



HIGRID POWER CORP.

HIGRID JZB1000 VFD: Series Variable Frequency Drive

Designed Especially for HVAC-R Systems

HIGRID Power Corp., a leading supplier of AC motor control technology and automation products, has enhanced its line of variable frequency drives for heating, ventilation, air conditioning and refrigeration. The HIGRID HVAC-R portfolio of products is designed with the features and functions required for HVAC systems, with the same reliability, robustness and energy-efficient control known in our industrial lines. All Control Boards are conformal coated as standard to prevent corrosion from the normal chemicals found in the atmosphere.

HIGRID personnel have decades of sales service and application experience with VFDs dating back to 1985 when the first 600V VFD was designed and built in Canada. The HIGRID JZB1000 series VFDs are designed and manufactured based on the manufacturer's specifications to prevent radio frequency (RFI), electromagnetic (EMI), harmonic or motor issues from occurring.

The standard harmonic filtering in the HIGRID JZB1000 series VFDs is reduced to less than 50 per cent of the harmonic current of VFDs without input line filtering.

Applications

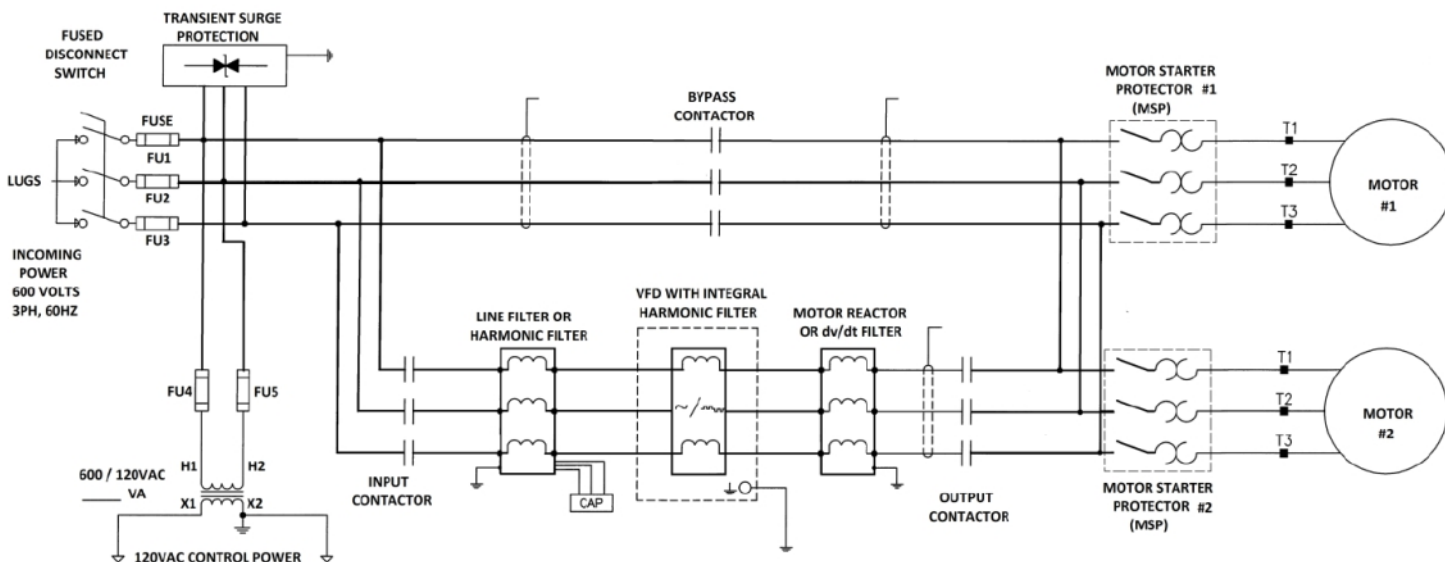
- Airports
- Hospitals
- Shopping malls
- Entertainment and sports facilities
- Schools and Universities
- Hotels and restaurants
- Municipal and commercial buildings
- Chillers and compressors
- Cooling towers
- Boiler circulation pumps
- Chill water circulation pumps
- Exhaust fans
- Clean room air handling
- Tunnel ventilation

HIGRID offers VFD solutions that go beyond the standard supply of 600V VFDs and components in an enclosure. Our skilled personnel understand the noise and layout issues caused by improper installation of VFD and components and ensure the wiring and layout provides for easy access of customer power and control wiring termination points. The proper layout ensures that high temperature components such as reactors and filters have adequate ventilation and air flow to ensure the complete internal assembly is within the manufacturer's and CSA guidelines.

