

PMC-1202 PC Manager MANUAL

Research & Development Center

2013.03.22



**PIEZOELECTRIC
TECHNOLOGY**

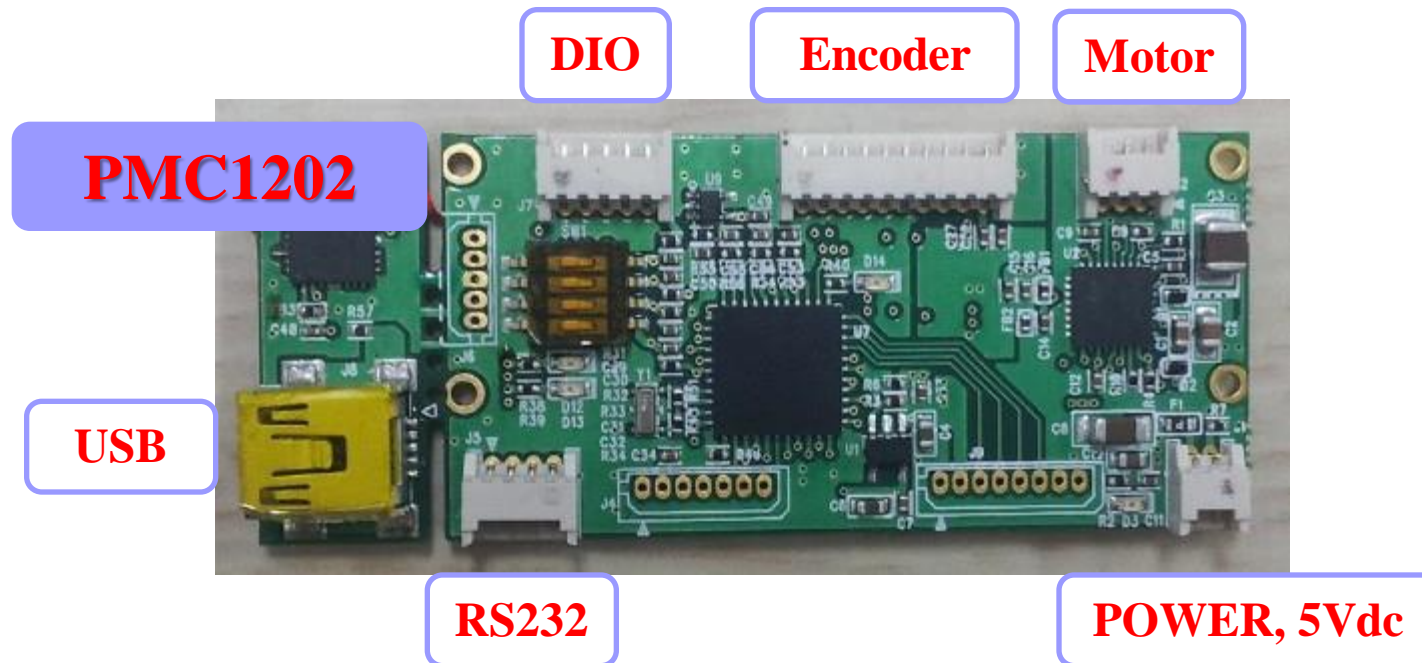
Version	Date	Changes	Status	Author/Approver
1	2013/03/22	First revision	draft	Jongmin choi

