TECHNICHAL DATA

	5 kVA - 30 kVA *	40 kVA - 100 kVA*
Input voltage Rectifier	voltage: 3 x 400/230 V AC ± 10 % , 50 Hz	voltage: 3 x 400/230 V AC ± 10 % , 50 Hz
Input voltage Bypass	voltage: 1 x 230 V AC ± 10 %	voltage: 3 x 400/230 V AC ± 10 % , 50 Hz
Output voltage	voltage: 1 x 230 VAC ± 10 % , 50 Hz	voltage: 3 x 400/230 V AC ± 10 % , 50 Hz
Dynamic	+-5 % at load step 91% -10% -90%	+-5 % at load step 91% -10% -90%
Overload capacity	150% permanent 200% for 1 min., 900% for 20 msec	150% permanent 200% for 1 min., 900% for 20 msec

DC-voltages	5 kVA:	10 kVA:	15 kVA:	20 kVA:	30 kVA:	40 kVA:	60 kVA:	80 kVA:	100 kVA:
	240 VDC	240 VDC	384 VDC	384 VDC	384 VDC	384 VDC	384 VDC	384 VDC	384 VDC

Temperature	0 °C up to 40 °C
Battery	sealed, mantenance-free (lifetime 10-12 years acc. EUROBAT)
Classification	VFD-Y-311 according to IEC/DIN/EN 62040-3

* further power values on request

For a total package (UPS System including battery plant, external manual bypass and sub-distribution) we would be happy to make an individual offer to you.

OPTIONS

Battery Connection Unit (BCU)
Analog effective power measuring device
Analog measuring instrument for battery current
Multiplication of alerts
Log printer for the capacity test
MODBUS connection
Increase in short-circuit current
Designed for 3-hour battery
NiCd battery
Improved output
External manual bypass

Further customised options on request.

BENEFITS

Battery Symmetry Monitoring BASYM
Easy operating
Galvanic Isolation Input
Best Generator Characteristics
High Overload Capacity
Capacity test through power regeneration via inverter
Ventilation control
Very high quality of output voltage
Signal indicates trial operation
Boost charging stage
Clearly arranged display (LCD)

TTC WÄRTSILÄ

TTC WÄRTSILÄ

TTC Wärtsilä JOVYMED

PRODUCT LEAFLET

TTC Wärtsilä JOVYMED UPS Systems for hospitals and medical care offer safe power supply according to VDE 0558-507.
Particularly high demands are made for the electricity supply in hospital rooms used for medical purposes, because a power outage can jeopardize the health or even the lives of patients. For over 40 years Tamin Tablo Wärtsilä JOVYATLAS has been developing and producing power supply systems for hospitals which these days are referred to as BBPS-Systems (Battery Backed Power Supply Systems).

SAFETY POWER SUPPLY FOR HOSPITALS, LABORATORIES AND MEDICAL AREAS

BBPS-System are static, battery-backed, central power supply systems for the secure supply of consumer loads in areas used for medical purposes in accordance with DIN VDE 0100 part 710. The BBPS systems provided by Tamin Tablo Wärtsilä JOVYATLAS offer optimal security of power supply for equipment and systems in the medical sector, e.g. in operating theaters, intensive care units and medical practices. Our many years of experience have made us an expert partner for technical personnel in hospitals and engineering offices with planning responsibility. Numerous hospitals in Germany, Austria and Luxembourg place their trust in the quality of our products.

The JOVYMED series from Tamin Tablo Wärtsilä JOVYATLAS meets all the requirements of VD 0558-507 for the electrical supply of “Group 2” rooms used for medical purposes (theaters, theater prep rooms, recovery rooms and ICU wards).

All TTC Wärtsilä JOVYMED systems are specifically made for each order and tailored to individual requirements. Numerous options are available in line with customer wishes.

Tamin Tablo Wärtsilä JOVYATLAS offers detailed advice to you and creates your individual overall package, which also contains the corresponding battery system, external manual bypass and subdistributions beside the UPS system conditioning.

