

Tear accident detection for conveyor belts

BELT TEAR DETECTOR



Longitudinal tears occurred on conveyor belts can be detected in their earliest stages.



Belt Tear Detector



Transducer

74% of longitudinal tear incidents of conveyor belts occur at transfer chutes. MATSUSHIMA's Belt Tear Detector can instantly detect longitudinal tears of conveyor belts occurred by steel pieces and/or bars.

When detecting longitudinal tears of conveyor belts, the detectors make the belt conveyors stop at once and minimize the damages of conveyor belt.

Instant detection of conveyor belt longitudinal tears:

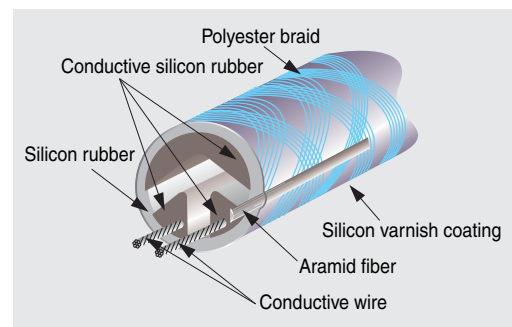
The high sensitive cable switch is integrated into the sensor part. Therefore, the detector detects the accident at once, because the point pushed instantly becomes the contact.

Keep high operating sensitivity:

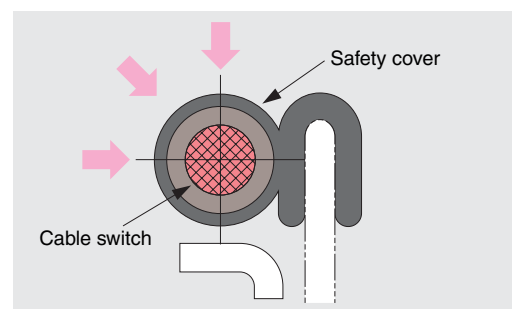
As the electricity transmission part of touch switch is protected by the safety cover, dusts and/or materials to be transported do not adhere to the sensor and the sensor can be operated without influence of ozone, ultraviolet ray, moisture, salt water, etc. Therefore, the operating sensitivity is not lowered under the severe environments.

Easy installation:

Our detector can be installed without any modifications of belt conveyor. Moreover, it can be installed while the conveyor is operating.



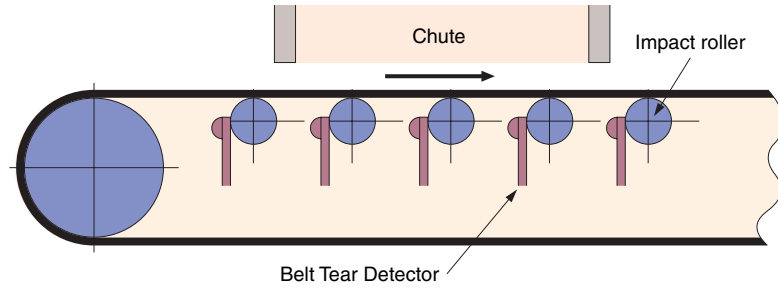
Section of Cable Switch



Section of Touch Switch

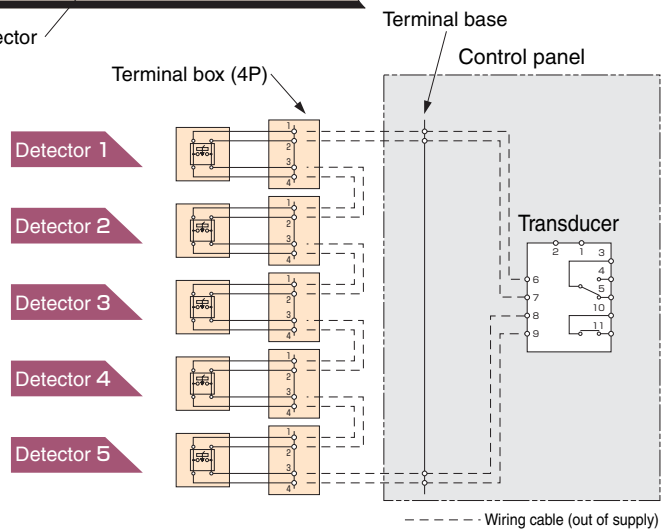
Operating principle of detectors

- 1 Steel plates and/or woods that get mixed in materials to be transported charged into a transfer chute pierce the conveyor belt.
- 2 Foreign materials pierced move ahead with the conveyor belt and push the sensor provided beneath the conveyor belt.
- 3 An electric current is sent, the detector operates, and then an on-action holding signal is output by the converter.
- 4 The belt conveyor is stopped by this holding signal.



