



FIBER OPTIC



MULTIDROP CONNECTION

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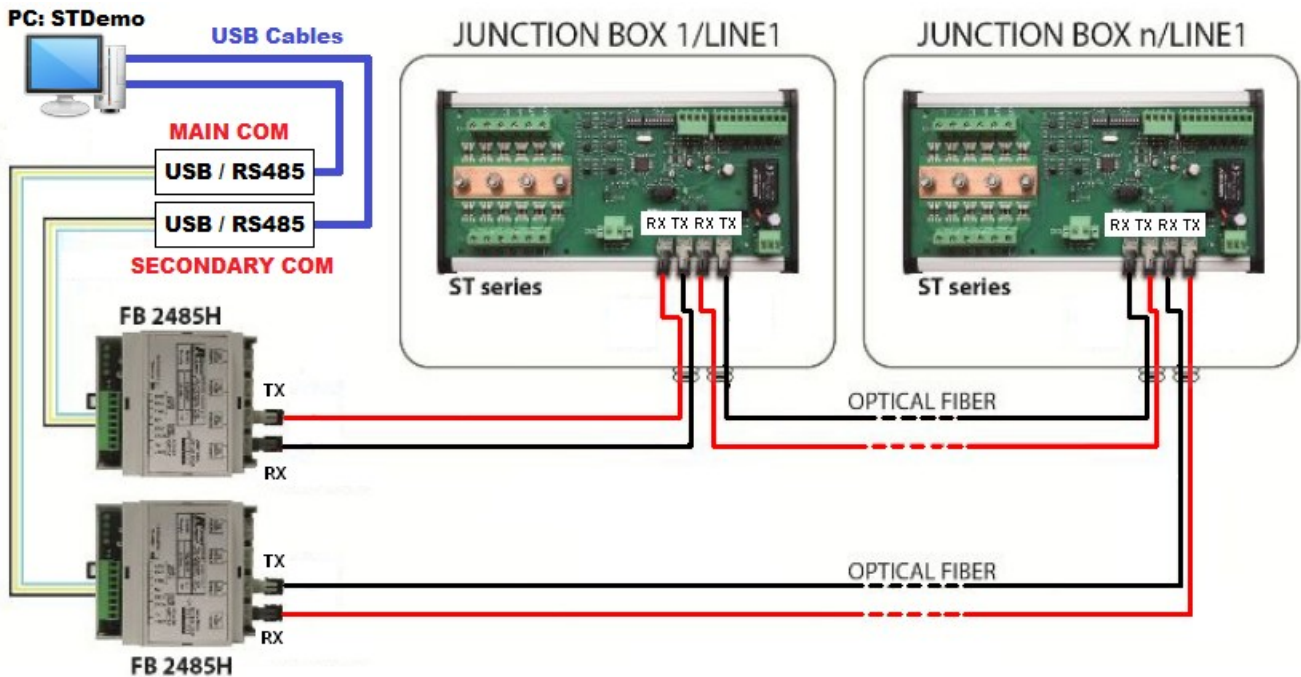
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Quantity	Required material
1	PC - Run STDemo version 1.0.3.2
2	USB Cable
2	USB / RS485 Converter
2	FB2485H
x	Fiber Optic
x	SMUs

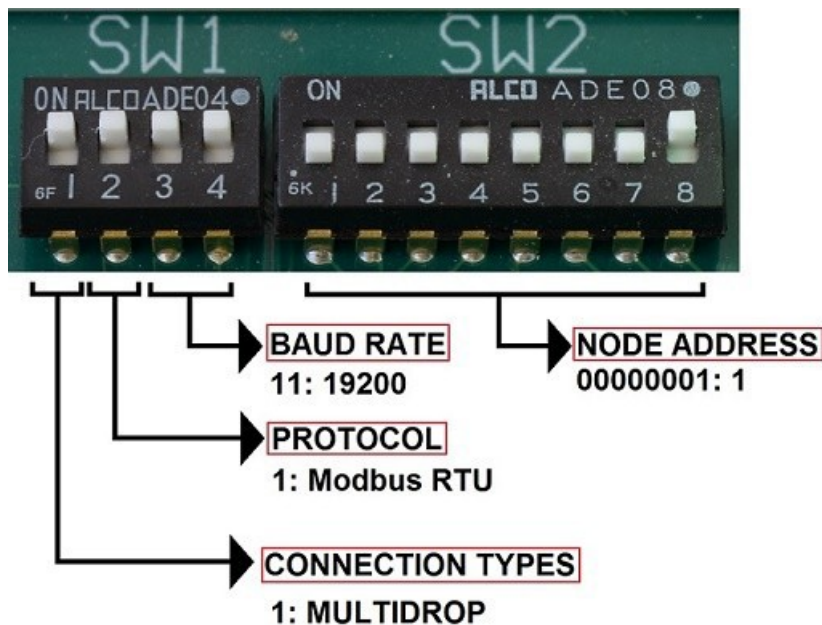
1 Fiber Optic : Multidrop Connection

1.1 Connections

First you need to connect 2 or more SMUs with the optical fiber in the following way :

