

Line Regeneration



Overvoltage Solutions



**M3645
Series**

**M3545
Series**



BONITRON

M3545 & M3645 Series

When variable speed drive systems are braking they generate power that must be dissipated. If the excess power is not dissipated, the drive system can lose control of the process due to an overvoltage trip.

Bonitron Line Regens replace traditional braking transistor and resistor options that waste energy as heat during drive braking. Instead of dissipating braking energy as heat in a resistor, Line Regen solutions return this energy to the power grid. This reduces demand from the utility, which equates to ample energy savings.

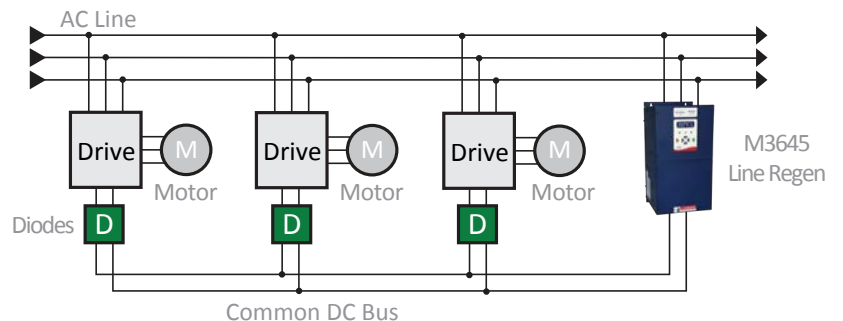
The Bonitron Line Regen is efficient and small enough to be integrated into the drive cabinet. This eliminates excess resistor wiring and cooling costs.

New 3545 Series

Single or 3-Phase

The M3545 Line Regen is a low-cost drive add-on that maximizes uptime and ROI in single or 3-phase applications.

For example, 10HP of continuous regeneration can result in a payback as soon as 90 days at 10 cents per kW/h. Contact Bonitron for details.



Savings Calculator

Bonitron Line Regen units return regenerative energy back to the AC line where it can be used by equipment within the facility. This reduces the amount of power required from the utility; reducing utility costs.

The formula to the right is an example for a 100HP application. Visit Bonitron.com/RegenCalculator to see your potential savings.

The calculator does not include the cost of the Line Regen itself. Contact Bonitron for pricing and to discuss your application. When comparing a Line Regen to a Resistor, consider the added cost of wiring, conduit, or cooling for a resistor. While many resistors produce enough heat that they need to be located outside, Bonitron Line Regens are 99% efficient and are designed to be integrated into the drive cabinet.

Bonitron.com/RegenCalculator

Formula:	Example:
(Continuous HP)	(100)
x (Duty Cycle %)	x (0.40)
x (Days of Operation)	x (350)
x (Hours of Operation per Day)	x (12)
x (Cost per kWh)	x (0.10)
<u>x (0.746)</u>	<u>x (0.746)</u>
= Savings	= \$12,527.76

*Contact Bonitron to discuss your application's possible savings.



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Series Selection	System Voltage	Current (Continuous)	Current (Peak)	Single Phase Operation*	UL Listed	Interactive Display
M3545 Series	208 - 480VAC	15A	22.5A	●		
M3645 Series	208 - 600VAC	30 - 100A	45 - 150A		●	●

*See table below for single phase ratings

Display & Indicators	LED Indicators			Interactive Display Screens		
	Power	Regen Active	Not Ready	Metering	Energy Records	Fault Records
M3545 Series	●	●	●			
M3645 Series	●	●	●	●	●	●

with -D in Model Number

Metering

- DC Bus Voltage
- DC Regen Current
- Regen Power
- Total Unit On-time

Energy Records

- Energy Regenerated in Lifetime
- Energy Regenerated since user reset

Fault Records

- Stores 50 most recent fault states (Last one record is stored with LED Indicators)
- Feedback Undervoltage, Overtemperature, DC Overvoltage, Differential Overvoltage, Sync Loss, IGBT Driver, Phase Overcurrent, Phase Loss, DC Undervoltage, Precharge Failure, Frequency Detect Failure

Phase	Line Regen								Dimensions (H x W x D)	UL and CUL Listing	Fuse Plate		Reactor	
	Power		Display Type	Model Number	Current		Watt Loss	Model Number			Model Number			
	Cont.	Peak			Cont.	Peak								
208 - 240VAC														
1	0.9 HP	1.4 HP	LEDs	M3545-L006-M4	2 A	3 A	34 W	14.80" x 4.00" x 8.30"	UL and CUL	M3545F-H015	N/A			
3	2.8 HP	4.2 HP			6 A	9 A	59 W		UL and CUL					
1	2.25 HP	3.5 HP	LEDs	M3545-L015-M4	5 A	7.5 A	67W	17.00" x 4.70" x 10.80"	UL and CUL	M3645F-H030	M3645F-H050			
3	7 HP	10.5 HP			15 A	22.5 A	117W		UL and CUL					
3	14 HP	21 HP	LEDs+Digital	M3645-L030-M10-D	30 A	45 A	180W	20.00" x 10.00" x 10.10"	UL and CUL	M3645F-H030				
3	24 HP	36 HP	LEDs+Digital	M3645-L050-M11-D	50 A	75 A	265W	22.00" x 11.30" x 10.60"	UL and CUL	M3645F-H050				
3	48 HP	72 HP	LEDs+Digital	M3645-L100-M12-D	100 A	150 A	470W	24.00" x 12.00" x 12.10"	UL and CUL	M3645F-H100				
3	96 HP	120 HP	LEDs+Digital	M3645-L300T-M15-D	300 A	375 A	2980W	26.00" x 13.90" x 14.11"		M3645F-H300	M3645-L300R			
380 - 415VAC														
3	25 HP	37 HP	LEDs+Digital	M3645-E030-M10-D	30 A	45 A	180W	20.00" x 10.00" x 10.10"	UL and CUL	M3645F-H030				
3	41 HP	62 HP	LEDs+Digital	M3645-E050-M11-D	50 A	75 A	265W	22.00" x 11.30" x 10.60"	UL and CUL	M3645F-H050	N/A			
3	83 HP	125 HP	LEDs+Digital	M3645-E100-M12-D	100 A	150 A	470W	24.00" x 12.00" x 12.10"	UL and CUL	M3645F-H100				
3	250 HP	312.5 HP	LEDs+Digital	M3645-E300T-M15-D	300 A	375 A	2980W	26.00" x 13.90" x 14.11"		M3645F-H300	M3645-E300R			
460 - 480VAC														
1	1.8 HP	2.8 HP	LEDs	M3545-H006-M4	2 A	3 A	34 W	14.80" x 4.00" x 8.30"	UL and CUL	M3545F-H015	N/A			
3	5.6 HP	8.4 HP			6 A	9 A	59 W		UL and CUL					
1	4.5 HP	7 HP	LEDs	M3545-H015-M4	5 A	7.5 A	67W	17.00" x 4.70" x 10.80"	UL and CUL	M3645F-H030	M3645F-H050			
3	14 HP	21 HP			15 A	22.5 A	117W		UL and CUL					
3	28 HP	43 HP	LEDs+Digital	M3645-H030-M10-D	30 A	45 A	180W	20.00" x 10.00" x 10.10"	UL and CUL	M3645F-H030				
3	48 HP	72 HP	LEDs+Digital	M3645-H050-M11-D	50 A	75 A	265W	22.00" x 11.30" x 10.60"	UL and CUL	M3645F-H050				
3	96 HP	144 HP	LEDs+Digital	M3645-H100-M12-D	100 A	150 A	470W	24.00" x 12.00" x 12.10"	UL and CUL	M3645F-H100				
3	288 HP	360 HP	LEDs+Digital	M3645-H300T-M15-D	300 A	375 A	2980W	26.00" x 13.90" x 14.11"		M3645F-H300	M3645-H300R			
575 - 600VAC														
3	36 HP	54 HP	LEDs+Digital	M3645-C030-M10-D	30 A	45 A	180W	20.00" x 10.00" x 10.10"	UL and CUL	M3645F-C030				
3	60 HP	90 HP	LEDs+Digital	M3645-C050-M11-D	50 A	75 A	265W	22.00" x 11.30" x 10.60"	UL and CUL	M3645F-C050	N/A			
3	120 HP	180 HP	LEDs+Digital	M3645-C100-M12-D	100 A	150 A	470W	24.00" x 12.00" x 12.10"	UL and CUL	M3645F-C100				

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