

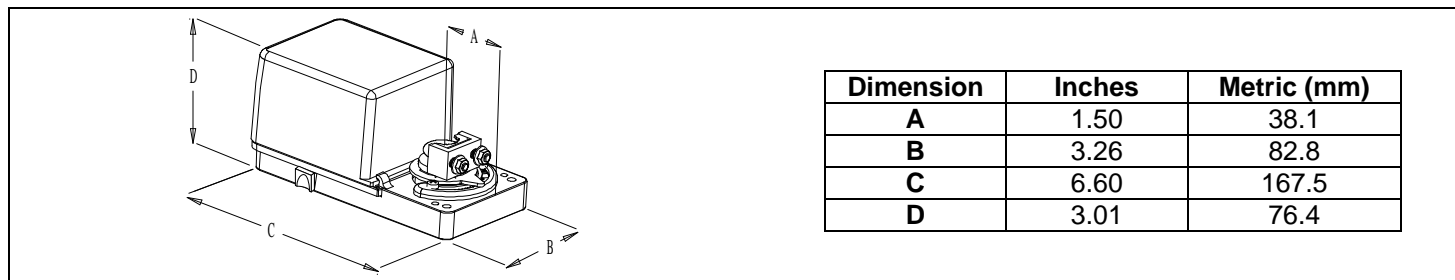
## Features:

- Mounts easy on round & square shaft (with option –8).
- External clutch for manual adjustments.
- Maintenance free.
- Position indicator.
- Fail safe by *Enerdrive System*<sup>1</sup> (on model 060, 065, 080, 860, 865 & 880).
- Auxiliary switches (on model 020, 080, 820, & 880).

BT000S  
BT005S  
BT020S  
BT060S  
BT065S  
BT080S  
BT800S  
BT805S  
BT820S  
BT860S  
BT865S  
BT880S

| Technical Data  | BT000S   | BT005S | BT020S           | BT060S  | BT065S | BT080S           | BT800S  | BT805S | BT820S           | BT860S  | BT865S | BT880S           |
|---|--|--------|------------------|---|--------|------------------|---|--------|------------------|---|--------|------------------|
| Auxiliary switches  | -  | -      | 2<br>(10° & 90°) | -   | -      | 2<br>(10° & 90°) | -   | -      | 2<br>(10° & 90°) | -   | -      | 2<br>(10° & 90°) |
| Feedback  | -  | Yes    | -                | -   | Yes    | -                | -   | Yes    | -                | -   | Yes    | -                |
| Fail safe - <i>Enerdrive</i>                              | -  |        |                  | Yes   |        |                  | -   |        |                  | Yes   |        |                  |
| Power consumption   | 6 VA   |        |                  | 15VA Peak, 6VA                                    |        |                  | 4 watts   |        |                  | 12 watts initial charging, 4 watts normal operation |        |                  |
| Control signal  | 3 wire / 2 position,<br>3 wire / 3 point floating  |        |                  | 2 wire / 2 position,<br>4 wire / 3 point floating |        |                  | 3 wire / 2 position,<br>3 wire / 3 point floating |        |                  | 2 wire / 2 position,<br>4 wire / 3 point floating   |        |                  |
| Power supply  | 22-26 Vac or 24-32 Vdc   |        |                  | 22-26 Vac or 28-32 Vdc                            |        |                  | 40-56 Vdc   |        |                  |   |        |                  |
| Running time through 90°                                  | 90 - 110 sec. (Fail-safe 20-35 sec)  |        |                  |   |        |                  |   |        |                  |   |        |                  |
| Torque  | 50 in.lb. [5,6 Nm] at rated voltage  |        |                  |   |        |                  |   |        |                  |   |        |                  |
| Electrical connection                                     | 18 AWG [0.8 mm <sup>2</sup> ] minimum  |        |                  |   |        |                  |   |        |                  |   |        |                  |
| Inlet bushing   | 2 inlet bushing of 5/8 in [15.9 mm] & 7/8 in [22.2 mm]   |        |                  |   |        |                  |   |        |                  |   |        |                  |
| Angle of rotation   | 0 to 90 degrees, mechanically adjustable (factory set with 90° stroke)   |        |                  |   |        |                  |   |        |                  |   |        |                  |
| Direction of rotation                                     | Reversible, Clockwise (CW) or Counterclockwise (CCW) (factory set with CW direction)   |        |                  |   |        |                  |   |        |                  |   |        |                  |
| Ambient temperature                                       | -22°F to +122°F [-30°C to +50°C]   |        |                  |   |        |                  |   |        |                  |   |        |                  |
| Storage temperature                                       | -22°F to +122°F [-30°C to +50°C]   |        |                  |   |        |                  |   |        |                  |   |        |                  |
| Relative Humidity   | 5 to 95 % non condensing.  |        |                  |   |        |                  |   |        |                  |   |        |                  |
| Weight  | 3 lbs. [1.4 kg]  |        |                  |   |        |                  |   |        |                  |   |        |                  |
| Ingress protection  | IP22 equivalent to Nema type 2,<br>IP54 equivalent to Nema type 3R if water tight inlet bushings (not supplied NEP617) are installed |        |                  |   |        |                  |   |        |                  |   |        |                  |
| Warning: Do not press the clutch when actuator is powered |  |        |                  |   |        |                  |   |        |                  |   |        |                  |

