

Electromechanical Rotary Motion Control Switches

Reduce downtime, protect expensive equipment and safeguard operations.



8100 Series Zero Speed Switches are ideal for slow speed applications.

Stop an entire operation if one machine fails.

**No electrical input needed for operation • Shaft-driven
Ideal for slow shaft speeds • Corrosion-resistant housing**

DAZIC™ Zero Speed Switches indicate or control the rotary motion when attached to equipment. They can be interlocked as part of a material handling system to insure that if one machine fails, the entire operation will stop avoiding an expensive and time-consuming pile-up of material.

DAZIC™ Zero Speed Switch applications include:

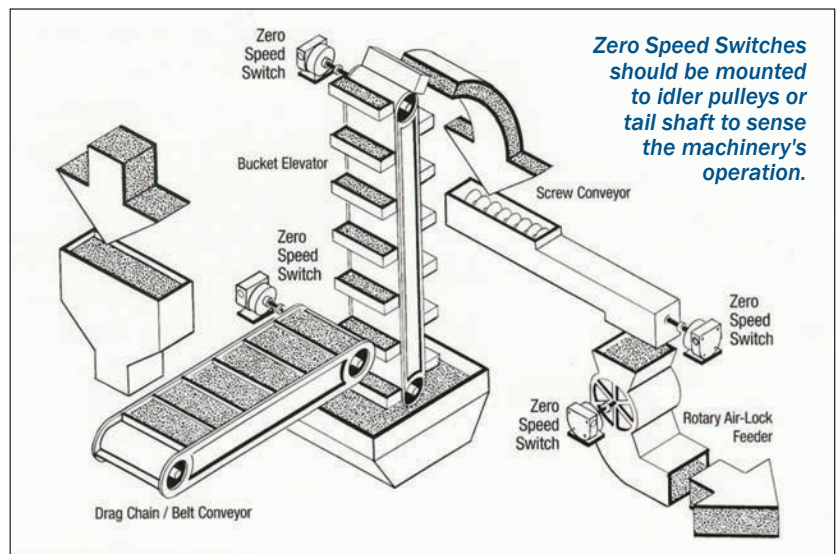
- Actuate a signal or alarm device
- Break a circuit to a motor
- Make a circuit to start auxiliary equipment
- Make or break a circuit to other electrical devices
- Signal a control station or PLC

When driven from a critical shaft, a **Zero Speed Switch** will engage when a system's normal operating speed:

- Stops due to mechanical failure
- Slows down due to overload
- Changes due to normal machine cycling
- Begins to over-speed
- Reverses rotation

| 8100 Series | |
|-------------------------|---|
| Driver | Shaft-to-shaft |
| Shaft Diameter | 1/2" (1.27 cm) |
| Operating Range | 0 to 25 RPM |
| Driver Torque Required | .0208 ft-lb (.0282 Nm) |
| Temperature Tolerance | -40°F to +250°F -40°C to +482°C |
| Housing Options | Aluminum (AL) or Cast Iron (CI) |
| NEMA Rating | 4 / 4x |
| Mounting Options | Base, Flange or Flange with pilot |
| Dimensions L x W x H | 6.02" x 4.25" x 3.93" (15.29 cm x 10.80 cm x 9.98 cm) |
| Wiring Contact Options | SPDT, DPDT, SPDT(2) |
| Weight | AL - 4 lbs. (1.81 kg) CI - 8 lbs. (3.63 kg) |

Explosion-proof Zero Speed Switch is available with NEMA 7/9 rating. Contact us for more information.



8100 Series Zero Speed Switches

Not Field Adjustable

| Speed Switch Input (RPM) (Application Running Speed) | | Approximate Contact Operating Speeds (RPM) | | | Contact Type | | |
|---|----------|--|---|-----------|-----------------------------------|-----------------------------------|---------------------------------|
| | | Start-Up Trip-Point Upon Initial Speed Switch Acceleration (RPM) | Drop-Out Point On Shaft Speed Loss (RPM) | | SPDT Single Pole, Double Throw | DPDT Double Pole, Double Throw | SPDT(2) Direction Indicating |
| MIN. RPM | MAX. RPM | | | SLOW LOSS | RAPID LOSS | Model No. | Model No. |
| 1.5 | 5 | 1.5 | 0.5 RPM | 0 RPM | 8121 | 81212 | 8131 |
| 0.5 | 2.5 | 0.5 | Approx. 4 Sec. After Shaft Rotation Failure | | 8121-5 | 81212-5 | 8131-5 |
| 2 | 25 | 1.5 | Approx. 3-5 Sec. After Shaft Rotation Failure | | 8122-5 | 81222-5 | 8132-5 |

Mounting Styles:

Switches can be mounted in any position but they must be aligned and concentric with the corresponding drive shaft.

