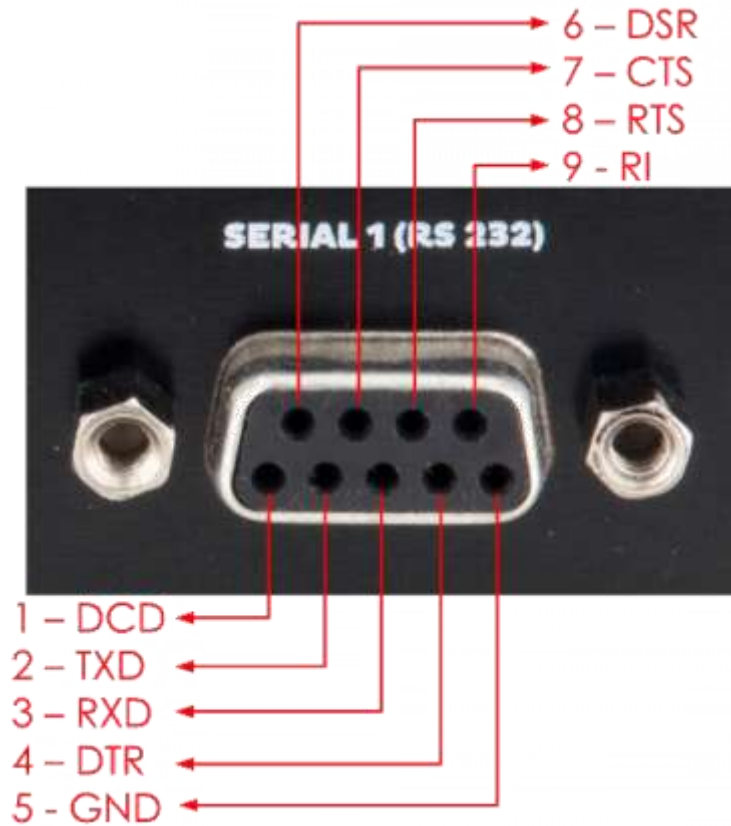


Low Cost Serial Card Specifications



Specifications:

- Female DB9 connector
- One serial port RS-232, 921.6 Kbaud maximum speed



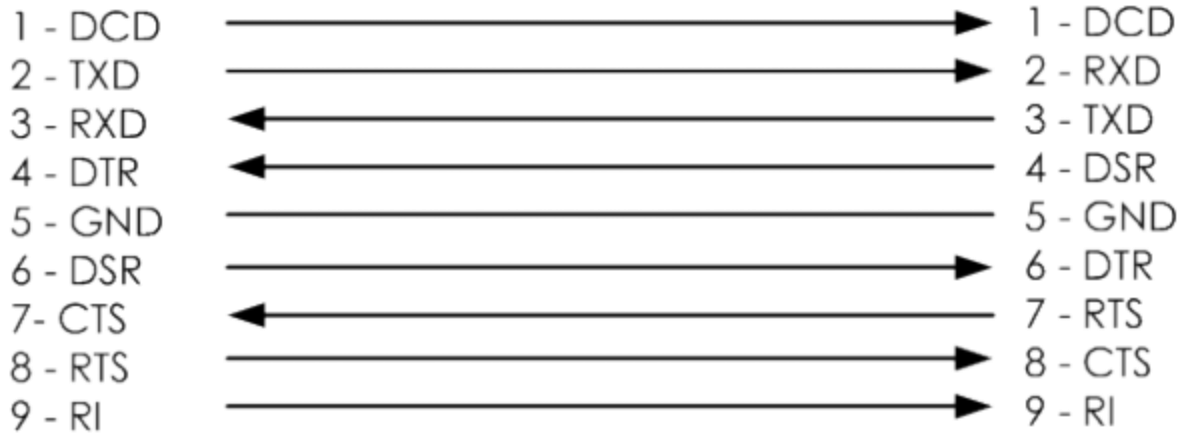
Note:
The serial card is DCE device!

