GE Energy

AtlasSC Driver Amp Board Retrofit

fact sheet

Modify your hydro turbine's existing control system to a customized digital control solution by GE Energy, in less time than you may have thought possible.

The AtlasSC™ Driver Amp Board upgrade is a controls-only retrofit package that enables customers with vintage, analog Woodward™ 501/505/700H/FC controllers to replace their analog board with a Woodward digital platform, at a fraction of the time of a traditional hydro control retrofit.

Common in older control systems, the driver amp board is an analog product that provides governor control. The rapid technology evolution to digital technology, however, has made parts and service support difficult. This "plug and play" solution enables customers to obtain a state-of-the-art control platform, monitoring functions and service and support, all with quick installation and without replacing the entire control system.

Functionality & Reliability of a Digital Control System

A hydro control solution built on the AtlasSC is GE Energy's latest control offering for all hydro turbine types with this type of analog board. Powerful and rugged hardware to meet today's hydro challenges, the AtlasSC is a compact controller with Real Time Operating System (RTOS) to facilitate better operating data analysis and on-board I/O modules to process fast, accurate signal response.

The AtlasSC is a direct replacement for the driver amp board and delivers all the benefits of a modern control while minimizing the physical impact on wiring. Upgrade benefits include: eliminated thermal drift and analog control alignments; enhanced data monitoring and protective functions; and, increased availability of spare parts and service support.

Driver Amp Board Applications

- Francis
- Kaplan
- Pump
- Impulse
- Propeller
- Tube

Highlighted Features

- "Plug and play," direct replacement for driver amp board that requires minimal control wiring changes and no software changes
- Interfaces directly with existing pilot control assembly transducer (+/- 200 ma Output)
- Dual actuator output allows future upgrade of valve mechanical parts with existing driver
- Eliminates time consuming calibration
- Eliminates mechanical linkage and external pilot valve
- Reduces overall steady state oil consumption
- No changes to existing digital controller
- Increased service and support
- Online parameters that can be used to monitor valve characteristics
- Sensor redundancy

Ease of Installation & Configuration

The AtlasSC is a "plug and play" solution that requires minimal wiring changes and no software upgrades. These streamlined hardware and wiring configurations reduces installation time by using customers' existing wiring structure while enabling them to keep the core of their control system. If no additional electrical to mechanical interfaces are required, some customers may be eligible for a reduced cost and the opportunity of completing the upgrade in as little time as a weekend.

To further simplify the upgrade process, the AtlasSC only needs to be calibrated once, unlike the repeated retuning needs of the driver amp board.

Increase the availability and reliability of your hydro turbine, while reducing installation time, with a customized hydro control solution by GE Energy. And, as with all of hydro control solutions, site engineering, installation and commissioning services are available to ensure a seamless retrofit. Contact GE Energy today to learn more about the AtlasSC Driver Amp Board upgrade.

Specifications

SmartCore Board

- 3 Isolated Serial Ports
  - 1 RS-232
  - 2 configurable RS-232, RS-422, or RS-485
- 2 MPU / Proximity
- 24 Discrete Inputs
- 6 Analog Inputs (4-20 mA, 0-5 V)
- 6 Analog Outputs (4-20 mA)
- 2 Actuator Outputs (4-20 mA, 20-160 mA)

Power Supply

- 18-32 Vdc
- 12 Relay Drivers

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