



a Siebe company

Product Information

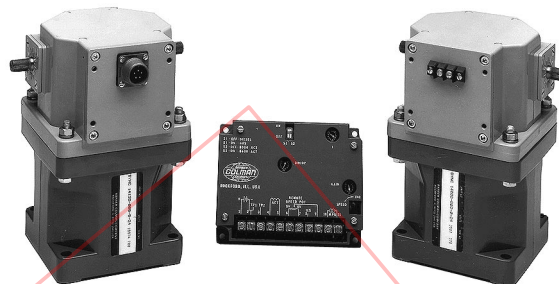
DYNA
Power Controls

DYNA 8400 Governor System

General

The DYNA 8400 system will provide an engine governor for speed and power control of piston and gas turbine engines or steam and water turbines.

The 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.



TYPICAL APPLICATIONS

- Speed governing
- Remote throttle control
- Test stand throttle control
- Generator sets
- Power carts
- Pump sets

SPECIFICATIONS

Actuator

- **Operating Voltage** 24 VDC, +20%
- **Sealed Unit** Oil, water and dust tight
- **Connection** Terminal strip or two-pin connector
- **Actuator Ambient Operating Temperature** -65° to + 255°F (-55° to +125°C)
- **Mechanical Vibration** 5 to 500 Hz, Curve F, per Mil-Std.810C, Method 514-2

Controller

- **Operating Voltage** 24 VDC, +20%
- **Circuit Boards** Covered with a heavy conformal coating for moisture and vibration protection
- **Connection** Terminal strip
- **Controller Ambient Operating Temperature** -40° to + 180°F (-40° to +85°C)
- **Temperature Stability** Better than +0.5% over a temperature range of 40° to +167°F (-40° to +75°C)
- **Steady State Speed Band** +0.25%
- **Adjustments** Speed, Gain, Integral and Droop
- **Mechanical Vibration** Withstands the following vibration without failure or degraded performance: 0.06 inch double amplitude at 5 to 18 Hz; 1 G at 18 to 30 Hz; 0.02 inch double amplitude at 30 to 48 Hz; 2.5 G's at 48 to 70 Hz

STANDARD FEATURES

- All-electric
- All-engine compatibility
- Mounts in any position
- Engine-mounted (actuator only)
- High reliability due to few moving parts
- Proportional actuator
- No hydraulic or oil line
- No special maintenance
- Spring returns output shaft to minimum position on removal of power or loss of magnetic pickup signal
- Precise Repeatability

AVAILABLE MODELS Actuators: DYNA 8400

Units with terminal strip connections:

- DYNC-14800-000-0-24 Through output shaft making available CW and CCW output

Units with two-pin MS screw on connector:

- DYNC-14801 -000-0-24 Through output shaft making available CW and CCW output

Controllers: Speed

- DYN1 -10652-000-0-24 250-1200 Hz
- DYN1 -10653-000-0-24 1200-2500 Hz
- DYN1 -10654-000-0-24 2500-5000 Hz
- DYN1 -10656-000-0-24 5000-9500 Hz

Input Signal Frequency

Input Signal Frequency

$$\frac{\text{Input Signal Frequency In Hertz}}{60 \text{ Seconds}} = \frac{\text{Engine RPM} \times \text{Number of Gear Teeth on Flywheel}}{60 \text{ Seconds}}$$

Select your controller for the correct input signal frequency range generated by the magnetic pickup at the maximum engine operated (RPM) speed.

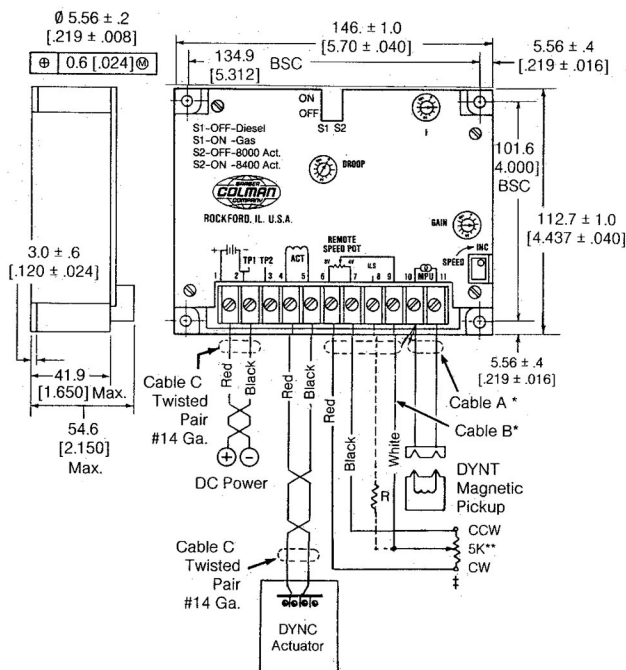
DYNA 8400 Actuator

Work	Joules	5.1
	Foot Pounds	3.75
Torque	Newton-Meters	6.4
	Pound-Foot	4.7
Output	Rotary	45°
Weight	Kilograms	12.2
	Pounds	27
Current @ 24 VDC	Maximum Amperes @ Stall	13
	Nominal Steady State Amperes	4.3
Nominal Response Time for 63% of Stroke (Seconds)		0.104

DYNA 8400 Controller

Output Current @ 24 VDC	Nominal Quiescent Current	80 mA
	Maximum Amperes @ Stall	13 amps
Weight	Kilograms	0.863
	Pounds	1.9

DIMENSIONS — DYNA 8400 CONTROLLER



Cable A - DYNK 44-XX (Specify Length) (90° Connector)
 Cable B - E26-22 (Specify Length)
 Cable C - DYNZ 70-4 (Specify Length) (Terminal Strip)
 Cable C - DYNK-210 (Specify Length) (MS Connector)

* 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.

