

Wireless Transceiver Gateway

TCM 515



The TCM 515 product family enables the realization of transceiver gateways, actuators and controllers for systems communicating based on the EnOcean radio standard.

Compared to the current TCM 300 generation, TCM 515 provides reduced power consumption, smaller size and higher processor performance. Security processing including is fully integrated without the need for external components.

TCM 515 receives radio telegrams based on an external antenna connected via the host PCB. It can filter, decrypt and authenticate these telegrams before forwarding them to an externally connected host processor or host PC via a serial interface (UART).

The serial interface operates according to EnOcean ESP3 standard with the option to use higher interface speeds (TURBO mode) to reduce latencies.

ESP3 messages received from the external host will be encrypted and authenticated as required and then transmitted as EnOcean radio telegrams.

The TCM 515 product family currently consists of the following members:

- TCM 515 supports 868 MHz ASK EnOcean Radio Protocol (Europe)
- TCM 515U supports 902 MHz FSK EnOcean Radio Protocol (US)

And additional variant - TCM 515J – is planned to be added later to support 928 MHz EnOcean Radio (Japan).

TYPE	ORDERING CODE
TCM 515	S3003-K515
TCM 515U	S3053-K515

Features overview

Antenna	50 Ohm antenna (connected via host PCB)
Supported Radio Frequencies	868.3 MHz ASK / 902.875 MHz FSK
Data Rate	125 kbps
Receiver Sensitivity (typ, at 25°C) (See Note 1)	868.3 MHz ASK: -93 dBm 902.875 MHz FSK: -98 dBm
Maximum Input Power (typ, at 25°C) (See Note 1)	-23 dBm
Receiver Blocking Performance	Class 2 according to EN 300 220-1
Radiated RF Immunity	3 V / m according to EN 301 489-3
Transmit Power (typ, at 25°C)	868.3 MHz ASK: +10 dBm 902.875 MHz FSK: +1 dBm
Supply Voltage	2.0V ... 3.6V
Supply Current (at 2.0V)	25 mA
Serial Host Interface	UART according to ESP3 Standard (with TURBO option)
Module Dimensions	19.0 mm x 14.7 mm x 3.0 mm (all +- 0.3 mm)
Operating Temperature	-40°C ... +85°C

Note 1: Sensitivity and Maximum Input Power figures are based on 0.1% telegram error rate for the combination of 3 received sub-telegrams