

**THERMAL and  
THERMAL TRANSFER  
PRINTERS**

**Serial cables pinouts  
Rs232, Rs422, Rs485**



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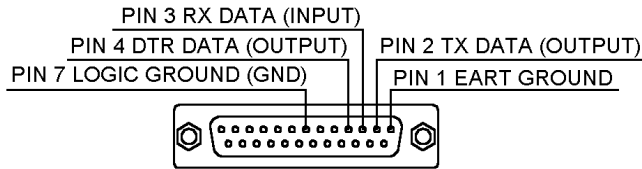
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# SERIAL INTERFACING

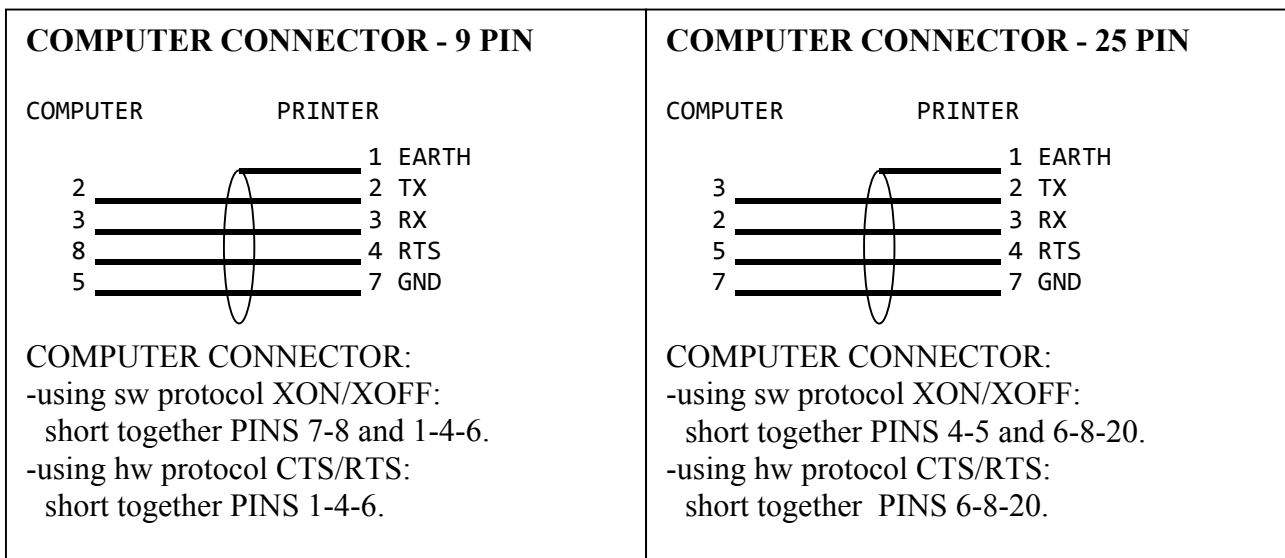
Printers model equipped with serial port have a 25 or 9 pins “DB” female connector; this connector may have different pinouts based on printer’s serial port type (Rs232, Rs422 or Rs485).

## Rs232 – DB25 CONNECTOR

Connector pinout is



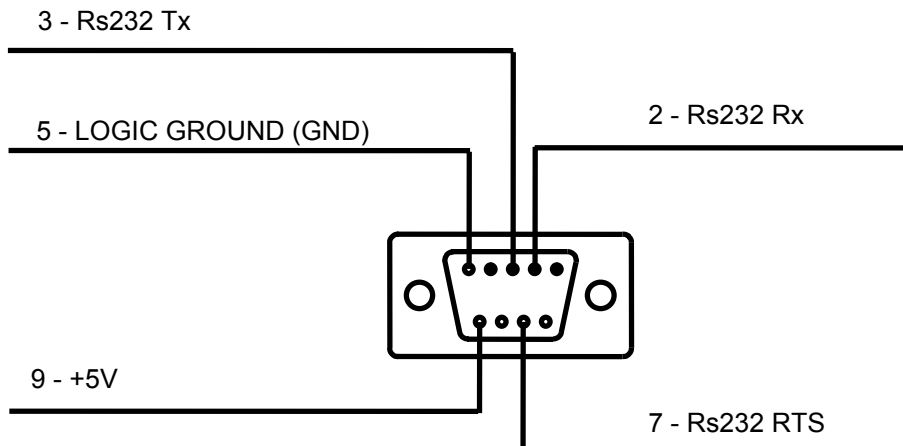
Connection to personal computer may be done in different ways:



**Pict. 1:** Sketch of serial cables for Rs232-DB25

## Rs232 – DB9 CONNECTOR

Connector pinout is



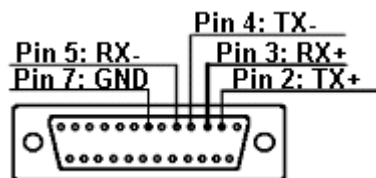
Connection to personal computer may be done in different ways:

COMPUTER CONNECTOR - 9 PIN		COMPUTER CONNECTOR - 25 PIN	
COMPUTER	PRINTER	COMPUTER	PRINTER
2	3 TX	3	3 TX
3	2 RX	2	2 RX
8	7 RTS	5	7 RTS
5	5 GND	7	5 GND
COMPUTER CONNECTOR: -using sw protocol XON/XOFF: short together PINS 7-8 and 1-4-6. -using hw protocol CTS/RTS: short together PINS 1-4-6.		COMPUTER CONNECTOR: -using sw protocol XON/XOFF: short together PINS 4-5 and 6-8-20. -using hw protocol CTS/RTS: short together PINS 6-8-20.	

