

Using modbus Tester:

Example: Reading the Battery Voltage from the Battery monitor

Combox TCP/IP Address:

10.218.144.245

In this example the battery monitor address is set to 1.(Note: In the Modbus tester we will set the slave ID to 1.)

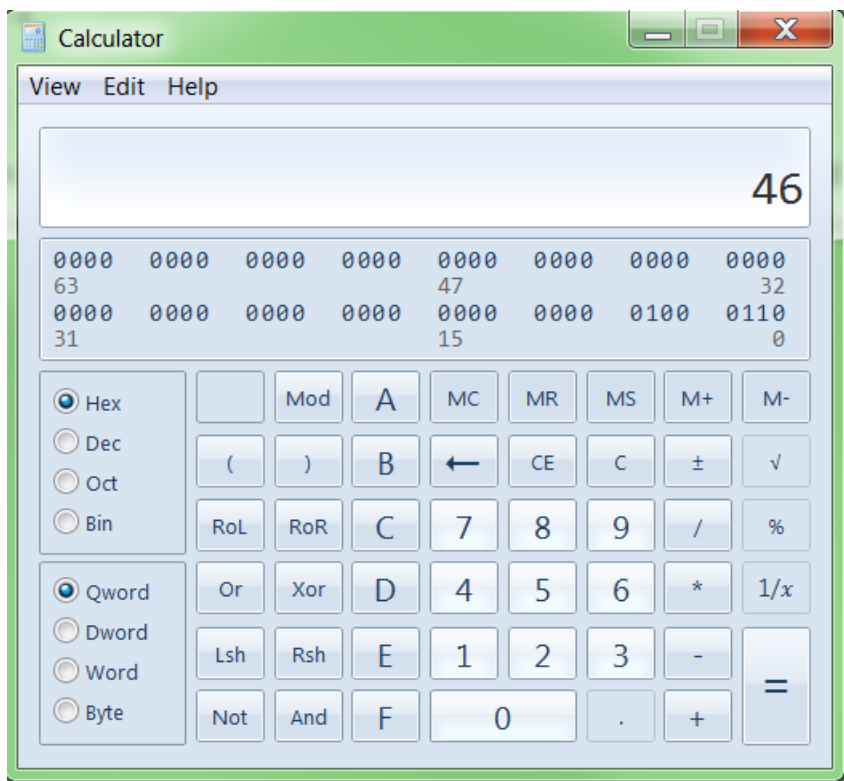
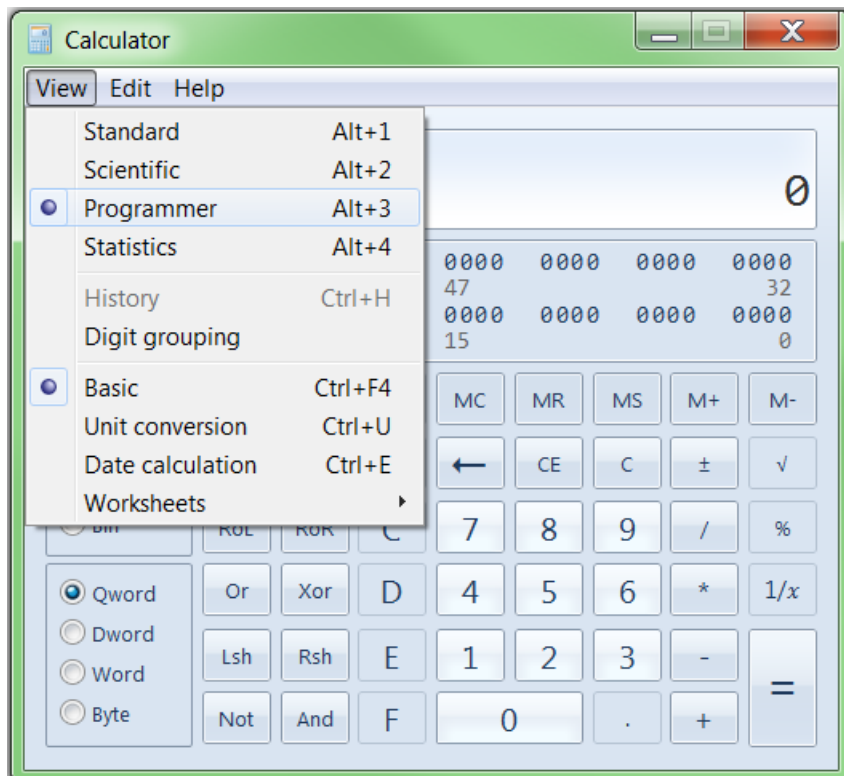
Reserved Addresses				
Address	Model	Instance	ID	On Line
1	BATT_MON	0	384793	Yes
10	XW6848-120/240	1	1625752	Yes
11	XW6848-120/240	0	1328131	Yes
12	XW (Unknown Model)	0	1873653	No
50	AGS	0	188196	Yes
70	SCP (Unknown Model)	0	625949	No
71	SCP2	0	1773070	Yes
170	MPPT 80 600	0	846930	Yes

IMPORTANT: Please use the Modbus map for the battery monitor that is in the Combox Technical Publications.

