

## PRODUCT RANGE FOR COMPLETE POWER SOLUTION

### Industrial Inverters

Dubas offers a wide range of Industrial Inverters for applications in all market segments. The units are robust and build to operate in extreme operating conditions. DSP based fully digital controlled inverters can be built to meet customer specifications and application demands. These inverters can meet all special qualification needs like seismic, higher IP rating, hot standby / parallel configuration etc.

#### Ratings Offered

DC input : 24V /48V /110V / 220 V/ ...V

1 Phase output : 2KVA to 120KVA

3 Phase output : 3KVA to 200KVA

### Static Stabilizer

Dubas offers Static Stabilizers as a bypass power conditioner or as an input voltage stabilizer for installations where the input variations are far wider. Dubas static stabilizers are generally custom-built to meet the client's application.

#### Ratings Offered:

3 phase input, 1 phase output: 2 KVA – 160 KVA

3 phase input, 3 phase output: 2 KVA – 200 KVA

### DC-DC Converters

Dubas has a range of DC –DC converters mainly used for Industrial applications. These DC-DC converters are generally available from any standard voltage to other standard voltages, like 24 to 48 V /110 V / 220 V or 48 V to 24 V /110 V / 220 V or 110 V to 220 V or other voltages. These systems can also be custom-built.

### Clients & Approvals

• ABB • ACC CEMENT • ALSTOM POWER • BHABHA ATOMIC RESEARCH CENTRE • BHEL • BHAVINI • BANGALORE METRO • BPCL • CAIRN INDIA • DESEIN • DCPL • ENGINEERS INDIA LTD • ESSAR POWER • FICHTNER • FL SMIDTH • GAIL • HALDIA PETRO CHEMICALS • HINDUJA POWER • HINDUSTAN OIL EXPLORATION Co. Ltd • HZL • HMEL • HPCL • IOCL • ITALCEMENTI • JACOBS • JSW • KPTCL • KRIBHCO • LARSEN & TOUBRO • MANGALORE REFINERIES • MECON • NALCO • NHPC • NLC • NMDC • NPCIL • NTPC • OIL INDIA • OMPL • ONGC • PUNJ LLOYD • SAIL • SIEMENS • TATA PROJECTS • TATA CONSULTING ENGINEERS • TOYO ENGG • VEDANTA ALUMINUM • UHDE INDIA • ULTRATECH CEMENT • WORLEY PARSONS

### Service Support

Dubas provides pan India service support through 24 regional service centers. All the regional service centers are handled by trained Dubas personnel. Essential spares are made available through local stock of spares. Dubas provides product services its international customers by customer training as well by deputation of its service personnel to such sites.

• Ahmedabad • Bangalore • Bellary • Bhopal • Bhubaneshwar • Cochin • Coimbatore • Chennai • Gulbarga • Goa • Guwahati • Hyderabad • Jaipur • Karwar • Kolkata • Lucknow • Mangalore • Mumbai • Mysore • Nagpur • New Delhi • Pune • Surat • Visakhapatnam

### Grid Linked Active Battery Discharge Unit

Dubas offers IGBT based Battery Discharge system for battery discharge tests. This system directly discharges the battery to the Grid, thus saving the power substantially. Also, the system is fully automatic and program settable with voltage tapplings and current control as specified by the user. This is an absolutely essential utility for the customers with large battery banks for conducting battery discharge tests as a routine maintenance requirement.

#### Ratings Offered

24V /48V /110V /220V /...V settable, 10 Amps to 300 Amps.

The current discharge pattern can be fully preset. System is available with customized specifications.

### ePFC Systems

Dubas ePFC is an Active PWM based power factor controller for compensating both distortion and displacement power factor dynamically. This system is a far advanced system compared to the conventional technology of switched capacitor banks. ePFC improves the PF to near unity dynamically without requiring any capacitor banks. It can also be connected in a hybrid model with a capacitor bank.

- PWM switching technique with DSP based digital control providing both capacitive and inductive compensation dynamically.
- Maintains the PF to better than 0.99 even under dynamic load conditions.
- Avoids dangers of over compensation and resulting resonance.
- Can also be programmed to achieve any specified reference PF.
- Enables full utilization of the sanctioned power and reduced demand charges and tariff.



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## The Power To Go On

### Industrial Power Systems



SECURE AC SYSTEMS

DUBAS industrial UPS Systems are built to meet the stringent application requirements of Process industries, Power Generation, Oil & Gas installations, Nuclear installations and many other critical operations. **G7i** –SERIES is one of the most reliable UPS systems for industrial applications, with customizable architecture on the famed GX series platform. **G7i** –SERIES has the absolute capability to customize as per the application requirement with systems adept even for IP65 constructions or seismic qualification tests. Dubas employs advanced technology and standards to build highly reliable product platforms; which places Dubas with unique capability to build systems to suit extreme operational environments and specific load demand applications.

G7i –SERIES: Built for industrial flexibility

- State of the art technology employing PWM for both AC–DC and DC–AC conversion with digital control.
- Individual processor for each building block.
- Built in output Isolation Transformer for galvanic isolation and optional input isolation transformer.
- Modular construction and small footprints.
- Capability to handle regenerative loads.
- Application based DC bus choice & Battery type.
- High short circuit current handling capability.
- Seismically qualified and tested models for nuclear installations.
- System can be built to suit the application demands and configurations.
- Seamless paralleling and customized configurations.



