

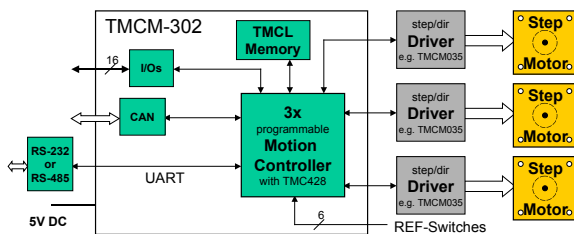
# TMCM-302

**3-Axis  
Step / Direction  
Controller**

**INFO** The TMCM-302 is a triple axis stepper motor controller module for external power drivers with step / direction interface. With its very small size it is dedicated to embedded applications, where de-centralized high power drivers are desired. The board can be connected to a baseboard or customized electronics with a pin connector. The TMCM-302 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 TMCM-302 can be controlled via the serial UART interface (e.g. using a RS-232 or RS-485 level shifter) or via CAN. Communication traffic is kept very low since all time critical operations, e.g. ramp calculation, are performed on board. The TMCL operations can be stored in the on board EEPROM for stand-alone operation. The firmware of the module can be updated via the serial interface.

**MAIN CHARACTERISTICS**

- ELECTRICAL DATA**
  - 5V DC logic supply voltage
  - TTL / CMOS step / direction outputs
- SUPPORTED DRIVERS**
  - step / direction drivers (e.g. TMC401, TMCM-013, TMCM-023, TMCM-078, IDX7505 or TMCM-171)
- INTERFACE**
  - UART (RS-232, RS-485) or CAN 2.0b host interface
  - inputs for reference and stop switches
  - general purpose analog and digital I/Os
- FEATURES**
  - three motion controllers for high step frequency
  - memory for 2048 TMCL commands
  - automatic ramp generation in hardware
  - on the fly alteration of motion parameters (e.g. position, velocity, acceleration)
  - high dynamics: step frequencies up to 300kHz
  - 1.8µs step pulse length and step to direction delay
- 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-302 (-option)</b>	3-axis step / direction controller module
<b>Related products:</b>	BB-302, BB-323-02, TMCM-EVAL, TMCM driver with step / direction input
<b>OPTIONS</b>	
<b>H</b>	Horizontal pin connector (standard)
<b>V</b>	Vertical pin connector (on request)