

Speed Sensor



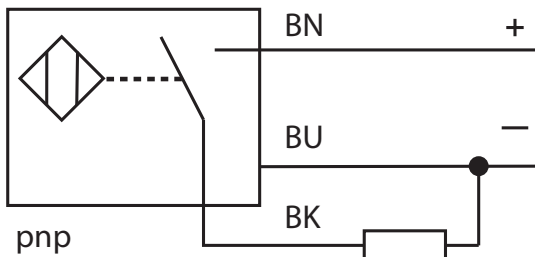
Read and understand equipment operators manual before operating or performing maintenance. Failure to do so could result in serious injury or death.

Safety Information

⚠ WARNING
Heed to following warnings. Failure to do so could result in death or serious injury.
<ul style="list-style-type: none"> Lockout/Tagout/Blockout before performing maintenance or installation.

Wiring Diagram

Figure 1



DC rated operational current $\leq 10\% U_{SS}$

Rated Insulation voltage $\leq 0.5kV$

Short-circuit protection yes/ cyclic

Wire breakage/Reverse polarity protection yes/complete

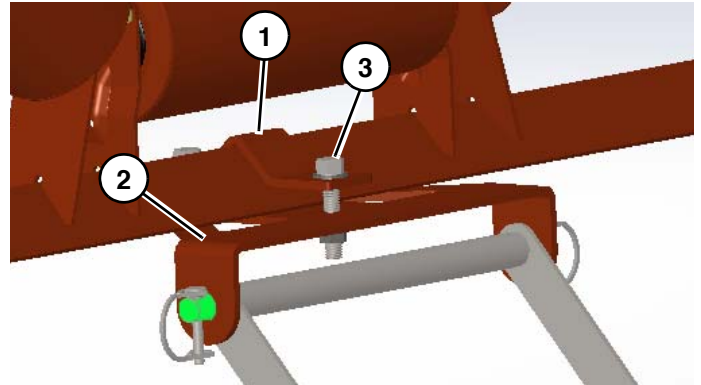
Output function 3-wire, NO contact, PNP

DC 3-wire, 10...30 VDC

NO contact, PNP output

Clean Side Mount

Figure 2



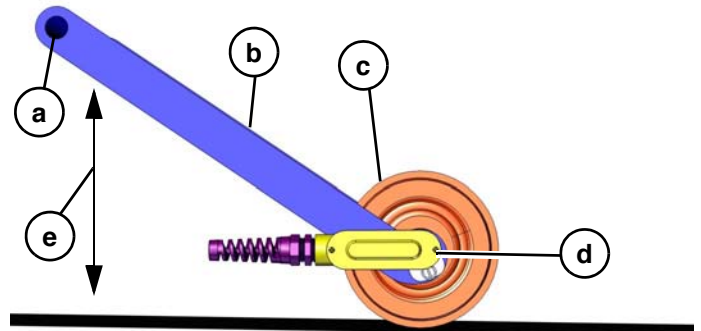
Follow Instructions below for proper clean side mount installation:

- Place bracket (1) (Figure 2) onto middle of idler.
- Ensure mount (2) is positioned correctly before tightening bolts (3) (Figure 2).

Clean Side Roll Installation

⚠ WARNING
Heed to following warnings. Failure to do so could result in death or serious injury.
<ul style="list-style-type: none"> Clean side roll must be installed in a location with free movement or premature failure may occur. Clean side roll may not be used on a reversing belt. If mounted improperly severe roll and belt damage may occur.

Figure 3



- Hinge Point
- Mounting Arm

- c. Clean Side Roll
- d. Roll Speed Sensor

- Install clean side roll speed sensor on clean side of belt.
- Do not exceed 45° (e) (Figure 3) on mounting arm.

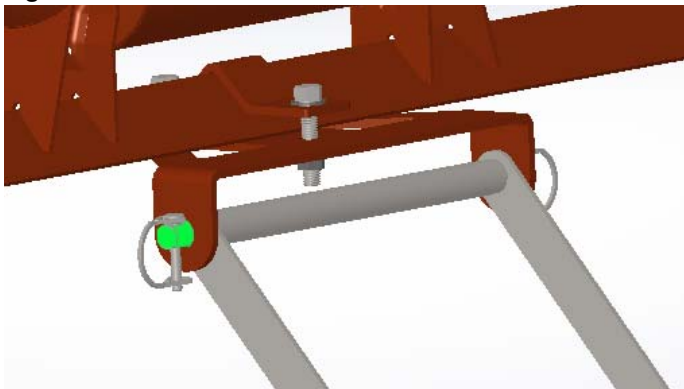
Follow Instructions below for proper clean side roll speed installation:

1. Insert shaft hinge point on clean side roll.
2. Install retaining collar on each end and tighten set screws.

Note: Do not fully tighten set screws.