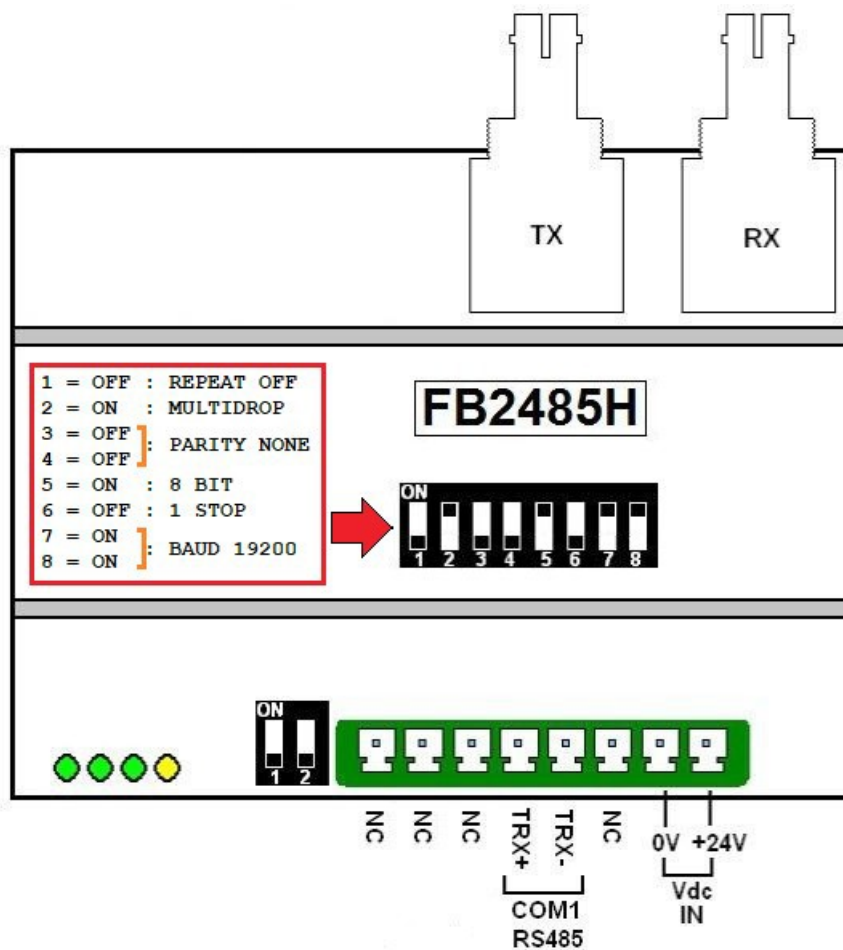


1.2 DIP-switches position SMU :



First SMU = Address 1, Second SMU = Address 2, Third SMU = Address 3 ...

