

PMC1901 Controller

for Piezo Active Focus Module PZM-M12-06-DB

V1.00 2019/07



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All details provided are technical data which do not constitute warranted qualities.

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1. Introduction

This user manual provides information about the electrical specifications of the PMC-1901. PMC-1901 Controller is offered of Module. The PMC-1901 performs digital position and velocity control for one axis, using incremental encoder devices as the main position feedback.

2. Features

- Industry's smallest piezo motor controller solution.
- PID Control Algorithm.
- UART Interface.
- Open-Loop Direction
- Data Recording.
- Single Axis configuration.

3. Specifications

3.1 Electrical Specification

Model	PZM-M12-06-DB
Power	
Operating Voltage	5V [±10%]
Electrical power	2.5W
Power consumption	0.5A
Communication	UART(TTL-level)
Baud rate	115200 bps
Transmission code	ASC II
Data length	8 bit
Stop bit length	1 bit
Parity check	None
User software	Piezo Terminal
Environmental	
Ambient operating temperature	0 to +50°C
Storage temperature	-20°C to +70°C
Operating humidity	0 to 80%

Table 1. electrical specification

3.2 mechanical specification

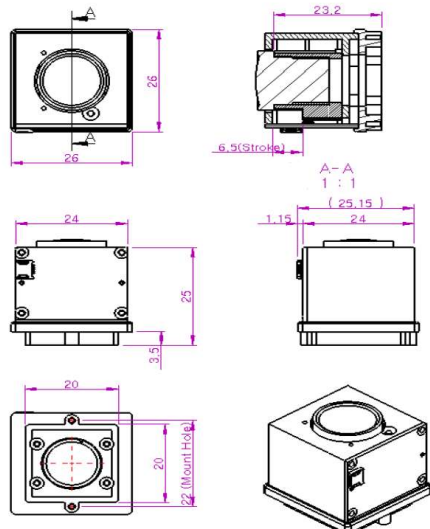
Lens Type (Lens not included)	M12 x 0.5 mm	
Lens Weight	< 5grams	
Travel Range	Up to 6 mm	
Housing Dimension	26 x 26 x 25	
Speed	< 10 mm/s	
Resolution	0.1 μ m	
Repeatability	$\pm 3 \mu$ m	
Temperature /RH	0° to 50°	
Mean Time Before failure	> 600K Cycles	

Table 2. mechanical specificaition

4. Block Diagram

This section describes the block diagram of PMC-1901

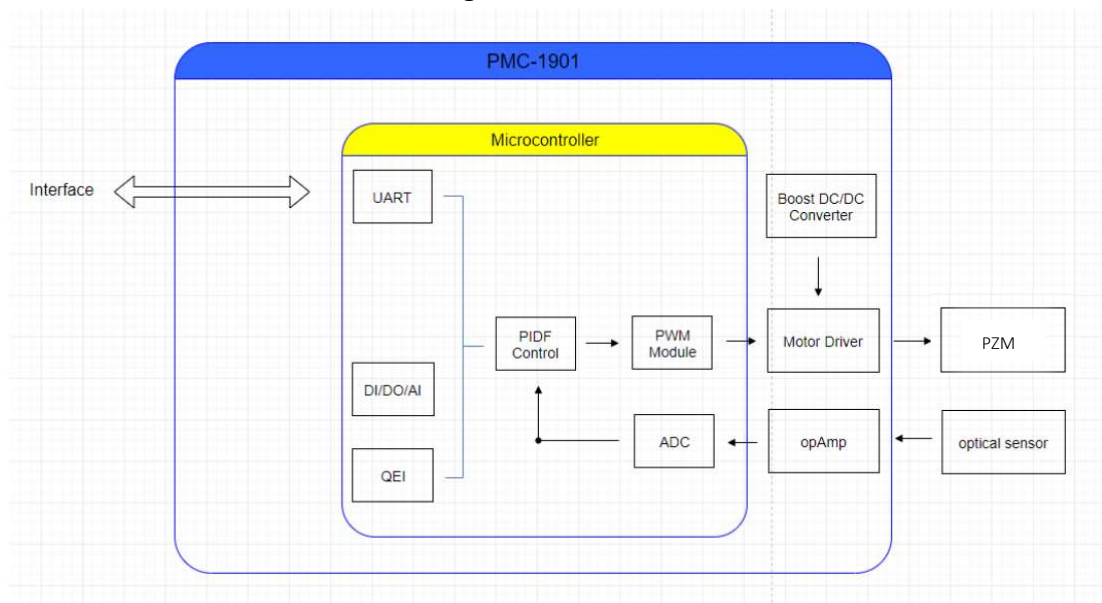


Figure 1: PMC1901 Block Diagram

5. Layout

This section describes the layout of PMC-1901.

