

EX9520
RS232 to RS485 converter

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EX9520/R/A/AR are communication protocol converter from RS232 signal into isolated EIA RS-485 or RS422 with no need change any hardware or software. The EIA RS485 was the industry's most widely used bi-directional, balanced transmission line standard. The EIA RS-485 was specifically developed for industrial applications. It lets EX9000 series modules transmit and receive data at high rates over long distances. All EX9000 series modules use optical isolators to prevent ground loop problems and reduce damages caused by power surges. EX9520/A isolated on RS232 side; EX9520R/AR isolated on RS485/422 side.

Highlights

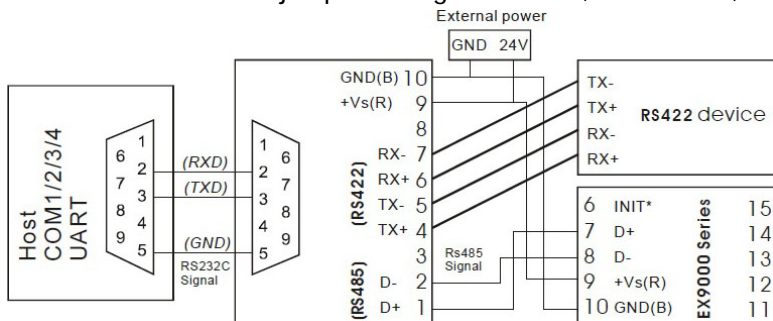
- AutoPro: automatic baud rate 300 - 115 kbps
- 3000VDC isolation between input and output
- ESD protection for RS232 / RS422 / RS485
- Power requirements: 10 to 30 VDC
- Power consumption: max 2.2 W
- Operating Temperature: -25°C to +75°C
- DIN-Rail and wall mounting support

Comparison of models

	RS232	RS422	RS485	Isolation
EX-9520			Yes	RS232
EX-9520R			Yes	RS485
EX-9520A		Yes	Yes	RS232
EX-9520AR		Yes	Yes	RS422 / RS485

Connection

EX9520A / EX9520AR jumper setting JP1: PIN 1,2 for RS422, PIN 2,3 for RS485



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Specification

INTERFACE

RS232	TX, RX, GND DB9 female connector
RS422	TX+, TX-, RX+, RX- Belden 8942 (4P twisted-pair cable) Removable Terminal Block
RS485	Data+, Data- Belden 8941 (2P twisted-pair cable) Removable Terminal Block
Max distance	9.6 kbps: 1200 m 115.2 kbps: 400 m
Baud rate	1200 bps, 2400 bps, 4800 bps, 9600 bps, 19.2 kbps, 38.4 kbps, 57.6 kbps, 115.2 kbps
Isolation voltage	3000VDC
ESD protection	yes

HOUSING

Case	ABS
Flammability	Fire Retardant Materials (UL94-V0 Level)
Dimensions	7 x 10 x 2cm
Installation	Din-Rail and Wall mounting kit

POWER REQUIREMENT

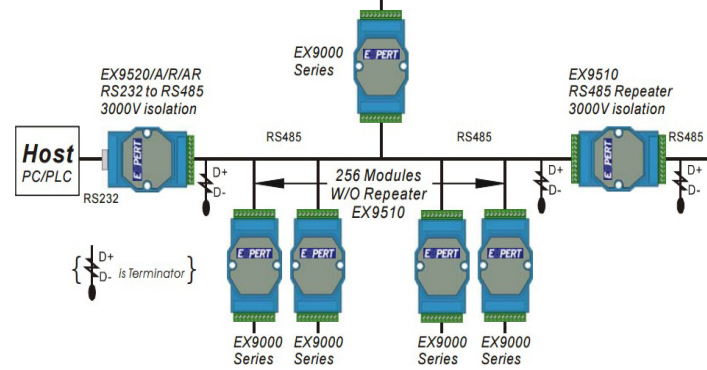
Input Voltage	Unregulated +10 to +30VDC
Power consumption	2.2W (max.)

ENVIRONMENT

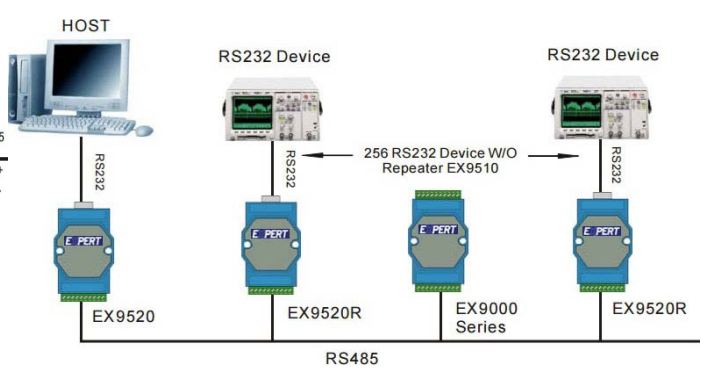
Operating temperature	-25 - 75 °C
Storage temperature	-30 - 80 °C
Humidity	5 - 95%, non-condensing

