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GAMATRONIC™
Our Power Your Confidence

Su-Kam
Ek nayi soch

Multiplexer

Multiplexer SA Series
10kVA-40kVA &
Multiplexer RM
10kVA-20kVA

Su-Kam and Gamatronic. A Powerful Alliance.

Gamatronic Electronic Industries Ltd.

World Leaders: Gamatronic is a world leader in cutting - edge modular power protection solutions and technology. Established in 1970 in Israel, it is considered a leader in its field in over 80 countries worldwide. With almost four decades of hands - on experience, Gamatronic is dedicated to providing the world with the most advanced modular power-protective technology in the world.

Hi-Tech Innovations. Gamatronic's Headquarters are situated in a 6,000 square meter facility located in the Science Based Industries Park in Jerusalem. The Company is in constant pursuit of new technologies and innovations. All this, combined with high engineering capabilities, flexibility and technical customization results in numerous advanced and unique power solutions which are designed to fully meet the needs of the most sophisticated customers.

Wide Range. Gamatronic's wide and distinctive product range offers multiple modular power protection solutions known for their dependability and innovativeness. These include UPS - Uninterruptible Power Supply solutions, DC Power Systems, Inverter Systems, Converter and DC-DC Systems, along with power control and management products for power dependent and critical applications.

Su-Kam Power Systems Ltd.

India`s Leader: Su-Kam is India's leading power back-up solution provider and a truly knowledge driven company, with innovation at its heart. It has revolutionized the power back-up industry in India, by developing intelligent power back-up solutions, engineered to be energy efficient and reduce the user's carbon footprint. Working further towards a cleaner, greener planet, Su-Kam is branching out towards eco-friendly inexhaustible energy solutions such as solar power. We see ourselves as change agents in the critically important sphere of energy, working for a better tomorrow.

The first such enterprise of its kind in India, Su-Kam has a market share of over 40% in India.

Wide - ranging hi-tech power solutions. Su-Kam manufactures a range of around 160 products in 7 state-of-the-art factories in India and Nepal. With a nationwide network of offices and channel partners, the Company has brought freedom from power problems to millions across India and in 70 countries across the globe.

Innovations and Awards. With a string of firsts to its credit, Su-Kam has introduced new products at regular intervals, which have gone on to set industry standards. Su-Kam's R&D unit has not only earned recognition from the Department of Scientific & Industrial Research, Govt. of India, but has won over 70 patents, with more in the pipeline.

Know Su-Kam

- India's most admired, world class power solutions provider, with a growing presence across India and over 70 countries worldwide. Target to take the tally to 100 countries by 2012.
- Su-Kam has over 2100 employees across the country, 23 offices in India and 1 each at Dubai, Nepal, Nigeria & Bangladesh.

Su-Kam synergises its expertise in manufacturing

Su-kam has 7 state-of-the-art manufacturing facilities. All our manufacturing facilities are certified under OHAS – 18001 for operational health and safety.

Su-Kam filed over 70 Technology Patents, 141 Copyrights and 53 Trademarks. It has 50 Design Patents to its credit in India, US and various countries. We are filing nearly 2 technology patents a month. We expect to file an impressive 100 technology patents, another record breaking number in the power back-up industry.

ORIGINAL

No. 9438

GOVERNMENT OF INDIA

THE PATENT OFFICE

CERTIFICATE OF REGISTRATION OF DESIGN

Design No. 230054
Date 01/07/2010
Reciprocity Date*
Country

Certified that the design of which a copy is annexed hereto has been registered as of the number and date given above in class 13-01 in respect of the application of such design to INVERTER in the name of SU-KAM POWER SYSTEMS LTD., OF PLOT NO. WZ-1401/2, NANGAL RAYA, NEW DELHI-110 046, INDIA, AN INDIAN COMPANY.

In pursuance of and subject to the provisions of the Designs Act, 2000 and the Designs Rules, 2001.

Controller General of Patents, Designs and Trade Marks

*The reciprocity date (if any) which has been allowed and the name of the country.
Copyright in the design will subsist for ten years from the date of Registration, and may underthe terms of the Act and Rules, be extended for a further period of five years.
This Certificate is not for use in legal proceedings or for obtaining registration abroad

DR. I. BANERJEE,
L. S. DAVAR & CO., PATENT & TRADE MARK
ATTORNEY 22 RADHA MADHAB DUTTA
GARDEN LANE KOLKATA -700 010.

