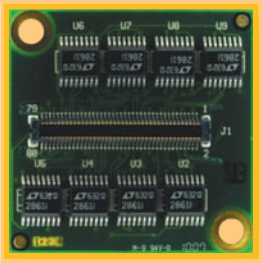
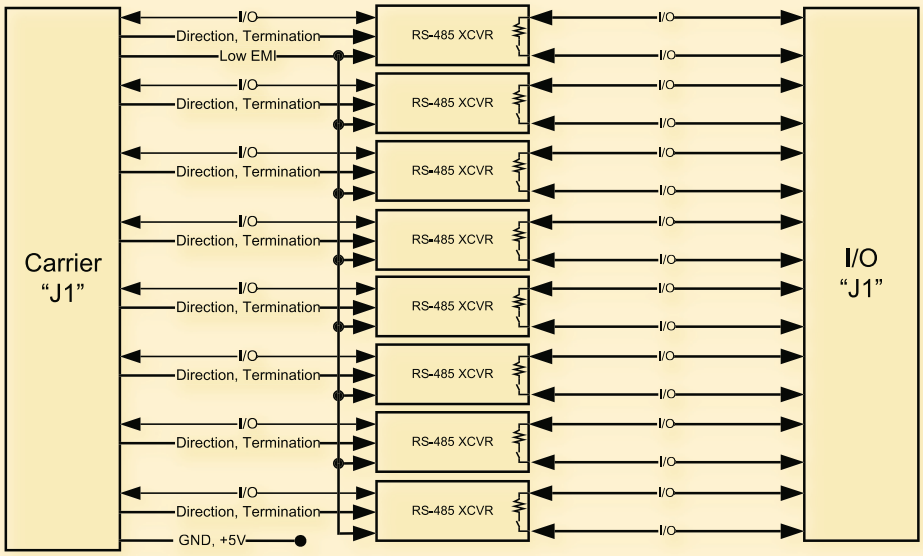
Conversion Module

8-channel RS-485 Async Converter





5033



- **RS485 Interface ECM**
- **8 channels of RS485/422 I/O**
- **20M bits per second**
- **250K bits per second reduced EMI mode**
- **Software enabled 110 ohm termination**
- **Eliminates unneeded or redundant termination**
- **Pull down resistors disable outputs on power up**
- **Powers up as inputs**
- **Linear Tech LTC2861 RS485/422 transceiver**
- **On board serial identification circuit**
- **Industrial temperature range**
- **RoHS compliant.**
- **Patent pending**

Specifications

Temperature (Operating): -40 to +85 degrees C

Temperature (Storage): -55 to +100 degrees C

Altitude: Not Specified or Characterized. Typical similar equipment is at 15,000 ft.

Humidity (Operating/Storage): 5% to 90% non-condensing.

Vibration: Not specified or Characterized.

Shock: Not specified or Characterized.

MTBF: Available on request.

Weight: 3 grams.

Power: TBD

Ordering Information

5033: 8-channel RS-485 Async Converter with Selectable Termination

Technobox, inc.®

140 Mount Holly Bypass
Unit 1
Lumberton, NJ 08048

Tel: 609-267-8988
Fax: 609-261-1011

www.technobox.com

The Technobox P/N 5033 Interface ECM module provides eight channels of RS485/422 I/O.

20M bits per second, 250K bits per second low EMI mode

The output channels can be placed in low emissions mode which slows down the edge rates reducing EMI.

Linear Tech LTC2861 RS485/422 transceiver with switchable 100 ohm termination.

Software enabled termination on a channel by channel basis.

Saves power by turning off unneeded or redundant termination.

Pull down resistors force the I/O lines to come up with outputs disabled before initialization.

Usage P/N 5033

Bus loading, Each of the 5033 channels represents a 1/8 unit load allowing up to 256 nodes on a RS485 network. Additionally for each channel the user can turn off the built in 120 ohm termination resistor eliminating redundant termination and reducing power dissipation.

