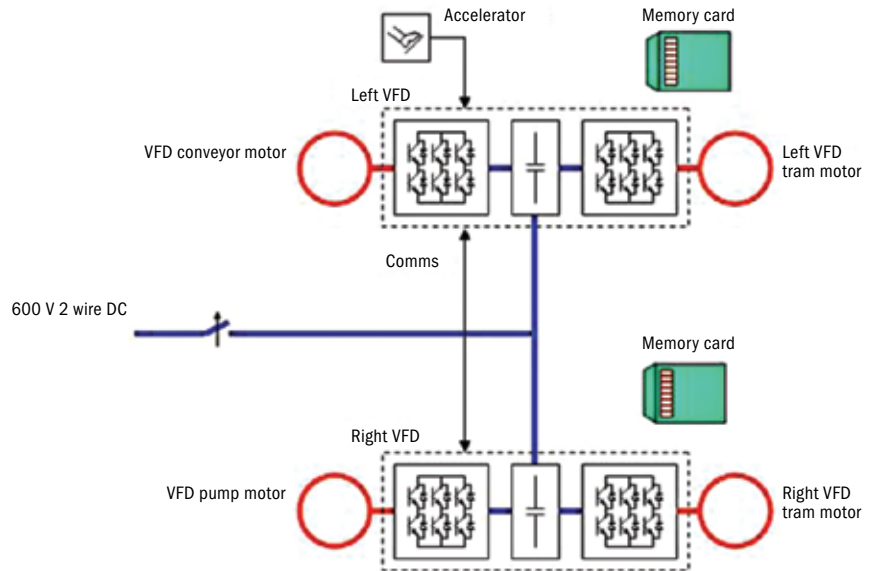




## 550V DC

The conveyor Optidrive system reduces the shock loading of all the key conveyor drive components, increasing the reliability and availability of the conveyor system. The system gives operators the ability to adjust the shuttle car discharge rate to match the mine belt infrastructure. The VFD pump allows for the trailing cable to come under tension at a slow, controlled rate when the pump is initially energized. This in turn reduces the strain on the trailing cable as the initial whipping of the cable is eliminated.

### 550 Volt DC-VFD Drive Schematic



Joy Global's proven AC OptiDrive units have been redesigned to accept a direct 550V DC input. The ability of the redesigned drive unit to accept the direct supply of DC voltage eliminates the need for the drive unit to contain a DC input voltage rectification function. Removing the DC input rectifier from the drive unit and externally relocating it, allows the drive unit to supply power to a second motor without any increase in the drive unit package size. DC voltage

that is directly supplied to the redesigned drive unit is converted into a variable frequency AC output voltage between 5Hz and 90Hz, the same output voltage supplied by Joy Global's AC OptiDrive units.

### Features and Benefits

- The Joy motor design does not require encoders, as Joy motors are matched and "tuned" to the OptiDrive system.
- Joy motors are a proven quality, permissible design.

- The Joy system only requires two drives to run all four VFD motors.
- The Joy system has fewer components and is much easier to troubleshoot.
- The Joy DC VFD drive enclosures are internally cooled. No external cooling is required with the Joy DC VFD system.
- Joy offers full service and support for all of its OptiDrive systems.

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