MCV1-C485-IA-IS
User´s Manual

exemys
Internet Enabling Solutions

Power ○

TX Data ○

RX Data ○

MCV1
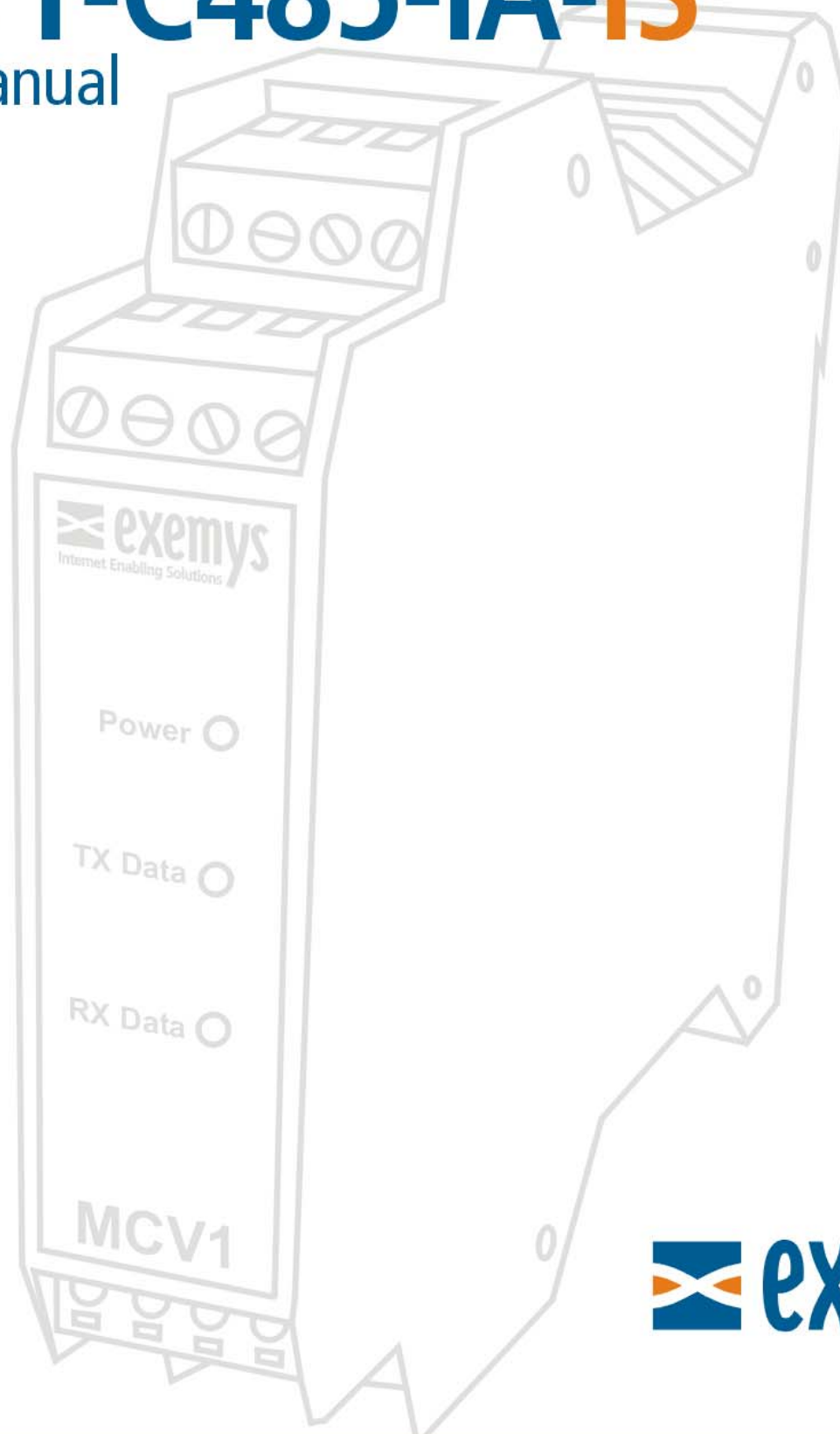
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Summary

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Introduction

This converter have been designed to communicate serial way, where two o more equipments are separate between those to long distances.

The RS is optimum to work in industrial electrically noise areas, thanks to the carateristics diferential even, belong to RS 485/422 protocol, and a practical connectioned it

Trought extracditable and DIN rail montage.

This support to way of communication half and full duplex, that meants that could config to the user changing the jumpers inside the equipments.

Features

- Galvanic Insulated 2500 Volts RMS(1 Minute)
- Baud rate until 11520 baudios
- 32 nodes in the same network
- Proctetion against Overvoltage, RS 485/ RS422
- Voltage 9-26 Vac, 9-30 Vdc. Internal Swicthing P.S
- 300 mA max. Comsuption

Transmission and reception control

In one line with multiples nodes, where coexist many transmitter, is necesary to keep the control for each one of them, to avoid collission of datas if you you wants to run more than one at the same time.

