CesCom

N400
ACA approved

CE0022H
RS232 – RS422/RS485 CONVERTER

Interfaces RS232 to RS485/422 buses

Features

- Full duplex operation to 115K baud
- Auto **half-duplex switching** does not require any control line
- >1200 metres transmission capability
- RS422/RS485 transient voltage **protection**
- Compact DB25 Headshell
- Pluggable **Combicon** terminal connections
- LED indicators

Overview

The CE-0029H interfaces three wire RS-232 signals to RS-422 or RS-485 buses without the use of transmit control lines.

This makes the CE-0022H the perfect candidate for interfacing to RS422 and RS485 networks which require protection to improve the range and reliability of the network. Other uses include interfacing RS-232 equipment over long distances or in noisy environments as two devices placed back to back in RS-422 mode will permit RS-232 devices to operate over much greater distances than would be otherwise possible.

Applications

- Extending range of RS-232 devices
- Interfacing PCs to MODBUS RS-485 lines
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Factory options:

Preset baud rate: 9600(default), 19,200, 38,400, open*

RS-422 multi-drop mode (disables undesirable reception of data on transmit lines)

US Distributor: Camponil Electronics Tel 888-823-2295 Fax 888-825-3306   www.camponilelectronics.com.

Specifications

Supply Voltage	+9V to +14VDC		**RS232 Speed**	120K baud max
Current	50ma max @9VDC (Polarity protected) (12ma quiescent)		**RS422 Speed**	120Kbaud max
Physical	80mm x 25mm x 58mm (LWD)		**Termination**	120 ohms on receive lines
Weight	100 grams (approx)		**RS422/485 Bias**	Internal 1K resistors to +5V and ground
Case Material	ABS 94HB		**Indicators**	TxData, RxData
Environment	0 to +70°C operating			
Standards	EIA RS422/485, EIA RS-232, FCC part 15 Class A AS/NZS 3458, C-tick compliant ACA N400 (CE-0022H)			

OPERATION

RS-232 to RS-422

RS-232 data is received and buffered to the RS422/485 drivers. The RS422/485 drivers are automatically disabled when there is no RS232 data to send which allows other multi-dropped devices to use the TX/RX lines.

RS485 Operation

The RS485 automatically switches to transmit whenever and immediately data from the RS232 port is detected and maintains the RS485 port in transmit for an additional ½ stop bit before releasing the transmit mode. If new data is detected in this period then the transmit cycle will be extended repeatedly as long as there is data.

Biasing

Line biasing is built-in to ensure that undriven lines revert to an inactive state.

Telecommunications reference conductor

This line should be earthed for the protection circuitry only. It **should not be used as a signal ground**. If a signal ground is desired for the RS422/485 port then it should be connected to the power ground if necessary.

Notes: [1] Ensure lines are terminated (usually 120ohms)

CONNECTIONS

DB25	NAME		DESCRIPTION
2	RXD		RS-232 Receive data in
3	TXD		RS-232 Transmit data out
7	GND		RS-232 Signal ground

TERM	NAME	ALT	DESCRIPTION
1	RX-		RS-422 Receive data – (or B)
2	RX+		RS-422 Receive data+ (or A)
3	TRC		Telecommunications reference conductor
4	TX-	B	RS-422 Transmit – (or B) or RS-485 B
5	TX+	A	RS-422 Transmit + (or A) or RS-485 A
6	VGND		Power Supply ground (optional RS422/485 ground)
7	VDC		+9 to 30VDC Power Supply input

