Tiny POB-PROTO manual

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1 Tiny POB-PROTO

The « Tiny POB-PROTO » board is a device for the POB-EYE. This board is a POB-PROTO light board: The Tiny is small and does not have power parts.
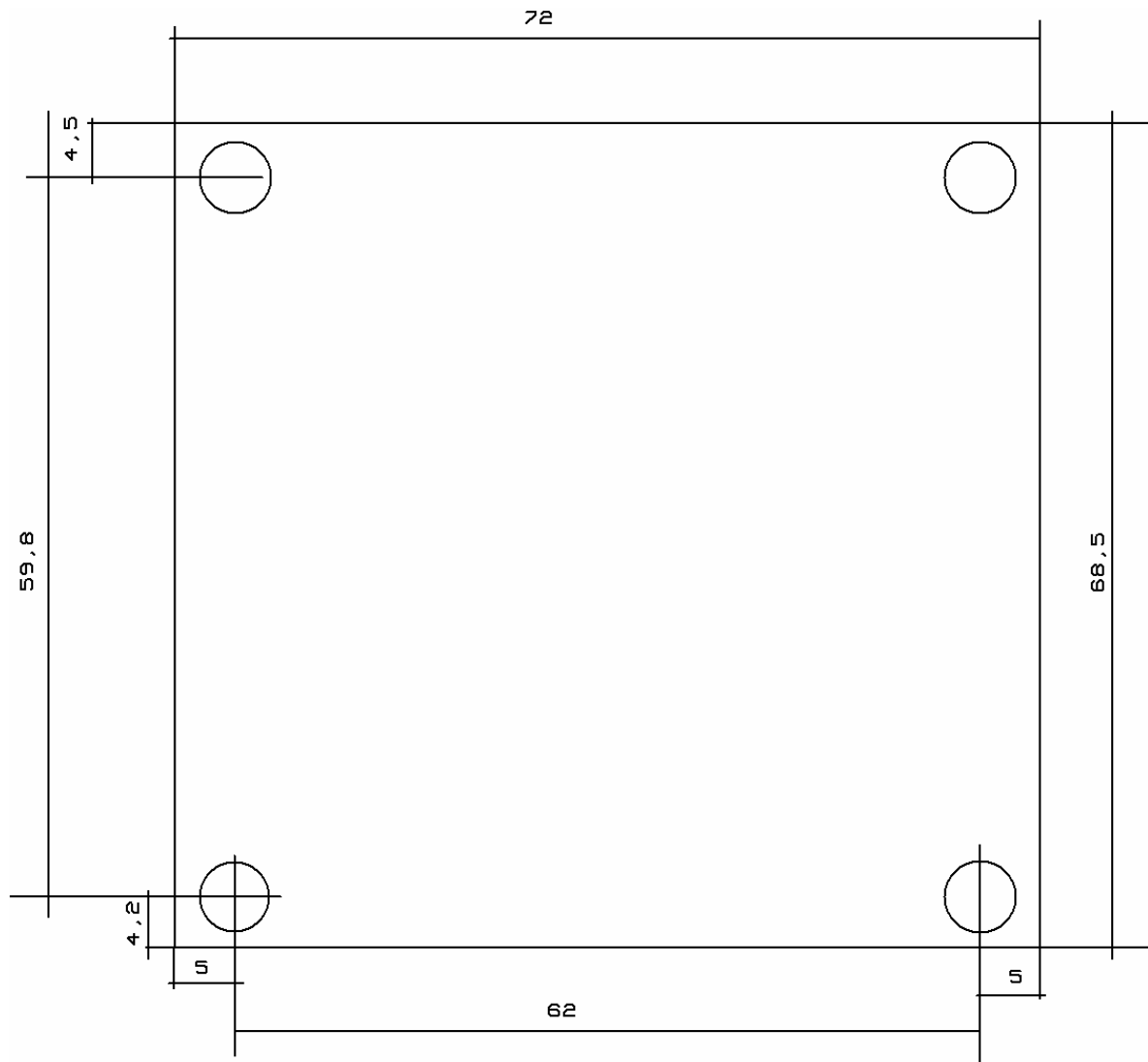
The Tiny POB-PROTO can manage 6 servomotors, 20 input/output and I2C bus from POB-EYE.