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

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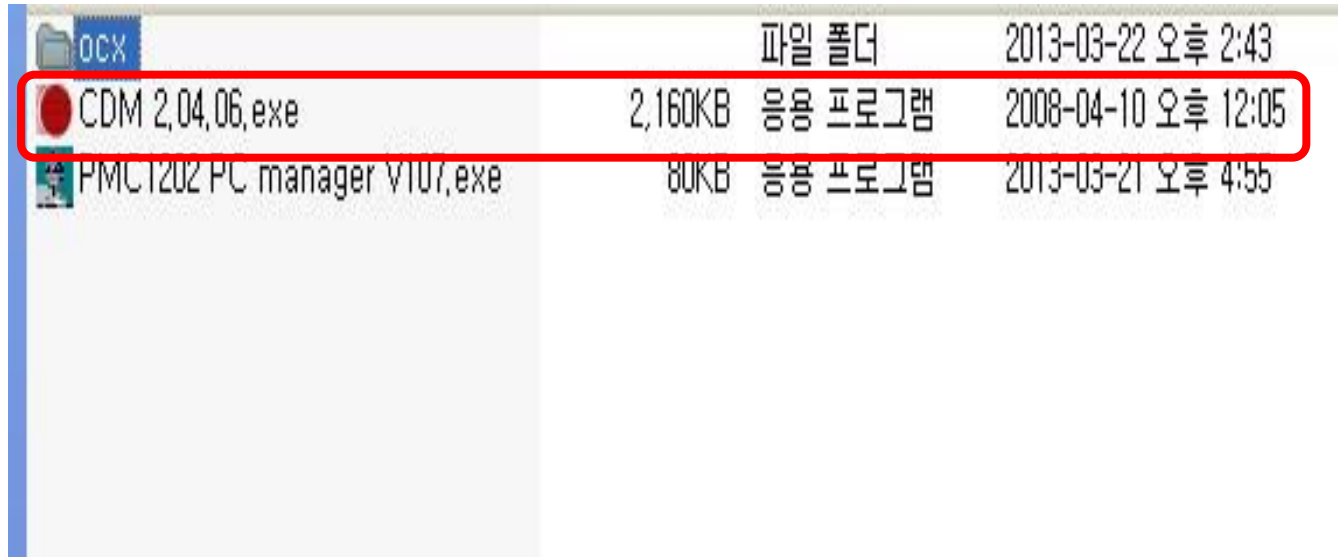
1. INTRODUCTION

1. This user manual provides information about the PC manager of PMC-1202
2. Reference documents
 - PMC1202 Technical description _Vxxx.pdf
 - PMC1202 UART Command reference manual _Vxxx.pdf



2. USB to SERIAL Driver Setup

1. Execute the "CDM 2.04.06.exe" that is attached



2. You can download the file in this website (<http://www.ftdichip.com>)
3. Once the attached file is executed, you don't need to execute it

3. How to Install OCX

1. Windows XP

- Step1: Run "install.bat"

