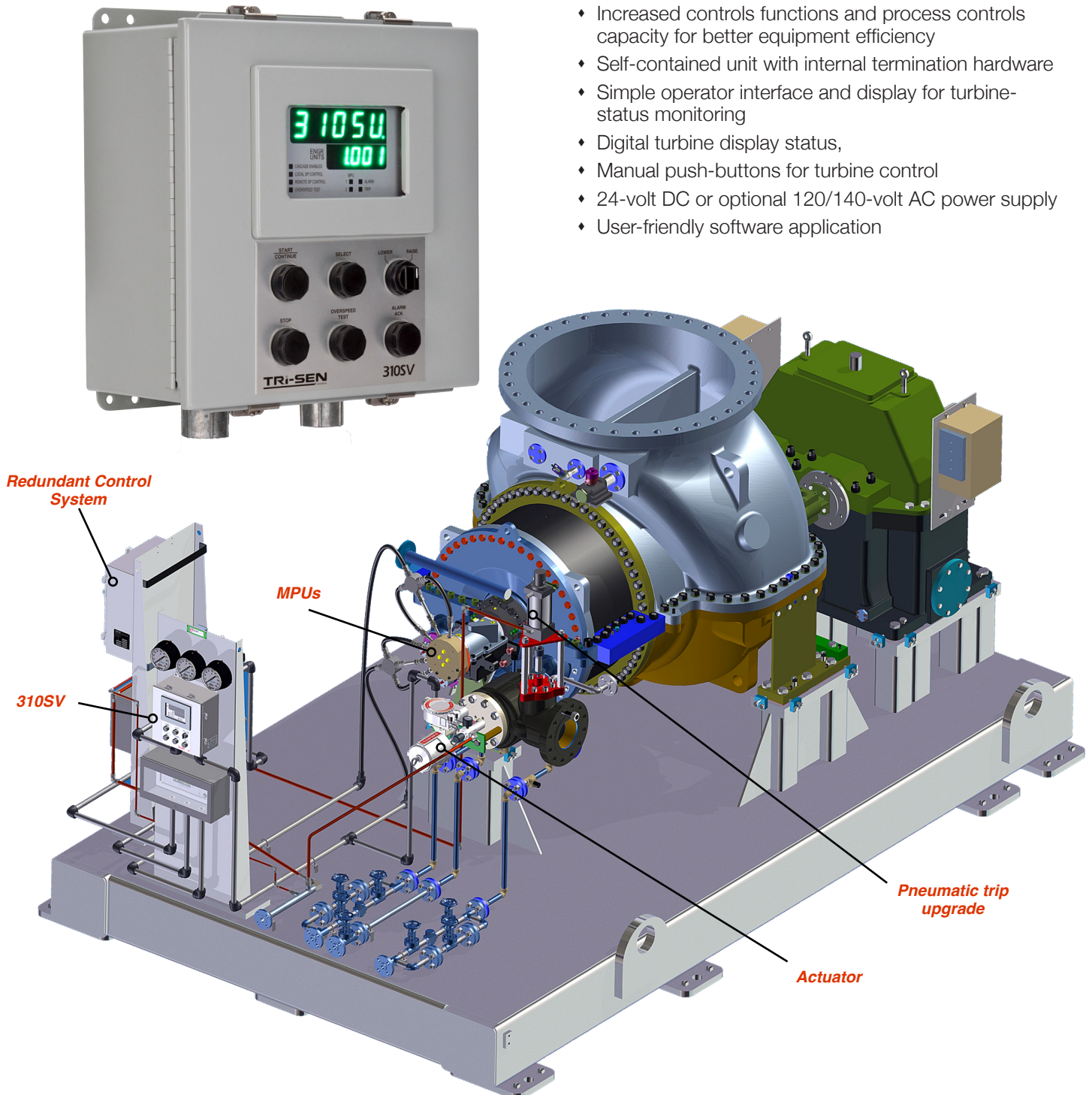


# 310SV Single-Valve Governor

This fully integrated and configurable controller is designed to handle startup and protect single-valve steam turbines driving mechanical-type loads, such as pumps, fans and compressors. In addition to speed control, the 310SV provides cascade control for regulating process variables such as suction/discharge pressure or suction flow. The unit is self-contained in a National Electrical Manufacturers Association (NEMA) type 4 or optional 4X enclosure and includes internal termination hardware. Joint engineering between Elliott and Tri-Sen ensures a consistent controls interface with Elliott equipment. Standard configurations and project implementation standards ensure design efficiency and timely execution. The 310SV also includes:

- ◆ Increased controls functions and process controls capacity for better equipment efficiency
- ◆ Self-contained unit with internal termination hardware
- ◆ Simple operator interface and display for turbine-status monitoring
- ◆ Digital turbine display status,
- ◆ Manual push-buttons for turbine control
- ◆ 24-volt DC or optional 120/140-volt AC power supply
- ◆ User-friendly software application



## SPECIFICATIONS

### Inputs

- ♦ Pulse: 2 passive units, 20-20,000 Hz, 1 to 10Vrms sinusoidal, to 0.5RPM accuracy
- ♦ Analog: 2 inputs, 4-20mA, 12 bit , to a 0.25% full-scale accuracy
- ♦ Digital: up to 6 inputs, 24V DC, 120V AC or 120V DC
- ♦ Remote: 6 digital inputs, 24V DC

### Outputs

- ♦ Analog: 2 outputs, 4-20mA
- ♦ Actuator: 1, current source 0-20mA (800 ohm load), 0-160mA (100 ohm load)
- ♦ Digital: up to 6 outputs, 24V DC, 240AC (3.5A) or 200V DC (1.0A)

### Power Supply

- ♦ AC power: 95 to 260V AC, 0.2A typical @ 120VAC
- ♦ DC power: 20 to 32V DC, at 0.5 typical @ 24V DC

### Environmental Specifications

- ♦ Temperature: -25°C to 65°C (DC power version) \*refer to User's Guide for restrictions
- ♦ Humidity: 5% to 95% , non-condensing
- ♦ Shock: 15G for 11ms, half sine, in each axis
- ♦ Vibration: Per axis: sinusoidal, 2.0G acceleration, 10 to 150Hz

## Control Logic

The 310SV Configurator is a Windows-based software application that allows the user to manage the controller from a PC. Configurations can be easily downloaded or uploaded to or from the controller and a comparison feature easily identifies the file differences. Additional features include:

- ♦ Real-time monitoring of I/O values and states
- ♦ Calculated values
- ♦ Alarm and trip history
- ♦ Real-time trending and recording
- ♦ Simulator mode for testing from a PC without running the turbine or connecting to the 310SV controller

## 310SV Retrofit Upgrade Kit:

The complex demands of today's industry require that a customer have a governing system with a great scope of functional purposes and feedback capabilities. The 310SV retrofit kit provides customers with instructions for an accurate and safe installation and includes:

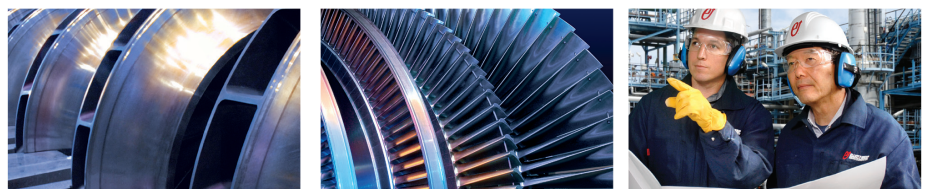
- ♦ One (1) Tri-Sen 310 SV Electronic Governor
- ♦ One (1) speed pick up retrofit kit – direct mounting replacement of mechanical governor adapter
  - New speed pick-up 30-tooth collar with assembly hardware
  - New MPU mounting adapter/bearing housing end cap
- ♦ Two (2) MPU's for control signal
- ♦ One (1) governor valve actuator
- ♦ One (1) Mounting hardware kit for actuator assembly
- ♦ 310SV Configurator program



901 North Fourth Street  
Jeannette, PA 15644-1473  
Phone: 724-527-2811  
Fax: 724-600-8442  
Email: info@elliott-turbo.com

[www.elliott-turbo.com](http://www.elliott-turbo.com)

T H E W O R L D T U R N S T O E L L I O T T



C O M P R E S S O R S ■ T U R B I N E S ■ G L O B A L S E R V I C E