INDUCTIVE COMPONENTS

User Instructions

Isolation Transformer for Medical Applications

Type: Isolation Transformers **REOMED** 300VA; **REOMED** 600VA; **REOMED** 1000VA

CE

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Contents

1.0 Safety Instructions

The following instructions are provided for the personal safety of the operating personnel and the protection of the described products and also any attached devices.

Warning!
Hazardous Voltages.
Failure to observe these instructions can cause death, serious injury or damage to equipment.

Isolate mains supply before installing, uninstalling, fuse replacement or system changes.
Observe accident prevention and safety regulations that apply specially to the application.
Before start-up check whether the rated voltage of the equipment agrees with the local mains voltage.
Use of the equipment in highly inflammable or combustible environments is prohibited.
The penetration of water into the equipment can cause fire and electrical shock hazards to occur.
No vases or water filled containers are to be placed on the equipment.
Select a safe location for the equipment.

Before start-up of the equipment the operating instructione must be read and applied correctly.

WARNiNG:

UNDER NO CIRCUMSTANCES MUST OTHER SUPPLY VOLTAGES AND FREQUENCIES BE CONNECTED AND APPLIED TO THE EQUIPMENT.

1.1 Technical Description

Toroidal core transformers for the medical industry with multiple output sockets (to suit local requirements), in a sturdy metal housing with a starting current limiter and primary micro fuses (L+N).

Product features:

⇒ Sturdy metal housing
⇒ Leakage current < 500 μA
⇒ Short-circuit and overload protected
⇒ Built-in thermal sensor
⇒ Fused primary side
⇒ ON/OFF – Switch
⇒ Switch-on current limiter – either electronic or MCB
⇒ Optional over voltage protection and mains filter
⇒ 2m mains cable with plug and cold connector
⇒ Proof of conformance: Product Class I
⇒ "Cold connection" secondary output sockets (IEC320)
⇒ Conformance with EN 60 601 (Medical Safety Standard)
⇒ Conformance and test report according to Regulations for Medical Products 93/42/EWG
⇒ Technical Data (Appendix)
⇒ Guidelines and Manufacturer's Declaration (Appendix)

1.2 Intended Use

For use with medical electrical devices and non-medical electrical devices in patient environments and/or areas for medical use, to provide safe galvanic separation between primary and secondary (double and strengthened isolation), a very low leakage current and the required strict air and leakage clearances, by using a special, toroidal-core insulating transformer, according to the EEC guidelines for medical products 93/42/EWG. The equipment fully complies with the specified electrical limit values for the employment in patient environment and/or in areas for medical use. The equipment also fully complies with the strict requirements for a very small leakage, as well as a reduction of the sum of the leakage currents for several single devices in a power supply circuit, in a patient environment and/or in areas for medical use.

To provide a method of connection of combinations of medical electrical devices and not-medical electrical devices in the patient environment and/or in areas for medical use the equipment the medically electrical devices and/or the not-medical electrical devices, according to the EEC guideline for medicine products 93/42 EEC (e.g.: electrical data processing accessories such as PC, screen, printer, plotter, interfacing with medically electrical devices as well as video devices, diagnostic and monitoring cameras, diagnosis -, measuring and testing sets and their combinations as well as many other devices).

1.3 Operating Instructions:

Please check whether a safe mains connection has been made and that the whole is system is switched (OFF), before further devices are plugged into the output sockets of the equipment. Please double check the earthing connections for the mains input socket of the REOMED unit.

Make sure that all devices are in the switched (OFF) condition, before these are connected to the REOMED unit. Please check the output voltage of the REOMED and confirm that the devices will operate correctly at this voltage. Additionally the isolating transformer has a standard earth connection (POAG plug for equi-potential earth connection according to DIN 42801), which can be used for connection to appropriate equi-potential earthing equipment terminals. The insulating transformer can then be connected to other medical instruments, providing these comply with the Medical Safety Standard EN 60601-1.

Next connect the required devices to the REOMED (output sockets). When the REOMED is switched on there will be power at the output sockets. The devices connected with the REOMED can now be switched on (please observe all regulations and requirements for the input and connection cables) for the inlets and connecting cables), check also that all input and output cables are fully restrained and securely terminated. .

The total power of the REOMED corresponds to the sum of the individual devices connected to the output sockets and are used simultaneously. It is most essential to check that the total output power does not exceed the total rated power, which is stated on the rating label of the equipment. The relevant rating data for the series of REOMED transformers can be found in a table below.

When overloaded the REOMED isolation transformer switches off automatically. overloaded switches off these. When the temperature of the isolation transformer cools to 55°C cooled down it can resume operation.

Note: Only for devices with NTC's as starting current limiters
After switching the equipment off, a "waiting period" of approximately 1 minute is recommended before switching on again, otherwise the fuses may blow or the circuit breaker may trip.

- **Fuse changing:**
  Switch off the equipment and remove the mains cable!
  Remove the fuse-holder cap using a fine screwdriver.
  The faulty fuse can now be removed and replaced.
  Ensure that the fuse is correctly rated depending on the voltage setting.
  Use only Type TT fuses.

