Avid Controls, Inc.
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Avid Controls, Inc. is proud to announce our new Avid Extreme Inverter (AEI) modules for retrofitting the GE/Converteam deltas (plug and play). Avid utilizes the reclaimed castings and passive components only after disassembly and complete remanufacturing, testing and validating as new condition.

All necessary parts are replaced with new original GE components. Our added value is three (3) years of R&D, working with Semikron on special "rugged chip", Sintered SKiiP4 technology and our patent pending moisture detector which mimics the characteristics of the moisture absorption and drying of these particular IGBTs. With these inverters, the moisture detector with or without power applied mimics and absorbs at an equivalent rate of the SKiiP4 modules. Even sitting on a warehouse shelf collecting moisture, the moisture detector continues to monitor; therefore, prior to applying DC bus voltage or Mains voltage to the GRID inverter if dangerous levels of moisture exists within the modules the moisture detector will warn you via a volt free contact output.

With the SKiiP4 Sintered and rugged chip technology used in our AEI modules the IGBTs are less susceptible to moisture issues. Avid existing field BETA turbines (these turbines have been in field operating for over one (1) year now) have never had to dry-out or warm-up after prolonged shutdowns.

With the implementation of the Sintered technology, the thermal cycling delamination issue is solved. In comparison of life expectancy due to failures from previously soldered connections, as in existing SWP GE/Converteam systems and other IGBT manufacturers, the predicted increased life with Sintered technology is doubled at a conservative minimum.

Our interface board CIB (control interface board) which replaces the delta DIB (delta interface board) has a two (2) digit LED display which constantly monitors and displays IGBT junction temperatures, DC link voltage, AC output currents. This also displays fault functions if any internal AEI module trips it will annunciate the particular fault condition.

The Avid AEI-APU, which is a more robust and trouble-free solution, replaces the existing SMPS (switch mode power supply).

We have had units operating with no failures and no down time with zero warm-ups or dry-outs necessary for over a year in both type 27 and type 28 SWP turbines.

The FINAL costs to retrofit do not exceed 10% over the costs of repairing the associated existing inverter modules and these retrofits come with a <u>two (2) year warranty</u>.

When compared to Avid competition of repaired deltas, by utilizing Avid AEI and APUs to replace existing deltas and SMPS, at a minimum you achieve the following benefits:

- Completely remanufactured with validation of components
- New DC link capacitor bank
- Moisture sensor (patent pending)
- Rugged chip technology (moisture resistant and higher reliability)
- Sintered technology IGBTs
- Higher rated continuous current and higher DC voltage ratings
- On board annunciation with two (2) digital LED display with fault codes and a continuously monitored set of running parameters (see data sheet)
- Digital Gate Driver (existing technology uses Analog circuitry)
- Conformal coating of ALL PC cards
- CIB implements an onboard FPGA for enhanced troubleshooting annunciation, precise thermal modeling/feedback of actual junction temperature and digital interface between existing controller and SKiiP4 IGBTs
- High reliability, high temperature components used and extended burn-in time
- Stringent traceability and burn-in requirements within Avid test procedures to insure reliable operation and eliminating infant mortality of semiconductors
- Built from 20+ years of experience in the oilfield and marine markets where we **cannot** have reliability issues
- 2 year warranty
- Quicker start-up time
- Typically no heating/warm up needed
- Avid support (24 hours a day/7 days a week/365 days a year)
- Burn-in of ALL systems and components and assemblies
- Traceability of ALL assemblies and sub-assemblies and most components
- Immediate delivery of conversion kits and AEI modules
- Many more attributes with the AEI converted modules

Please contact us for plant visits or if you have interest in a visit from our sales and technical team to discuss options and technical attributes.

Thank you for your interest in our product and your continued support!