

0070 Mendel Electronics Specifications

Hardware features:

- Single board solution
- SMPS DCDC convertor for internal logic power supply
- 4x stepper motor drivers with 1/8 microstepping for bipolar steppermotors. Current programmable from 0...2A.
- On-board USB-RS232 convertor
- Integrated hardware for driving one extruder (stepper, heater en thermistor)
- RS485 bus connector with the possibility to link through the extruder step and dir signals.
- Integrated hardware for driving H21LOB slotted optosensors
- High input voltage range. 10...28Vdc.
- Use of standard connectors with easy and clean installation
- Debug LED`s for power, communication and heater output
- Reset button

Specifications:

- Dimensions: 110x60mm
- Mounting grid: 100x50mm (4x M3)
- Input voltage: 10...28Vdc
- On-board controller: ATmega644 (Atmel Corp.)
- RS485 connector: RJ45
- Heater output: Mosfet output, 4A
- Thermistor input: 100K thermistor

Connector pinout:

Power Connector:

On board: Wurth Elektronik 691 313 510 002
5,08mm Horizontal PCB header with closed ends, 2 poles

Advised to use with: Wurth Elektronik 691 351 500 002
5,08mm Vertical plug with rising clamp screw terminals, 2 poles

Pin	Function	
1	Power Supply +	10...28Vdc
2	Power Supply Ground	0V

No special tools needed

Steppermotor Connectors (4x)

On board: Wurth Elektronik 691 004 111 12
 WR-WTB 2,54mm Male Locking Header 4pins (Molex KK compatible)

Advised to use with: Wurth Elektronik 619 004 116 21 (Connector housing)
 WR-WTB 2,54mm Female Terminal Housing

Wurth Elektronik 619 001 137 22 (Crimp contact, 4x)
 WR-WTB 2,54mm Female Crimp Contact – AWG22-28

Pin	Function	
1	A+	Blue
2	A-	Red
3	B+	Green
4	B-	Black

For this connector you will need a special crimping tool

Heater/Thermistor Connector (1x)

On board: Wurth Elektronik 691 004 111 12
 WR-WTB 2,54mm Male Locking Header 4pins (Molex KK compatible)

Advised to use with: Wurth Elektronik 619 004 116 21 (Connector housing)
 WR-WTB 2,54mm Female Terminal Housing

Wurth Elektronik 619 001 137 22 (Crimp contact, 4x)
 WR-WTB 2,54mm Female Crimp Contact – AWG22-28

Pin	Function	
1	Thermistor	Signal wire
2	Thermistor	Ground
3	Heater	+Vsupply
4	Heater	Switched to ground

For this connector you will need a special crimping tool

Optosensor Connector (3x)

On board: Wurth Elektronik 691 005 111 12
 WR-WTB 2,54mm Male Locking Header 4pins (Molex KK compatible)

Advised to use with: Wurth Elektronik 619 005 116 21 (Connector housing)
 WR-WTB 2,54mm Female Terminal Housing

Wurth Elektronik 619 001 137 22 (Crimp contact, 5x)
 WR-WTB 2,54mm Female Crimp Contact – AWG22-28

Pin	Function	
1	Led Anode (+)	+5V via 180Ω
2	Led Cathode (-)	Ground
3	Logic +	+5V (VCC)
4	Signal	Signal (SIG)
5	Ground	Ground (GND)

For this connector you will need a special crimping tool

I2C Connector (1x)

On board: Wurth Elektronik 691 004 111 12
WR-WTB 2,54mm Male Locking Header 4pins (Molex KK compatible)

Advised to use with: Wurth Elektronik 619 004 116 21 (Connector housing)
WR-WTB 2,54mm Female Terminal Housing

Wurth Elektronik 619 001 137 22 (Crimp contact, 4x)
WR-WTB 2,54mm Female Crimp Contact – AWG22-28

Pin	Function	
1	VCC	+5V
2	GND	Ground
3	SDA	
4	SCL	

For this connector you will need a special crimping tool

USB Connector (1x)

On board: Standard USB-B type connector

Advised to use with: USB 2.0 Cable, A-B

RS485 Connector (1x)

On board: RJ45 connector, 8P8C, Tab down

Advised to use with: -

Pin	Function	
1	RS485B	
2	RS485A	
3	Vsupply	
4	Vsupply	
5	N.C. (standard)	Solder SJ1 for Extruder dir sig.
6	N.C. (standard)	Solder SJ2 for Extruder step sig.
7	GND	
8	GND	

For this connector you will need a special crimping tool