KNESS
Product

Modular integrated transformer substation
PVIS.500/10 MITS (invertor)

(an economically balanced solution for quality and functionality)

KNESS
Product
PVIS
500
10

Get an extra to the
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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.

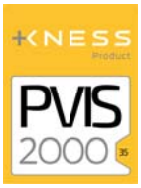
+ Can be connected to the monitoring system to ensure the efficient operation of the PVPP.

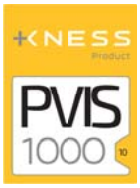
KNESS
Product

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

Distribution unit HV

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

Power transformer

+ Type of transformer: oil
+ Transformer protection type: fuses

GSL0500 invertor

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.500/10

PVIS.500/10 invertor modular integrated transformer substation (MITS) () is designed for receiving and transforming DC power into an alternating three-phase current with the frequency of 50 Hz, the voltage of 10 kV, and the power of 500 kW

TECHNICAL DATA

Overall dimensions	
Length	5100mm
Width	2500mm
Height	3095mm
Weight, max	13500kg
Building Specifications	
Wall material	sandwich panel
Roofing material	Profiled sheets
Foundation materials	Reinforced concrete
DC side electric specifications	
Maximum input DC capacity	560 kW
Maximum permissible voltage at the DC lead-in	1,000 V
Maximum allowed PGM current	1,200 A
MPPT voltage range	450–850 V
Number of DC input	8
Ventilation Specifications	
Invertor compartment	forced, automatic
Power transformer compartment	forced, automatic
DU-10 kV compartment	automatic, natural
GSL0500 invertor	
Rated capacity	500 kVA
Maximum power	560 kW
Rated voltage	315 V
Rated frequency	50/60 Hz
Maximum current	1,007 A
Power transformer	
Type	TMG-630/10U1
Capacity	630 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%

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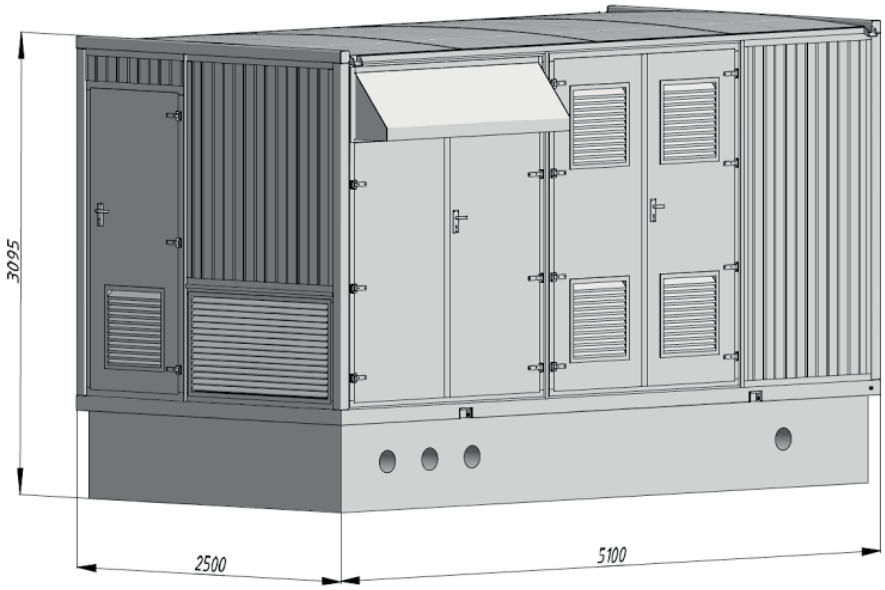
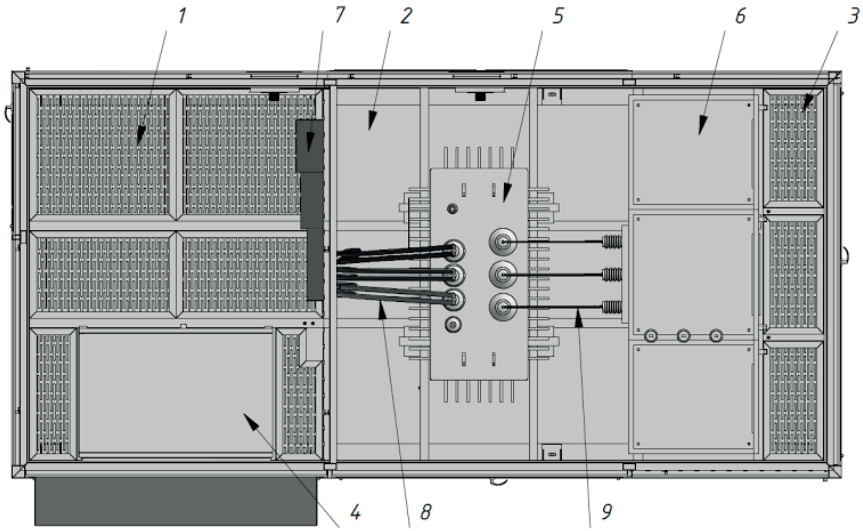
PVIS.500/10 overall dimensions and appearance



Main components of PVIS.500/10



1. Invertor compartment
2. Power transformer compartment
3. DU-10 kV compartment
4. GSL0500 invertor
5. TMG-630/10 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

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