

BERKSHIRE TRANSFORMER

Varivolt ➤



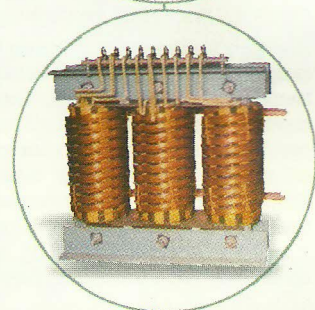
Steadyvolt ➤



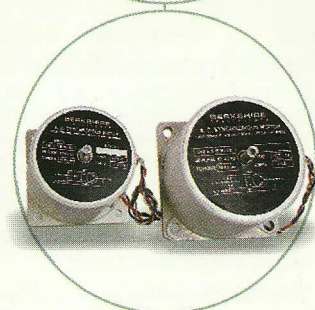
Toropower ➤



L.V. Transformers ➤



A. C. Synchronous Motor ➤



Berkshire Transformer

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VARIVOLT

CONTINUOUSLY VARIABLE VOLTAGE AUTO TRANSFORMERS

"VARIVOLT" AUTO TRANSFORMER is a continuously variable voltage auto transformer, having a movable carbon tip, fixed to brush arm sliding on a silver plated commutator. Rotation of the brush arm by either manual or motor drive, delivers an output voltage from zero to or above line voltage.

SALIENT FEATURES :

- i. **Rugged Construction** : "VARIVOLT" Auto transformers are designed for heavy duty trouble free operation. All components are designed to give maximum life to the unit under extreme operating conditions. Except for carbon tips, no other part needs any specific maintenance. Even carbon tips do not require to be changed frequently. This practically makes the "VARIVOLT" a maintenance free electrical equipment.
- ii. **Excellent Regulation** : The drop in voltage from "no load to full load" is minimal in "VARIVOLT" Auto-transformers. (See fig...II for regulation characteristics)
- iii. **High Efficiency** : Careful copper, core selection and design assures the user of low watt loss, as compared to other controllers. (See fig...III for efficiency characteristics)
- iv. **No Wave form Distortion** : "VARIVOLT" provides an output voltage wave-form, which is a distortionless replica of the input voltage wave-form.
- v. **Silver Plated Commutator** : A special silver plating technique is used on the commutator, enabling it to withstand high overloads and maintain constant contact drop. It also ensures smooth operation, long life and increased resistance to corrosion.
- vi. **Over-load Capacity** : Because of its careful designing, "VARIVOLT" can withstand many over-loads, Fig...I gives an idea of the maximum overloading allowed with its relevant time limits. When repeated overloading takes place, care has to be exercised to provide sufficient off time to reduce the temperature build up.
- vii. **Low Operating Torque** : A glass smooth commutator, special sintered bushings for the shaft and perfect assembling of coils results in low operating torque for all "VARIVOLT" Auto-transformers.
- viii. **Smooth and Linear Output** : As voltage between turns is small and as the brush arm is in constant contact with more than one turn, harmful sparking is avoided and output voltage can be set to a fraction of a volt from zero onwards.
- ix. **Low Magnetizing Current** : By using an adequate section of high quality grain oriented silicon steel, the iron losses in "VARIVOLT", are controlled to the minimum. The no load current in all "VARIVOLT" transformers, is invariably less than 3% of the rated current.
- x. **Negligible Maintenance and Trouble Free Long Life** : "VARIVOLT" has been carefully designed. No special care has to be taken to maintain "VARIVOLT" auto transformers in normal working environments. The only components needing inspection and maintenance are the carbon tips and the commutator. Timely replacement of carbon tips and cleaning off foreign particles and accumulated dust, from the commutators surface, will ensure a considerably long, maintenance free, and uninterrupted life to the unit. Normally "VARIVOLT" auto transformers up to 28 Amps. are offered in air cooled or oil cooled construction. Models of 40 Amps. & above are offered in oil cooled construction. In very special cases "VARIVOLT", above 40 Amps, can be offered in air cooled construction. This is possible due to the special paralleling techniques adopted by us.

HIGH CURRENT "VARIVOLT"

AUTO TRANSFORMERS - OUR SPECIALITY :

"VARIVOLT" is now available in high current ranges from 225 Amps. up to 2000 Amps. in single, two and three phase models. Special paralleling techniques designed by us, have made it possible to surpass the previous current limit of 200 Amps. for toroidal Auto transformers. The following are the salient features of High Current "VARIVOLT" auto transformers :-

- i. Special forced current paralleling techniques, result in current sharing of each coil $\pm 2\%$.
- ii. Flanged type pressed steel radiators, are supplied separately packed, making the units easy for transportation.
- iii. Chain/Gear Driven High Torque A.C. Synchronous Motor drive.
- iv. Terminals in the form of bus-bars.
- v. All other features of oil cooled auto transformers.

Fig. I OVERLOAD CHARACTERISTICS

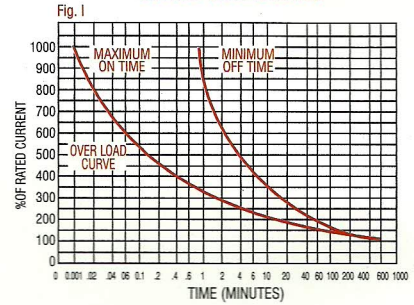


Fig. II REGULATION

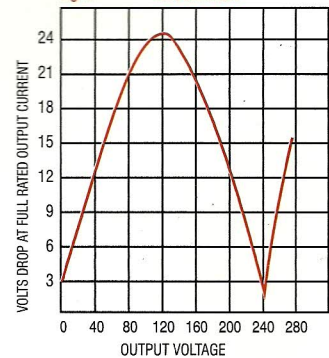


Fig. III EFFICIENCY

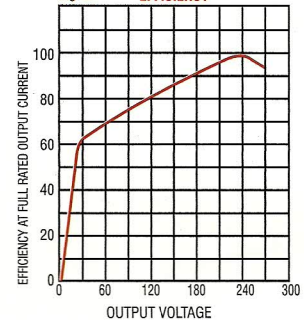
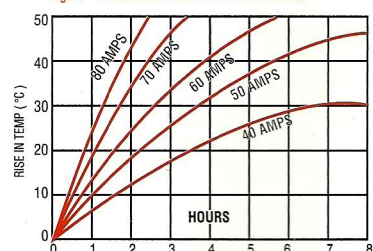
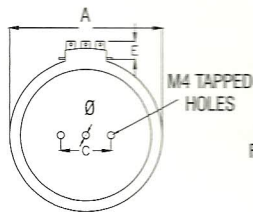
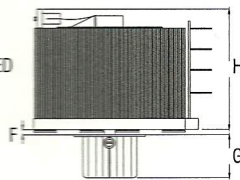


