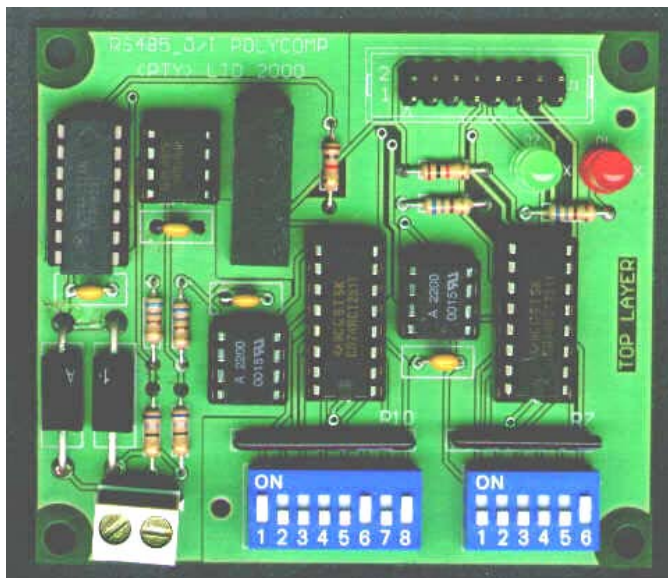


RS485 interface card

technical



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WHAT IS A RS485 INTERFACE CARD?

The LEDsynergy RS-485 interface card is used to link LEDsynergy electronic displays to RS-485 two wire balanced shared line communication.

The two wire balanced communication of RS485 is:

A – Non-inverted differential terminal A

B – Inverted differential terminal B

In a balanced differential system the voltage produced by the driver appears across a pair of signal lines that transmit only one signal. A balanced line driver will produce a voltage from 2 to 6 volts across its A and B output terminals.

A balanced differential line receiver senses the voltage state of the transmission line across two signal input lines, A and B.

When the A terminal of the driver is negative with respect to the B terminal, the line is in the binary 1 or OFF state.

When the A terminal of the driver is positive with respect to the B terminal, the line is in the binary 0 or ON state.

RS485 is capable of connecting many signs together on the same line and with no conflicts. It allows a balanced transmission line to be shared in a party line or multidrop mode. As many as 32 driver/ receiver pairs can share a multidrop network. It has been specifically designed for multipoint transmission on long bus lines in noisy environments.

FEATURES OF THE RS485 INTERFACE CARD

Transient Protection

The RS485 interface card is protected against unwanted transients by means of optical-isolation. This separates the signal reference from any fixed ground. An optical isolator is an integrated circuit that converts the electrical signal to light and back again, thereby eliminating electrical continuity. The entire isolated circuitry floats to the level of the transient without disrupting data communications. This type of isolation is effective against common mode transients.

In practice this means that the RS485 interface card is less susceptible to electrical noise, RF interference, and immune to voltage and ground differentials between two separate areas.

DIP SWITCH SETTINGS

The RS485 interface card has a number of dip switch settings. There are two banks of dip switches, a bank of 8 dip switches and a bank of 6 dip switches.



Bank 1 settings

Protocol Settings

Switch Position	Description	ON	OFF
Switch 1	Stop Bits	1 Stop Bit	2 Stop Bits
Switch 2	Parity Set	Even Parity	Odd Parity
Switch 3	Data Bits	7 Data Bits	8 Data Bits
Switch 4	Parity Enable	YES—Parity Enabled	NO—Parity Disabled
Switch 5	Not Used	Not Used	Not Used

Baud Rate Settings

Baud Rate	Switch 6 Position	Switch 7 Position	Switch 8 Position
1200	OFF	OFF	OFF
600	OFF	OFF	ON
1200	OFF	ON	OFF
2400	OFF	ON	ON
4800	ON	OFF	OFF
9600	ON	OFF	ON
19200	ON	ON	OFF
19200	ON	ON	ON

Bank 2 settings

Address Settings - = ON, 0 = OFF

Add No.	1	2	3	4	5	6	Add No.	1	2	3	4	5	6
1	0	0	0	0	0	1	17	0	1	0	0	0	1
2	0	0	0	0	1	0	18	0	1	0	0	1	0
3	0	0	0	0	1	1	19	0	1	0	0	1	1
4	0	0	0	1	0	0	20	0	1	0	1	0	0
5	0	0	0	1	0	1	21	0	1	0	1	0	1
6	0	0	0	1	1	0	22	0	1	0	1	1	0
7	0	0	0	1	1	1	23	0	1	0	1	1	1
8	0	0	1	0	0	0	24	0	1	1	0	0	0
9	0	0	1	0	0	1	25	0	1	1	0	0	1
10	0	0	1	0	1	0	26	0	1	1	0	1	0
11	0	0	1	0	1	1	27	0	1	1	0	1	1
12	0	0	1	1	0	0	28	0	1	1	1	0	0
13	0	0	1	1	0	1	29	0	1	1	1	0	1
14	0	0	1	1	1	0	30	0	1	1	1	1	0
15	0	0	1	1	1	1	31	0	1	1	1	1	1
16	0	1	0	0	0	0	32	1	0	0	0	0	0

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