In these case MCV1-C485.IA-IS , doest it automatically, that means, when equipment received a data from RS232, automatically this pass to Tx mode, in other ways this keep Rx mode.

Configure Mode RS 485 / RS 422

Table 1 - Configuration

JUMPER	J1	J2	J3
MODE 485	1-2	1-2	1-2
MODE 422	2-3	2-3	2-3

These equipments by default are made in 485 automatic,if the aplication will required

To work in 485 mode with RTS, should be contact with the Manufacturer.

Or If you need to configure it a full duplex ór 422 you must follow these steps.

1. Disconnect completely the equipmenst from other devices, Power.Supplied, Network com.
2. Desmount the unit from the DIN rial .
3. Push gently the secure and retire softly the cover, note that the pbcboard withdraned from the cabinet   adherided to the capcover.

IMPORTANTE
When you open the equipment, be sure not be in static area or very electrical noisy Place.
IS RECOMMEND to use Brazalete static protection.

1. Modified the jumpers **J1, J2, J3**, to obtain the application.

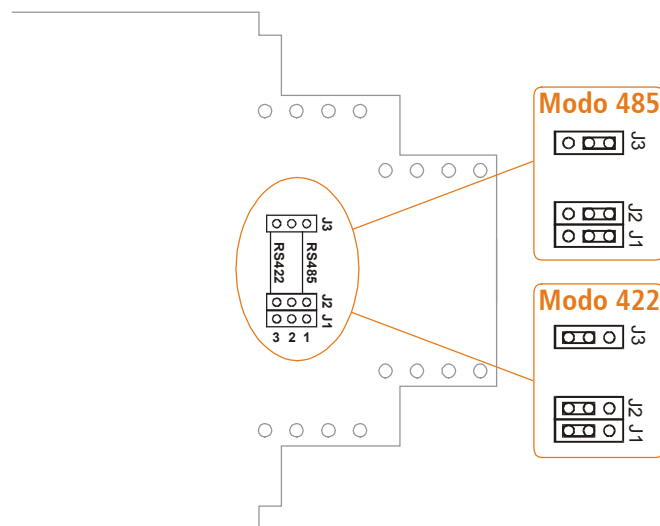**Note: Default manufacture settings, JUMPER are ready to 485 mode .-**

Figure 1 - Jumpers modifications

2. Re insert the board together with the cover, and press until makes "clirk noise" to close the cover.
The equipment is ready to be connect and will work with the new configured.
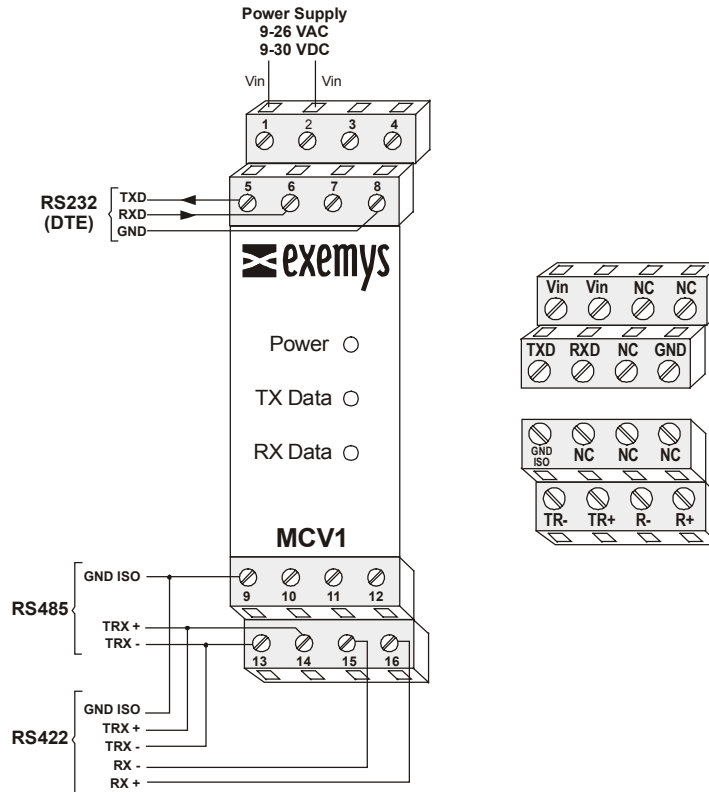
Connectioned

Figure 2 - Conectioned

Mass Connection

The norm RS485 / 422 utilized Tx / Rx   DIFERENTIAL type.
This means that not need to have mass reference.

a) One node only, connect the wire to mass. (this has better isolate againts noise)

b) All nodes, connect the wire to mass to all nodes but, with a resistor in serie of 100 ohms or more.
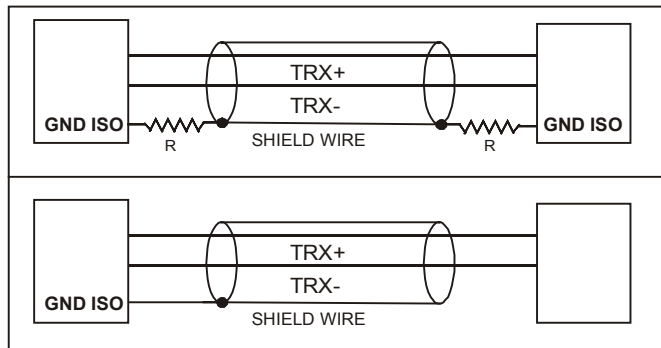
Figure 3 – Mass Connection