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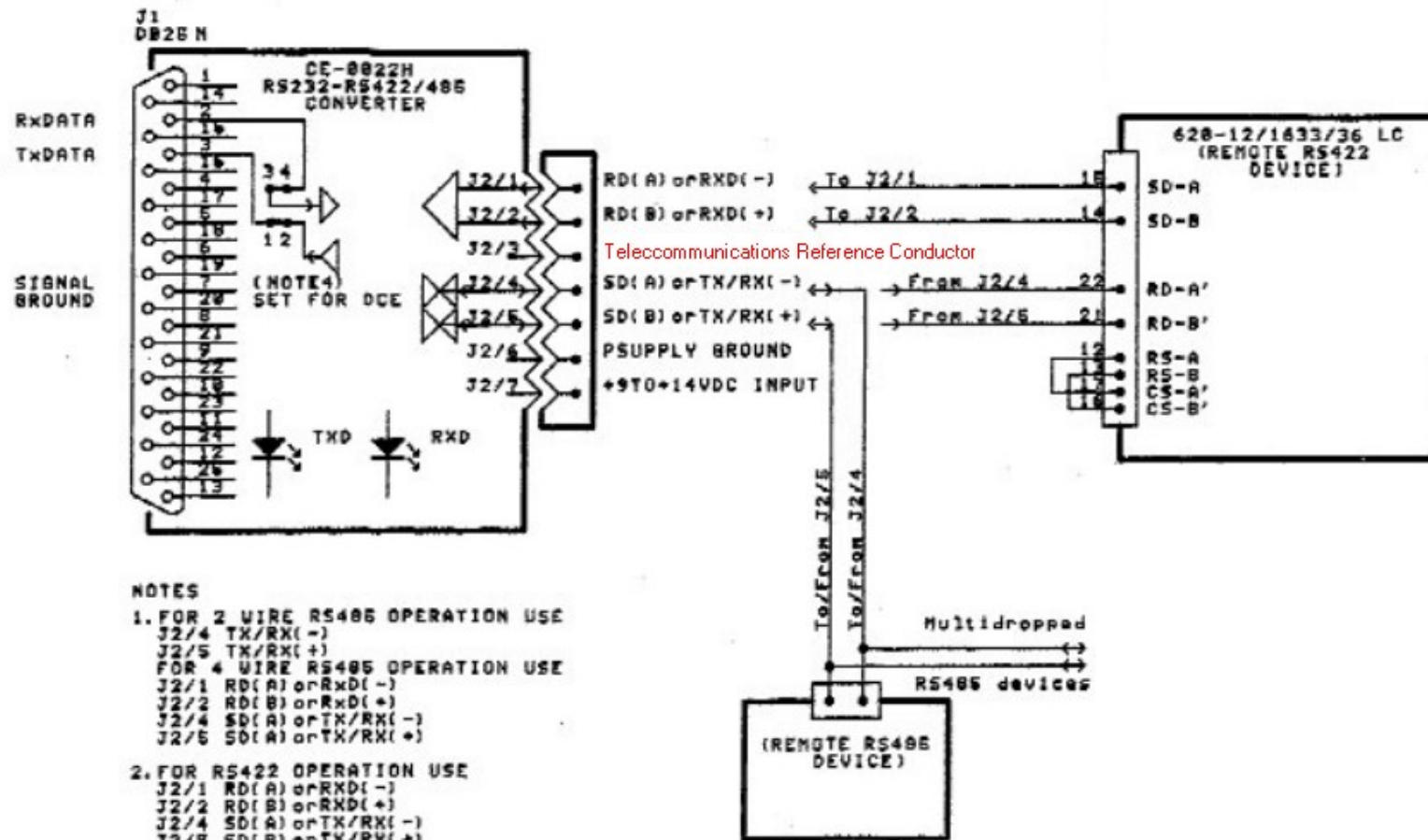
NOTES

1. FOR 2 WIRE RS485 OPERATION USE
   J2/4 TX/RX(-)
   J2/5 TX/RX(+)
   FOR 4 WIRE RS485 OPERATION USE
   J2/1 RD(A)orRxD(-)
   J2/2 RD(B)orRxD(+)
   J2/4 SD(A)orTX/RX(-)
   J2/5 SD(A)orTX/RX(+)

2. FOR RS422 OPERATION USE
   J2/1 RD(A)orRXD(-)
   J2/2 RD(B)orRXD(+)
   J2/4 SD(A)orTX/RX(-)
   J2/5 SD(B)orTX/RX(+)

3. IF THE TRANSMISSION LINE EXCEEDS 100 METERS
   IN RS422 OPERATION CONNECT A 120 OHM
   RESISTOR BETWEEN PINS 1 AND 2 OF J2.

4. FOR DCE OPERATION SET INTERNAL LINK 1-2,3,4
   FOR DTE OPERATION SET INTERNAL LINK 1-3,2-4

Installation diagram