(주)피에조테크놀리지
Piezoelectric Technology Co., Ltd.

TECHNICAL DESCRIPTION

MODEL: PMC-2002

(Piezoelectric Multi channel Slave Controller)

VER. 100

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Revision History

Version	Date	Changes	Status	Author/Approver
100	2020/12/14	First revision	draft	J.H.Nam

- The information is subject to change without notice for technical improvement

CONTENTS

1. Introduction

This user manual provides information about the electrical specifications of the PMC-2002 Controller is offered in single axis configurations.

The PMC2002 performs digital position and velocity control for one axis, using incremental encoder devices as the main position feedback. It does role of slave device of multiple channel system.

2. Features

- Industry's smallest TULA controller solution.
- PID Control and IIR filter Algorithm.
- I2C interface.
- Data Recording.
- 1 Axis configuration.

3. Safety Precautions

Connect/disconnect the stage cable from/to PMC-2002 , only when the main power of PMC-2001 cord is disconnected from the wall outlet.

4. Specification

Model	**PMC-2002**
Power	
Operating Voltage	5V [±10%]
Electrical power	1.5W
Power consumption	0.3A
Communication	I2C
User software	TULA Controller PC Manager
Environmental	
Ambient operating temperature	0 to +50℃
Storage temperature	-20℃ to +70℃
Operating humidity	0 to 80%
Dimensions	33 mm x 25 mm x 10 mm
Weight	5g

Table 1: Technical data

5. Block Diagram

This section describes the block diagram of PMC-2002

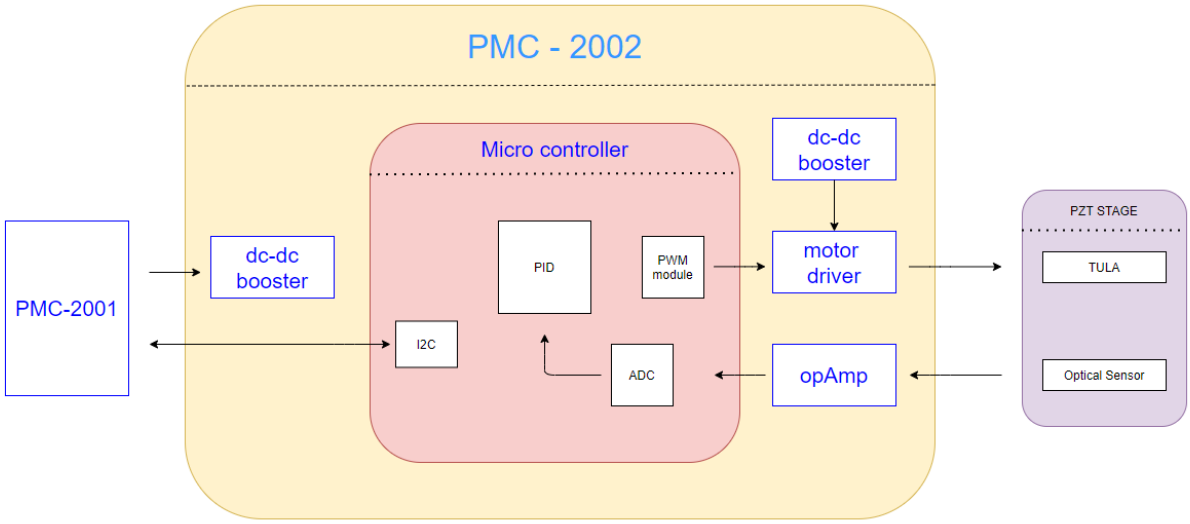


Figure 1: PMC-2002 Block diagram

6. Layout

This section describes the layout of PMC-2002.