Tiny POB-PROTO description:
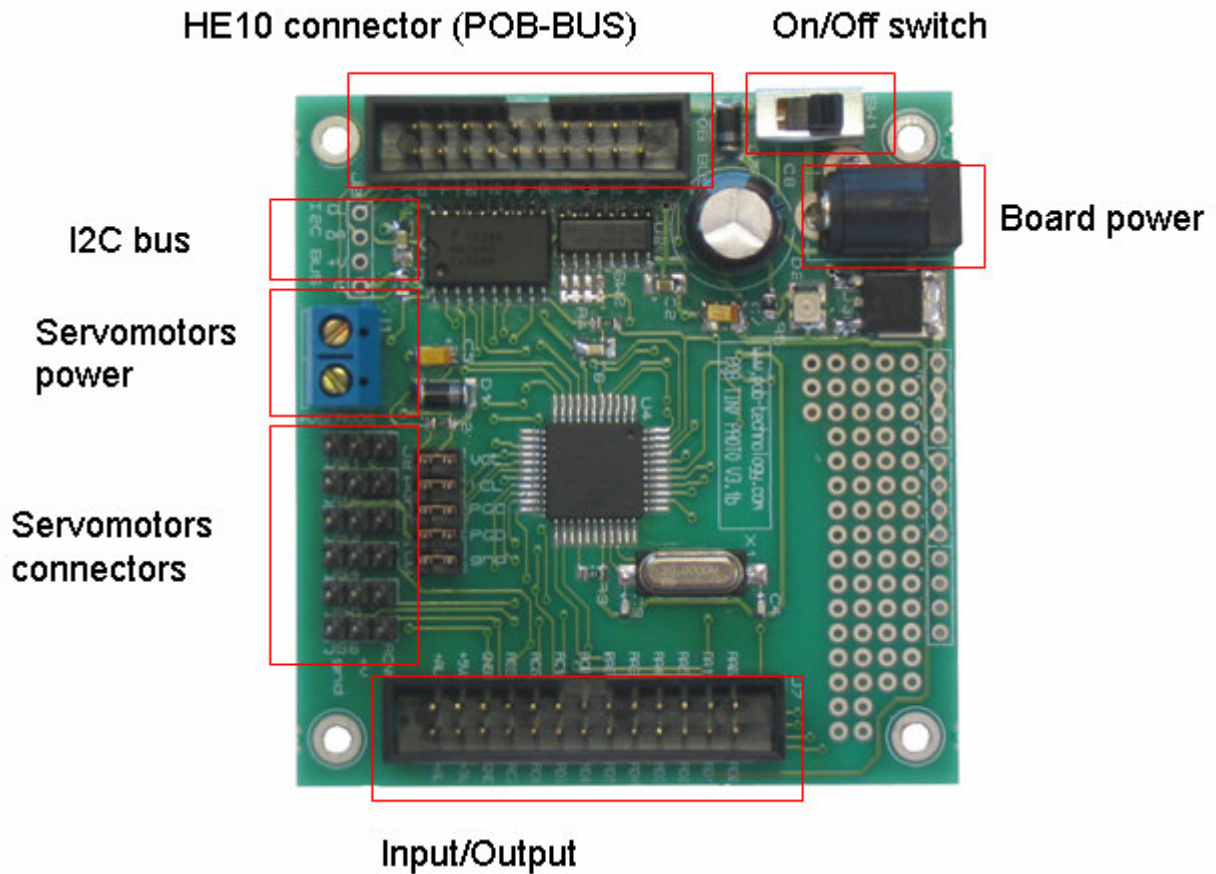
# 2 Boards elements description

- *Dimension*

- ▪ *Power supply*

  - – **Board supply:** The power supply must be between **6V and 12V**. There are 2 ways to supply the device :
    - o Dedicated connector: To switch on the module, the power cable must be connected and the "on/off" switch set to "On" position.

    - o HE10 connector: the pin 1 (+Power) and pin 20 (GND) of the input/output bus can supply the POB-Servo module with another board of POB-Technology.

  > Warning: If you choose to supply your POB-Servo through the HE10 connector make sure not to use the supply connector of the POB-Servo otherwise you might damage the board.

