



Line Regen

M3346 & M3645 Series

Overvoltage Solutions for AC Drives



The industry-leading Line Regen just got even better...

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, or it must extend the braking time to keep from tripping the drive.

The Bonitron Line Regen (M3346 and M3645) replaces traditional braking transistor and resistor options that waste energy as heat during braking. **Instead of dissipating the excess energy as heat in a resistor, the Line Regen returns this energy to the power grid with minimal heat loss, allowing the entire braking system to be installed in the drive cabinet.** This reduces installation footprint and facility cooling costs.

The M3645 offers an interactive digital display that allows quick access to current, voltage, status logs, and energy monitoring data.

From intermittent braking, to processes with long or continuous braking cycles, the Line Regens offers reliability, efficiency, and cost savings, all in a compact, simple installation.

More Motoring.



Fewer Faults.



M3645
Series

- 208 – 600VAC
- 30, 50, 100A Continuous
- 45, 75, 150A Peak (60 Seconds)
- Parallel for higher power (Contact Bonitron)
- > 99% Efficient
- Status LEDs or **Interactive Digital Display with event logging**
- UL Listed



M3346
Series

- 208 – 480VAC
- 20A Continuous
- 30A Peak (60 Seconds)
- Use M3645 for higher power
- > 99% Efficient
- Status LED



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Model Selection

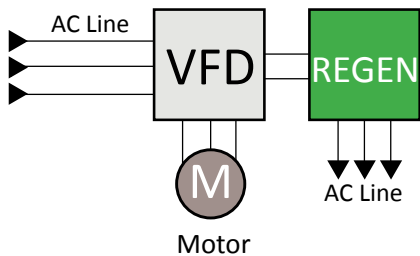
Line Regen								Fuse Plate (Optional)
Model Number	Digital Display	Current		Power		Watt Loss (Max)	Dimensions (H x W x D)	Model Number
		Cont.	Peak	Cont.	Peak			
230 - 240 VAC 50/60Hz								
M3346-L020-A6	No	20A	30A	9 HP	14 HP	135W	18.75 x 6.25 x 11.00"	M3346F-L020
M3645-L030-M10-D	Yes	30A	45A	14HP	21HP	180W	20.00 x 10.00 x 10.50"	M3645F-H030
M3645-L030-M10-L	No							
M3645-L050-M11-D	Yes	50A	75A	24HP	36HP	265W	24.00 x 11.15 x 12.00"	M3645F-H050
M3645-L050-M11-L	No							
M3645-L100-M12-D	Yes	100A	150A	48HP	72HP	470W	24.00 x 12.00 x 12.00"	M3645F-H100
M3645-L100-M12-L	No							
380 - 415 VAC 50/60Hz								
M3645-E030-M10-D	Yes	30A	45A	25HP	37HP	180W	20.00 x 10.00 x 10.50"	M3645F-H030
M3645-E030-M10-L	No							
M3645-E050-M11-D	Yes	50A	75A	41HP	62HP	265W	24.00 x 11.15 x 12.00"	M3645F-H050
M3645-E050-M11-L	No							
M3645-E100-M12-D	Yes	100A	150A	83HP	125HP	470W	24.00 x 12.00 x 12.00"	M3645F-H100
M3645-E100-M12-L	No							
460 - 480 VAC 50/60Hz								
M3346-H020-A6	No	20A	30A	18 HP	28 HP	135W	18.75 x 6.25 x 11.00"	M3346F-H020
M3645-H030-M10-D	Yes	30A	45A	28HP	43HP	180W	20.00 x 10.00 x 10.50"	M3645F-H030
M3645-H030-M10-L	No							
M3645-H050-M11-D	Yes	50A	75A	48HP	72HP	265W	24.00 x 11.15 x 12.00"	M3645F-H050
M3645-H050-M11-L	No							
M3645-H100-M12-D	Yes	100A	150A	96HP	144HP	470W	24.00 x 12.00 x 12.00"	M3645F-H100
M3645-H100-M12-L	No							
575 - 600 VAC 50/60Hz								
M3645-C030-M10-D	Yes	30A	45A	36HP	54HP	180W	20.00 x 10.00 x 10.50"	M3645F-C030
M3645-C030-M10-L	No							
M3645-C050-M11-D	Yes	50A	75A	60HP	90HP	265W	24.00 x 11.15 x 12.00"	M3645F-C050
M3645-C050-M11-L	No							
M3645-C100-M12-D	Yes	100A	150A	120HP	180HP	470W	24.00 x 12.00 x 12.00"	M3645F-C100
M3645-C100-M12-L	No							

Bold Models are



Why Line Regen?

There are two common methods of dissipating excess energy. The traditional method involves a resistor, but resistors take up a significant amount of space and produce an abundance of heat, making them impractical to integrate into a drive cabinet. The better solution for most applications is the Line Regen. **Instead of dissipating the excess energy as heat in a resistor, the Line Regen returns this energy to the power grid efficiently, with minimal heat loss, allowing the entire braking system to be installed in the drive cabinet. This reduces installation footprint and facility cooling costs.**



Savings Calculator

Bonitron Line Regens are a wise investment, as the return on investment can be realized quickly based on your braking requirements. Since the braking power is regenerated to the AC grid, this power can offset the demand from the utility. This has a direct impact on your power bill, and can have a related impact on the energy required to cool your facility.

Assuming that a braking system will be required for the process, the initial investment of a Line Regen is offset by the cost of an alternative chopper/transistor combination. The additional investment in a Line Regen over a Transistor/Resistor solution is recovered during operation, and in many cases, can pay for the Line Regen.

The formula and example below demonstrate how Bonitron Line Regens can have a direct, measurable effect on your utility demand.

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 (0.11)
<u>x (0.746)</u>	<u>x (0.746)</u>
= Savings	= \$13,786.08



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