Tab.1 Type overview UPS Systems for hospitals TTC Wärtsilä JOVYMED

TYPES TTC Wärtsilä JOVYMED	Battery	Power [kVA]	Dimension W x H x D [mm]	Weight [kg]
TTC Wärtsilä JOVYMED 5-240-1ph-3h-Ik 350A	Lead 3h	5	800 x 1900 x 800	390
TTC Wärtsilä JOVYMED 10-240-1ph-3h-Ik 350A	Lead 3h	10	800 x 1900 x 800	497
TTC Wärtsilä JOVYMED 15-384-1ph-3h-Ik 450A	Lead 3h	15	800 x 1900 x 800	548
TTC Wärtsilä JOVYMED 20-384-1ph-3h-Ik 450A	Lead 3h	20	800 x 1900 x 800	616
TTC Wärtsilä JOVYMED 30-384-1ph-3h-Ik 450A	Lead 3h	30	800 x 1900 x 800	760
TTC Wärtsilä JOVYMED 40-384-3ph-1h-Ik 450A	Lead 1h	40	1200 x 1900 x 800	1061
TTC Wärtsilä JOVYMED 60-384-3ph-1h-Ik 450A	Lead 1h	60	2x800 x 1900 x 800	1160
TTC Wärtsilä JOVYMED 80-384-3ph-1h-Ik 450A	Lead 1h	80	2x800 x 1900 x 800	1290
TTC Wärtsilä JOVYMED 100-384-3ph-1h-Ik 450A	Lead 1h	100	2x1200 x 1900 x 800	1325

12/ 2016

UPS SYSTEMS 5 - 100 kVA

for hospitals and medical care according to VDE 0558-507

TECHNOLOGY

The TTC Wärtsilä JOVYMED systems are operating in Online Mode. In the event of a power outage there are no switching events. The consumer loads are supplied without interruption as before, as in the case with an online UPS System. The alternating voltage meets the requirements of all modern medical-technology equipment in respect of curve shape and of voltage and frequency stability. In accordance with the VDE directive, the BBPS-Systems in the TTC Wärtsilä JOVYMED range are equipped with galvanic tripping in the input. In this way, the battery is no longer connected with the mains potential, increasing security. The battery circuit is monitored for ground faults by an isolation monitoring system. Tamin Tablo Wärtsilä JOVYATLAS BBPS Systems are equipped with a symmetry monitoring feature to allow them to identify defective battery cells. Any faults in the battery circuit are identified right away and can be rectified in good time.
The inverters in the BBPS Systems are designed for a high short-circuit current IK. In this way, any short circuits which occur in a defective device, even during a power outage, can be safely deenergized through the triggering of the consumer load fuse. The remaining consumer loads in the the operating theater continue to be supplied.

POWER FAILURE BRIDGING

BBPS Systems have to be designed for a relatively long bridging period of 1 or 3 hours. This requires high battery capacities. The built-in rectifiers guarantee that the batteries will be recharged within 6 hours. This charging takes place in a battery protecting way, as the rectifiers work in line with the IU characteristic curve as defined in DIN 41773. The rectifiers are equipped in accordance with VDE 0558-507.

BOOST CHARGING STAGE

The TTC Wärtsilä JOVYMED systems are equipped with an automatic recharging stage for fast battery charging and a connection for a battery chamber fan (fully automa
tic boost charging stage with automated recharge and battery chamber fan control with associated monitoring system).

DISPLAY AND DATA LOG

The operating data of the TTC Wärtsilä JOVYMED systems are shown on a clearly structured display with a menu-oriented structure.
The BBPS systems come with a data logger to record all alerts and log measurement values during a capacity test. The data can be transmitted to a USB stick via a USB port and then processed using Excel or OpenOffice. In this way, informative tables with matching capacity test graphics can be generated and archived as evidence that the statutory capacity test has been carried out. This allows the operator of the BBPS System to generate easily evidence of both the execution of the statutory annual capacity test and the compulsory monthly function tests.

CAPACITY TEST WITH ENERGETIC RECOVERY

The statutory battery capacity tests are initiated manually using the operating panel. A password prevents involuntary activation. An automatic capacity test can also be programmed in. In the capacity test the energy of the battery is fed back into the grid via the inverter. In the process, the bypass is switched parallel to the inverter using the static switch. The consumer loads continue to be supplied via the inverter. This is a particularly good-value solution because it saves energy in comparison to a capacity test with load resistances.
The special electronics of our TTC Wärtsilä JOVYMED systems allow for load on the batteries and energetic recovery with constant output. Therefore the annual capacity tests are comparable and enable a statement to be made on battery aging and the associated loss in capacity.

