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1 Features

The TMCM-078 is a single axis step / direction stepper motor driver unit. It is similar to the TMCM-IDX with higher power, more interface options and extended configuration possibilities. The TMCM-078 provides on-board DIP switches for easy configuration.

The TMCM-078 supports supply voltages of up to 75V and motor coil currents up to 7 A RMS (10A peak). Up to 256 micro steps are supported for either high accuracy or high speed.

All inputs and outputs are accessible either via pluggable screw connector or by high density (2mm) JST connectors.

Applications

- Step-/ Direction stepper driver for industrial applications
- Robotics
- Centralized motor driver mounted in switchboard
- Decentralized motor driver mounted near motor

Motor type

- Coil current from 0.7A to 7A RMS (10A peak)
- 15V to 75V nominal supply voltage (or any value in between)

Highlights

- Fully protected drive
- Digital selection of motor current and standby current
- Micro step resolution can be changed in order to get high accuracy or high speed
- Different chopper modes allow best adaptation to application / motor
- Many adjustment possibilities make this module the solution for many applications
- Size: 145 x 96 x 33 mm

Order code	Description
TMCM-078	75V, 7A TMCM-078 module

Table 1.1: Order codes

2 Life support policy

TRINAMIC Motion Control GmbH & Co. KG does not authorize or warrant any of its products for use in life support systems, without the specific written consent of TRINAMIC Motion Control GmbH & Co. KG.

Life support systems are equipment intended to support or sustain life, and whose failure to perform, when properly used in accordance with instructions provided, can be reasonably expected to result in personal injury or death.

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Specifications subject to change without notice.

3 Electrical and Mechanical Interfacing

3.1 Pinning

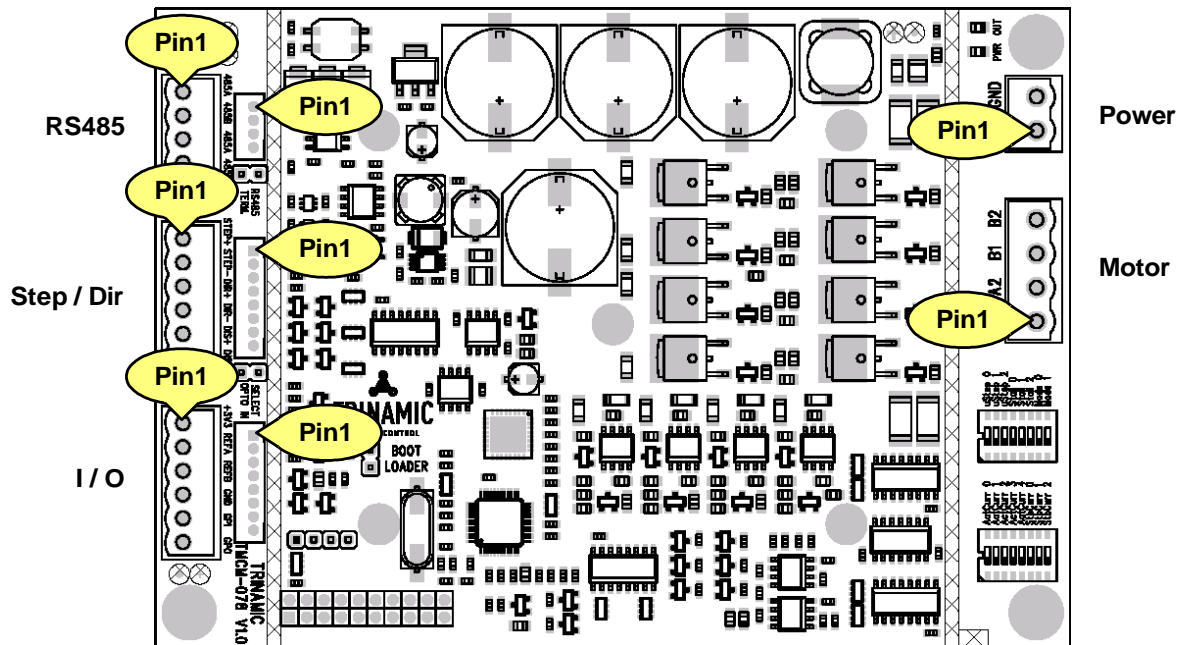


Figure 3.1: Pinning of TMCM-078

3.1.1 Power

Pin	Name	Function
1	+VS	Positive power supply voltage
2	GND	GND, power

Table 3.1: Power connector

3.1.2 Motor

Pin	Name	Function
1	OA1	Connections for motor coil A
2	OA2	
3	OB1	Connections for motor coil B
4	OB2	

