



Application Alley

Medical Applications

Why Standex Electronics for Medical Applications?

Custom and standard products: Innovative, safety first, complete solutions

The need for innovative ways to diagnose and treat human illness drives the demand for better medical systems and equipment. These new medical instruments and systems require suppliers of electronic components to improve what they do and how they do it. With an expert engineering staff and cutting edge manufacturing capabilities, Standex is uniquely positioned to provide manufacturers of medical equipment with exactly what they need.

A broad range of standard and custom products for medical applications are available. Standex reed switches, reed relays, and transformers are widely applied in medical instrumentation, surgical instrument systems, hospital equipment, hospital call systems, and large scale diagnostic equipment such as MRI systems and CT scanners.

Why Standex for Custom Components?

Design engineers rely on Standex to provide custom transformers, power supplies, and electronic components. We can supply value-added features like molding, connectors, and complete shelf-ready assemblies, which shorten manufacturing time and costs. Our capabilities and solutions allow us to be your one-stop comprehensive resource.

- Magnetic reed switches for non-contact position sensing for hearing aids
- High-frequency custom transformers for MRI and High Definition (HD) video imaging
- High-frequency, PC-mount transformers
- Dental lighting
- High-current, high-frequency, common-mode

choke

- Current sense transformers for surgical and procedure tables
- High-frequency, high-current magnetics
- Surface mount high-frequency transformers
- Surface-mount insert-molded power inductors for dental chair
- Self-supported air windings for antenna and other RF (radio frequency) applications

Why Standex for Reed relays, switches and transformers?

- Validate components in an in-house test lab
- Components meet tight performance characteristics
- Electrosurgical generators
- Portable defibrillators
- Electronic scalpels
- Power transformers for MRI, CT scanning systems, and surgical imaging systems
- Global manufacturing presence that can save time and money

Applications: Reed relays, reed switches, and power transformers

Reed relays provide physical isolation to the switched load, switch within 1 to 3 milliseconds, and provide superior isolation ($1 \times 10^{10} / 1 \times 10^{12}$ ohms), and also high breakdown voltages as required. Switching in some medical applications requires switching voltages at the microvolt level and special reed relays and sensors are available that accurately accomplish this with little or no thermal offset voltages.



Electrosurgical Generators

Among the many modern instruments are surgical generators used as electronic scalpels. Obtaining the best possible cutting and cauterizing result requires a high current and voltage typically applied at 0.5 MHz to 2 MHz. There is only one switching technology that can be considered to handle the high frequency, high current, and high voltage in a reliable manner - reed relays. Because high frequency current travels on the outside (skin) of its conductor, care has to be taken with potential excess heat buildup. To remedy this concern, copper plated reed switches are used which will help dissipate the heat.



Portable Defibrillators

Every year thousands of lives are saved by using portable defibrillators if the heart stops beating. They are battery operated so the electronics chosen to run the charging circuit must use low-average power. Standex's high voltage reed relays have been selected to be directly used in the high voltage

charging circuit, and our special BE series design meets these requirements.

Power Transformers

Power transformers are applied broadly in medical systems and equipment such as MRI machines, CT scanning systems, and surgical imaging systems. They provide primary power and protection of the critical electronics of these systems while also preventing external electrical surges.

Component Corner (Expert Insights)
Mark Faulhaber, Director of Engineering
Standex Electronics

“ When a major medical manufacturer needed large toroidal transformers in a hurry they turned to Standex Electronics. Previously they had been purchasing them from another supplier but when that company went through a financial reorganization they were in short supply. We leveraged our engineering capabilities, manufacturing experience, and financial resources to quickly produce larger transformers that delivered to our customer's needs. Problem solved. ”

Find out more about our ability to propel your business with our products by visiting www.standexelectronics.com or by giving us a hello@standexelectronics.com today! One of our engineers or sales leaders will listen to you intently.



About Standex Electronics

Standex Electronics is a worldwide market leader in the design, engineering, and manufacture of standard and custom electro-magnetic components, including magnetics products and reed switch-based solutions.

Our magnetics offerings include planar, current sense, and conventional low- and high-frequency transformers and inductors. Reed switch-based solutions include Meder, Kent, and KOFU brand reed switches, as well as a complete portfolio of reed relays, and a comprehensive array of fluid level, proximity, motion, water flow, HVAC condensate, hydraulic pressure differential, capacitive, conductive and inductive sensors.

We offer engineered product solutions for a broad range of product applications in the transportation, automotive, medical, test and measurement, military and aerospace, aviation, HVAC, appliance, security and safety, and general power and industrial markets.

Standex Electronics has a commitment to absolute customer satisfaction through a partner, solve, and deliver approach. With a global organization that offers sales support, engineering capabilities, and technical resources worldwide – we implement customer driven innovation that puts the customer first.

For more information on Standex Electronics, visit us on the web at standexelectronics.com.

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