

ICstep01

The ICstep01 is an Arduino-compatible 3D-Printer Controllerboard.

Features

- Arduino-compatible, behaves like an Arduino Mega 2560
- Supported by "Marlin"-Firmware for 3D-Printers (<https://github.com/ErikZalm/Marlin>)
- Mini-ITX form factor, suitable for Mini-ITX enclosure
- Power Source selectable for steppers, relays and Heatbed: ATX (12V) or external ($\leq 35V$)
- Full supply by $\geq 400W$ single ATX supply possible
- JTAG/ISP for ATmega2560
- 5x Socket for A4988 stepper motor driver
- 2x FAN for cooling stepper drivers
- 3x PWM out
- 1x Heatbed PWM out (ATX 12V or $\leq 35V$ external supply)
- 4x Relay
- 3x 15A fuse
- 1x Connector for Full Graphic Smart Controller / RepRapDiscount LED Smart Controller
- 6x Endstop connector
- 4x Servo out
- 8x Analog IN
- 3x Thermistor connector
- GPIOs, UART, SPI, I2C



For more information visit: <http://www.in-circuit.de/>

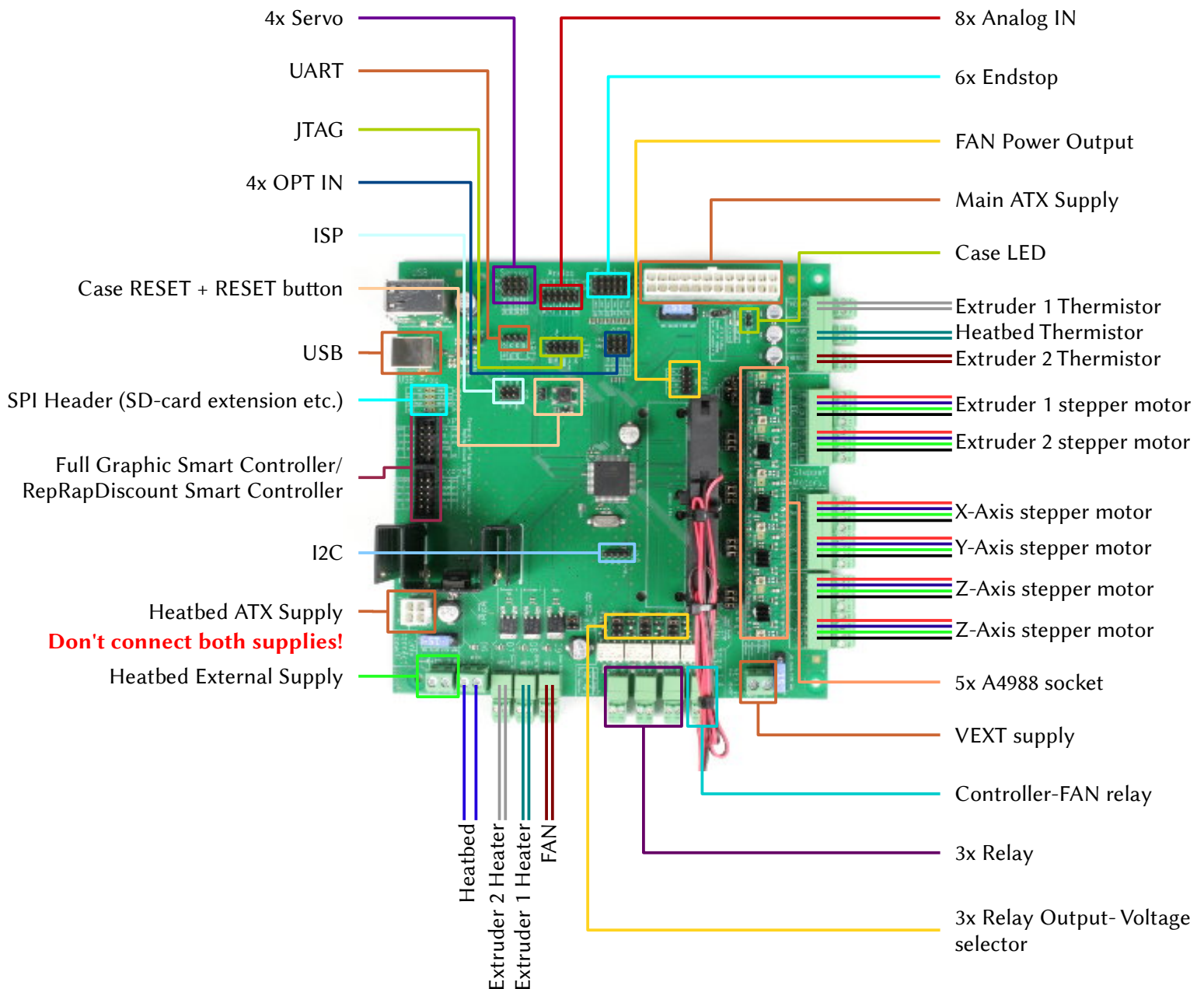
Quick Start

1. Connect the ICstep01 to your 3D-Printer-Setup as shown in the wiring diagram on page 2
2. Download and install the latest USB driver. Available on <http://www.in-circuit.de/>
3. (optional) Download and install the current Arduino IDE. Available on <http://www.arduino.cc/>
4. Download your favorite 3D-Printer firmware. Native support is provided by 'Marlin'-Firmware (Available on <https://github.com/ErikZalm/Marlin>)
5. Select "Arduino Mega 2560" and upload your sketch to the board via USB using the Arduino IDE.
