



RS232C < - > RS485 ADDRESSABLE CONVERTOR

Model: LD15A

INTERFACE PRODUCTS. INFO

Phone: 91-79-55124898 / 55310266 (M) 0-98253-50221

www.interfaceproducts.info



INTRODUCTION

Milestone model LD-15A is a RS232 to RS 485 addressable converter designed for high-speed data transmission between computer system and or peripherals over long distance under high noise conditions. They provide dual line interface per signal. The unit can be assigned address for using in multidrop application. This is required when slave units do not have provision for addressability.

APPLICATIONS

Application for these converters can be for factory automation, programmable logic controllers, attendance recording systems, Barcode Readers, remote data transmission, remote terminals, EPABX etc.

Technical Specifications	
Input (RS232C)	RS232 - TxD, RxD, DSR (for control), GND (D9 Female connector)
Output (RS485)	RS485 – Tx+, Tx-, Rx+, Rx- (D9 Male Connector). Each signal is protected by spike suppressor, fuse and has opto-isolation.
Selection Switch– 1	<ol style="list-style-type: none">1. Rear side has 2-way ‘SELECT’ switch for selecting 2-Wire or 4-Wire mode in RS422/485 application.2. On the rear side has a 3-way ‘CONTROL’ Switch for selecting AUTO Mode (No Handshake Signal), DSR+ Mode (+12V Control), DSR- Mode (-12V Control)3. At the bottom of the unit, a 8 Bit DIP Switch is provided for LD-15A only for assigning selectable address to the unit.



Maximum Distance	1.2 Kms. @ 19,200 bps			
Output Cable	Shielded twisted pair cable –90 Ohms/km. (Not supplied)			
Transient Protector	2500 V Peak			
Indication	Power LED	Rx LED	Tx LED	DSR
Power Supply	230 V, 50 Hz			
Size	117 mm x 105 mm x 55mm			

INSTALLATION INSTRUCTIONS

Switch Settings

- 2-WAY SELECT SWITCH** : Select 2-wire (half duplex) or 4-wire (full duplex) mode on 2-way switch on the back panel.
- 3-WAY CONTROL SWITCH:**
 Position 1 - Auto - No Handshake Control
 Position 2 - DSR +/- DSR control(+12V) (to enables RS485 output)
 Position 3 - DSR- /- DSR control (-12V)
- 8-DIP Switch** for LD-15A address selectable from 1 to 128 as follows:

Dip-SW	1	2	3	4	5	6	7	Address	
	√	X	X	X	X	X	X	1	
	X	√	X	X	X	X	X	2	
	√	√	X	X	X	X	X	3	
			As per above logic						4
			As per above logic						127
	√	√	√	√	√	√	√	128	
Note: <u>DIPswitch position 8 when ON forces the unit to work as a normal converter (i.e. without address ability) and can be sued for testing purpose or as a NON-Addressable unit.</u>									

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4. **Hex Commands** (To be received from RS485 interface side) For LD-15A

1. F1 Address F2 Tx Data on RS232 enabled
2. F1 Address F3 Tx Data on RS232 disabled
3. F1 FE F2 Tx Data on RS232 enabled
Broadcast – regardless of Address
4. F1 FE F3 Tx Data on RS232 disabled
Broadcast – regardless of Address

TABLE I: RS 232 Port – D9 Female Connector

Pin No.	Signal Name	Input / Output
2	TX	Output
3	RX	Input
4	DSR	Input
5	Signal Ground	-
6,8	DTR, RTS	Output

TABLE II: Output Port - D9 Male Connector

Line Driver Port	Signal- 4 – Wire	Signal- 2 – Wire
3	-RX	
4	+RX	
5	+TX	+TX / +RX
6	-TX	-TX / -RX
7	GROUND	GROUND
1	Frame Ground	Frame Ground



LED Indication:

A	Power	Power to the unit
B	TD	TX Data on RS485
C	RD	RX Data on RS485
D	DSR	Transmit Control
E	ON	TX Data on RS232 enabled (only for LD15A)

TABLE III: RS 232 Cable

Computer End			RS232 Port	
Pin No on (D-25)	Pin No on (D-9)	Signal	Pin No (D-9, F)	Signal
2	3	Tx	2	Tx
3	2	Rx	3	Rx
6	6	DSR	6	DTR
7	5	GND	5	Sig. Gnd
20	4	DTR	4	DSR
4,5	7,8	RTS.CTS	8	RTS

Note: The above connections are for Standard PC Com Port. Please verify these connections for any other system or terminal before making the cable.

LONG DISTANCE CABLE LAYING

Long distance cable between two RS422/RS485 interfaces must be a twisted pair shielded cable. The pair should be used for each signal type + and – signal. This gives high common mode noise rejection. While laying the cable, care should be taken not to lay this cable parallel to power line cables. The cable resistance should not be more than 90 ohms/1000 meters. The cable should be run through conduit pipe for physical protection.



TABLE IV: OUTPUT CABLE – 4 Wire

D9 Male	Pin No.	Instrument
-Rx	3	-Tx
+Rx	4	+Tx
+Tx	5	+Rx
-Tx	6	-Rx

TABLE V: OUTPUT CABLE – 2 Wire

D9 Male	Pin No.	Instrument
+Tx / +Rx	5	+Tx / +Rx
-Tx / -Rx	6	-Tx / -Rx