PbHUB v1.1

SKU:U041-B

Description

PbHUB Unit is a 6-channel expansion Unit with I2C control. Each Port B interface is capable of GPIO, PWM, Servo control, ADC sampling, RGB light control and other functions. Adopts STM32F030 for internal control.

Product Features

- 6 x GPIO Ports Expansion
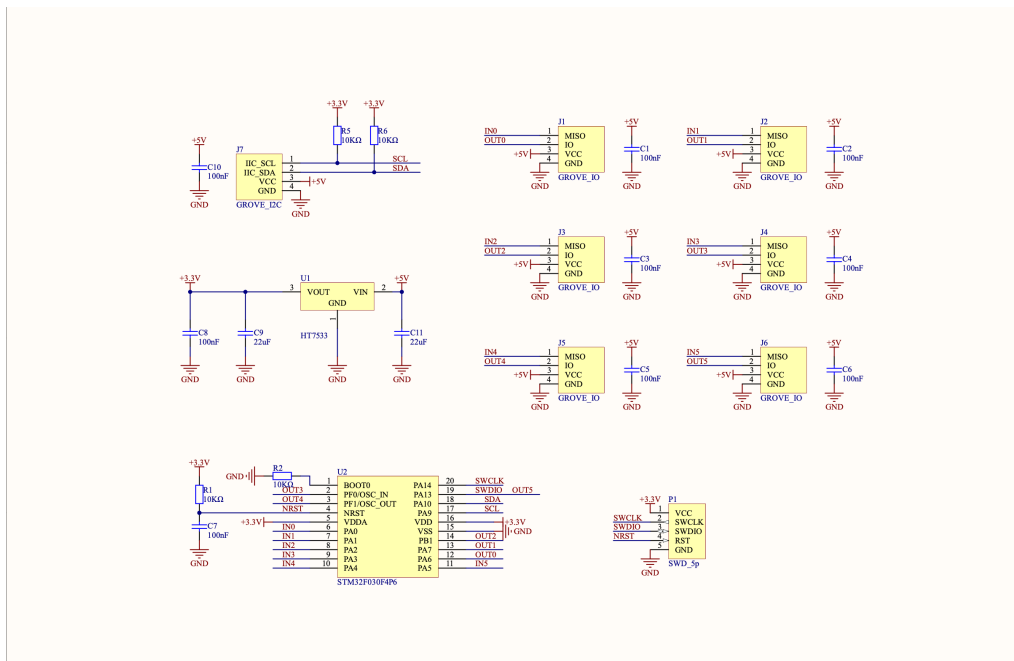- 1 x I2C Input
- Internal STM32F030 control

- 2 x Brick holes

Include

- 1x PbHUB Unit
- 1x HY2.0-4P cable (20cm)

Specification

Spec	Parameter
Communication protocol	I2C:0x61(Modified by register)
Net weight	6.7g
Gross weight	11.8g
Product Size	48*24*12mm
Package Size	13.6*9.1*12mm

Schematic

Schematic

I2C Map

REG MAP (Addr:0x61)	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	note
function channel	IO0 Digital Write (1 byte) (r/w)	IO1 Digital Write (1 byte) (r/w)	IO0 PWM (1 byte) (r/w)	IO1 PWM (1 byte) (r/w)	IO0 Digital Read (1 byte) (r)	IO1 Digital Read (1 byte) (r)	IO0 Analog Read (2 bytes) (r/w)[2]	reserve	Set RGB LED Numbers (2 bytes) (r/w) (default:74[1])	Set one LED Color (5 bytes) (r/w)	Set more LED Color (7 bytes) (r/w)	Set RGB LED Brightness (1 bytes) (r/w)	IO0 Servo Angle (1 byte) (r/w)[3]	IO1 Servo Angle (1 byte) (r/w)	IO0 Servo Pulse (2 byte) (r/w)	IO1 Servo Pulse (2 byte) (r/w)	The STM32 version gpio output and input voltage is 3.3V
ch0 cmd	0x40	0x41	0x42	0x43	0x44	0x45	0x46	0x47	0x48	0x49	0x4A	0x4B	0x4C	0x4D	0x4E	0x4F	
ch1 cmd	0x50	0x51	0x52	0x53	0x54	0x55	0x56	0x57	0x58	0x59	0x5A	0x5B	0x5C	0x5D	0x5E	0x5F	
ch2 cmd	0x60	0x61	0x62	0x63	0x64	0x65	0x66	0x67	0x68	0x69	0x6A	0x6B	0x6C	0x6D	0x6E	0x6F	
ch3 cmd	0x70	0x71	0x72	0x73	0x74	0x75	0x76	0x77	0x78	0x79	0x7A	0x7B	0x7C	0x7D	0x7E	0x7F	
ch4 cmd	0x80	0x81	0x82	0x83	0x84	0x85	0x86	0x87	0x88	0x89	0x8A	0x8B	0x8C	0x8D	0x8E	0x8F	
ch5 cmd	0xA0	0xA1	0xA2	0xA3	0xA4	0xA5	0xA6	0xA7	0xA8	0xA9	0xAA	0xAB	0xAC	0xAD	0xAE	0xAF	

0xFE: Firmware Version(1 byte)(r)[4]

0xFF: Change I2C Address(1 byte)(r/w)[5]

[1] STM32 version: 74 is the max of RGB LED numbers
[2] STM32 version: ADC width 12bit(0~4095); ATMEGA328 version: ADC width 10bit(0~1023)
[3] Servo angle and servo pulse is the new function of the STM32 version. Servo angle: 0~180, Servo pulse: 500~2500
[4] This is the new function of the STM32 version, it will return the firmware version
[5] This is the new function of the STM32 version, you can set the I2C address from 1 to 127 or get the current I2C address

UIFlow

Feature Introduction

- **Servo CH IO angle** Set rotation angle of the servo

- **Servo CH IO pulse** Write digital values to IOs

- **read status** Read firmware version/I2C address

- **init I2C address** Initialize I2C address

- **set I2C address** Set I2C address

Example

- Text - **PbHUB**
- Case study: Controlling repeated rotation of the servo
- Communication protocols: I2C
- I2C address: 0x61