USER GUIDE FOR WIRELESS SENSOR CO-ORDINATOR
This document is applied for the following products

Item code	WS433-R-03	HW Ver.	2.0	FW Ver.	1.6
To use with configuration cable	RS485-FM12-USB-1				
Wireless sensors support	WS433… with FW version 2.XX and later				

1.   INTRODUCTION

WS433-R-03 is Wireless sensor co-ordinator. It can handles maximum 40 wireless sensors in different type. The output is RS485/ModbusRTU. It can be configured through ModbusRTU by any modbus tool.

The topology of this wireless sensor network is STAR.

One WS433-R-03 is use in one wireless sensor network. Other wireless sensor network will need another WS433-R-03.

It is possible to have multiple wireless sensor networks in same area.

*Fig. 1: Complete set of WS433-R-03*

2.   SPECIFICATION:

Electrical connector	M12-female, 4-pin A-coding
Data speed	Up to 50kbps
Tranmission distance, LOS	500m @ 50 kpbs, or 800m at 2.5kbps
Antenna	External Antenna, 5 dbi, magnetic mount
Power supply	7..48 Vdc
Frequency Band	ISM 433Mhz, Sub-GHz technology from Texas Instrument, USA
Receiving Sensitivity	-110dBm at 50kbps, -120dBM at 2.5 kbps
Transmit power	10dBm (10mW)*
International Compliance	ETSI EN 300 220, EN 303 204 (Europe) FCC CFR47 Part15 (US), ARIB STD-T108 (Japan)**
Security Standard	AES-128
Operating temperature of PCB	-40oC..+85oC
Housing	ABS plastic, IP54
Installation method	Wall mounting by 4.00mm diameter screws (supplied by user)
Product dimension	W57 x D81 x H28 mm
Box dimension	W160 x D150 x H100 mm
Gross weight	< 200g

*   Fully compliance with country regulation where 433 Mhz is license-free;
**   Applicable for frequency 915Mhz, 868Mhz, 920Mhz versions

3.   INSTALLATION

3.1   Prepare
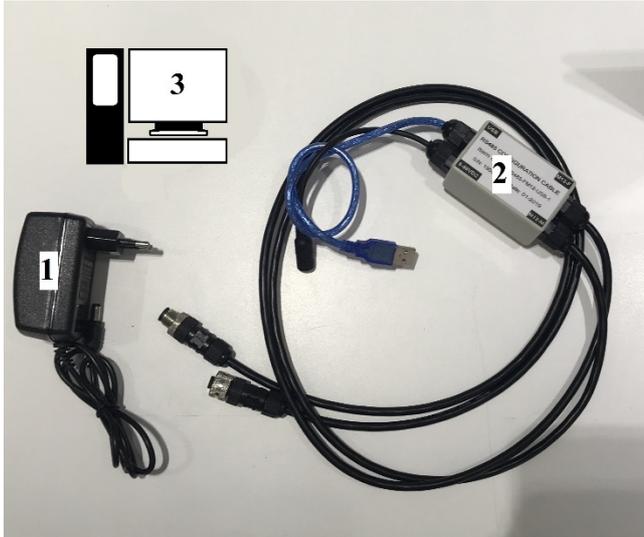
(1)   Adapter 24VDC (comes with configuration cable)
(2)   RS485 Configuration Cable (Item code: RS485-FM12-USB-1)
(3)   PC or Laptop

3.2   Install

[1] Connect Co-ordinator with RS485 Configuration cable via M12-Connector

[2] Install Antenna

[3] Supply power 24VDC

[4] Connect with Computer via USB port
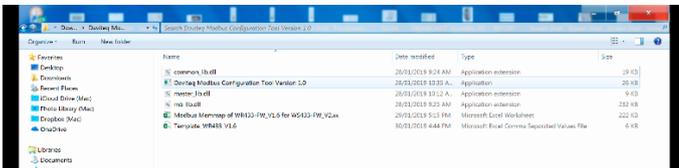*Wait a few minutes for the computer to receive the driver.*
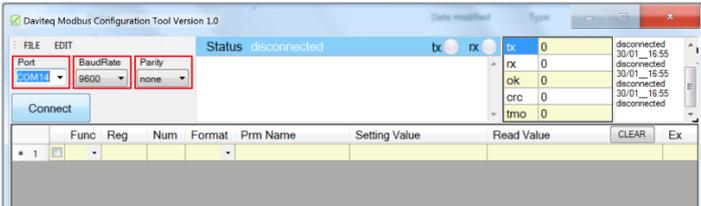

