

# ENERGET 1

## Uninterruptible power supply system



STVF.565312.001

### PURPOSE

ENERGET 1 uninterruptible power supply system is designed to provide stabilized voltage of three-phase AC network at 380V and ensure backup power supply in case of main power line failure.

### FIELDS OF APPLICATION

- objects classified as first category of power supply reliability
- objects requiring autonomous power supply, including those located in regions with unfavorable climatic conditions

### VERSION

- the system is enclosed in a thermally insulated metal container which houses a diesel generator, an uninterruptible power supply source, and a controller
- the container is equipped with a self-safety system, access control and management system, security and fire alarm system, automatic fire extinguishing system, heating and ventilation systems, and protective grounding

### FEATURES

- automatic switching to backup power supply from the diesel generator in case of main line failure
- maintenance of equipment power supply from the uninterruptible power supply source during the period between main line failure and full launch of the diesel generator
- power supply from the backup source for any type of energy consumer

- providing self- security of the system
- access control to the container by digital code or proximity card
- early detection of smoke, air temperature increase, or fire inside the container
- automatic activation of the fire extinguishing system if necessary
- maintenance of working air temperature inside the container

## PECULIARITIES

- seamless switching to the power generation mode from the diesel generator
- automatic startup of the diesel generator immediately after seamless switching
- inverter that provides a clean sinusoidal waveform of the output voltage identical to the centralized power supply network
- inverter's high efficiency in combination with a set of battery packs ensures lasting operation time and reduces recharge time
- remote monitoring of the system status via Ethernet
- self-security system
- extended temperature range that allows the system to be used in complex climatic conditions
- fuel tank located inside the container preventing unauthorized fuel usage

## SCOPE OF SUPPLY

Name	Quantity
✓ Thermos container STVF.301179.002	1 pc.
✓ Power cabinet STVF.426431.004	1 pc.
✓ Insulated rack STVF.426479.048	1 pc.
✓ Switchgear cabinet STVF.426479.053	1 pc.
✓ Video camera SVK-855 STVF.426459.053	5 pcs.
✓ Code panel STS-708 STVF.431295.035	1 pc.
✓ Controller STS-423 STVF.426469.089	1 pc.
✓ Diesel generator STVF.561343.001	1 pc.
✓ Inverter MAP 15 kW (48V)	3 pc.
✓ Optex LX-402 sensor	4 pcs.
✓ IO-102-20 A2M detector	3 pcs.
✓ Smoke-optical point fire detector IP 212-141	2 pcs.
✓ IP 535-27 "IPR-Ex" manual fire detector	1 pc.
✓ PC-186 power cable 1.8 m	1 pc.
✓ Reversible 220V actuator KVV	2 pcs.
✓ Buran-2.5-2C powder fire extinguishing module	1 pc.
✓ Warning light "POWDER! DO NOT ENTER"	1 pc.
✓ Convection heater CH 2000-2001	1 pc.
✓ Sound warning device (two-tone siren) Ademco 702	1 pc.
✓ Security-fire warning device Astra-10	1 pc.
✓ LED emergency light LEDx30	2 pcs.
✓ Industrial LED luminaire	2 pcs.
✓ GX 12-200 DELTA rechargeable battery	10 pcs.
✓ Spare parts set-O STVF.425973.109	1 set
✓ Mounting parts set STVF.425951.042	1 set
✓ Protective parts set STVF.425959.019	1 set
✓ Operating documents list* STVF.565312.001 VE	1 copy

Name	Quantity
✓ Operating guidelines** STVF.565312.001 RE	1 copy
✓ Formulary STVF.565312.001FO	1 copy
<p>* Full contents of the operational design documentation is in accordance with the list of operational documents</p> <p>** The operating guidelines are supplied in a single copy when shipped with a batch of products or as part of a system. For single deliveries, the operating guidelines are supplied for each unit.</p> <p>Operating guidelines are available at: <a href="http://stilsoft.ru">http://stilsoft.ru</a></p>	

## DESCRIPTION OF SYSTEM PARTS

- thermos container is designed to accommodate the system's components and equipped with hermetically closing slide doors
- diesel generator provides power to consumers with a variable three-phase current of 400 V and a frequency of 50 Hz
- inverter with a set of battery packs provides uninterrupted and/or autonomous power supply to equipment operating at 220/230 V (or 380/400 V for a three-phase system)
- STS-423 controller provides climate control inside the container, access control, fire protection, security, and storage of video archives
- STS-708 code panel provides authorized access to the container by code or proximity card
- SVK-855 cameras in a vandal-resistant case support the "day/night" mode, equipped with mechanical IR filters and built-in IR illumination, and serve to ensure the system's self-security
- Optex LX-402 detector is designed to protect the system from unauthorized intrusion by detecting potential intruders approaching the container
- BURAN-2.5-2S powder fire extinguishing module provides localization and extinguishing of fire in the container

