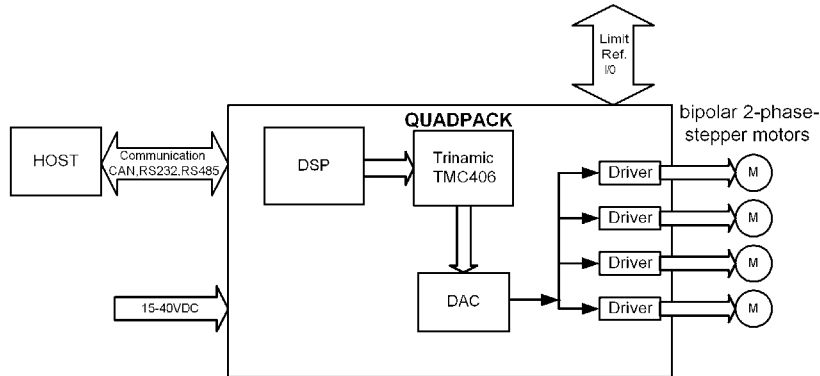


QUADpack Application Environment



Motion Control System Development

The QUADpack is a triple axis stepper motor controller, which can be controlled by a host, or can be operated in standalone mode. The circuit can be integrated directly in one's own designs and thus saving on expensive in-house development. There is an option to control the module either via RS232 or RS485 interface or to allow a program stored in the micro controller to run independently.



Technical Description

The QUADpack is based on the Trinamic TMC428 IC in conjunction with a micro controller. The QUADpack drives three stepper motors up to 1A per phase. The current control reduces thermal problems often experienced with stepper motors. Microstep operation up to 64 steps is possible and full step frequencies up to 15 kHz. Eight inputs, which can be used either as analog or digital, and seven open collector outputs are available. The firmware can be flashed into the μ -controller via the ISP-connector and simple programming tool.

Benefits

The QUADpack concept is fast development of complete motion control systems at low costs. The module can be placed directly in the application housing, very close to the motor, creating a compact device which maximizes the advantages of complex systems.

A baseboard is available for the development of proprietary systems.

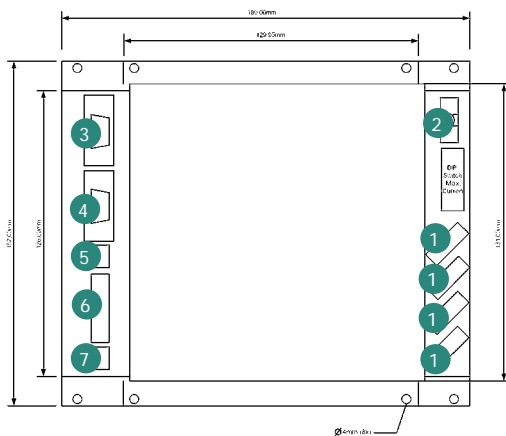
Features:

- Controls and drives four 2-phase bipolar stepper motors (4, 6 and 8 lead)
- Integrated multi-axis motion controller
- Multi interface option CAN, RS485, RS232
- Daisy-chaining of multiple TMC QUADpacks, TMC SIXpacks and TMC MONOpacks via RS485 or CAN
- Smart multi-level current control to keep drivers and motors cool
- Fullstep frequency up to 12.5kHz per axis ~ microstep frequency up to 200kHz per axis (1, 2, 4, 8, 16) microstep resolution
- Adjustable microstep phase current shape (sinusoidal or user-defined)
- On-the-fly change of position and velocity
- Limit and reference switch inputs, GP I/O
- RS232 can be controlled in CAN mode for communication with any other RS232 device
- Highly compact package 180mm*152mm*35mm (L x W x H)
- Single 15-40 VDC supply
- 9-byte datagram programming compatible with TMC SIXpack and TMC MONOpack
- Upgradeable firmware through onboard flash

TMC QUADpack

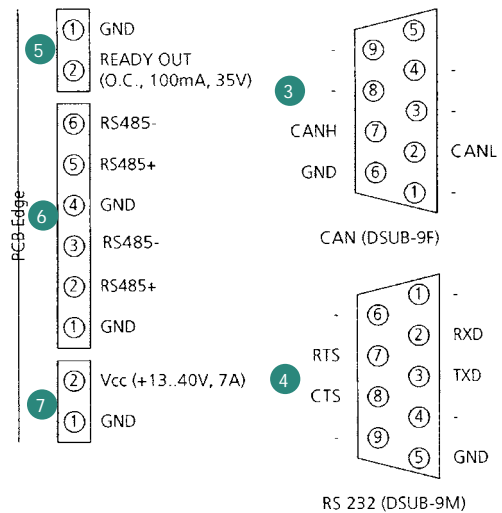
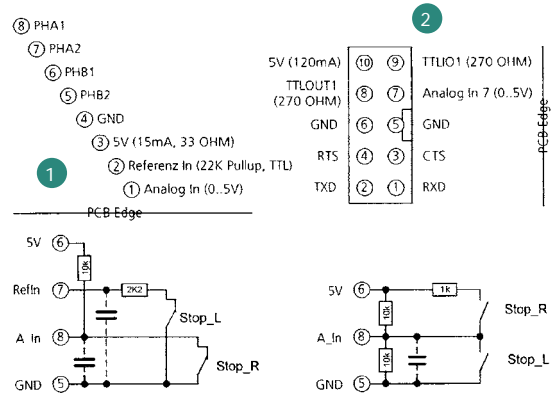
Technical Specification

Motor Type	2-phase bipolar (4,6 and 8 lead)
Number of Axes	4
Max. Step Frequency	12,5 kHz fullstep - 200 kHz microstep
Max. Coil Current	1.5 A per phase
Microstep Resolution	(1,2,4,8,16)
Phase current shapes	sinusoidal or user defined
Position Range	32-bit signed
On-the-fly-change	position, velocity
Inputs per Axis	2 limit or 1 analog, 1 reference
Extra I/O	1 analog input, 1 GP I/O, 1 input, 1 ready output
Operating voltage	15-40 VDC
Ramp Shape	trapezoid
Interpolation	linear across all axes
Serial Baudrate	RS232/485 up to 57.6 kbits/s
CAN Bitrate	1Mbit/s
Current Control	smart multi-level
Dimensions	180mm*152mm*35mm (L x W x H)
Extras	RS232 peripheral communication via CAN
Protection	over-temperature
Protocol	9-byte datagram



QUADpack Dimensional Specifications

QUADpack Pinout



Ordering Information

ORDER CODE	DESCRIPTION
QUADpack	QUADpack metal housing