

## Electromechanical Rotary Motion Control Switches

*Reduce downtime, protect expensive equipment and safeguard operations.*



**Stop an entire operation if one machine fails.**

*Designed to handle shaft-end pressure associated with V-belt, sprocket, roller wheel or chain drive mechanisms. No electrical input required.*

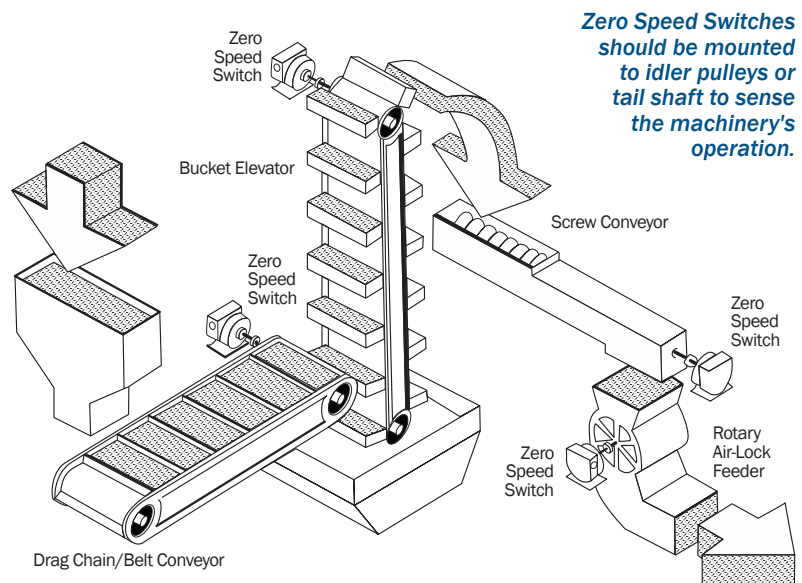
DAZIC® Zero Speed Switches monitor the rotary motion of equipment when interlocked as part of a conveyor system, or other shaft-driven process components. The switches ensure that if one machine deviates or fails, the switch will:

- 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 overspeed
- Reverses rotation

4100 Series	
Driver	V-belt, Roller wheel, Chain drive or Sprocket
Shaft Diameter	1/2" (1.27 cm)
Operating Range	4 to 1800 RPM
Driver Torque Required	.0208 ft-lb (.0282 Nm)
Temperature Tolerance	-40°F to +250°F -40°C to +121°C
Housing Options	Aluminum (AL) or Cast Iron (CI)
NEMA Rating	4 / 4x
Mounting	Base mount
Dimensions L x W x H	6.95" x 4.25" x 3.93" (17.65 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)



## 4100 Series Zero Speed Switches

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.	Model No.
<b>NOT FIELD ADJUSTABLE</b>								
24	1800	14 to 19	10	0	<b>4120</b>	<b>4122</b>	<b>4130</b>	
15	200	8 to 11	Approx. 2 Sec. After Shaft Rotation Failure		<b>4120-1</b>	<b>4122-1</b>	<b>4130-1</b>	
8	100	5 to 7	Approx. 3 Sec. After Shaft Rotation Failure		<b>4120-5</b>	<b>4122-5</b>	<b>4130-5</b>	
4	50	2 to 3	Approx. 5 Sec. After Shaft Rotation Failure		<b>4120-10</b>	<b>4122-10</b>	<b>4130-10</b>	
<b>FIELD ADJUSTABLE</b>								
30	1800	25 to 70	30-40% Below Trip Point	0	<b>4120-A1</b>	<b>4122-A1</b>	<b>4130-A1</b>	
75	1800	80 to 140	30-40% Below Trip Point	0	<b>4120-A2</b>	<b>4122-A2</b>	<b>4130-A2</b>	
160	1800	130 to 300	30-40% Below Trip Point	0	<b>4120-A3</b>	<b>4122-A3</b>	<b>4130-A3</b>	
240	1800	200 to 600	30-40% Below Trip Point	0	<b>4120-A4</b>	<b>4122-A4</b>	<b>4130-A4</b>	
15	200	10 to 45	30-40% Below Trip Point	0	<b>4120-A11</b>	<b>4122-A11</b>	<b>4130-A11</b>	
7	100	5 to 15	30-40% Below Trip Point	0	<b>4120-A15</b>	<b>4122-A15</b>	<b>4130-A15</b>	

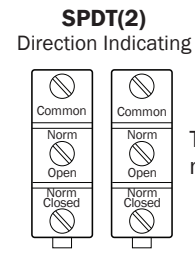
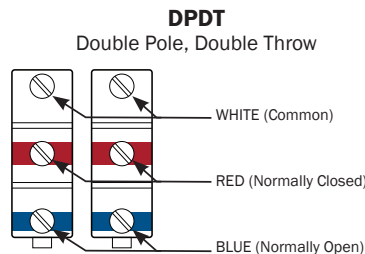
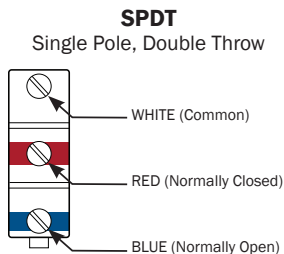
### Mounting Style:

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



4100 Series Zero Speed Switches are available with only the Type B – Base Mount.

### Electrical Wiring Options:



Terminal screws not color coded.

