

SmartWheels Mini Configuration

SWM-2-1-1-A0-K0-J0

Configuration: ancit_power_windows | Exported: 09/06/2026, 05:10 am | Prepared by buildurecu.com

Configuration Summary

Stamp Position	Variant	Stamp Signal Conditioners	Pins
Stamp-1	S1-A0	8 Channel Pull Down Digital Input	8
Stamp-2	S2-K0	4 Channel PWM to Analog Output (0-10V)	6
Stamp-3	S3-J0	2 Channel H-Bridge Output (36V 4A)	10
Total			24

Stamp-1: DI - S1-A0 (A0)

Stamp Signal Conditioners: 8 independent channels of high-speed digital inputs with Pull down

- Provides 33K Pull-down resistance per input
- Operation for entire voltage range of VCU upto 33V
- Fixed low level threshold voltage at 3.8V
- Fixed High level voltage threshold at 8.9V
- Supports inputs frequency upto 50 KHz
- Input transient voltage protection.
- Ability to sustain short to VBAT and short to ground
- Timer Input capture on 5 channels

#	Conn Pin	Pin Label	IO Type	Signal Cond	Wire	MCU Pin	Ch ID	User Label	User Remarks
1	B1	S1-IO1	Digital Input	Pull-down-12V/24V	Orange	PTD3	DI_PD_CH1	RFU_12	Right Front Up - Active High
2	A1	S1-IO2	Digital Input	Pull-down-12V/24V	Grey	PTA1	DI_PD_CH2	RFD_11	Right Front Down - Active High
3	B2	S1-IO3	Digital Input	Pull-down-12V/24V	Pink	PTE6	DI_PD_CH3	LFU_10	Left Front Up - Active High
4	A2	S1-IO4	Digital Input	Pull-down-12V/24V	Yellow	PTE2	DI_PD_CH4	LFD_9	Left Front Down - Active High
5	C2	S1-IO5	Digital Input	Pull-down-12V/24V	White	PTD2	DI_PD_CH5	LRU_8	Left Rear Up - Active High
6	A3	S1-IO6	Digital Input	Pull-down-12V/24V	Purple	PTD4	DI_PD_CH6	LRD_7	Left Rear Down - Active High
7	B3	S1-IO7	Digital Input	Pull-down-12V/24V	Green	PTB13	DI_PD_CH7	RRU_1	Right Rear Up - Active High
8	A4	S1-IO8	Digital Input	Pull-down-12V/24V	Blue	PTB12	DI_PD_CH8	RRD_2	Right Rear Down - Active High

Stamp-2: AO - S2-K0 (K0)

Stamp Signal Conditioners: Designed for applications requiring 4 channel analog output 0-10V upto 60mA

4 independent channel with 0-10V Output

- Supports output sinusoidal frequency upto 4 KHz
- 100KHz PWM signal with 0-100% Duty Cycle required at Input
- Analog feedback for precise analog output and detection of fault conditions
- Input transient voltage protection
- Ripple Voltage at 50% duty cycle independent of load current at ~30 mVpp
- Ability to sustain short to ground and short to VBAT

#	Conn Pin	Pin Label	IO Type	Signal Cond	Wire	MCU Pin	Ch ID	User Label	User Remarks
1	F2	S2-IO1	Analog Output	PWM to Analog Output-0-10V	Orange	PTE4	AO_PWM_CH1	-	NC
2	F1	S2-IO2	Analog Output	PWM to Analog Output-0-10V	Grey	PTE5	AO_PWM_CH2	-	NC
3	E1	S2-IO3	Analog Output	PWM to Analog Output-0-10V	Pink	PTE11	AO_PWM_CH3	-	NC
4	D1	S2-IO4	Analog Output	PWM to Analog Output-0-10V	Yellow	PTE10	AO_PWM_CH4	-	NC
5	C1	S2-IO5	Digital Input	VIN_2	White	-	VIN	-	-
6	E2	ISO2-GND	Digital Input	GND_2	Black	-	GND	-	-

Stamp-3: DO - S3-J0 (J0)

Stamp Signal Conditioners: Designed for applications requiring 2 H-Bridge Outputs of 4A each
2 independent H-Bridge capable of driving up to 4A each over 10.5V to 33V

- Supports output PWM upto 10 KHz
- Low Side Output current monitoring
- Input transient voltage protection with over current protection
- Low side trip current per H-Bridge channel set to 4A
- Thermal shutdown

Pin Info: PTC1 : IPROPI_HB1

PTC0 : IPROPI_HB2

PTC15 : SLEEP_HB1/2 (Shared)

PTC14 : FAULT_HB1/2 (Shared)

#	Conn Pin	Pin Label	IO Type	Signal Cond	Wire	MCU Pin	Ch ID	User Label	User Remarks
1	G4	S3-IO1	Digital Output	H-Bridge 36V 4A	Orange/Blue	PTD16	DO_HB1_IN1	-	MOTOR1
2	G3	S3-IO2	Digital Output	H-Bridge 36V 4A	Grey	PTD15	DO_HB1_IN2	-	MOTOR2
3	H4	S3-IO3	Digital Output	H-Bridge 36V 4A	Blue	PTD0	DO_HB2_IN1	-	NC
4	H3	S3-IO4	Digital Output	H-Bridge 36V 4A	White/Grey	PTD1	DO_HB2_IN2	-	NC
5	H2	S3-IO5	Digital Input	VIN_2	Yellow	-	VIN	-	-
6	G2	ISO3-GND	Digital Input	GND_2	Black	-	GND	-	-
7	-	-	Analog Input	Stamp Specific - AI	-	PTC1	AI_IPROPI_HB1	-	-
8	-	-	Analog Input	Stamp Specific - AI	-	PTC0	AI_IPROPI_HB2	-	-
9	-	-	Digital Output	Stamp Specific - DO	-	PTC15	DO_HB_SLEEP	-	-
10	-	-	Digital Input	Stamp Specific - DI	-	PTC14	DI_HB_FAULT	-	-

Communication Interfaces

#	Conn Pin	Pin Label	Protocol	Wire Color	MCU Pin	Channel ID	User Label	User Remarks
1	F3	CAN0-H	CAN	Orange	PTC2	CAN0_RX	-	-
2	F4	CAN0-L	CAN	Grey	PTC3	CAN0_TX	-	-
3	E3	CAN2-H	CAN	Orange	PTC16	CAN2_RX	-	-
4	E4	CAN2-L	CAN	Grey	PTC17	CAN2_TX	-	-
5	-	-	LIN	-	PTD6	LIN2_RX	-	-
6	-	-	LIN	-	PTD5	DO_LIN_SLP	-	-
7	D3	LIN2-OUT	LIN	Pink	PTD7	LIN2_TX	-	-
8	C4	I2C-SCL	I2C	Yellow	PTA3	I2C0	-	-
9	C3	I2C-SDA	I2C	Green	PTA2	I2C0	-	-

Power & Other Fixed Pins

#	Conn Pin	Pin Label	Wire Color	MCU Pin	User Label	User Remarks
1	B4	KL15-IN	White	PTC9	-	-
2	D2	5V-OUT	Purple	-	-	-
3	G1	GND	Black	-	-	-
4	H1	V_IN	Red	-	-	-
5	-	RGB_RED	On-Board	PTE8	-	-
6	-	RGB_GREEN	On-Board	PTB5	-	-
7	-	RGB-BLUE	On-Board	PTB4	-	-

Hardware Reference