6. Start printing.

CAUTION

Care must be taken when connecting and operating this device. Improper use may cause damage to the device or the environment.

ICstep01 wiring diagram



ICstep01 PinMapping

Name	Arduino Pin-No. ICstep01	(equiv.)	Port	Name	Arduino Pin-No. ICstep01	(equiv.)	Port
E0_EN	27		PA5	REL1	41		PG0
E0_STEP	28		PA6	REL2	38		PD7
E0_DIR	29		PA7	REL3	18		PD3
				REL4	19		PD2
E1_EN	39		PG2				
E1_STEP	15		PJ0	Servo1	3		PE5
E1_DIR	14		PJ1	Servo2	2		PE4
				Servo3	5		PE3
X_EN	30		PC7	Servo4	4		PG5
X_STEP	31		PC6				
X_DIR	32		PC5	KILL	54	A0	PF0
				BTN_EN1	10		PB4
Y_EN	33		PC4	BTN_EN2	11		PB5
Y_STEP	34		PC3	BTN_ENC	48		PL1
Y_DIR	35		PC2	BEEPER	12		PB6
				LED	13		PB7
Z_EN	36		PC1	LCD_RS	47		PL2
Z_STEP	37		PC0	LCD_EN	46		PL3
Z_DIR	40		PG1	LCD_D5	45		PL4
				LCD_D4	44		PL5
MFET1	6		PH3	LCD_D7	43		PL6
MFET2	7		PH4	LCD_D6	42		PL7
MFET3	8		PH5	SD_DETECT	49		PL0
MFET4	9		PH6	SS	53		PB0
				SCK	52		PB1
X_MIN	57	A3	PF3	MOSI	51		PB2
X_MAX	62	A8	PK0	MISO	50		PB3
Y_MIN	63	A9	PK1	PS_ON	22		PA0
Y_MAX	64	A10	PK2	OPT4	23		PA1
Z_MIN	65	A11	PK3	OPT3	24		PA2
Z_MAX	66	A12	PK4	OPT2	25		PA3
				OPT1	26		PA4
THERM0	A13	67	PK5	SCL	21		PD0
THERM1	A14	68	PK6	SDA	20		PD1
THERM2	A15	69	PK7	Rx0	0		PE0

ICstep01 PinMapping (continued)

Name	Arduino Pin-No. ICstep01	(equiv.)	Port
Tx0	1		PE1
RX2	17		PH0
TX2	16		PH1
A1	A1	55	PF1
A2	A2	56	PF2
A4	A4	58	PF4
A5	A5	59	PF5
A6	A6	60	PF6
A7	A7	61	PF7

Revision history:

Version	Date	Changes	Editor
A	2014/09/15	Initial Version	Kormann