Date of Issue 21/02/2011 13:56:25

Multiplexer

STANDALONE UPS - 10kVA-40kVA

Multiplexer Standalone (SA) Series
Power+ 10kVA-40kVA SA,
Power+ RM 10kVA/20kVA
Mega V2 25kVA

LOWER TCO & INCREASE ROI:

SAVE ON

- Purchasing & installation costs
- Electricity costs
- Maintenance costs
- Spacing costs
- Cooling costs
- Generator costs

GENERAL PRODUCT FEATURES:

- Ultrahigh power density
- True green power and high efficiency
- Universal UPS: frequency voltage phase configurable on site
- User friendly
- Maximum power availability
- True online batteries and double conversion VFI topology
- Power with environmental integrity
- Multiplexer controller: full remote UPS management, automatic server shutdown, alerts, and management of SNMP trap by interfacing with NMS software (a standard feature in the RM model and optional in SA models)

Multiplexer-Power+ SA

SIMPLY INGENIOUS

Multiplexer SA - 10kVA
On-Line double conversion UPS

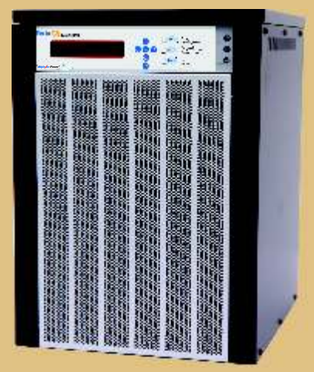
Features

- Light weight and compact design, weighing only 18 Kg
- Flexible use - available in 3/3,3/1 and 1/1 phase configurations
- Great performance:
  - High efficiency AC AC: 96%
  - Low input THDi: <5%
  - Input PF of 1
  - Backlight LCD
- Available also in 208v with UL conformity
- Mainly used for Small & Medium sized applications, as well as an OEM component for large devices (such as Medical CT products)

Multiplexer-Power+ SA 20 to 40

SIMPLY INGENIOUS

Multiplexer-Power+SA
Stand Alone 20/30/40kVA
On-Line double conversion UPS
True on-line batteries



Features

- Unique and compact design, weighing only 68kg (at 40kVA)
- Great performance:
  - High efficiency AC/AC: 96%
  - Low input THDi: 5 %
  - Input PF: 1
  - Backlight LCD
  - External battery cabinets racks available

Multiplexer-Power+ RM-10 to 20

SIMPLY INGENIOUS

Multiplexer-Power+ RM
1 0-20kVA
On-Line double conversion UPS
True on-line batteries

Features

- The Multiplexer-Power+ RM is a variant of the Multiplexer UPS, which can be integrated as a sub rack into any standard 19 rack, for a lower cost configuration of the 1OkVA and 20kVA UPS'S.
- The kit includes:
  - One or two 10kVA Multiplexer + modules
  - A Controller with a built-in STSW
  - A 19" shelf to host the Multiplexer module and controller
  - The kit reaches a height of 4U with one 10Kva module and 6U with 2 modules.

Multiplexer-MEGA V2 SA

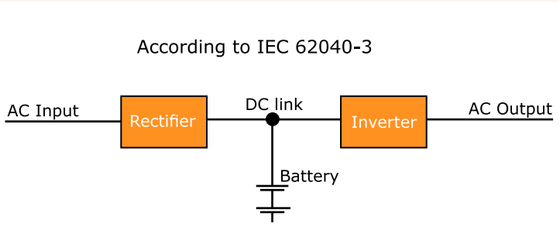
SIMPLY INGENIOUS

Multiplexer-Mega V2 SA
Stand Alone 25kVA
True On-Line double conversion UPS
True on-line batteries

Features

- Unique, light and compact design
  - 20 x 60 cm footprint
  - Weight: 61 kg
- Great performance:
  - High efficiency AC/AC: 96%
  - Low input THDi: 5 % > Input PF: 1
  - Backlight LCD

Double Conversion
True On-Line Battery (VFI)