  - – **Servomotor supply:**

  The power supply servomotor must use the blue connector on the board: the power depends of your servomotor, please read your servomotor documentations to set the correct power.
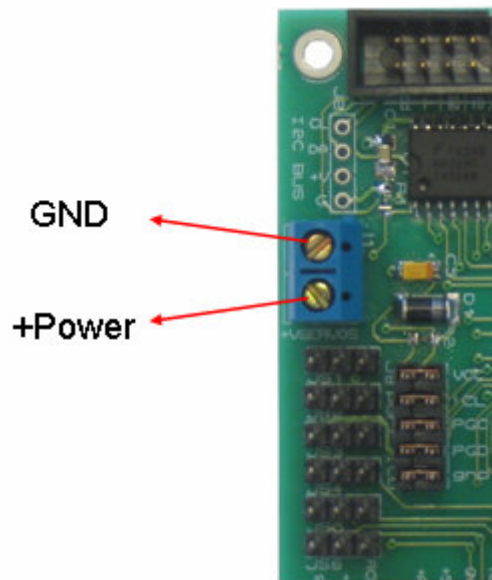
  > Warning: The power supply connector on the POB-Servo is share by all servomotors. You must have the same power on your servomotor.
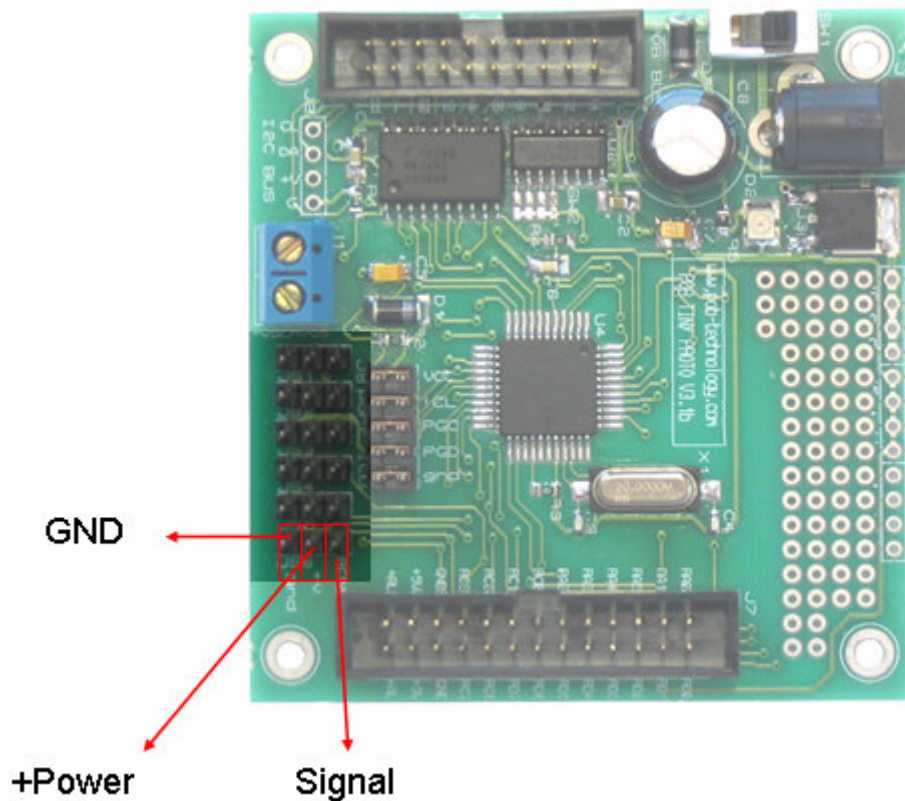
- *POB-EYE connection*

    Connection with POB-EYE module is made by POB-BUS on the HE10 connector.

    Simply connect POB-EYE module and POB-Servo board with the cable:
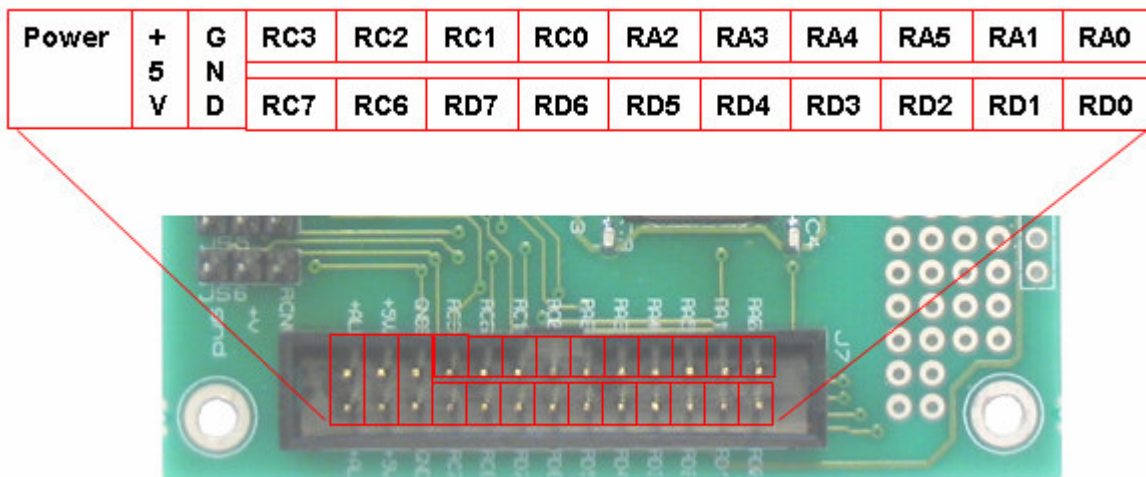