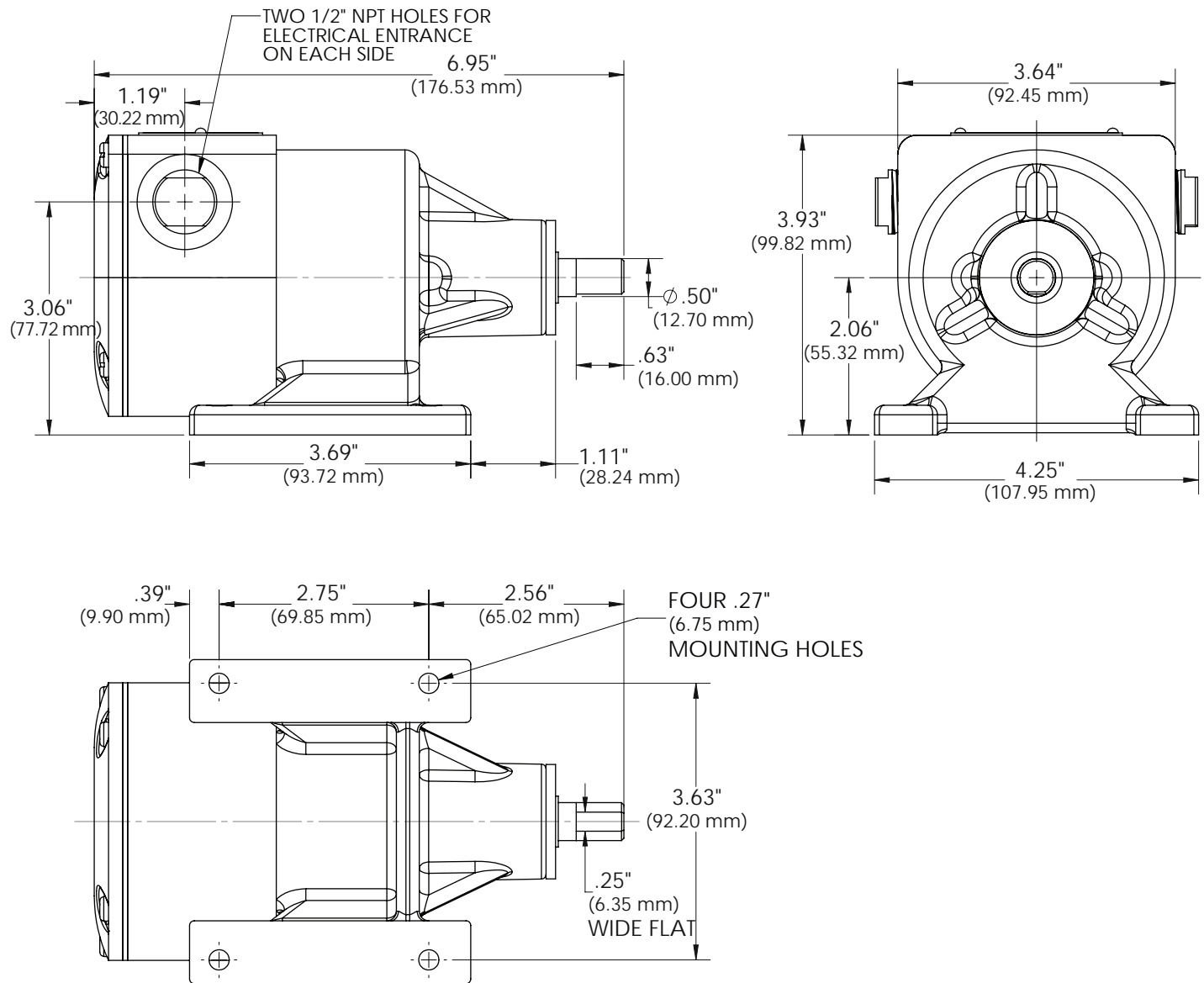
### How to order:

Housing Material – Model No. – Mounting Style  
(AL or CI) 41xx-xx (B)

For example:

Model 4120-1 with Cast Iron housing and Base mount = CI-4120-1-B

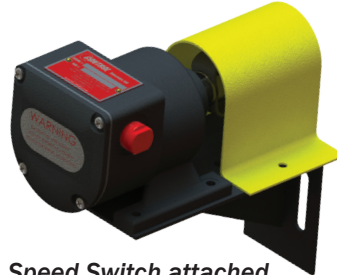
## 4100 Series – Base Mount



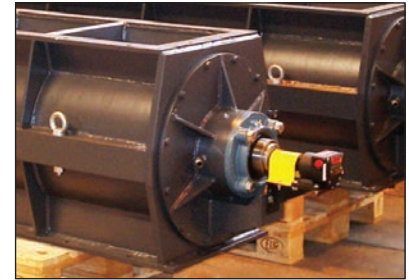
Speed Switch devices coupled to a corresponding shaft, must be properly mounted and aligned to avoid putting extra load on motor bearings, which may cause premature failure. The use of installation accessories such as Mounting Brackets and K-Couplings provide a secure foundation and eliminate misalignment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

### Mounting Bracket

When ordering Mounting Brackets, please specify **Model MB-1** for 4100 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