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Transceiver Gateway Module TCM 310 / TCM 310U

TCM 310 enables the realization of gateways for the EnOcean 868 and 902 MHz radio systems. It provides a bi-directional radio interface at one end and a bi-directional serial interface at the other end. Radio messages are sent transparently through the serial interface in both directions from and to an externally connected host processor or host PC. In addition control commands can be sent from the host, e.g. to configure the repeater functionality or to manage the Smart Ack functions. TCM 310 can act as postmaster for up to 15 bi-directional sensors using Smart Ack technology.

Feature

- Smart Ack controller functionality
- Transparent radio channel
- Programmable repeater functionality (1 / 2 Level)
- EnOcean Serial Protocol V3 (ESP3)



Product variants

- TCM 310: SMD transceiver module 868MHz
- TCM310U: SMD transceiver module 902MHz

Туре	Ordering Code
TCM 310	S3003-K310
TCM 310U	S3053-K310

Frequency TCM 310: 868.300 MH TCM 310U: 902.875 MH Data rate 125 kbp Modulation type TCM 310: ASK 868 MHz TCM 310U: FSK 902 MH Receiver Sensitivity (at 25°C) ²⁾ TCM 310: typ96 dBm (868 MHz TCM 310U: typ98 dBm (902 MHz TCM 310U: typ98 dBm (902 MHz TCM 310U: typ. 1 dBm (902 MHz	Features overview	
TCM 310U: 902.875MHData rate125 kbpModulation typeTCM 310: ASK 868 MHzTCM 310U: FSK 902MHReceiver Sensitivity (at 25°C) ²⁾ TCM 310: typ96 dBm (868MHz TCM 310U: typ98 dBm (902MHzConducted Output PowerTCM 310U: typ. 3 dBm (868MHz TCM 310U: typ. 1 dBm (902MHz 2.64.5Power Supply2.64.5Serial InterfaceUART (ESP3 Transmit mode: 24 m. Transmit mode: 24 m. Transmit mode: 24 m.Dimensions of PCB22x19x3 mr -25° to +85° Radio Regulations	Antenna	External whip or 50Ω antenna mountable
Modulation typeTCM 310: ASK 868 MHz TCM 310U: FSK 902MHReceiver Sensitivity (at 25°C)2)TCM 310: typ96 dBm (868MHz TCM 310U: typ98 dBm (902MHz TCM 310U: typ98 dBm (902MHz TCM 310U: typ. 3 dBm (868MHz TCM 310U: typ. 1 dBm (902MHz 2.64.5Power Supply2.64.5 2.64.5Serial InterfaceUART (ESP3 Transmit mode: 24 m Transmit mode: 24 m Transmit mode: 24 m TCM 310: R&TTE / EN 300 22Dimensions of PCB22x19x3 mr -25° to +85° TCM 310: R&TTE / EN 300 22	Frequency	TCM 310: 868.300MHz TCM 310U: 902.875MHz
TCM 310U: FSK 902MHReceiver Sensitivity (at 25°C)2)TCM 310: typ96 dBm (868MHz TCM 310U: typ98 dBm (902MHz TCM 310U: typ98 dBm (902MHz TCM 310U: typ. 1 dBm (902MHz TCM 310U: typ. 1 dBm (902MHz 2.64.5)Power Supply2.64.5)Serial InterfaceUART (ESP3 Transmit mode: 24 m. Transmit mode: 24 m.Dimensions of PCB22x19x3 mr -25° to +85°Operating temperature-25° to +85° FRadio Regulations	Data rate	125 kbps
TCM 310U: typ98 dBm (902MHzConducted Output PowerTCM 310: typ. 3 dBm (868MHz TCM 310U: typ. 1 dBm (902MHz 2.64.57Power Supply2.64.57Serial InterfaceUART (ESP3 Transmit mode: 24 m. Transmit mode: 24 m.Dimensions of PCB22x19x3 mr -25° to +85°Operating temperature-25° to +85° FRadio Regulations	Modulation type	TCM 310: ASK 868 MHz ¹⁾ TCM 310U: FSK 902MHz
TCM 310U: typ. 1 dBm (902MHzPower Supply2.64.5Serial InterfaceUART (ESP3Current ConsumptionReceive mode: 33 m. Transmit mode: 24 m.Dimensions of PCB22x19x3 mr -25° to +85°Operating temperature-25° to +85°Radio RegulationsTCM 310: R&TTE / EN 300 22	Receiver Sensitivity (at 25°C) ²⁾	TCM 310: typ96 dBm (868MHz) TCM 310U: typ98 dBm (902MHz)
Serial InterfaceUART (ESP3Current ConsumptionReceive mode: 33 m. Transmit mode: 24 m.Dimensions of PCB22x19x3 mrOperating temperature-25° to +85°Radio RegulationsTCM 310: R&TTE / EN 300 22	Conducted Output Power	TCM 310: typ. 3 dBm (868MHz) TCM 310U: typ. 1 dBm (902MHz)
Current ConsumptionReceive mode: 33 m. Transmit mode: 24 m.Dimensions of PCB22x19x3 mrOperating temperature-25° to +85°Radio RegulationsTCM 310: R&TTE / EN 300 22	Power Supply	2.64.5V
Transmit mode: 24 m.Dimensions of PCB22x19x3 mrOperating temperature-25° to +85°Radio RegulationsTCM 310: R&TTE / EN 300 22	Serial Interface	UART (ESP3)
Operating temperature -25° to +85° Radio Regulations TCM 310: R&TTE / EN 300 22	Current Consumption	Receive mode: 33 mA Transmit mode: 24 mA
Radio RegulationsTCM 310: R&TTE / EN 300 22	Dimensions of PCB	22x19x3 mm
-	Operating temperature	-25° to +85°C
	Radio Regulations	TCM 310: R&TTE / EN 300 220 TCM 310U: IC/FCC / CFR-47 Part 15

1) According to ISO/IEC 14543-3-10 2) 0.1% telegram error rate (based on the combination of 3 received sub-telegrams)