

# ELTEK SMARTPACK2 – MODBUS RTU APPLICATION NOTE

**Document Name:** EltekSP2\_SNMP\_Modbus RTU\_Application  
Note\_2020-10

**Date (MM/DD/YYYY):** October 2020

**Purpose:** This application note presents a step-by-step approach to integrate an intelligent DC Power Plant controller to a FUSION.



**Target Equipment:** Eltek Smartpack2

**Equipment Description:** The Smartpack2 is an intelligent DC Power Plant controller manufactured by Eltek. The controller provides a mean to communicate via SNMP or Modbus RTU

PRODUCT DESCRIPTION	
<b>Name</b>	Smartpack2
<b>Manufacturer</b>	Eltek
<b>System Type</b>	System Controller
<b>Modbus Version</b>	
<b>Manufacture Technical Support</b>	<b>1-800-435-4872</b>
<b>Specificities</b>	<b>Value from Load monitor are not available on Modbus RTU</b>

## ELTEK SMARTPACK2 COMMUNICATION SETTINGS

---

1. Access the Eltek Controller using a Computer connected to the RJ-45 socket
  - a. See Eltek User's Guide – Smartpack2 Master Controller page 11
  - b. Default user: admin Default password: admin
2. From the main menu, click on System Conf.
3. From the left menu, under Power System, click on Control System
4. Do the following for each SP2 BasicInd # in the Choose control unit drop down table
  - a. Communication port: COM2
  - b. Protocol: Modbus protocol
  - c. Speed(bps): 9600
  - d. Data bits: 8
  - e. Stop bits: 1
  - f. Parity: None
  - g. Address: Use an address between 1-254 that is not used by another device on the same Modbus Network

## ELTEK SMARTPACK2 MODBUS RTU CONNECTION

---

Refer to you detailed engineering or the layout of your MODBUS network, respect the MODBUS best practises at all times by preventing star shape network, thus terminate to the last equipment of the current MODBUS daisy chain trunk or if this is you first equipment on the network device, then terminate directly at the FUSION back panel. The FUSION offers (2) RS-485 ports, one called MLINK and the other one RS-485. Use the connector available from Multitel to convert the RJ-12 connector to a screw type connector. (Part# is C-7000-MOD).

If no other Modbus device are connected to the Fusion

1. Connect Fusion MLINK or RS485 + (C-7000-MOD) to Eltek Basic Industrial RS485 Pin 5
2. Connect Fusion MLINK or RS485 – (C-7000-MOD) to Eltek Basic Industrial RS485 Pin 4

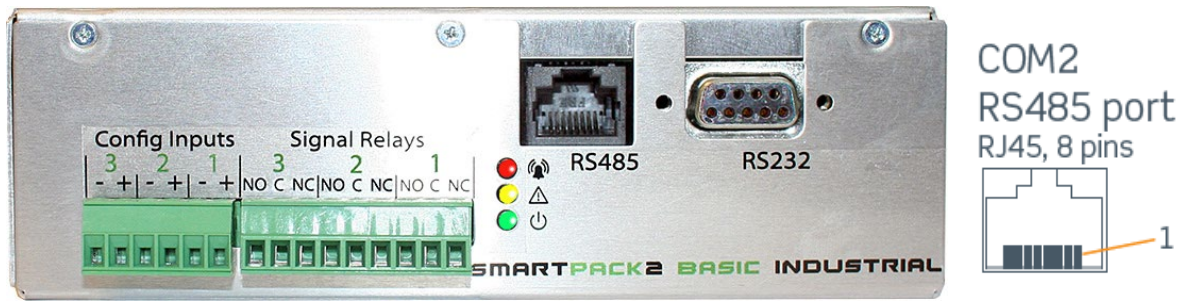


Figure 1 Eltek User Guide - Smartpack2 Basic Industrial Module Page 10 & 16

### CONNECTION NOTES

If you connect an Eltek Basic Industrial Module on the Modbus network, make sure to remove the End-of-Line resistor Jumper on top of the controller if the device is not the last device on the network. How to remove the RS485 End-of-Line Resistor Jumper is covered in Eltek User Guide – Smartpack2 Basic Industrial Module.

## FUSION COMMUNICATION SETTINGS

Once you have logged into the FUSION using the “supervisor” username and no password, click on **CONFIG** menu and select “**Communication Ports**” from the left menu. Select the **MLINK** or **RS-485** port and config operating parameters as follow:

Communication Ports	
COMRS485	Value
Enter protocol (0: Terminal, 1: Mlink, 2: ISNMS, 3: MODBUS, 4: NONE, 5: Port forwarding, 6: Card reader)	MODBUS
Enter baudrate (0=300, 1=1200, 2=2400, 3=4800, 4=9600, 5=19200, 6=38400, 7=57600 or 8=115200)	9600
Enter character parameters (number of bit, parity, stop bit) 1: 8N1, 2: 8E1, 3: 8O1, 4: 7N1, 5: 7E1, 6: 7O1)	8N1
Enter configuration (1-RS485(2 wires), 2-RS422(4 wires))	RS485(2 wires)
Enter the number of IDLE char to wait (1 to 255)	5
Enter device (0-None, 1-Modem)	None

## FUSION “MODULE” SETTINGS

Once the FUSION communication port is setup, associate the equipment to a specific Module number. Select “**Modules**” from the left menu and choose the pre-assigned module or click on a module available (State = None).

Modules <span style="float: right;">Edit &lt;&lt;back</span>	
<b>Modules</b>	
<b>M64</b>	<b>Value</b>
The module state is	Enabled
The name is	Eltek SP2
The slave ID is	5
The port is	RS485 Back Port
The number of retry is	4
The module type is	GEN
The time out is	10
The register order is	Most significant register = lower address
The register base address is	use given address
The silent (in 0.01 sec) before sending request is	50

*Configure the name of the Module using the reference name of the DC Plant, such as  
“Transport #1”*

## FUSION “TEST CHANNEL” SETTINGS

Once the Equipment is associated to a module, a list of channels will appear and be available for Multitel to configure. However, in order to test the MODBUS RTU wiring and Eltek controller communication settings, it is highly recommended to configure a test channel as per the following to validate. Click on MxA1 and configure the operating parameters as follows:

Modules <span style="float: right;">Edit &lt;&lt;back</span>	
<b>Modules</b>	
<b>M64A1</b>	<b>Value</b>
The channel state is	Enabled
The name is	Plant Voltage
The measure unit is	V
The number of decimal digits is (4 = auto)	2
The bits for the mask used to extract value is	None
The strings associated to each code is	Not Programmed
The register address is	110
The reading function code is	4
The sign is	Normal
The data type is	16-Bit Integer
The sign is	Signed Integer
The multiplication factor is	0.01
The channel offset is	0