

SPEED MONITOR

ED4000

ED4000(SM4) 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. Other features include anti-reversal action, which could prevent the wrong power supply connection after maintenance of the motor. It is ideal for applications in monitoring low speed, stop and overload situations.

APPLICATION

- Low speed and overload protection monitoring of various conveyer systems
- Networked circuits to form sequential start or stop
- Frequently used machines: Grain and coal storage vertical conveyer machines and belt conveyer machines

SPECIFICATION

- Measuring Range : 0~999 rpm.
- 7-seg led display 0~999
- Alarm Set point : 1~1999 rpm by rotary switch.
- Rotate Direction : Counter Clock-wise or Clock-wise.
- Alarm Conditions : Underspeed, standstill, reverse, power failure.
- Startup Delay : 0 second or 15 Seconds. Selectable
- Alarm Contact Rating : SPDT 5A/250Vac.
- Alarm Delay : 0, 3, 6, 9,...,27 seconds. Selectable
- Speed Analog Output : 4~20mA
(Signal Range Selectable : 100/200/500/1000rpm).
- Power Supply : 85~265Vac, 50/60Hz
- Power Consumption : 6VA.
- Operating Temperature : -20°C~70°C.
- Housing : Cast Aluminum.
- Protection : IP65
- Cable Entry : 1/2"NPT X 2 hole.

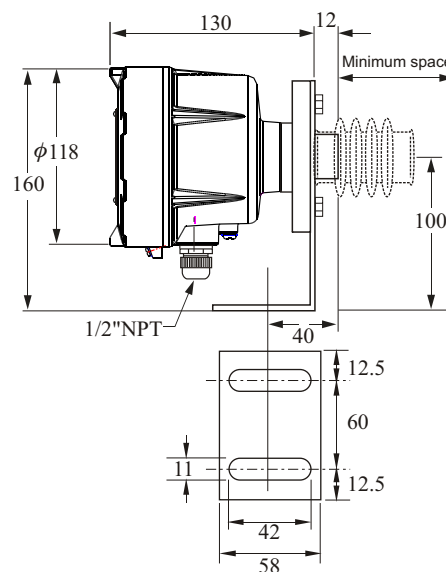
FEATURES

- Maximum monitoring range 1~999rpm.
- 7-seg led display 0~999
- Alarm monitoring: low speed, stop, reverse, blackout and overload.
- Start up delay function allow motor to run up gradually.
- Alarm delay function can avoid fault alarm which many caused by temporary slow down or load changed.
- Selectable rotate direction for both CCW and CW makes installation more versatile.
- Light pulses are not affected by environmental conditions.
- Complementary to FineTek PB/PM series digital Panel meter to indicate speed.

Special Function (built in function)

4~20mA output, proportional to selectable speed range like 100rpm, 200rpm, 500rpm and 1,000rpm.

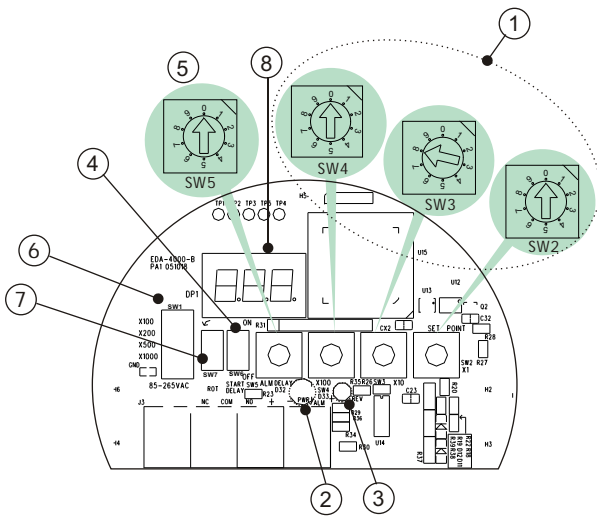
DIMENSIONS:



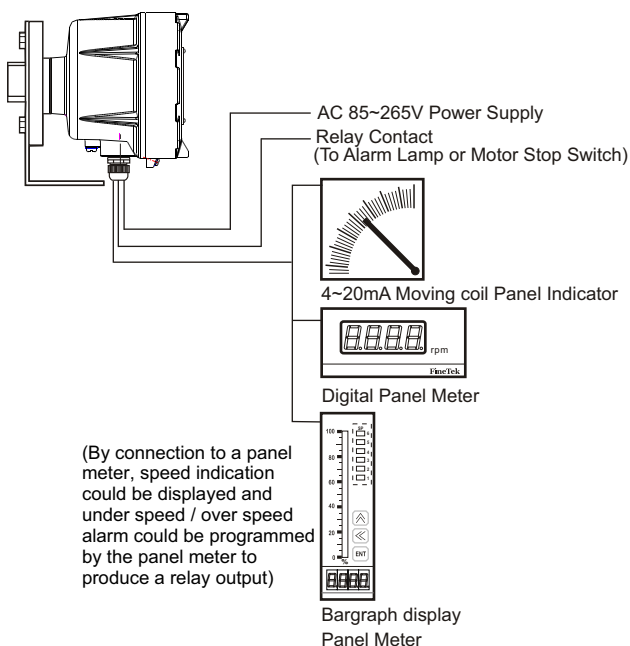
(Unit : mm)

DESCRIPTION OF PANEL

- ① Set point rotary switch
- ② Power & Alarm indicator (Green/Red)
- ③ Reverse Indicator (Orange)
- ④ Start Up Delay Selection Switch
- ⑤ Alarm Delay Selection Switch
- ⑥ 4-20mA output range Selection Switch
- ⑦ Rotary Direction Selection Switch
- ⑧ 7 Segment Indicator



ED TYPICAL APPLICATION



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 and reach to the alarm delay time or the motor reversed, 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 function of the green light is to indicate power situation. After switching on the start up delay function and blinking for 15 seconds, the power indicator lights up.

3. Reverse Indicator (Orange)

If the motor is rotating reversely, the reverse indicator lights up; vice versa, the indicator is off while the motor is rotating in right direction.

4. Start Up Delay Selection Switch

The ED4000 monitor can be set to actuate the alarm relay after turning on the power 15 seconds in which the function is to avoid any alarm caused by slow speed at starting up the convey motor. To setting "ON" means to switch on the selection of start up delay, while setting "OFF" means to switch off the function of start up delay.

5. Alarm Delay Selection Switch

This function is to avoid any misreading and actuate the alarm relay due to unequal speed. The setting method is to rotate SW5 to required delay time in which the rotary position and time can refer to below parameter table. According to the table, if rotate to "position 5", the delay time is 15 seconds for actuating the alarm relay.

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

6. 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.

6. Rotary Direction Selection Switch

Ed4000 speed monitor can be set to rotate either clockwise or counterclockwise. If setting at ↻, the monitor is rotating clockwise, while setting at ↻, the monitor is rotating counterclockwise.