## RELIABILITY AND WARRANTY

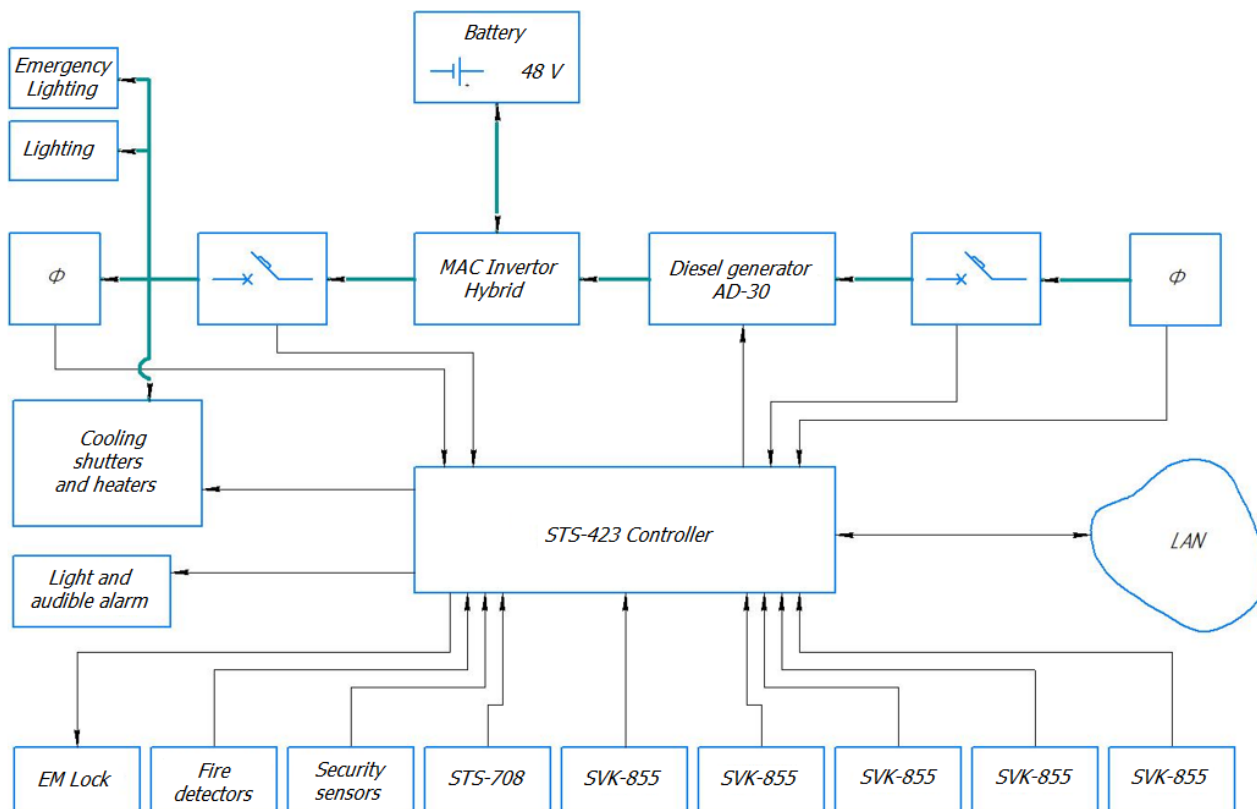
- System warranty period - 10 years
- Battery pack warranty period - 2 years
- Designated system operation period is 10 years

## TECHNICAL PARAMETERS

Parameter name	Value
Main generator power, kW/kVA (minimum)	30/37.5
Backup generator power, kW/kVA (minimum)	33/41.2
Frequency, Hz	50
Input/output voltage, V	400
Current type	AC three-phase
Autonomous operation time at 100% power, h (minimum)	48
Resource before major repair, h (minimum)	25000
Fuel type	Diesel
Fuel consumption, l/h	
- at 75% load	6.9
- at 100% load	8.3
Total fuel tank capacity, l (minimum)	450
Generator startup time, min (maximum)	10
"Grid-Battery" transition time, ms (minimum)	20

Parameter name	Value
"Battery-Grid" transition time, ms (minimum)	2
System operating time on fully charged batteries at maximum load of 30 kW, min (minimum)	20
Total capacity of rechargeable batteries, Ah	1600
Rated DC voltage on battery bus, V	48, 12
Number of batteries, pcs	8
Number of batteries to start diesel generator, pcs	2
Rated voltage of batteries for diesel generator, V	12
Battery type	Gel
Power supply delivery time	Linear-interactive
Lubrication system volume, l	12
Oil consumption at 100% load, l/h	0.02
Oil type	M-5Z/10G1
Short-circuit protection	Yes
Overload protection	Yes
Overheat protection	Yes
Interference filtration	Yes (partial)
Protection against high voltage pulses	Yes
Automatic fire suppression system	Yes
Video surveillance system	Yes
Manual control system	Yes
Security system	Yes
Access control system	Yes
Average service life, not less than, years	10
Range of operating temperatures, °C	from -60 to +60
Dimensions, mm	3500x2200x 2300
Weight with empty fuel tank and without batteries, kg (maximum)	3000

## SYSTEM DIAGRAM



— Power lines  
— Signal lines

$\phi$  - Feeder incoming/outgoing  
Battery - Battery array 48 V



Developed and produced in Russia

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