

DIGITAL SIGNAL FILTER

SEQUENCERS

Ref: 41.078

5V

What is 41.078?

41.078 (currently known as EIA / TIA-485) is a standard interface of the communication physical layer. It is a method of signal transmission. The 1st level of the Open Systems Interconnection model. 41.078 was created in order to expand the physical capabilities of the RS-232 interface.

The EIA-485 serial connection is made using a two or three wire cable.

- A data thread.
- A thread with inverted data.
- A neutral wire (ground, 0 V).

Communication 41.078: main characteristics:

Despite the wide variety of modern alternative solutions, today 41.078 technology remains the foundation of many communication networks. The main advantages of the 41.078 interface are:

- Bidirectional data exchange over a twisted pair of wires.
- Support for several transceivers connected to the same line, that is, the ability to create a network.
- Great length of the communication line.
- High transmission speed.

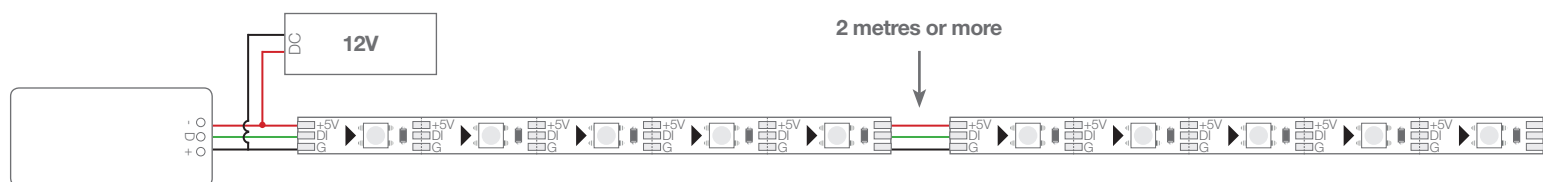
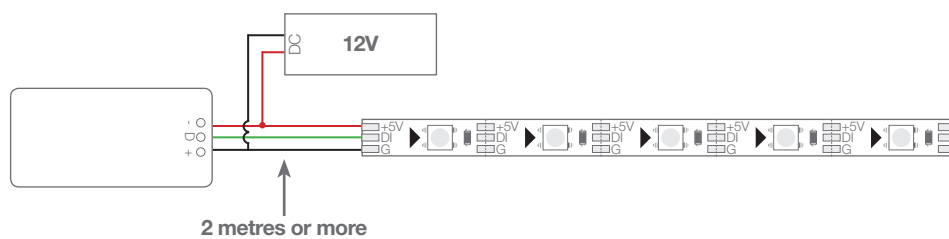
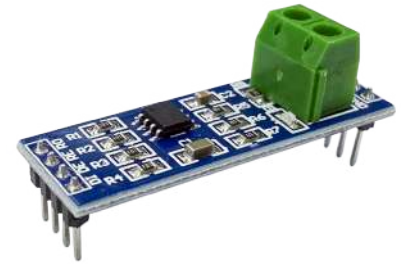
Now, let's take a closer look at the main features of RS-485 communication:

- Half duplex bidirectional data transmission: The serial data stream can be carried in one direction, the data transfer to the other side requires the use of a transceiver. A transceiver (commonly referred to as a 'driver') is an electrical circuit or device that forms a physical signal on the side of the transmitter.
- Symmetric communication channel: The reception or transmission of data requires two equivalent signal wires. The threads are used to exchange data in both directions (alternately). With the help of a twisted pair cable, the symmetrical channel significantly increases the stability of the signal and suppresses the electromagnetic radiation generated by the useful signal.
- Multi-marker: The RS-485 communication line can work with several connected receivers and transceivers. At the same time, a transmitter and several receivers can be connected to one communication line at the same time. All other transmitters that need to connect must wait until the communication line is free for data transmission.

When will we use a 41.078?

In digital led installations in which the controller is more than 2 metres away from the first pixel of each installation. Because it is such a "long" cable in data signal it can cause us problems.

