

INDVERTER – Series AC Variable Speed Drives



HEXMOTO Controls Pvt. Ltd., known for best quality & services, is in the field of design & development of AC variable frequency drives, Solar powered UPS, DC power supplies, customized motor control solutions and embedded solutions for Industrial Automation. The products include AC variable speed drives – INDVERTER Series, Solar powered Inverter/UPS to drive agricultural pumps & home lightings, DC power supplies up to 100kW with proven short circuit protection and stiff voltage regulation.

HEXMOTO being Alliance member of Freescale Semiconductors provides complete embedded solutions.

INDVERTER - is a DSP based general purpose AC drive with state-of-the-art technology and incorporates the latest semiconductor power devices, with following salient features.

- Indigenously designed AC drives to with-stand Indian power conditions for motor control
- Space vector modulation technique.
- DC bus ripple cancellation.
- Low output Total Harmonic Distortion(THD).
- Output short circuit protection & various fault monitoring.
- Custom designed human machine interface(HMI).
- User friendly programmable features.

Technical Specification:

SELECTION CHART												
	IV2							IQ1				
Parameter/Model	2K2	3K7	5K5	7K5	11K	15K	18K	22K	30K	37K	45K	
Applicable Motor output(kW)	2.2	3.7	5.5	7.5	11	15	18.5	22	30	37	45	
Inverter output at 415V(kVA)	4.0	6.5	9.3	13.0	17.3	21.6	28.0	32.3	42.4	51.6	69.0	
Rated output current(Amps)	5.5	9	13	18	24	30	39	45	59	72	96	
Nett Weight(Kg)	7	7	7	7	12	12	12	12	36	38	40	
Dimensions(W*D*H in mm)	155 X 187 X 364				180 X 230 X 468				343 X 297 X 690			

SPECIFICATION

Input Rating	Power Supply	3 Phase, 380V/415V/480V +10%, -15%, 50/60Hz +/-5%, Imbalance less than 3%
Output Rating	Output Voltage	3 Phase, 380V to 480V (Proportional to input voltage)
	Output Frequency Range	1Hz to 400Hz
	Frequency Stability	Digital setting: +/-0.01% of max. Frequency(-10°C to +50°C ambient) Analog setting: +/-0.2% of max. Frequency(-10°C to +50°C ambient)
	Overload Capacity	150% for one minute
Control Specification	Control system	Space vector modulation with bus ripple compensation
	Adjustable current limit	30 to 200% of drive rated current
	Starting frequency	1 to 6Hz adjustable.
	Max./Min. Frequency limit	Frequency low limit/Frequency upper limit (Fstart to Fmax)
	Base frequency	30 to 400Hz
	Carrier frequency	2kHz to 6kHz in steps of 1kHz. IQ1: Not programmable.
	Frequency setting	Key operation: Up/Down keys, Raise/Lower Switch, 0-10V, 0-20mA, 4-20mA, 8 Preset frequencies with X1, X2 and X3 terminals, Serial communication.
	Frequency resolution	Digital: 0.01Hz step upto 100Hz, Analog: 0.05Hz step (at Fmax. 50Hz)
	Jog function	Available with programmable speed/Acceleration/Deceleration
	Catch on fly	Drive will search the running Motor speed, catches it and then proceeds to the set speed
	Jump frequency	One jump frequency control with adjustable jump range
	Acceleration/Deceleration time	0001 to 9999 seconds(two separate adjustable Acceleration/Deceleration times Possible)
	DC injection Braking	DC injection braking during stop from max. frequency is possible for 60 seconds
	Dynamic Braking	IV2: Available up to 150% torque. IQ1: External
	Slip compensation	Available, load current dependent.
	S-curve	Available.
Filters for analog inputs	Digital filters available with Programmable Min/Max value, crossover frequencies.	
Fault history display	Present fault and up to 9 previous faults.	
Protection	Inverter trip and Error messages	Under voltage, Over voltage, Over current during Acceleration/Deceleration/Steady state condition, External fault, Heat sink over heating, Short circuit, Electronic thermal overload trip.
	Functions	Stall prevention, Auto restart during power failure for 5 seconds duration
Indication and control	Analog output	One analog output programmable for output frequency, Set frequency, RMS Motor current, DC bus voltage and output voltage.
	External output	1No Fault alarm relay output & 1No Programmable relay output rated for 230V, 2A.
	Display unit	IV2 : 7 segment LED display. Optional : Serial display for panel mounting. IQ1 : Serial display unit
Environmental conditions	Installation location	Indoor not more than 1000m above sea level. Do not install in a dirty location or expose to corrosive gases or direct sun rays. Protection class: IP 20.
	Ambient temperature	-10°C to +40°C
	Humidity	90% RH or less (non-condensing)
	Cooling system	Forced air cooling type / Natural air cooling type(Optional)
Dynamic Braking Facility		Standard, Dynamic braking Resistors are Optional and are to be externally connected.
Communication		RS-485 with MODBUS RTU protocol.
Synchronization (optional)	Multiple drives can be synchronized by programming one drive as MASTER. The synchronization is done through Serial communication which is most accurate and fine adjustments can be done locally.	
Applications	Various types of Constant torque/variable torque and energy saving applications in Industries. Such as: Plastic, Textile, Sugar, Cement, Chemical, Pharmaceutical, Material Handling, Process Automation, Machine Tool etc.,	

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The design and manufacture of our products are subject to continual improvement. Hence, the above specifications may vary from the product supplied.