Fig. IV TEMP. RISE OF OIL IN 40 T-3 MODEL





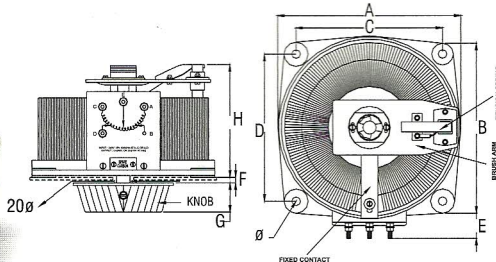
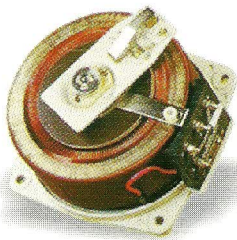
**BOTTOM VIEW
(W/O KNOB)**



SIDE VIEW

**SINGLE PHASE FLUSH/BACK OF PANEL/OPEN
MOUNTING TYPE**

Type	A	C	E	F	G	H	Ø
0.7F-1	85	28	12	3	24	68	6
1F-1	85	28	12	3	24	78	6

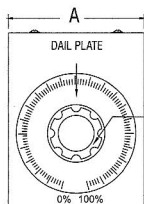


FRONT VIEW

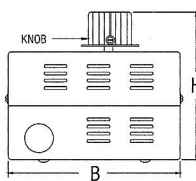
TOP VIEW

**SINGLE PHASE FLUSH/BACK OF PANEL/OPEN
MOUNTING TYPE**

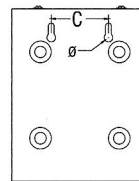
Type	A	B	C	D	E	F	G	H	Ø
1.5F-1	110	110	92	92	25	8	25	85	7
2F-1	110	110	92	92	25	9	26	105	7
3F-1	110	110	92	92	25	9	26	115	7
4F-1	175	175	146	146	25	9	30	110	10
5F-1	175	175	146	146	25	9	30	115	10
6F-1	175	175	146	146	25	9	30	115	10
8F-1	175	175	146	146	25	9	30	125	10
10F-1	175	175	146	146	25	9	30	130	10
15F-1	220	220	176	176	30	16	35	135	10
17.5F-1	220	220	176	176	30	16	35	135	10
20F-1	220	220	176	176	30	16	35	140	10
28F-1	300	300	238	238	55	16	35	170	14



TOP VIEW



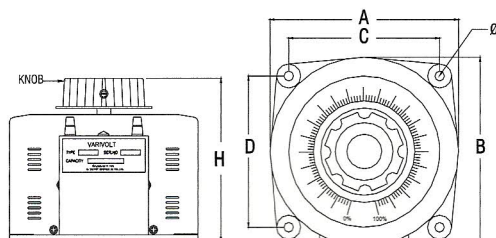
SIDE VIEW



BACK VIEW

**SINGLE PHASE TABLE/FLOOR MOUNTING
ENCLOSED TYPE**

Type	A	B	C	H	Ø
0.7P-1	95	120	40	125	6
1P-1	95	120	40	125	6
1.5P-1	130	160	40	157	6
2P-1	130	160	40	157	6
3P-1	130	160	40	157	6

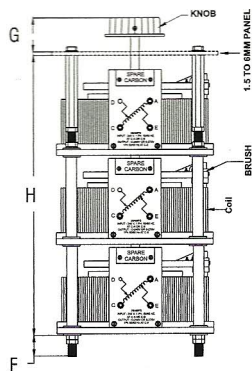
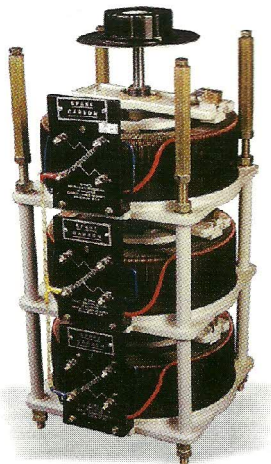


FRONT VIEW

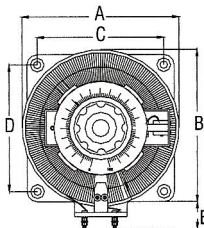
TOP VIEW

**SINGLE PHASE TABLE/FLOOR MOUNTING
ENCLOSED TYPE**

Type	A	B	C	D	E	H	Ø
4P-1	175	175	146	146	35	150	10
5P-1	175	175	146	146	35	150	10
6P-1	175	175	146	146	35	150	10
8P-1	175	175	146	146	35	170	10
10P-1	175	175	146	146	35	170	10
15P-1	220	220	176	176	40	190	11
17.5P-1	220	220	176	176	40	190	11
20P-1	220	220	176	176	40	190	11
28P-1	300	300	238	238	80	220	13



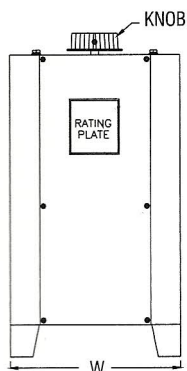
FRONT VIEW



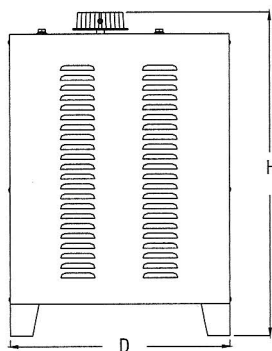
TOP VIEW

THREE PHASE FLUSH/BACK OF PANEL/OPEN MOUNTING TYPE

Type	A	B	C	D	E	F	G	H
1.5F-3	110	110	92	92	25	40	40	365
2F-3	110	110	92	92	25	40	40	365
3F-3	110	110	92	92	25	40	40	365
4F-3	175	175	146	146	25	40	50	410
5F-3	175	175	146	146	25	40	50	410
6F-3	175	175	146	146	25	40	50	410
8F-3	175	175	146	146	25	40	50	410
10F-3	175	175	146	146	25	40	50	410
15F-3	220	220	176	176	30	40	70	440
17.5F-3	220	220	176	176	30	40	70	440
20F-3	220	220	176	176	30	40	70	440
28F-3	300	300	238	238	55	40	55	525



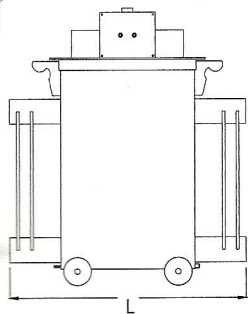
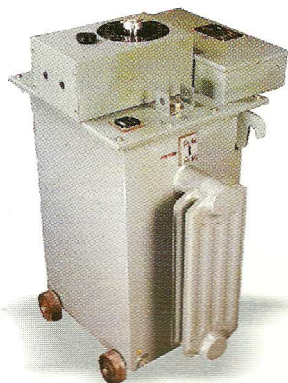
FRONT VIEW