4.   BASIC CONFIGURATION

(1)   Open Modbus tool on PC.
Link to download this software:
http://filerun.daviteq.com/wl/?id=J9cdBHxOUFhRvywyyQBu1n6zJmLhnA6u

-    Unzip the file into a folder;
-    Run the application named "Daviteq Modbus Confguration Tool Version …"
-    Choose **COM Port** (the Port which is USB cable plugged in)
-   Set the **BaudRate: 9600, Parity: none**

-    Click " Connect " untill the Status displays "disconnected" to "connected". It means the WS433-R-03 is being connected with computer;
-    Next, we need to import the configuration file for WS433-R-03 by importing the csv file: Go to MENU: **FILE / Import New /** ➔ select the file with name Template_WR433_V1.6.csv. This file can be downloaded at below link:

Link :http://filerun.daviteq.com/wl/?id=YJjjobfLllV01rP9t8JxFf12564tF99r
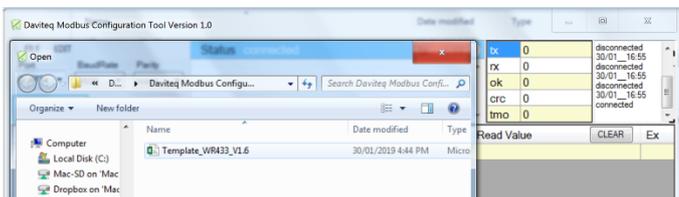

Adding S/N of each sensor:
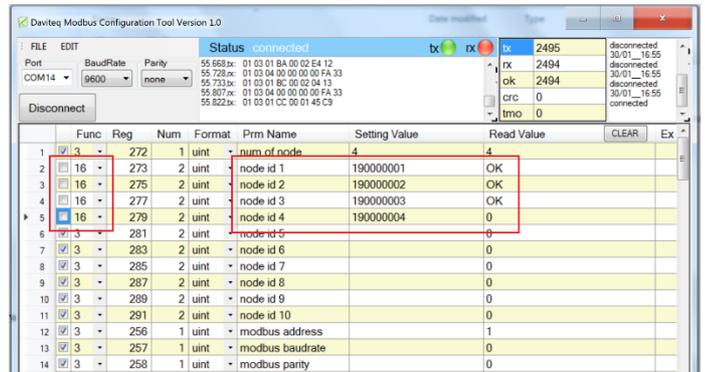
-    Enter 09 last characters/digits of S/N in " Setting " correspond with sequence of Node.
-    To Change "Func" 3 to Func 16
Choose |v| for confirm configuration so that this setting will be sent to WR433-03. Once successfully sent, change "Func" 16 to Func 3, the "value"column will show the correct value.
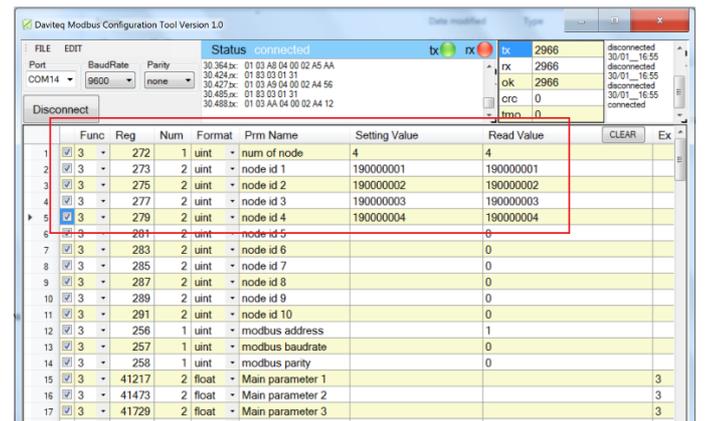
**(2)   Add S/N of the wireless sensor into Co-ordinator**

Setting **Number of Node** (Each node corresponds to a wireless sensor). Follow images below:
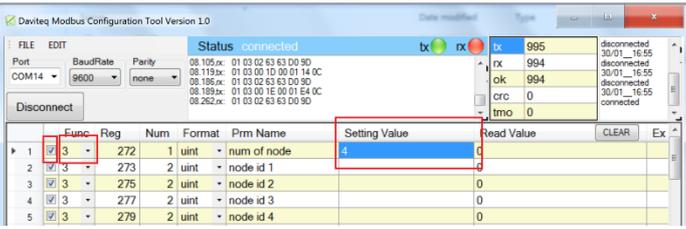