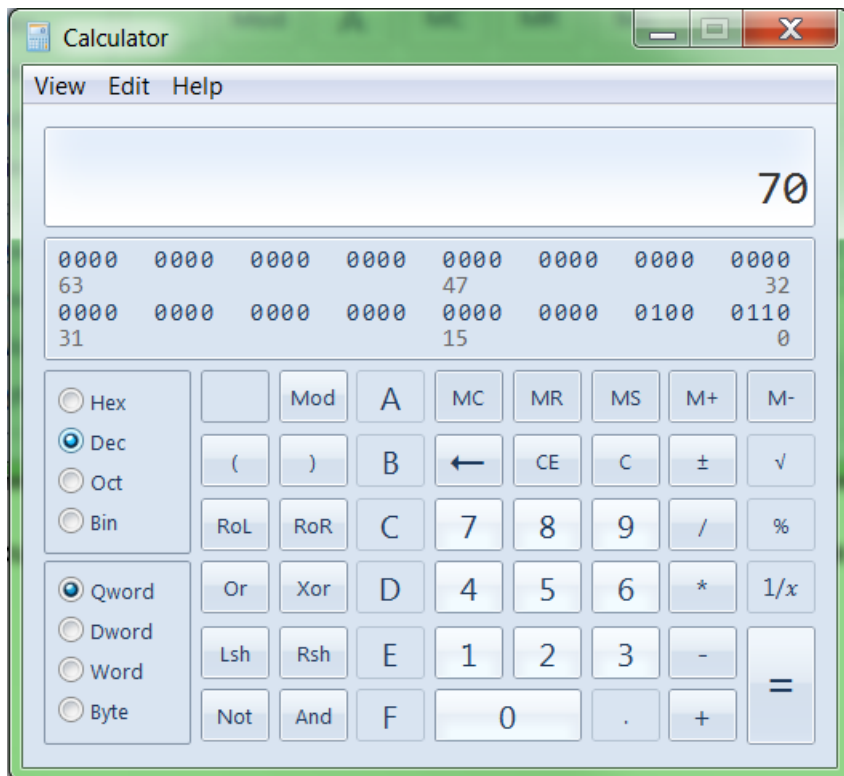
<https://solar.schneider-electric.com/product/conext-combox/>

(If using the RS-485 port of the battery monitor, you will need to use a different Modbus map)

In the Modbus map the register 0x0046 is for reading the Battery Voltage. This is in Hexadecimal form. You need to convert this to decimal and add 1 to it. (You can use the Calculator found in the computer Accessories and set it to Programmer)



Once you type the hex address, next click on Decimal and it will be converted



Next you go into the Modbus tester and you select Slave ID:1, starting register is $70+1=71$ and then select Read

Generic Modbus/Jbus Tester

Port: TCP/IP Baud: 38400 Parity: Even Transaction Time in ms: 197

Communications Wiring: Wiring with No Echo (4-wire)

TCP/IP Address or URL: 10.218.144.245

Sample Mode: Manual

Timeout in ms: 20000 Sample Rate in ms: 1

Data Type: Holding Register (R03 / W16)

Slave ID: 1 Starting Register: 71 # of Registers: 10

Automated Error Count: 0

Scheduled Transaction Count: 0

Protocol: ☒ Modbus ☐ Jbus

400071 -> -14426

400072 -> 0

400073 -> 0

400074 -> 0

400075 -> 29500

400076 -> 0

400077 -> 99

400078 -> 0

400079 -> 255

400080 -> 0

Stop

Read

Write

Exit

The value is -14426

This register is listed uint{32} which means it's unsigned. In this example we need to represent the 2's compliment of the number. (You can do it by hand for fun or use a Decimal binary converter online)

Enter decimal number:

-14426 10

Convert Reset Swap

Binary number:

-11100001011010 2

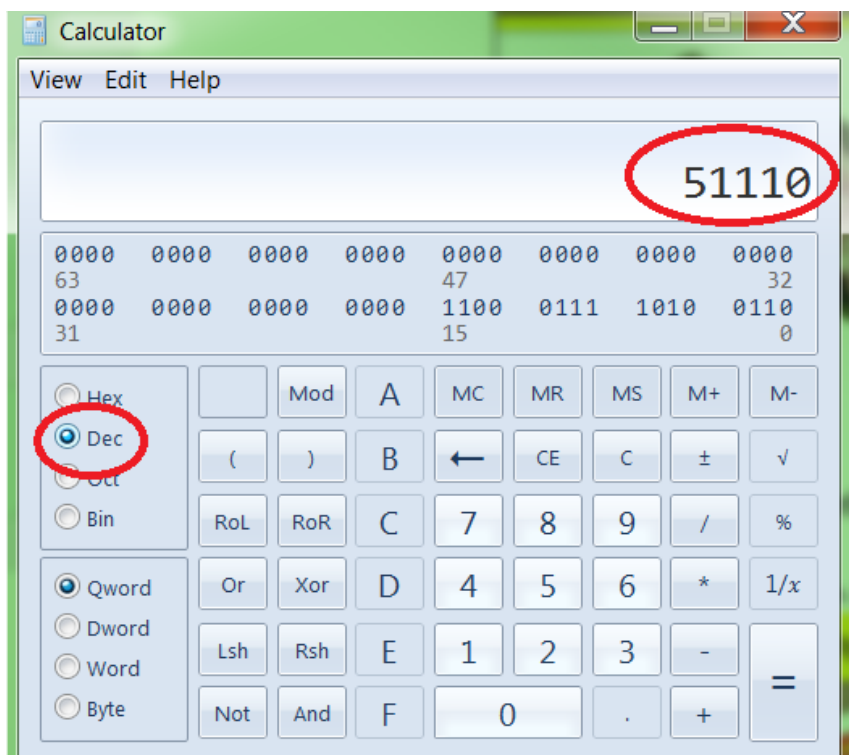
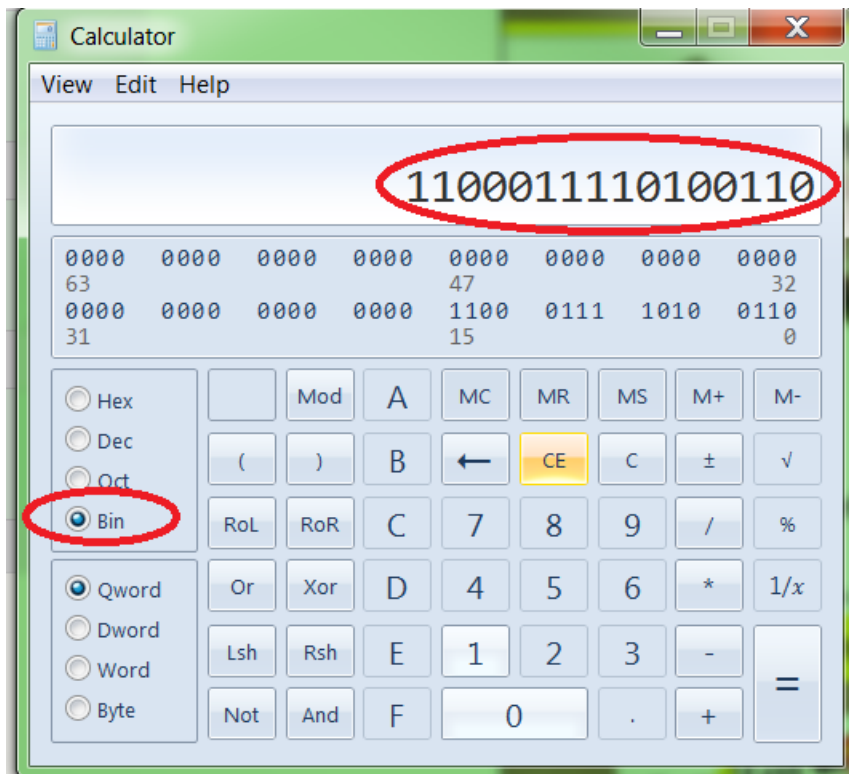
Binary signed 2's complement:

1100011110100110 2

Hex number:

-385A 16

If you take the Binary Signed 2's complement 1100011110100110 and convert it to decimal(Again you can use the computer's calculator)



The decimal value is 51110. The scale is .001.

$51110 \times .001 = 51.1$ which means battery voltage is 51.1 volts