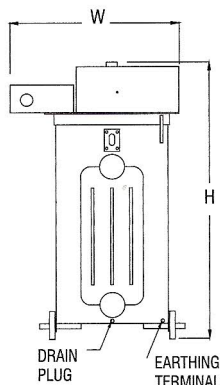
SIDE VIEW

THREE PHASE TABLE/FLOOR MOUNTING ENCLOSED TYPE

Type	W	D	H
1.5P-3	150	180	465
2P-3	150	180	465
3P-3	150	180	465
4P-3	190	240	505
5P-3	190	240	505
6P-3	190	240	505
8P-3	190	240	505
10P-3	190	240	505
15P-3	240	310	560
17.5P-3	240	310	560
20P-3	240	310	560
28P-3	345	445	655



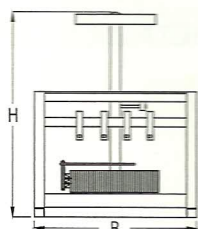
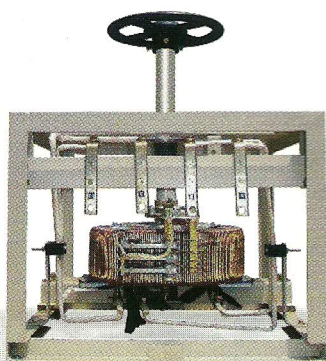
FRONT VIEW



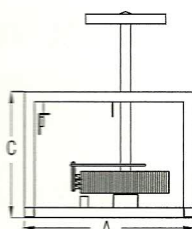
SIDE VIEW

THREE PHASE OIL COOLED MODELS

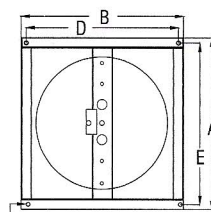
AMPS	FLOOR SPACE mm L X W	HEIGHT mm H
40	745 x 630	1100
50	840 x 630	1100
60	1115 x 630	1100
75	1175 x 630	1400
100	1475 x 630	1400
150	1485 x 1200	1500
200	1750 x 1350	1500
300	1340 x 1460	1600
400	1340 x 1650	1600
500	1900 x 2300	2100
600	1900 x 2630	2100



FRONT VIEW



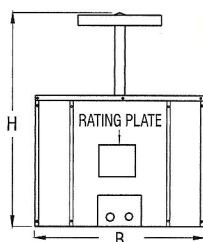
SIDE VIEW



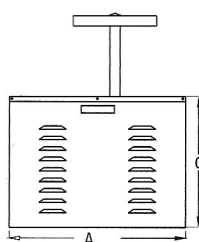
BOTTOM VIEW

SINGLE PHASE FLUSH/BACK OF PANEL/OPEN MOUNTING TYPE

Type	A	B	C	D	E	H	ø
40F-1	510	485	375	455	480	630	12
50F-1	510	485	375	455	480	630	12



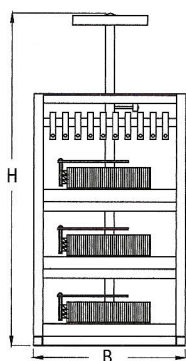
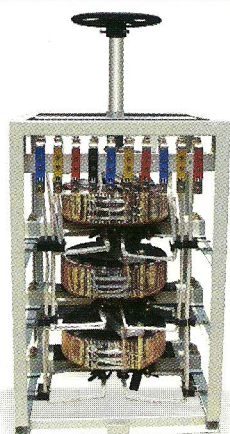
FRONT VIEW



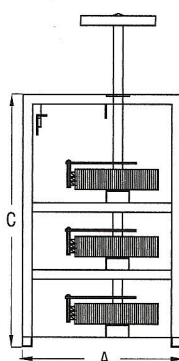
SIDE VIEW

SINGLE PHASE TABLE/FLOOR MOUNTING ENCLOSED TYPE

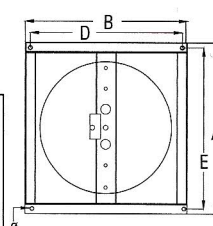
Type	A	B	C	H
40P-1	510	485	375	630
50P-1	510	485	375	630



FRONT VIEW



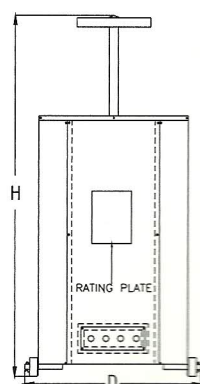
SIDE VIEW



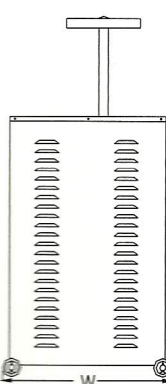
BOTTOM VIEW

THREE PHASE FLUSH/BACK OF PANEL/OPEN MOUNTING TYPE

Type	A	B	C	D	E	H	ø
40F-3	510	485	810	455	480	1050	12
50F-3	510	485	810	455	480	1050	12



FRONT VIEW



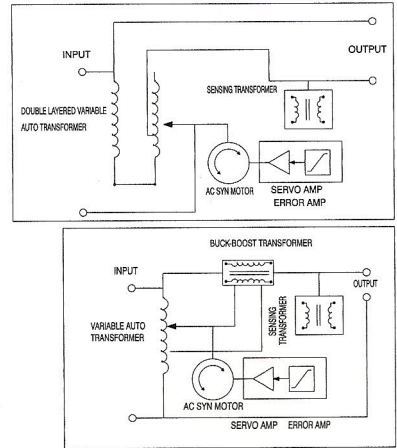
SIDE VIEW

THREE PHASE TABLE/FLOOR MOUNTING ENCLOSED TYPE

Type	W	D	H
40P-3	550	575	1100
50P-3	550	575	1100

STEADYVOLT

SERVO CONTROLLED VOLTAGE STABILIZERS



STEADYVOLT

The highly fluctuating A.C. Mains supply is a very common phenomenon and the difficulties caused by them are known too well and need not be enumerated. The emergence of sophisticated computer era has created the need for a stable input supply as a basic necessity. The absence of this stable supply creates problems in many equipments. Unsteady voltage supply conditions result in total breakdowns of sensitive and sophisticated equipments. The hope of getting a stable supply is very remote in our country and keeping this in view, **BERKSHIRE TRANSFORMER** have developed the "**STEADYVOLT**" Servo Controlled Voltage Stabilizers.

