EDX1 Speed Monitor & Controller Operation Manual

INTRODUCTION

EDX1 is a brand new speed monitoring device exclusively designed for a belt conveyor, which monitors the rotation speed by using the optoelectronic switch or magnetic induction part. During this process, it provides an output contact SPDT for alarm or control. The alarm setting is determined by the scale on the adjustment knob, which is convenient and fast.

Based on the conventional analog design, it uses a simple, stable and low-cost circuit, which makes it economical.

DIMENSIONS

Contact type

Non-contact type
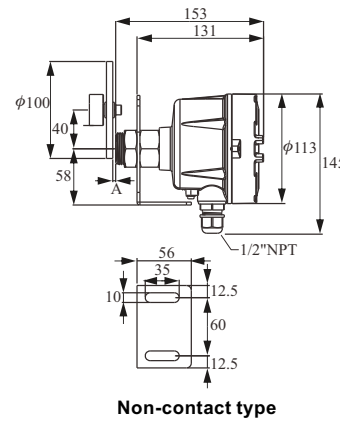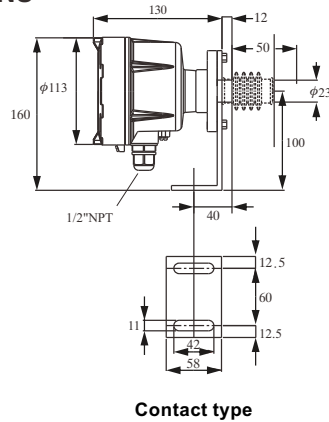
SPECIFICATION

Power supply	100~240VAC, 50/60 Hz 24VDC±10%
Speed measurement range	0~150 rpm
Rotation direction	Can monitor clockwise and counter-clock wise directions simultaneously
Alarm condition	Overly-low rotation speed then stops
Startup delay time	0-second or 30-second switch
Output type	Relay output 1 SPDT
Contact capacity	5A / 250VAC, 5A / 30VDC
Working temp	-40°C~80°C
Housing material	Aluminum
Connection of cable gland	1/2"NPT
IP rating	IP-65

EMS TEST

| Item	Test specifications
EFT *According to IEC 61000-4-4 2012	EUT Power: 4KV Impulse Out: 4KV
Surge *According to IEC 61000-4-5: 2014+AMD1:2017	3KV
DIPs *According to IEC 61000-4-11 2004	AC: DIP Level:0% Duration:5000ms
*According to IEC 61000-4-29 2000	DC: DIP Level:0% Duration:100ms
ESD *According to IEC 61000-4-2 2008	Contact:6KV Air:8KV

OPERATION PANEL
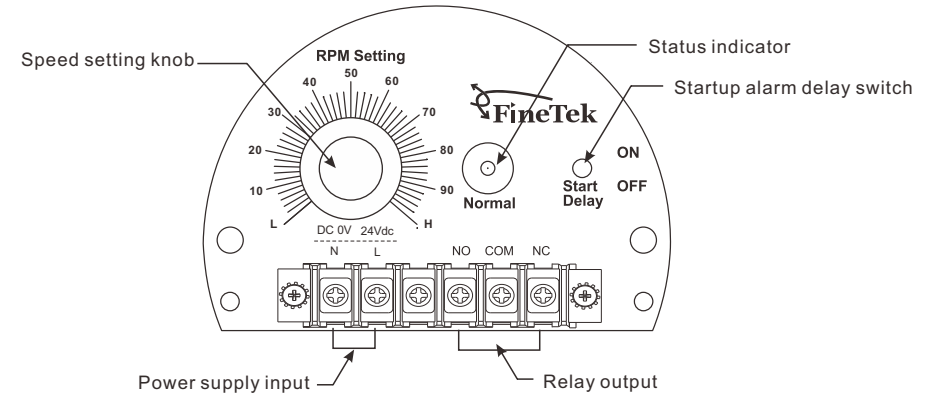
1. Set point on Speed setting knob
   This switch is used to set the alarm point. Make sure that the knob point to default setting of 60RPM before installation, and install the speed monitor on the conveyor. When the speed of conveyor belt becomes stable, turn the knob to set the alarm point.
   Situation 1: When the conveyor speed is higher than the monitor speed (factory setting 60), the indicator lights green. Turn the knob clockwise until the indicator goes off, then turn counterclockwise until the indicator lights up, and turn counterclockwise again by about 3~5 graduations (depending on customer usage).
   Situation 2: When the conveyor speed is lower than the monitor speed (the factory setting 60), the indicator is off. Turn the knob counterclockwise until the indicator lights up, and turn counterclockwise again by about 3~5 graduations (depending on customer usage).
2. Status indicator (green)
   (1) When the monitor detects the conveyor speed is faster than the set point, alarm relay (NO) will be activated and the indicator lights up.
   (2) When the monitor detects the conveyor speed is slower than the set point, alarm relay (NC) will be activated and the indicator goes off.
3. Startup alarm delay switch
   When this function is activated, the motor will slowly accelerate without triggering alarm immediately.
   ON is to turn on the function, OFF is to turn off the function.

INSTALLATION INSTRUCTION

Contact type

Tap the 3/8" (or M10) screw hole in a central towards the axis direction of the driven wheel on the device to be monitored; fasten the copper connector on the rotation axis with the screw. And then set up a scaffold in front of the rotation axis, align the axis center of the speed monitor and the driven wheel, and then fix it. Finally, connect with the rubber bellow and fasten the metal straps to finish the installation.