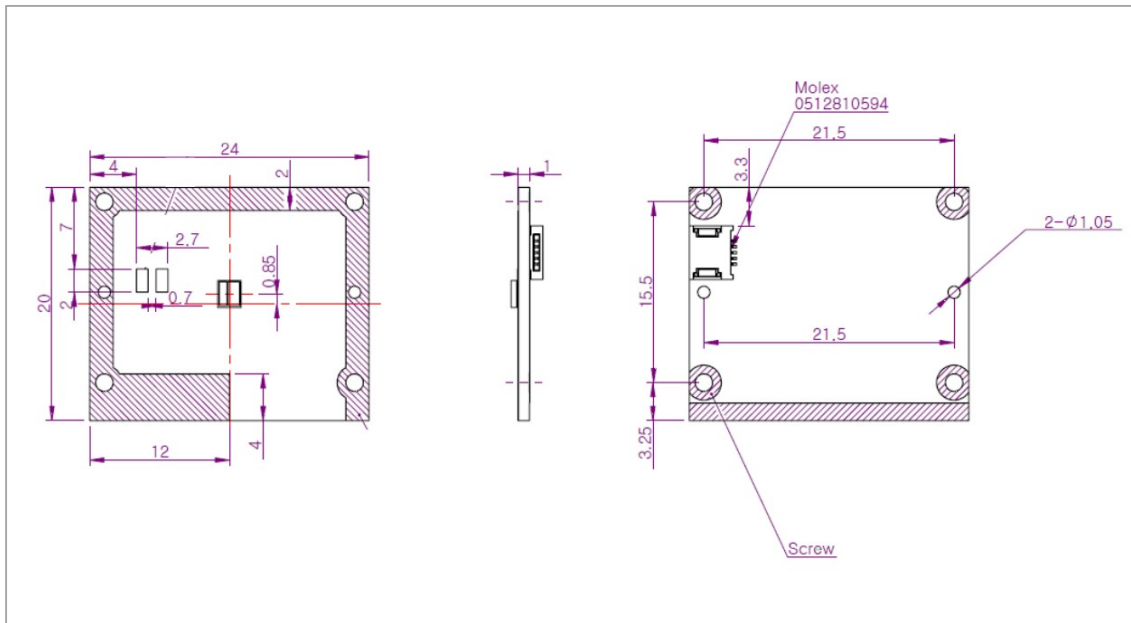


Figure 2: PMC-1901 Dimension (PCB Layout)

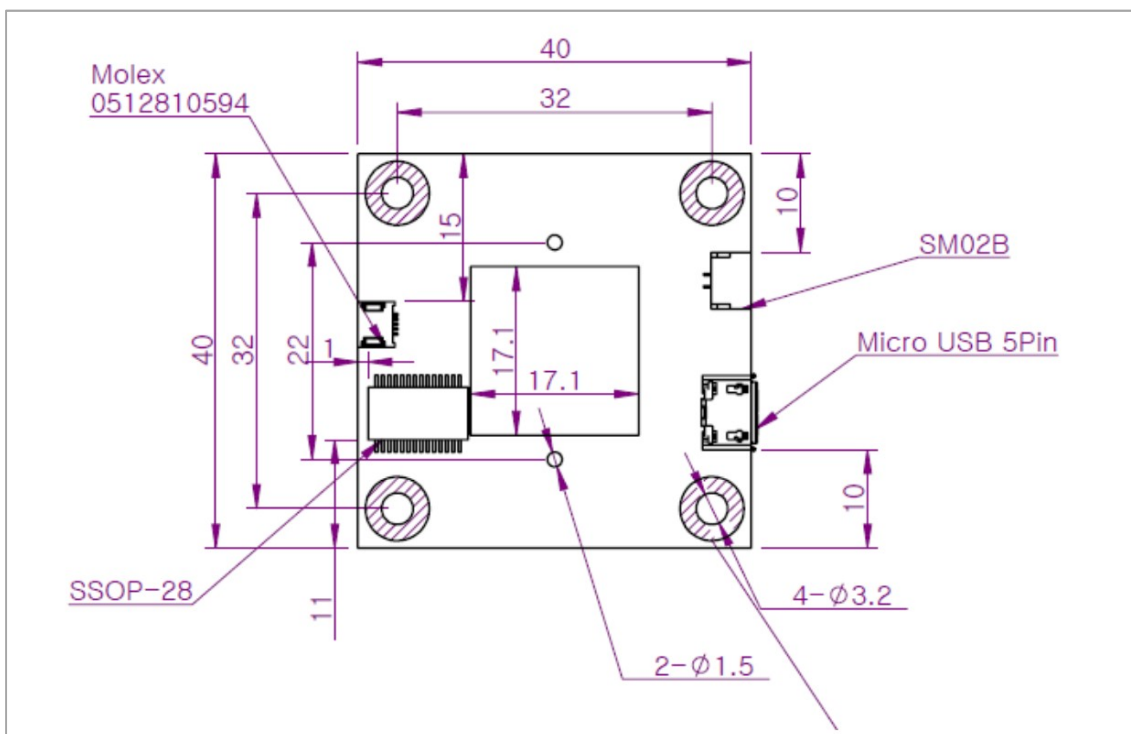


Figure 3: PMC-1901_A Dimension (PCB Layout)

6. CONNECTOR PIN CONFIGURATION

This section describes the Power and Interface connector pin out.

Connector J1: Molex, 51281-0594

Pin#	Pin Name	Pin Type	Description
1	VCC5MAIN	P	Positive supply for PMC-1901
2	GND	-	Ground reference for PMC-1901
3	RXD	I	UART Receive (PC → PMC-1901)
4	TXD	O	UART Transmit (PMC-1901 → PC)
5	GND	-	Ground reference for PMC-1901

Table 2: PMC-1901 Main Connector Pin out

Connector J6: Molex, 51281-0594

Pin#	Pin Name	Pin Type	Description
1	VCC5MAIN	P	Positive supply for PMC-1901
2	GND	-	Ground reference for PMC-1901
3	RXD	I	UART Receive (PC → PMC-1901)
4	TXD	O	UART Transmit (PMC-1901 → PC)
5	GND	-	Ground reference for PMC-1901

Table 3: PMC-1901_A Main Connector Pin out

Connector J7: JST, SM02B-GHS

Pin#	Pin Name	Pin Type	Description
1	VCC5MAIN	P	Positive supply for PMC-1901
2	GND	-	Ground reference for PMC-1901

Table 4: PMC-1901_A Power Connector Pin out

Connector J8: Micro USB connector