

Larry Machak
Saminco Inc
www.samincoinc.com
(239) 561-1561
(304) 523-4700

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Saminco AC and DC Trailing Cable Traction Systems

For nearly 20 years Saminco has been designing and manufacturing solid state traction panels specifically for underground coal mining. These are not industrial motor controllers that have been modified for use on mining vehicles, they are custom systems designed in co-operation with OEM's, Rebuilders and the Mine Maintenance staff to ensure all safety and control requirements are met for the machine.

Our JS-400 and JD-400 packages are prime examples of this design philosophy. With over 450 combined drives shipped for use in shuttlecars and continuous miners, the JS/JD-400 10 SCR packages are proven workhorses providing increased production and reduced machine downtime while also protecting the motors resulting in longer motor life.

The drive package provides variable, reversible and regenerative braking control of 240V to 550V DC motors rated up to 100HP. All functions are self-contained in one box measuring 15.2" x 8.4" x 8.6" (same footprint as other popular SCR packages). Reliable solid state devices are used for all motor control operations – including reversing and starting. There are no mechanical contactors used for direction changeover.

The first JS-400's were shipped in the year 2000 for use in shuttlecars – these cars have been operating successfully here in the US along with multiple systems in China and Australia. The proven reliable operation, clean installation and simple troubleshooting of these drives is well known throughout the mining community.

With the introduction of our continuous miner interface box in '04, the machines using the JS-400 have added 40 to 70 feet of production PER SHIFT. By continually monitoring the cutter head motor current, we automatically adjust the tram speed to the mining conditions. This feature is fully automatic – no adjustments to the control panel are required once the system is installed and the machine is in production. Not only is more coal mined, the motors are subjected to less wear and tear, guaranteeing more production and less maintenance.

The A400 is our DC Trailing cable counterpart to the JS-400. This microprocessor based IGBT controller is extremely compact, powerful and reliable. Nearly 300 of these advanced controllers are underground helping to set shift production records. With a useable diagnostic display (easy to understand system and fault messages!), and the ability to change drive settings with out opening the main XP enclosure, the Saminco A400 is in a class of its own.

What's Next?

New product development at the Saminco R&D center in Fort Myers, Florida includes our radio remote controls for Locomotives and Continuous Miners. The locomotive remote is now operating underground and the CM remote will have MSHA approval this summer. Our new "Q" series of microprocessor DC/DC control systems has turned quite a few heads and, of course, our Variable Frequency Drive (VFD) to control AC tram motors in shuttlecars is being closely watched and will be released to production later this year. More to follow....



Saminco JS-400 8.4" wide x 15.2" deep x 8.6" high



Continuous Miner Interface Box with Cutter Head Feedback



Typical Saminco JS-400 Shuttlecar panel



A400 DC/DC Controller 8" wide x 12.75" deep x 8" tall



VF1-75 Variable Frequency Drive 8" wide x 14" deep x 8.25" tall

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ELECTRIC TRACTION DRIVES