



US Drives Inc.  
2221 Niagara Falls Boulevard  
P.O. Box 281  
Niagara Falls, NY 14304-0281  
Tel: (716) 731-1606 Fax: (716) 731-1524  
Visit us at [www.usdrivesinc.com](http://www.usdrivesinc.com)

## AC Line Regenerative Module

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. Modules are easily paralleled for higher power applications.

- **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**



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# 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%

## 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

## PHYSICAL ATTRIBUTES

**Mounting:** Through Hole or Panel Mount.  
**Nema Rating:** Type 1 (IP20) as Standard  
 Type 12 (IP54) Optional  
**Construction:** Rugged Heavy Gauge Steel Enclosure (Reduces E.M.I.)

## CONTROL

**Logic Inputs:** Regenerative Module Enable  
 Regenerative Module Reset  
**Logic Output:** Form "C" Relay Contacts Rated 115Vac @ 5Amps, 30Vac @ 3.5Amps (Relay Energized when Regenerative Module is "Active")  
**Analog Output:** 100uA Meter Output indicating Regenerating DC Amps

## 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 3300 Feet [1000m] without derating.  
**Humidity:** 95% Relative Humidity (non-condensing)  
**Vibration:** 9.8m/sec<sup>2</sup> (1.0G) or less

REGENERATIVE MODULE RATINGS							
Input Voltage	Drive HP *	Continuous DC Amperes	Peak DC Amperes	Continuous Regen Kw <sup>(1)</sup>	Peak Regen kW	RG Module Model Number	Approximate Weight & Dimensions
200-250 VAC (208/230/240)	15	30	45	11	16	RG-0200-0030-N1	15.3" x 12.0" x 9.7" (H x W x D) 35 Lbs.
	20	45	68	16	24	RG-0200-0045-N1	
	30	60	90	21	32	RG-0200-0060-N1	
	40	90	135	32	48	RG-0200-0090-N1	
	60	120	180	42	63	RG-0200-0120-N1	
	75	180	270	63	95	RG-0200-0180-N1	32.5" x 20.1" x 13.5" 150 Lbs.
	100	240	360	84	126	RG-0200-0240-N1	
	125	300	450	105	158	RG-0200-0300-N1	
	150	360	540	126	189	RG-0200-0360-N1	
	200	480	720	168	252	RG-0200-0480-N1	
	250	540	810	189	284	RG-0200-0540-N1	44.2" x 31.1" x 16.8" (H x W x D) 450 Lbs.
	300	600	900	210	315	RG-0200-0600-N1	
	350	720	1080	252	378	RG-0200-0720-N1	
	400	840	1260	294	441	RG-0200-0840-N1	
	450	960	1440	336	504	RG-0200-0960-N1	
500	1080	1620	378	567	RG-0200-1080-N1	RG-0200-1440-N1	
700	1440	2160	504	756	RG-0200-1440-N1		
30	30	45	21	32	RG-0400-0030-N1		15.3" x 12.0" x 9.7" (H x W x D) 35 Lbs.
40	45	68	32	48	RG-0400-0045-N1		
60	60	90	42	63	RG-0400-0060-N1		
75	90	135	63	95	RG-0400-0090-N1		
100	120	180	84	126	RG-0400-0120-N1		
150	180	270	126	189	RG-0400-0180-N1	32.5" x 20.1" x 13.5" 150 Lbs.	
200	240	360	168	252	RG-0400-0240-N1		
300	300	450	210	315	RG-0400-0300-N1		
350	360	540	252	378	RG-0400-0360-N1		
450	480	720	336	504	RG-0400-0480-N1		
500	540	810	378	567	RG-0400-0540-N1	44.2" x 31.1" x 16.8" (H x W x D) 450 Lbs.	
600	600	900	420	630	RG-0400-0600-N1		
700	720	1080	504	756	RG-0400-0720-N1		
800	840	1260	588	882	RG-0400-0840-N1		
900	960	1440	672	1008	RG-0400-0960-N1		
1000	1080	1620	756	1134	RG-0400-1080-N1	RG-0400-1440-N1	
1400	1440	2160	1008	1512	RG-0400-1440-N1		
30	30	45	27	40	RG-0500-0030-N1		15.3" x 12.0" x 9.7" (H x W x D) 35 Lbs.
50	45	68	40	60	RG-0500-0045-N1		
75	60	90	53	79	RG-0500-0060-N1		
100	90	135	79	119	RG-0500-0090-N1		
125	120	180	105	158	RG-0500-0120-N1		
200	180	270	158	236	RG-0500-0180-N1	32.5" x 20.1" x 13.5" 150 Lbs.	
250	240	360	210	315	RG-0500-0240-N1		
350	300	450	263	394	RG-0500-0300-N1		
400	360	540	315	473	RG-0500-0360-N1		
500	480	720	420	630	RG-0500-0480-N1		
600	540	810	473	709	RG-0500-0540-N1	44.2" x 31.1" x 16.8" (H x W x D) 450 Lbs.	
700	600	900	525	788	RG-0500-0600-N1		
800	720	1080	630	945	RG-0500-0720-N1		
900	840	1260	735	1103	RG-0500-0840-N1		
1000	960	1440	840	1260	RG-0500-0960-N1		
1300	1080	1620	945	1418	RG-0500-1080-N1	RG-0500-1440-N1	
1750	1440	2160	1260	1890	RG-0500-1440-N1		

(1) KW Rating is based on 240, 480, and 600 Vac Power Lines

\* Drive HP rating is based on 100% Continuous Regeneration, 150% Regeneration for 1 Minute or less at 240, 480, or 600VAC Input. Consult Factory for Module Sizing when Regeneration Requirement is less than or greater than 100% Continuous, 150% for 1 Minute.