

Freedom Robot Board Pin Connection Rev 1.2

Signal Name	KL25Z Pin	Arduino	Description	I/O Header
<i>Gyro, Accel, Compass</i>				
SDA	PTE0/I2C1.SDA	D14	I ² C serial data	J2 18
SCL	PTE1/I2C1.SCL	D15	I ² C serial clock	J2 20
<i>Ultrasonic</i>				
ECHO	PTD0/FTM0_CH0	D10	Ultrasonic sensor echo	J2 06
TRIG	PTC16		Ultrasonic sensor trigger	J2 05
<i>Reflectance</i>				
IR_REF_1	PTA16		Reflectance output pin 1	J2 09
IR_REF_2	PTC17		Reflectance output pin 2	J2 07
IR_REF_3	PTC13		Reflectance output pin 3	J2 03
IR_REF_4	PTC12		Reflectance output pin 4	J2 01
IR_REF_5	PTC11		Reflectance output pin 5	J1 15
IR_REF_6	PTC10		Reflectance output pin 6	J1 13
IR_REF_7	PTC6		Reflectance output pin 7	J1 11
IR_REF_8	PTC5		Reflectance output pin 8	J1 09
IR_LED_ON	PTE30		Reflectance LEDs on/off	J10 11
<i>Bluetooth</i>				
BTTX	PTC4/UART1_TX		UART transmit line for BT	J1 07
BTRX	PTC3/UART1_RX		UART receive line for BT	J1 05
KEY	PTC0		Switch for AT mode (active high, pulled up)	J1 03
STATE	PTE29		Indicator of work mode (cf. datasheet)	J10 09
<i>Distance</i>				
5CM_1	PTB8		5cm distance sensor 1	J9 01
5CM_2	PTB9		5cm distance sensor 2	J9 03
10CM_1	PTB10		10cm distance sensor 1	J9 05
10CM_2	PTB11		10cm distance sensor 2	J9 07
<i>Encoder</i>				
OUTA_L	PTE2		Encoder A output - left motor	J9 09
OUTB_L	PTE3		Encoder B output - left motor	J9 11
OUTA_R	PTE4		Encoder A output - right motor	J9 13
OUTB_R	PTE5		Encoder B output - right motor	J9 15
<i>Motor Driver</i>				
BPWM	PTE20/FTM1_CH0		Left motor speed - PWM signal	J10 01
APWM	PTE21/FTM1_CH1		Right motor speed - PWM signal	J10 03
BDIR	PTE22		Left motor direction	J10 05
ADIR	PTE23		Right motor direction	J10 07

Watch out for wrong pin description!

PTE0 and PTE1 pins and I/O headers might be wrong in Freedom Board documentation!