Connecting diagram

- Max. 5 units of detectors can be connected to one transducer. The output-selfholding type transducer continues to hold the contact output once the detector actuates, so far as it is reset with a reset button or the power is cut.
- The connection is in series and if any breakage occurs at the connection cables and switches, the breakage will be output immediately.



Specifications of detector

Item	Specifications
Type	SCPT- \square \square \square - \square \square a: Belt width b: Trough angle
Protection	IP55
Allowable temperature	-10 to +50°C
Belt width*	750 to 1,800mm
Trough angle*	20°, 30°, 35°, 45°
Sensor type	CB807
Finish color	MUNSELL 7.5 GY 6/10

* Other belt width and trough angle should be option.

Specification of transducer

Item	Specifications
Type	AEDC-12LC2
Protection	IP40
Allowable temperature	-10 to +50°C
Function	• Output self-holding type • Wire-breakage alarm
Delay timer	0.5 to 9 sec.
Casing material	Polycarbonate
Power	90 to 245V, 50-60Hz
Output	Detection 1c, Alarm 1a
Contact capacity	AC 250V 2A
Indicating lamp	POWER, DETECT, ALARM
Wiring distance from sensors	1km max.
Weight	0.4kg

Belt Conveyor Protective Devices

In addition to the above, speed switches (conveyor overspeed and slip detection), motor-operated adjusting carriers, chute switches, full detectors, etc. are available. Please ask us for the details.



Speed Switch
ESPB-030



Wire-rope type Emergency
Stop Switch "PULLSTOP"
ERTD-50



Pull Cord Switch
ELAW-61P



Belt Sway Switch
ELAP-20

●Dimension diagram of Belt Tear Detector (mm)