3. Tighten retaining collar set screws after setting within 1/8 inch of hinge point.

Figure 4



4. Slide shaft slots into slots on mounting brackets and install end pins (1) (Figure 4) over shaft.

Return Roll installation

⚠ WARNING

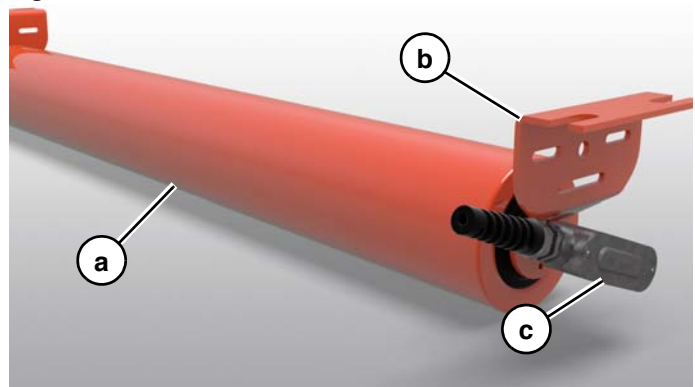
Heed to following warnings. Failure to do so could result in death or serious injury.

- It is recommended to run wires/conduit from speed sensor away from electrical power conduit. Electrical power may cause interference with speed sensor signal.

NOTICE

Go to Return Roll Installation within conveyor manual for proper return roll installation instructions.

Figure 5



- a. Return Roll
- b. Return Roll Bracket
- c. Elbow Conduit

1. Place speed sensor on return belt side of conveyor.
2. Select which conveyor side conduit/wires for speed sensor will be ran.
3. Ensure drop brackets are installed.
4. Unscrew and carefully remove hex bushing on shaft.
5. Run wires from sensor through proper drop bracket and place return roll into brackets.

Note: Ensure wiring is not pinched or crushed after being installed through bracket.

6. Lock return rolls into place

Note: Bend tab against shaft to fully secure roller.

7. Place wiring through hex bushing and thread onto speed sensor shaft.
8. Ensure return roll is centered on conveyor.
9. Tighten drop brackets bolt into conveyor frame.

Idler Speed Sensor Installation

⚠ WARNING

Heed to following warnings. Failure to do so could result in death or serious injury.

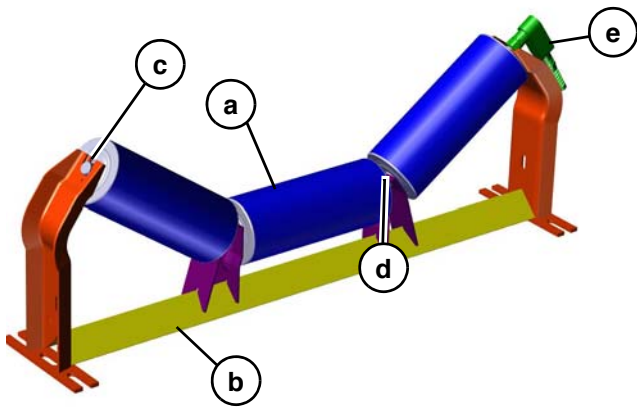
- It is recommended to run wires/conduit from speed sensor away from electrical power conduit. Electrical power may cause interference with speed sensor signal.

NOTICE

Go to idler Installation within conveyor manual for proper return roll installation instructions.