** Remote Speed Potentiometer & 499K OHM Resistor — DYNZ 10000

The 5K Remote Speed Potentiometer can be wired two different ways:

1. As shown by the solid line from the wiper of the 5K potentiometer and then connected to terminal 9 (no resistor required). Adjustable range is approximately $\pm 5\%$ at 1800 RPM.
2. As shown by the dashed line from the wiper of the 5K potentiometer through resistor "R" and then connected to terminal 8. Reducing the value of "R" increases the remote adjustable speed range.

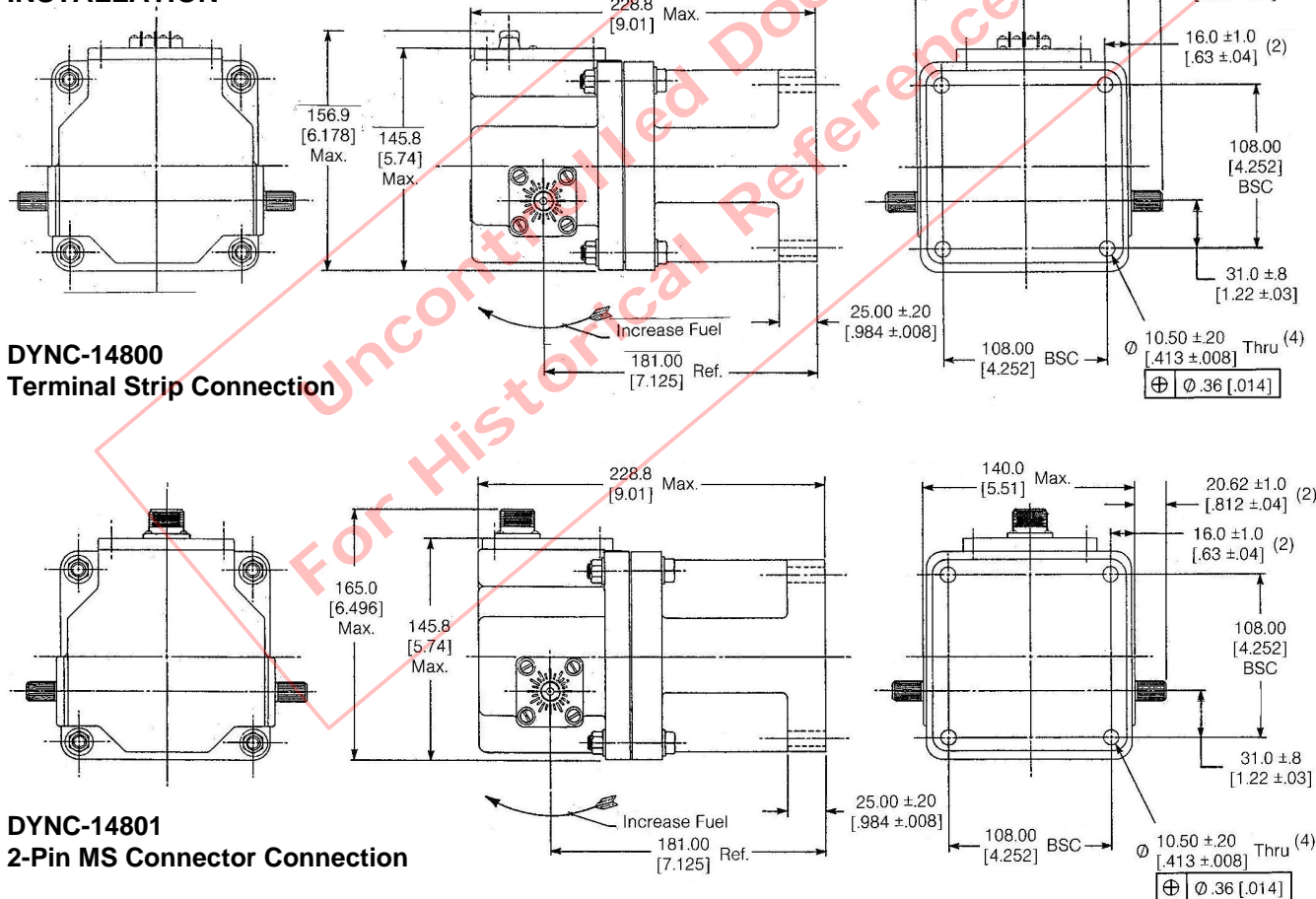
— CAUTION —

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 —

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.

INSTALLATION



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