SIGNALS IN THE THEATERS

Alerts on operating conditions and faults are relayed to the user for each theater via relay contacts. The alerts are available as 24V DC signals for the alert and test combinations in the operating theaters. Corresponding protocol converters are available as optional extras for SNMP and MODBUS protocols or SMI.

MAINTENANCE-FRIENDLY CONSTRUCTION

All TTC Wärtsilä JOVYMED systems are constructed for ease of servicing. All components are accessible from the front and easy to exchange. The fans are fixed in place using special wing bolts which allow trained electricians, if required, to replace the fans, so that there is no need for expensive service call-outs.

EXTERNAL MANUAL BYPASS (OPTION)

VDE 0558-710 prescribes the installation of an external manual bypass for BBPS sSystems. Tamin Tablo Wärtsilä JOVYATLAS offers an external manual bypass as an optional extra which makes use of special cam switches that require only one switching action to activate the BBPS. Thus operator errors are ruled out. The switches can be supplied singly or in a housing or distribution cabinet.
TTC Wärtsilä JOVYMED systens are equipped with an automatic recharging stage for rapid charging of the battery after a power failure and a connection for a battery room fan (fully automatic boost-charging stage with refresh automatic and battery room fan controller and associated monitoring).

Fig.1 Display Capacity Test

Fig.2 Static Switch

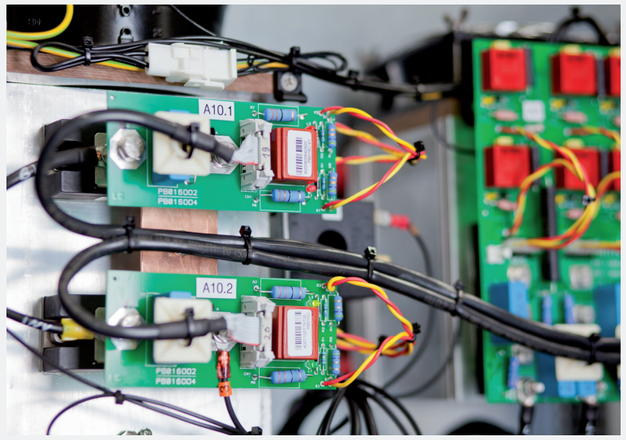
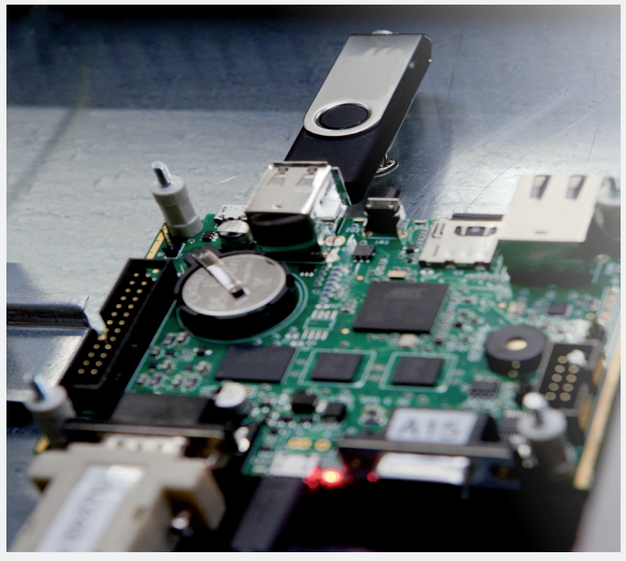


Fig.3 Data Logger with USB port and USB flash drive



- GOOD GENERATOR PROPERTIES
- EASY HANDLING AND COMFORTABLE OPERATION
- CAPACITY TEST WITH ENERGETIC RECOVERY SYSTEM
- OUTPUT VOLTAGE WITH OPTIMAL QUALITY
- EXTREMLY HIGH OVERLOAD CAPACITY
- COMPREHENSIVE MONITORING FACILITIES E.G. RELAY CARDS, SNMP ADAPTER, MODBUS, PROFIBUS
- EXTREMELY LOW DISTORTION FACTOR
- EXTREMELY HIGH OVERLOAD CAPACITY
- UNCOMPLICATED, EASY INTRODUCTION OF CAPACITY TEST (PROGRAMMABLE)

Fig.4 TTC Wärtsilä JOVYMED system