Multiplexer Power+ SA 10kVA Technical Specifications

Multiplexer SA	3/3	3/1	1/1
Topology	True online battery, double conversation		
Capacity	10kVA/8kVA		
Input	**3phase+N+PE**		**1phase+N+PE**
Voltage	3x(380V~415V)+N+PE		(220V-240V) + N+PE
Voltage tolerance	-27% and 20%		
Current	15A per phase, no inrush current at startup		45A, no inrush current
Power walk-in	<60s		
Input power factor	1		
Input THDi	<5%		
Earth leakage current	3mA max.		
Output	**3 phase +N+PE**	**1Phase +N+PE**	
Rated power	10kVA / 8kW		
Frequency tracking range	±3 Hz		
Slew rate	1Hz/Sec		
Voltage	3x(400V)+N+PE	(220V-240V) + N+PE	
Static regulation	± 1%		
Regulation for unbalanced load	± 1% for 100% unbalanced load		
Dynamic response to 100% load step	±2%		
Overload	110% for 10 min; 125% for 60 s; 1000% for 1 cycle		
Waveform	Sinusoidal		
THD	Less than 2% for linear load		
Load CF (max)	6:1		
DC/AC efficiency (nominal)	98%		
AC/AC efficiency (nominal)	96%		
Static Switch (bypass)			
Input connection	Dual feed		
General			
Maximum power dissipation (Po=8KW	384W (1300 BTU/h)		
Ambient temperature	operation: - 10°C to +40°C Storage: -20°C to+60°C		
Relative humidity	95% max, non-condensing		
Altitude	1500 m without derating		
Enclosure	IP20		
Cooling system	Multi-fan with Speed Control (forced)		
Acoustic noise (full load) at 1.5m distance	47dba		
MTBF	250,000hh		
Dimensions (mm)	560(H)x 90(W)x600(D)		
Weight	18kg		
LCD display			
Input	Voltage, frequency, current		
Output	Voltage, frequency, current		
Batteries	Voltage		
Log (events memory)L	Last 200 events		
Communication			
Rs232	Yes		
Dry contact alarm	Yes		
SNMP	Optional		
Standards (Complies to)			
EMC	IEC 62040-2, under EMC 2004/108/EC		
Design	IEC 62040-3		
Safety	IEC 62040-1, underLVD 2006/95/EC		
Low magnetic field radiation	EMF as per ICNIRP		
Batteries (external)			
Type	Sealed, valve-regulated, lead-acid		
Number	64 x 12V		

All specifications are typical and subject to change without prior notice

Multiplexer Power+ SA 20kVA, 30kVA, 40kVA Technical Specifications

Multiplexer SA UPS	20kVA	30kVA	40kVA
Topology	True online battery, double conversation		
Input	**3phase+N+PE**		
Voltage	3x(380V~415V)+N+PE		
Frequency tolerance	45-65 Hz		
Voltage torlerance	-27%/=20%		
Power walk-in	<60s		
Power factor	1		
THDi	<5%		
Earth leakage current	3mA max.		
Output	**3 phase +N**		
Rated power	10kVA / 16kW	30kVA/24kw	40kVA/ 32kw
Frequency tracking range	±0.5, ±1, ±2, ±3, ±4Hz (selectable)		
Slew rate	1Hz/Sec		
Voltage	3x(400V)		
Frequency	50 Hz		
Static regulation	± 1%		
Regulation for unbalanced load	± 1% for 100% unbalanced load		
Dynamic response to 100% load step	2%		
Overload	110 % for 10 min; 125 % for 60 s; 1000 % for 1 cycle		
Waveform	Sinusoidal		
THD	Less than 2% for linear load		
Load CF (max)	6:1		
DC/ACefficiency (nominal)	98%		
AC/AC efficiency (nominal)	96%		
Static Switch (bypass)			
Input connection	Dual feed		
General			
Maximum power dissipation (Po=8KW	666w (2274 BTU)	999W(3408BTU)	1332W (4544BTU)
Ambient temperature	- 10°C to +40°C(operating); -20°C to +70°C (Storage)		
Relative humidity	95% max, non-condensing		
Altitude	1500 m without derating		
Enclosure	IP20		
Cooling system	Multi-fan with Speed Control (forced)		
Acoustic noise (full load) at 1.5m distance	54dBA	57dBA	
MTBF	250,000hh		
Dimensions(Hx Wx D) (mm)	660x480x580		
Weight (electronic cabinet)	50kg	59kg	68kg
Communication			
Dry contract alarms	Yes		
SNMP / web	yes		
LCD display			
Input	Voltage, frequency, current		
Output	Voltage, frequency, current		
Batteries	Voltage		
Log (events memory)L	Last 256 events		
Standards (Complies to)			
EMC	IEC 62040-2, under EMC 2004/108/EC		
Design	IEC 62040-3		
Safety	IEC 62040-1 , under LVD 2006/95/EC		
Low magnetic field radiation	EMF as per ICNIRP		
Batteries			
Type	Sealed, valve-regulated,lead-acid		
Number	64x12V		
Battery cabinet	External		
DC voltage	± 432 V		

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Multiplexer Power+ RM Technical Specifications

