



US Drives, Inc.  
2221 Niagara Falls Boulevard  
P.O. Box 281  
Niagara Falls, NY 14304-0281  
Tel: (716) 731-1606  
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/sec<sup>2</sup> (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  
**Logic Output:** Two Relays with Contacts Rated 115Vac @ 5Amps, 30Vac @ 3.5Amps  
 - Normally open contact energized when Regen is "ON"  
 - Normally open contact energized when "Regen Precharge" is complete.

REGENERATIVE DC COMMON BUS SUPPLY						
Input Voltage	Drive HP *	Continuous Regen DC Amperes	Continuous Mounting DC Amperes	AC Current Amperes	RGB Module Model Number	Approximate Weight & Dimensions
250 VAC200 (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	25.0" x 11.6" x 11.1" 75 Lbs.
	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	
	300	600	732	670	RGB-0200-0600-N1	44.2" x 31.1" x 16.8" 450 Lbs.
	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		
380-500 VAC (380/400/415/480)	30	30	37	37	RGB-0400-0030-N1	15.3" x 12.0" x 9.7" 35 Lbs.
	40	45	49	48	RGB-0400-0045-N1	
	60	60	73	72	RGB-0400-0060-N1	
	75	90	91	89	RGB-0400-0090-N1	25.0" x 11.6" x 11.1" 75 Lbs.
	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	
	600	600	732	670	RGB-0400-0600-N1	44.2" x 31.1" x 16.8" 450 Lbs.
	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		
500-600 VAC (525/575/600)	30	30	32	35	RGB-0500-0030-N1	15.3" x 12.0" x 9.7" 35 Lbs.
	50	45	49	48	RGB-0500-0045-N1	
	75	60	73	72	RGB-0500-0060-N1	
	100	90	98	92	RGB-0500-0090-N1	25.0" x 11.6" x 11.1" 75 Lbs.
	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	
	700	600	683	625	RGB-0500-0600-N1	44.2" x 31.1" x 16.8" 450 Lbs.
	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.