Product overview

IT system distribution cabinet for medical use areas

Design the future of energy

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Safe and standard-compliant power supply for medical areas

A reliable and secure power supply is essential in areas of room group 2 used for medical purposes. According to IEC 60364-7-710/HD 60364-7-710/ DIN VDE 0100-710, it must be unearthed, i.e. insulated against earth (medical IT system). The IT system distribution cabinets used for this purpose must contain all components necessary for safe and reliable operation:

- Isolating transformer
- Changeover device (optional)
- Overcurrent protective device / circuit breaker
- Insulation monitoring device
- Automatic insulation fault locator system (recommended according to standard)
- Bypass (recommended in conjunction with a changeover device)

In this brochure, we present the various complete solutions for distributors that are used in different areas of hospitals, clinics, or medical care centres. These are available for operating theatres, intensive care units and other medical areas. The complete solutions are ideal wherever installation costs need to be kept to a minimum while at the same time ensuring high operational reliability, rapid commissioning and low maintenance and life cycle costs.

Medical IT system

Each medically used area of room group 2 must have at least one medical IT system. This is the only way to ensure that an initial insulation fault in a device or in the installation does not lead to the power supply being cut off.

Distributor for medical use areas in Group 2

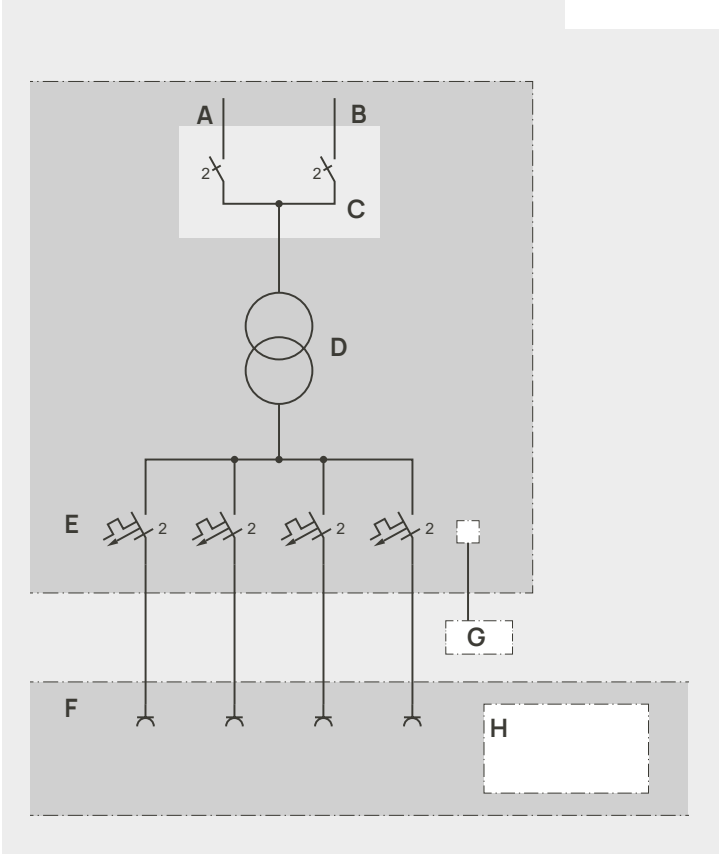
Distributors of medical IT systems have significantly more components than distributors in industry. They must also be located in the immediate vicinity of the Group 2 area, be easily accessible, clearly arranged and easy to maintain.

Changeover process

For many areas of the power supply, outages of any duration are tolerated. In areas of room group 2 used for medical purposes, a power failure is unacceptable. Therefore, they require two independent power sources and an automatic switchover device.

Insulation fault locator system (EDS)

The larger a medical IT system is, the more power circuits or consumers are connected, the more difficult and, above all, time-consuming it is to locate faulty circuits or consumers. An insulation fault locator solves this problem by automatically locating the insulation fault during operation.



Schematic diagram of a medical IT system

A	Preferred supply line IT system
B	Redundant supply line IT system Emergency power supply
C	Automatic changeover process with insulation monitoring
D	IT system transformer up to 8000 (10000) VA
E	2-pole protection of the final circuits
F	Sockets with voltage indicator and labelling
G	Additional equipotential bonding (ZPA)
H	Visual and audible notification of operating and fault messages

Distributor for various medical fields

Operating theatres
Every operation must be completed without interruption, regardless of its duration. Any initial faults in the power supply must not lead to an interruption of the current operation. Such errors should be corrected as soon as possible **after** completion of the operation.

