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Product Notification: WND-WR Communication Configuration Reset

Overview

WattNode[®] Wide-Range models with firmware versions 1032, 1033, and 1034 have communication configuration reset behavior that is different from the documentation and different from previous WNC-Series and WND-Series models. This is being corrected in firmware version 1035.

The communication reset behavior does not affect the WattNode in any way under normal operation. It only affects the meter if the procedure to reset communications settings is performed, as described below.

Details

The reference manual describes the feature to reset the communication settings:

Reset Communication Settings

If the communication configuration has been changed using the Modbus interface and the new settings have been lost or cannot be used, you may not be able to communicate with the meter. There is a way to restore the communication settings to a known value using the DIP switches.

Starting with the meter powered on and at least one of the address or baud rate DIP switches in the 1 (up) position, you can initiate a communication configuration reset by setting all DIP switch positions to 0 (down) for ten seconds. This resets all communication settings to the factory configuration. If you ordered communication options like Option EP, the options are reapplied when you reset the options to factory defaults. This is useful if you cannot communicate and need to return the meter to a known state.

The reset operation only occurs once, unless one or more DIP switches are set back to the 1 (up) position, then all are set 0 (down) again for ten seconds. This allows you to leave all the DIP switches in the 0 position and program the communication settings over the Modbus interface using the *Address*, *BaudRate*, and *Parity* registers.



Normal Behavior

The behavior of WND-WR meters with firmware version 1035 and higher is as follows:

 Removes any changes to the communication configuration performed over the Modbus interface, such as changing the Modbus slave address, baud rate, or parity. This will result in the meter using the address and baud rate specified by the DIP switches with no parity and one stop bit (8N1), unless a factory communication option was specified for the meter. 2) Restores any product communication factory options, such as AD=nnn (specify the Modbus slave address), 38K (specify the baud rate), or EP (specify even parity).

At this point, you have two options to configure the communications:

- Set the DIP switches to the desired address and baud rate.
- Write the *Address*, *BaudRate*, and *Parity* registers, followed by *ApplyComConfig*=1234 to configure the meter as desired.

Version 1032-1034 Behavior

The reset behavior for models with firmware versions 1032-1034 is as follows:

- 1) Sets the Modbus slave address to 127.
- 2) Sets the baud rate to 19,200.
- 3) Configures the meter for no parity, eight stop bits (8N1).

The meter will not restore any factory communication options and the meter will not use the DIP switches to specify the Modbus slave address or the baud rate.

At this point, you have two options to configure the communications:

- If you want to use the DIP switches to configure the address and baud rate, you must first perform these register writes: *Address*=0 (use the DIP switch to specify the address), *BaudRate*=0 (use the DIP switch to specify the baud rate), *ApplyComConfig*=1234. Then set the DIP switches to the desired address and baud rate.
- If you do not want to use the DIP switches, then write the Address, BaudRate, and Parity registers, followed by ApplyComConfig=1234 to configure the meter as desired.

Notes

The WNC-Series WattNode Modbus meters also have a communication reset feature that behaves much like the normal behavior described above.

If a WattNode Wide-Range meter is configured for Modbus address 0 (the broadcast address), then the COM LED will light solid red. This normally only happens on new meters, which are shipped with all DIP switches in the 0 (down) position.

WattNode Wide-Range models use DIP switch position 7 to control RS-485 termination, so it has no effect on the communication reset function.

Additional Information

See the WattNode Wide-Range Reference Manual for information not in this supplement. If you believe the behavior of firmware versions 1032-1034 could cause problems for your application, contact CCS for options to update your firmware to version 1035.

Contact technical support for any further questions.