

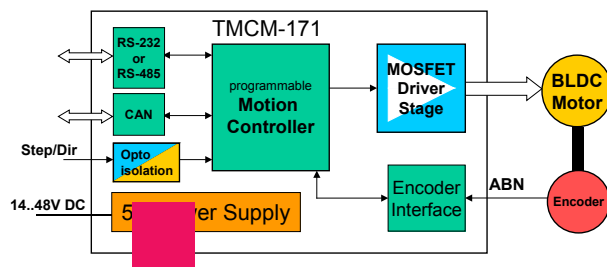
# TMCM-171

**1-Axis  
BLDC Servo  
Controller / Driver  
20A / 48V  
with Encoder Inf.**

**INFO** The TCMC-171 is a controller / driver module for high performance servo drives based on brushless DC motors. It combines the high resolution of a stepper motor coupled with the high dynamic, high velocity and high reliability of a BLDC drive. The motor and switches can be connected easily with pluggable screw terminals. A build-in ramp generator allows parameterized smooth positioning. The TCMC-171 supports BLDC motors with nearly any number of poles and incremental encoders with nearly any resolution.

The TCMC-171 integrates a velocity regulator, a position regulator and a ramp generator. The module can be controlled remotely via CAN or RS-485 interface. Additionally, the TCMC-171 is equipped with a step direction interface. Stand alone operation (either via TMCL program or via analog control) is also possible.

The housing is based on an aluminium plate which is used as a heatsink. The TCMC-171 fits perfectly to the QBL5704 BLDC motors.



### MAIN CHARACTERISTICS

- ELECTRICAL DATA**
  - up to 20A coil current
  - supply voltage 12V to 48V DC
- SUPPORTED MOTORS**
  - three phase BLDC motors from a few watts up to 1kW, optional hall sensors
  - two or three channel encoders attached to mechanical axis min 256 steps resolution
  - velocity up to 100,000 rpm (el. field)
- INTERFACE**
  - differential Step / Direction input
  - CAN and RS-485
  - 4 user programmable inputs (analog / digital) and 2 digital user programmable outputs (up to 50V/2A)
- FEATURES**
  - servo drive allows ultra precise and fast positioning
  - automatic positioning ramp generation with all parameters changeable on-the-fly
  - different start-up modes for commutation
  - adaptable 256 entry 10 bit motor sine commutation table
  - high efficiency , low power dissipation
- SOFTWARE**
  - stand alone operation (analog or TMCL program) or remote controlled operation
  - PC-based demonstration software allows setting of all parameters
- OTHER**
  - pluggable screw terminal connectors for all signals with a small JST alternative
  - robust aluminum housing
  - RoHS compliant
  - size: 145 x 96 x 33 mm

ORDER CODE	DESCRIPTION
TMCM-171	1-axis BLDC controller / driver module 20A / 48V
<i>Related products:</i>	USB-2-X, QMot QBL 5704