APPLICATIONS :

"**STEADYVOLT**" Servo Controlled Voltage Stabilizers have many applications. To name a few

- I. For Computers, Xerox Machines etc.
- II. For Micro processor based equipments like C.N.C. Lathes and a host of other C.N.C. based equipments/Machinery.
- III. For Medical Equipments.
- IV. High capacity 3 Phase Stabilizers for entire factory and vital installations. "**STEADYVOLT**" increase life of tubelights & bulbs
- V. For Laboratories and process control equipments.

FEATURES :

The following are built-in features of each and every "**STEADYVOLT**" Servo Controlled Voltage Stabilizer.

- I. Micro controller based closed loop control system.
- II. Digital Voltmeter to read input & output voltage between P to N & phase to phase.
- III. Digital Ammeter to read output current.
- IV. Input Digital Frequency meter for 3 Phase units only.
- V. Timer with 5 sec delay has been provided to avoid nuisance tripping.
- VI. In case of 3 phase units, single phasing preventer is provided to trip the supply in case of phase failure or phase reversal (Contactor/MCCB/ACB provided at extra cost).
- VII. Output cut off in case the output voltage goes beyond set limits. In both the above cases, time delay is provided to avoid problems caused by nuisance tripping.

VIII. Fully solid state control circuitry, using high stability industrial grade Silicon Semi-conductors. Relays are totally eliminated, reducing chances of failures in the field.

IX. Efficiency better than 98% at full load.

X. Nil wave form distortion.

XI. No effects of load power factor.

XII. Interchangeable plug in control card and module.

XIII. Unaffected by change in supply frequency between 47 to 53 Hz.

XIV. Large short time overload capacity, ideally suited for high starting current of inductive motors.

XV. No Phase shift.

XVI. Easy manual operation in the unlikely event of auto circuit failure.

XVII. High speed of correction upto 35V per second.

ADDITIONAL FEATURES (OPTIONAL)

The following additional features can be provided against specific enquiries at an extra cost.

- I. Under Voltage & Over voltage cut off through Contactor/ Relay/MCCB/ ACB in case input/output goes beyond specified range.
- II. M. C. B. / M. C. C. B. protection on the input/output for short circuit & overload protection.
- III. Alarm to indicate input high/low and output high/low.
- IV. Changeover Switch.
- V. Surge & Spike Suppressors.

SPECIFICATIONS

"**STEADYVOLT**" Servo Controlled Voltage Stabilizers are mass manufactured in the following ranges.

- I. SINGLE PHASE UNITS: Input - 180 - 260 V - single phase 50 Hz or 160 - 260 V - single phase 50 Hz. Output - 230 or 240 V $\pm 1\%$ - single phase 50 Hz.
- II. THREE PHASE UNITS: Input - 300 - 460 V 3 Phase - 50 Hz. or 360 - 460 V 3 Phase 50 Hz. Regulation against load variation from No Load to Full Load $\pm 1\%$. Air cooled and oil cooled versions are offered to suit customer's specific requirements.

Steadyvolt can be made to suit your specific voltage requirements and also for unbalanced load conditions.

TOROPOWER

COMPACT - EFFICIENT - ECONOMICAL - TOROIDAL TRANSFORMERS BY VOLTAMP

AUTO TRANSFORMERS



A range of high quality toroidal transformers with one 230V AC winding and taps provided as per requirement. All leads for both input and output are double-insulated enameled wire, with stripped & tinned wire ends thereby reducing assembly time.

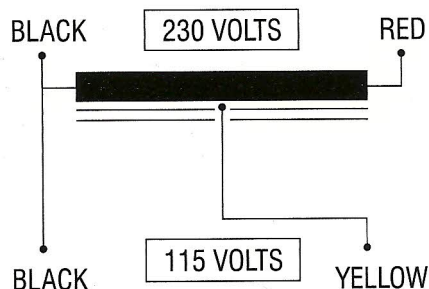
There are no air gaps in the core & no vibrating laminations. The simple construction of the toroid results in savings in weight as compared to the conventional laminated type transformers. High conductivity copper windings on insulated toroidal core made of high grade cold rolled grain oriented silicon steel ensures very low magnetizing currents & results in savings in power consumption making this range particularly attractive for compact power source and slimline equipment. A further benefit of this gapless core is the reduced level of radiated electrical noise (hum field).

NOTE

Each transformer is supplied with a dished washer, protection pads and nut, bolt and washer for single hole fixing. The pads are to be fitted above and below the transformer winding and the dished washer on top of the upper pad.

Under no circumstances should both ends of the fixing bolt contact a metal chassis or frame as this would create 'a shorted turn' causing irreparable damage.

THESE TRANSFORMERS DO NOT PROVIDE ISOLATION FROM MAINS



TOROPOWER range of toroidal transformers are available

With Voltages as per customers specifications upto 600 volts max.

Also available in sheet steel Enclosed or Resincast models.

FEATURES

- 230 V A.C. Input & 115 A.C. Output 50/60 Hz
- Popular voltage tapings 220-240 V A.C. also available.
- Negligible wave form & power factor distortion.
- Excellent short time overload capacity.
- Small size and low weight as compared to traditional stacked lamination type transformers.
- Extremely low level of radiated magnetic field.
- Very low induced noise (hum)
- Very low iron loss & magnetizing current & good regulation.
- Double insulated leads.
- Supplied with mounting kit having a single hole mounting arrangement.
- 100% electrical and flash tested.
- High quality manufacturing and testing.

TECHNICAL SPECIFICATIONS

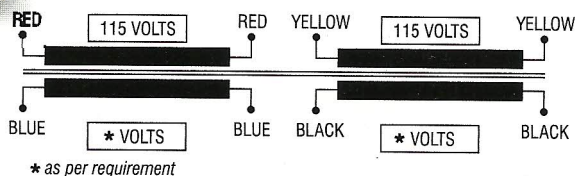
Rated VA	Regulation %	Temp. Rise°C	Dimensions		Weight Kg.
			Diameter (mm)	Height (mm)	
1000	7	70	160	40	4.5
500	6	60	115	70	3.4
250	6	60	110	50	2.1

Allow 5 mm. extra where leads emerge & for mounting kit.
Dimensions/Data are subject to change without prior notice.

TOROPOWER

COMPACT - EFFICIENT - ECONOMICAL - TOROIDAL TRANSFORMERS BY VOLTAMP

DOUBLE WOUND TRANSFORMERS



A range of high quality toroidal transformers with twin 115V AC. primary windings and wide choice of secondary voltages. The primary windings can be connected in series or parallel to cater for 115V or 230V 50/60Hz AC inputs. All leads for both primary and secondary are double-insulated enamelled wire with stripped wire ends thereby reducing assembly time.

There are no air gaps in the core & no vibrating laminations. The reluctance is low, resulting in very low magnetizing currents with savings in power consumption. A further benefit of this gapless core is the reduced level of radiated electrical noise (hum field).