A distributor with an isolating transformer and insulation, temperature and load current monitoring is therefore required for the medical IT system in an operating theatre. In many countries, an upstream changeover device is also required.

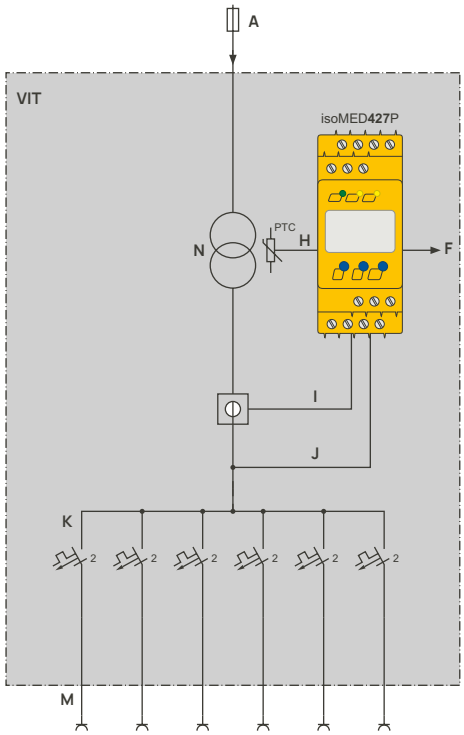
Intensive care units and other areas with 24/7 use
As intensive care units must be available around the clock, it is usually not possible to switch off the power supply. In the event of an electrical fault, the power supply cannot be switched off for troubleshooting purposes.
Therefore, the control cabinet for the intensive care unit requires an addition that automatically indicates initial faults in the electrical installation or in the devices used and identifies the relevant circuit so that faulty devices can be quickly removed.

Typically, IT system distributors for intensive care units include a switchover device, isolation transformer, insulation, temperature and load current monitoring, as well as a device for insulation fault detection and a bypass.

IT system distribution cabinet VIT

This distributor meets the minimum requirements for power supply in Group 2 medical rooms. In addition to the isolating transformer and the circuit breakers, it contains an ISOMETER® insulation monitoring device for insulation monitoring with integrated load and temperature monitoring of the isolating transformer.

Suitable for medical rooms that are not occupied by patients 24/7.

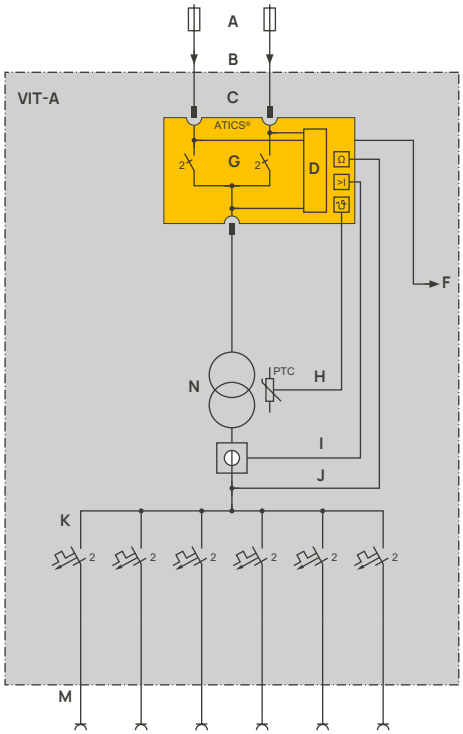


A	Protection against short circuit only
F	Bus output for panels and alarm indicator and test combinations
H	Temperature monitoring in the transformer
I	Current monitoring for the medical IT system
J	Insulation monitoring for the medical IT system
K	2-pole protection of the final circuits
M	Sockets with voltage indicator and labelling
N	Transformer 3150…8000 (10000) VA

IT system distribution cabinet VIT-A

This distributor meets the minimum requirements for an uninterruptible power supply for Group 2 medical rooms. It **also** includes an ATICS® changeover device for uninterrupted operation in the event of a failure of the general power supply, as well as an integrated ISOMETER® for insulation, load and temperature monitoring of the isolating transformer.