We will also use it between a data signal output of a flexible strip at the beginning of another strip that is more than 2 metres away.

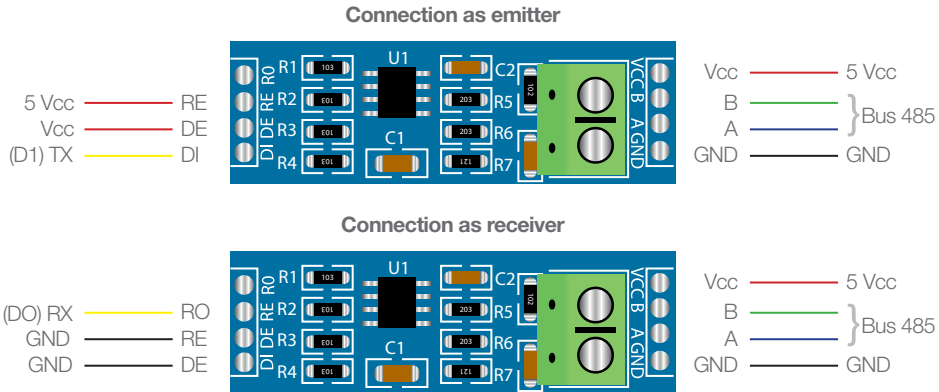


DIGITAL SIGNAL FILTER

SEQUENCERS

How many units will we use?

Depending on the installation and the drivers we use. Since this same product, depending on how it is connected, can be an emitter as well as a receiver.



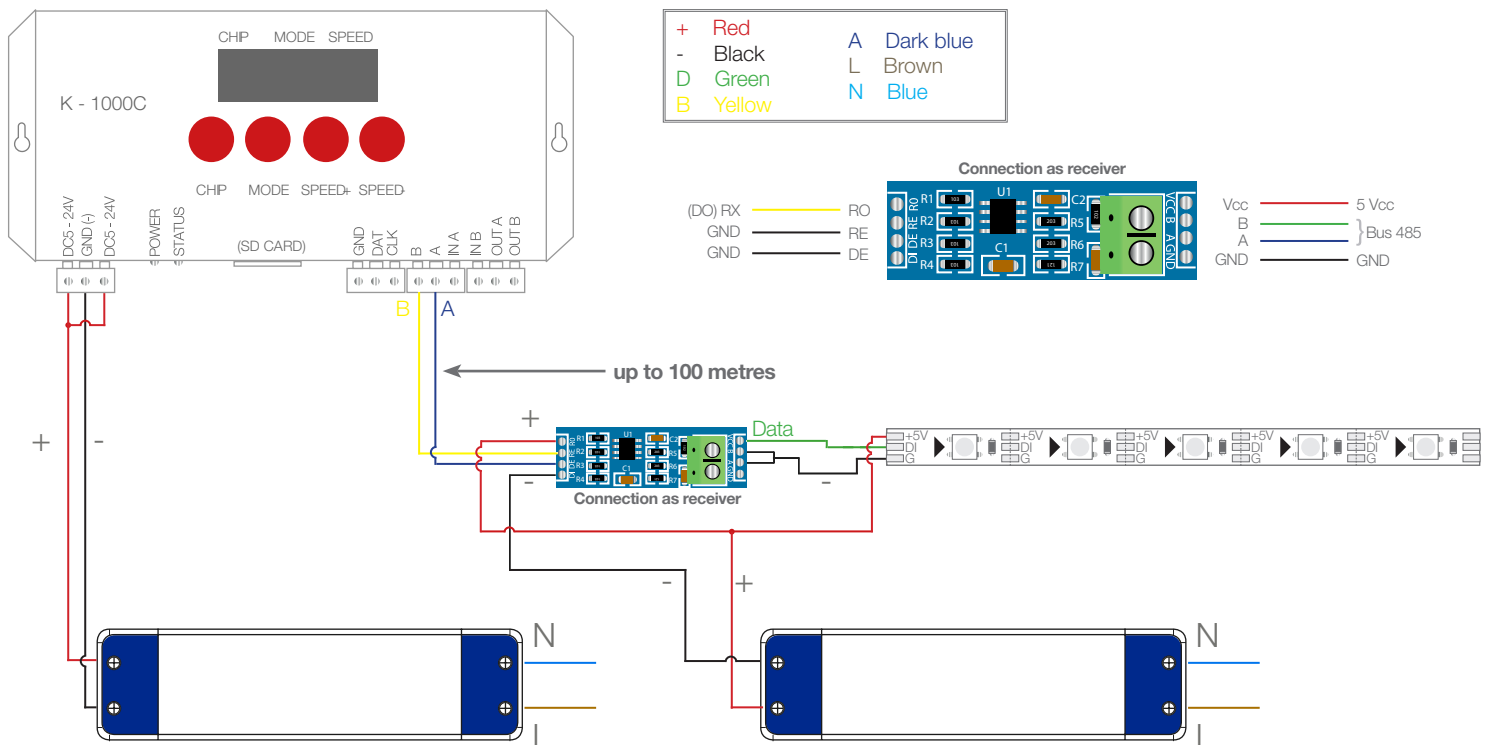
Next, we will show the different connections depending on the installation.

