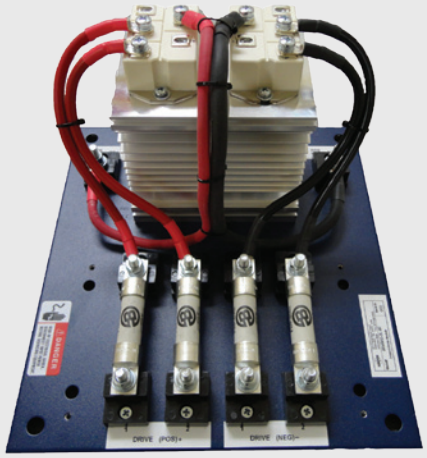
Sharing & Isolation Diodes

BONITRON

M3345CBM, M3460D

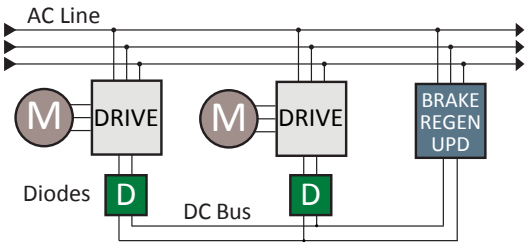
Common Bus Solutions



Drive systems are increasingly being configured with a common DC bus and for good reason. Common DC bus configurations create many advantages including cost savings, greater efficiency, and a more versatile system design.

Multiple drives connected through a common DC bus can share a brake or a UPD resulting in reduced component count and reducing cost. Also, if some drives are overhauling while others are motoring, power from the braking drives can be directly shared with the accelerating drives over the DC bus. Bonitron has diodes that allow your drives to share regenerative energy on a common bus (M3345CBM), or share a common UPD (M3460D) while isolating the drives from each other.

Bonitron common DC bus configuration accessories work with drive systems with DC bus connections.



Product Highlights

M3345CBM

- Allows the use of one UPD, Braking, or Regen module with multiple drives
- Prevents circulating currents in parallel bridges

M3460D

- Isolate drives while sharing common UPD bus
- Undervoltage Applications
- Diode isolation protects individual drives

Industry Applications




Roller Wind / Unwind | Converting | Splitters | Robots | Centrifuges | & More!

www.bonitron.com 615-244-2825 info@bonitron.com

Common Bus Sharing Diodes

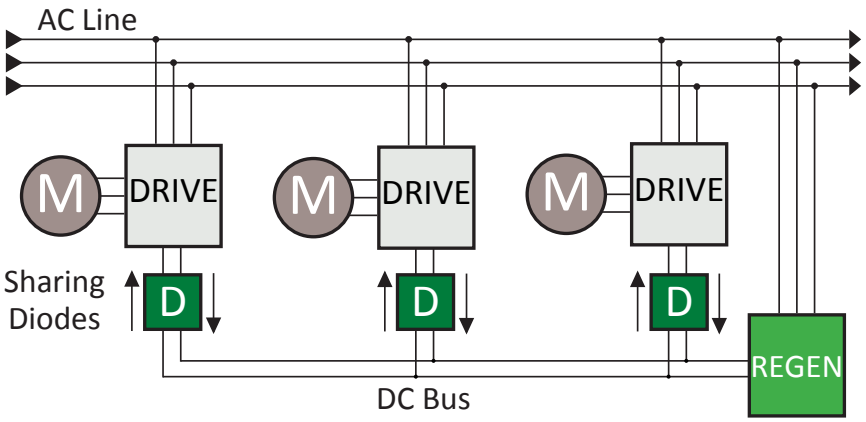
M3345CBM

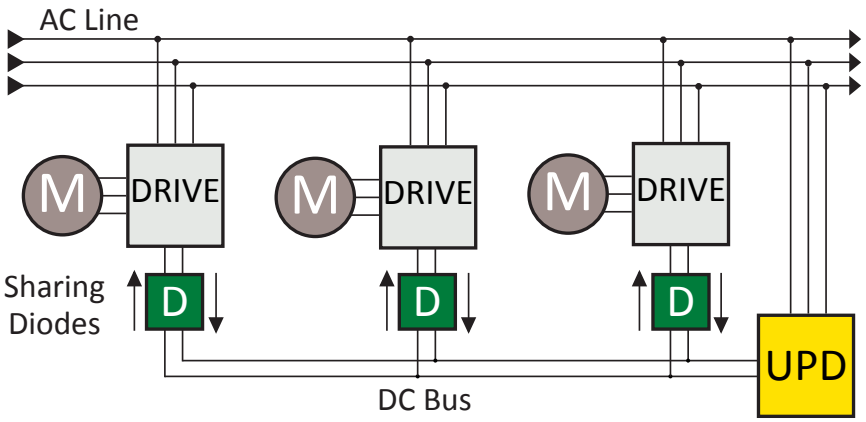
If drives on the AC line are connected by a DC bus, circulating currents can be created that might cause drive faults. The sharing diodes allow a two way flow of power to and from drives enabling them to share regenerative power between their DC busses while preventing circulating currents. The two-way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

M3345CBM

Nominal HP		Max. # of Drives (per unit)	Model Number	Drive Current	Output Current		Dimensions (H x W x D)
230-240 VAC	460-480 VAC				Peak	Cont.	
3 HP	5 HP	3	M3345CBM - 10H3	10A	30A	30A	8.50" x 8.50" x 5.50"
		6	M3345CBM - 10J6		60A		
10 HP	20 HP	3	M3345CBM - 30H3	30A	90A	30A	8.50" x 8.50" x 5.50"
		6	M3345CBM - 30J6		180A		
20 HP	40 HP	2	M3345CBM - 60L2	60A	120A	50A	13.00" x 12.00" x 8.00"
		3	M3345CBM - 60L3		180A		
20 HP	40 HP	4	M3345CBM - 60P4	60A	240A	100A	15.00" x 24.00" x 8.00"
		6	M3345CBM - 60P6		360A		
30 HP	60 HP	2	M3345CBM - 90N2	90A	180A	100A	14.00" x 15.00" x 8.00"
		3	M3345CBM - 90N3		270A		
100 HP	200 HP	2	M3345CBM - 200P2	200A	400A	200A	15.00" x 24.00" x 8.00"
75 HP	150 HP	1	M3345CBM – 200X1	200A	400A	200A	13.75" x 6.90" x 9.25"
100 HP	200 HP	1	M3345CBM - 250X1	250A	375A	250A	13.75" x 6.90" x 9.25"
125 HP	250 HP	1	M3345CBM – 300X1	300A	600A	300A	13.75" x 6.90" x 9.25"
125 HP	250 HP	1	M3345CBM - 350X1	350A	450A	300A	13.75" x 6.90" x 9.25"

Learn more about
Common DC Bus Solutions at
Bonitron.com/common-bus.html





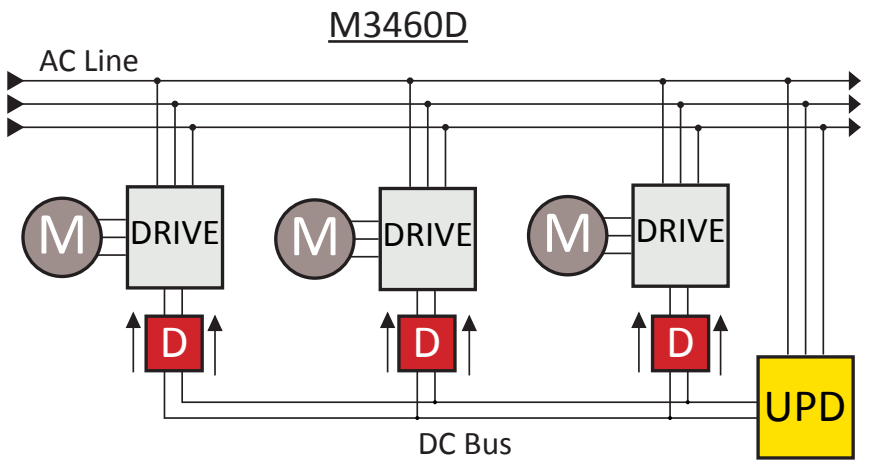
Common Bus Isolation Diodes

M3460D

Unlike the sharing diodes, the 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 and preventing circulating currents. 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.

M3460D

Nominal HP		Max. # of Drives (per unit)	Model Number	Drive Current	Current		Dimensions (H x W x D)
230-240 VAC	460-480 VAC				Peak	Cont.	
1.5 HP	3 HP	6	M3460D-6F6-4	4 A	24 A	20 A	8.00" x 12.50" x 5.50"
3 HP	5 HP	3	M3460D-3H3-10	10 A	30 A	30 A	8.50" x 8.50" x 5.50"
		6	M3460D-6J6-10		60 A		15.00" x 8.50" x 5.50"
10 HP	20 HP	3	M3460D-3H3-30	30 A	90 A	30 A	8.50" x 8.50" x 5.50"
		6	M3460D-6J6-30		180 A		15.00" x 8.50" x 5.50"
20 HP	40 HP	2	M3460D-2L2-60	60 A	120 A	50 A	12.00" x 13.00" x 8.00"
		3	M3460D-3L3-60		180 A		
20 HP	40 HP	4	M3460D-4P4-60	60 A	240 A	100 A	24.00" x 15.00" x 8.00"
		6	M3460D-6P6-60		360 A		
30 HP	60 HP	2	M3460D-2N2-90	90 A	180 A	100 A	15.00" x 15.00" x 8.00"
		3	M3460D-3N3-90		270 A		
100 HP	200 HP	2	M3460D-2P2-200	200 A	400 A	200 A	24.00" x 15.00" x 8.00"



Common DC Bus Filter Capacitance

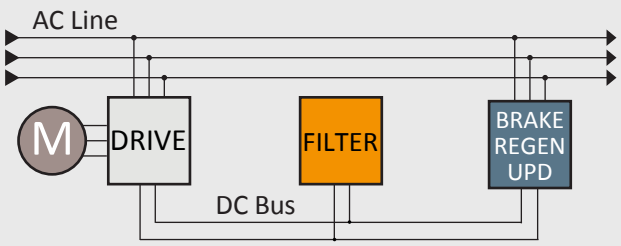
Extra capacitance on the DC Bus with **power supply or diode units.**

3612EC

- Reduces ripple on DC bus from AC conversion.

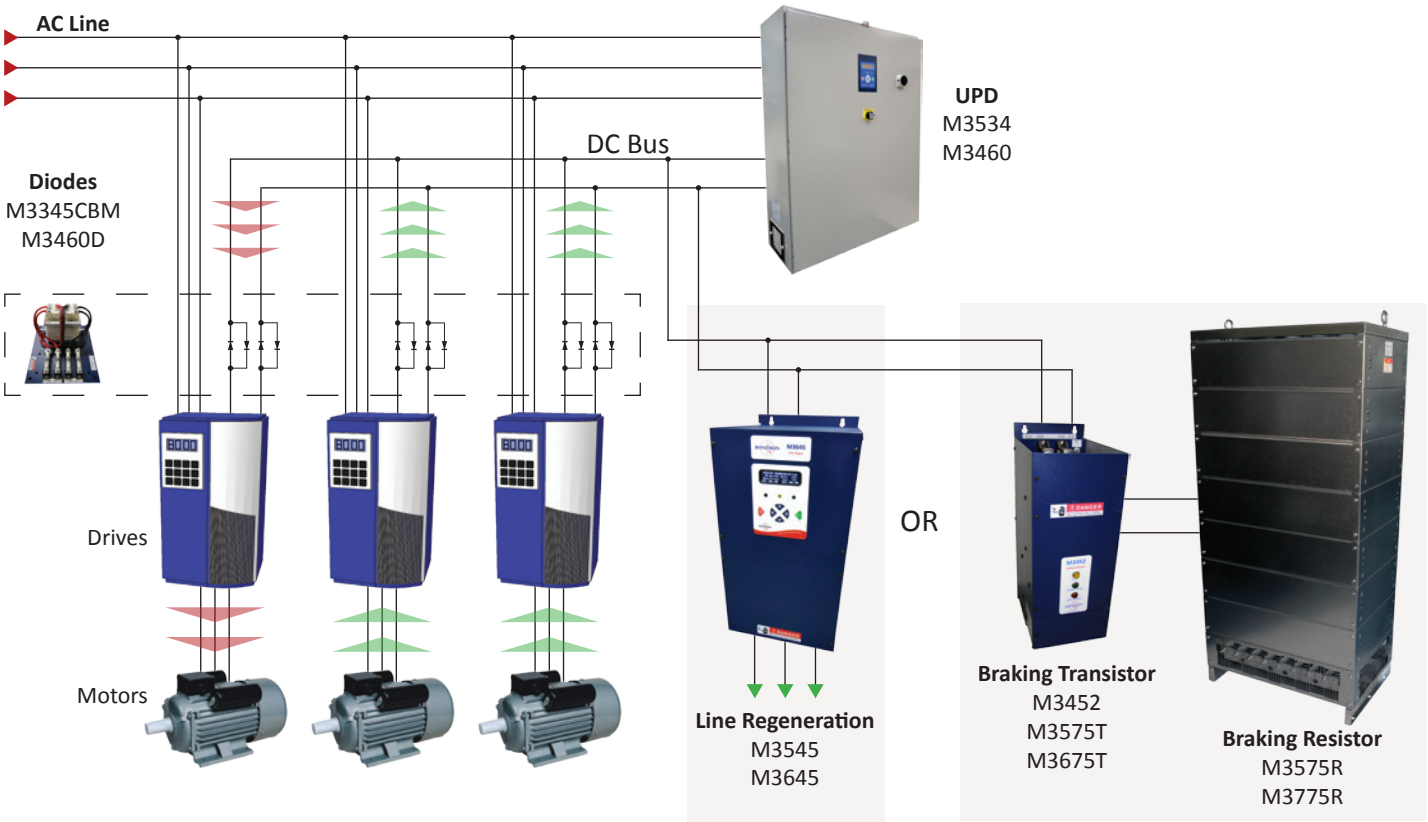
3612RC

- Limits high frequency spikes from switching.



Common Bus Diodes

M3345CBM, M3460D

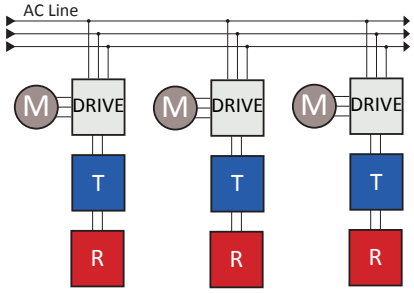


Common Bus Power Supply

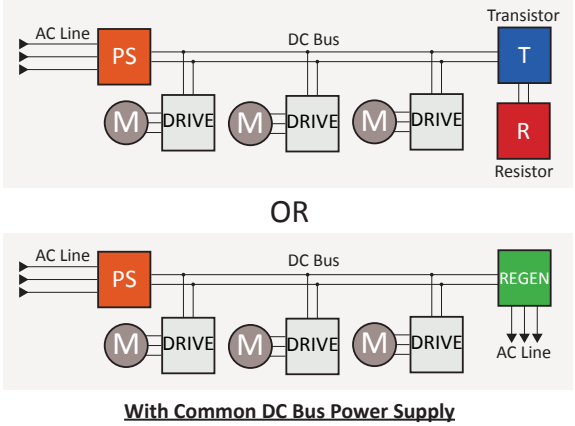
M3712, M3713

Using a common bus power supply can reduce the amount of wiring as well as the number of components in a system resulting in a reduction of maintenance and footprint of the system. In a system with multiple motors, there could be some motors regenerating while others are motoring. The common bus allows the regenerating drives to share power with the motoring drives and reduces 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 three phase motors without having to oversize the drive or the motor. The M3712 can create a common DC bus from single phase power while the M3713 uses three phase power.



Without Common DC Bus



With Common DC Bus Power Supply

Scan for more information

bonitron.com/diodes.html

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