Suitable for operating theatres, emergency rooms and all other rooms that are not occupied by patients 24/7.

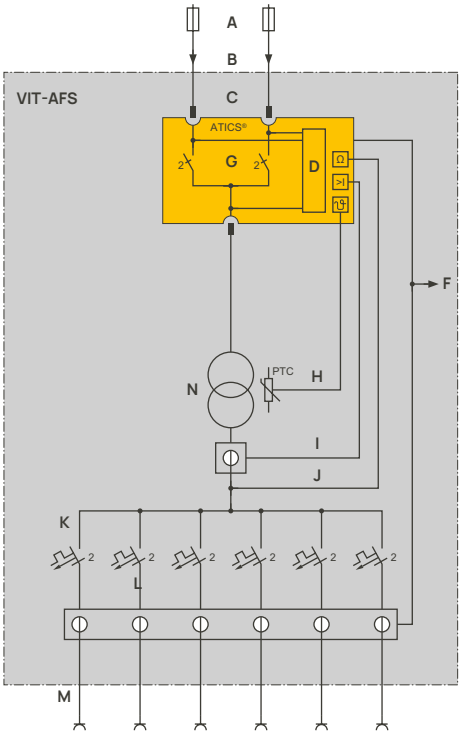


A	Protection against short circuit only
B	Power supply via two independent power sources
C	ATICS® changeover and monitoring device
D	Triple voltage monitoring
F	Bus output for panels and alarm indicator and test combinations
G	Changeover control
H	Temperature monitoring in the transformer
I	Power monitoring for the medical IT system
J	Insulation monitoring for the medical IT system
K	2-pole protection of the final circuits
M	Sockets with voltage indicator and labelling
N	Transformer 3150…8000 (10000) VA

IT system distribution cabinet VIT-AFS

This distributor is the **basic equipment** for a secure power supply in intensive care units operating 24/7. The integrated automatic fault-finding device ensures rapid fault localisation during operation when a large number of medical devices are connected. In operating theatres, fault localisation improves electrical safety through rapid and targeted fault detection. This saves time and increases system availability. This also enables 24/7 operation.

Suitable for operating theatres, intensive care units, intermediate care units and others.

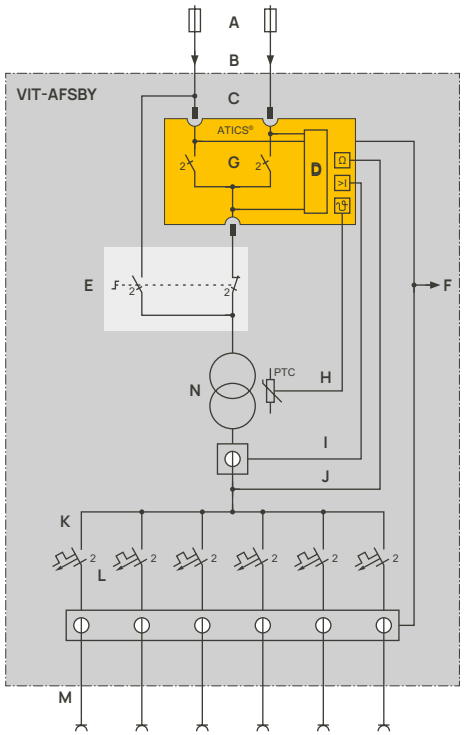


A	Protection against short circuit only
B	Power supply via two independent power sources
C	ATICS® changeover and monitoring device
D	Triple voltage monitoring
F	Bus output for panels and alarm indicator and test combinations
G	Changeover control
H	Temperature monitoring in the transformer
I	Power monitoring for the medical IT system
J	Insulation monitoring for the medical IT system
K	2-pole protection of the final circuits
L	Insulation fault location device with LED display per channel
M	Sockets with voltage indicator and labelling
N	Transformer 3150…8000 (10000) VA

