Power Systems & Controls

Series RFC -- Rotary Frequency Converters

The Series RFC provides reliable power to critical loads while converting the input frequency. Output voltage and frequency are maintained within specifications by internal control logic. Under normal operation, the Series RFC acts as a rotating filter and critical load power is protected from utility transients and brownouts. In general it is 100% effective for outages less than approximately 100 m sec. The Series RFC is available with either Synchronous or induction motors and is a robust, common shaft M-G with two bearings utilizing a high-efficiency motor. The Series RFC is designed to meet the rated KVA requirements at the output and a synchronous generator designed to yield the required frequency. A precision voltage regulator maintains the output voltage +/- .5%. When operated at rated motor speed, the frequency of the generator is controlled by the RPM of the motor, thus the output frequency can be variable. The absence of brushes and slip rings in both motor and generator allows for virtually maintenance free operation.

Standard Equipment Features

- Synchronous, brushless motor
- Push-button start-up
- Precision solid-state voltage regulator
- Analog metering and controls
- Input and output circuit breakers
- Synchronous, brushless, generator
- Two bearing single shaft M-G
- NEMA-1 control cabinets, steel con struction
- NEMA connection boxes, motor and generator
- Spring type vibration mounts
- Rigid steel base, welded construction
- Anti-friction bearings throughout
- Control and internal fault monitors
- Automatic shutdown on fault signals
- Bearing temperature detectors
- Continuous, full load operation
- Ideal for the testing and/or operation of European equipment of systems to be used in 50 Hz countries

Optional Features

- Remote monitor (Status & Alarm)
- Sound enclosure
- Building interface
- Advance metering package
- Special voltages
- Remote power off (REPO)
- NEMA 3R enclosure
- “Turn Key” Installation

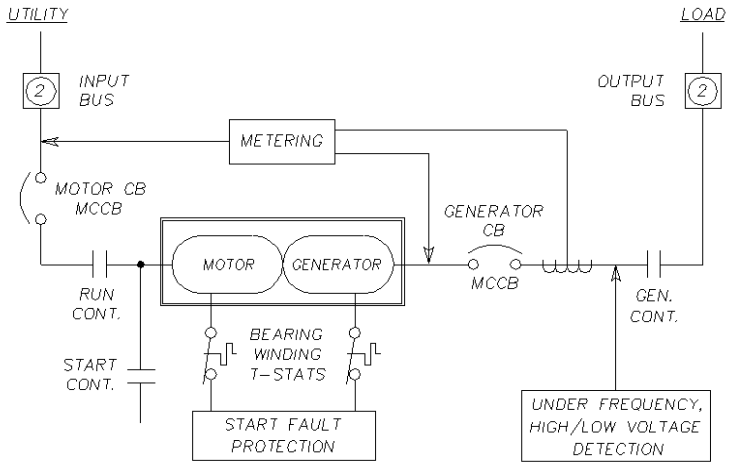
System Specifications

*Note: System performance shown is typical and is dependent upon M-G sizing, options desired, and loading of the system.

INPUT	
Nominal Voltage Available	
➢ @ 60 Hz	208, 240, 480, 600
➢ @ 50 Hz	380, 415
➢ Phase	3 Phase + Ground
➢ Frequency Tolerance	Selectable
➢ Magnitude Tolerance	
➢ Continuous	+10%, -20%
➢ Transient	1500v for 10 ms
Power Factor	
➢ Induction	.8
➢ Synchronous	.8 leading to 1.0
➢ Starting Inrush	3 x input kVa

OUTPUT	
Nominal Voltage Available	
➢ @ 60 Hz	208, 240, 480, 600
➢ @ 50 Hz	380, 415
➢ @ 400 Hz	208, 480
➢ Phase	3 Phase 4 Wire + Ground
➢ Frequency Regulation	Input Dependent
➢ Adjustment	± 10%
➢ Regulation	
➢ Transients	50% Block Load +/-8%
➢ Recovery Time	0.5 within 0.5 Seconds
➢ Steady State	+/-0.5% Δ 90° F
THD (Total Harmonic Distortion	
➢ Single	2% Max
➢ Total	3% Max
Phase Separation	
➢ Balanced Load	120° +/- 1°
➢ 25% Unbalance	120° +/- 3°
Overload Capacity	
➢ 100% Rating	Continuous
➢ 110%	2 Hours
➢ 125%	10 Minutes
➢ 150%	2 Minutes
➢ Power Factor	0.8
ENVIRONMENT	
➢ Temperature	0° -104° F (0° -40° C)
➢ MG	0° -120° F
➢ Console	32° -104° F
➢ Altitude	0 to 3000 meters (0 to 5000 ft)
➢ Humidity	0 to 95% non-condensing
➢ Noise Level	
➢ Enclosed	65 dBa at 1.5 meters (5 ft)

SERIES RFC RATINGS, DIMENSIONS & WEIGHTS				
KVA/KW	W (CM)	L (CM)	H (CM)	W (KGS)
UNDER 94	CONSULT FACTORY			
94/75	40	54	78	2102
125/100	40	54	78	2159
156/125	40	54	78	2273
200/160	40	54	78	2864
250/200	40	54	78	3045
313/250	40	54	78	3227
375/300	40	54	78	3500
* Sizes up to 2000 kVA Available upon Request				



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3206 Lanvale Avenue * Richmond, VA 23230 * (804) 355-2803 * Fax (804) 358-0498 * Toll Free (888) PSC-POWR