2. With hardware still loose, slide both sides of idler towards head of conveyor.
3. Tighten bolts completely.

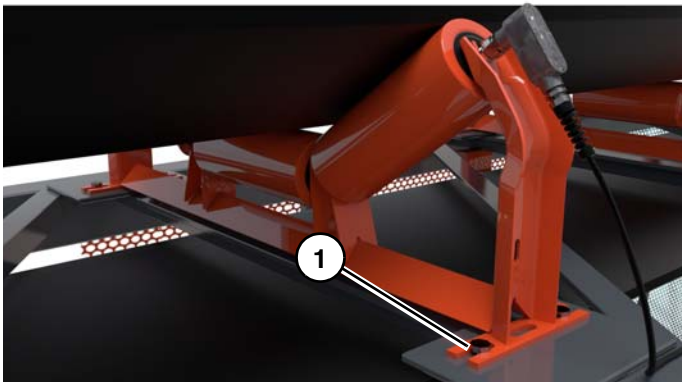
Figure 6



- a. Roll
- b. Frame
- c. Bracket
- d. Retainer Clip
- e. Roll Speed Sensor

Follow Instructions below for proper idler roll speed installation:

Figure 7



1. Place idler on frame, align holes and secure with supplied hardware (1) (Figure 7).

Speed Sensor Wiring

⚠ WARNING

Heed to following warnings. Failure to do so could result in death or serious injury.

- Disconnect and lockout power before performing any maintenance or work on unit.
- Wear proper PPE during work and maintenance.
- Do not apply voltage directly across speed sensor wires permanent damage may occur.
- DO not use incandescent light bulbs as a load. Overload may occur due to extremely high cold current.
- Do not operate without a load. Dead short may result and cause permanent damage.
- Do not directly operate a motor with sensor.
- Do not pull wires connected to speed sensor. Pulling may cause damage.
- Do not apply power to sensor immediately after installation. Verify circuits meet sensor specifications.

NOTICE

No setup required for sensor inside return roll.

Specifications:

1/2" 90° elbow conduit access port

Cord grip

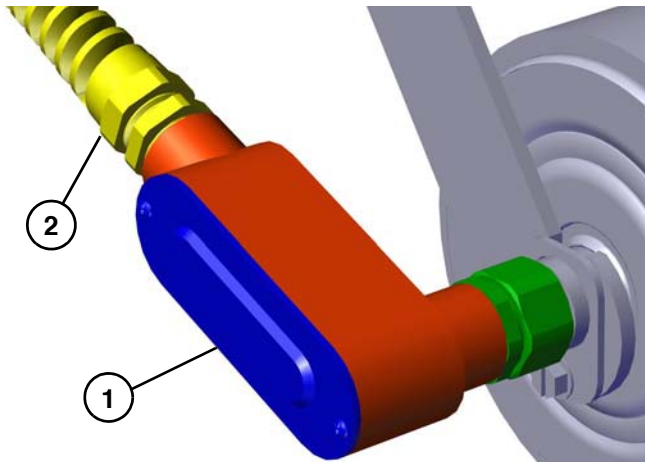
3 wire

22 AWG

PVC jacket

6 ft.PVC insulation

Figure 8



Follow instructions below for proper wiring:

1. Rout wiring from monitor to return roll speed sensor.

Note: use minimum of 22 AWG shielded cable.

2. Remove cover (1) (*Figure 8*) from 90° elbow conduit access port
3. Run monitor wire through cord grip (2) (*Figure 8*).
4. Connect monitor and speed sensor wires.

Note: Cut wires to fit within elbow conduit.

5. Install elbow conduit access port cover and tighten screws.

Speed Sensor Monitor

NOTICE

Refer to speed sensor monitor manual for proper wiring and installation instructions.

Figure 9



Speed sensor monitor displays speed of roll sensor is attached to. Sensor monitor is equipped with a low speed detection alarm.

Brown wire = #5 port

Blue = #6 port

Black = #4 port

Electrical Data:

Nominal Voltage [V] - 110...240 AC (50...60 Hz) / 27 DC (typ. 24 DC)

Voltage tolerance [%] - -20...+10

Power consumption [VA] - 19.6...27.7 DC SELV, ≤ 15 mA

Inputs:

pnp/npn; NAMUR (24 V)

auxiliary supply : typ. 24 V DC / 15 mA; short-circuit protected

threshold pnp: > 12 V on; < 5 V off

threshold npn; > 15 V off; < 8 V on

Input frequency (max): 5 kHz (corresponds to min. pulse length / space 0.1 ms)

Outputs

Relay

Contact Rating

- 6 A (250 V AC); B300,R300

Transistor

Transistor Outputs

-pnp; external supply

-switching voltage/current: 24 V DC / max. 15 mA; short-circuit protected

Analog

Analog Output

- 0/4...20 mA

Max. Load [

-500

-Limitation: 20.5 mA; accuracy: 1% (of final value)

Measuring / Setting Range

Setting Rang [pulses/min.]

-1...60000 (0.1...1000 Hz)