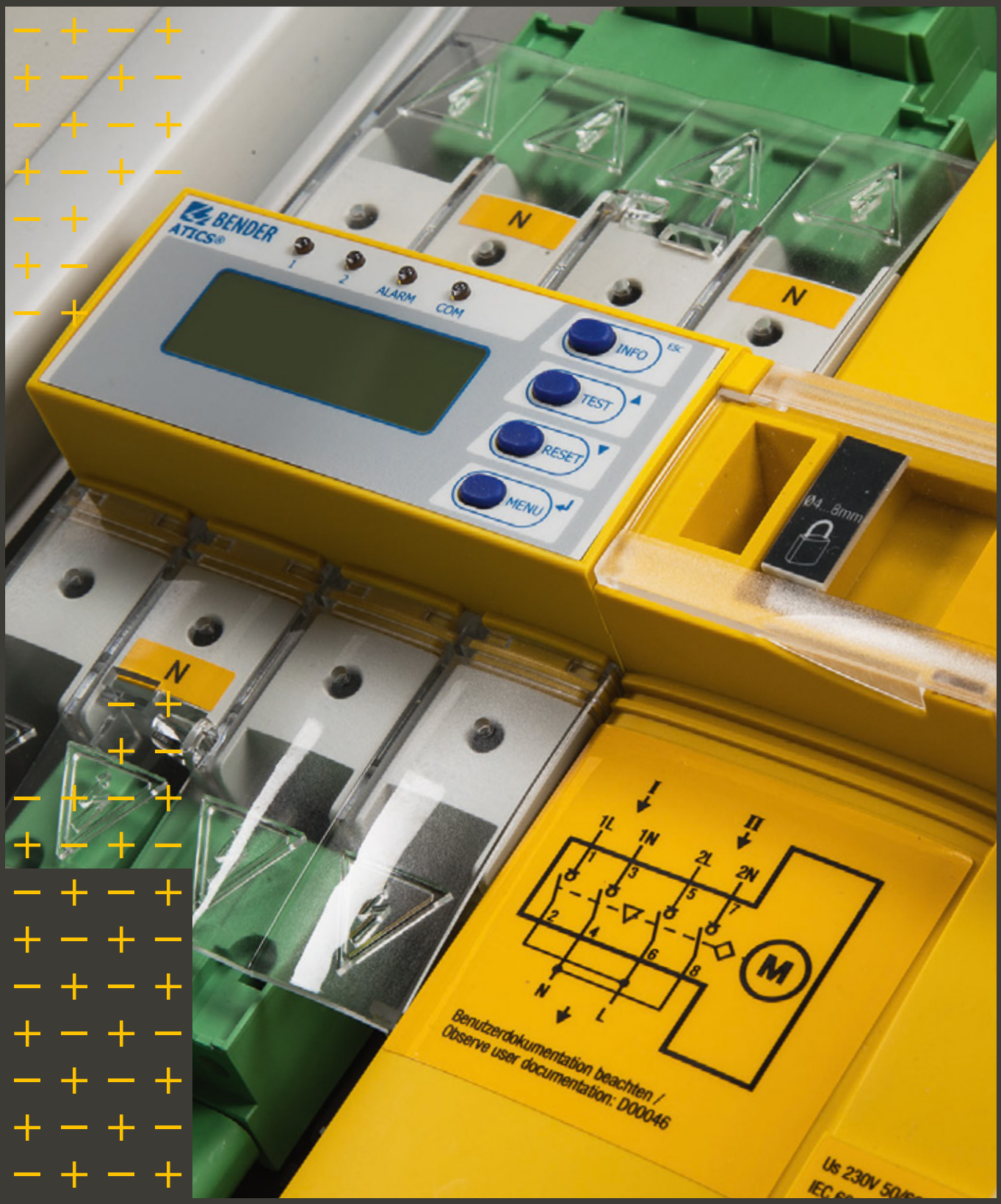
IT system distribution cabinet VIT-AFSBY

Maximum electrical safety for intensive care units. Fault localisation is supplemented by a bypass that enables uninterrupted operation of the intensive care unit even during servicing.

Suitable for operating theatres, intensive care units, intermediate care units and other rooms that are in constant use.



