IMED Secure®

IT-power supply
for medically
used rooms

"ELECTRICAL SYSTEMS FOR MEDICALLY USED AREAS HAVE TO BE PLANNED, MOUNTED AND OPERATED IN SUCH A WAY, THAT THE SAFETY OF THE PATIENTS IS NOT ENDANGERED BY ELECTRICAL INFLUENCES, NEITHER AT MEDICAL INTERVENTIONS, EXAMINATIONS AND TREATMENTS NOR AT THEIR STAY IN THESE AREAS."
(VDE 0100-710, IEC 60364-7-710)

Monitoring of IT-power supplies in medically used areas

The standards include both clear requirements to the specific functions of a power supply for medically used rooms and requirements to the monitoring, operation and alarm functions of the system. The requirements are valid for hospitals as well as for doctor's offices, medical research areas and animal hospitals.

Following criteria have to be met:

- **Monitoring of the isolating transformer regarding load, insulation and temperature**
- **Optical and acoustical signaling devices to display different operating conditions**
- **Safe voltage supply via redundant network with automatic switch in the case of errors**
- **Upstream connected, battery-buffered power supply system to avoid voltage interruptions >0,5 sec in the event of a switch**
- **Selective monitoring of the output circuits regarding overload, short-circuit and insulation faults**

IMED Secure® system components

MANDATORY COMPONENTS ACC. VDE-0100-710, RESP. IEC 60364-7-710

TrafoGuard TG-0109

SwitchoverUnit SU-0109

AlarmPanel APO-0109 or API-0111
Optical and acoustical display of operating conditions

RECOMMENDED ADDITIONAL COMPONENTS

IsoLocator IL-0109
Selective monitoring of the output circuits regarding insulation faults

GateWay GW-0109
Interface to transfer status notifications to the technical center

IMED Secure® system components

IMED Secure® cabinet

The IMED Secure® cabinet contains all described modules, completely wired together and pre-configured.
Only the cables for the supply lines and supply circuits have to be connected to the terminals.

Features:

Switchboard cabinet Cubic AS or Stiebel Eltron
SwitchoverUnit SU-0109
TrafoGuard TG-0109
IsoLocator IL-0109
GateWay GW-0109
Isolating transformer $IMED_h$
Load contactors for supply lines
Circuit breakers and load switches for supply lines and output circuits
Sensors and signaling devices
AlarmPanel APO or API

Dimensions:
W x H x D 1008 x 2040 x 240 mm (standard)
wiring area on the side

New in the product range:

Slim-line version

W x H x D 579 x 2018 x 220 mm
wiring area on the top

IMED Secure® TrafoGuard TG-0109

This module provides following functions:
Monitoring of the IT transformer regarding temperature, load and insulation. Additionally an insulation fault, occurred in the output circuits, is not selectively detected.

Features:

- OLED display
- Graphic display of insulation, temperature and load current values
- User-friendly menu navigation and programming of pre-alarm and alarm levels, time delays as well as individual alarm text messages
- Language selection
- Green LED signalizes normal condition
- Yellow LED signalizes alarm condition
- Acoustical alarm with acknowledgement function
- Communication via N-CAN bus with other IMED Secure® components
- Programming via web browser possible
  (only in connection with IMED Secure® GateWay GW-0109)
- Communication with the technical center
  (only in connection with IMED Secure® GateWay GW-0109)
- Designated for 35 mm DIN rail mounting

IMED Secure® SwitchoverUnit SU-0109

This module provides following functions:
Automatic switchover unit to ensure a redundant power supply. In total 3 supply lines can be configured. If the main line fails the unit automatically switches to an alternative supply line within less than 0,5 s. Before switching back to the main line the SwitchoverUnit verifies, if it is stable again.

Features:

- OLED display
- Graphic display of the available supply lines and their statuses
- User-friendly menu navigation and programming of thresholds, switch delays as well as individual alarm text messages
- Language selection
- Green LED signalizes normal condition (IT-mains status)
- Yellow LED signalizes alarm condition (supply failure)
- Acoustical alarm with acknowledgement function
- Communication via N-CAN bus with other IMED Secure® components
- Programming via web browser possible
  (only in connection with IMED Secure® GateWay GW-0109)
- Communication with the technical center
  (only in connection with IMED Secure® GateWay GW-0109)
- Designated for 35 mm DIN rail mounting


CERTIFICATE
No. Z1 13 10 82937 002
Holder of Certificate: Noratel AS
Production Facility(ies):
Certification Mark:
Product: Power supply equipment
Model(s): IMED Secure
Parameters:
Tested according to:
Test report no.:
Date, 2013-10-22
Page 1 of 1


CERTIFICATE
No. Z1 13 10 82937 001
Holder of Certificate: Noratel AS
Production Facility(ies):
Certification Mark:
Product: Electronic measuring equipment
Model(s): TrafoGuard, IsoLocator, SwitchoverUnit, Gateway
Parameters:
Tested according to:
Test report no.:
Date, 2013-10-22
Page 1 of 1

THE IMED SECURE® COMPLETE SYSTEM WAS SUCCESSFULLY TESTED AND APPROVED FROM TÜV SÜD REGARDING THE COMPLIANCE WITH THE RELEVANT STANDARDS.