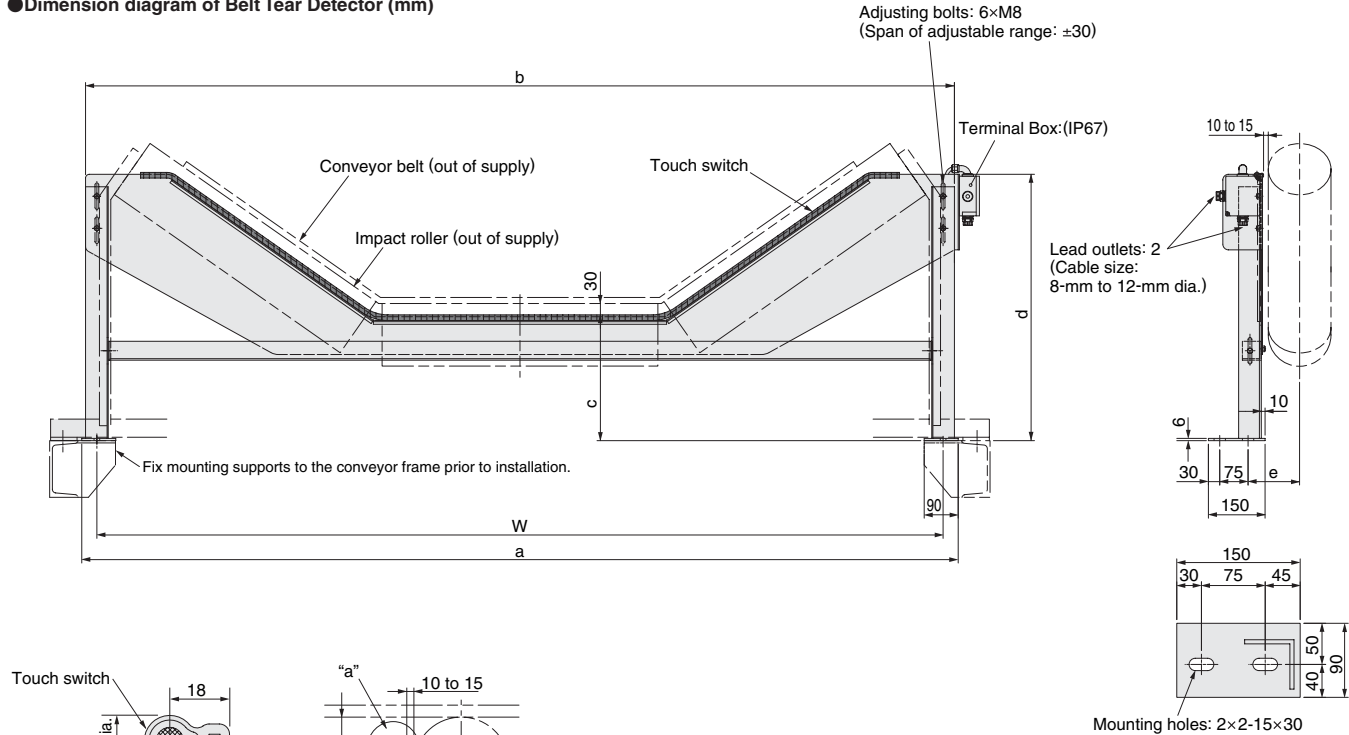
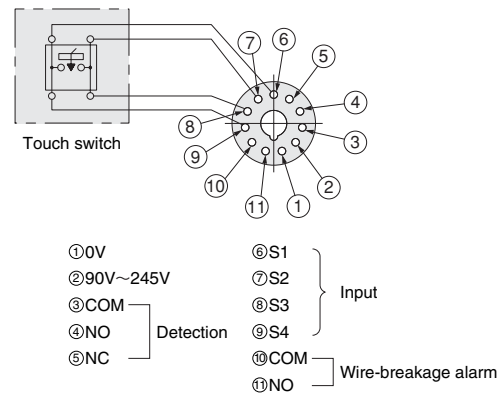
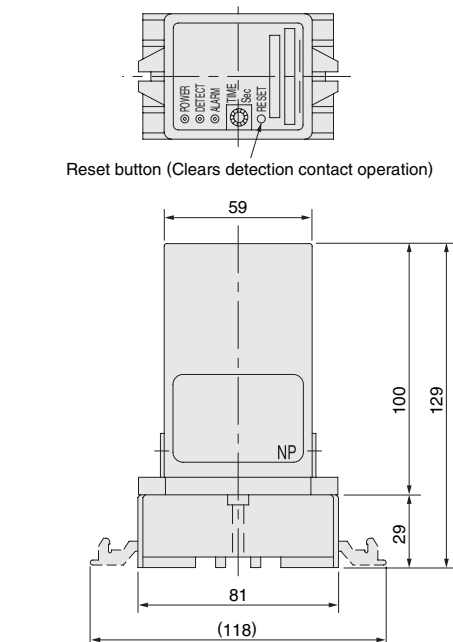


Table below shows dimensions for the 30-degree trough angle type.

Belt width	Type	W	a	b	c	d	e
600mm	SCPT-060-30	720	750	770	155	280	90-95
750mm	SCPT-075-30	930	960	880	177	300	103-108
900mm	SCPT-090-30	1,030	1,100	1,050	177	330	
1,000mm	SCPT-100-30	1,180	1,210	1,130	220	380	116-121
1,050mm	SCPT-105-30	1,230	1,260	1,180	220	390	
1,200mm	SCPT-120-30	1,380	1,410	1,330	220	415	
1,400mm	SCPT-140-30	1,620	1,650	1,570	303	530	129-134
1,600mm	SCPT-160-30	1,820	1,850	1,770	303	560	
1,800mm	SCPT-180-30	2,020	2,050	1,970	333	630	
2,000mm	SCPT-200-30	2,220	2,250	2,170	333	670	

* Dimensions are subject to change by conveyor.

●Dimension diagram of Transducer (mm)



Caution
● Read the instructions to ensure correct and suitable application of products.
● Contact our nearest sales office when using our products for any systems used in situations which may be life threatening.

Specifications are subject to change without notice.
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