-   First, enter the number of node in " Setting " column. Ex: num of node = 4
-   Change "Func" 3 to Func 16
-   Choose |v| for confirm configuration so that this setting will be sent to WS433-R-03. Once successfully sent, the "value"column will show the correct value.
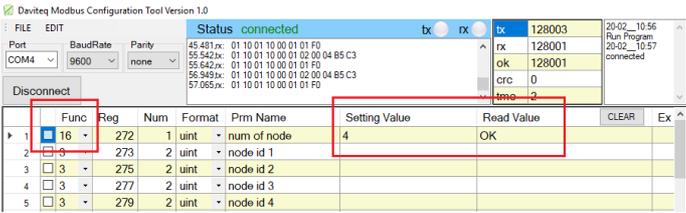
-   Change "Func" 16 to Func 3 to read value setting for double checking.
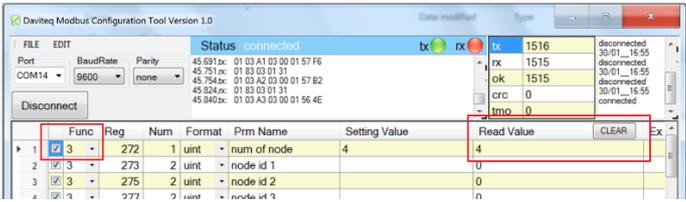
Once the setting done, we can see the wireless sensors sending data to WR433-03 (sensor must be installed with battery).
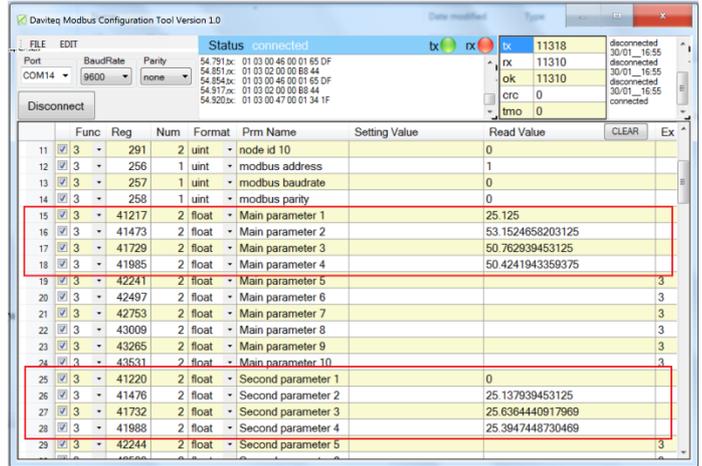
CONGRATULATION !!!

YOU HAVE DONE THE BASIC SETTING, NOW YOU CAN USE YOUR WIRELESS SENSORS

5.   APPENDIX:

-   Link download software "Daviteq Modbus Confguration Tool Version …" : http://filerun.daviteq.com/wl/?id=J9cdBHxOUFhRvywyyQBu1n6zJmLhnA6u
-   Link download file "Template_WR433_V1.6.csv" : http://filerun.daviteq.com/wl/?id=YJjjobfLllV01rP9t8JxFf12564tF99r
-   Link download file "Modbus memory map of wireless sensor co-ordinator" : http://filerun.daviteq.com/wl/?id=nBk3oiABghDaWDLbz7XmM2tAg1ILW1vj
-   Link download file "User guide for Wireless Sensor Module WS433-M12F": http://filerun.daviteq.com/wl/?id=pvwqS1nz9lzSQ2Uae6GjBajlcuymG7Ns

6.   SUPPORT CONTACTS:

Manufacturer	Exclusive Distributor in **Australia** and **New Zealand**
Dai Viet Controls & Instrumentation Company Ltd.	**Templogger Pty Ltd**
No.11 Street 2G, Nam Hung Vuong Res., An Lac Ward, Binh Tan Dist., Ho Chi Minh City, Vietnam. Tel: +84-28-6268.2523/4 (ext.122) Email: info@daviteq.com | www.daviteq.com	Tel: 1800 LOGGER Email: contact@templogger.net