OUR PRODUCTION PLANT IS CONTROLLED FROM THE RELEVANT AUTHORITIES.

THEREWITH WE ENSURE THE CONSTANT HIGH QUALITY STANDARD YOU MAY EXPECT FROM A NORATEL PRODUCT.

IMED Secure® IsoLocator IL-0109

This module provides following functions:
Selective-simultaneous monitoring of up to 16 output circuits of an IT power supply.
Detects leakage currents < 0.5 mA.

Features:

OLED display
Graphic display of insulation faults and naming of the faulty circuit
User-friendly menu navigation and programming of warning levels, thresholds, time delays as well as individual alarm text messages
Language selection
Green LED signalizes normal condition
Yellow LED signalizes insulation fault
Acoustical alarm with acknowledgement function
Communication via N-CAN bus with other IMED Secure® components
Up to 16 units can be cascaded (256 channels)
Programming via web browser possible (only in connection with IMED Secure® GateWay GW-0109)
Communication with the technical center (only in connection with IMED Secure® GateWay GW-0109)
Designated for 35 mm DIN rail mounting

IMED Secure® GateWay GW-0109

This module provides following functions:
Web-based programming unit and interface for the administration of IMED Secure® components.
Status notifications are transferred to the technical center with the aid of the modbus protocol.

Features:

RJ-45 Ethernet interface 1GB/s for the communication via the TCP/IP protocol
Simple user interface with integrated web server
N-CAN bus interface for the communication with the IMED Secure® components
Alarm messages will be sent to the technical center via Modbus interface
E-mail client to send error messages
Integrated data logger to record up to 1000 measuring values
Integrated alarm logger
Password protection with administrator function
Green LED signalizes power “On”
Green LED signalizes N-CAN-Bus communication
Green LED signalizes connection with the Ethernet
Communication via N-CAN bus with other IMED Secure® components
Designated for 35 mm DIN rail mounting

IMED Secure® AlarmPanel APO-0109/ API-0111

This module provides following functions:
Display of operating and error conditions of the IT-power supply in the medically used room with local acoustical and optical alarm.

Features:

OLED display
Graphic display of error messages of the components located in the IT-cabinet
Green LED signalizes normal condition
Yellow LED signalizes alarm
Acoustical alarm with acknowledgement function
Communication via N-CAN bus with other IMED Secure® components
2 Versions available: **APO-0109 on-wall version** (W x H x D 160 x 90 x 50 mm) **API-0111 in-wall version** (W x H x D 154 x 92 x 6 mm), double in-wall socket horizontal needs to be provided on site

IMED Secure® transformer

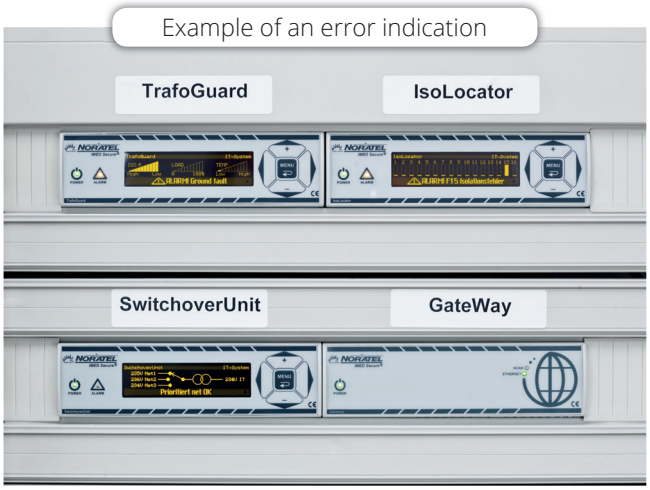
Toroidal transformer for the voltage supply of the IT-net

Features:

Low-loss Toroidal transformer
Design sizes: **IMED$_h$** 3150 (3,15 kVA) **IMED$_h$** 5000 (5 kVA) **IMED$_h$** 8000 (8 kVA) **IMED$_h$** 10000 (10 kVA)
Extremely low inrush current
Very low power loss
Built-in PT-100 sensor for temperature monitoring
Primary voltages 225-230-235 V AC for the optimum adaptation of the output voltage under load
Secondary voltage 230 V AC on the IT net
Extremely low height enables up to 10 kVA output power in the standard cabinet with 240 mm construction depth

The IMED Secure® monitoring unit

(example for assembly in a switch cabinet)



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