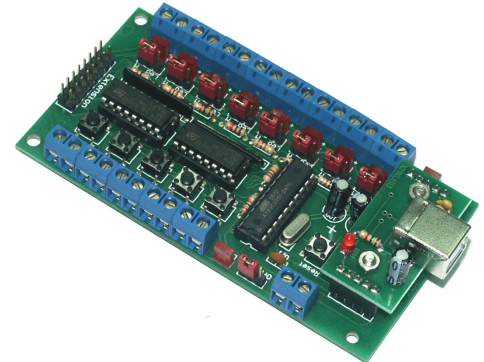


KMK USB 5180 Operation Manual V3.15

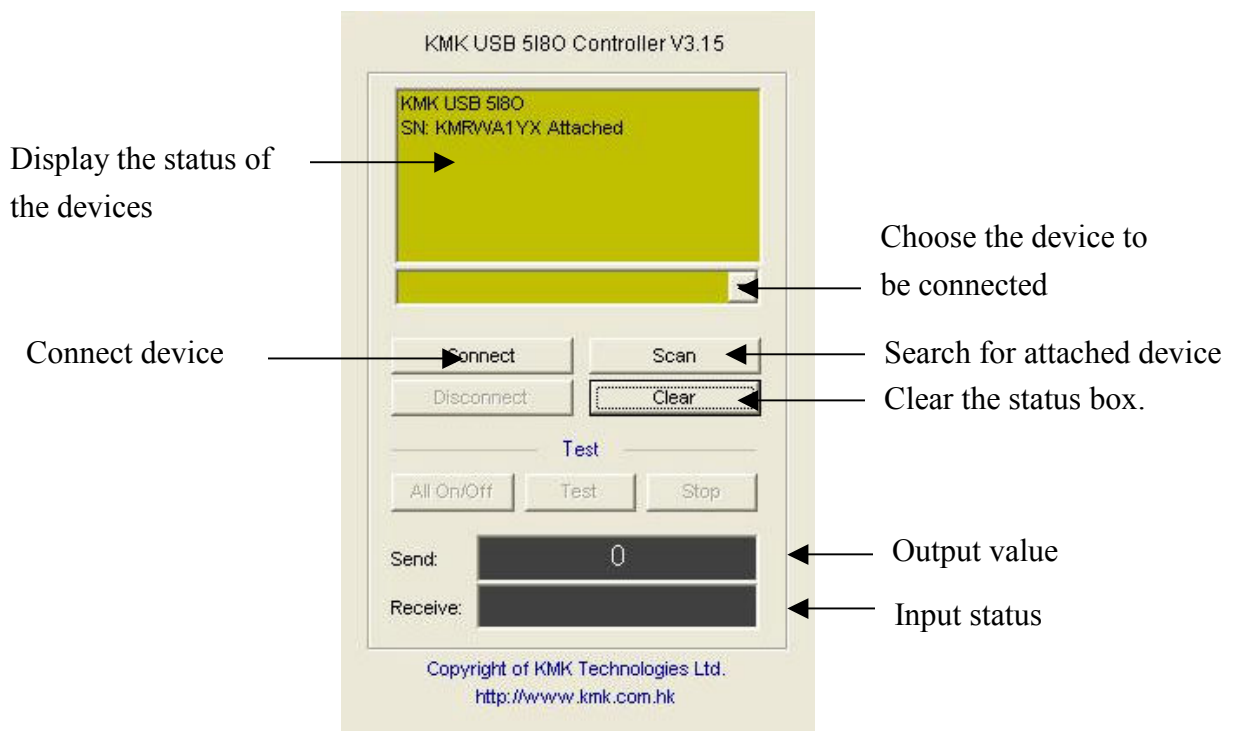
Introduction

KMK USB 5180 I/O Card is a plug and play easy to use controller. Driver and OCX control for writing programs with VB, C# and C++ are provided on the CD or can be downloaded from our web site (www.kmk.com.hk). Please check our web site for the most up to date software and drivers.



Operations

1. Plug the USB cable to the Controller.
2. Connect to any USB port of the PC.
3. On the right hand corner of Windows will display a message “KMK USB 5180” and prompt for installing the driver.
4. Browse to the driver folder of the CD and click “OK” and the drivers will be installed automatically.
5. Install the KMK USB OCX provided on the CD (or download from www.kmk.com.hk).



