

PCN #: TCM515U-Revision_DC-06
Change Title: TCM 515U SW Maintenance
Date of publication: June 23rd, 2020

Products affected / EnOcean ordering codes

- TCM 515U: S3053-K515

Description of change

Release DC-06 is a product maintenance release of TCM 515U introducing new features and improving product performance according to customer requirements.

1. New feature: Support for Secure Chained Data Messages (SEC_CDM)

Starting with this revision, TCM 515U can process secure chained data messages (SEC_CDM) as defined by EnOcean Alliance.

2. New feature: Support for transmit-only operation

TCM 515U is a radio transceiver and therefore operates in receive mode unless it is transmitting or in sleep mode. Certain customer applications use TCM 515U mainly or exclusively for transmission and would like to consume as little energy as possible while not transmitting. So far, this required issuing a sleep command after each transmission.

Starting with this revision, TCM 515U can be configured to disable receive mode and automatically enter sleep mode after telegram transmission using the ESP3 command CO_WR_TX_ONLY_MODE.

3. New Feature: ESP3 event after completion of telegram transmission

Especially when operating TCM 515U as transmit-only device, it might be beneficial to understand when the telegram transmission has been completed. Until now, customer applications had to wait for the maximum maturity time.

Starting with this revision, TCM 515U will indicate the completion of reach telegram transmission using the ESP3 Event CO_TX_DONE.

4. New Feature: ESP3 event to indicate learn mode time-out

TCM 515U can be configured to be in learn mode for a user-defined period of time. Previously, there was no indication from TCM 515U when this time had elapsed.

Starting with this revision, TCM 515U sends the ESP3 event CO_LRN_MODE_DISABLED to indicate the end (time-out) of learn mode.

5. New Feature: ESP3 event to indicate successful secure teach-in

TCM 515U can be configured to be in learn mode for a user-defined period of time. Previously, there was no indication from TCM 515U if the secure teach-in of a new device had occurred during this time.

Starting with this revision, TCM 515U sends the ESP3 event CO_EVENT_SECUREDEVICES with event code 0x09 to indicate successful secure teach-in of a new device in learn mode.

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6. New Feature: ESP3 event to indicate RLC resync

TCM 515U can re-synchronize the rolling code counter tracking the latest rolling code used by a learned-in secure sender by means of receiving a secure teach-in telegram while not being in learn mode. Previously, there was no indication from TCM 515U if such RLC resynchronization occurred.

Starting with this revision, TCM 515U sends the ESP3 event CO_EVENT_SECUREDEVICES with event code 0x0A to indicate that RLC resynchronization occurred.

7. New Feature: RSSI Debug Mode

During customer integration and product installation it might be desirable to determine the received signal strength without having to physically connect to the TCM 515U ESP3 interface.

Starting with this revision, TCM 515U provides an RSSI Debug Mode that can be invoked using the ESP3 command CO_WR_RSSITEST_MODE where TCM 515U will inform about the signal strength of received telegrams by means of sending a SIGNAL telegram of type 0x0A as defined by EnOcean Alliance.

8. New Feature: Transparent Radio Mode

In certain applications all higher-level protocol handling (chaining, encryption, decryption, authentication, remote management) is executed by the external host and TCM 515U is used as simple transmitter / receiver only.

Starting with this revision, TCM 515U can for such cases be configured via the ESP3 command CO_WR_TRANSPARENT_MODE to operate in transparent mode to disable all higher-level protocol handling in TCM 515U.

9. Product improvement: Higher maximum input power in receive mode

Starting with this revision, the maximum input power in receive mode has been increased from -23 dBm to -17 dBm to account for latest generation products with higher transmit power

10. Product improvement: Consistent start-up timing

In previous versions, TCM 515U start-up time could in rare conditions where significant changes of the supply voltage occurred during consecutive start-ups be longer than expected.

Starting with this revision, product functionality has been optimized to ensure consistent start-up timing in these conditions.

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Timeline

- Delivery of this version starts July 2020

Reason for change

- New product features according to customer requirements

Step codes after change

- TCM 515U DC-06

Customer impact of change and recommended action

- This maintenance release introduces new product features and improves product performance.
- Completion of the transmission of a telegram is now indicated by the ESP3 Event CO_TX_DONE. This event can be ignored if not needed.

Reference Documents / Attachments

- TCM 515U User Manual (see product website)
- ESP3 specification (<https://www.enocean.com/esp>)

PCN revision history

Date of revision	Author	Revision number	Reason
June 23, 2020	MKA	01	Customer PCN