



THE DATASHEET OF TCM300U



TCM 300 / TCM 320 (868 MHz), TCM 300U / TCM 320U (902 MHz) Transceiver Modules

The transceiver modules **TCM 300** and **TCM 320** enable the realization of highly efficient radio actors, repeaters and other line powered applications for the EnOcean systems with 868 MHz & 902 MHz.

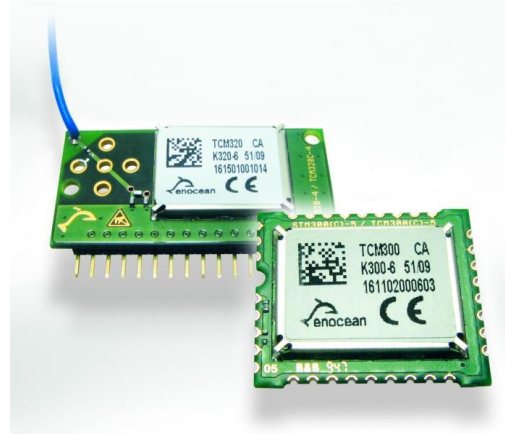
The module provides several built-in operating modes. In addition repeater functionality (1 or 2 level) can be activated. Using the Dolphin API library it is possible to write custom specific software for the module. The modules are in-system programmable.

Built-in operating modes

- Unidirectional serial communication (ESP2)
- Bidirectional serial communication (ESP2)
- 1-channel relay mode
- 4-channel relay mode
- 1-channel dimming mode

Features accessible via API:

- Integrated 16 MHz 8051 CPU with 32 kB FLASH and 2kB SRAM
- Various power down and sleep modes down to 0.2 μ A current consumption
- Up to 14 configurable I/Os
- 10 bit ADC, 8 bit DAC



Type	Ordering Code
TCM 300	S3003-K300 (SMD)
TCM 320	S3003-K320
TCM 300U	S3053-K300 (SMD)
TCM 320U	S3053-K320

Features overview

Antenna	Pre-installed whip antenna (TCM 320/300U) External whip or 50 Ω antenna mountable (TCM 300/300U)
Frequency and data rate	868.300 MHz / 125 kbps (TCM 300/320) ¹⁾ 902.875 MHz / 125 kbps (TCM 300U/320U) ¹⁾
Receiver Sensitivity (at 25°C)	typ. -96 dBm (868MHz) ²⁾ typ. -98 dBm (902MHz) ²⁾
Conducted Output Power @50 Ω	3 dBm(868MHz) 1 dBm (902MHz)
Power Supply	2.6 – 3.3 V (TCM 320 / TCM 320U) 2.6 – 4.5 V (TCM 300 / TCM 300U)
Current Consumption	Receive mode: typ. 33mA Transmit mode: typ. 24mA
Dimensions of PCB	36.5 x 18 x 5.5 mm (TCM 320 / TCM 320U) 22 x 19 x 3 mm (TCM 300 / TCM 300U)
Operating temperature	-25 up to +85°C
Radio Regulations	TCM 300 (max. radiated power +1.4 dBm with whip): RED (EU) TCM 320 (max. radiated power +3.0 dBm with whip): RED (EU) TCM 300U/320U : FCC (US) / ISED (CA)

1) According to ISO/IEC 14543-3-10

2) 0.1% telegram error rate (based on the combination of 3 received sub-telegrams)




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