Multiplexer 19" UPS	10kVA	20kVA
Topology	True Online Battery, Double Conversation, VFI	
INPUT		
Voltage	3 x (380V~415V) +N+PE	
Voltage Range	27%/+20%	
Current	3x 15A per module, no inrush current at startup	
Power walk-in	<60 Sec	
Frequency	45/65 Hz	
Power Factor	0.99%	
THDI	5%	
Output	**3 phase +N**	
RATED power	10kVA/8kW	20kVA/16kW
Frequency tracking range	±0.5, ±1, ±2, ±3, ±4Hz (selectable)	
Slew rate	1Hz/Sec	
Voltage	3x400 Vac +N	
Static regulation	± 1%	
Regulation for unbalanced load	± 1% for 100% unbalanced load	
Dynamic response to 100% load step	±2%	
Overload	110 % for 10 min; 125 % for 60 s; 1000 % for 1 cycle	
Waveform	Sinusoidal	
THD	Less than 2% for linear load	
Load CF (max)	6:1	
Dc/Ac efficiency (nominal)	Up to 98% at full load	
Ac/Ac efficiency (nominal)	Up to 96% at full load	
GENERAL		
Maximum Power Dissipation (Po=8KW	333W (1361 BTU/h)	666W (2274BTU/h)
Ambient temperature	- 10°C to +40°C(operating); -20°C to +70°C (Storage)	
Relative humidity	95% max, non-condensing	
Altitude	1500m without derating	
Enclosure	IP20	
Cooling system	Multi-fan with Speed Control (forced)	
Acoustic noise (full load) at 1.5m distance	51dBA	54dBA
Dimensions(Hx Wx D) (mm)	193(4U) x 483 (19in.) x 600	264(6U)x 483(19in.) x600
Weight (approx.)	19.9kg	31.7kg
STANDARDS (Complies to)		
EMC	IEC 62040-2, under EMC 2004/108/EC	
Design	IEC 62040-3	
Safety	IEC 62040-1, under LVD 2006/95/EC	
Low magnetic field radiation	EMF as per ICNIRP	
Batteries		
Type	Sealed, valve-regulated, lead-acid	
Number	64x12V	
Battery cabinet	External	
DC voltage	± 432 V	

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Multiplexer MegaV2 SA Technical Specifications

MEGA SA 25 kVA UPS	
Topology	True Online Battery, Double Conversion, VFI
Unit Capacity	25 kVA / 25 kW
DC/AC efficiency (nominal)	98 %
AC/AC efficiency (nominal)	96 %
INPUT	
Voltage	3x400 Vac +N (230 Vac); 47-63 Hz
Voltage Range	– 27 % and + 20 %
Power Walk-In	<60
Power Factor	1
THDI	<5 %
Earth Leakage Current	3 mA max.
OUTPUT	
Rated Power	25 kVA / 25 kW
Frequency Tracking Range	±1, ±2, ±3
Slew Rate	1 Hz/sec
Voltage	3x400 V +N / 230 V; 50/60 Hz
Static Regulation	±1
Regulation for Unbalanced Load	±1% for 100 % Unbalanced load
Dynamic Response to 100% Load Step	2%
Overload	110 % : 10 minutes; 125 % : 60 seconds; 1000 % : 1 cycle
Waveform	Sinusoidal
THD	Less than 2% for linear load
Load CF (max)	6:1
Inverter efficiency % (nominal)	98
STATIC SWITCH	
Included	
GENERAL	
Maximum power dissipation (Po=25KW)	384 W (1300 BTU)
Ambient Temperature	-10 to +40 °C (operating) ; -20 to +70 °C (storage)
Relative Humidity	95 % max., non-condensing
Altitude	1500 m without derating
Enclosure	IP20
Cooling System	Multi-Fan with speed control (forced)
Acoustic Noise (Full load) at1.5m distance	47 dBA
MTBF	250,000 hrs
Dimensions (mm)	610(H) x 205(W) x 685(D)
Weight	61 kg
LCD DISPLAY	
Input	voltage, current
Output	voltage, frequency, current
Batteries	voltage
Log (events memory)	last 200 events
COMMUNICATION	
RS232 port	Yes
Alarm and shutdown monitor	Yes
SNMP link (optional)	optional
STANDARDS (Complies to)	
EMC	IEC 62040-2, under EMC 2004/108/EC
Design	IEC 62040-3
Safety	IEC 62040-1, under LVD 2006/95/EC
Low magnetic field radiation	EMF as per ICNIRP
BATTERIES (EXTERNAL)	
Type	Sealed, valve-regulated, lead-acid
Number	60 x 12V

All specifications are typical and subject to change without prior notice