The simple construction of the toroid and the resultant saving in weight as compared to the conventional laminated transformers makes this range particularly attractive for compact power supplies and slimline equipment. Weight of conventional laminated transformer of 1 KVA is approximately-12 kg. whereas weight of TOROPOWER toroidal transformer is approximately -7 kg.

NOTE

Twin 115V AC. 50/60Hz primary windings which may be connected in series for 230V or in parallel for 115V operation.

Twin secondary windings may be connected in series or parallel or can be used independently.

Each transformer is supplied with a dished washer, protection pads and nut, bolt and washer for single hole fixing. The pads are to be fitted above and below the transformer winding and the dished washer on top of the upper pad.

Under no circumstances should both ends of the fixing bolt contact a metal chassis or frame as this would create 'a shorted turn' causing irreparable damage.

FEATURES

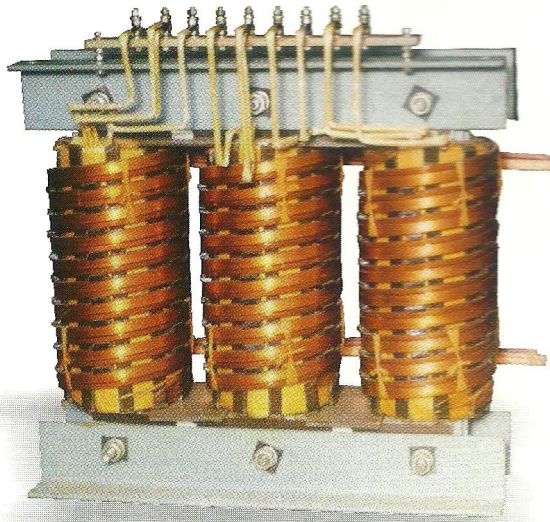
- Dual standard primary winding 115/230V AC.
- Small size and low weight as compared to traditional stacked lamination type transformers.
- Extremely low level of radiated magnetic field.
- Very low induced noise (hum).
- Very low iron loss & magnetizing current & good regulation.
- Double insulated leads.
- Supplied with mounting kit having a single hole mounting arrangement.
- 100% electrical and flash tested.
- High quality manufacturing and testing.

TECHNICAL SPECIFICATIONS

Rated	Regulation	Temp.	Dimensions		Weight
VA	%	Rise°C	Diameter (mm)	Height (mm)	Kg.
1000	9	70	165	85	6.850
500	9	50	165	60	4.650
160	8	50	115	70	2.350
120	6	45	115	45	1.600

Allow 5 mm. extra where leads emerge & for mounting kit.
Dimensions/Data are subject to change without prior notice.

L. V. TRANSFORMERS



BERKSHIRE TRANSFORMER'S range of low voltage transformers comprise of Auto Transformers, Double Wound / Isolation Transformers, Ultra High Isolation Transformers and Custom Designed Transformers.

Berkshire Transformer Transformers are available in open, enclosed, oil cooled models to suit the customers requirements. Insulation class can also be selected by customers as per their requirements.

Berkshire Transformer uses high permeability CRGO Cores and electrolytic copper conductors and non hygroscopic insulating materials to ensure the transformer conforms to the designed parameters.

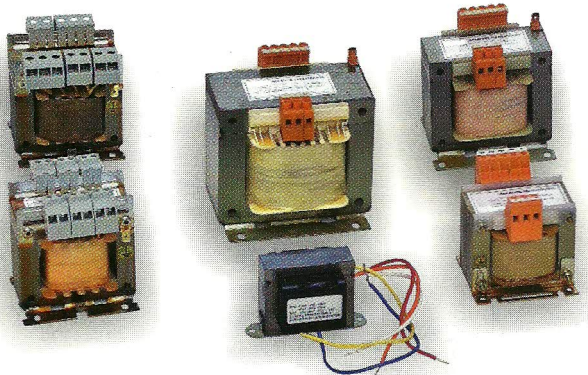
SOME TYPICAL APPLICATIONS :

- 1) Control Panels and Test Benches
- 2) Furnace Control Transformers
- 3) Lighting Transformers
- 4) Mining Transformers
- 5) Motor Starting Auto Transformers
- 6) Rectifier Transformers
- 7) Safety Transformers.

Given below are the upper limits of current and voltage ratings of the Transformers being offered at present.

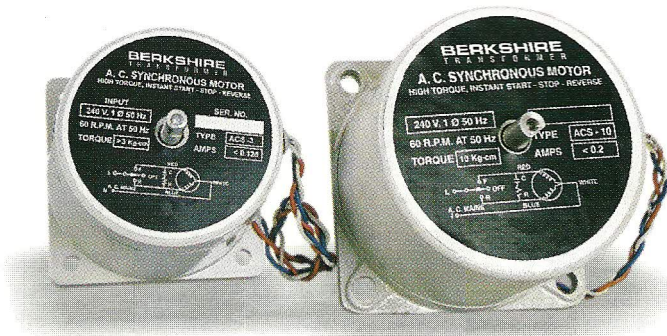
Air cooled transformers are available in open and enclosed models. The enclosed models are supplied in sheet steel enclosures. Louvering is provided for the dissipation of the generated heat. Small transformers up to 10 KVA 1Ph can be provided with wall mounting facility.

Oil cooled transformers are housed in M.S. tanks and provided with adequate pressed steel radiators to ensure proper heat dissipation. Oil cooled units are available with standard accessories viz.: oil level indicator, drainplug/drain valve, earth terminals, unidirectional C.I. wheels, oil fill hole & terminal covers.



	Max. Voltage	Max. KV A
1) Auto Transformer	1100	2500
2) D/W Isolation Transformer	1100	1250
3) Ultra Isolation Transformer	415	300

A. C. SYNCHRONOUS MOTOR



FEATURES

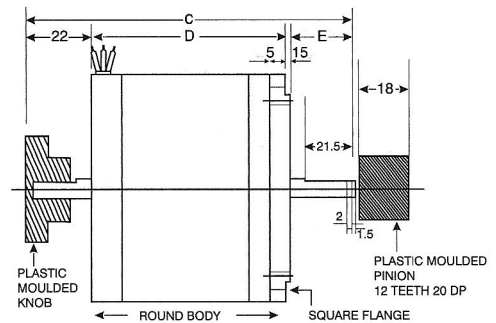
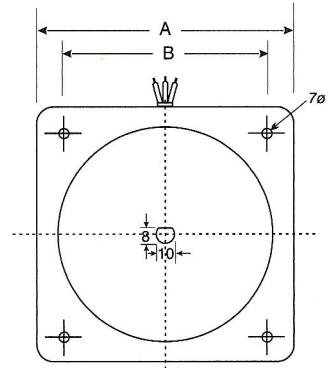
- Permanent magnet A.C. Motor.
- Instant start, stop and reverse characteristics.
- Basic constant Synchronous speed at 50 Hz is 60 RPM.
- Higher torque and reduced speed through gear assemblies.
- Built in overload protection - Motor stops, if overloaded, without burnout.
- Popular choice for precise positioning application.
- Starting, operating and stalling currents are identical.