Resistances

7.1 Polarized Resistances

Envirorments electricaly noise, is convinient polarized Tx / Rx lines,
Usefully call Polarized Resistances.
In automatic control mode should be use polarized resistances (these are obligatory)
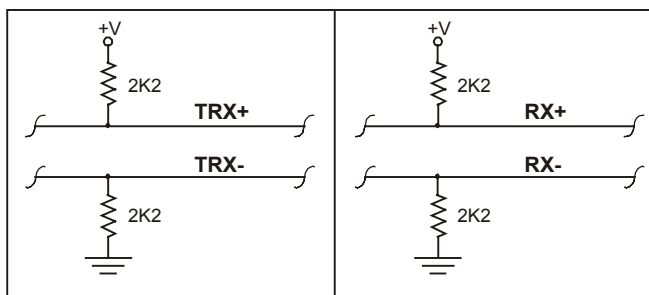The conversor came from manufacture with 2K2 ohms resistances include it.

Figure 4 - Polarized Resistances

7.2 Terminated resistances

The norms RS485 / 422 established that must be connect terminated resistances in both sides of
the line Tx/Rx, Both must have the same caracteristics impedance lines´s.
These have to be made to avoid reflexion an ecos that affects the datas.
In half Duplex mode must use terminated resistances in both sides of the lines,
Meanwhile, full duplex should be connect each resistance at the extreme receptor.
Normaly the resistance has a value between 80 to 200 ohms, (tipical 120 ohms).
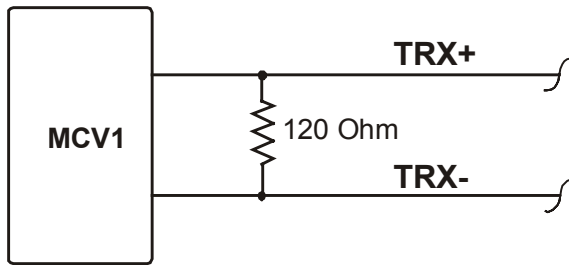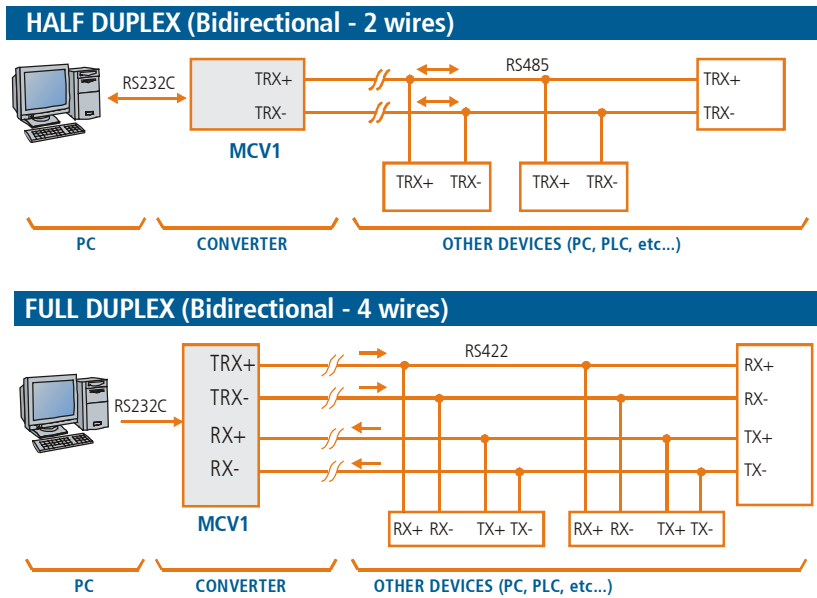
Figure 5 - Terminated resistances

Connection Samples

HALF DUPLEX (Bidirectional - 2 wires)

FULL DUPLEX (Bidirectional - 4 wires)

Figure 6 – Connection Samples

Technical Specifications

Nodes: maximun quantities	**32**
Baudios: Maximum velocity tranfers	**115200**
Serial Port	**RS232 / 485/ 422 Industrial connector extractive.**
Indicators:	**Transmission LED** **Recepction LED** **Power suplied LED**
Galvanic Isolated	**2500 volts**
Over Voltage against Isolated	**Ports RS485/ RS 422**
Dimensions	**4.42", .88 ", 3.63"**
Weigth	**0,140 kg.**
Power Suply	**9 a 26 Volts AC** **9 a 30 Volts DC**
Consumption	**300mA max.**
Temperature	**Operation T° 23 ºF 149 ºF** **Storage T° -40 ºF167 ºF**
Support / Guarantee	**One year Guarantee. Include it support**