



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)

## Regenerative DC Common Bus Supply

The Regenerative DC Common Bus Supply supplies both motoring and regenerative current to the DC bus of one or more AC drives without the need of rectifier front end in each AC drive. When the overall power requirements of the attached common DC bus drives require motoring power, energy flows from the utility to the common DC bus. When the overall power requirements of the attached common DC bus drives require regenerative power, energy flows from the common DC bus to the utility.



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 Regenerative DC Common DC Bus Supply Module is easy to use. There are only five wires to connect: 3 - AC Power and 2 - DC Bus.

Our Regenerative DC Common Supply 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%

### 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/sec2 (1.0G) or less

### INDICATORS

**L.E.D.'s**

- Regen in Current Limit
- Power Supply Status
- Phase Loss
- D.C. Bus Charged
- Regen Active
- Over Voltage
- Instantaneous Over Current
- Over Temperature
- Under Voltage

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

REGENERATIVE DC COMMON BUS SUPPLY							
Input Voltage	Drive HP *	Continuous Regen DC Amperes	Continuous Motoring DC Amperes	AC Current Amperes	RGB Module Model Number	Approximate Weight & Dimensions	
200-250 VAC (208/230/240)	15	30	37	39	RGB-0200-0030-N1	15.3" x 12.0" x 9.7" 35 Lbs.	
	20	45	49	50	RGB-0200-0045-N1		
	30	60	73	63	RGB-0200-0060-N1		
	40	90	98	97	RGB-0200-0090-N1		
	60	120	146	143	RGB-0200-0120-N1		
	75	180	183	179	RGB-0200-0180-N1	32.5" x 20.1" x 13.5" 150 Lbs.	
	100	240	244	231	RGB-0200-0240-N1		
	125	300	305	290	RGB-0200-0300-N1		
	150	360	366	335	RGB-0200-0360-N1		
	200	480	488	446	RGB-0200-0480-N1		
	250	540	610	560	RGB-0200-0540-N1	44.2" x 31.1" x 16.8" 450 Lbs.	
	300	600	732	670	RGB-0200-0600-N1		
	350	720	854	781	RGB-0200-0720-N1		
	400	840	976	893	RGB-0200-0840-N1		
	450	960	1098	1004	RGB-0200-0960-N1		
500	1080	1220	1116	RGB-0200-1080-N1	15.3" x 12.0" x 9.7" 35 Lbs.		
380-500 VAC (380/400/415/480)	30	30	37	37		RGB-0400-0030-N1	
	40	45	49	48		RGB-0400-0045-N1	
	60	60	73	72		RGB-0400-0060-N1	
	75	90	91	89		RGB-0400-0090-N1	
	100	120	122	115		RGB-0400-0120-N1	
	150	180	183	167		RGB-0400-0180-N1	32.5" x 20.1" x 13.5" 150 Lbs.
	200	240	244	223		RGB-0400-0240-N1	
	300	300	366	336		RGB-0400-0300-N1	
	350	360	427	385		RGB-0400-0360-N1	
	450	480	549	502		RGB-0400-0480-N1	
	500	540	610	558		RGB-0400-0540-N1	44.2" x 31.1" x 16.8" 450 Lbs.
	600	600	732	670		RGB-0400-0600-N1	
	700	720	854	781		RGB-0400-0720-N1	
	800	840	976	893		RGB-0400-0840-N1	
	900	960	1098	1004	RGB-0400-0960-N1		
1000	1080	1220	1116	RGB-0400-1080-N1	15.3" x 12.0" x 9.7" 35 Lbs.		
500-600 VAC (525/575/600)	30	30	32	35		RGB-0500-0030-N1	
	50	45	49	48		RGB-0500-0045-N1	
	75	60	73	72		RGB-0500-0060-N1	
	100	90	98	92		RGB-0500-0090-N1	
	125	120	122	116		RGB-0500-0120-N1	
	200	180	195	179		RGB-0500-0180-N1	32.5" x 20.1" x 13.5" 150 Lbs.
	250	240	244	225		RGB-0500-0240-N1	
	350	300	342	312		RGB-0500-0300-N1	
	400	360	390	355		RGB-0500-0360-N1	
	500	480	488	439		RGB-0500-0480-N1	
	600	540	586	536		RGB-0500-0540-N1	44.2" x 31.1" x 16.8" 450 Lbs.
	700	600	683	625		RGB-0500-0600-N1	
	800	720	781	714		RGB-0500-0720-N1	
	900	840	878	804		RGB-0500-0840-N1	
	1000	960	976	893	RGB-0500-0960-N1		
1300	1080	1269	1161	RGB-0500-1080-N1			

\* Drive HP rating is based on 100% Continuous Regeneration, 150% Regeneration for 1 Minute or less at 240, 480, or 600VAC Input.