TYPICAL APPLICATIONS

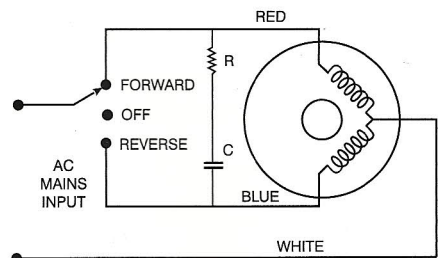
- Servo Voltage Stabilizers.
- D.C. Drives.
- Constant Current Rectifiers.
- Valve Controls.
- Automated Welding Equipment.
- X-ray Scanning.
- Paper Feed.
- Tape dispensers.
- Fluid metering.
- Textile edge guide control.

TECHNICAL BRIEFS

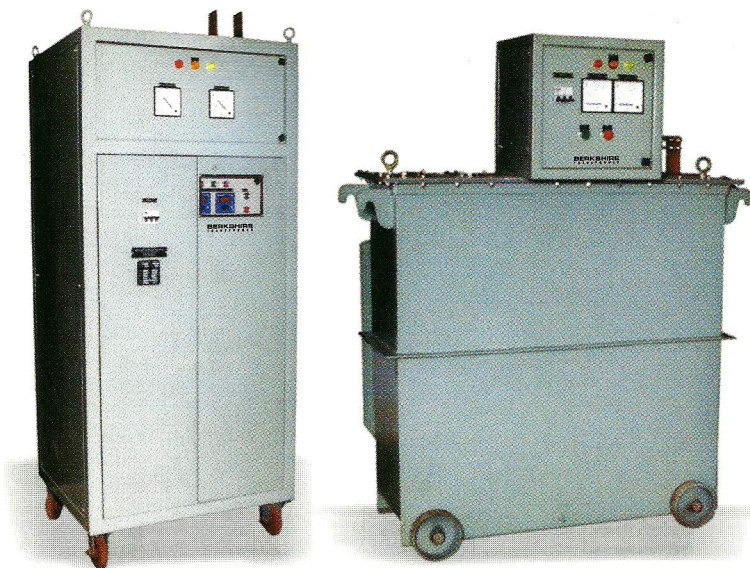
- **BERKSHIRE Motors** are usually operated from single phase source with R.C. phase shifting network. They are essentially two phase motors and do not require phase-shifting network when used with two-phase power supply.
- The speed of the motor is directly proportional to the applied frequency.
- The motor reaches its full synchronous speed typically within 5 to 25 milliseconds.
- The output torque of the motor is linearly proportional to the applied input voltage. For intermittent operation, this characteristic can be used to provide increased torque.
- The use of reduction gears with the motor provides increased torque and decreased speed. Output speed is decreased and torque increased by the factor of the gear ratio used. Gear losses are typically around 10% per mesh.
- Step-down gearing offers even greater gain in inertial load rating since the inertia moving capability increases by the square of the gear ratio.



	ACS-3 3 Kg-Cm	ACS-10 10 Kg-Cm
A	87	108
B	70	86
C	115	125
D	66	76
E	25	28



RECTIFIER UNITS FOR ELECTROPLATING & ANODIZING



A variable voltage D. C. source is required for the Electro deposition process of electroplating, anodizing etc. The various rating of voltages and currents required for the process depends upon the metal to be deposited and process adopted. **BERKSHIRE RECTIFIERS** are designed in standard voltages of 8 V to 24 V in current ratings varying from 100 Amps up to 10000 Amps.

BRIEF SPECIFICATIONS :

A. C. INPUT : Rectifiers are designed to work on 415 V AC 3 ph. 50 Hz. supply and suitable for an input range of 375 V to 450 V. Units of very small capacities namely 8 V/12 V/16 V DC up to 100 Amps rating can also be supplied to work on an input voltage of 240 V AC 1 ph. 50Hz. supply.

D. C. OUTPUT :

The DC output is continuously adjustable from zero to full rated value, from no load to full rated current. All 3 phase units have low ripple of less than 5% and are suitable for all kinds of metal finishing.

MAJOR COMPONENTS :

The units are assembled with high quality materials, and the components are manufactured to relevant specifications as follows :

1) MAIN TRANSFORMERS :

The transformers are of class 'A' insulation. The laminations used are C.R.G.O Silicon steel low loss type. The wound coils are impregnated with oven baked varnish.

I. P. T.

For high current units the transformer secondary is generally double wye, and an I. P. T. wound with copper, is provided on its secondary, to extend the conduction period of windings and diodes.

SILICON RECTIFIER :

The Rectifier is assembled by using silicon diodes, mounted on heat sinks and connected in full wave circuits. Individual R.C. components are used for hole storage protection. The diode assembly is always selected to have at least 40% extra rating above the maximum output current.

REGULATOR :

In order to facilitate voltage variation from zero onwards "**VARIVOLT**" continuously variable auto transformers are used as independent units, or some times, accommodated in the transformer tank. Motorization is provided as an optional feature.

PROTECTIONS AND METERING :

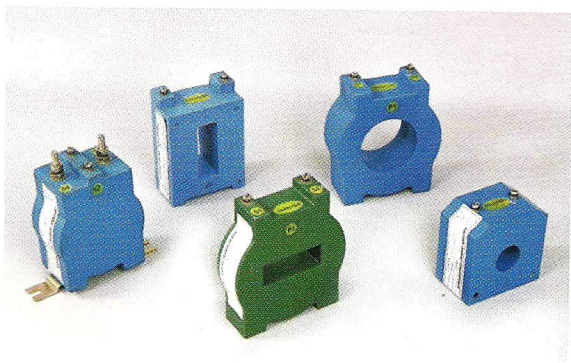
MCB/MCCB protection is provided on the input and 3 fuses are provided on the output of the "**VARIVOLT**" variable auto transformer. 3 pilot indicators are incorporated on the incoming side. 96 sq voltmeter and ammeter with suitable shunts are provided to read the output voltage and currents.

OPTIONAL FEATURES :

Following optional features can be provided.

- I. Remote switching-on by using contactors and bimetal over load relays.
- II. Push button operation by motorization of the "**VARIVOLT**" variable auto transformer.
- III. Constant voltage or constant current features using electronic circuits.
- IV. "**VARIVOLT**" auto transformer with zero start facility.
- V. Timers, time totalizers, ampere hour meters, etc.