Applications

HEAVY INDUSTRIES • OIL & GAS INSTALLATIONS • PETROCHEMICALS • POWER GENERATION • NUCLEAR INSTALLATIONS •  
ATOMIC ENERGY CENTRES • MANUFACTURING • PLANT AUTOMATION • MAJOR INFRASTRUCTURES

G7i -SERIES: TECHNICAL SPECIFICATION & SYSTEM DETAILS							
DETAILS		SINGLE PHASE OUTPUT SYSTEMS			THREE PHASE OUTOUT SYSTEMS		
		G7i-31			G7i-33		
RATINGS (KVA)		2, 3, 5, 6, 7.5, 10, 15, 20	25, 30, 35, 40, 50, 55, 60, 75, 80	90,100,110,120,130, 140,150,160,200	2, 3, 5, 6, 7.5, 10, 15, 20	30, 40, 50, 60, 80, 100, 120	160, 200, 250, 300, 400, 500
TECHNOLOGY		IGBT based rectifier / charger and inverter with DSP based digital control					
INPUT	VOLTAGE	Single phase input 220V / 230V / 240V for units 2KVA to 7.5KVA. 3 phase, 380V / 400V / 415V for units from 2KVA to 500KVA					
	FREQUENCY	45Hz - 65 Hz (Optionally 55Hz -75Hz)					
	POWER FACTOR	0.99 @ 100% load					
	THDi	Less than 5% at 100% load					
OUTPUT	VOLTAGE	110V / 115V /120V /220V /230V /240V (Other options available)			220V /230V /240V /380V / 400V / 415V (Other options available)		
	FREQUENCY	50Hz (Optional 60Hz) +/- 0.1Hz in free running mode, +/- 5Hz (Adjustable) in sync mode					
	POWER FACTOR	0.6 lagging to 0.9 leading within the KVA / KW rating					
	THDv	<2% for linear loads, <5% for non linear loads (IEC 62040-3)					
CREST FACTOR		3:1					
ISOLATION		Built in Galvanic isolation transformer at the output, input side optional					
ELECT. PROTECTIONS		Detailed protections provided as per data sheets.					
IP GRADE		Standard options IP31 TO IP54. specific options of IP65 Can be built to order					
BATTERY CHOICES		SMF, VRLA, Tubular, Plante, NI-CD (Charging regimes built to suit the battery options). DC bus range from 192V to 620V. Application specific changes acceptable					
OPERATION MODES		Various options available based on application & customer requirement - Stand Alone, Hot Standby, Parallel, Overlap Transfer, Eco mode					
REGENERATIVE LOADS		Based on requirement, offered with regenerative load handling capability					

SECURE DC SYSTEMS

Dubas offers the full suite of DC systems; covering SCR-controlled systems, PWM-based systems and SMPS-based systems. Dubas Battery Chargers, Rectifiers systems cater to every Industrial application, be it a Process plant, an Atomic Energy Center, an Offshore Oil Platform, a Power Plant Installation or a Metro Rail Network. Technologically, Dubas systems are one of the most advanced systems in the world offering great reliability and flexibility to the applications. Starting with SCR technology systems, Dubas provides bus parallel-able High Power SMPS modular systems which can be stacked even upto 6000 Amps at industrial voltage standards. The design and the product follows IEC 60146 guidelines.



Built for industrial flexibility

- One of the largest ratings and configurations to suit almost every application of the industry
- Systems offered under three technology versions covering SCR-based system, IGBT-based PWM systems and the SMPS versions, allowing users to choose the best of the options based on their application.
- Highly flexible systems based on specific industrial application demand providing input, output and constructional requisites.
- High MTBF and low MTTR. Systems are built for long life in Industrial environments.
- SMPS-based industrial systems with IP65 construction and small footprint offered for offshore oil platforms and similar demanding applications.
- Systems can be built to meet seismic qualification testing. Systems rated as high as 250KW already installed which are tested for seismic qualification.

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ATOMIC ENERGY CENTRES • MANUFACTURING • PLANT AUTOMATION • MAJOR INFRASTRUCTURES

TECHNICAL SPECIFICATION & SYSTEM DETAILS				
DETAILS		SCR SERIES	PWM SERIES	SMPS SERIES
RATINGS OFFERED	DCV	24 / 48 / 110 / 220 / 400 / xxx	24 / 48 / 110 / 220 / 400 / xxx	24 / 48 / 110 / 220 / xxx
	Amps	5 Amps - 1500 Amps	20 Amps - 1500 Amps	Modular upto 6000 Amps
INPUT VOLTAGE		Single phase input 220V/230V/240V OR 3 Phase, 380V/400V/415V based on ratings of the systems (or customer specified)		
INPUT POWER FACTOR		Better than 0.7	Better than 0.95	Better than 0.95
EFFICIENCY		upto 80% depending on rating	upto 90% depending on rating	upto 94% depending on rating
CONTROL & DIAGNOSTICS		Control - fully Analog. Diagnostics - Digital or Analog.	Digital control & diagnostics on DSP platform	Digital control diagnostics on DSP platform
CONFIGURATIONS		Stand alone / FC / FCBC / DUAL FCBC / Redundant options	Stand alone / FC / FCBC / DUAL FCBC / Seamless Parallelable	Modular, Configurable & Seamless Parallelable
RIPPLE		3% without battery connected.	<1% without battery connected.	
IP LEVEL		IP20 TO IP54	IP20 TO IP54	IP20 TO IP65
BATTERY CHOICES		SMF / VRLA / TUBULAR / PLANTE / NI-CD, Battery health monitoring		
SEISMIC PROOF		Seismically qualified and tested (against specific client requirement)		

All specifications are not detailed here. Please request for any specific detail. Systems can be customized to meet customer’s required specification and rating. R&D being a continuous process, the shown specifications are subjected to change without notice.