## Dimensions

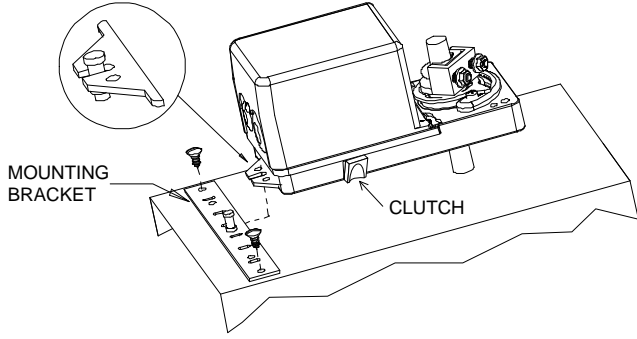


## Caution

We strongly recommend that all Neptronic® products be wired to a separate transformer and that transformer shall service only Neptronic® products. This precaution will prevent interference with, and/or possible damage to incompatible equipment.  
When multiple actuators are wired on a single transformer, polarity must be observed. Long wiring runs create voltage drop which may affect the actuator performance.

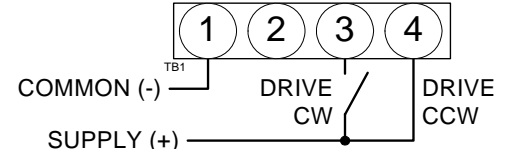
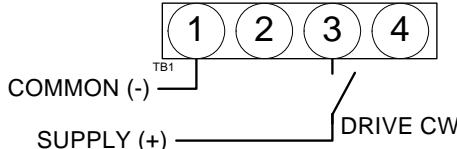
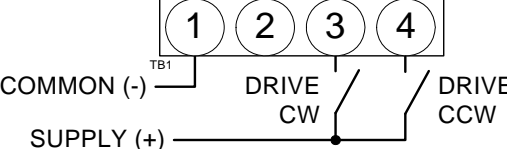
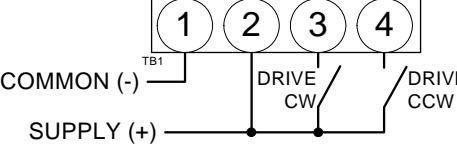
<sup>1</sup> *Enerdrive System* U.S.A. Patent #5,278,454

## Mechanical installation

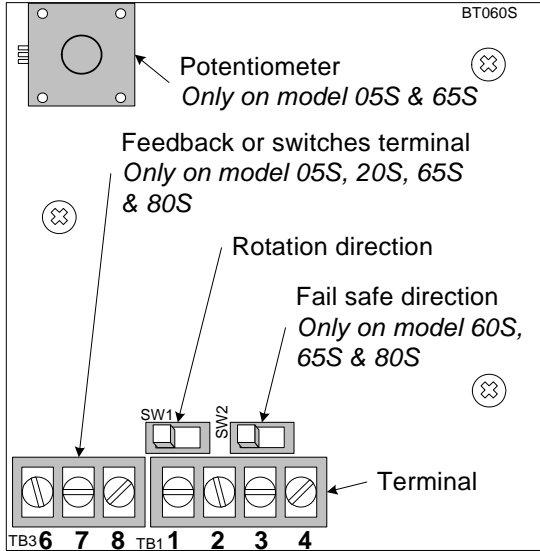


1. Manually close the damper blades and positioned the actuator at 0° or 90°.
2. Slide the actuator onto the shaft.
3. Tighten the nuts on the “U” bolt to the shaft with a 8mm wrench to a torque of 60 in.lb. [6,7 Nm].
4. Slide the mounting bracket under the actuator. Ensure free movement of the slot at the base of the actuator. The bracket pin must be placed in the mid distance of the slot.
5. Fix the bracket to the ductwork with #8 self-tapping screws.

## Wiring Diagrams

| Models BT000S, 005S, 020S, 800S, 805S & 820S   | Models BT060S, 065S, 080S, 860S, 865S & 880S  |
|--|---|
| <p><b>3 wire / 2 position (ON-OFF)</b></p>  | <p><b>2 wire / 2 position (ON-OFF)</b></p>  |
| <p><b>3 wire / 3 point floating</b></p>    | <p><b>4 wire / 3 point floating</b></p>    |

## PC Board



BT060S

Potentiometer  
Only on model 05S & 65S

Feedback or switches terminal  
Only on model 05S, 20S, 65S & 80S

Rotation direction

Fail safe direction  
Only on model 60S, 65S & 80S


Terminal

TB3 6 7 8 TB1 1 2 3 4


### Dip switch settings

**Rotation direction (SW1)**

CW  
(0 to 90°)




CCW  
(90 to 0°)




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**Fail safe direction (SW2)**

Fail safe  
return at 0°



Fail safe  
return at 90°



## Stroke adjustment

To adjust the stroke, move the adjustment screws at the desired position.