A	Protection against short circuit only
B	Power supply via two independent power sources
C	ATICS® changeover and monitoring device
D	Triple voltage monitoring
E	2-pole bypass circuit
F	Bus output for panels and alarm indicator and test combinations
G	Changeover control
H	Temperature monitoring in the transformer
I	Power monitoring for the medical IT system
J	Insulation monitoring for the medical IT system
K	2-pole protection of the final circuits
L	Insulation fault location device with LED display per channel
M	Sockets with voltage indicator and labelling
N	Transformer 3150…8000 (10000) VA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The path to your IT system distribution cabinet

The planning of IT system distributors varies greatly depending on the hospital/medical facility and individual requirements. Bender offers distributors in every configuration and caters to your requirements. The product key below provides an overview. Our staff will be happy to assist you in configuring your IT system distribution.

You can find your personal contact person here:
www.bender.de/en/contact/bender-worldwide/

Product key according to individual configuration

V													Distributor
	IT												medical IT system
			A										ATICS® changeover and monitoring device
				FS									Insulation fault detection system, EDS
					BY								Bypass switch
							1						Number of fields (distribution width): 1 (374 mm); 2 (624 mm); 3 (874 mm)
								12					Number of rows (distributor height): 12 (1925 mm); 14 (2225 mm)
									S				Base (base height 100 mm)
											6300		Transformer power VA
												12	Number of circuit breakers
												P	individually planned
V	IT	-	A			-	1	14	S	-	8000	6	Example configuration

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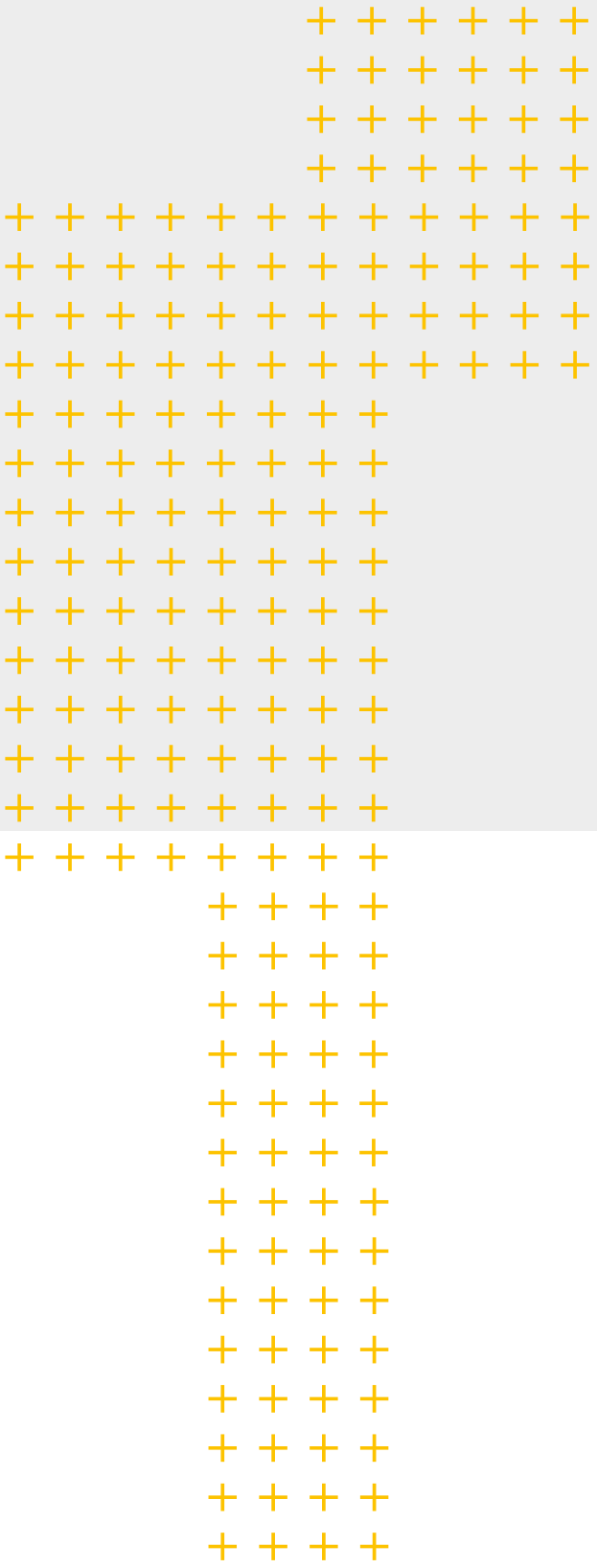

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