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 μA current consumption
- Up to 14 configurable I/Os
- 10 bit ADC, 8 bit DAC

### Features accessible via API:

<table>
<thead>
<tr>
<th>Type</th>
<th>Ordering Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>TCM 300</td>
<td>S3003-K300 (SMD)</td>
</tr>
<tr>
<td>TCM 320</td>
<td>S3003-K320</td>
</tr>
<tr>
<td>TCM 300U</td>
<td>S3053-K300 (SMD)</td>
</tr>
<tr>
<td>TCM 320U</td>
<td>S3053-K320</td>
</tr>
</tbody>
</table>

### Antenna overview
- 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)  
- 902.875 MHz / 125 kbps (TCM 300U/320U)

### Receiver Sensitivity (at 25°C)
- typ. –96 dBm (868MHz)  
- typ. –98 dBm (902MHz)

### 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)