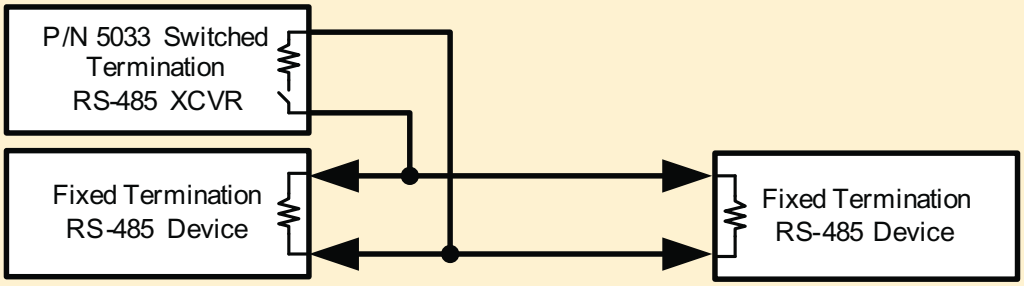


Figure 1 Typical RS485 network usage

Error conditions, The 5033 fails safe to a high output when the inputs are shorted or floating. Current limiting outputs prevent excessive power dissipation in the case of bus contention or a short circuit.

User IO	J1 Pin number	Direction	Description
IO0	16	BIDIR	U2 Differential IO +
IO1	18	BIDIR	U2 Differential IO -
IO2	28	BIDIR	U3 Differential IO +
IO3	30	BIDIR	U3 Differential IO -
IO4	52	BIDIR	U4 Differential IO +
IO5	54	BIDIR	U4 Differential IO -
IO6	64	BIDIR	U5 Differential IO +
IO7	66	BIDIR	U5 Differential IO -
IO8	65	BIDIR	U6 Differential IO +
IO9	63	BIDIR	U6 Differential IO -
IO10	53	BIDIR	U7 Differential IO +
IO11	51	BIDIR	U7 Differential IO -
IO12	29	BIDIR	U8 Differential IO +
IO13	27	BIDIR	U8 Differential IO -
IO14	17	BIDIR	U9 Differential IO +
IO15	15	BIDIR	U9 Differential IO -

Table 1 User IO signal connections

Carrier Data	J1 Pin number	J1	Description
DA0	10	BIDIR	U2, Data, Pair (IO0, IO1)
DA1	12	INPUT	U2, Direction, Input when Low
DA2	22	INPUT	U2, Termination enable, Enable when High
DA3	24	BIDIR	U3, Data, Pair (IO2, IO3)
DA4	34	INPUT	U3, Direction, Input when Low
DA5	36	INPUT	U3, Termination enable, Enable when High
DA6	46	BIDIR	U4, Data, Pair (IO4, IO5)
DA7	48	INPUT	U4, Direction, Input when Low
DA8	58	INPUT	U4, Termination enable, Enable when High
DA9	60	BIDIR	U5, Data, Pair (IO6, IO7)
DA10	70	INPUT	U5, Direction, Input when Low
DA11	72	INPUT	U5, Termination enable, Enable when High
DA12	71	BIDIR	U6, Data, Pair (IO8, IO9)
DA13	69	INPUT	U6, Direction, Input when Low
DA14	59	INPUT	U6, Termination enable, Enable when High
DA15	57	BIDIR	U7, Data, Pair (IO10, IO11)
DA16	47	INPUT	U7, Direction, Input when Low
DA17	45	INPUT	U7, Termination enable, Enable when High
DA18	35	BIDIR	U8, Data, Pair (IO12, IO13)
DA19	33	INPUT	U8, Direction, Input when Low
DA20	23	INPUT	U8, Termination enable, Enable when High
DA21	21	BIDIR	U9, Data, Pair (IO14, IO15)
DA22	11	INPUT	U9, Direction, Input when Low
DA23	9	INPUT	U9, Termination enable, Enable when High
DA24	40	INPUT	Reduced EMI mode when Low, all channels
DA25	41	N/C	No connection
DA26	42	N/C	No connection
DA27	39	N/C	No connection

Table 2 Carrier DA signal connections