

Common DC Bus

Centrifuges
Converting
Cranes
Hoists
Multi-drive System
Tensioners
Test Stands
Wind/Unwind
+More!



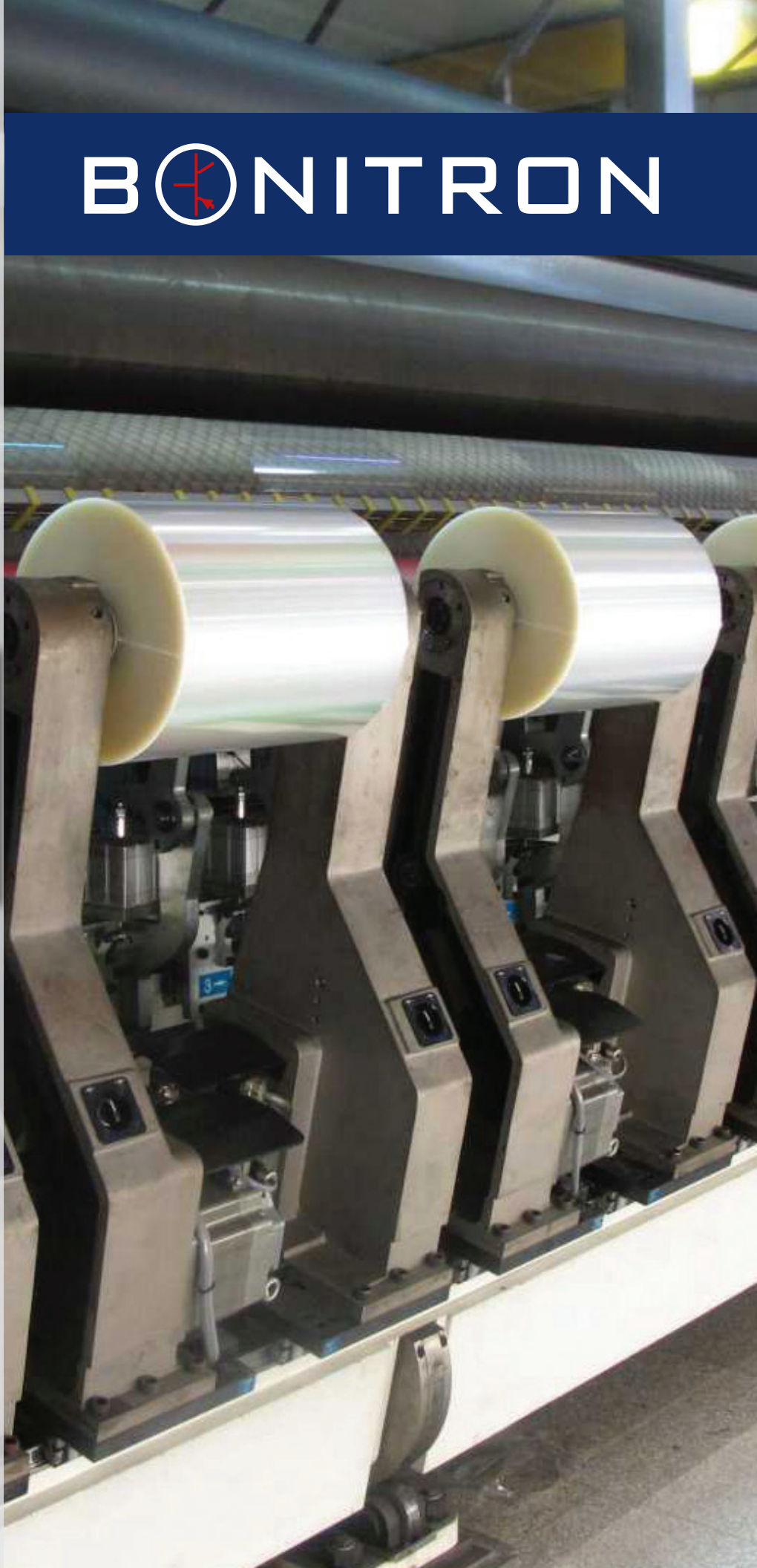
Multi-Drive Solutions

- *Maximize drive system efficiency and reliability*
- *Reduce cost, wiring, and component count*
- *Utilize braking current to power other drives*
- *Create a common DC bus for multi-drive systems*

