

40-pin header for MSP432P4xx

pin#	functions		
1	+3V3		
20	GND		
22	GND		
21	+5V0		
16	RST		
18	P3.0	PWM1	
3	P3.2	PWM1	RXD(1)
4	P3.3	PWM1	TXD(1)
32 ¹	P3.5	PWM1	SCLK(1) SRV_1 Avoid on P4111 board (LCD)
11 ¹	P3.6	PWM1	PICO(1) MOTOR_R_SLP_PIN Avoid on P4111 board (LCD)
31 ¹	P3.7	PWM1	POCI(1) MOTOR_L_SLP_PIN Avoid on P4111 board (LCD)
7	P1.5	SCLK	
15	P1.6	PICO	SDA(1)
14	P1.7	POCI	SCL(1)
10	P6.4	SDA	
9	P6.5	SCL	
36	P6.6	PWM2	
35	P6.7	PWM2	
17	P5.7	PWM2	SRV_2
37	P5.6	PWM2	
30	P5.5	A0	MOTOR_R_DIR_PIN
29	P5.4	A1	MOTOR_L_DIR_PIN
12	P5.2	A3	ENCODER_ELB_PIN
33	P5.1	A4	
13	P5.0	A5	ENCODER_ERB_PIN
28	P4.7	A6	BP_SW_PIN_0
8	P4.6	A7	BP_SW_PIN_1
27	P4.5	A8	BP_SW_PIN_2
26	P4.4	A9	
6	P4.3	A10	BP_SW_PIN_3
25	P4.2	A11	BP_SW_PIN_4
5	P4.1	A12	
24	P4.0	A13	BP_SW_PIN_5
23	P6.1	A14	SHRP_DIST_C_PIN
2	P6.0	A15	
40	P2.7	PWM1	MOTOR_L_PWM_PIN
39	P2.6	PWM1	MOTOR_R_PWM_PIN
19	P2.5	PWM1	
38	P2.4	PWM1	SRV_0
34	P2.3	PWM1	TXD(2)

Additional on-board pins

pin#	functions		
73	P1.1	PUSH1	
74	P1.4	CS	PUSH2
75	P2.0	PWM1	RED_LED
76	P2.1	PWM1	GREEN_LED
77	P2.2	PWM1	RXD(2) BLUE_LED
78	P1.0	LED1 (BUILTIN_LED)	
RXD	P1.2	RXD	Serial (USB cable)
TXD	P1.3	TXD	Serial (USB cable)

MSP432P401R J5 header (RSLK robot only)

pin#	functions		
41	P8.5	A20	LED_FR_PIN
42	P9.0	A17	SHRP_DIST_R_PIN
43	P8.4	A21	SRV_FB0
44	P8.2	A23	SRV_FB2
45	P9.2		QTR_EMITTER_PIN_ODD
46	P6.2		
47	P7.3	PWM1	QTR_3
48	P7.1	PWM1	QTR_1
49	P9.4		
50	P9.6		RXD(3)
51	P8.0		LED_FL_PIN
52	P7.4	PWM1	QTR_4
53	P7.6	PWM1	QTR_6
54	P10.0		
55	P10.2		
56	P10.4		ENCODER_ERA_PIN
57	P8.6	A19	LED_BL_PIN
58	P8.7	A18	LED_BR_PIN
59	P9.1	A16	SHRP_DIST_L_PIN
60	P8.3	A22	SRV_FB1
61	P5.3	A2	QTR_EMITTER_PIN_EVEN
62	P9.3		
63	P6.3		
64	P7.2	PWM1	QTR_2
65	P7.0	PWM1	QTR_0
66	P9.5		
67	P9.7		TXD(3)
68	P7.5	PWM1	QTR_5
69	P7.7	PWM1	QTR_7
70	P10.1		
71	P10.3		
72	P10.5		ENCODER_ELA_PIN

Function descriptions

GPIO **digitalRead(), digitalWrite()**
Digital inputs or outputs

ADC **analogRead()**
Analog input

PWM **analogWrite()**
Pulse-width modulated output. Supports :
up to 8 PWM1 outputs
up to 4 PWM2 outputs

Serial **Serial, Serial1, Serial2, Serial3²**
UART serial communication

SPI **SPI, SPI1**
SPI serial communication

I2C **Wire, Wire1**
I2C serial communication

RSLK Pins used by TI RSLK robotics kit. These pins should not be used for alternate functions on the RSLK robot.

Board Pins connected to on-board components. These pins should not be used for alternate functions unless appropriate jumpers are removed.

¹ Do not use with MSP432P4111. These pins used by on-board LCD.

² Serial3 only available on MSP432P401R