

**Feature:**

- Mounts easy on round & square shaft (with option -8).
- Power supply high voltage 120 or 240 VAC.
- External clutch for manual adjustments.
- Maintenance free.
- Position indicator.
- Feedback (on model 105 & 205).
- Auxiliary switches (on model 120 & 220).

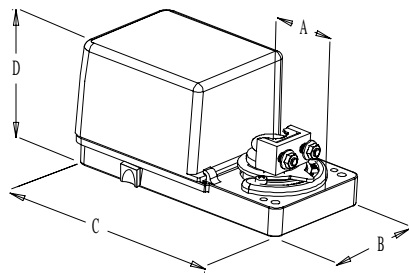
*Old Number*

<i>BBTHV1100A</i>	BT100
<i>BBTHV1105A</i>	BT105
<i>BBTHV1121A</i>	BT120
<i>BBTHV1200A</i>	BT200
<i>BBTHV1205A</i>	BT205
<i>BBTHV1221A</i>	BT220

Technical Data	<b>BT100</b> <i>BBTHV1100A</i>	<b>BT105</b> <i>BBTHV1105A</i>	<b>BT120</b> <i>BBTHV1121A</i>	<b>BT200</b> <i>BBTHV1200A</i>	<b>BT205</b> <i>BBTHV1205A</i>	<b>BT220</b> <i>BBTHV1221A</i>
<b>Auxiliary switches</b>	No	No	Yes (2)	No	No	Yes (2)
<b>Feedback</b>	No	Yes	No	No	Yes	No
<b>Power supply</b>	110 to 130 VAC 50/60Hz			220 to 250 VAC 50/60Hz		
<b>Power consumption</b>	4 Watts at 120 VAC (0.166A AC)			7 Watts at 240 VAC (0.166A AC)		
<b>Control signal</b>	3 wire / 2 position, 3 wire / 3 point floating					
<b>Running time through 90°</b>	20 to 30 sec Torque dependant					
<b>Torque</b>	50 in.lb. [5,6 Nm] at rated voltage					
<b>Electrical connection</b>	18 AWG [0.8 mm <sup>2</sup> ] minimum					
<b>Inlet bushing</b>	2 inlet bushing of 5/8 in [15.9 mm] & 7/8 in [22.2 mm]					
<b>Angle of rotation</b>	0 to 90 degrees, mechanically adjustable (factory set with 90° stroke)					
<b>Direction of rotation</b>	Reversible, Clockwise (CW) or Counterclockwise (CCW) (factory set with CW direction)					
<b>Ambient temperature</b>	-22°F to +122°F [-30°C to +50°C]					
<b>Storage temperature</b>	-22°F to +122°F [-30°C to +50°C]					
<b>Relative Humidity</b>	5 to 95 % non condensing.					
<b>Weight</b>	3 lbs. [1.4 kg]					
<b>Ingress protection</b>	IP22 equivalent to Nema type 2, 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**

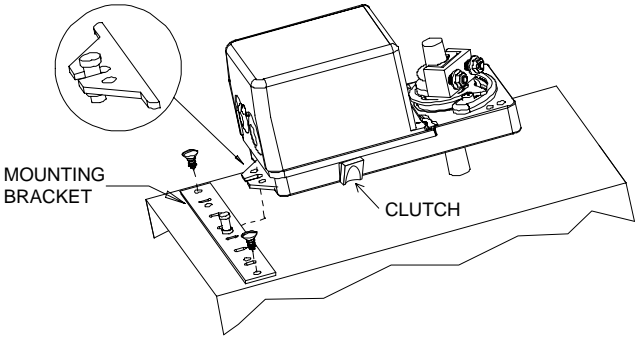


Dimension	Inches	Metric (mm)
<b>A</b>	1.50	38.1
<b>B</b>	3.26	82.8
<b>C</b>	6.60	167.5
<b>D</b>	3.01	76.4

**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.

Mechanical installation

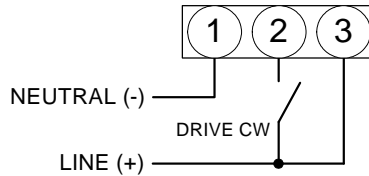


1. Manually close the damper blades and positioned the actuator at 0° or 90°.
2. Slide the actuator onto the shaft.
3. Tighten the nuts on the “U” bolt to the shaft with a 8mm wrench to a torque of 60 in.lb. [6,7 Nm].
4. Slide the mounting bracket under the actuator. Ensure free movement of the slot 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.

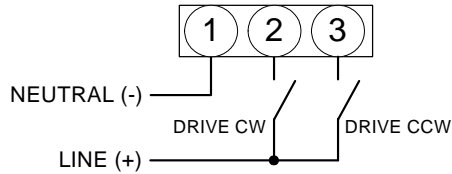
Wiring Diagrams

Caution: Risk of electric shock. Remove power prior to connect.

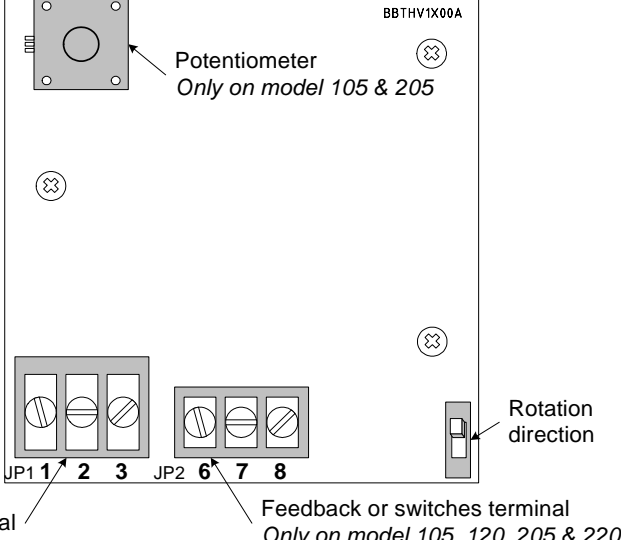
3 wire / 2 position (ON-OFF)



3 wire / 3 point floating



PC Board



BBTHY1X00A

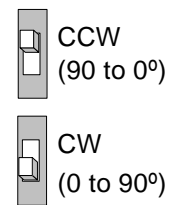
Potentiometer  
Only on model 105 & 205

Rotation direction

Terminal JP1 1 2 3 JP2 6 7 8

Feedback or switches terminal  
Only on model 105, 120, 205 & 220

Rotation direction



Stroke adjustment

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