### General
The DYNA Plus 6 standard actuator can be operated with any of the DYNA controllers to provide a governor for engine speed and power control. The actuator can also be used in other applications such as remote positioning or load control systems.

The DYNA explosion-proof Plus 6 actuator is approved and listed by Underwriters’ Laboratories for operation in Class I, Division I, Group D Hazardous Atmospheres. The explosion-proof Plus 6 actuator requires an amplifier module for power amplification.

The governor actuator is basically a simple, proportional electric solenoid having a sliding armature whose magnetic force is proportional to input coil current. Balanced between the force of its return spring and the magnetic force, the armature glides on anti-friction bearings, providing a hysteresis-free linear movement. Linear motion is converted to an output shaft rotation by a bell crank.

A feedback transducer returns an actuator shaft position feedback signal to the power amplifier section of the control. The design of the armature and return springs, combined with the feedback transducer and control electronics, causes the armature to take a known, positive position for each value of position control voltage. Using this feedback loop, the actuator can deliver full input power and, therefore, high output torque at any offspeed condition.

### Typical Applications
- Speed governing
- Tandem engine governing
- No-break engine governing
- Fuel, smoke, torque limiting
- Tailshaft governing
- Remote throttle control
- Test stand throttle control
- Remote value control
- Remote damper control
- Remote propeller pitch control

### Standard Actuator Features
- All-electric
- All engine compatibility
- Mounts in any position
- Engine-mounted
- High reliability due to few moving parts
- Proportional actuator
- No hydraulic or oil lines
- No special maintenance
- Spring returns output shaft to minimum position on removal of power or loss of magnetic pickup signal
- Precise repeatability

### Available Actuator Models
#### Standard Actuator:
- DYNC-16000 Plus 6 with clockwise output shaft rotation.
- DYNC-16001 Plus 6 with counterclockwise output shaft rotation.

#### Explosion-Proof Actuator:
- DYNC-36000 Plus 6 with clockwise output shaft rotation.

### Specifications
- Operating Voltage: 24 or 32 VDC ±20%
- Ambient Operating Temperature: -65°F (-55°C) to +255°F (+125°C)
- Mechanical Vibration: Tested 5 to 500 Hz @ 25G’s.
- Sealing: Unit is oil, water and dust tight.

### Standard Actuator Specifications

<table>
<thead>
<tr>
<th>ACTUATOR</th>
<th>Plus 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Work</td>
<td>Joules</td>
</tr>
<tr>
<td></td>
<td>Foot-pounds</td>
</tr>
<tr>
<td>Torque</td>
<td>Newton-Meters</td>
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<tr>
<td></td>
<td>Pound-feet</td>
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<tr>
<td>Output</td>
<td>Rotary</td>
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<td>Weight</td>
<td>Kilograms</td>
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<td>Pounds</td>
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<td>Current</td>
<td>Maximum Amperes @ Stall</td>
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<td>Nominal Steady State Amperes</td>
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<td>Current</td>
<td>Maximum Amperes @ Stall</td>
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<tr>
<td></td>
<td>Nominal Steady State Amperes</td>
</tr>
<tr>
<td>Nominal Response Time for 63% of Stroke (Seconds)</td>
<td>0.082</td>
</tr>
</tbody>
</table>

F-18081-4
**Non-Explosive Atmosphere**

- To System Battery and Remote Speed Potentiometer
- DYNZ
- To System Battery
- Amplifier Module (DYN2) and DYN1 Controller
- Controller

**Explosion-Proof Actuator**

- Remove top cover to make connections to terminal strip inside actuator
- Wiring Inside Conduit Magnetic Pickup DYNT
- Engine Flywheel (Typical)
- Engine Room

**Typical Panel and Terminal Strip Wiring**

*The white wire from Pin C must not be connected to the same terminal as the black wire from Pin C.*

**Wiring procedure when a remote speed setting potentiometer is not used.**

1. If a terminal strip is not used, then isolate and tape the ends of the wires from Pin D, F and H to keep them from touching each other or other leads.

***Shielded Cable — Should be purchased from Barber-Colman or customer should purchase a cable with a wrapped mylar supported aluminum foil shield with a drain wire.***

† Power switch wiring is shown for a negative ground system. When a positive ground system is being wired, the installer should switch (break) both the positive and negative leads.
Typical Plus 6 Governor Wiring

*The white wire from Pin C must not be connected to the same terminal as the black wire from Pin C.

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Barber-Colman believes that all information provided herein is correct and reliable and reserves the right to update at any time. Barber-Colman does not assume any responsibility for its use unless otherwise expressly undertaken.

--- CAUTION ---
As a safety measure, the engine should be equipped with an independent overspeed shutdown device in the event of failure which may render the governor inoperative.

--- NOTE ---