Application

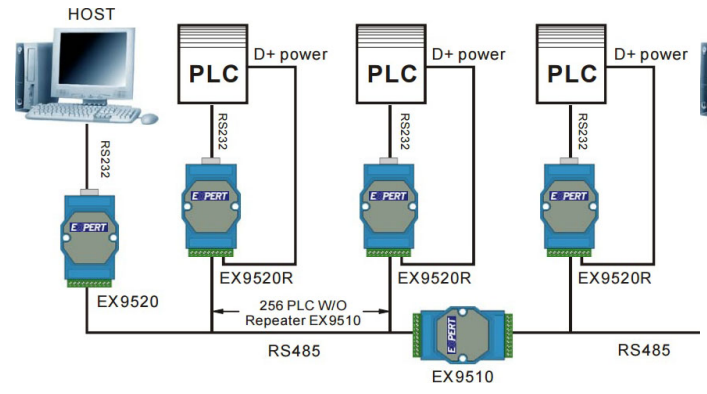
RS485 Network



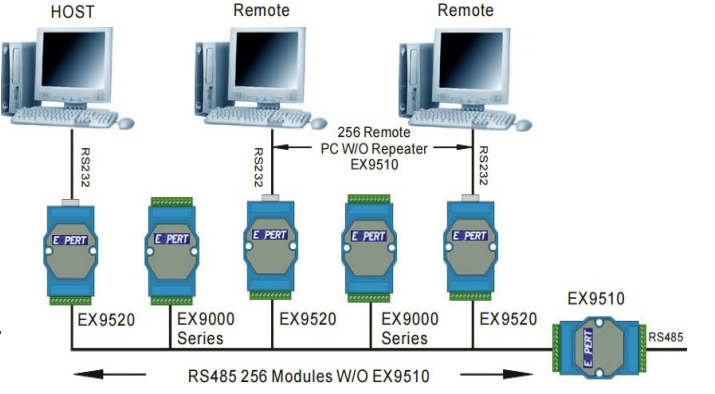
RS232 Device Network



PLC Network



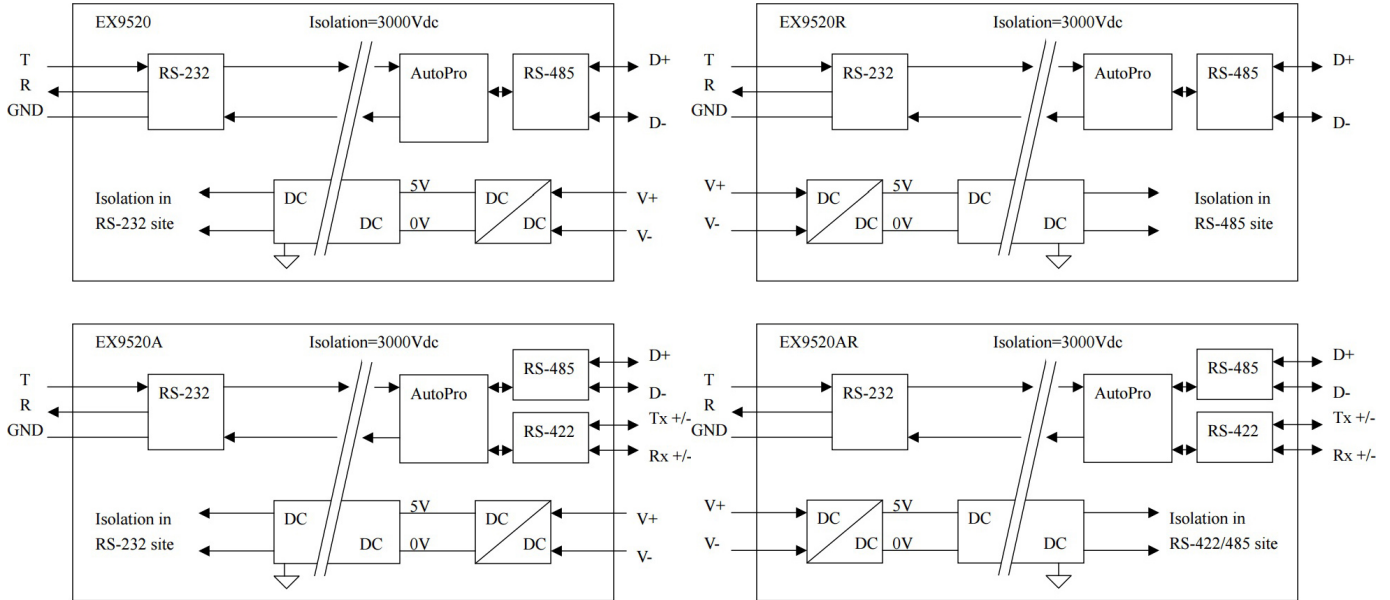
PC Network



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Block Diagram



Termination

RS-485 distance 1.2km:
 RS-485 distance 600m:
 RS-485 distance 300m:

about 120 Ohm
 about 220 Ohm
 about 330 Ohm