Connect the CloudGate with a DTE device (laptop)

In order to connect the CloudGate to a laptop or any other DTE device you should use a regular straight cable

**CloudGate
(DCE)**

**Laptop
(DTE)**

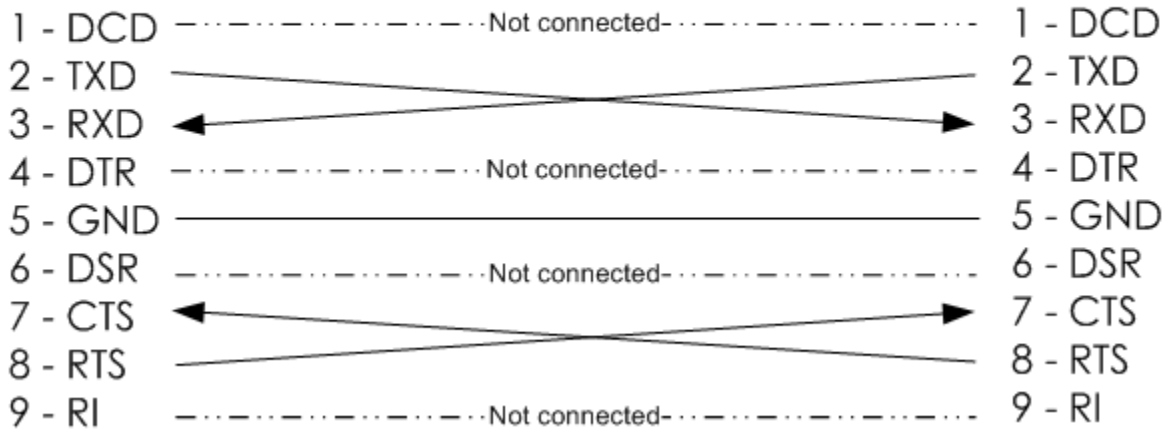


Connect the CloudGate with another DCE device (modem, PLC,...)

In order to connect the CloudGate to another DCE device you should use a cross cable. (= null modem cable)

**CloudGate
(DCE)**

DCE



Industrial Serial Card Specifications



Specifications:

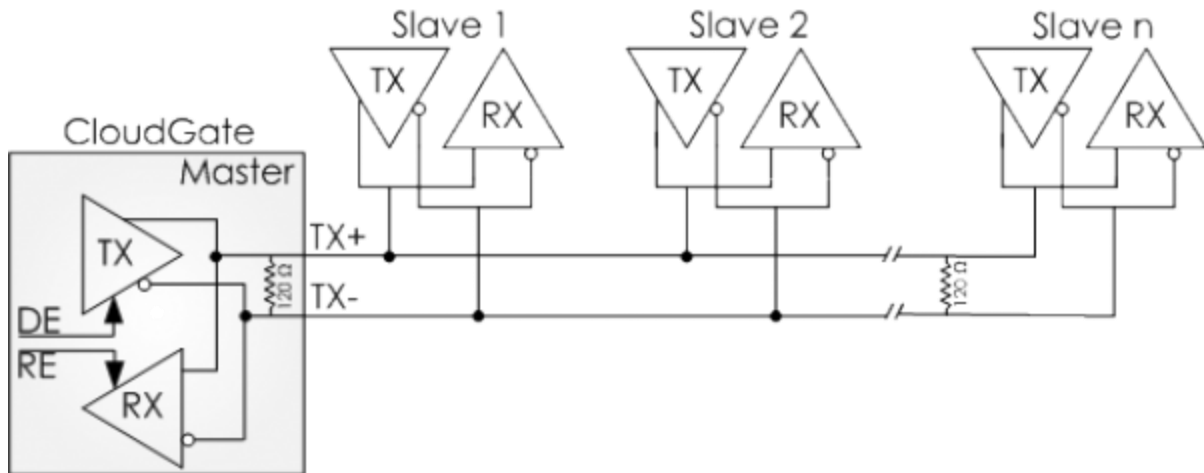
RS232

- One RS-232 serial port, 921.6 Kbaud maximum speed
- The RS232 interface on the industrial serial card is identical to the one on the low cost serial card. Please have a look at this [low cost serial card](#) for more info on the RS232 interface.