- **Mains voltage setting (for switchable versions only):**
  Switch off the equipment and remove the mains cable!
  For 300VA units the voltage can be changed in the base, between 115V/230V with a screwdriver.
  For REOMED 600VA and 1000VA use the mains selector above the mains switch.
  After removal of the fuse holder (see fuse changing) the voltage selector can be removed from its holder and replaced after the required voltage has been selected (readable externally).
  Attention: Check the fuse values after changing switch settings!

- **Cleaning:**
  Before cleaning remove the mains cable.
  Use a damp cloth to clean the equipment. Do not use a liquid cleaner or sprays.

- **Water and Liquids**
  Do not use the equipment in the vicinity of water e.g. near sinks, wash basins, baths, or in a damp cellar.

- **Routine inspection:** The equipment is maintenance free

- **Technical safety inspection:**
  At least every 24 months a visual inspection should be made to ensure that there is no damage to the mains cables or housing and also the earth connections and lerakage current should be measured and recorded.

1.4 Transportation, Storage and Disposal

- The following conditions apply for transportation and storage times of up to 15 weeks

Temperature:	- 10°C	... + 50°C
Relative Humidity:	10%	... 90%
Air Pressure:	500hPa	...1060hPa
and for operating conditions		
Temperature:	+ 10°C	... + 40°C
Relative Humidity:	30%	...75%
Air pressure:	700hPa	...1060hPa

Store in original packing in a closed or attic room (damp proof!) The equipment must not be subjected to strong vibration.

Disposal

Packaging is made from recyclable materials.

Metal equipment parts should be disposed of through a metal recycling centre

Plastics, electrical components and printed circuit boards should be disposed as electronic waste.

Disposal must comply with local nation current regulations.

Appropriate disposal enterprises are to be consulted.

Please check with your town or general waste collection centres regarding local regulations.

1.5 Model Versions:

Model	Item Number + Option	Power (VA)	Supply Voltage (V)	Output Voltage (V)	Output Current (A)	Fuse Rated Current (A)
REOMED 300	65B5166Axx	300	115/230	230	1,30	T3,15/T1,60
REOMED 600	65B5167Axx	600	115/230	230	2,60	T6,30/T3,15
REOMED 1000	65B4132Axx	1000	115/230	230	4,35	T10,0/T5,0
REOMED 300	65B5008Axx	300	230	230	1,30	T1,60
REOMED 600	65B5064Axx	600	230	230	2,60	T3,15
REOMED 1000	65B5088Axx	1000	230	230	4,35	T5,00
REOMED 300	65B5161Axx	300	115	230	1,30	T3,15
REOMED 600	65B5162Axx	600	115	230	2,60	T6,30
REOMED 1000	65B5163Axx	1000	115	230	4,35	T10,0
REOMED 300	65B5252Axx	300	115	115	2,60	T3,15
REOMED 600	65B5253Axx	600	115	115	5,20	T6,30
REOMED 1000	65B5254Axx	1000	115	115	8,70	T10,0

xx = Option:				
	-10	NTC	-01	Transient protection
	-20	NTC + Timer Relay	-02	EMC Filter
	-30	NTC + Disconnector	-03	Transient Protection + EMC Filter
	-40	NTC + Timer Relay + Disconnector		
	-50	Electronic switch-on current limiter		

Example - Option: 65B5166A23 NTC + Timer Relay + Transient protection + EMC Filter

Switch-on current limiter – option

The REOMED units can be fitted with either an NTC (Negative Temperature Coefficient Resistor) or an electronic switch-on current limiter. With the NTC It is important to allow a pause between switching the equipment off and back on again.

Equipment input cable and device output cables

Input: The mains supply cable supplied with the equipment is provided for connection to the mains supply network (mains socket).

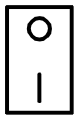
Output: All equipment connection cables must meet the relevant standards and regulations of the country in which the REOMED is used e.g. UL/CSA/VDE/SEMKO/CHAR etc. In the USA and Canada a special cable is necessary for use in hospitals. All cables must have a protective earth connection (3-pin!).

Safety accessories:

The REOMED series has been tested under strict safety conditions. The fuses in the primary circuit protect the REOMED against overload and short-circuit. If fuses other than those specified used, then this could expose patients or personnel to danger if they are connected to the equipment and also connected devices could be seriously damaged. The fuses must be UL/CSA approved for use in the North American market and VDE/CEn approved for the European market. Please use only super+slow-acting micro fuses (TT marking) for the REOMED. The original equipment is supplied with spare Class G fuses.

DO NOT USE FUSES WITH HIGHER CURRENT RATINGS !

1.6 Symbols**:**



O = Mains ON I = Mains OFF

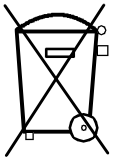
Equi-potential

Earth Connection

AC Current

F **Fuse**

T **Delay Fuse**



Not domestic rubbish

CE **Conformity Sign**

Attention: Read accompanying documents

RQS **REO-Quality Mark (Serial number)**