Table 3.2: Motor connector

3.1.3 RS485¹

Pin	Name		Function
	Screw	JST	
1	RS485A	RS485A	RS485 remote control access A, TTL input
2	RS485B	RS485B	RS485 remote control access B, TTL input
3	RS485A	RS485A	RS485 remote control access A, TTL input
4	RS485B	RS485B	RS485 remote control access B, TTL input

Table 3.3: RS485 connector (currently not supported)

3.1.4 Step / Dir¹

Screw connector			JST connector		
Pin	Name	Function	Pin	Name	Function
1	Step +	Optically isolated step input (positive)	1	+3.3V	Constant +3.3V output, reference
2	Step -	Optically isolated step input (negative)	2	S +	Differential step input (non inverted)
3	Dir +	Optically isolated direction input (positive)	3	S -	Differential step input (inverted)
4	Dir -	Optically isolated direction input (negative)	4	D +	Differential direction input (non inverted)
5	Disable +	Optically isolated disable input (positive)	5	D -	Differential direction input (inverted)
6	Disable -	Optically isolated disable input (negative)	6	Dis +	Differential disable input (non inverted)
--	--	--	7	Dis -	Differential disable input (inverted)
--	--	--	8	GND	GND

Table 3.4: Step-/Direction connector

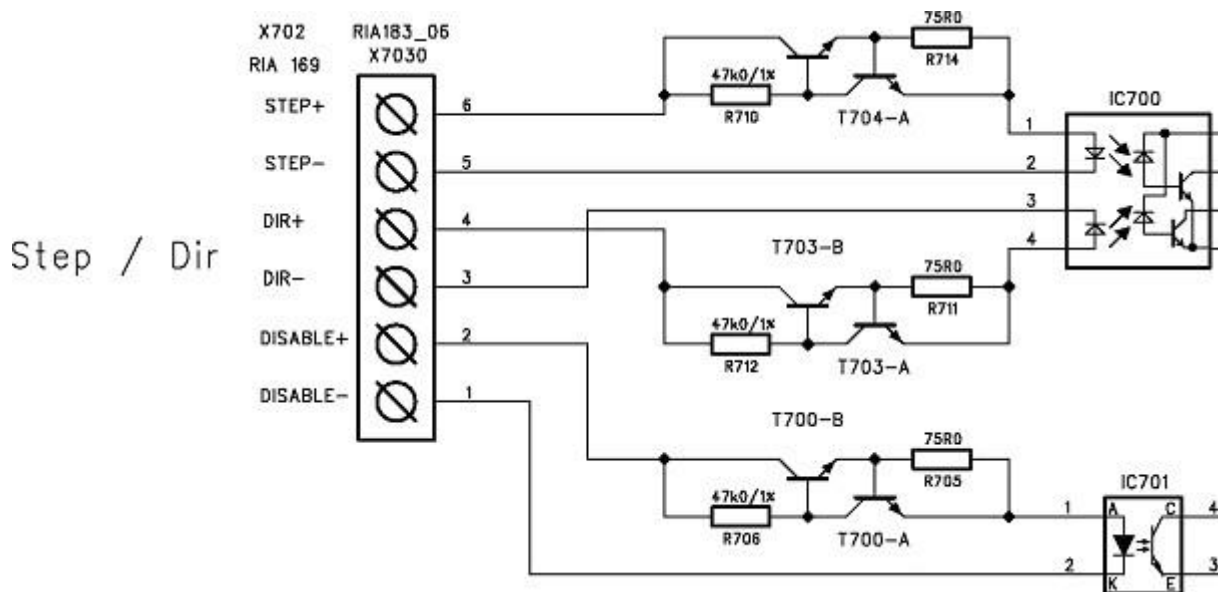


Figure 3.2: Opto isolated input circuit

¹ Signals with same names are electrically identical / internally connected

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