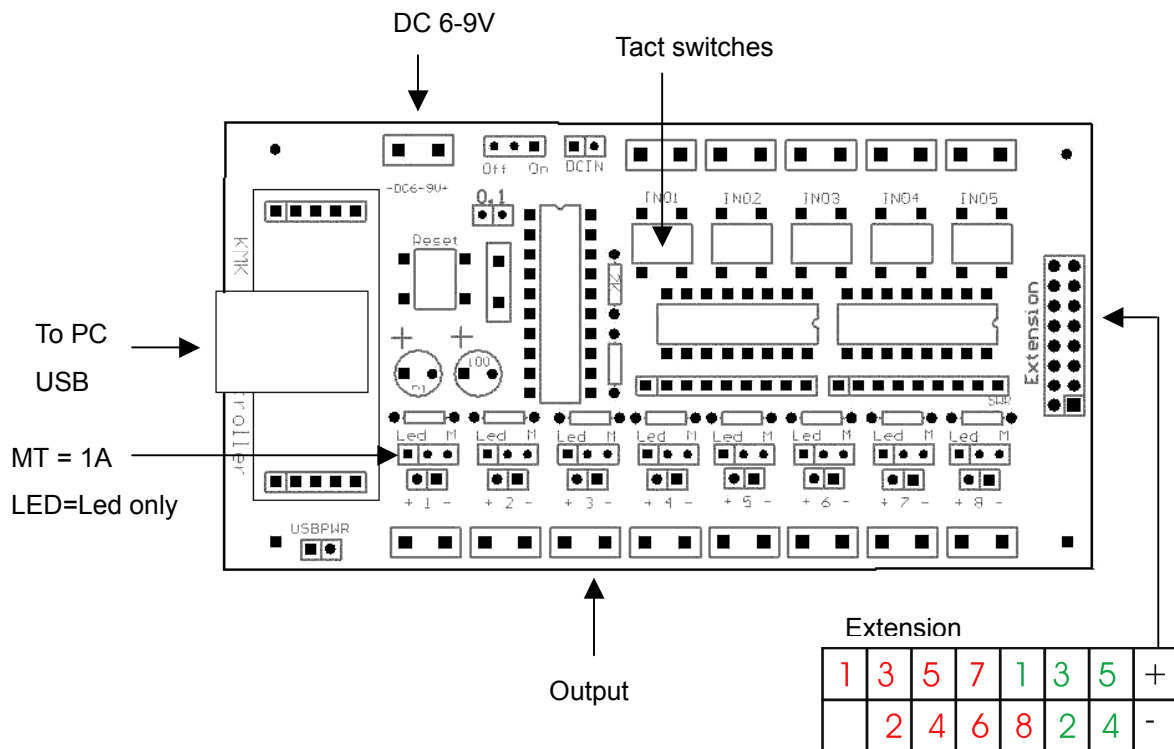
KMK USB OCX Commands

Axkmkusb1.device = value	Value = Serial Number of the Device
Axkmkusb1.port_open_close = 1	Open the port
Axkmkusb1.port_open_close = 0	Close the port
Axkmkusb1.out = value	Output Value from 0 - 255
Axkmkusb1.visible = false	Hide the OCX
Axkmkusb1.visible = true	Unhide the OCX
a = Axkmkusb1.binary	Reading value from input port

Note:

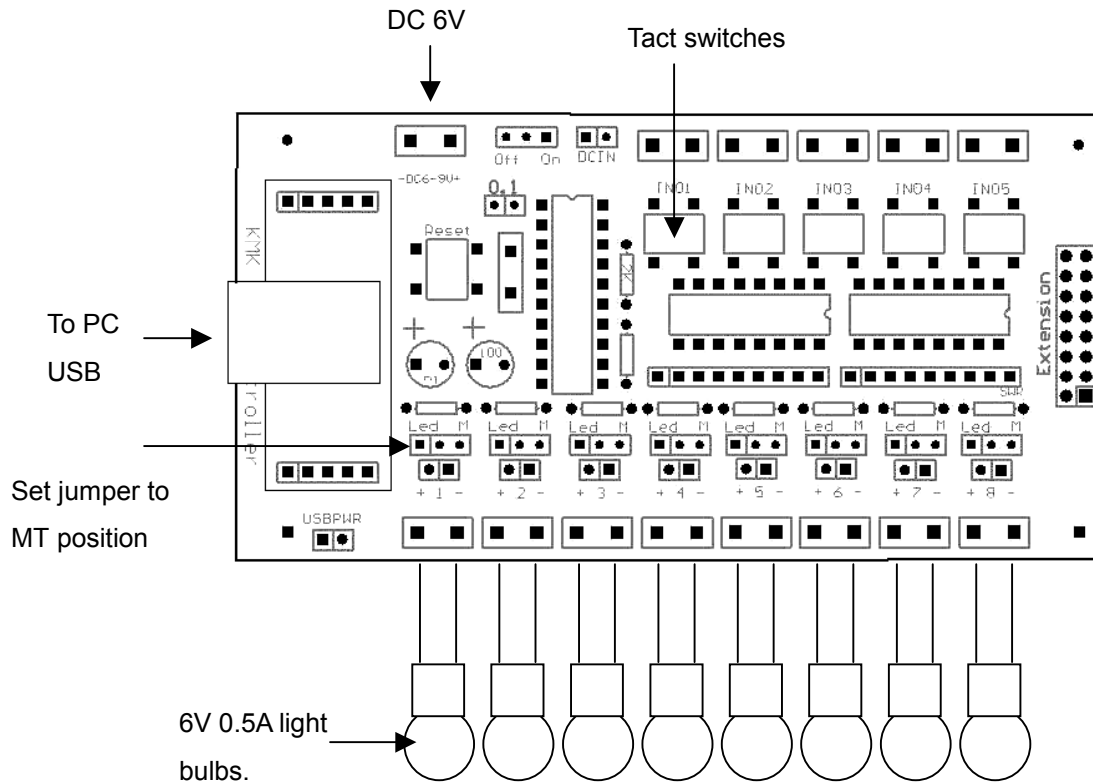
- For writing code to control the USB, the serial number must be entered before open or close the port.
- The first ocx should be named 'Axkmkusb1' and the second ocx should be 'Axkmkusb2' and so on.

Part Descriptions



KMK USB 5180 can be used for controlling different devices. The following are some of the examples.

Example 1: To control light bulbs.



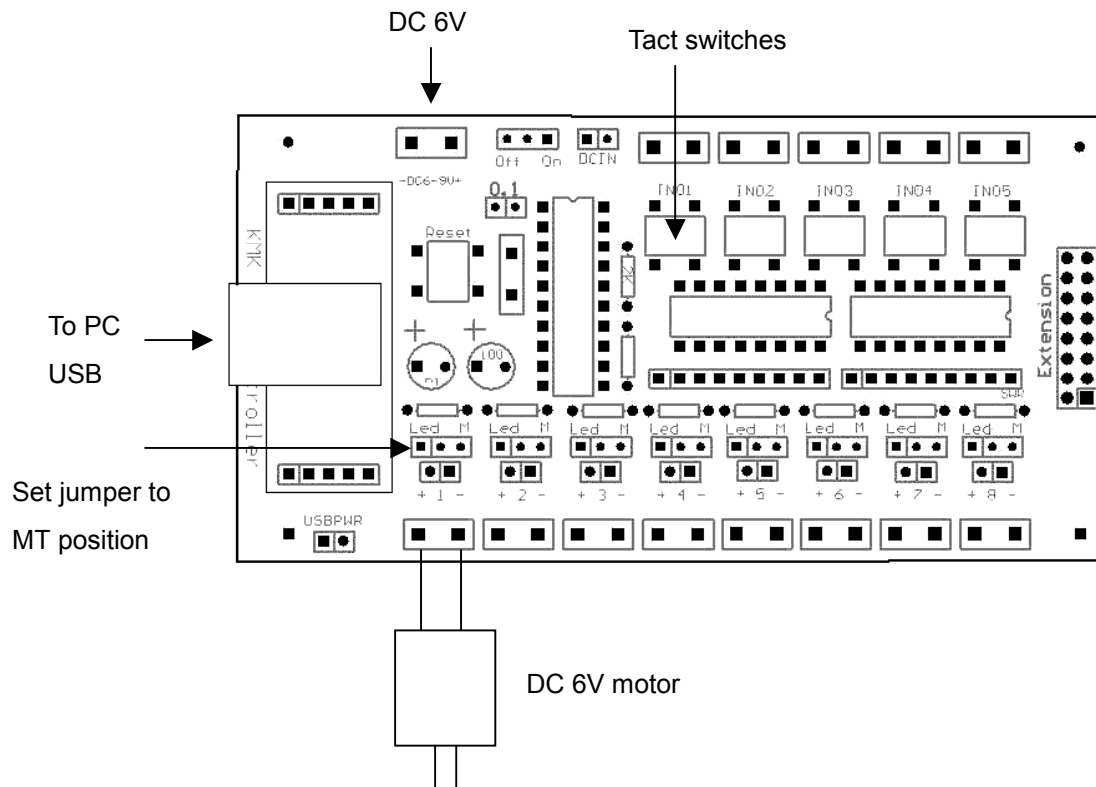
Note: The output port of the KMK USB 5180 controller has 8 bits. Binary code is used for switching on/off every bits of the output port. The table below shows the bit value for each bit. If we want to switch on the devices connected at each bit, we simply output the bit value to the output port. For example, if we want to switch on the device connected to bit 1, we output 1. If we want to switch on the device connected at bit 2, we output 2 and so on.