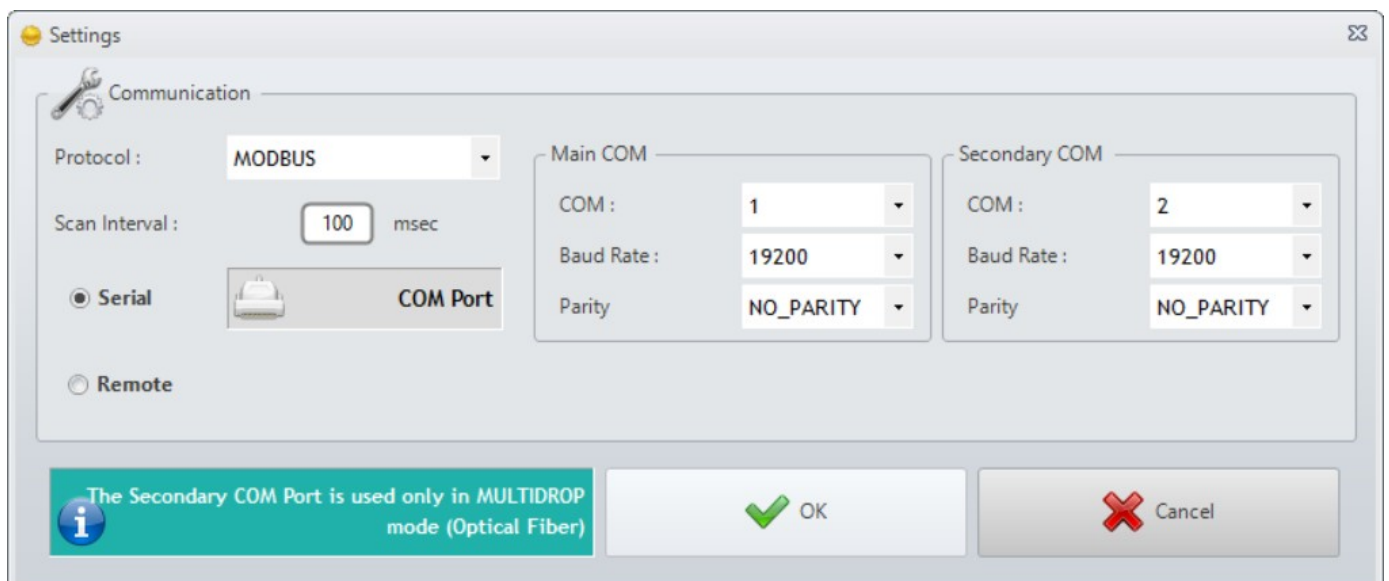
1.3 FB2485H Connections and Dip-switches position :



1.4 STDemo Settings :

In the STDemo settings select :

- Protocol = **MODBUS**
- **SERIAL** : In this case you have to set (according to the dip-switches set on the SMUs) ...
 - **MAIN COM** (Port, Baud Rate and Parity)
 - **SECONDARY COM** (Port, Baud Rate and Parity)

