



a Siebe company

DYNA 8200 GOVERNOR SYSTEM

General

The DYNA 8200 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** 12 VDC or 24 VDC, ± 20%
- **Sealed Unit** oil, water and dust tight
- **Connection** Terminal Strip
- **Actuator Ambient Operating Temperature** -65°F (-55°C) to +255°F (+125°C).
- **Mechanical Vibration** 5 to 500 Hz, Curve F, per Mil-Std 810C, Method 514-2.

Specifications (Controller)

- **Operating Voltages** 12 VDC or 24 VDC, ± 20%
- **Circuit Boards** are covered with a heavy conformal coating for moisture and vibration protection.
- **Connection** Terminal Strip
- **Controller Ambient Operating Temperature** -40°F (-40°C) to +180°F (+85°C).
- **Temperature Stability** better than ±0.5 % over a temperature range of -40°F (-40°C) to 167°F (+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



Available Models:

- **Actuators:** Actuator has dual output shafts for clockwise and counter-clockwise rotation.
DYN1 12000-000-0-12/24

• Controllers:

Speed Controllers Part No. Input Signal Frequency

DYN1-10652-000-0-12/24	250 - 1200 Hz
DYN1-10653-000-0-12/24	1200 - 2500 Hz
DYN1-10654-000-0-12/24	2500 - 5000 Hz
DYN1-10656-000-0-12/24	5000 - 9500 Hz
DYN1-10682-000-0-12/24	250 - 1200 Hz
DYN1-10683-000-0-12/24	1200 - 2500 Hz
DYN1-10684-000-0-12/24	2500 - 5000 Hz
DYN1-10686-000-0-12/24	5000 - 9500 Hz

• Input Signal Frequency

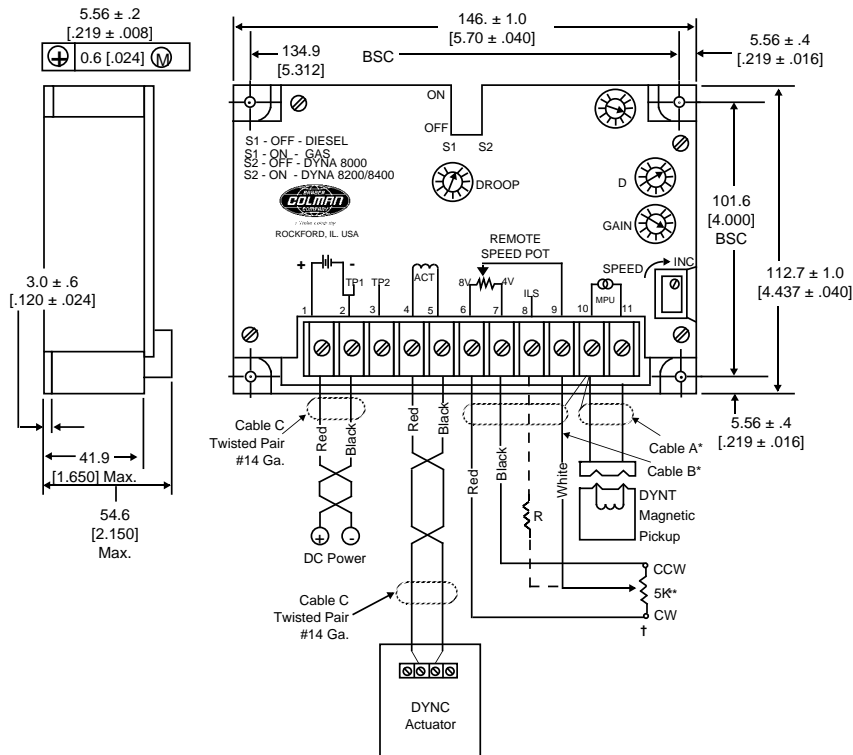
$$\frac{\text{Input Signal Frequency in Hertz} \times 60 \text{ Seconds}}{\text{Engine RPM} \times \text{Number of Gear Teeth on Flywheel}}$$

