

ELGÓR+HANSEN

Connection to new energy

Container transformer station

 FUTURA

We are part of

Grenevia



www.elgorhansen.com

We power intelligence in demanding projects

We provide technical solutions in the field of power systems and automation and control of machines and entire industrial facilities.

We implement designs of electrical and electronic devices and systems automation and IT, including ATEX solutions for explosion-hazardous zones.

We offer both proprietary solutions and those we use products of recognized and proven global brands. We support clients in every phase of the investment, i.e. at the design, construction, documentation and during operation, both at home and abroad.

+ 30

over 30 years of experience

+ 3000

completed projects

Transformer station EH-nTS

EH-nTS type transformer station manufactured by Elgór + Hansen is intended for the electric power generation plants using renewable energy sources such as PV farms. The elements of the station are situated inside a metal structure, which is protected corrosion and unfavorable weather conditions.

The housing is made of steel shapes that form a self-supporting skeleton, which consists of:

- welded floor structure,
- flat roof
- steel poles located in the corners of the housing.

The installation provides for the use of a transformer with a maximum capacity of 1600 kVA and is designed to work with the medium voltage (MV) network from the Distribution Network side and the low voltage (nN) network from the generated energy receiving side.

The installation is serviced locally in the stations main room or remotely thanks to the applied telemechanics systems.

flat roof made of structure layered with roof membrane, thermal insulation and painted galvanized steel sheet



walls made of laminar panels in the so-called sandwich system with varnished galvanized sheet and insulated with mineral wool



housing equipped with thermally insulated metal door and air intakes to provide required ventilation of the station



floor made of checkered steel sheets, bridging grille and a tin tank used as a leakproof oil drip-pan





lower costs of transport and installation of the station in relation to analogous concrete structures



simple and quick on-site installation in relation to traditional concrete switchgears



overall dimensions enabling standard transport on public or private roads



free access to LV or MV switchgears from the inside of the station



Light weight up to 4,5 tons (without transformer)



high reliability and operational safety



high level of anti-corrosion protection of the station's metal elements



possible switchgear configurations according to individual customer requirements

TECHNICAL PARAMETERS

Transformer power	1000 kVA (up to 1600 kVA)
Rated frequency	50 Hz
Ingress protection	IP43
Dimensions (height * length * width)	up to 2900*5000*2700 mm

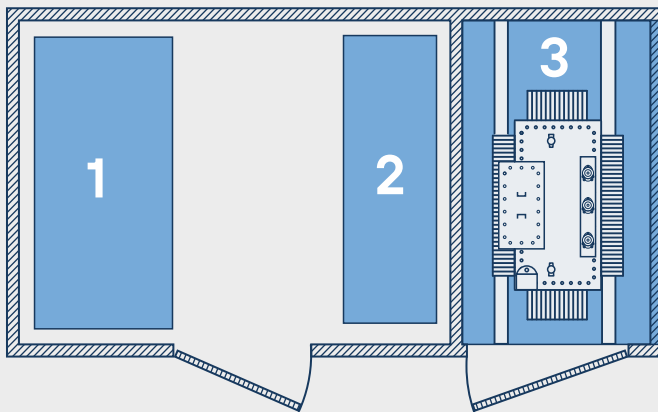
MV

LV

Rated voltage	up to 24 kV	up to 800 V
Continuous rated current	up to 630 A	1600 A (up to 2500 A)
Short-term rated current (1 s)	up to 16 kA	up to 20 kA
Peak rated current	up to 20 kA	up to 50 kA

CONSTRUCTION

Connecting cables enters the station in casing pipes through holes in the station floor



1

MVS - medium voltage switchgear

- + feeder bay for connection of MV cables from distribution network
- + measurement field with current and voltage transformers
- + transformer field for connections of the transformer MV side cables
- + controller implementing the station's operation logic with a control and protection function
- + controller of telemechanics systems enabling data transmission and the function of remote control of the station from the master system
- + control and measurement equipment, including a power quality analyzer

2

LVS - lower voltage switchgear

- + circuit breaker with overcurrent protection for connection on the LV side of transformer
- + fuse switch disconnectors for connecting wires inflow from power generating installations

GVS - 24V DC guaranteed voltage switchgear

- + buffer power supply 230 V AC/24V DC
- + AGM 24 V/45 Ah accumulators (optionally other capacities)

AS - 230 V AC auxiliary switchgear

- + overcurrent protection for control systems, measurement protection, automation and auxiliary circuits
- + optional transformer