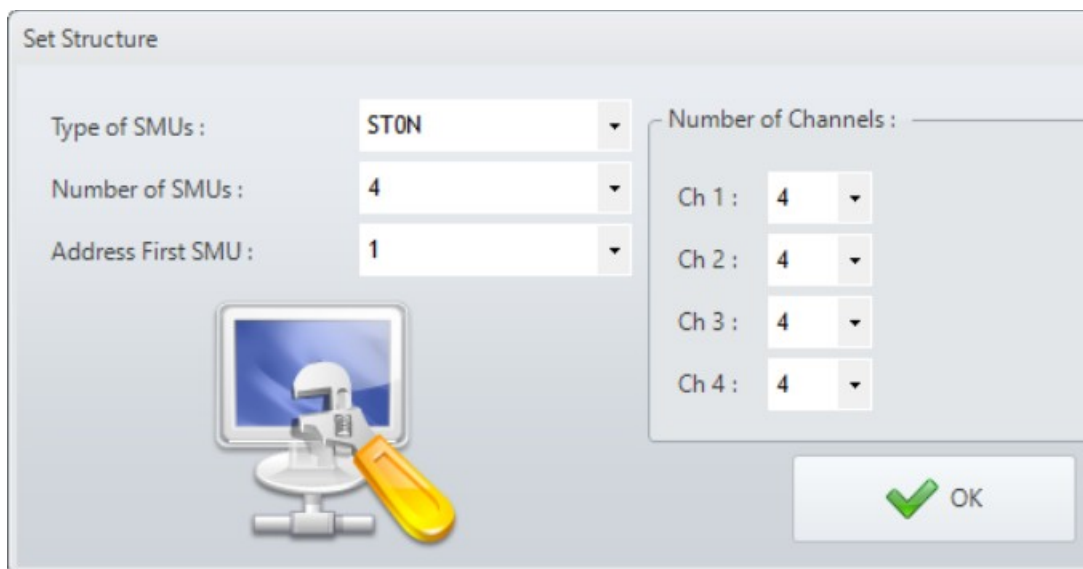


**CAUTION : Set the dip-switches on the boards correctly.
For example with MODBUS - 19200 - Address 1**

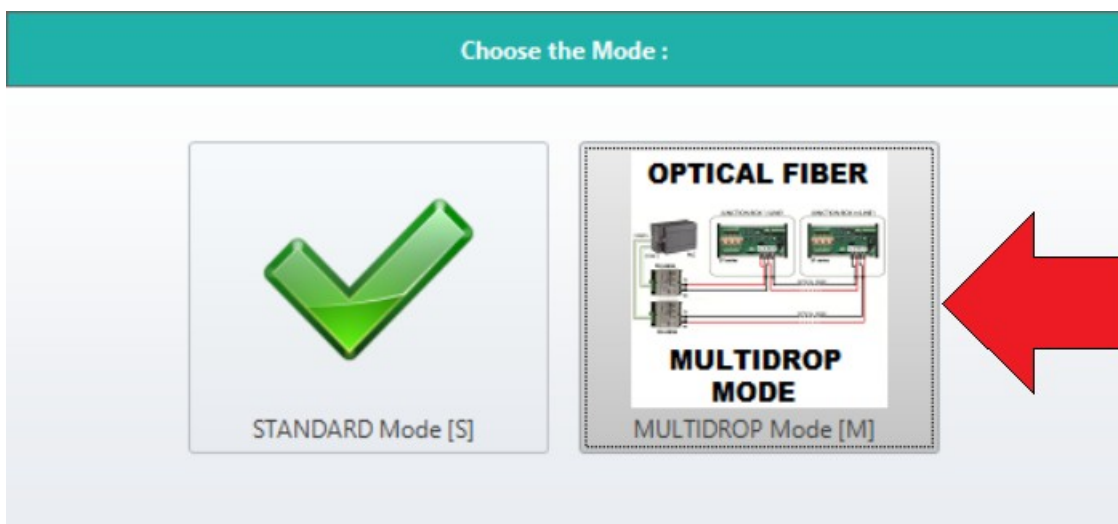


Obviously each card must have a unique address. If I connect 3 boards, set the addresses 1, 2 and 3

- **STRUCTURE :**
 - Type of Slaves (SMUs) = Type of SMU from which the system is composed (ST0, ST0N, ST2...)
 - Number of Slaves (SMUs) = Number of SMU of the system (from 1 to 255)
 - Address First Slave (SMU) = Address of the first SMU (the others are consecutive and follow)
 - Number of Channels
 - Ch x : Select the number of Channels of the relative SMU

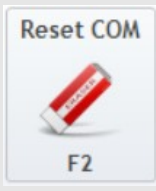


- **MODE :** At last : “MULTIDROP MODE [M]”

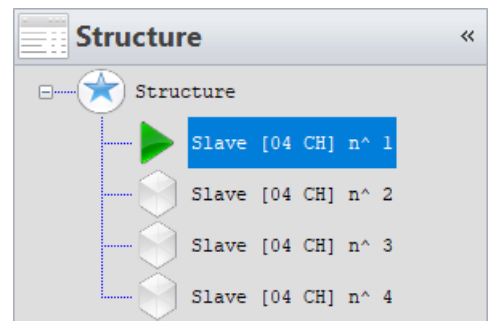


1.5 Communication

1. At first, ALL SMUs are queried on the **MAIN COM**.
2. When a board does not respond, **STDemo** queries that board on the **SECONDARY COM**.
3. If it doesn't answer on the **SECONDARY COM**, it tries again on the **MAIN COM** ... and so on.
4. If the connection is restored, press the "RESET COM" button to restore communication on the **MAIN COM** on all SMUs :

 <p>Reset COM</p>	<p>Present only in MULTIDROP mode. It is necessary to restore the MAIN COM as the communication COM of all SMUs</p>
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The table in the centre always displays the DATA of the selected SMU in the structure tree >>>



STDemo interrogates each board (location 30001 = Inputs) to verify correct serial communication.

In the lower left corner of the program a new table has been added which indicates the COM PORT it uses and the VALUE of the INPUTS of each SMU >>>

SMU	COM	Inputs
SMU [16 CH] n^1	COM 5	0000
SMU [16 CH] n^2	COM 5	0000
SMU [16 CH] n^3	COM 5	0000

1.6 Notes

Here are some possible conditions that can occur (example with 3 tabs) :

- By disconnecting an optical fiber, for example from the SMU with address 3, you will see the COM related to that board change from the **MAIN COM** to the **SECONDARY COM**.
- If the SMU with address 2 is turned off, in the table in the lower left corner, board 3 remains on the **MAIN COM**, board 2 will give "Read Error" and board 1 will switch to the **SECONDARY COM** >>>

[or vice versa ... it depends on how the MAIN and SECONDARY COM port are set]

SMU	COM	Inputs
SMU [16 CH] n^1	COM 6	0000
SMU [16 CH] n^2	COM 6	Read Error
SMU [16 CH] n^3	COM 5	0000

Click **OFFLINE** to stop the communication.

2 CONTACTS

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