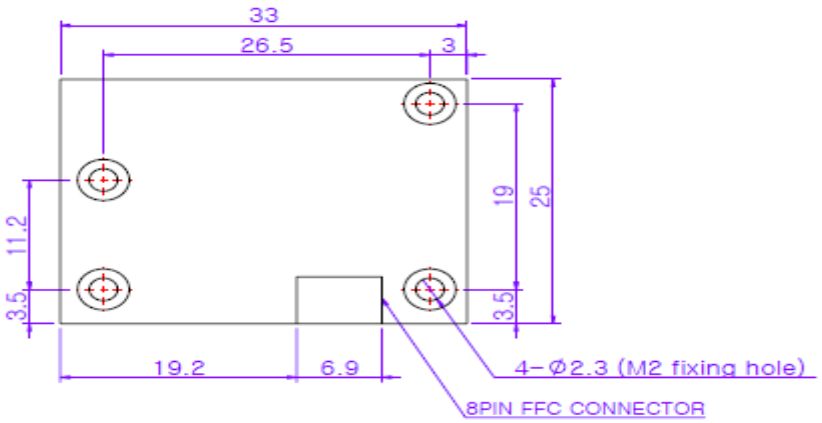


Figure 2: PMC-2002 Dimension

Figure 3: PMC-2002 Top view

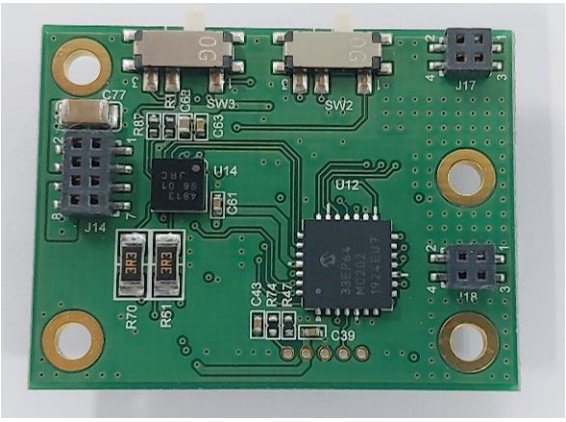
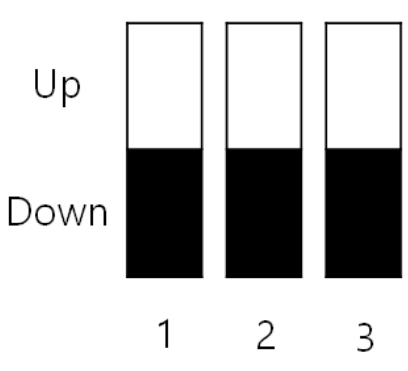


Figure 4: PMC-2002 Bottom view

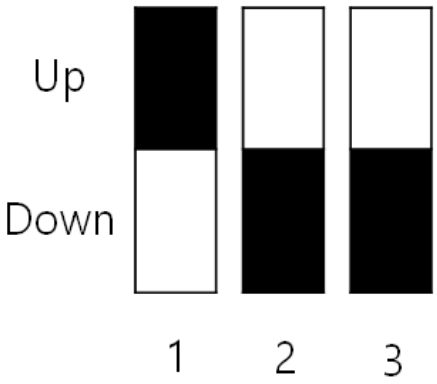
7. Switch setup

This section describes the switch1,2,3 which are select sensor type of PMC-2002 .

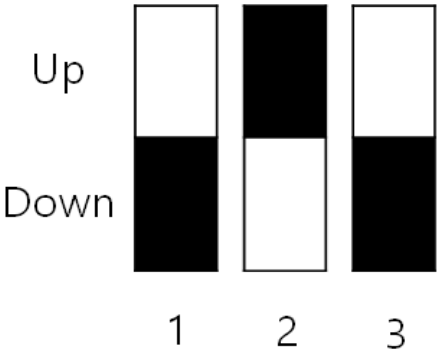
7-1. SW1 select ID



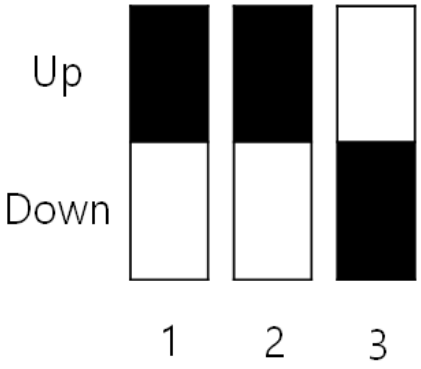
ID : 1



ID : 2



ID : 3



ID : 4

Figure 5: Switch description of Select ID

7-2. SW2,SW3

Select sensor type

optical sensor mode (PT-XDT series)

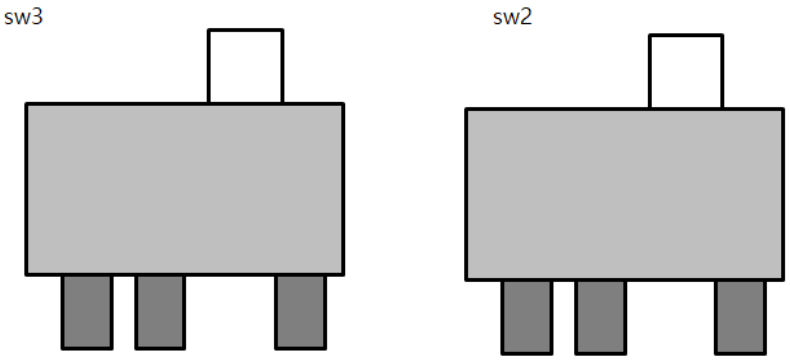


Figure 6: optical sensor mode

I2C mode

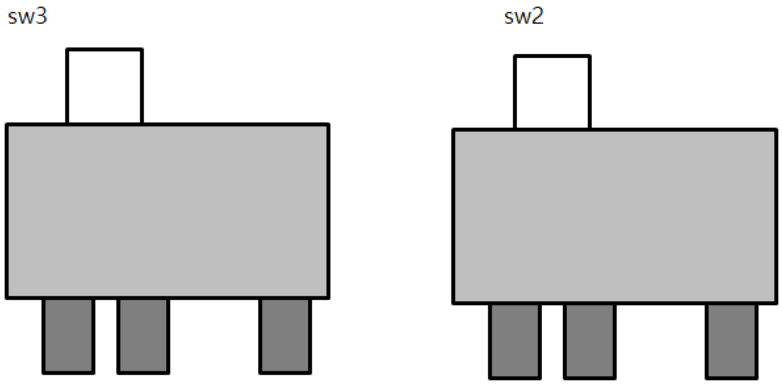


Figure 7: I2C encoder mode

8. CONNECTOR PIN CONFIGURATION

This section describes the motor and encoder connector pin out.