- *Servomotor connection*

The Tiny POB-PROTO board can operate up to 6 servomotors. The servomotor connector has 3 pins:

GND

+Power   Signal

- *Input/Output*

The input/output connector has 20 free input/output pins for sensor, joystick...

The input/output signals on the connector:

Power	+5V	GND	RC3	RC2	RC1	RC0	RA2	RA3	RA4	RA5	RA1	RA0
			RC7	RC6	RD7	RD6	RD5	RD4	RD3	RD2	RD1	RD0

Warning:

The 6 servomotors use RC0, RC1..., and RC7 port. You can't use this pin for your sensors if you have servomotor connected.

- *Using Input/Output*

The RC0, RC1, RC2, RC3, RC4, RC6 and RC7 pin can be set:
- As input/output and as servomotor pin.

- Warning: RC pin can't be set as servomotor and as input/output at the same time!

The RA0, RA1, RA2, RA3, RA4 and RA5 pin can be set:
- As input/output

- As analog. Warning: when you set pin RA as analog, you can't use another RA pin as input/output: all RA pin are analog when you set a pin as analog!
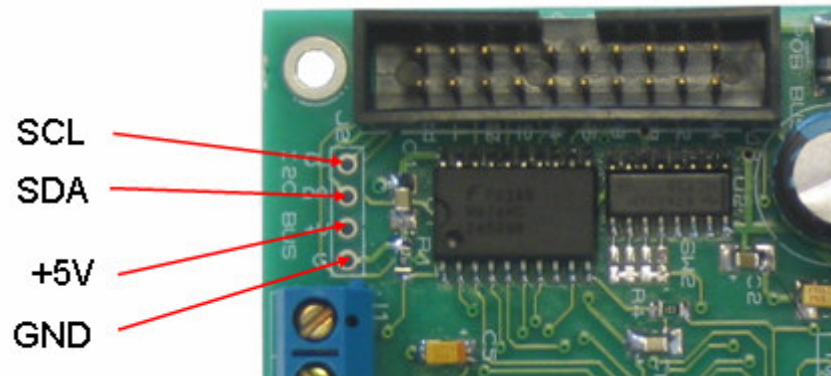
The RD0, RD1, RD2, RD3, RD4, RD5, RD6 and RD7 pin can be set:
- As input/output.

- *I2C Bus*

      The I2C bus on the Tiny POB-PROTO is connected to the POB-EYE I2C bus. The POB-EYE is master on this bus. Pull-Up resistors are already set.

3 Manage the Tiny POB-PROTO with POB-EYE

All the POB-EYE documentation is on the Web:

www.pob-technology.com/api/c/index.html for the C functions of POB-EYE.

http://pob-technology.com/api/c/pob-proto_8h.html for found all POB-PROTO and Tiny POB-PROTO functions.

http://www.pob-technology.com/blog/index.php?Documentations for found all POB-Technology manual.

For use the Tiny POB-PROTO board, you have to call the "SetTinyPobProto" function instead of "SetPobProto" if you have already used a POB-PROTO board.

That's all!

- *Exemple 1*

Tiny POB-PROTO init for use 6 servomotors on RC0 … RC7 and manage the servomotors.

```
#include <pob-eye.h>

int main(void)
{
    UInt8 i=0;
    PobProto configuration;

    InitPOBEYE();

    configuration.portc = RC7_AS_SERVO | RC6_AS_SERVO |RC3_AS_SERVO |
    RC2_AS_SERVO|RC1_AS_SERVO |RC0_AS_SERVO;

    SetTinyPobProto(&configuration);

    while(1)
    {
        for(i=0 ; i< 6 ; i++ )
            SetServoMotor(i,1);

        Wait(400000);

        for(i=0 ; i< 6 ; i++ )
```

```
            SetServoMotor(i,255);

        Wait(400000);
    }
    return 0;
}
```

Contact POB-Technology

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