Products

Common Bus Power Supplies
Sharing and Isolation Diodes
Bus Capacitance

BONITRON

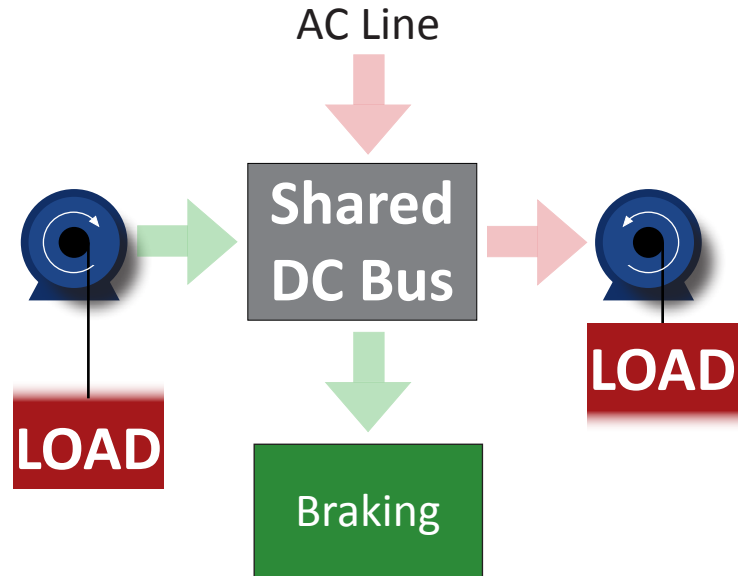


Common DC Bus

Any industry application that requires the use of multiple electric motors in a system can benefit from the use of a shared common DC bus. The use of a common bus allows for the reduction of wiring and components, as the linked drives can now share components. It can also allow for the direct sharing of power between drives, reducing amount of power needed from the grid. This can be achieved with either a common bus power supply or with diode sharing.



The power generated by stopping one drive can be shared to power another drive.

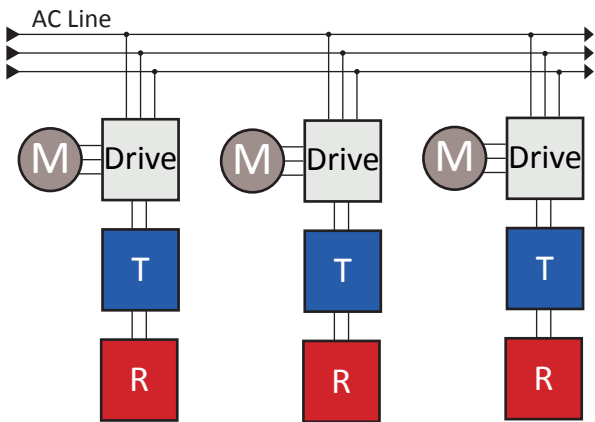


Common Bus Power Supply

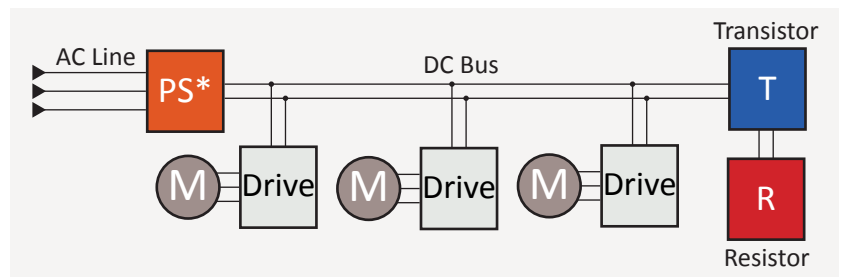
M3712, M3713

Using a common bus power supply reduces the amount of wiring and components in a system, resulting in a reduction of maintenance and footprint of the system. In a system with multiple motors, some motors may be regenerating while others are motoring. The common bus allows the regenerating drives to share power with the motoring drives, thus reducing the amount of power needed from the grid. If the drives are creating a net surplus of energy, a single line regen or braking unit can be installed to dissipate the excess energy.