**Pict. 2:** Sketch of serial cables for Rs232-DB9

### Rs422 – DB25 CONNECTOR

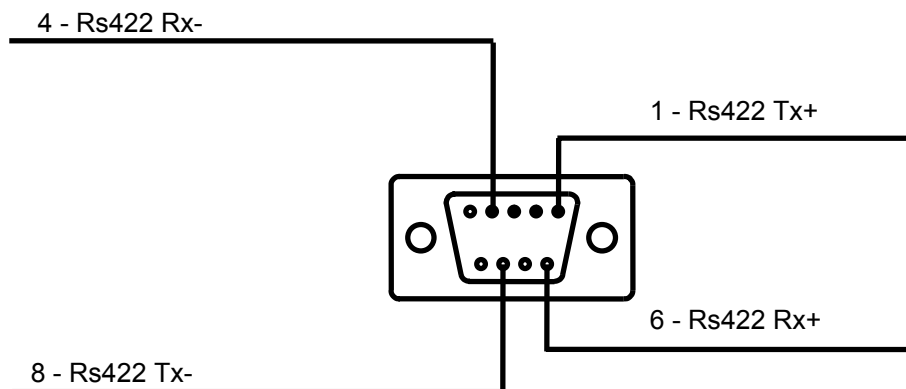
Connector pinout is



**Pict. 3:** Sketch of serial cables for Rs422-DB25

### Rs422 – DB9 CONNECTOR

Connector pinout is



**Pict. 4:** Sketch of serial cables for Rs422-DB9

## HANDSHAKE PROTOCOL

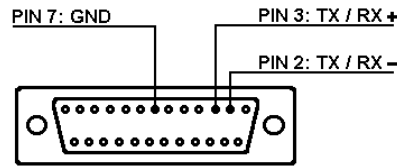
Rs422 serial line has no handshake protocol.

It means that if you transmit more than 2 / 3 KBytes of data at a time it's strongly recommended to insert a short delay (1 or 2 msec) between transmission of each character, in order to avoid printer errors during data receiving; alternatively software XON / XOFF handshake mode may be used.

Connection to personal computer may be done in different ways based on used converter.

## Rs485 – DB25 CONNECTOR

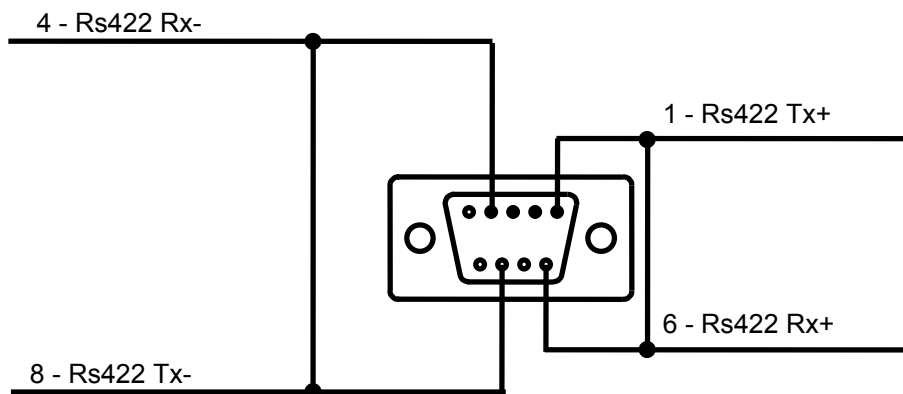
Connector pinout is



**Pict. 5:** Sketch of serial cables for Rs485-DB25

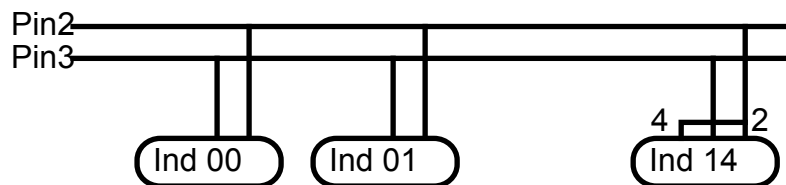
## Rs485 – DB9 CONNECTOR

Connector pinout is



**Pict. 6:** Sketch of serial cables for Rs485-DB9

Maybe you'll need to do a short circuit between pins 2 and 4 on printer side connector, in order to enable the line terminator resistance (already included on the cpu board).



## HANDSHAKE PROTOCOL

RS 485 serial line has no handshake protocol.

In fact CTS printer signal, normally used in RS232 serial line to stop data transmission, is used here to set up the direction of data stream.

It means that if you transmit more than 2 / 3 KBytes of data at a time it's strongly recommended to insert a short delay (1 or 2 msec) between transmission of each character, in order to avoid printer errors during data receiving.

Connection to personal computer may be done in different ways based on used converter.