

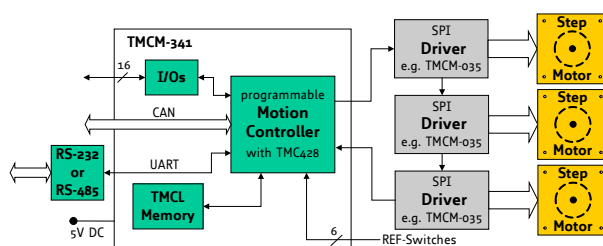
# TMCM-341

**3-Axis  
Controller  
for SPI Drivers**

**INFO** The TCMC-341 is a triple axis stepper motor controller module for external power drivers with SPI interface (e.g. TMCM-035). With its very small size it is dedicated to embedded applications, where a compact solution is required. The board can be connected to a baseboard or customized electronics with a pin connector. The TCMC-341 comes with the PC based software development environment TMCL-IDE for the Trinamic Motion Control Language (TMCL). Using predefined TMCL high level commands like „move to position“ or „constant rotation“ rapid and fast development of motion control applications is guaranteed. The TCMC-341 can be controlled via the serial UART interface (e.g. using a RS-232 or RS-485 level shifter), via CAN or optional via USB. A user TMCL program can be stored in the on board EEPROM for stand-alone applications. An optional firmware allows to control the TCMC-341 via CANopen. The firmware of the module can be updated via the serial or the CAN interface. Communication traffic is kept very low since all time critical operations, e.g. ramp calculation, are performed on board.

### MAIN CHARACTERISTICS

- ELECTRICAL DATA**
  - 5V DC logic supply voltage
- SUPPORTED MOTORS/DRIVERS**
  - two-phase bipolar motors using external SPI drivers (e.g. TMCM-035 or TMC249)
- INTERFACE**
  - UART (RS-232, RS-485, up to 115200 bit/s) or CAN 2.0b host interface (up to 1Mbit/s) or USB (optional)
  - inputs for reference and stop switches
  - general purpose analog and digital I/Os
- FEATURES**
  - up to 64 times microstepping
  - memory for 2048 TMCL commands
  - ready for CANopen
  - automatic ramp generation in hardware
  - on the fly alteration of motion parameters (e.g. position, velocity, acceleration)
  - supports stallGuard™ option for sensor-less motor stall detection
  - full step frequencies up to 20kHz
  - dynamic current control
  - can be adapted to any SPI driver type
- SOFTWARE**
  - stand-alone operation using TMCL or remote controlled operation
  - PC-based application development software TMCL-IDE included
- OTHER**
  - 68 pin connector carries all signals
  - RoHS compliant
  - size: 80 x 50 mm<sup>2</sup>



ORDER CODE	DESCRIPTION
<b>TMCM-341 (-option)</b>	3-axis controller module with SPI out
<b>Related products:</b>	BB-301, BB-301S, TMCM-EVAL
<b>OPTIONS</b>	
<b>H</b>	Horizontal pin connector (standard)
<b>V</b>	Vertical pin connector (on request)