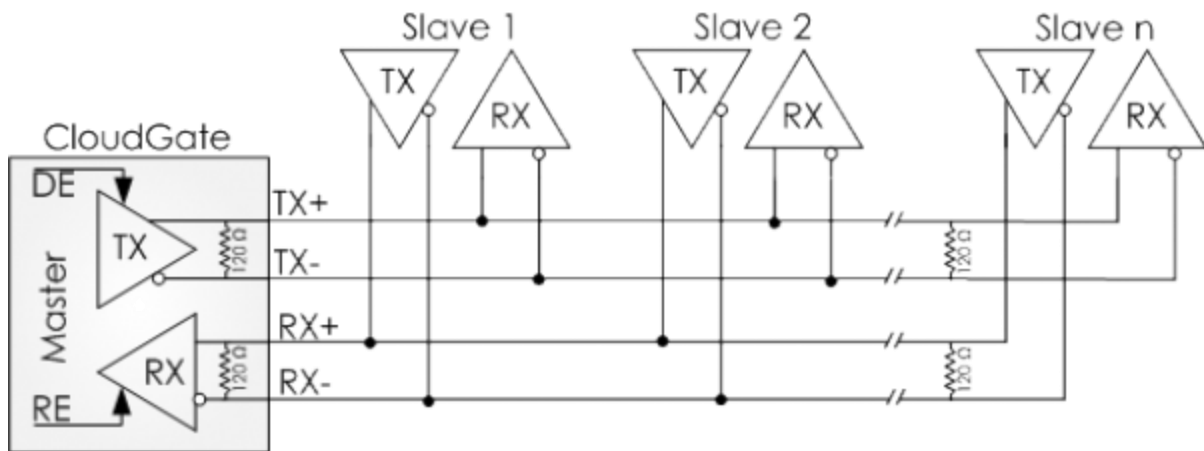
RS485

- One 22 KV isolated RS-485 serial port, 921.6 Kbaud maximum speed
- Connector: Examples of the connector you should use are:
 - [Phoenix \(MC 1,5/5ST-3,81\)](#)
 - [Würth \(691361300005\)](#)
- Termination switch: With this switch you can choose to terminate the RS485 network with a 120 Ohm resistor
- Wire selection: This switch allows you to use a 4 wire network or a 2 wire network

You can use the CloudGate in a 2 wire network as shown below:



You can use the CloudGate in a 4 wire network as shown below:



Note:

By default the TX and RX of the RS485 connection are disabled. So you have to enable them before you can start using the RS485 port. (You can enable this by using the DE and RE signals)
 For a 2 wire interface (=half duplex) you should of course only enable one direction at the same time.

Below and example of how to do this in your code.
 (The example shows how to activate both DE and RE)

```
#include <stdio.h>
#include <string.h>
#include <fcntl.h>
#include <unistd.h>
#include <sys/ioctl.h>
#include <errno.h>
/*****
```

```

* Manifest Constants
*****/
#ifdef TIOCM_OUT1
#define TIOCM_OUT1    0x2000
#define TIOCM_OUT2    0x4000
#endif
#define TIOCM_RE TIOCM_OUT1
#define TIOCM_DE TIOCM_OUT2

/*****/

int main (void)
{
    int fd = open("/dev/ttySP4", O_RDWR || O_NONBLOCK);
    if (fd < 0) { printf("failed to pen device\n"); return 0; }
    int status, err;

    /* switch on RS485 TRANSMIT buffer and RECEIVE buffer */

    ioctl(fd, TIOCMGET, &status);
    status |= (TIOCM_DE | TIOCM_RE);
    if ((err = ioctl(fd, TIOCMSET, &status)))
    {
        printf("ioctl error 0x%x, errno 0x%x, status %x",err, errno, status);
    }
    close(fd);
    return 0;
}

```