LOW TENSION CURRENT TRANSFORMERS



GENERAL INFORMATION

BERKSHIRE Current transformers are made in range of measuring and protection type considering quality, accuracy and reliability as prime factors. BERKSHIRE Current Transformers can be used for metric and imperial size bus-bars.

CONSTRUCTION OF TAPE WOUND/RESIN CAST CURRENT TRANSFORMERS

BERKSHIRE Current Transformers are made from high magnetic performance prime C.R.G.O. Silicon Electrical Steel. The performance of the core is checked to meet final parameters such as ratio, rating and accuracy. The current transformer is finally completed by placing PVC washers on top and bottom and then taped closely with polyester film and polyvinyl chloride tape. Proper lugs are provided on secondary terminals with S1 and S2 markings. For resin cast ct's the wound ct is moulded in epoxy/polyester resin. Anodised/Printed name plate is slipped within outer tape mentioning specifications and P1, P2 direction.

APPLICATIONS :

Suitable for Ammeters, Wattmeters, Power Factor meters and Protective Relays.

IN ADDITION TO THE ABOVE WE CAN OFFER CURRENT TRANSFORMERS TO YOUR REQUIREMENT WITH VARIOUS COMBINATIONS OF RATIOS, BURDEN, ACCURACY CLASS AND TYPE SUBJECT TO TECHNICAL FEASIBILITY.

SUGGESTED BURDEN GUIDE

Moving Iron Ammeters	1.5 VA to 5 VA
Recording Ammeters	2 VA to 10 VA
Recording Thermal Demand Wattmeters	0.7 VA to 1.4 VA
KWH Meters	0.3 VA to 0.6 VA
Thermal Demand Ammeters	3 VA
Thermal Maximum Demand Ammeters	4 VA to 8 VA
Cable 7/029 5 Amp Secondary	0.05 VA/ft.
Cable 7/029 1 Amp Secondary	0.002 VA/ft.

DIRECTIONS FOR USE

- The secondary circuit of the transformer must be grounded. Make sure that secondary circuit is never opened while current is flowing in primary windings, otherwise dangerous high voltage will result. The grounding of secondary circuit eliminates error due to accumulation of electrostatic charges on the instrument.
- Secondary winding should be short circuited and the line voltage should be cut when changing instruments or when not in use.
- For the primary winding, to which the line of voltage is directly applied, use a wire insulated well enough to withstand the specified maximum line voltage.

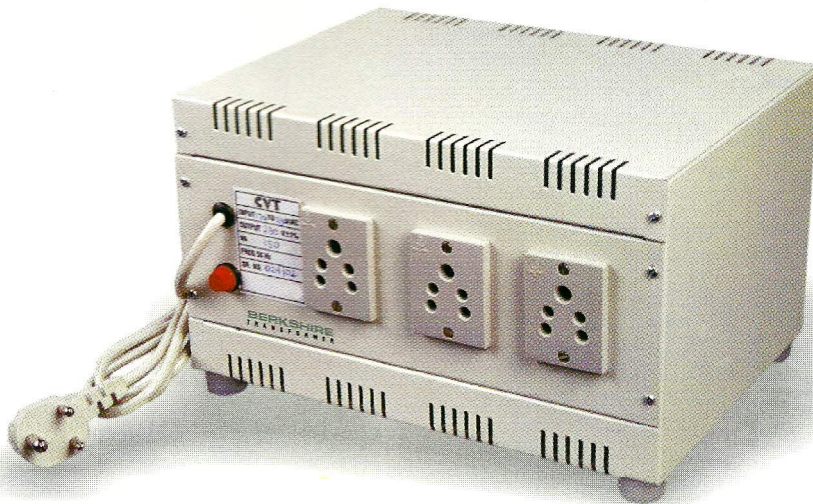


LIMITS OF ERROR FOR ACCURACY CLASSES 0.1 TO 5.0

Accuracy Class	± Percentage Current (Ratio) Error At Percentage of Rated Current					± Phase Displacement in Minutes At Percentage of Rated Current			
	5	20	50	100	120	5	20	100	120
0.1	0.4	0.2	Not Applicable	0.1	0.1	15	8	5	5
0.2	0.75	0.35		0.2	0.2	30	15	10	10
0.5	1.5	0.75		0.5	0.5	90	45	30	30
1.0	3.0	1.5		1.0	1.0	180	90	60	60
3.0				3.0	3.0				
5.0				5.0	5.0				

FERRORESONANT STABILIZER

CONSTANT VOLTAGE TRANSFORMER (C.V.T.)



DESIGN

The AC mains, Powers the input winding which is widely separated physically from the isolated output winding. The input winding normally runs at very moderate Flux linkage levels. The output winding exhibits an intrinsic energy storage characteristic and this energy storage operates in conjunction with the mains capacitor to produce self generated AC flux field which is indirectly excited from the input windings.

RESULT

Instantaneous Voltage regulation. No Transient and Spikes, Sinewave output. A perfect answer and remedy for every electronic equipments voltage problems.

SPECIAL FEATURES

- No semiconductors or moving parts used, hence very high reliability.
- No feedback control used.
- Intrinsic current limiting and short circuit protection.
- Output voltage correction within 1/2 cycle (10 milliseconds) from no load to full load for specified load & line variation.
- Short term over load capacity.
- Energy storage for line loss up to 3 milliseconds at typical load.
- Higher input voltage control range, for loads less than rated load.
- Very high line transient/spike rejection capability and excellent isolation characteristic.
- Output floating, (optional).

SPECIFICATIONS

- Input Voltage 1 phase : 180V-260V (Other choices on request)
- Line Frequency : 50 Hz
- Output Voltage : 220/230 \pm 1%
- Efficiency : 90% (approx) under full load conditions
- Output Wave Form : Sinusoidal
- Wave Form Distortion : 5% (Approx) under full load conditions
- Load power Factor : 0.75% lag to 0.9% lead
- Ambient Temperature : -5° C to 50° C
- Effect of Frequency : 1.6% (approx) change in output voltage for every 1% change in line frequency.

SINETEK VOLTAGE STABILIZER



Voltage fluctuations play havoc with all equipments, especially sophisticated home equipments viz TV, VCR, Air Conditioners, Refrigerators. To fight this menace of fluctuating voltage supply **BERKSHIRE** has developed the Berkshire "**SINETEK**" voltage stabilizer.

Berkshire "**SINETEK**" Voltage stabilizer ensures efficient working and safety of costly household electronic and electrical gadgets, giving you peace of mind and ensuring long undisturbed life of your valuable and costly equipments.

Berkshire "**SINETEK**" Stabilizers can be designed to handle large input voltage fluctuations (i.e.140V to 300V) and will faithfully deliver a steady output voltage of 230V \pm 8%.