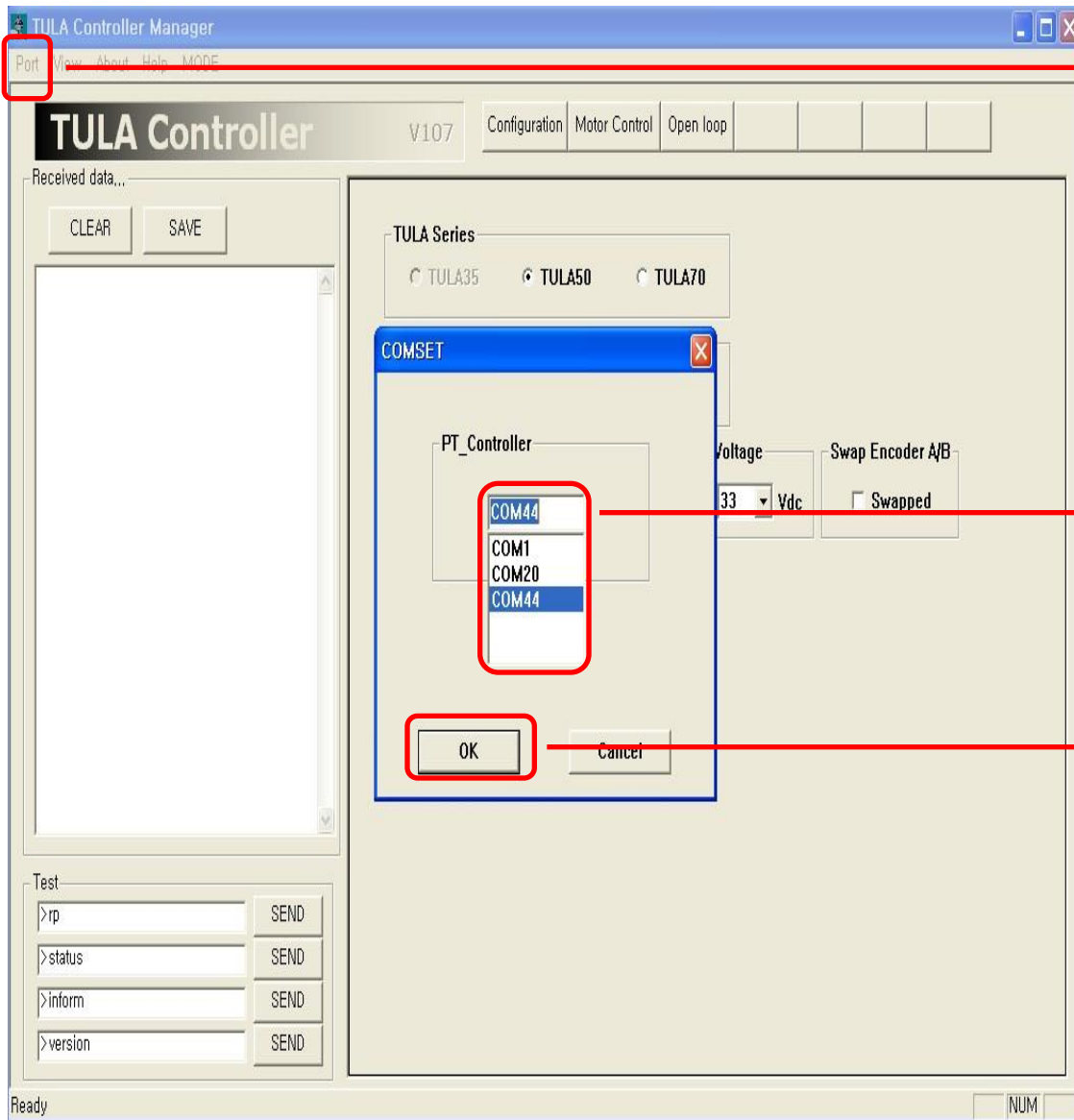
2. Windows 7, 8

- Step1: Copy "strips.ocx" and "install.bat" to "C:\Windows\system32."



- Step2: Run "install.bat" in administrator privileges mode which is selected using right-click of mouse.

4. Serial Port Setting



Step1: Click "Port" icon on menu bar

Step2: Select the proper COM-port

Step3: Click [OK]

5. Configuration

The screenshot shows the TULA Controller Manager software interface. The window title is "TULA Controller Manager". The menu bar includes "Port", "View", "About", "Help", and "MODE". The main window has a title bar "TULA Controller" and a sub-window "TD101" with tabs for "Configuration", "Motor Control", "Open loop", and others. The "Motor Control" tab is active. On the left, there is a "Received data..." section with "CLEAR" and "SAVE" buttons, and a list of data points. Below that is a "Test" section with buttons for ">rp", ">status", ">inform", and ">version", each with a "SEND" button. The main area features a graph titled "[Red = Target Position, Blue = Current Position]" with a "Display" checkbox. The graph shows a step function with a red line for the target and a blue line for the current position. Below the graph are control panels for "Closed Loop Control" and "PTP Demo". The "Closed Loop Control" panel includes fields for "Absolute target step" (1000), "Relative target step" (200), and "Velocity(mm/s)" (10 mm/s, 25 %). The "PTP Demo" panel includes fields for "Target1(step)" (0), "Target2(step)" (1000), "Interval(ms)" (200), and "START" (STOP).

- [TULA Series]: Define the motor type
- [Encoder Type]: Define the encoder type
- [Resolution]: Define the resolution of encoder
- [Reference Frequency]: Define the driving frequency
- [Voltage]: Define the voltage
- [Swap Encoder A/B]: Swap encoder A and encoder B inputs
- [Configuration]: Configuration commands input
- [Auto-Tuning]: Automatic tuning
- [STOP]: Aborts the motion immediately.
- [Get-Information]: Reports the internal setting of controller

6. Move to Position(PTP)

The screenshot shows the TULA Controller Manager interface. At the top, there's a menu bar with 'Port', 'View', 'About', 'Help', and 'MODE'. Below that, the main window title is 'TULA Controller V107'. There are tabs for 'Configuration', 'Motor Control', and 'Open loop'. The 'Motor Control' tab is active. On the left, there's a 'Received data...' section with 'CLEAR' and 'SAVE' buttons, and a list of data points. The main area contains a graph titled 'Move to Step' with 'Step' on the y-axis (ranging from -4000 to 4000) and 'Time' on the x-axis (ranging from 0 to 1200). The graph shows a red step function and a blue smooth curve. Above the graph are control buttons: 'R', '-', '+', and a 'Display' checkbox. Below the graph is a 'Closed Loop Control' section with input fields for 'Absolute target step' (1000) and 'Relative target step' (5000), and buttons for 'Target', 'Home', 'Get-Position', '<-Step Rev', 'Step Fwd->', and 'STOP'. At the bottom left, there's a 'Test' section with buttons for '>rp', '>status', '>inform', and '>version', each with a 'SEND' button. The status bar at the bottom shows 'Ready' and 'NUM'.

- [Display]: During motion, the motion status can be continuously monitored.
- Red = Target Step.
- Blue = Current Step.
- [+]: Zoom in
- [-]: Zoom out
- [R]: Reset to the scale
- [Home]: Move to the home position.
- [Target]: Move to the absolute target position. The target position can be specified absolute position, using the absolute position parameter.
- [<Step Rev],[Step Fwd>]: Move to the relative target position. The target position can be specified relatively to the current desired position, using the relative position parameter.
- [STOP]: Aborts the motion immediately.
- [Get-Position]: Reports the actual controller position.(Encoder value)

7. Open-Loop Control

The screenshot shows the TULA Controller Manager software interface. The main window is titled "TULA Controller" and has a menu bar with "Port", "View", "About", "Help", and "MODE". Below the menu bar, there are tabs for "Configuration", "Motor Control", and "Open loop", with the "Open loop" tab selected and highlighted by a red box. The interface is divided into several sections:

- Received data,...**: A text area on the left showing a list of commands and their responses, such as "[0000] _reference freq 68000 Hz" and "[0001] _duty 25 %".
- Setting**: A section containing three rows of controls:
 - Frequency[kHz]**: A text box with "68", a range "20-100", and a "Send" button.
 - Duty[%]**: A text box with "25", a range "1-48", and a "Send" button.
 - Volt[Vdc]**: A text box with "30", a range "16-35", and a "Send" button.
- Mode**: A section with two radio buttons: "Time(ms)" (selected) and "Pulse".
- Moving**: A section containing three rows of controls:
 - Duration(ms/pulse)**: A text box with "500", a range "1-6,000,000", and a "Send" button.
 - Interval(ms)**: A text box with "1000", a range "1-60,000", and a "Send" button.
 - Steps (Cycles)**: A text box with "3", a range "1-2*31", and a "Send" button.
- Directional Buttons**: Below the "Moving" section, there are buttons for "<- Reverse", "Forward >", "<- Bi ->", and "Stop".
- Test**: A section at the bottom left with four text boxes and "SEND" buttons: ">rp", ">status", ">inform", and ">version".

The "Setting" and "Moving" sections are highlighted with a red rounded rectangle. The status bar at the bottom left shows "Ready" and the bottom right shows "NUM".

- [Frequency]: Define the driving frequency (20~100kHz)
- [Duty]: Define the duty(1~48%)
- [Volt]: Define the voltage(16~35Vdc)
- [Time]: Time Duration.
- [Pulse]: Pulse Duration.
- [Duration]: The moving on-time.
- [Interval]: The time between the start of each step.
- [Steps]: The optional number of run.
- [<Reverse]: Motor runs in reverse.
- [Forward>]: Motor runs forward.
- [<Bi>]: Move to both direction.
- [Stop]: Aborts the motion immediately

8. Contact Information

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

2. Head Office

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