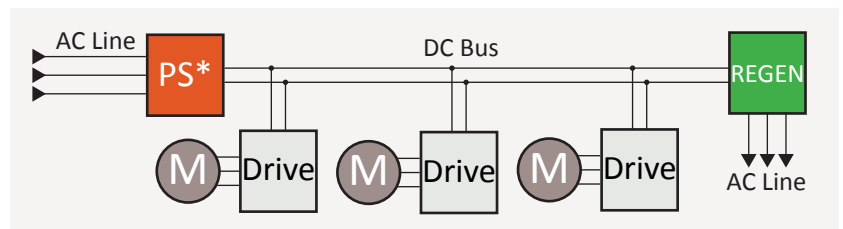
A common bus power supply can also allow the use of single phase AC power with 3-phase motors without having to oversize the drive. The M3712 can create a common DC bus from single phase power while the M3713 uses 3-phase input power.



Without common DC bus



OR



With common DC bus Power Supply

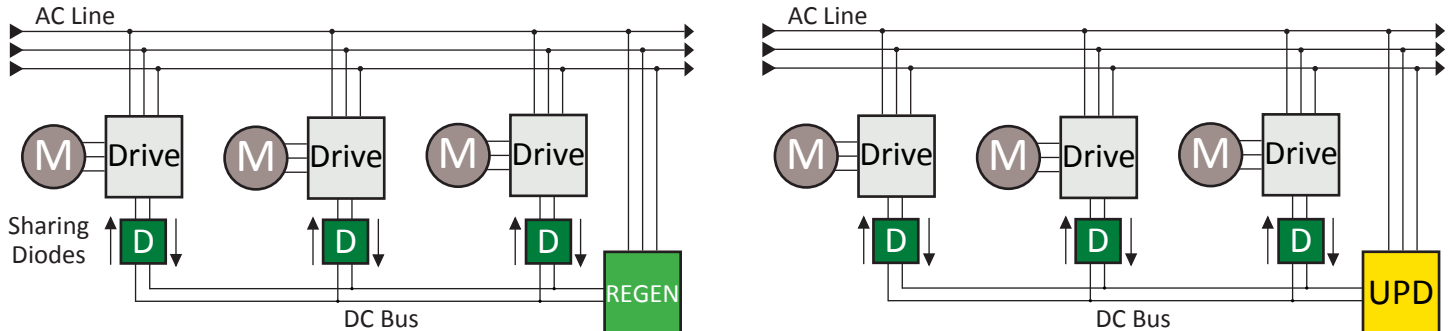
*When using the M3713DM, drives must have internal precharge for DC input. Drives without precharge must use the M3713SC.



Common Bus Sharing Diodes

M3345CBM

If drives on the AC line are connected by a DC bus, circulating currents can be created that might cause drive faults. Sharing diodes allow a **two way flow of power** to and from drives, enabling them to share power between their DC busses, while preventing circulating currents. The two-way flow allows the drives to share power with each other or use a common braking, regen, or UPD (Uninterruptible Power for Drives) unit. Multiple drives of similar size can be run through a single diode unit while different size drives can be handled with separate diode units.



Common DC Bus Filter Capacitance

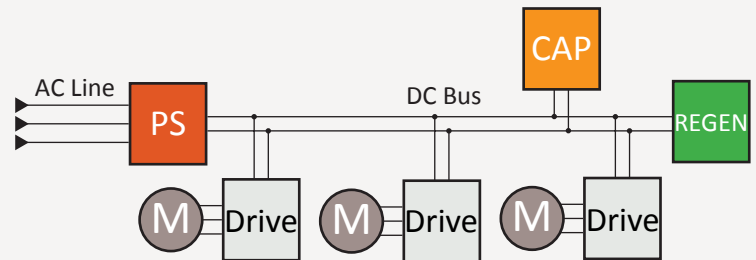
Extra capacitance (CAP) on the DC Bus with power supply or diode units.

3612EC

- Reduce DC bus ripple from AC conversion

3612RC

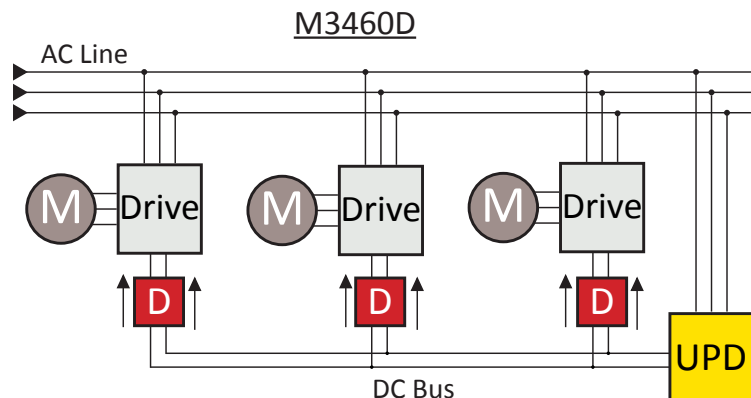
- Limit high frequency spikes from switching



