

Modular integrated transformer substation PVIS.1000/10 MITS (invertor)

(an economically balanced solution for quality and functionality)



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- + A modular integrated transformer substation complete with a centralized invertor, a step-up transformer, and a distribution unit to output electricity into the grid.
- + The rated power of 500 kW, 1,000 kW, 2,000 kW allows for a flexible design of a PVPP of the required power.
- + Can be connected to the monitoring system to ensure the efficient operation of the PVPP.

Modular integrated transformer substation line PVIS MITS (inverter)

- + Improved efficiency of electricity conversion: up to 98.75%;
- + Power transformer with improved electrical characteristics to minimize PVPP overall losses;
- + Synchronous operation of several invertors per connection on the AC side;
- + All line models are intended for external installation and can be directly connected to a high-voltage network;
- + Maximum power point tracking (MPPT), which increases the efficiency of the inverter in any environment, which allows controlling the array of photovoltaic modules by selecting the optimal values of current and voltage at any time.



Modular integrated transformer substation line PVIS MITS (inverter)

PVIS includes one or more inverters, a step-up transformer, and a distribution unit for powering the network

SPECIFICATIONS

A case structure

- + Compact, all-metal frame modular solution with a concrete foundation and walls made of sandwich-type panels
 - + High factory readiness
 - + Convenient layout for cable connections
 - + Minimal need for pre-installation work on site
 - + External installation in moderately cold climates
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Distribution unit HV

- + Voltage class: 6, 10, 35 kV
 - + On-demand selection of connection diagram (transmission, end)
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Power transformer

- + Type of transformer: oil
 - + Transformer protection type: fuses
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GSL0500 inverter

Rated capacity	500 kVA
Rated voltage	315 V
Rated frequency	50/60 Hz
Maximum current	1,007 A

Electric characteristics of the DC side

Maximum input DC capacity	560 kW
Maximum permissible voltage at the DC lead-in	1,000 V
Maximum allowed PVM current	1,200 A
MPPT voltage range	450–850 V
Number of DC inlets	8

KNESS Product

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PVIS.1000/10 inverter modular integrated transformer substation (MITS) is designed for receiving and transformation of DC power into an alternating three-phase current with the frequency of 50 Hz, the voltage of 10 kV, and the power of 1,000 kW

TECHNICAL DATA

Overall dimensions

Length	5,640 mm
Width	2,700 mm
Height	3,085 mm
Weight, max	16,000 kg

Building Specifications

Wall material	Sandwich panel
Roofing material	Profiled sheets
Foundation materials	Reinforced concrete

DC side electric specifications

Maximum input DC capacity	2x560 kW
Maximum permissible voltage at the DC lead-in	1,000 V
Maximum allowed PGM current	2x1,200 A
MPPT voltage range	450–850 V
Number of DC input	2x8 pcs

Ventilation Specifications

Inverter compartment	forced, automatic
Power transformer compartment	forced, automatic
DU-10 kV compartment	natural

GSL0500 inverter

Rated capacity	2x500 kVA
Maximum power	2x560 kW
Rated voltage	315 V
Rated frequency	50/60 Hz
Maximum current	2x1,007 A

Power transformer

Type	TMG-1250/10U1
Capacity	1250 KVA
Rated voltage (low voltage)	0.315 kV
Rated voltage (high voltage)	10 kV

DU-10 kV

Cabinet type	KSO
Connection diagram type	transmission, end
Rated current	400 A
Rated voltage	10 kV

Operation Conditions

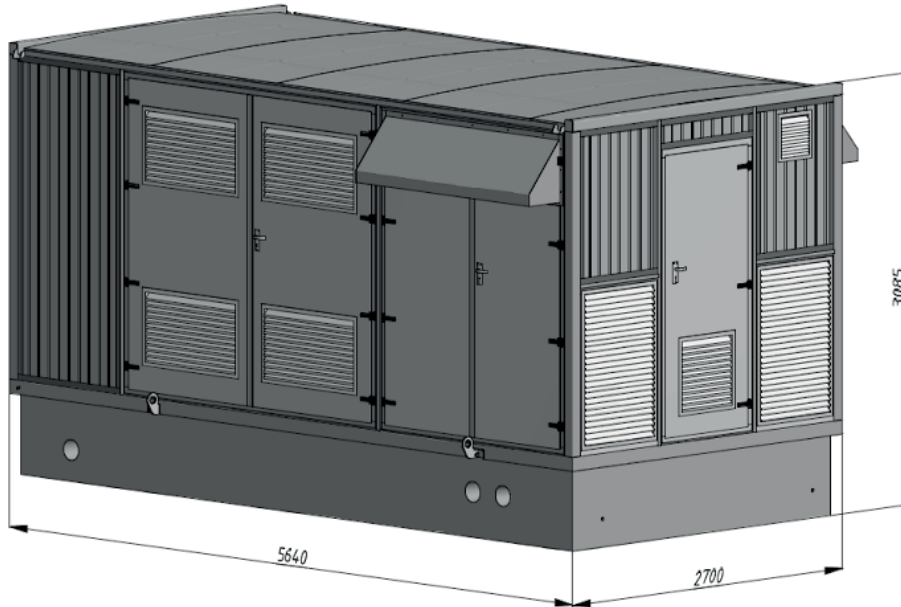
Temperature	-25...+45 C ⁰
Humidity	5-95%

KNESS Product

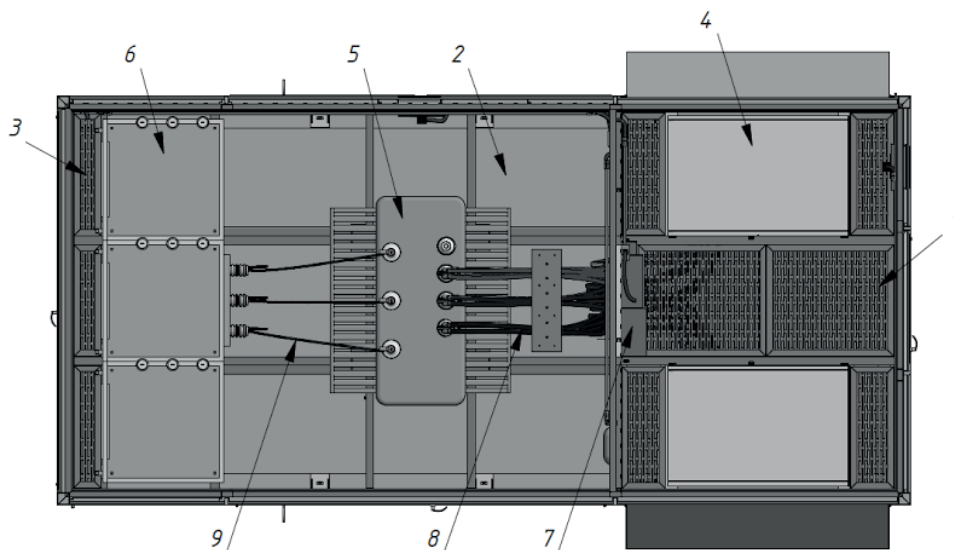
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PVIS.1000/10 overall dimensions and appearance



Main components of PVIS.1000/10



1. Invertor compartment
2. Power transformer compartment
3. DU-10 kV compartment
4. GSL0500 invertor (2 pcs)
5. TMG-1250/10 U1 transformer

6. DU-10 kV based on KSO compartments
7. Accounting and monitoring system cabinet
8. 315 V communication cables
9. 10 kV communication cables/buses