When ordering, please specify Mounting Style:

- Type B – Base Mount
- Type F – Flange Mount
- Type FK – Flange Mount w/ pilot

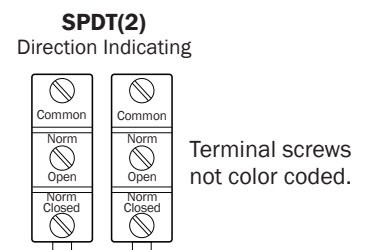
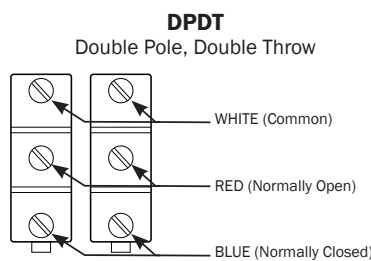
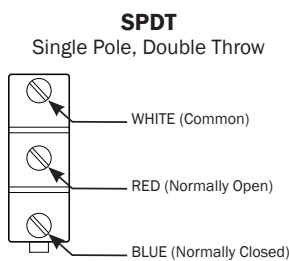


Model 8121 with Base mount (Type B)



Model 8121 with Flange mount with pilot (Type FK)

Electrical Wiring Options:



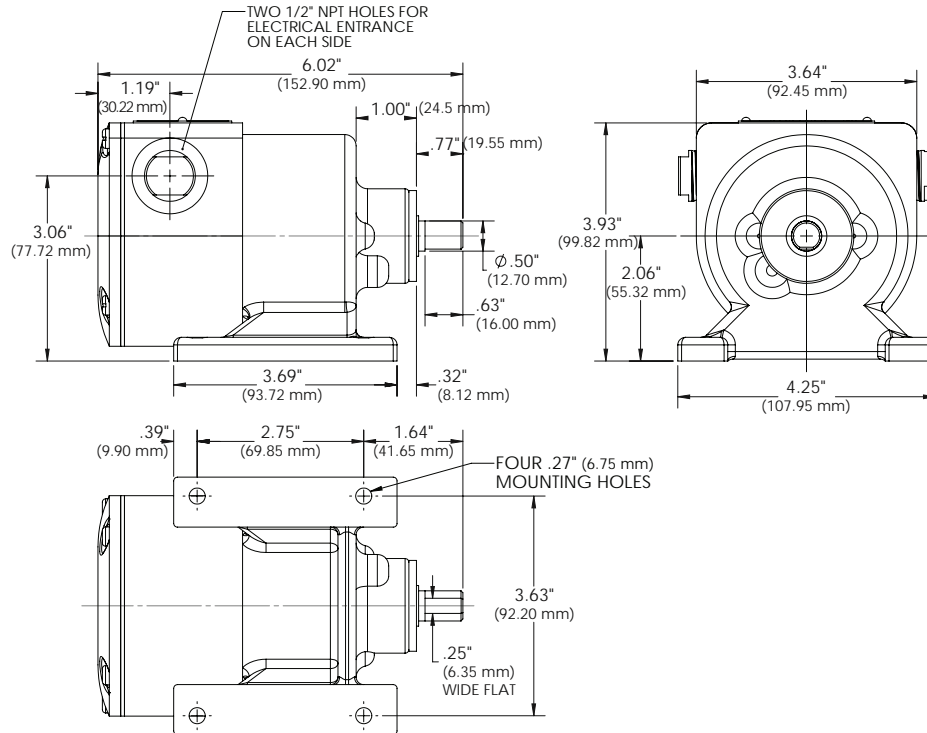
How to order:

Housing Material – Model No. – Mounting Style
(AL or CI) 81xx-xx (B, F or FK)

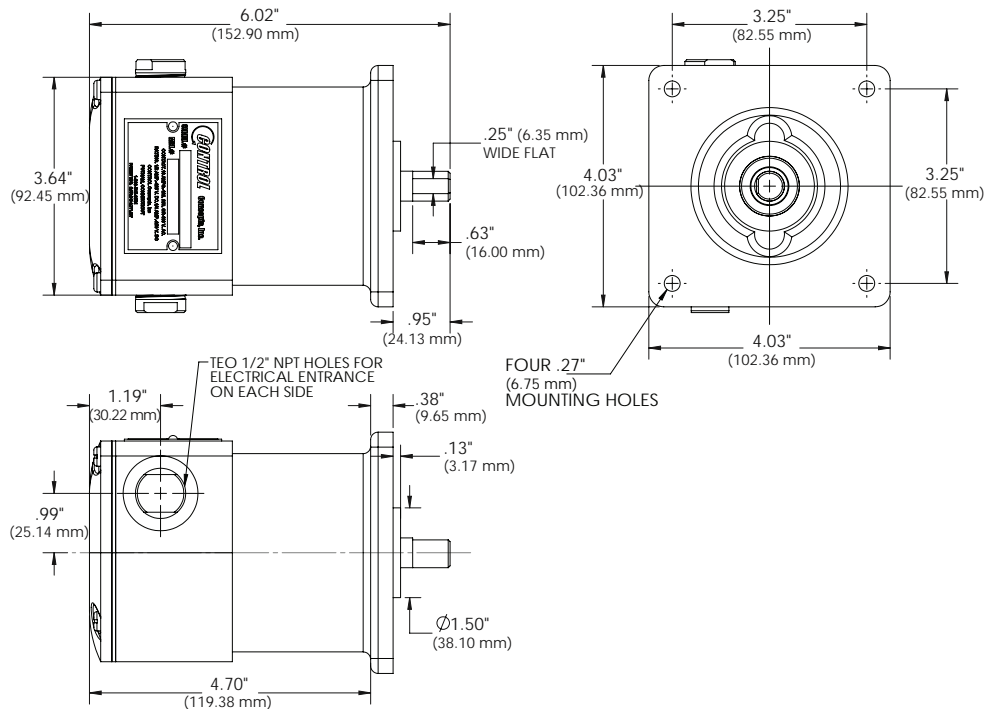
For example:

Model 8121-5 with Cast Iron housing and Base mount = **CI-8121-5-B**

8100 Series – Base Mount



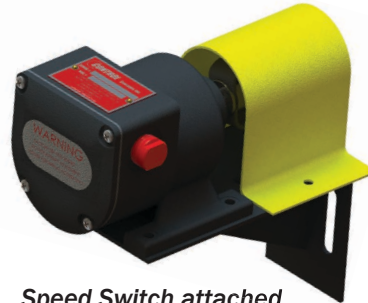
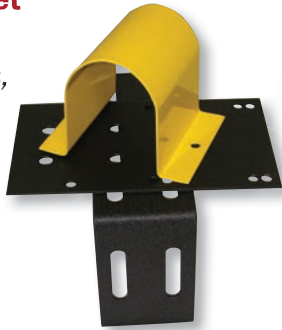
8100 Series – Flange Mount



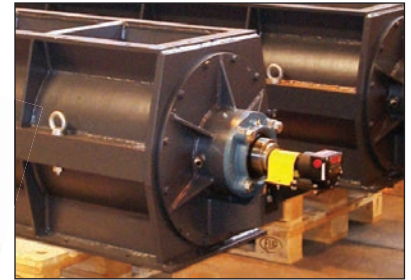
Speed Switch devices coupled to a corresponding shaft, must be properly mounted and aligned to avoid putting extra load on motor bearings, which may cause premature failure. The use of installation accessories such as Mounting Brackets and K-Couplings provide a secure foundation and eliminate misalignment connection problems.

Mounting Bracket

When ordering Mounting Brackets, please specify Model MB-1 for 8100 Series Zero Speed Switches.



Speed Switch attached to a Mounting Bracket



Zero Speed Switch mounted on rotary feeder.

K-Couplings

The K-Coupling[®] is made of double-loop ELASTACAST[®] polyurethane elastomeric material assembled to zinc plated steel hubs, which mount to shafts using Allen screws. Motor noise and vibration will be dampened. Bearings will last longer and require less maintenance.

K-Couplings



When ordering, make sure the torque requirement is within rating limits, and always include the bore size for both ends of the coupling, which may not be the same. Example: 5801 1/4" x 5/16"

Notes:

- Bore tolerances are AGMA Class 2 - 000 + .002
- All standard coupling hubs are zinc plated steel

Keyways may be obtained on Series 5803 and 5804 couplings for an additional cost.

Standard keyways are: 1/8" for 1/2" dia. shaft;
3/16" for 9/16" and 5/8" dia. shafts

| Available Bore Sizes | Series 5801 | Series 5802 | Series 5803 | Series 5804 |
|----------------------|-------------------------------|------------------------------|-------------------------------|------------------------------|
| 3/16" (4.76 mm) | ✓ | | | |
| 1/4" (6.35 mm) | ✓ | ✓ | | |
| 5/16" (7.94 mm) | ✓ | ✓ | | |
| 3/8" (9.53 mm) | ✓ | ✓ | ✓ | |
| 7/16" (11.11 mm) | | ✓ | ✓ | |
| 1/2" (12.70 mm) | | | ✓ | ✓ |
| 9/16" (14.29 mm) | | | ✓ | ✓ |
| 5/8" (15.88 mm) | | | ✓ | ✓ |
| Torque Capacity | 0.25 ft-lb (0.34 Nm) | 1.0 ft-lb (1.36 Nm) | 2.33 ft-lb (3.16 Nm) | 3.33 ft-lb (4.51 Nm) |
| Maximum Misalignment | 10° angular 3/32" parallel | 15° angular 1/8" parallel | 15° angular 3/16" parallel | 15° angular 1/8" parallel |

Stub Shaft

| Part No. | Shaft Diameter (A) | Thread Size (B) |
|----------|--------------------|-----------------|
| STSH-500 | 1/2" (12.70 mm) | 1/2-13 UNC-2A |
| STSH-625 | 5/8" (15.88 mm) | 5/8-11 UNC-2A |



STSH-500 Stub Shaft

Stub Shaft includes one Jam Nut