Bit	8	7	6	5	4	3	2	1
Bit Value	128	64	32	16	8	4	2	1

If we want to switch on several bits together, we simple add the required bit value together. For example, if we want to switch on bit 1, 3, 5, and 7 we can write the code as below;

$$\text{Axkmkusb1.out} = 1 + 4 + 16 + 64$$

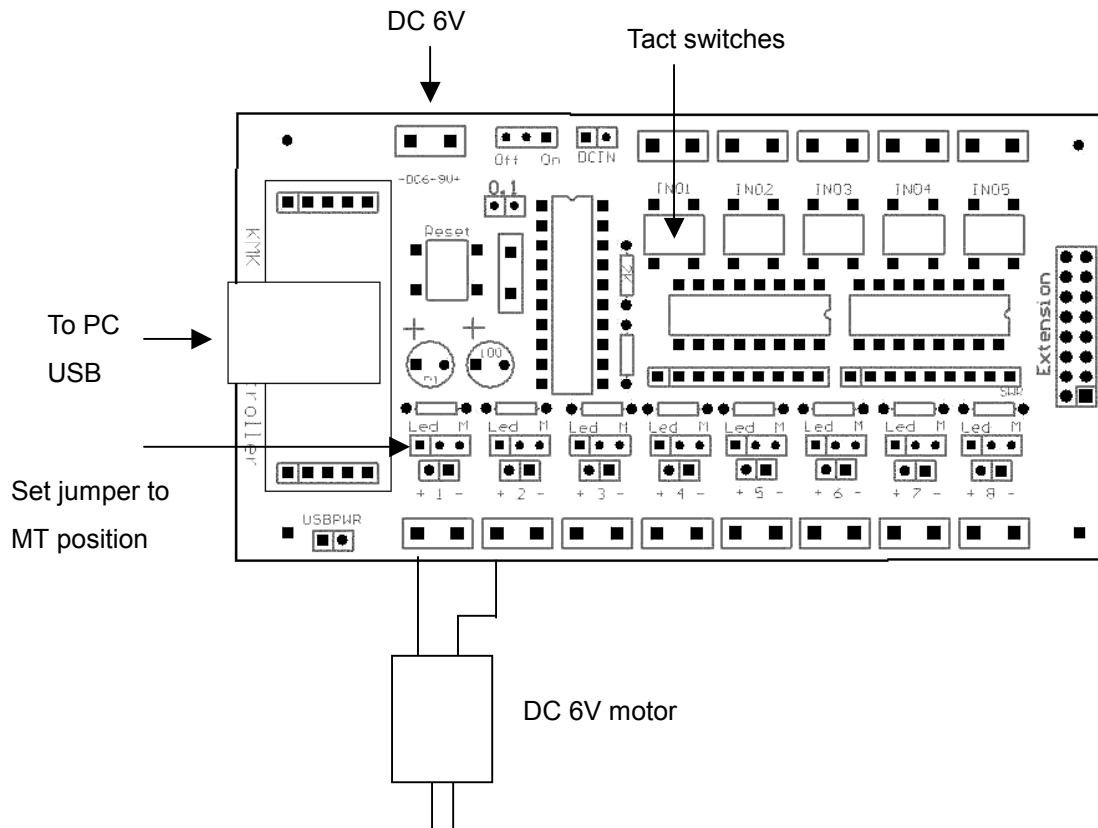
Example 2: To control DC motor.



