

www.didel.com/WittySpecs.pdf

## Witty - smart, compact, beautiful

The Witty is a 2-wheel unusual robot. With the slanted wheels it is never blocked in a box. Able to rotate, you have to understand the conditions that makes it move or rotate.

It is a fully compatible Arduino board, using as the Arduino Mini an external USB/Serial adapter.

A Bahoma Lipo power the Witty in a snap, no hard to insert small connector.



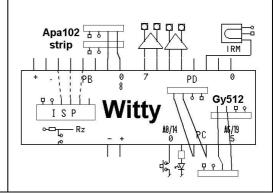
Load www.didel.com/Witty.html to click on all our documentation.

## **General specs**

Size	80 x 32 x 32 mm			
Processor	AtMega 328P-AU			
Motor and wheels	Vigor Bo-30 1:96 with Didel 32mm weels			
Motor drivers	CŠ 7721			
IR module	CHQ0038			
Programming connectors	ISP 6 holes 1.27mm pich Gaia female 5 pins 1.27mm			
Extension connectors	Gy521 2.54mm pitch			
Switches	2x push button 1x SPD switch			
Voltage and current	3.0V/40mA-5.5V/80mA (both motors free running)			
	3.7V/200mA (both motors blocked)			

Witty microcontroller is an AtMega 328, initialized with Duemilanove loader. Pin assignement is given below, with usual Arduino pin numbers and AVR328 port assignement.

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	AVR328 pins							
	Pin	Port		Pin	Port			
	0	PD0	Rx	11	PB3	(s2 prog)		
	1	PD1	Tx	12	PB4	(s1 prog)		
	2	PD2	IRmodule	13	PB5	(Tell prog)		
	3	PD3	TellConn	14	PC0	Pous active low		
	4	PD4	-	15	PC1	Led active high		
	5	PD5	AvG	16	PC2	Ana pin4		
	6	PD6	AvD	17	PC3	Ana pin3		
	7	PD7	_	18	PC4	I2C SCL pin3		
	8	PB0	_	19	PC5	I2C SDA pin4		
	9	PB1	AvD					
	10	PB2	RecD					
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## Typical definition file beginning (see WittySoft.pdf)

```
// Witty.h
                                          // Witty.h
#define bLed 1 // PORTC
                                          #define Led 15
#define LedOn bitSet (PORTC, bLed)
                                         #define LedOn digitalWrite (Led,HIGH)
#define LedOff bitClear (PORTC, bLed)
                                         #define LedOff digitalWrite (Led,LOW)
#define LedToggle (PORTC^=(1<<bLed))</pre>
                                         #define Button 14
#define bPous 0 // actif à zero
                                         #define PushOn digitalRead (Button)
#define PousOn (!(PINC&(1<<bPous)))</pre>
                                         void SetupPushLed{
void SetupPushLed {
                                          pinMode (Led,OUTPUT);
                                          pinMode (Button, INPUT_PULLUP);
 DDRC = 0b000010 ; //Led out
 PORTC = 0b000001; // pullup on pous
```