

K-RATED TRANSFORMERS

3 KVA- 500 KVA

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Our K-Factor transformers are designed to reduce the heating effects of harmonic currents created by nonlinear loads that are present in today's industrial, commercial social or household infrastructures.

Salient Features

- Energy Efficient
- Conductors sized to withstand the selected K-rated loads
- Available up to K-30 rated transformers
- Rated temperature rise conforming to class- B
- Shielded for quality power
- Designed to operate at the rated temperature
- Engineered Core and coil to manage the zero-sequence flux caused by triplen harmonics
- Withstand 100% rated current without overheating the windings or saturating the core
- Quiet operation.

Benefits of K rated transformer

- Conductors capable of carrying the harmonic currents of non-linear loads without exceeding the temperature rating the insulation system.
- A transformer design that considers the increase in naturally occurring "stray" losses caused by non-linear loads. These losses cause standard transformers to dramatically overheat and substantially shorten design life.
- A core and coil design that manages the DC flux caused by triplen harmonics. As these harmonics increase, they cause additional current to circulate in the delta winding. This produces a DC flux in the core which leads to core saturation, voltage instability and overheating.

Applications:

- Call centers & Data centers
- Hospitals
- Educational Institutes
- Industrial/ Manufacturing Units
- Lighting
- Commercial Facilities
- Banking & Finance Organization
- Telecom
- Railways
- Govt. Organizations Including Defense



Selecting a K rated transformer

The K-Factor rating is an index of the transformer's ability to withstand harmonic content generated by different type of nonlinear loads while operating within the temperature limits of its insulating system. The following table shows the K factors applicable for various loads found in the field and use the table to select the K rated transformer required for your site.

| Typical Load K-Factors | |
|---|----------|
| Load | K-Factor |
| Electric discharge lighting | K-4 |
| UPS with optional input filter | K-4 |
| Welders | K-4 |
| Induction heating equipment | K-4 |
| PLCs and solid state controls | K-4 |
| Telecommunications equipment (e.g., PBX) | K-13 |
| UPS without input filtering | K-13 |
| Multiwire receptacle circuits in general care areas of health care facilities and classrooms of schools, etc. | K-13 |
| Multi-wire receptacle circuits supplying inspection or testing equipment on an assembly or production line | K-13 |
| Mainframe computer loads | K-20 |
| Solid state motor drives (variable speed drives) | K-20 |

Technical specifications

| | |
|----------------------------------|---------------------------------------|
| Capacities available | 3 KVA – 500 KVA |
| K- factor | Select as per the load K factor table |
| Input voltage | 415V (any other voltage on request) |
| Output Voltage | 415V (any other voltage on request) |
| Frequency of operation | 50Hz or 60 Hz |
| Phase impedances | 3-4% |
| Input/output configuration | Delta/star or zig-zag |
| Windings | Copper or aluminum |
| Neutral conductor rating | 200% of the rated current |
| Temperature Insulation class | Class -H |
| Temperature rise class | Class -B |
| HV test rating | 2500 VAC |
| Enclosure materials & protection | IP-20, CRCA mild steel |
| Paintings | RAL 7032/7035 or any other |
| Operating temperature | Up to 45 degree |
| Humidity | Up to 90% RH, non-condensing |
| Reference standard | UL-1561 IEEE- C57-110 IS-11171 |

Alternatively, as load a rule of thumb, the following can be very useful when selecting a transformer for a given facility:

- If 0% electronic load, 100% electrical load – standard (K-1 rated) transformer
- If 25% electronic load, 75% electrical load– K-4 rated transformer
- If 50% electronic load, 50% electrical load – K-9 rated transformer
- If 75% electronic load, 25% electrical load- K-13 rated transformer
- If 100% electronic load, 0% electrical load – K-20 rated transformer

Technical Support

Our inhouse sales and engineering teams are available to answer you immediately on selection of right transformer for your application. They are technically trained and can answer most questions on the phone. Drawings, documentation, expediting, quotations or technical information are always readily available. Our commitment to sales support is paramount and it means you will be an informed, relaxed, and satisfied customer as quickly as possible. Call our sales team or mail us at info@livelineindia.com or visit our website.



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All information contained in this brochure are subject to change without prior notice.

Our systems are manufactured in an ISO9000 & 14000 certified plant.

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Doc no : LL/KFT/C/20-21/Rev-0