

Digital Over Speed Switch

(TL-OPT)



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1. Product Overview

Digital Over Speed Switch is a dual digital over speed prevention device using Disc Slit and Tacho Generator using optoelectronic semiconductor sensor. It can adjust setting RPM by key operation according to synchronous speed of motor. Disc is accurate and stable because it detects the speed using optoelectronic semiconductor.

The Digital Over Speed Switch subdivides one revolution into 120 pulses, (1 R.P.M) to high speed (3600 R.P.M) can be controlled and can be applied to both high speed parts such as wire drums and low speed parts such as motors

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2. Product Feature

- 1) Wide range of settings (1 ~ 3600 RPM)
- 2) Since it is 120 resolution per rotation, precise speed control and position control are possible.
- 3) Over speed setting by simple key operation
- 4) Current R.P.M display using instrument panel
- 5) Saving setting value even when power is shut off such as power failure

6) Using Over Speed Switch and Tacho Generator, Double safety application

3. Usage

1) Various applications such as low speed wire drum and high speed motor are available (1 ~ 3600 R.P.M)

2) It is suitable for precise position control because it can be disassembled into 120 revolutions.

4. Basic Specification

1) Power supply: Single phase AC 220/110 [V], 50/60 [Hz] (combined)

2) Voltage fluctuation: $\pm 15\%$

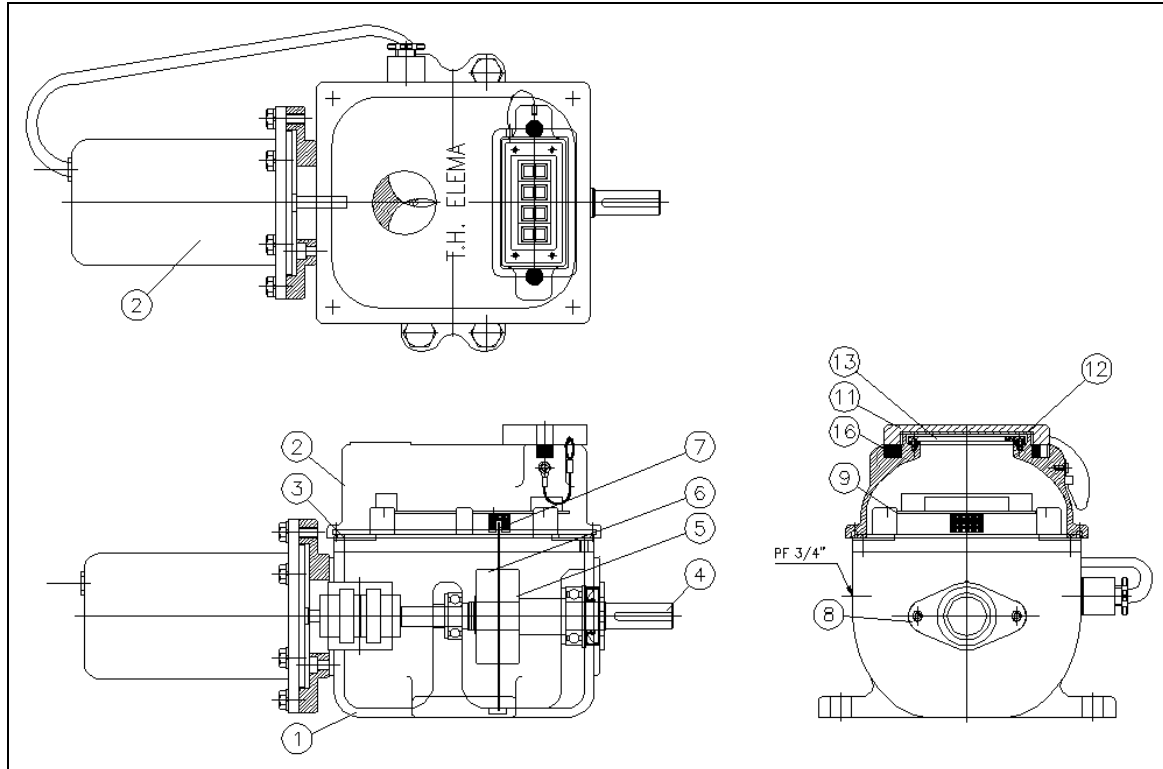
3) Setting: Key

4) Number of original slits: 120 Slits

5) Operation signal output: ALARM-OUT (Mechanical contact: AC125V / 10A)

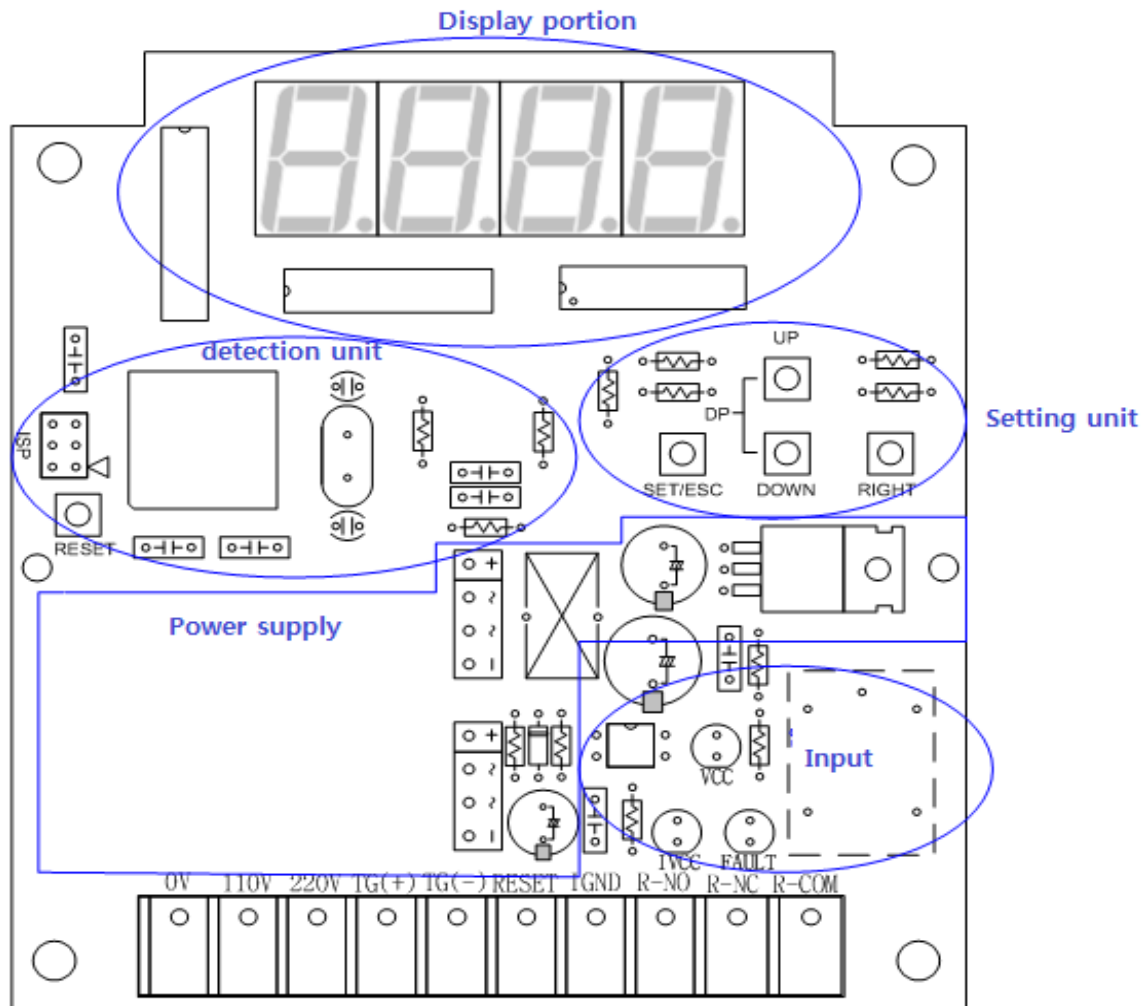
6) Operating temperature range: 0 ~ 85 [°C]

5. Structure



품 번	품 명	품 번	품 명
1	BASE	9	PLC
2	COVER	10	TACHO GENERATOR
3	RUBBER PACKING	11	CHECK HOLE COVER
4	SHAFT	12	CHECK HOLE COVER PACKING
5	SHAFT RETAINER "A"	13	CHECK HOLE
6	SHAFT RETAINER "B"	14	PACKING
7	DISC	16	ALNICO
8	OIL SEAL COVER		

6. PCB Structure



7. How to set RP

7-1. Press the SET key for one second.

7-2. If the instrument cluster flashes, use the RIGHT key to change the blinking sequence

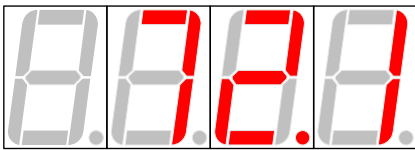
And change the value of the flashing instrument panel by UP key and DOWN key.

7-3. The decimal point is only available in the right two instrument panels, and the UP key and

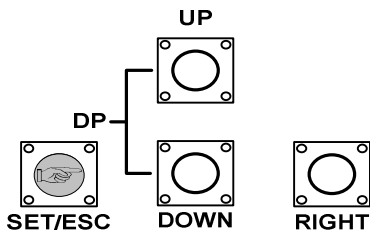
Press DOWN key simultaneously to change.

[Setting example 1]

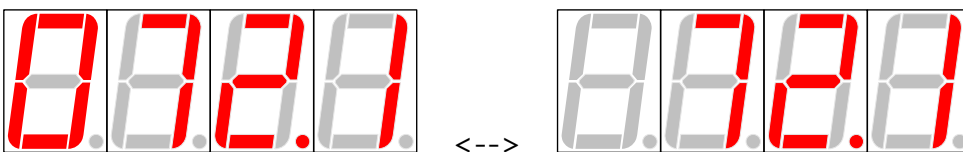
► Setting value : 1800 RPM



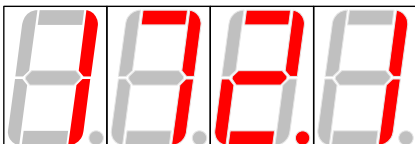
1) Press the SET key for one second.



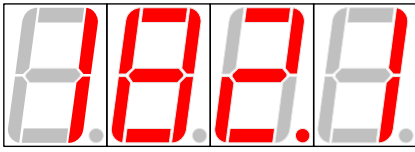
2) The first instrument panel flashes.



3) Use UP or DOWN key to set to 1.

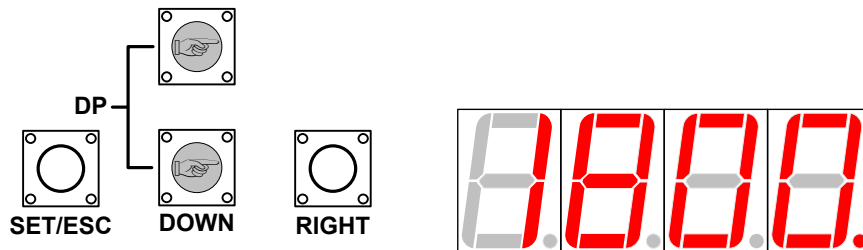
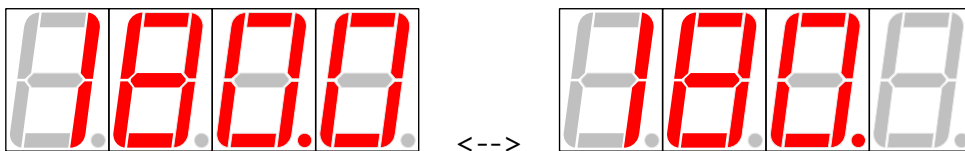


4) Use the RIGHT key to change the blinking position of the 2nd instrument panel, Press the UP and DOWN keys.



- 5) In the same way, after changing the blinking position with the RIGHT key, After setting the value of the instrument panel to the set value, set the position of the decimal point to UP, DOWN Key at the same time.

※ The instrument panel must be blinking on the DP to be changed.



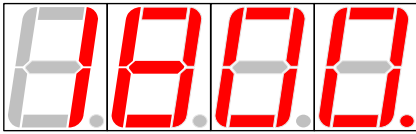
- 6) When the setting is completed, press the SET key momentarily and the blinking disappears and the set value.

※ If the blinking continues, press the SET key for a long time, (3600RPM) and minimum value (1RPM), try again..

- 7) When the blinking disappears, press SET key (ESC) for 1 sec.

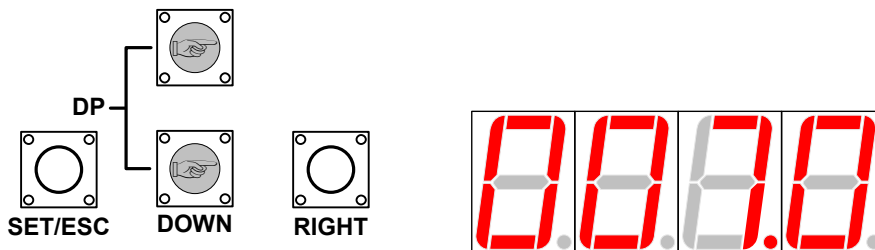
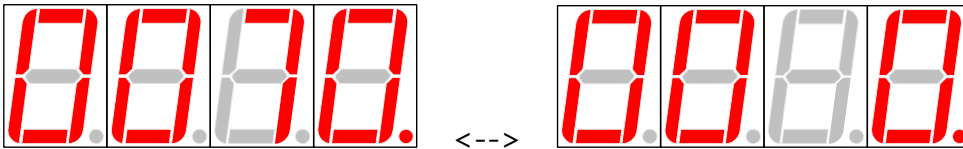
[Setting example 2]

► Setting value : 7.2 RPM

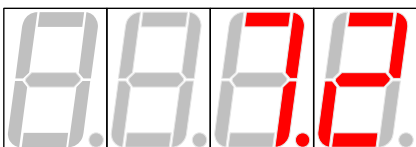


- 1) Press the SET key for one second.
- 2) Set the first second instrument panel of the set value to 0 It matches.
- 3) If the third instrument panel flashes, use the UP/DOWN keys to set the value to 7.

※ The decimal point is only available on the 3rd and 4th instrument panel



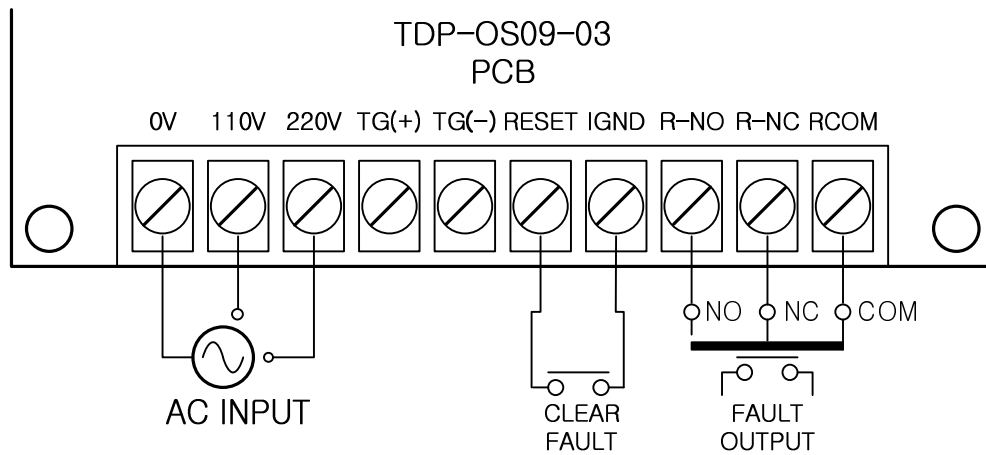
- 4) After setting the last instrument panel to 2, lightly press the SET key and all the flashing of the instrument panel disappears, and the zero at the front disappears..



- 5) Press and hold the SET key to exit setting mode.

8. Connection terminal

8-1. Terminal block appearance



8-2 Terminal Explanation

단 자	기 호	명 칭	기 능	비 고
1	0V	PCB POWER	Used as PCB power	
2	110V	PCB POWER		
3	220V	PCB POWER		
4	TG(+)		In case of TG-OS regardless of the inside of the PCB,	
5	TG(-)			
6	RESET		To cancel the ALARM Normal operation start	
7	IGND			
8	R-NO	NORMAL OPEN	ALARM OUTPUT Over speed action	AC125V/ 10A
9	R-NC	NORMAL CLOSE		
10	RCOM	COMMON		

※ Be sure to check the power supply and connect to the terminal correctly. AC220V Connecting to 110V has a fatal impact on the internal transformer and power stage. Possible