(Unit：mm)
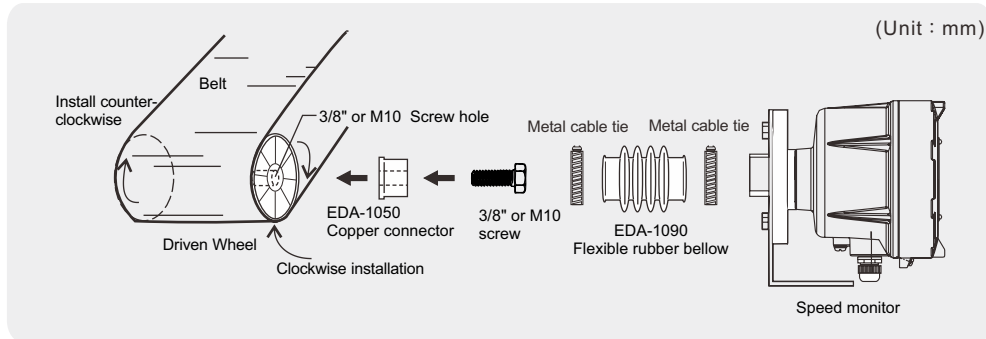
Non-contact type

Tap the 3/8" (or M10) screw hole in the center towards the axis of the driven wheel on the device to be monitored, and then fix the sensing plate with screws. When fixing, it needs to go through the flat washer and spring washer. Fix the machine body on the corresponding position with the fixing plate. Finally, keep a 3~5mm distance between the sensing tip and the sensing plate to finish the installation.
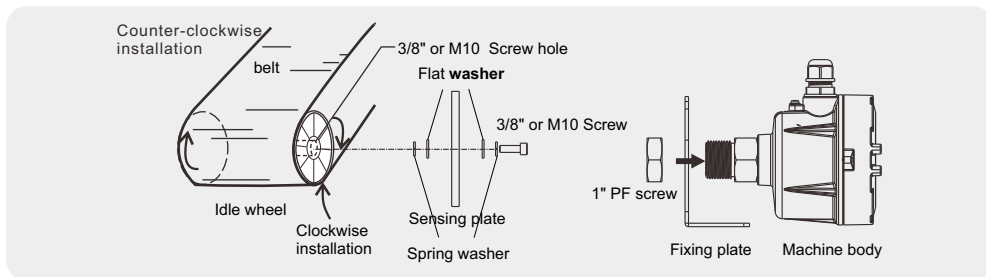
COMMON FAULTS AND TROUBLESHOOTING

Fault	Cause	Troubleshooting
No power	Input power specifications	Check if the input power is correct.
Relay output error	Incorrect wiring	Check if the wiring is correct.
	The speed monitor is not detected.	Check if the installation is correct.
	The distance between the non-contact probe and the sensor disc.	Keep a distance of 3~5 mm between the sensing tip and the sensor plate.
	The expansion pipe is detached.	Check and repair the expansion pipe and straps.

NOTICES

1. The product has a ground terminal. Reliable grounding should be implemented during installation. The cross-sectional area of the grounding wire should be no less than 4mm^2.
2. Wiring should be made using AWG14 (1.25mm^2) ~ AWG16 (2.0mm^2) wires.
3. The terminal tightening torque is 12lb-in (13.8kg-cm).
4. The ambient temperature range is −40°C~80°C.
5. The supply voltage is 100~240VAC (50/60Hz), 24VDC ±10%.
6. The rated contact capacity of micro switch is 5A/250VAC
7. Make sure there is no harmful gas that may cause corrosion on aluminum alloy in the installation location.
8. Attention! Only explosion-proof products can be used in explosive dust environments.
9. If the product is to be used or maintained in an explosive environment, the temperature resistance of the connecting cable used for wiring should be no lower than 90'C
10. If the product is to be used in an explosive environment, the cable entry must be inspected and approved by certification authorities. Only cable gland or blind plug compliant with explosion-proof standards with a rating of ………
11. The outer surface should be cleaned on a regular basis to prevent dust from accumulating. Do not use compressed air for cleaning.
12. If the product is to be used and maintained in an explosive environment, the principle of "do not open in the presence of combustible dust" must be followed.
13. Do not attempt to replace any part of the product. If any failure occurs during operation, the product manufacturer should be consulted to prevent damage.
14. The installation, use, and maintenance of the product must be in strict compliance with the instruction manual and the following standards:

    GB3836.13 (IEC 60079-14) Explosive atmospheres - Part 13: Equipment repair, overhaul and reclamation, GB50257 Code for construction and acceptance of electric equipment on fire and explosion hazard electrical equipment installation engineering, GB12476.2 (IEC 61241-14) Electrical apparatus for use in the presence of combustible dust - Part 2: Selection and installation, and GB15577 Safety regulations for dust explosion prevention and protection.

WARRANTY

New Product Warranty

We provide warranty for faulty products eligible for coverage within 12 months from the delivery date, with no test, parts, and repair costs required.

For defects caused in the shipping process instead of by human error, we will repair/replace your product when relevant evidence is provided within 7 days.

When returning a faulty product for repair, return the complete product and do not disassemble it yourself. Make sure that the product is properly packed to avoid damage in the shipping process.

The warranty does not apply in the following cases and repair costs may be charged: ◦
1. The product is out of warranty.
2. The operating conditions (overtemperature, overpressure, etc.) described in the operation manual are not complied with.
3. The product is damaged due to force majeure

    (flood, fire, earthquake, lightning stroke, typhoon, etc.).