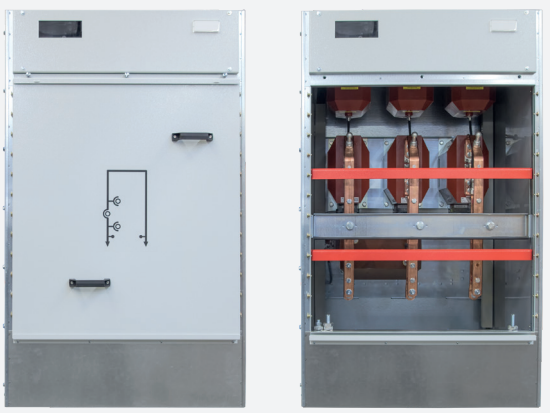
A company of the uesa group

Product Portfolio

Switchgear

made in
Uebigau

Products and services in the product portfolio



Switchgear from uesa
...that you can rely on!

The uesa GmbH offers products and services that meet the needs of its customers in the electrical system and switchgear construction industry. The portfolio of products includes power distribution systems, cable distributors, transformer stations, low-voltage switchgears, medium-voltage switchgears up to 36 kV and automation and control systems, as well as services in the solar sector.

Our customers benefit from the expertise of all of the companies in the uesa network at the „Uebigau-Wahrenbrück power site“, situated in the south of the state of Brandenburg. Collaboration within the uesa network creates the ideal conditions for perfectly aligning processes and workflows on both a national and international level with customers‘ needs. Our strengths as a single-contract production specialist include combining components from well-known manufacturers to create a system that belongs to your requirements.

Several hundred competent employees, the use of modern machines and flexible, customer-orientated production, as well as over 50 years of product experience, create the ideal foundations for establishing uesa GmbH as a key supplier to around 70% of all energy supply companies in Germany as well as for a large number of industrial and wholesale companies.

Our product catalogue shows you an extract from our product portfolio. Get in touch with us and tell us what you need! We‘d be delighted to create a customised product for you.

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uesa GmbH
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Management System ISO 9001:2015
www.tuv.com ID 0091005593

BG ETEM Energie Textil Elektro Medienerzeugnisse
AMS zertifiziertes Unternehmen nach VG und OHSAS 18001
Reg.-Nr. 010560180000/465

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Low-voltage distributions in panel design up to 2500 A	Daniel Nowak	49-222	d.nowak@uesa.de
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- for transformer stations with compact design	Andreas Gödicke	49-430	a.goedicke@uesa.de
- for electrical plant rooms	Fax	49-161	
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	Ronny Schnee	49-203	r.schnee@uesa.de
	Mario Siegmann	49-216	m.siegmann@uesa.de
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Outdoor distribution cabinets without DSO measurement house connection boxes	Frank Drees	49-487	f.drees@uesa.de
- cabinets for general use	Enrico Berndt	49-480	e.berndt@uesa.de
- distribution pillars	Benjamin Sachert	49-447	b.sachert@uesa.de
- cable distribution pillars cabinet	Fax	49-495	
Outdoor distribution cabinets with DSO measurement	Chris Gollasch	49-155	c.gollasch@uesa.de
- meter connection pillars	Danilo Höneke	49-154	d.hoeneke@uesa.de
- measurements of PV systems and other regenerative energies	Marko Atlas	49-152	m.atlas@uesa.de
- transformer measurements	Jörg Boinski	49-156	j.boinski@uesa.de
- street lighting cabinets	Fax	8217	
- market and camp-site distributors			
- project-related special cabinets			
Medium-voltage switchgear and equipment	Ricardo Auge	4432-218	r.auge@uesa.de
Medium-voltage switchgear up to 24 kV, 630 A	Michael Richter	4443-211	michael.richter@uesa.de
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	Bodo Fischer	4432-212	b.fischer@uesa.de
	Jens Hoffmann	49-407	j.hoffmann@uesa.de
	Fax	4432-268	
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	Fax	4499-552	

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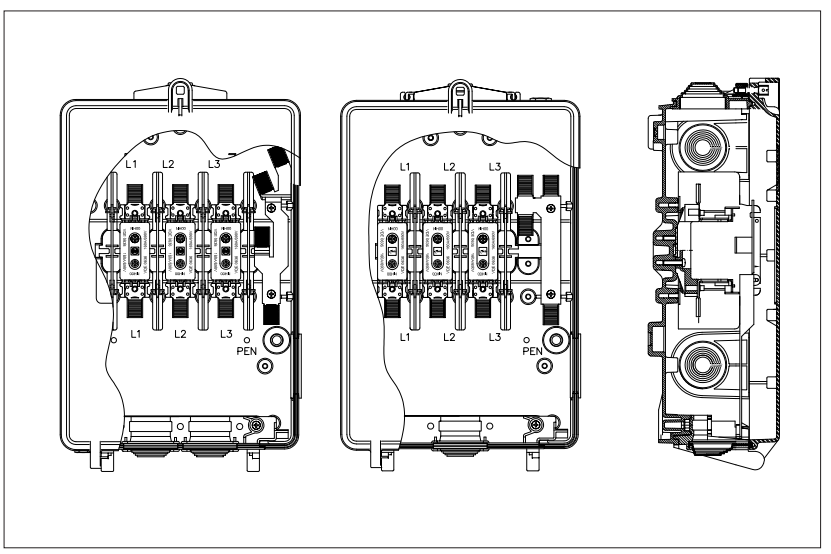
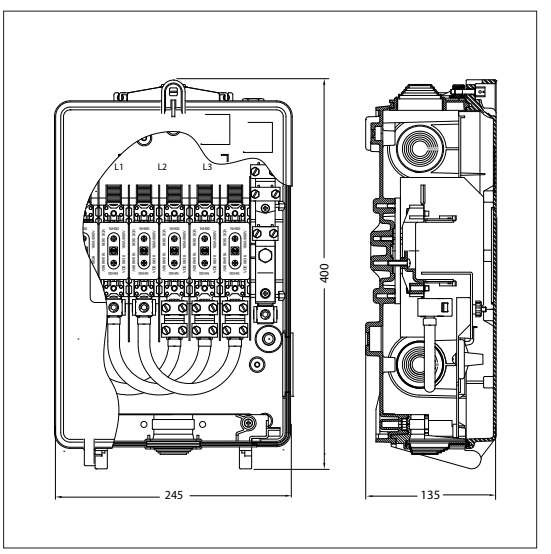
House connection boxes NH00

Details:

- 1 x 3 x NH00 up to 100 A (indoor boxes)
- 1 x 3 x NH00 up to 100 A (rain collarboxes)
- design with grey or transparent cover

- height: 350 mm
- width: 240 mm
- depth: 105 mm





Features:

- cable housing connection box NH00 according to DIN 43627,
- type-tested according to DIN VDE 0660 Part 505,
- made from fibreglass reinforced polyester, type 803 according to DIN 16911,
- degree of protection: IP54 according to DIN EN 60529,
- optionally with cover made from transparent polycarbonate,
- optionally with 2 or 3 outdoor fastening lugs,
- retrofit kit can be supplied for double cable access,
- variable side cable inlets or outlets via pluggable inserts with stepped nipples,
- customised designs are possible,
- various types of connecting terminal can be supplied, including steel frame terminals with U-bed, clamp-on terminals or double terminals.
- contacts and terminal lugs on creepage-resistant, insulating fuse bases made of glass fibre reinforced polyester,
- various touch protection covers can be supplied.

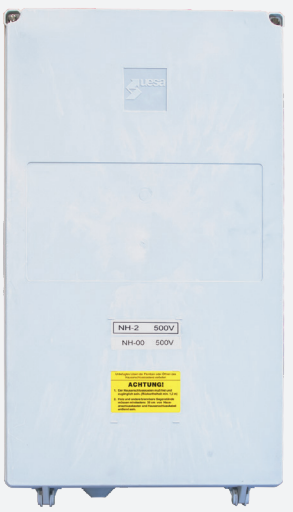
Technical data

type:	KH00
rated current:	100 A
rated voltage:	500 V
connection cross-sections:	10-95 mm²
dimensions (H/W/D):	320/240/105 mm
short circuit resistance	120 kA
resistance (Puls: 1,2/50µs):	6 kV
alternating voltage resistance:	2,5 kV
long-term load capacity:	100 A

We would be happy to show you other equipment options on request.

The product catalogue can be found on our website at www.uesa.de.

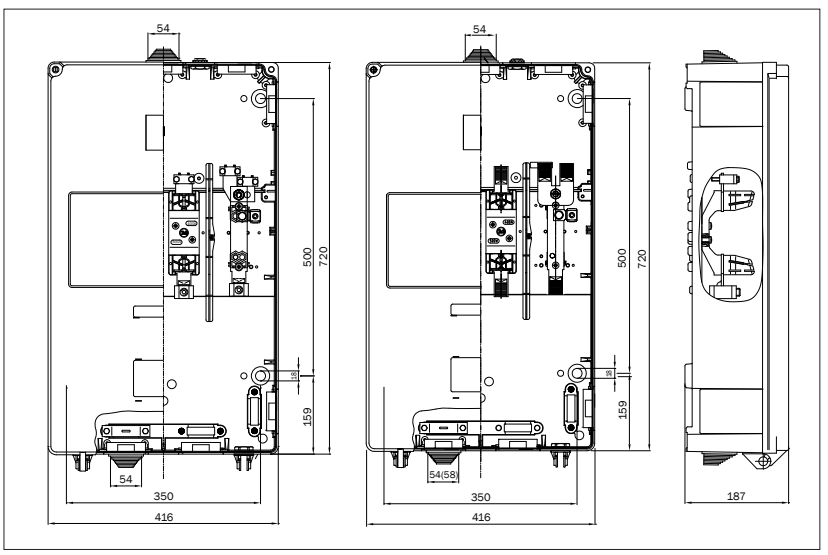
House connection boxes NH1/2

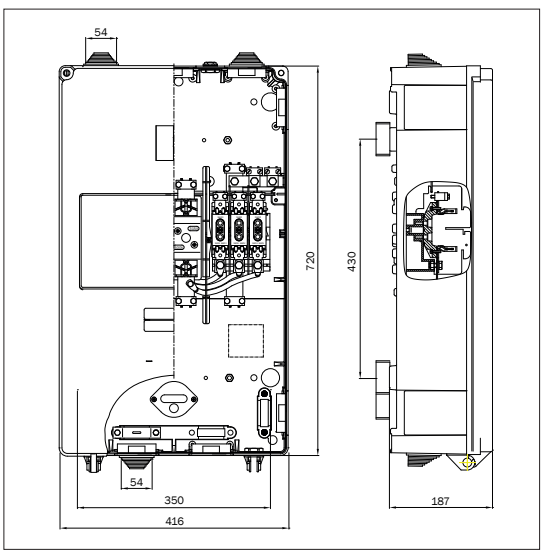


Details:

- 1 x 3 x NH1 up to 250 A
- 1 x 3 x NH2 up to 400 A
- 2 x 3 x NH00 from 50-160 A
- 2 x 3 x NH2 up to 400 A
- design with grey cover or grey cover with viewing window

- height: 750 mm
- width: 416 mm
- depth: 187 mm





Features:

- cable housing connection box NH1/2 according to DIN 43627,
- type-tested according to DIN DSO 0660 Part 505,
- made from fibreglass reinforced polyester, type 803 according to DIN 16911,
- degree of protection: IP54 according to DIN EN 60529,
- equipped with NH2 fuses, optional NH00 or NH1/2,
- optionally with 4-point external fastening,
- retrofit kit can be supplied for double cable access,
- variable side cable inlets or outlets via pluggable inserts with stepped nipples,
- customised designs are possible,
- various types of connecting terminal can be supplied, including steel frame terminals with u-bed or v-frame terminals or double terminals.
- contacts and terminal lugs on creepage-resistant, insulating fuse bases made of fibreglass reinforced polyester,
- various touch protection covers can be supplied,
- cover with 2 sealable screw plugs,
- prepared for cable screw connection PG 48.

Technical data:

type:	KH1/2
rated current:	250/400 A
rated voltage:	500 V
connection cross-sections:	25-300 mm²
dimensions (H/W/D):	750/416/187 mm
short circuit resistance	120 kA
resistance (Puls: 1,2/50µs):	6 kV
alternating voltage resistance:	2,5 kV
long-term load capacity:	355 A

We would be happy to show you other equipment options upon request.

The product catalogue can be found on our website at www.uesa.de.

House fuse boxes (HFB) with intergrated surge protection

HFB with DS133VGS-230

All-in-one solution

„HFB with integrated surge protection“

- In the 12.5 kA version, corresponds to the specification of the current VDE 0100-443 and VDE 0100-534 standard, as well as lightning protection class 3 (LPC III) according to VDE 0185-305-4

Ordering information:
HFB with DS133VGS-230 (TNC systems 3+0)
Article No.: 158051

HFB with DS133VGS-230/G
(TT/TNS systems 3+1)
Article No.: 158050

- in the 25 kA version, corresponds to the specification of the current VDE 0100-443 and VDE 0100-534 standard, as well as lightning protection class 1+2 (LPC I + II) according to VDE 0185-305-4

Ordering information:
HFB with DUT250VG-300/TT or TNS or TNC
Article No.: on request

Until now, there have only been surge protection systems that had to be integrated into the building‘s main distribution board or meter cabinet at great expense and only provide effective protection against surge voltage from the outgoing feeder panels of the meter boards onwards. Other solutions were not permissible in the pre-meter sector, since type 2 surge arresters cause undesirable leakage currents, for example.

This is why we are presenting our all-in-one solution for this problem today: the **„HFB with integrated surge protection“**

In its 12.5 kA version, our solution complies with the specifications of the current VDE 0100-443 and VDE 0100-534 standard, as well as lightning protection class 3 (LPC III) according to VDE 0185-305-4. It also complies with the VDN Directive „Type 1 surge voltage protection devices“ thanks to the spark gap-based leakage current-free VG technology.

According to the standard specification, this corresponds to the „closest point“ to the feed and thus offers the greatest possible protection of the downstream systems (including the ESC‘s meter).

Advantages at a glance:

- combined protection from lightning and surge voltages (combi surge arrester type 1+2+3) in the pre-meter sector and even before the main distribution.
- protection of the customer‘s own cable to the main distribution.
- no changes are required in the pre-meter sector of the main distributor, providing significant cost advantages during installation or retrofitting
- can be viewed directly from the outside thanks to transparent cover, i.e. the system‘s functional capabilities can be checked easily and at any time,
- spark gap arrester (GSG) in VG technology.

The construction of the DS130VGS series guarantees a simple and tool-free change of then protection module.
This means that the system does not need to be disconnected.

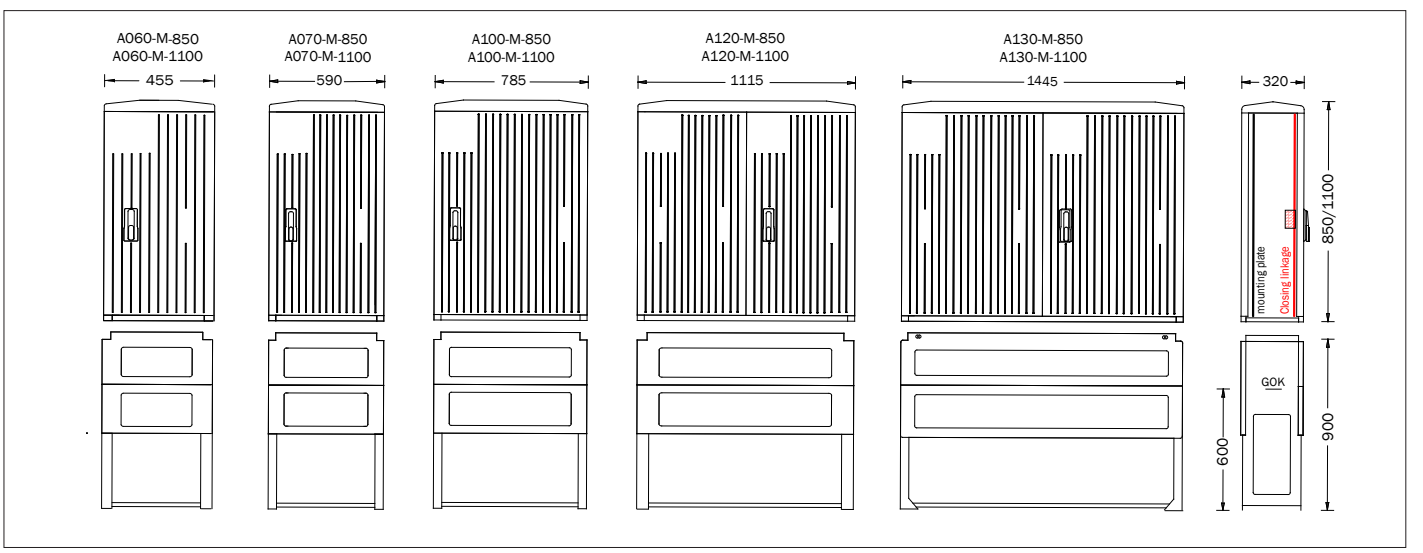
Outdoor power

Cabinets for general use

Details:

- profiled version
- single, double closure

- height: 850/1100 mm
- width: 00, 0, 1, 2, 3
- depth: 320 mm



Housing:

- cabinets for outdoor setup with base in heights of 850 + 1100 mm,
- available in standard sizes 00, 0, 1, 2, 3
- material: fibreglass reinforced polyester,
- weather-resistant, impact-resistant, flame retardant,
- modular system with exchangeable individual components,
- door and back wall with profiled surface,
- cable support rail,
- swivel lever handle for profile half cylinder, single or double closure,
- colour: RAL 7035 light grey,
- degree of protection: IP44.

Equipment:

- 1 mounting plate made from sheet steel/polyester.

Focal areas of use:

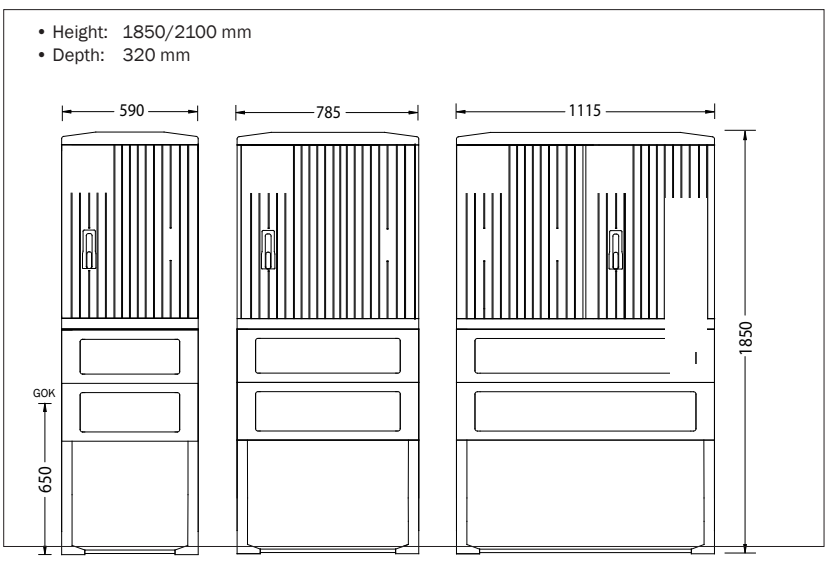
we would be happy to equip this housing in accordance with our standard variants or in line with your requirements, including as a cable distributor, meter column, transformer cabinet, street lighting cabinet, marketplace distributor or camp-site distributor.

We would be happy to show you other equipment options upon request.

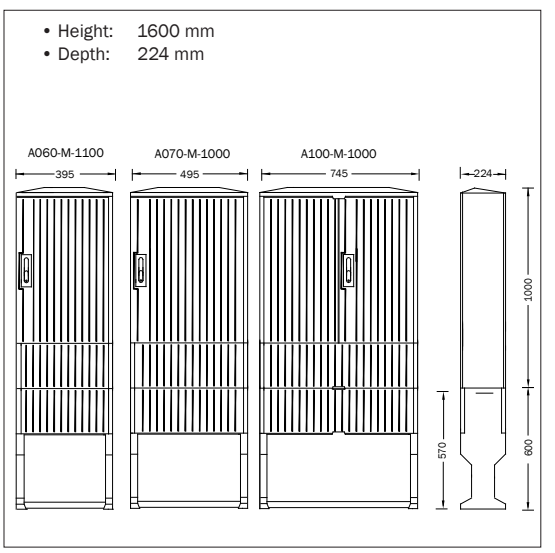
The product catalogue can be found on our website at www.uesa.de.

Pillars for general use

- Height: 1850/2100 mm
- Depth: 320 mm



- Height: 1600 mm
- Depth: 224 mm



Housing:

- pillar for outdoor setup with end-to-end side section in heights of 1850 and 2100 mm,
- available in standard sizes 00, 0, 1, 2, 3,
- optionally also as a flat cabinet with a depth of 224 mm, and a height of 1600 mm, available in standard sizes 00, 0, 1,
- material: fibreglass reinforced polyester,
- weather-resistant, impact-resistant, flame retardant,
- modular system with exchangeable individual components,
- door and back wall with profiled surface,
- cable support rail,
- swivel lever handle for profile half cylinder, single or double closure,
- colour: RAL 7035 light grey,
- degree of protection: IP44.

Equipment:

- 1 mounting plate made from sheet steel/polyester.

Focal areas of use:

we would be happy to equip this housing in accordance with our standard variants or in line with your requirements, including as a cable distributor, meter column, transformer cabinet, street lighting cabinet, marketplace distributor or camp-site distributor.

We would be happy to show you other equipment options upon request.

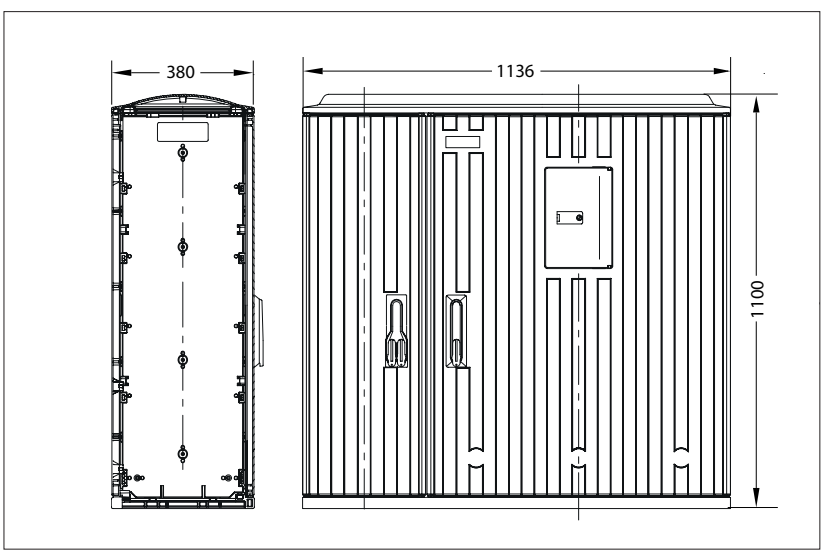
The product catalogue can be found on our website at www.uesa.de.

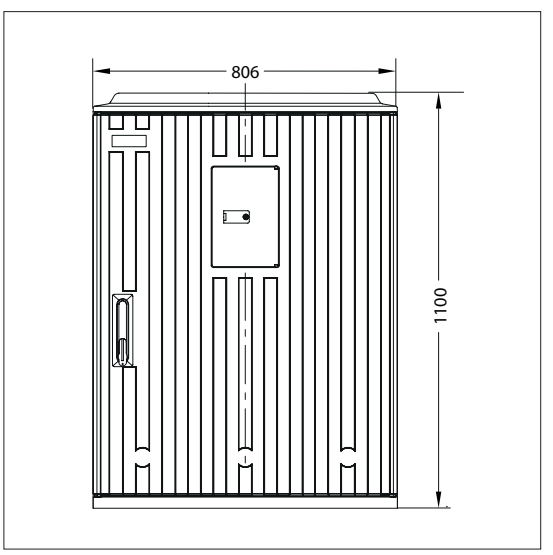
Cabinets for general use with shared internal space

Details:

- cabinet with shared internal space

- heigh: 1100 mm
- width: 806/1136 mm
- depth: 380 mm





Housing:
- cabinets for outdoor setup with base in heights of 1100 mm,
- increased installation depth of 380 mm,
- material: fibreglass reinforced polyester,
- weather-resistant, reinforced-resistant, flame retardant,
- modular system with exchangeable individual components,
- door and back wall with profiled surface,
- swivel lever handle for profile half cylinder, single or double closure,
- colour: RAL 7035 light grey,
- degree of protection: IP44, optionally IP54 possible.

Equipment:
- 2 mounting plates made from polyester or 1 end-to-end mounting plate made from polyester,
- dividing wall between the two functional spaces,
- meter module in accordance with the requirements of the local DSO and 1 mounting plate made of polyester.

Focal areas of use:
we would be happy to equip this housing in accordance with our standard variants or in line with your requirements, including as a street lighting cabinet.

We would be happy to show you other equipment options upon request.

The product catalogue can be found on our website at www.uesa.de.

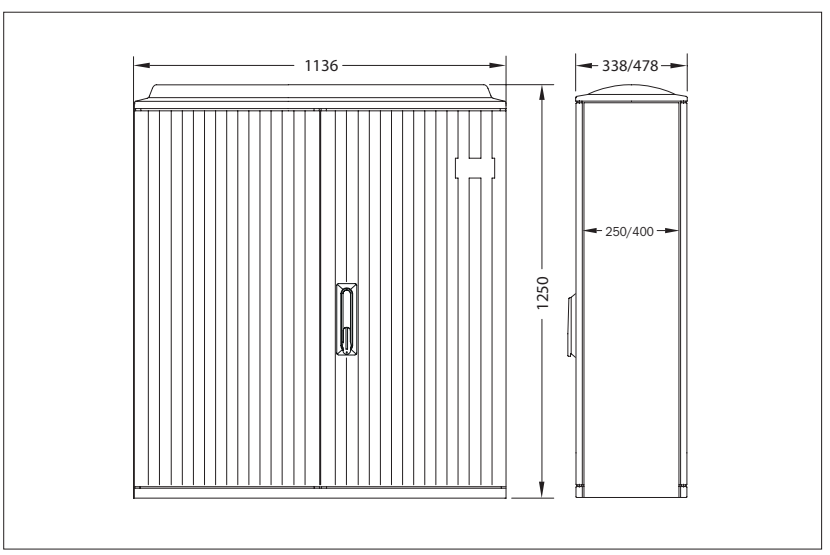
Cabinets for general use
Type N

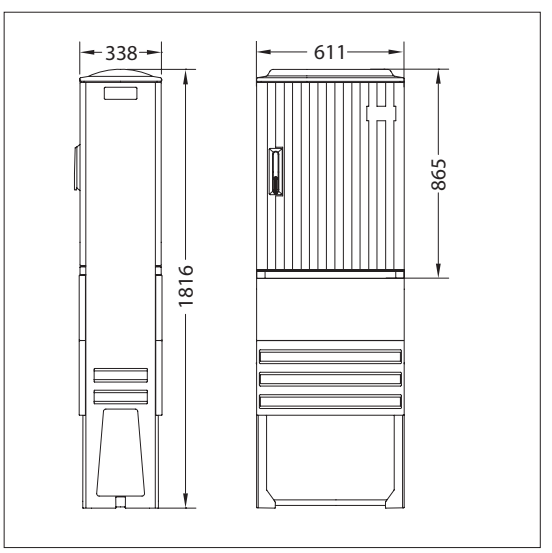
Details:

- smooth/profiled version
- single, double closure

- heigh: 865/1816 mm
- width: size 00, 0, 1, 2
- depth: 338 mm

- heigh: 1250 mm
- width: size 0, 1, 2
- depth: 338/478 mm





Housing:
- cabinets for outdoor setup with base in heights of 1100 mm,
- increased installation depth of 380 mm,
- material: fibreglass einforced polyester,
- weather-resistant, reinforced-resistant, flame retardant,
- modular system with exchangeable individual components,
- door and back wall with profiled surface,
- swivel lever handle for profile half cylinder, single or double closure,
- colour: RAL 7035 light grey,
- degree of protection: IP44, optionally IP54 possible.

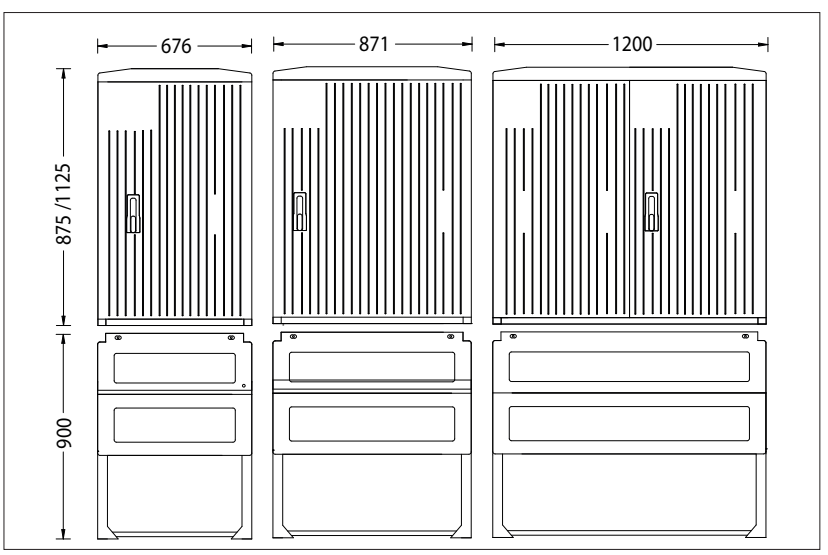
Equipment:
- 2 mounting plates made from polyester or 1 end-to-end mounting plate made from polyester,
- dividing wall between the two functional spaces,
- meter module in accordance with the requirements of the local DSO and 1 mounting plate made from polyester.

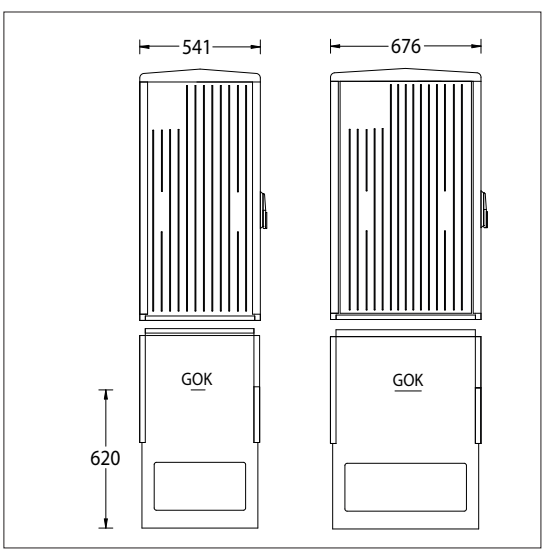
Focal areas of use:
we would be happy to equip this housing in accordance with our standard variants or in line with your requirements, including as a street lighting cabinet.

We would be happy to show you other equipment options upon request.

The product catalogue can be found on our website at www.uesa.de.

Cabinets for general use with large installation depth





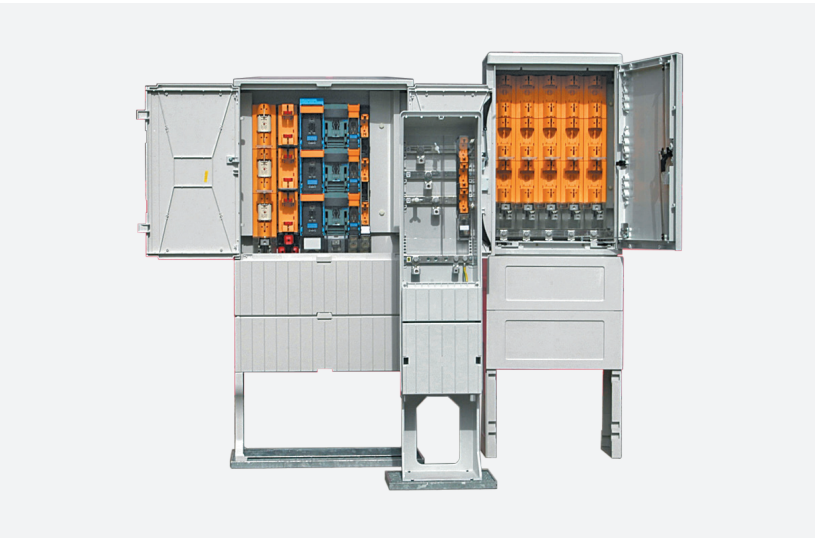
Housing:
- cabinets for outdoor setup with base,
- material: fibreglass reinforced polyester,
- weather-resistant, impact-resistant, flame retardant,
- modular system with exchangeable individual components,
- door and back wall with profiled surface,
- cable support rail,
- swivel lever handle for profile half cylinder, single or double closure,
- colour: RAL 7035 light grey,
- degree of protection: IP43.

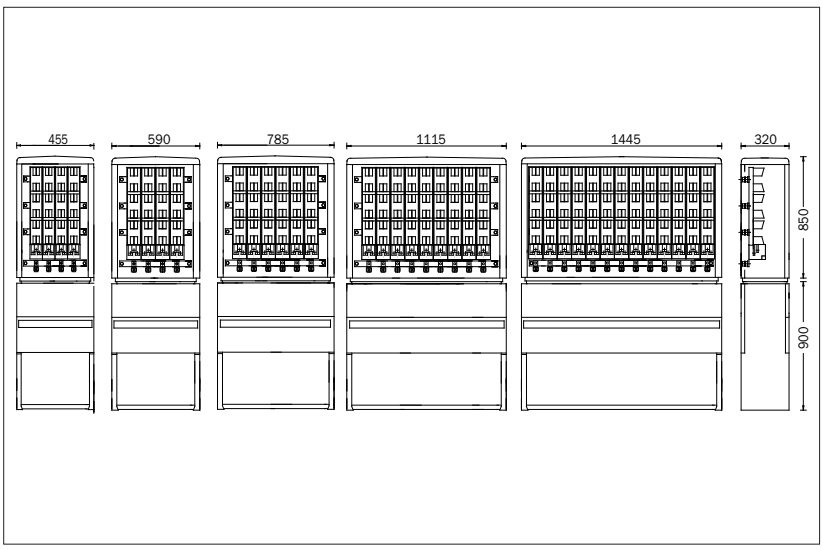
Dimensions:
- height: 875/1125 mm
- width: 676/871/1200 mm
- depth: 541/676 mm

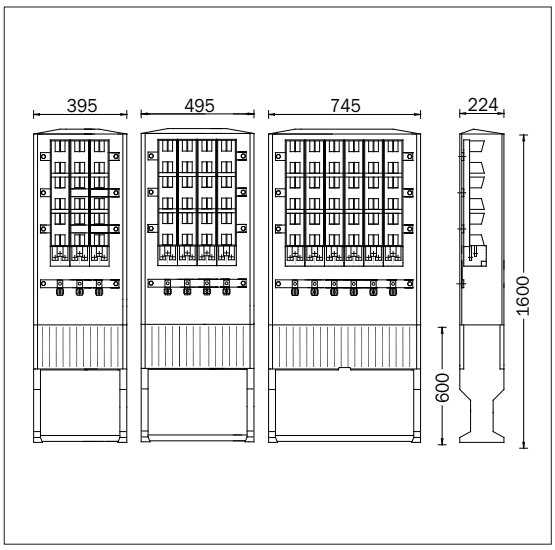
Focal areas of use:
we would be happy to equip this housing in accordance with your requirements, including for
- energy distribution,
- gas meter,
- feed and control cabinets,
- rectifier systems,
- pump stations,
- 19“ installation systems.

The product catalogue can be found on our website at www.uesa.de.

Cabinets distributor cabinets
House connection pillars







Housing:
- cabinets/pillars for outdoor setup with base or end-to-end side sections in heights of 1850 and 2100 mm,
- material: fibreglass reinforced polyester,
- weather-resistant, impact-resistant, flame retardant,
- modular system with exchangeable individual components,
- door and back wall with profiled surface,
- cable support rail,
- swivel lever handle for profile half cylinder, single or double closure,
- colour: RAL 7035 light grey,
- degree of protection: IP44.

We would be happy to show you other equipment options upon request.

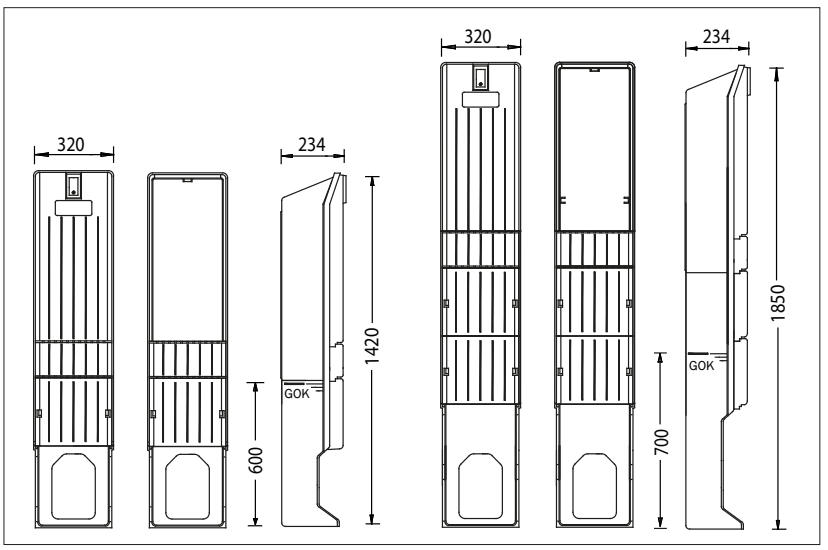
Equipment:
- 4-pol. busbar system,
- NH-Fuse-Switches and -Rails HN00 up to NH3
- V-direct connection terminals/flat connection,
- reserve slots individually covered,
- 1 feed-through for construction power.

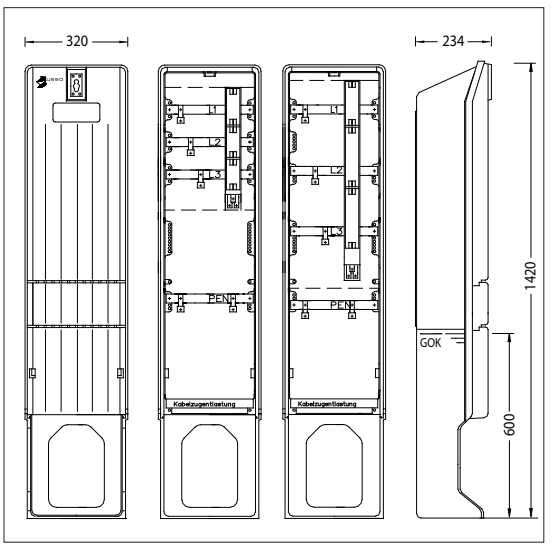
Focal areas of use:
- distributor column with base as house connection column,
- cable distributor in LV distribution network.

The product catalogue can be found on our website at www.uesa.de.

Outdoor power

Distributor pillars





Housing:

- pillar for outdoor setup with base and end-to-end side sections in heights of 1420 and 1850 mm,
- compact dimension (width: 320 mm, depth: 234 mm)
- material: fibreglass reinforced polyester,
- weather-resistant, reinforced-resistant, flame retardant,
- push-in door with profiled surface,
- bolt lock and sealable key plate for profile half cylinder/sash lock,
- cable support rail,
- colour: RAL 7035 light grey,
- degree of protection: IP44.

We would be happy to show you other equipment options upon request.

Equipment:

- 1 mounting plate made from sheet steel or polyester

Focal areas of use:

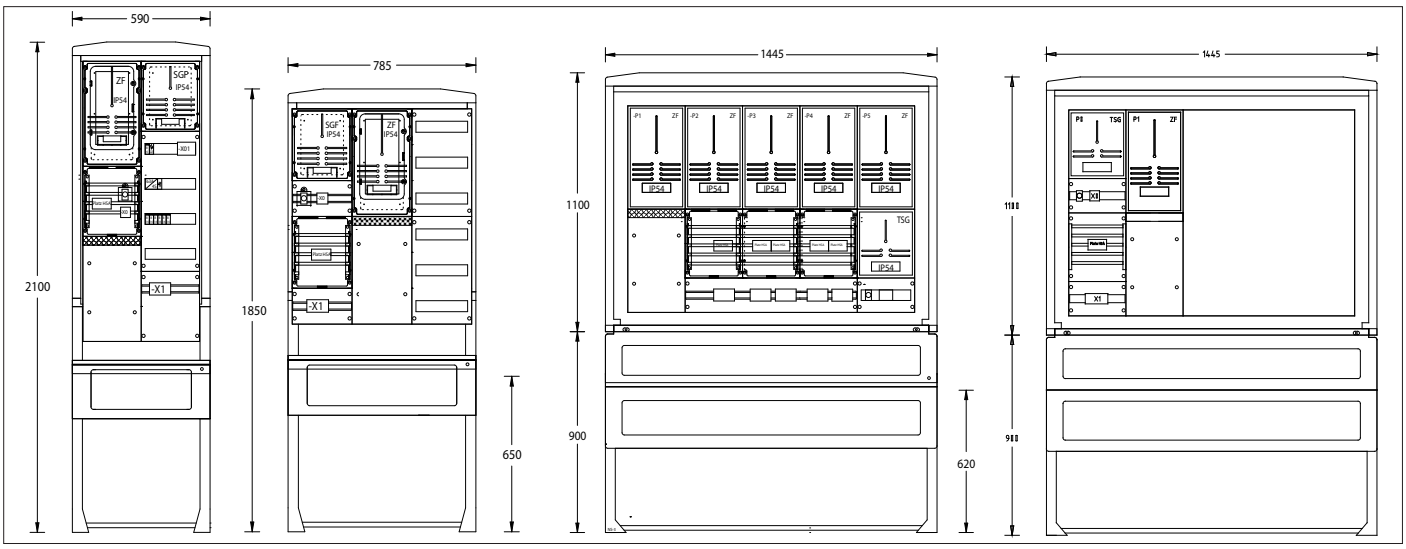
thanks to the smallest possible dimensions, excellent adaptation in inner-city areas, including as:

- small street lighting distributor,
- small marketplace distributor,
- camp-site distributor.

The product catalogue can be found on our website at www.uesa.de.

Outdoor power

Meter connection pillars



Housing:

- material: fibreglass reinforced polyester,
- weather-resistant, impact-resistant, flame retardant,
- effective ventilation,
- modular system with exchangeable individual components,
- door and back wall with profiled surface,
- cable support rail,
- swivel lever handle for profile half cylinder, single or double closure with locking cap,
- colour: RAL 7035 light grey,
- degree of protection: IP44.

We would be happy to show you other equipment options upon request.

Technical data · direct measurements:

- compliant with the technical connection conditions of the respective DSO,
- options: Number of meter slots as required, equipped/unequipped distribution panels, mounting plate made from sheet steel/polyester, special versions, base fillers.

Technical data · transformer measurements:

- compliant with the technical connection conditions of the respective DSO,
- options: number of customer outlets as required, special versions, base fillers.

Product catalogues for DSO can be found on our website at www.uesa.de.

Outdoor power

Meter connection pillars/cabinets
PV systems and other regenerative energies

We supply direct and transformer measurements up to an output of 700 kW. We also offer cabinets for combining the individual inverters (optionally with monitoring technology) and transformer handover stations.

Housing:
- material: fibreglass reinforced polyester; sheet steel,
- weather-resistant, reinforced-resistant, flame retardant,
- effective ventilation,
- modular system with exchangeable individual components (outdoor distributor),
- door and back wall with profiled surface (outdoor distributor),
- cable support rail (outdoor distributor),
- swivel lever handle for profile half cylinder, single or double closure with locking cap; double bit,
- colour: RAL 7035 light grey,
- degree of protection: IP43/IP44/IP54.

Technical data:
- compliant with the technical connection conditions of the respective DSO.

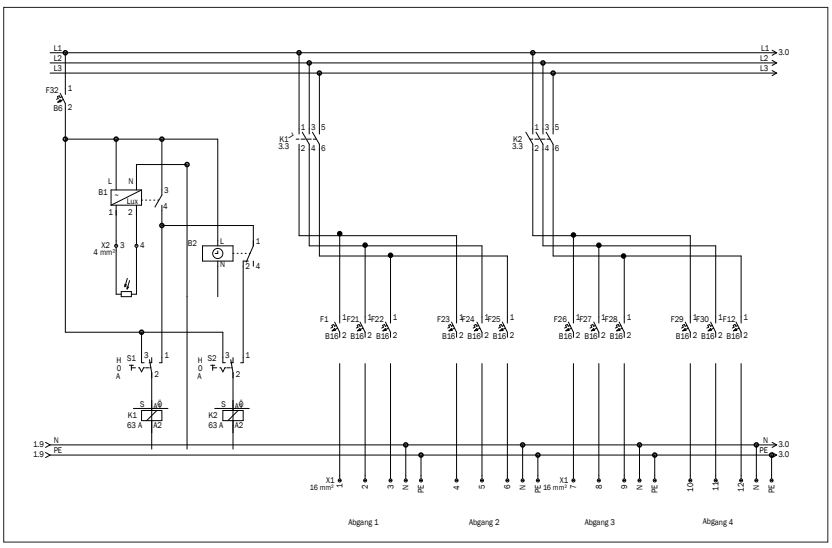
Options:
- monitoring technology (voltage, frequency, asymmetry),
- grid safety management.

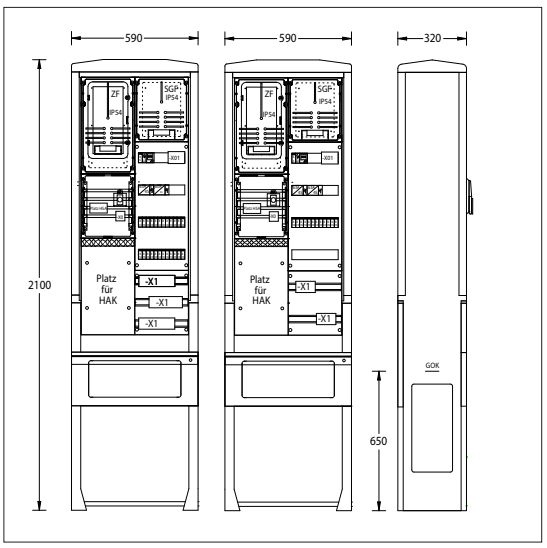
We would be happy to show you other equipment options upon request.

Product catalogues for DSO can be found on our website at www.uesa.de.

Outdoor power

Street lighting pillars





Housing:

- material: fibreglass reinforced polyester,
- weather-resistant, impact-resistant, flame retardant,
- effective ventilation,
- modular system with exchangeable individual components,
- door and back wall with profiled surface,
- cable support rail,
- swivel lever handle for profile half cylinder, single or double closure with locking cap,
- colour: RAL 7035 light grey,
- degree of protection: IP44.

We would be happy to show you other equipment options upon request.

Technical data · direct measurements:

- compliant with the technical connection conditions of the respective DSO,
- street lighting component fully equipped and wired,
- control via twilight switch and timer.

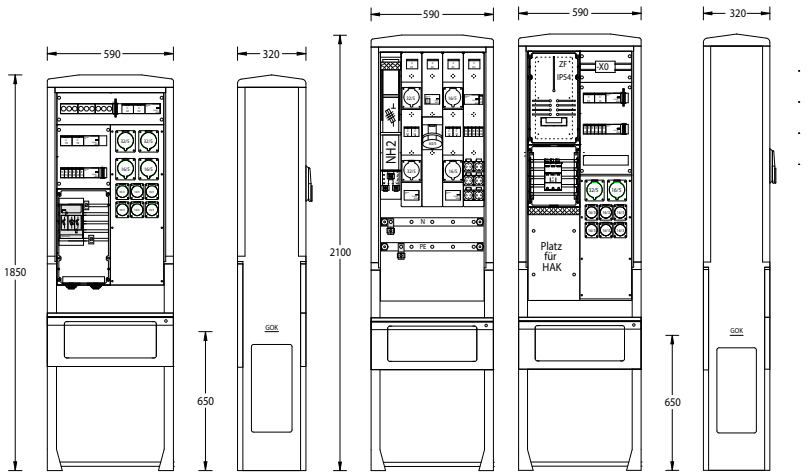
Options:

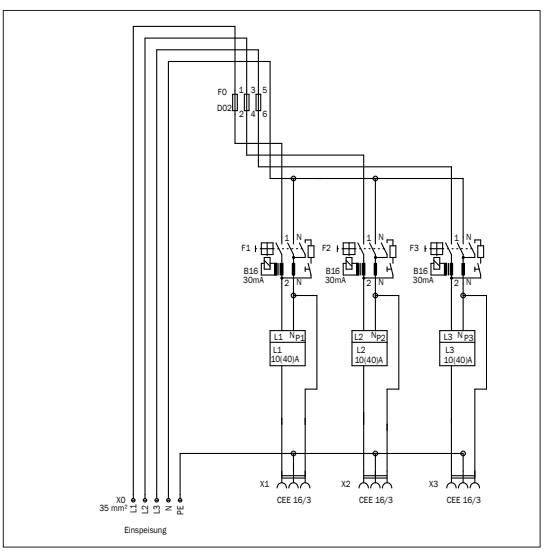
- without measurement /with sub-measurement,
- customer-specific controls,
- number of outputs as required,
- cabinet lighting,
- service socket,
- cabinet heating with regulator,
- standard cabinets for street lighting,
- special versions.

