



十速科技股份有限公司
tenx technology inc.

**Advance
Information**

TP6703

Voltage Output Controller

8 Bit Microcontroller

Application Note

**Tenx reserves the right to change or
discontinue this product without notice.**

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PRODUCT NAME

TP6703

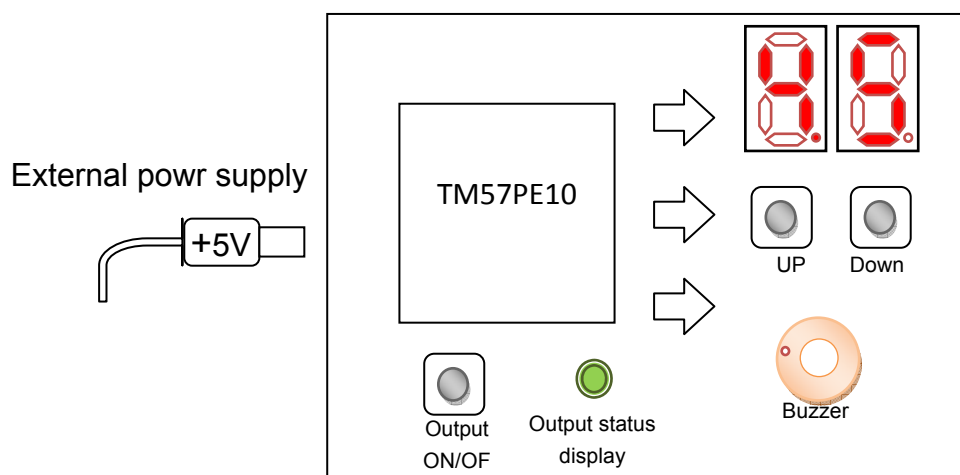
TITLE

Voltage Output Controller

APPLICATION NOTE**1. Introduction to functions****1.1 Introduction to the function of voltage output controller**

(1) Product function and structure

Voltage output controller (TM57PE10) includes: one set of power input 5V, one set of power output and status LED display, power control buttons*3, 7 segment LED display*2, and a buzzer to generate key-click sound during operation. A comparator is used to achieve the voltage output control. A up button and a down button is used to control an IRV(Internal reference voltage) to adjust the output voltage. A button is used to start or stop the function of voltage output. A 7 segment LED display is used to display the output voltage (5.0V~0V).



1.2 Introduction to hardware functions

- (1) Use TM57PE10 (a 8 Bit Microcontroller)
- (2) One set of power input 5V, one set of power output and status LED display
- (3) 3 buttons: UP, DOWN, ON/OFF
- (4) Buzzer output to generate key-click sound during operation
- (5) 7 segment LED display*2

1.3 Introduction to structure functions

- 7 segment LED display*2 PA0 ~ PA6 , PB0

PA0~PA6 are used as the data output of the 7 segment LED display. The high/low output of PB0 is used to control two 7 segment LED displays to display the output voltage value.

- Power output feedback control PB1 , PB2 (IN0-/IN1-)

PB1 and PB2 are used as the feedback input into the comparator. Two inputs, IN0 and IN1, and resistors are used to divide voltage to add an extra set of 16 selections for the CMP voltage settings; a total of 32 sets of output voltage in total.

- **Power output control button** PA7

PA7 is used as a switch. Click once to start voltage output and click one more time to stop voltage output.

- **Power output control** PB4 / CMPO

When power output is turned on, PB4 is changed to CMPO function. When power output is turned off, PB4 is changed to GPIO function with input floating.

- **Power output control display** PB3

When power output is turned on, the LED controlled by PB3 will light up. When power output is turned off, the LED controlled by PB3 will distinguish.

- **Key-click sound output** PB5 / PWM

PB5 is used as the PWM output. When the user presses a button, the buzzer will produce a short key-click sound.

- **Power output control button** PB6 / PB7

PB5 is used to adjust the voltage downward while PB6 is used to adjust the voltage upward; press once to increment a small amount while press and hold is still counted as once.



2. Application Circuit