Since the motor is connected to one of the output bit, to switch on the dc motor above is the same as switching on the light bulb on example 1. Therefore, the command for running and stopping the motor are listed as below:

Actions	Commands
To start the motor	Axkmkusb1.out = 1
To stop the motor	Axkmkusb1.out = 0

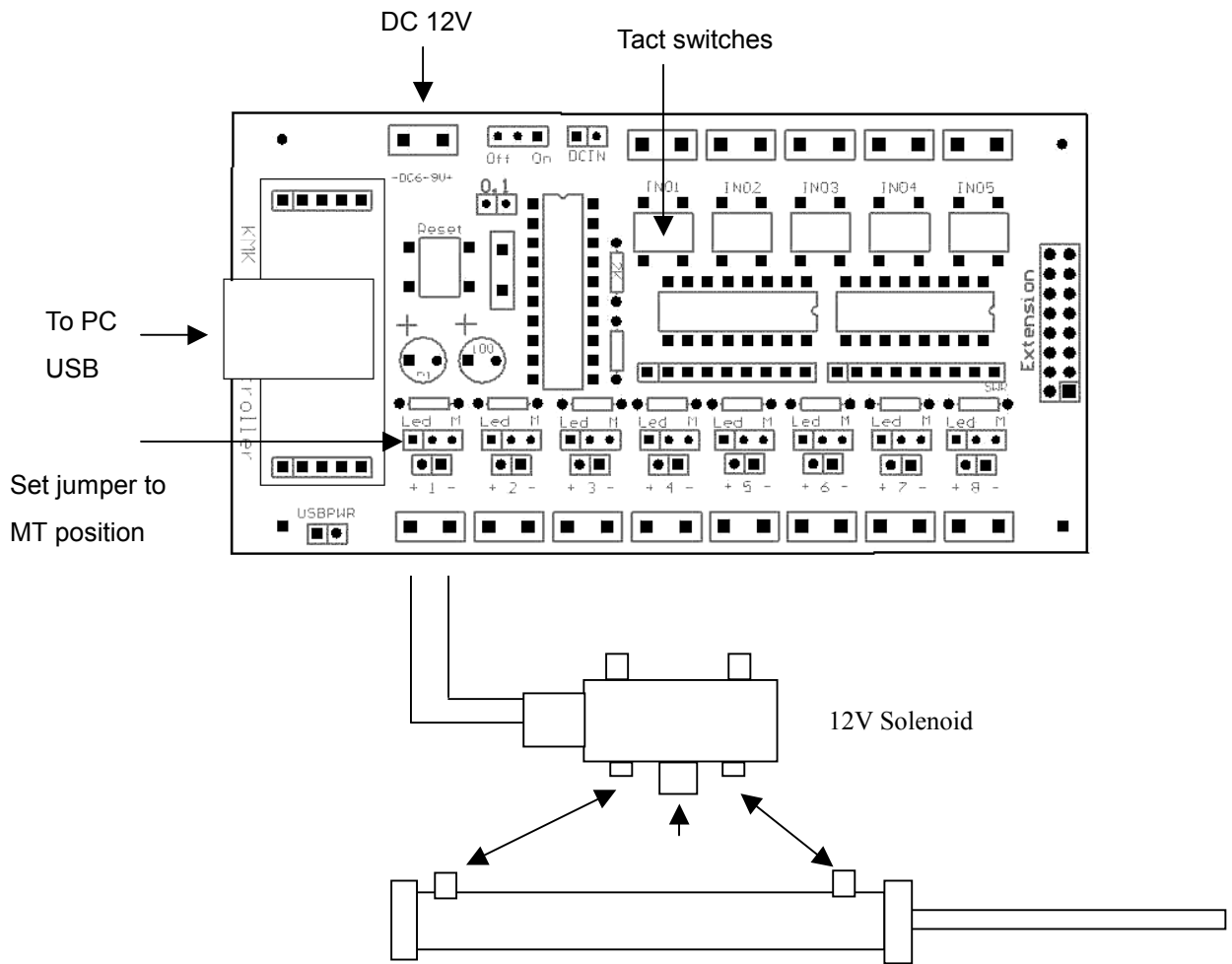
Example 3: To control DC motor to run in two directions.



We need two bits to control a motor to run in two directions. To commands for controlling the running of the motor are the similar to the control of 2 light bulbs.

Actions	Commands
Stop the motor	<code>Axkmkusb1.out = 0</code>
Run at one direction	<code>Axkmkusb1.out = 1</code>
Run at another direction	<code>Axkmkusb1.out = 2</code>

Example 4 : To control pneumatic cylinder.



Example 5: To control relay:

