

ED4000 Speed monitor & controller

Operation Manual

INTRODUCTION

ED4000 Speed Monitor is a totally new rotational speed monitoring equipment; it uses the principle of photo detector and microprocessor to accurately calculate a wide range of rotational speed. It detects rang 1~999rpm and the rotational speed display on 7-seg led.

There is a contact relay that could be used either for alarm or control purposes during the monitoring process. The alarm set point could be directly set by numerical knobs which is more convenient and more accurate than conventional means. It comes equipped with analog signal output which could be utilized for various display indications and more precise control. It is ideal for applications in monitoring low speed, stop and overload situations.

FEATURES

- Maximum monitoring range 1~999rpm.
- 7-seg led display 0~999
- Alarm monitoring: low speed, stop, blackout and overload.
- Start up delay function allow motor to run up gradually.
- Light pulses are not affected by environmental conditions.
- Complementary to FineTek PB/PM series digital panel meter to indicate speed.

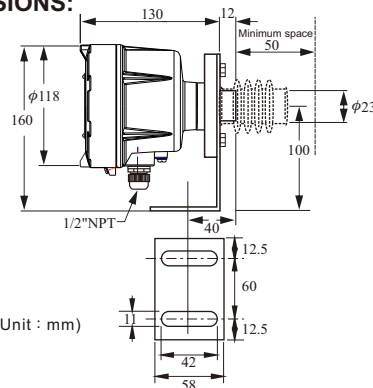
SPECIAL FUNCTION

4~20mA output, range selection ability, able to accurately send out signal even in low speeds, available speed ranges are 100rpm, 200rpm, 500rpm and 1000rpm.

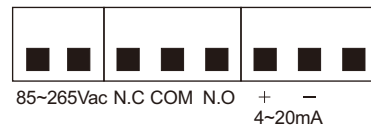
SPECIFICATION

1. Measuring range: 0~999 rpm.
2. Display: LED X 3
3. Alarm set point: 1~999 rpm by rotary switch.
4. Alarm conditions: Underspeed, standstill, power failure.
5. Startup delay: 3, 6, 9, ...30 Seconds. Selectable
6. Alarm contact rating: SPDT 5A/250V AC.
7. Speed analog output: 4~20mA
(Signal Range Selectable: 100/200/500/1000rpm).
8. Power supply: 85~265V AC, 50/60Hz
9. Power consumption: 6VA.
10. Operating temperature: -20°C~70°C.
11. Housing: Cast Aluminum.
12. Protection: IP65
13. Cable entry: 1/2"NPT X 2 hole.

DIMENSIONS:

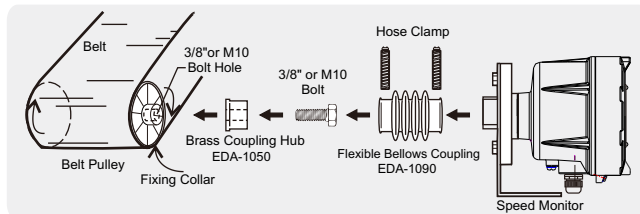


TERMINAL ARRANGEMENTS



INSTALLATION

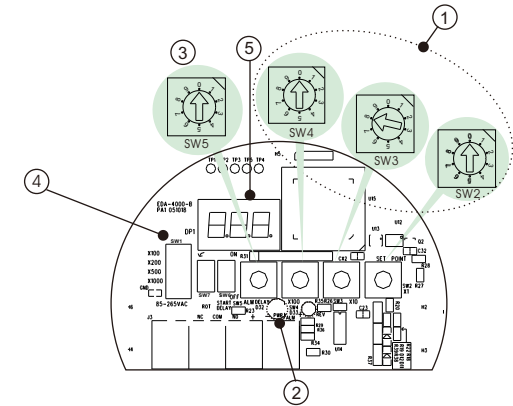
Drill a hole size of 3/8" or M10 in the center of the belt pulley. Fix the 3/8" bolt into the fixing collar, then into the center of the belt pulley. Build a shaft for the ED4000, and align the center of the ED4000 with the axis of the belt pulley. Lastly, place the ED4000 and the Fixing Collar in the flexible Bellows coupling.



Standard Accessories: Brass Coupling Hub, Hose Clamp, Bolt Hole.

OPERATION PANEL

- ① Set point Rotary Switch
- ② Power/Alarm Indicator (Green/Red)
- ③ Start Up Delay Selection Switch
- ④ Analog Output Range Selection Switch
- ⑤ 7-seg led display



DESCRIPTION OF OPERATION

1. Set point rotary switch

The function of this switch is for setting alarm position.

The rotary switch consists of 3 buttons, including x100, x10 and x1. If the setting is at 321rpm, then rotate the SW4 to position 3, rotate the SW3 to position 2 and rotate the SW2 to 1.

2. Alarm indicator (Red)/Power indicator (Green)

1. When the monitor detects the speed lower than the setting point, the alarm relay is actuated and the red light is on spontaneously; vice versa, the red light is off when the speed is rotated back to normal.
2. The green LED indicator is to display the status of power on / off. During the start up period, the green LED will in blinking for 15 sec "start delay" first and then keep on.

3. Knob Switch for Start Delay

This function provides user to smoothly accelerate the motor to target speed within a time period. The alarm will be off within the period. Set 0-9 value for 3-30 sec where the increase of value stands for 3 sec duration.

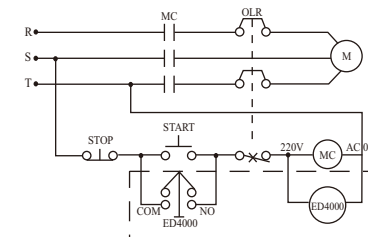
Rotary position	0	1	2	3	4	5	6	7	8	9
Delay time	3 sec	6 sec	9 sec	12 sec	15 sec	18 sec	12 sec	24 sec	27 sec	30 sec

4. 4-20mA output range Selection Switch

This switch is to convert the detected speed into proportional current output. There are four selections which are 100rpm, 200rpm, 500rpm, 1000rpm. If setting at 500rpm, then the input speed of 0~500 rpm will be converted to 4-20mA output. For example, if the detected speed is at 250rpm, then the current output is 12mA.

EXAMPLE WIRING DIAGRAM

The figure shows the wiring diagram of ED4000 to monitor the motor rotation speed. While user starts up motor, the ED4000 will be in alarm off during the "start delay". The motor should approach the target speed before the "start delay" time out. After the "start delay" time, the ED4000 will activate the alarm and monitor if the motor speed is low or not.



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