Measurement & settlement system

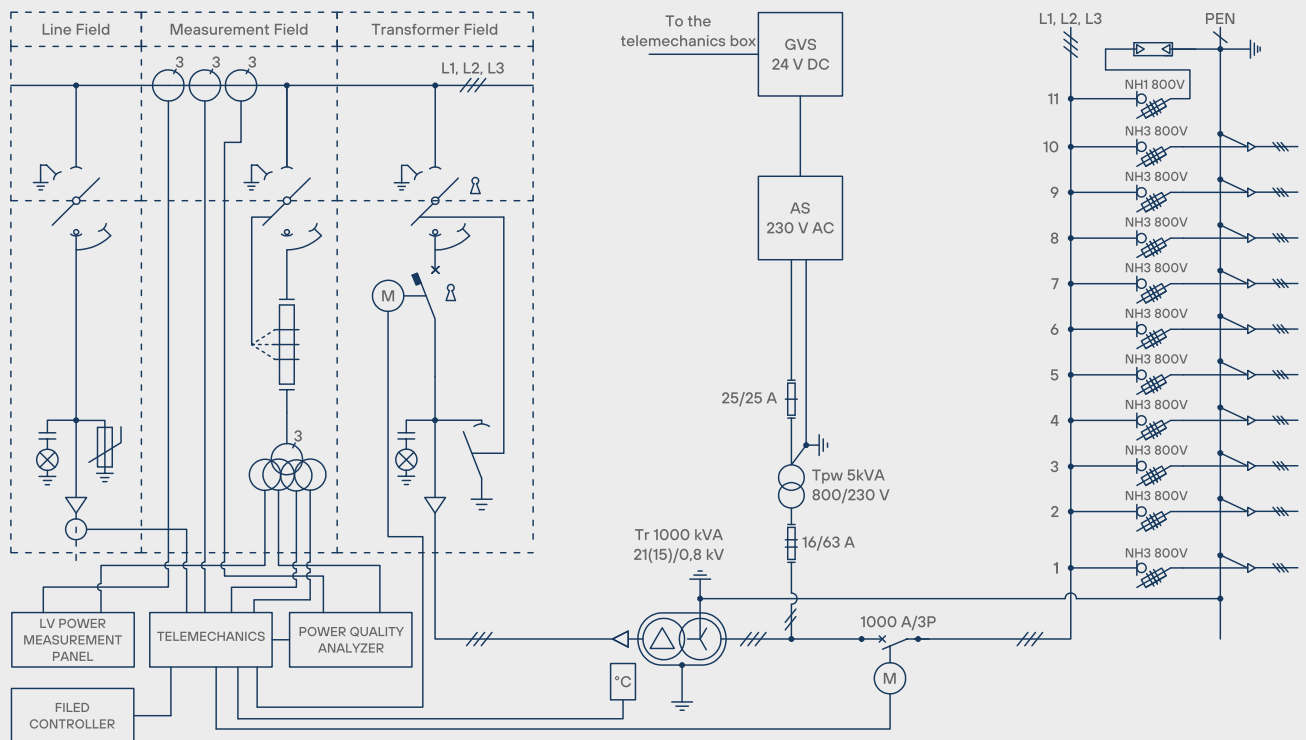
- + 3-phase electricity meter for active and reactive energy
- + time synchronizer with GPS antenna
- + GSM communication unit
- + overcurrent protection of the meter
- + reserve power supply UPS

3

LV/MV transformer

- + upper voltage 15,75 kV or 21 kV
- + lower voltage 800 V or different as required by customer
- + losses as required by the Eco Design2

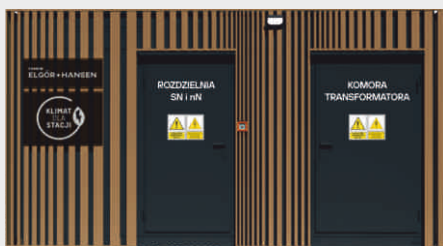
EXAMPLE OF STATION CONFIGURATION DIAGRAM



FUTURA IN YOUR CLIMATE



The #ClimateForStations service aims to maintain landscape neutrality at the destination place of the FUTURA station. That is why we offer our clients the opportunity to order an arrangement of our transformer station according to an individually prepared project.



Concept inspired by rural and forest areas

FUTURA AGRO

- + layout of the housing resembling a wooden gazebo
- + repeating rhythm of vertical profiles
- + structure made of aluminum profiles imitating wood or in colors from the RAL palette
- + structure mounted to the station frame stacji
- + possibility of LED illumination from the inside



A concept inspired by solutions used in interior design and facades of modern urban and office spaces

FUTURA GLASS

- + housing layout similar to the glass facade of the building
- + housing made of frosted polycarbonate
- + milled geometric pattern
- + a minimalist and elegant solution
- + possibility of LED backlight in various colors, corresponding to the customer's color scheme