Controllers with 41.078 output:

Currently we have two models that are reference 41.047 and 41.048 that already have 41.078 output integrated into the controller.

With which we will only use 1 unit as a receiver per channel, since depending how we use it, it has more or less data outputs. In the case of reference 41.047 we have only one data output and for reference 41.048 we have 8 data outputs.

How to connect it to the controller:



DIGITAL SIGNAL FILTER

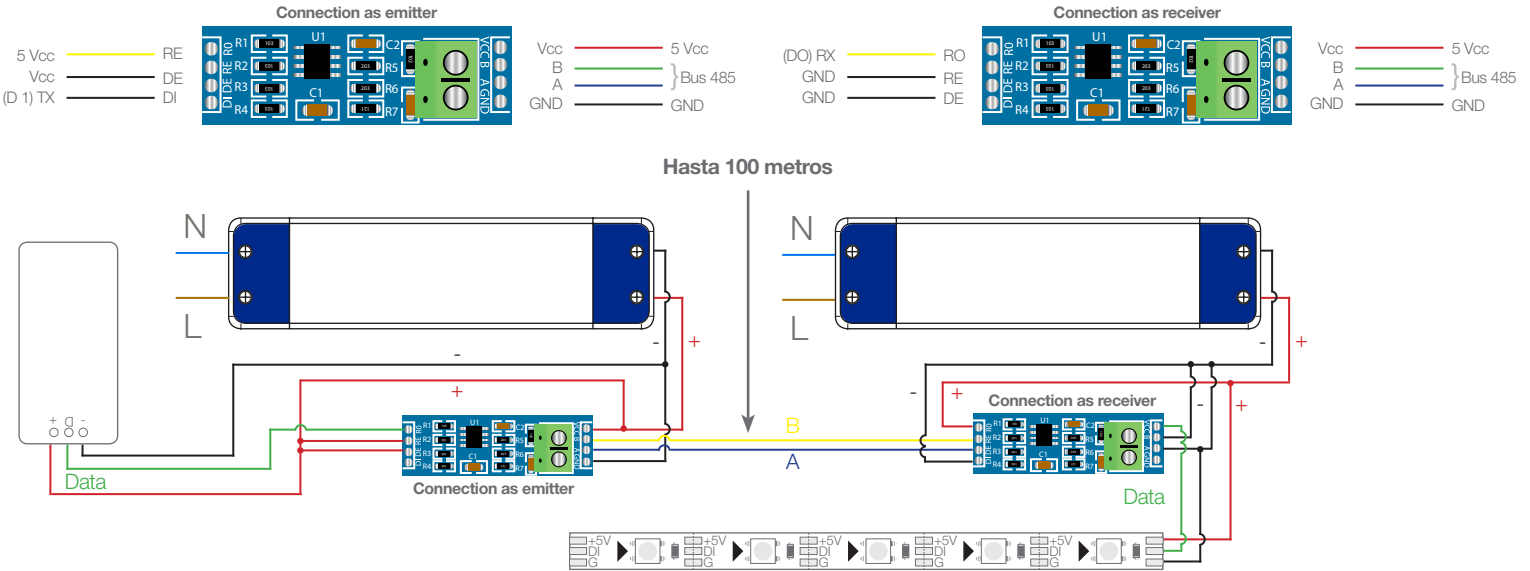
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Driver without output 41.078:

All the controllers that do not have output 41.078, are all, except those named above.

Now we will show how it is connected:

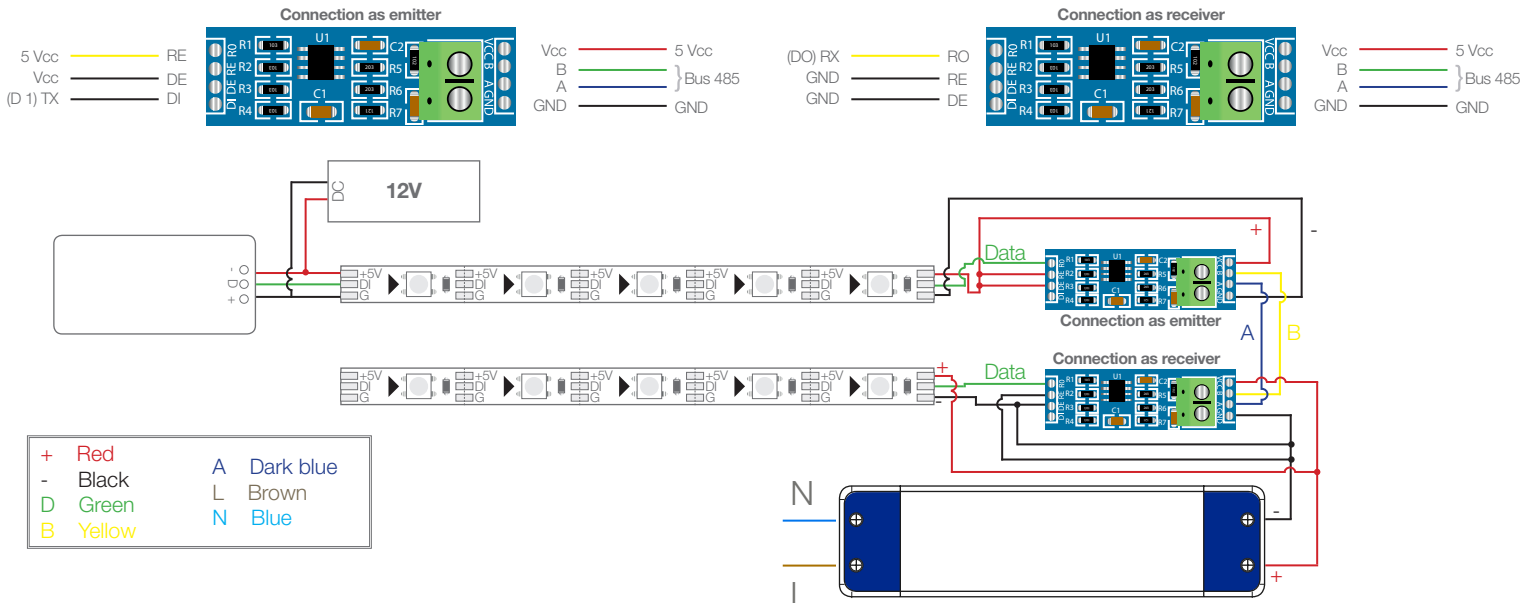
+	Red	A	Dark blue
-	Black	L	Brown
D	Green	N	Blue
B	Yellow		



Connection between strips:

We can find ourselves in installations where the first luminaire or light box is very close to the controller. But the product that we want to send the data signal is at a distance greater than two meters, but the controller can still support us that number of pixels from the next component.

The connection system will be the following:



Measurements:

