



US Drives Inc.
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AC Line Regenerative Module 15 HP to 1750 HP

Our AC Line Regen Module turns any PWM AC Drive into a Line Regenerative AC Drive. Excess (regenerative) energy from the AC Motor is efficiently returned to the AC Power Line, eliminating the need for expensive, bulky and inefficient braking resistors. This is especially true when continuous braking is required.



Typical Applications that require regeneration are:

- High Inertia Loads that must be stopped or slowed down quickly - Saws, Fans, Flywheels and Centrifuges.
- Unwind Stands of all types - Uncoilers, Payoffs
- Overhauling Loads - Hoists, Cranes, Downhill Conveyors and Holdback Rolls in Process Line Applications.
- Machine applications with fast cycle times that require rapid deceleration.

Our AC Line Regen Module is easy to use. There are only five wires to connect: 3 - AC Power and 2 - DC Bus.

Our AC Line Regen Modules are 99% efficient and operate at near unity power factor.

- **ELIMINATES THE NEED FOR ENERGY WASTING BRAKING RESISTORS**
 - **PROVIDES CONTINUOUS REGENERATION ON OVERHAULING LOADS**
 - **INSTANTANEOUS ENERGY FLOW BETWEEN LOAD & UTILITY**
 - **PREVENTS AC DRIVES FROM OVERVOLTAGE TRIPPING**
 - **ALLOWS RAPID STOPPING OF HIGH INERTIA LOADS**
 - **USES THE LATEST GENERATION OF IGBT POWER DEVICES**
 - **DELIVERS SUBSTANTIAL ENERGY SAVINGS**
 - **PHASE INSENSITIVE TO THE AC POWER LINE**

THREE YEAR WARRANTY

MADE IN USA



ENGINEERING SPECIFICATIONS

ELECTRICAL

Rated Input Voltage: 200-250VAC, 380-500VAC, 500-600VAC
-10% of minimum, +10% of maximum

Rated Input Frequency: 47 to 63HZ

Noise Immunity: Showering Arc - 2000V peak EN50082-1,2

Surge Protection: Line Transients to 6000V
IEEE C62.41-1999 Category B

Efficiency: Greater than 99%

ENVIRONMENTAL

Ambient Temperature: 14°F to 131°F (-10°C to 55°C) without Derating

Storage Temperature: -40°F to 158°F (-40°C to 70°C)

Altitude: Sea Level to 3,300 Feet(1000m) w/o Derating

Humidity: 95% Relative Humidity (Non condensing)

Vibration: 9.8 m/s² (1.0G) or Less

PHYSICAL ATTRIBUTES

Mounting: Through Hole or Panel Mount

Nema Rating: Type 1 (IP-20) as Standard, Type 12 (IP-54) Optional

Construction: Rugged Heavy Gauge Steel (Reduces E.M.I.)

CONTROL

Logic Inputs: Regenerative Module Enable
Regenerative Module Reset

Logic Output: Form "C" Relay Contacts Rated 115Vac @ 5Amps, 30VDC @ 3.5Amps
(Relay Energized When Regenerative Module is "Active")

Analog Output: 100uA meter output indicating Regenerating DC amps

INDICATORS

L.E.D.'s: Regen Active
Regen In Current Limit
Power Supply Status
D.C. Bus Charged
Over Voltage
Under Voltage
Instantaneous Over Current
Phase Loss
Over Temperature

AC LINE REGEN MODULE SIZING

Input Voltage	Drive HP *	Continuous DC Amperes	Peak DC Amperes	RG Module Model Number	Approximate Weight & Dimensions	
200-250 VAC (208/230/240)	15	30	45	RG-0200-0030-N1	15.3" x 12.0" x 10.8" (H x W x D) 45 Lbs.	
	20	45	67.5	RG-0200-0045-N1		
	30	60	90	RG-0200-0060-N1		
	40	90	135	RG-0200-0090-N1		
	60	120	180	RG-0200-0120-N1		
	75	180	270	RG-0200-0180-N1		
	380-500 VAC (380/400/415/480)	100	240	360	RG-0200-0240-N1	32.5" x 20.1" x 13.5" (H x W x D) 180 Lbs.
		150	360	540	RG-0200-0360-N1	44.2" x 31.1" x 16.8" (H x W x D) 500 Lbs.
		200	480	720	RG-0200-0480-N1	
		250	600	900	RG-0200-0600-N1	
		350	720	1080	RG-0200-0720-N1	
		450	960	1440	RG-0200-0960-N1	
500		1080	1620	RG-0200-1080-N1		
500-600 VAC (525/575/600)		700	1440	2160	RG-0200-1440-N1	44.2" x 31.1" x 16.8" (H x W x D) 500 Lbs.
		30	30	45	RG-0400-0030-N1	
		40	45	67.5	RG-0400-0045-N1	
		60	60	90	RG-0400-0060-N1	
		75	90	135	RG-0400-0090-N1	
	100	120	180	RG-0400-0120-N1		
	150	180	270	RG-0400-0180-N1		
	200	240	360	RG-0400-0240-N1		
	350	360	540	RG-0400-0360-N1		
	450	480	720	RG-0400-0480-N1		
	500	600	900	RG-0400-0600-N1		
	700	720	1080	RG-0400-0720-N1		
	900	960	1440	RG-0400-0960-N1		
	1000	1080	1620	RG-0400-1080-N1		
	1400	1440	2160	RG-0400-1440-N1		
500-600 VAC (525/575/600)	30	30	45	RG-0500-0030-N1		
	50	45	67.5	RG-0500-0045-N1		
	75	60	90	RG-0500-0060-N1		
	100	90	135	RG-0500-0090-N1		
	150	120	180	RG-0500-0120-N1		
	200	180	270	RG-0500-0180-N1		
	250	240	360	RG-0500-0240-N1		
	400	360	540	RG-0500-0360-N1		
	500	480	720	RG-0500-0480-N1		
	700	600	900	RG-0500-0600-N1		
	800	720	1080	RG-0500-0720-N1		
	1000	960	1440	RG-0500-0960-N1		
	1300	1080	1620	RG-0500-1080-N1		
	1750	1440	2160	RG-0500-1440-N1		

* Drive HP ratings are calculated for 230, 460, and 575 VAC Motors based on 100% Continuous Regeneration and 150% Regeneration for 1 Minute or less. Consult Factory for module sizing when the Regeneration requirements are less than or greater than these values.