

Modular integrated transformer substation PVIS.2000/35 MITS (invertor)

(an economically balanced solution for quality and functionality)



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- + A modular integrated transformer substation complete with a centralized inverter, 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.2000/35 inverter modular integrated transformer substation (MITS) is designed for receiving and transforming DC power into alternating three-phase current with the frequency of 50 Hz, the voltage of 35 kV, and the power of 2000 kW

TECHNICAL DATA

Overall dimensions

Length	9600 mm
Width	2700 mm
Height	3900 mm
Weight, max	30000 kg

Building Specifications

Wall material	Sandwich panel
Roofing material	metal
Foundation materials	ferroconcrete

DC side electric specifications

Maximum input DC capacity	4x560 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	4x8 pcs

Ventilation Specifications

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

GSL0500 inverter

Rated capacity	4x500 kVA
Maximum power	4x560 kW
Rated voltage	315 V
Rated frequency	50/60 Hz
Maximum current	2x1,007 A

Power transformer

Type	Hermetic Oil Filled
Capacity	2500 KVA
Rated voltage (low voltage)	0.315 kV
Rated voltage (high voltage)	35 kV

DU-10 kV

Cabinet type	MDD
Connection diagram type	end
Rated current	630 A
Rated voltage	35 kV

Operation Conditions

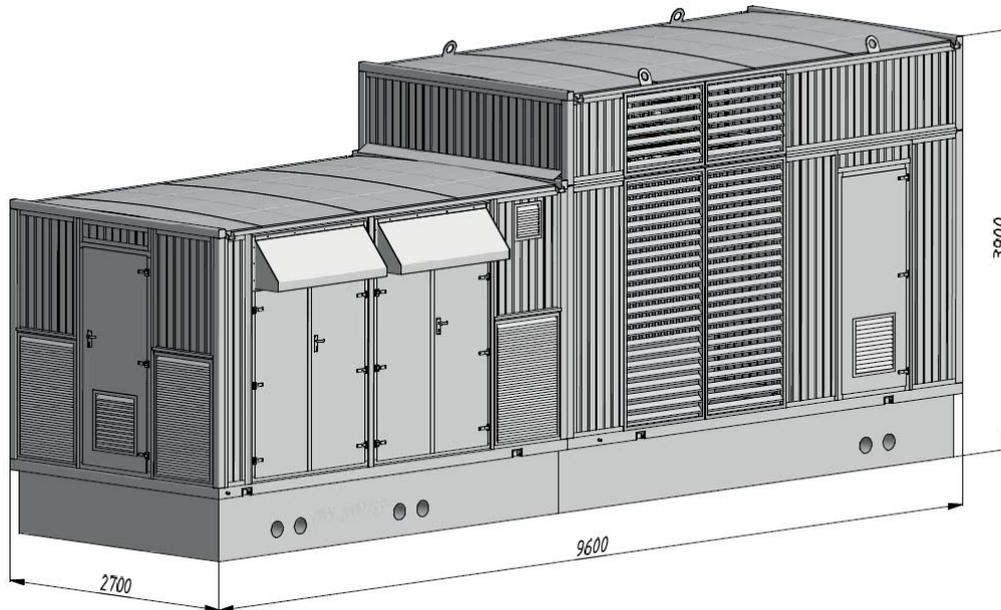
Temperature	-25...+45 C ⁰
Humidity	5-95%

KNESS Product

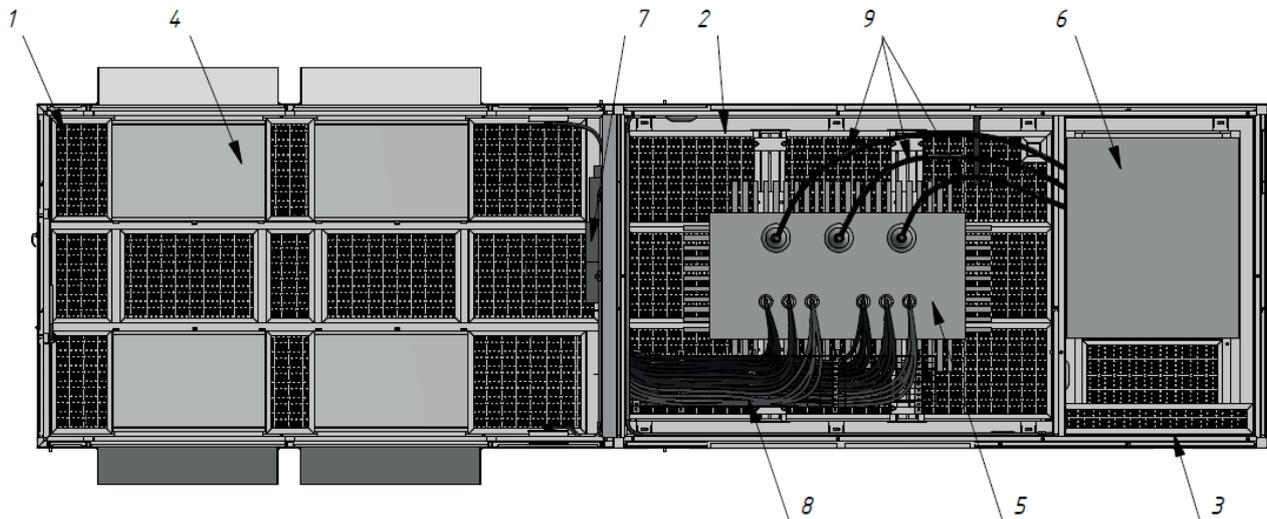
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PVIS.2000/35 overall dimensions and appearance



Main components of PVIS.2000/35



- 1. Invertor compartment
- 2. Power transformer compartment
- 3. Compartment MDD-35 kV
- 4. GSL0500 inverter (4 pcs)
- 5. Transformer TMG-2500/35

- 6. MDD-35 kV
- 7. Accounting and monitoring system cabinet
- 8. 315 V communication cables
- 9. 35 kV communication cables/buses