WORLD CLASS FEATURES :

- Sleek design.
- Output/Input Status indicator.
- Output Voltage monitor.
- Intelligent time delay system which ensures correct balancing time for the compressor.
- Latest integrated circuit based technology.
- Low/High voltage cut off.
- Built in thermal overload protection.
- Epoxy coated cabinet.

RECOMMENDATIONS :

- Designed to work at 50 Hz input.
- Stabilizers can withstand up to 300 V input.
- Ensure proper earthing.
- Not advisable to install the unit outdoors. Switch off the system when not in use.
- Use quality wiring.
- Ensure recommended load for longer equipment life.
- No user serviceable parts.

PRODUCT APPLICATIONS :

Capacity	Application	Max. current
2 KVA	0.75 ton AC	8.8 A
3 KVA	1 ton AC	13.2 A
4 KVA	1.5 ton AC	17.6 A
4 KVA WR	1.5 ton AC	17.6 A (Working range : 120 V to 290 V)
5 KVA	2 ton AC	22 A
5 KVA Spl. Boost	2 ton AC	22 A (Working range : 135 V to 285 V)

* 1.5 KVA in ABS cabinet is available for 0.5 ton AC.

INTELLIGENT POWER SLASHER



BERKSHIRE TRANSFORMER are launching their latest product "INTELLIGENT POWER SLASHER" in the service of the nation and for the benefit of all consumers of Electrical Energy.

Electrical Energy is costly and cost per unit will be going higher by the day. It is adversely affecting the budget of individuals and industries alike. The need to reduce energy costs are being felt by one and all. **Berkshire** guarantees that by installing their "INTELLIGENT POWER SLASHER" you will have assured reduction in your Electric bill without reducing the number of hours of working of your machinery.

The energy saved by installing "INTELLIGENT POWER SLASHER" not only reduces the electric bill of the final consumer but also reduces the demand for electricity which can be diverted for more productive activities.

Unbalanced and fluctuating voltage not only affects the production but also reduces the life of machines/equipments. A small voltage unbalance of 3% can impact capacity of inductive load by 10%.

"INTELLIGENT POWER SLASHER" ensures optimum use of present energy systems by improving performance and reducing energy costs.

"INTELLIGENT POWER SLASHER" can be used in Households, Industries, Shops, Offices, Hospital, Hotels i.e virtually any where and everywhere. "INTELLIGENT POWER SLASHER" is simple to use and requires negligible maintenance.

"INTELLIGENT POWER SLASHER" understands the power requirements of the customer and adjusts the voltage, current and other electrical parameters to give the user saving between 10% to 35% without compromising on the quality of the power supplied to the equipment. "INTELLIGENT POWER SLASHER" guarantees energy saving for any and every kind of load, subject to the user following some simple rules/norms regarding electrical connection (wiring) of the equipment.

"INTELLIGENT POWER SLASHER" is a combination of electrical and electronic wizardry that ultimately assures reduction in the electrical energy consumed by the user without the user foregoing any end use.

"INTELLIGENT POWER SLASHER" works on unbalanced loads, voltages and delivers balanced output. "INTELLIGENT POWER SLASHER" is easy to install and use. The front facia has a uncluttered, interactive design, for easy operation and is user friendly.

"INTELLIGENT POWER SLASHER" provides a very important and direct benefit to the customer. It reduces the failure rates of all equipments viz. Lamps, heaters, motors i.e it improves uptime of the equipments.

"INTELLIGENT POWER SLASHER" starts paying for itself from the moment it is installed. The payback period varies from 6 months to 2 years depending on the load and the usage of the customer.

"INTELLIGENT POWER SLASHER" assures the user of a long and trouble free performance if used as per the designed capacity and serviced regularly.

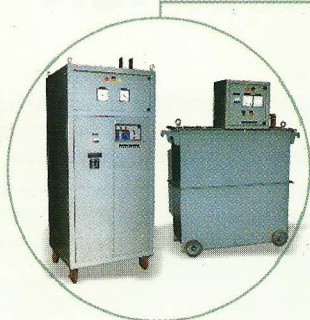
"INTELLIGENT POWER SLASHER" is available in 1 phase and 3 phase models from 1 KVA to 2500 KVA.

SALIENT FEATURES :

- Saving in power between 10% to 35%.
- Works on unbalanced loads and voltages.
- Guarantees saving irrespective of type of load connected.
- Does not require the consumer to reduce his daily use of equipment.
- Life of equipment increases.
- Meantime between failure increase i.e. Uptime of equipment increases.
- Avoids unbalancing of voltage to load.
- Rugged construction.
- Requires minimum maintenance.
- Built to meet customers requirement.
- Increases life of insulation.
- Reduces maintenance costs.
- Adds to productivity.
- Increases reliability.

ADVANTAGES / BENEFITS

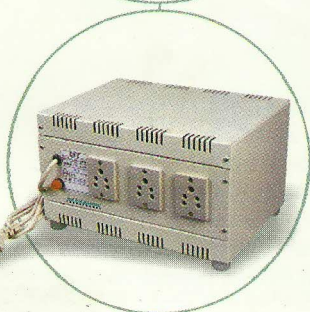
PARAMETERS	OTHERS	INTELLIGENT POWER SLASHER
1. RATINGS	Up to 500 KVA	User specified up to 2500 KVA
2. CONTROL	Voltage	Voltage, Current & PF
3. SYSTEM	Open loop	Closed Loop Individual Phase Control
4. TECHNOLOGY	Transformer	Phase Angle Balancing
5. WAVEFORM	Chopped	Purely sine wave
6. RELIABILITY	No	Yes
7. LIFE	3-4 Years	20 Years
8. MAINTENANCE	Required	Low Maintenance
9. HARMONICS EFFECT	Yes	Partially Controlled
10. RIGIDITY	Uncertain	Rugged Construction
11. P.F.	Changes	Improves
12. EFFICIENCY	Low	High
13. POWER SAVING	Uncertain	Guaranteed up to 35%
14. TYPE OF LOAD	Specific	Any Type of Load
15. APPLICABLE LOAD & SUPPLY	Balanced	Unbalanced



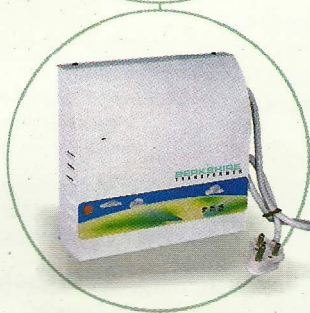
◀ **Rectifier Units For Electroplating
& Anodising**



◀ **Current Transformers (CT)**



◀ **Ferroresonant Stabilizer (CVT)**



◀ **Sinetek Voltage Stabilizer**



◀ **Intelligent Power Slasher**

Berkshire Transformer

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