Common Bus Isolation Diodes

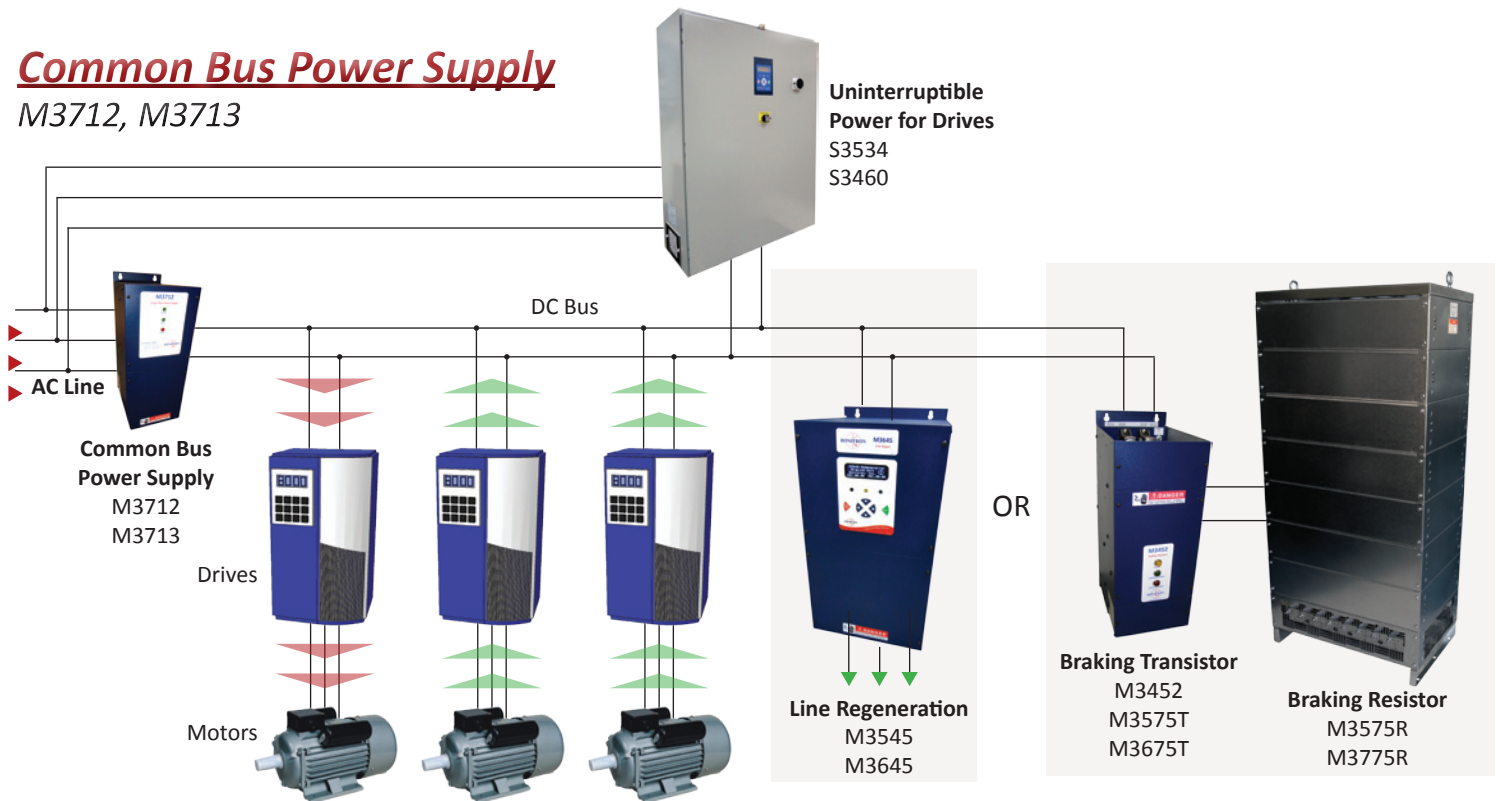
M3460D

Unlike sharing diodes, isolation diodes allow only a **one-way flow of power** and do not allow drives to share power with each other, completely isolating the drives. The isolation diodes allow multiple drives to be connected on the DC bus so that they can share one UPD. The M3460D allows inward flow of power so that one UPD can power all of the drives connected to the DC bus. Multiple drives of similar size can be run through a single diode unit while different size drives can be handled with separate diode units.



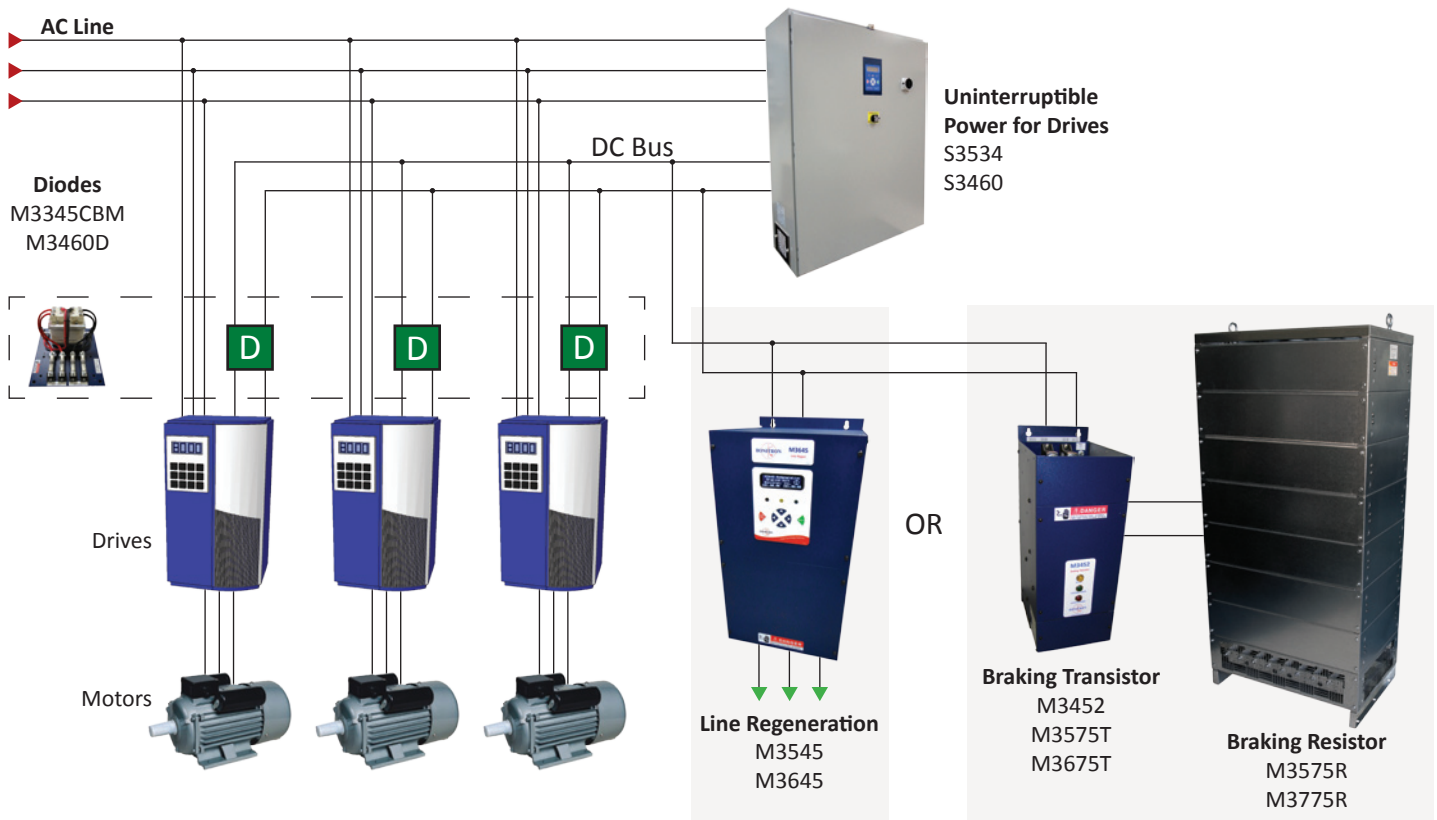
Common Bus Power Supply

M3712, M3713



Common Bus Diodes

M3345CBM, M3460D



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