

NDAM-7520

Isolated RS-232 to RS-422/485 Converter

Introduction

The RS-485 standard supports half-duplex communication and handshaking signals (such as RTS, Request To Send) are normally used to control the direction of the data flow. But with a special I/O circuit in the eDAM-8520 automatically senses the direction of the data flow and switches the transmission direction.

In addition, the eDAM-8520 also provides a flexible function called "Auto baud rate detector" which can convert RS-232C signals to RS-422/485 signals at any baud rate automatically without setting switches.

This RS-485 control is completely transparent to the user and software written for half-duplex RS-232 works without any modification.

The eDAM-8520's Opto-isolators provide 3000 Vdc of isolation to protect the host computer from ground loops and destructive voltage spikes on the RS-485 data lines.

NDAM-7520 also offer internal surge-protection on their data lines. Internal high-speed transient suppressors on each data line protect the modules from dangerous voltages levels or spikes.

Features

- Automatic internal RS-485 bus supervision
- No external flow control signals required for RS-485
- Minimum 3000 V DC isolation protection
- Transient suppression on RS-485 data lines
- Baudrate up to 115.2 Kbps
- Networking up to 4000 feet
- Reserved space for termination resistors(R1)
- Power and data flow indicator for troubleshooting
- Power requirement: +10 to +30 Vdc
- Mounts easily on DIN-rail or panel

Specifications:

- Power requirement: Unregulated +10 to +30 V DC with protection from power reversals
- Case: ABS with captive mounting hardware
- Converted signals: RS-422 or RS485 jumper selectable
- Accessories (Supplied): NYLON DIN-rail Mounting Adapter SECC Panel Mounting Bracket
- Plug-in screw terminal wiring: Accepts AWG 1-#12 to #22 (0.5 to 2.5 mm) wires
- Baud rate (bps): 1200, 2400, 4800, 9600, 19.2 K, 38.4 K, 57.6 K, 115.2 K
- Isolation voltage: 3000 V DC
- RS-232 interface connector: Female DB-9
- RS-422/RS-485 connector: plug-in screw terminal
- Power consumption: 1.2 W
- Operating temperature: 0 ~ 70 °C (32 ~ 158 °F)
- Storage temperature: -25 ~ 85 °C (13 ~ 185 °F)
- Humidity: 5 ~ 95%, non-condensing

Power supply

NDAM modules are designed to accept industry standard +24 Vdc unregulated power. Operation is guaranteed when using any power supply between +10 and +30 Vdc

Power ripples must be limited to 5V peak to peak while the voltage in all cases must be maintained between +10 and +30 Vdc. All power supply specifications are referenced at module connector.

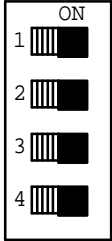
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RS-422/485 settings

The switch called "S1" inside the module is used to select which signal mode outputs from converted side of NDA M-7520

RS-422



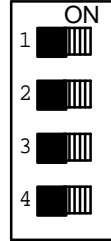
On-board Termination resistor 330 ohms(R19)
OFF

(Default setting)

RS-485

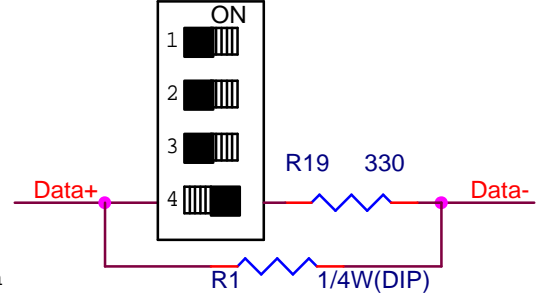


RS-485



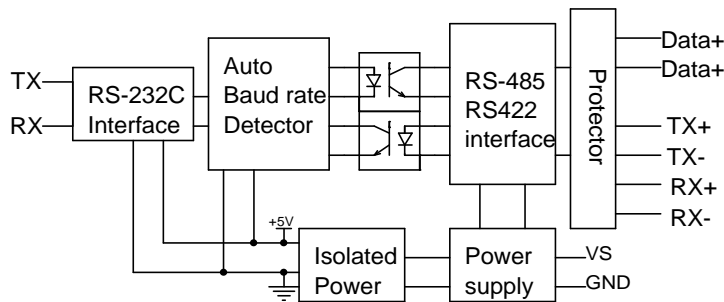
On-board Termination resistor 330 ohms(R19)
ON

RS-485

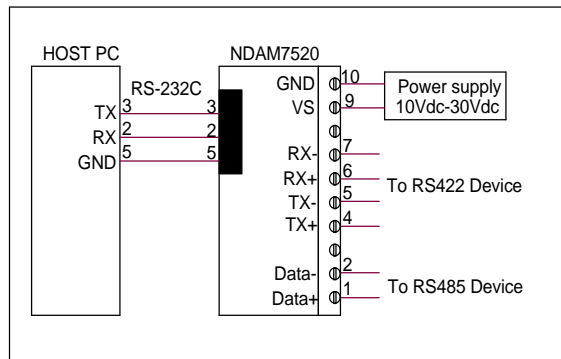


Reserved space for termination resistor(R1)

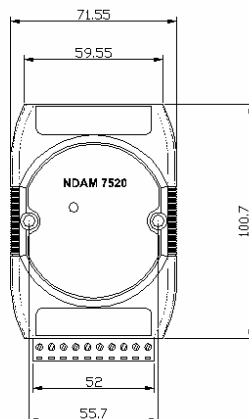
Block diagram



Connection



Dimensions



Dimensions are shown in mm