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

Work	Joules	2.85
	Foot-Pounds	2.10
Torque	Newton-Meters	4.07
	Pound-Foot	3.00
Output	Rotary	45°
Weight	Kilograms	8.4
	Pounds	18.5
Current @ 12 VDC	Maximum Amperes @ Stall	14.75
	Nominal Steady State Amperes	4.5
Current @ 24 VDC	Maximum Amperes @ Stall	14.0
	Nominal Steady State Amperes	3.5
Nominal Response Time for 63% of Stroke (Seconds)		.138

DYNA CONTROLLERS		
Output Current @ 12 VDC	Nominal Quiescent Current	80 ma
	Maximum Amperes @ Stall	13 amps
Output Current @ 24 VDC	Nominal Quiescent Current	80 ma
	Maximum Amperes @ Stall	13 amps
Weight	Kilograms	0.863
	Pounds	1.9

DIMENSIONS - DYNA 8200 CONTROLLER



Cable A - DYNK 44-XX (specify length)
 (90° connector)
 Cable B - E26-22 (specify length)
 Cable C - DYNZ 70-4 (specify length)
 * 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.

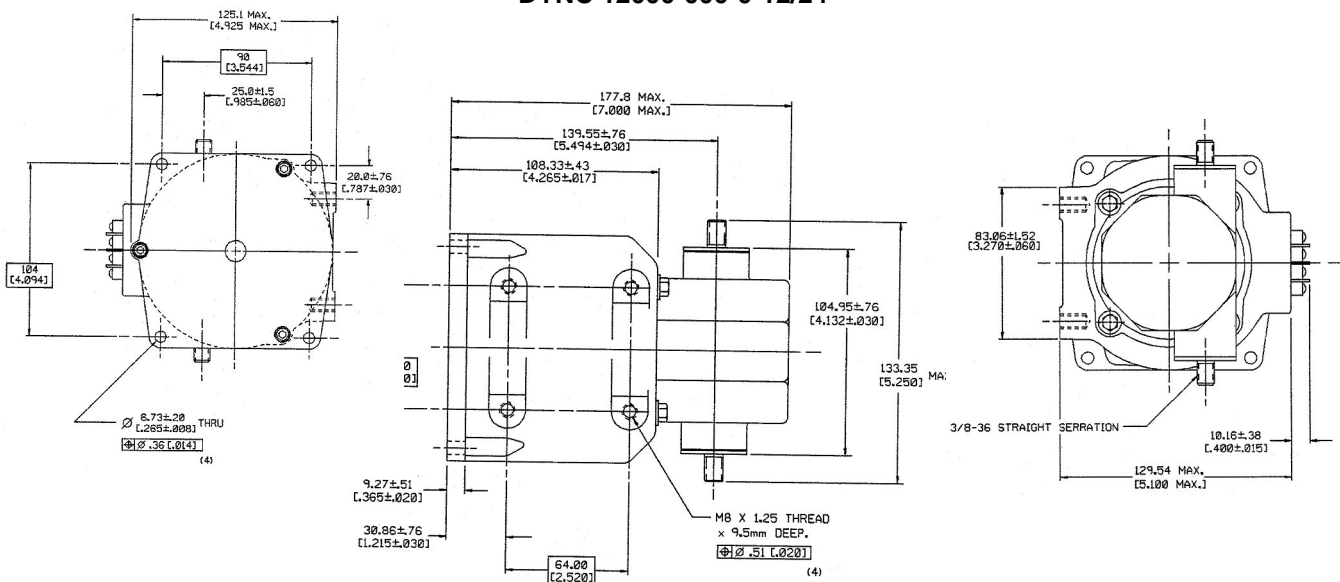
**Remote Speed Potentiometer
 - DYNS 10000

† 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.

INSTALLATION

DYNC 12000-000-0-12/24



Barber-Colman Company

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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.

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.