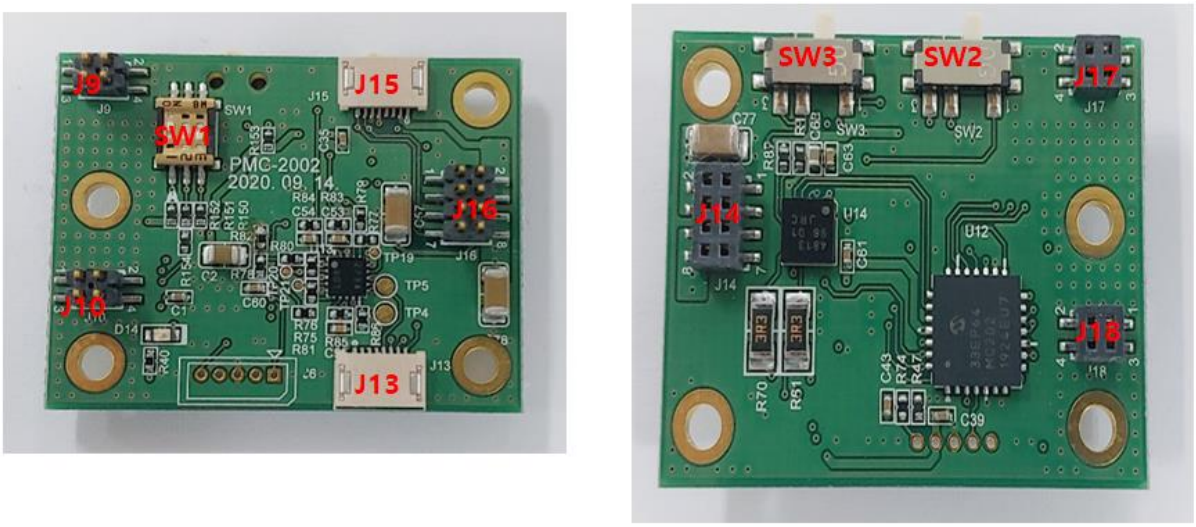


Figure 8: Description of PMC2002 connector and Switch

8-2. Motor & Encoder

Connector J13: Molex, 51281-0894 (optical sensor Mode)

Pin#	Pin Name	Pin Type	Description
1	GND	I	Encoder output C
2	3.3V	-	Common Voltage
3	OPT_B	I	Encoder output B
4	OPT_A	I	Encoder output A
5	LED_IN	-	Anode of Sensor
6	LED_OUT	-	Cathode of Sensor
7	MOT A	O	High voltage output A
8	MOT B	O	High voltage output B

Connector J13: Molex, 51281-0894 (I2C encoder Mode)

Pin#	Pin Name	Pin Type	Description
1	OPT_C	I	Encoder output C
2	3.3V	-	Common Voltage
3	I2C_data	I	I2C Data
4	I2C_clock	I	I2C Clock
5,6	-	-	-
7	MOT A	O	High voltage output A
8	MOT B	O	High voltage output B

Table 3: PMC-2002 Stage Connector Pin out

8-3. FFC Connection to Master(PMC-2001) or other Slave (PMC-2002)

Connector J15: Molex, 51281-0894

Pin#	Pin Name	Pin Type	Description
1,2	Vout	-	Positive supply for TULA Driver
3,4	DC 5V	-	Positive supply for PMC-2002
5	DC 3.3	-	Positive supply for Logic
6	GND	-	Ground reference for PMC-2002
7	I2C_Clock	O	I2C Clock
8	I2C_DATA	I,O	I2C Data

Table 4: PMC-2002 Connection Connector Pin out

8-4. Stack Connection to Master(PMC-2001) or other Slave (PMC-2002)

Connector J16: Samtec, FTSH-104-02-L-D

Pin#	Pin Name	Pin Type	Description
1	DC 3.3	-	Positive supply for Logic
2,4	Vout	-	Positive supply for TULA Driver
3	GND	-	Ground reference for PMC-2002
6,8	DC 5V	-	Positive supply for PMC-2002
5	I2C_Clock	O	I2C Clock
7	I2C_DATA	I,O	I2C Data

Table 4: PMC-2002 Connection Connector Pin out

Connector J9,J10: Samtec, FTSH-102-02-L-D

Not function

Connector J14: Samtec, CLP-104-02-L-D

Pin#	Pin Name	Pin Type	Description
1	DC 3.3	-	Positive supply for Logic
2,4	Vout	-	Positive supply for TULA Driver
3	GND	-	Ground reference for PMC-2002
6,8	DC 5V	-	Positive supply for PMC-2002
5	I2C_Clock	O	I2C Clock
7	I2C_DATA	I,O	I2C Data

Connector J17,J18: Samtec, CLP-102-02-L-D

Not function

9. Contact Information

Contact your local distributor or Piezoelectric Technology Co., Ltd.

9-1. Head Office

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