***Safe and Reliable Power Solutions for
Commercial and Industrial Applications***

Standard and custom engineered VFD panels

Heat run testing is provided for all new enclosed VFD designs. Repetitive VFD assemblies are all load tested at full load. All VFDs are programmed for ease of start-up on site. If actual motor data is available prior to factory testing, then the factory program does not require any parameter changes for on-site commissioning. This ensures a quick and efficient start-up after voltage verification and confirmation of proper field wiring of the VFD assembly. The HIGRID JZB1000 series VFDs are all tested and programmed before being shipped.



Power schematic with multiple options shown



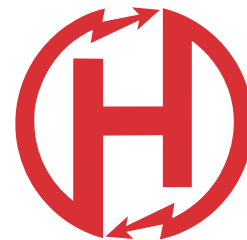
Layout of 25HP VFD panel

Options:

- NEMA 1 enclosure
- Fused disconnect switch
- Fused 120 Vac control power input reactor or filter
- Transient surge protection
- Motor dv/dt filter
- Customer control terminal blocks
- Chassis VFD

Bypass Options:

- Three contactor bypasses
- VFD-Off-Bypass selector switch
- VFD run pilot lamp (red)
- Bypass run pilot lamp (red)
- Run/Stop control relay
- Motor overload relay





NEMA 1A filtered enclosure

Enclosures:

- NEMA 1 drip-proof, wall-mount or free standing
- Free cooling and forced air cooling
- English text keypad
- Exhaust air fan cooling for heat dissipation
- Galvanized mounting pan
- Paint finish - light grey, special paint finish upon request

Special Features:

- Short cycling protection
- Broken belt protection
- PTC function
- Main PID controller
- Soft PLC



HVAC-R PRODUCT

Performance Features:

- Overload capacity: nominal 110% for 60 sec. (150% peak)
- Adjustable acceleration and deceleration: 0 to 600 sec.
- Controlled speed range: 1:20
- Critical frequency avoidance: 3 selectable, adjustable bands
- Torque-limiting: 30% -150%
- Fault auto-reset with programmable time interval
- Feedback signal loss detection
- Serial communications loss detection
- Run-permissive input (interlocks)
- External mounted local control panel

Drive Features:

- BACnet communication using the RS-485 port
- Free-cooling or forced-cooling

Control Features:

- Two, 0-10 VDC (4-20mA) analog speed command input
- Two, 0-10 VDC (4-20mA) analog outputs for VFD Speed and Load
- Five, digital inputs for remote run, interlock enable
- Two, relay outputs for VFD Run and VFD Fault status

HIGRID JZB1000 SERIES VARIABLE FREQUENCY DRIVE PERFORMANCE DATA

HP	HIGRID MODEL NUMBER:	RATED OUTPUT CURRENT
3	JZB1003	3.9
4	JZB1004	4.9
5	JZB1006	6.1
7.5	JZB1009	9
10	JZB1011	11
15	JZB1018	18
20	JZB1022	22
25	JZB1027	27
30	JZB1034	34
40	JZB1041	41
50	JZB1052	52
60	JZB1062	62
75	JZB1083	83
100	JZB1100	100
125	JZB1131	131

TECHNICAL DATA:

CERTIFICATIONS:	UL, CSA
TEMPERATURE:	0°C to 40°C
HUMIDITY:	5% to 90% non-condensing
AMBIENT TEMPERATURE	-10 to 50 degrees Celsius
ALTITUDE:	0 to 1000 meters
EFFICIENCY:	greater than 97%
SUPPLY VOLTAGE:	551V to 600V, three phase, 60 Hz
DISPLACEMENT POWER FACTOR:	greater than 0.98% at Full Load
ACCEL / DECELERATION	1 to 600 seconds
OVERLOAD CAPABILITY:	110%

PROTECTION:

DC BUS OVER VOLTAGE	DC BUS UNDER VOLTAGE
DRIVE OVER TEMPERATURE	MOTOR OVERTEMPERATURE
OUTPUT OVER CURRENT	MOTOR OVER LOAD ($i^2 t$)
OUTPUT SHORT CIRCUIT	OUTPUT GROUND FAULT
EXTERNAL FAULT (INTERLOCKS)	PROGRAMMING ERROR
KEYPAD CONNECTION FAULT	SERIAL COMMUNICATION FAULT