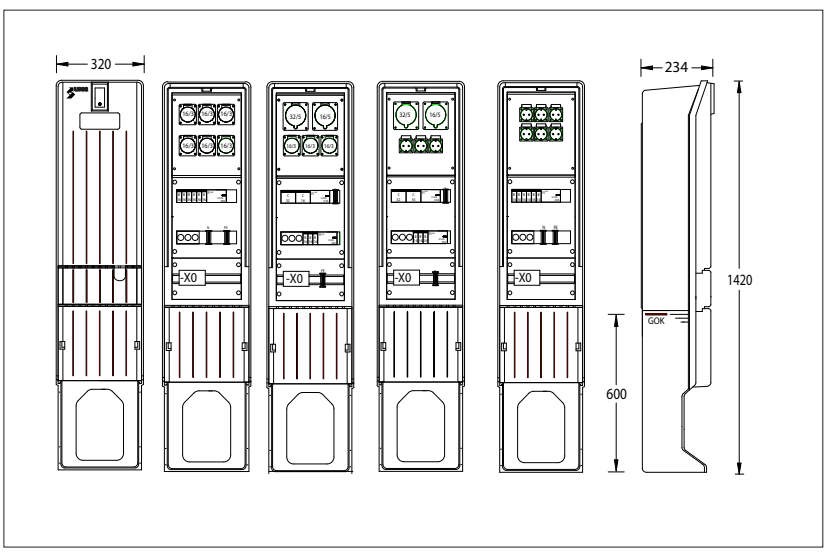
Product catalogues for DSO can be found on our website at www.uesa.de.

Outdoor power

Market and distributors







Housing:

- material: fibreglass reinforced polyester,
- weather-resistant, reinforced-resistant, flame retardant,
- effective ventilation,
- modular system with exchangeable individual components,
- door and back wall with profiled surface,
- cable support rail,
- swivel lever handle for profile half cylinder, single or double closure with locking cap,
- colour: RAL 7035 pale grey,
- degree of protection: IP44,
- camp-site distributor in flat cabinets with lateral cable inlet.

Technical data · marketplace distributors:

- compliant with DIN/DSO,
- in fixed-installation technology/modular technology,
- equipment as per the customer‘s requirements,
- options: direct measurement, transformer measurement or sub-measurement.

Technical data · camp-site distributors:

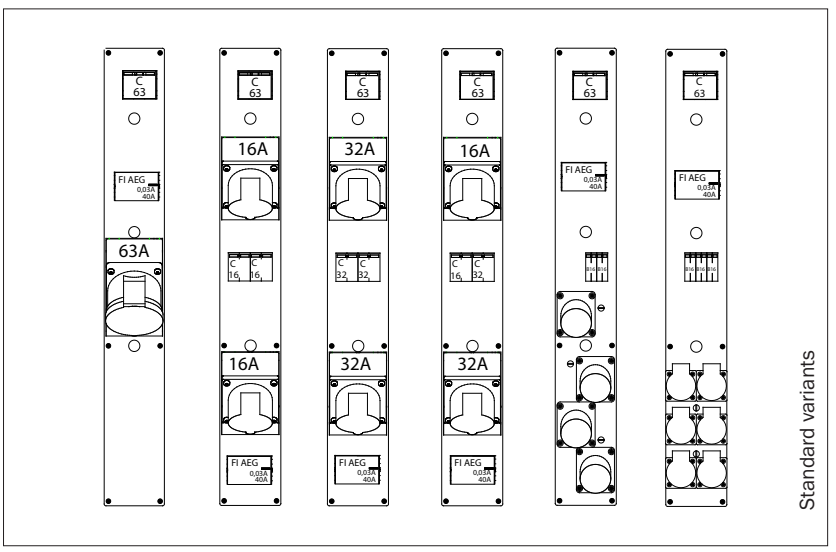
- compliant with DIN/DSO,
- in fixed-installation technology/modular technology,
- feed terminals for 2 clapms,
- main fuse, fault current and circuit breaker, certified single-phase alternating current meter,
- 16 A, 3-pole. CEE sockets,
- max. 3 sockets for each ground fault circuit interrupter,
- equipment as per the customer‘s requirements.

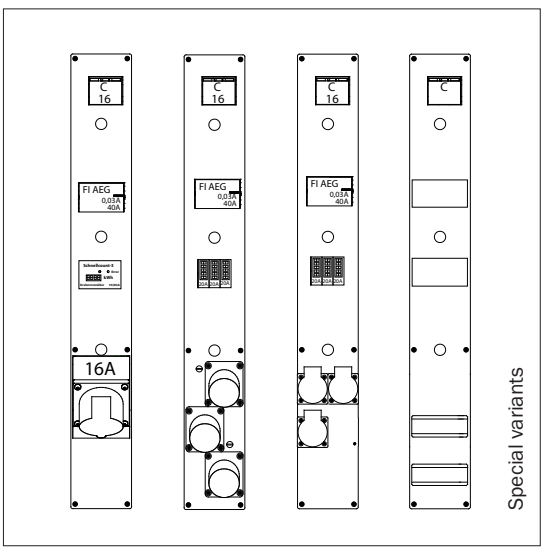
The product catalogue can be found on our website at www.uesa.de.

Socket rails
for 185 mm busbar system

Modules:

- service rail
- transformer measuring module
- street lighting module
- fuss-rail





Housing:
- base body and covers made from polyamide 6 with GF proportion PA6 GF20,
- contacting with the busbar uses M12 screws, similar to NH-Fuse-Switches, vertical design or -Rails NH 1 - NH 3 according to DIN 43 623.
- dimensions: H/W/D: 745 x 100 x 100-184 mm,
- degree of protection: IP40,
- 5-pole. connection incl. connecting cables.

Focal areas of use:
- marketplace and fixed-installation distributors, cable distributors,
- special applications.

Type tests:
- according to DIN EN 61439-1/60309-1,
  - limit excess temperature, insulating properties,
  - air and creepage paths, short-circuit resistance 3 kA,
  - efficiency protection conductor, IP protection type, mechanical function.

Safety information:
- If the socket rails are operated by non-professionals, contact protection compliant with DIN VDE 0100, Part 729 and DIN EN 61439-3 must be ensured,
- If operating equipment (frequency inverter, medical equipment, PV and UPS systems, lift controls, cranes, speed-restricted machinery, etc.) is used in which, in the event of a fault smooth or virtually smooth direct residual currents can occur, the correct choice of residual current protective device must be ensured.

Low-voltage distribution system

Distribution systems in accordance with customer‘s requirements

In the area of low voltage switch gear we offer planning, project planning and production of switch and automating gear in the type-tested and partially type-tested version in open mounting plate construction and enclosed cabinet construction for building service systems and industrial equipment for busbar nominal currents up to 7300 A.

The systems are produced by a well-trained and highly qualified team according to the latest norms and directives. Our permanent production control assure a high quality standard and for you a long and uninterrupted operating time.
We distinguish between various product groups:

Low voltage switch gear in cabinet construction

In this area you have the choice between various cabinet systems from well-known producers Depending on the application these are designed according to your wishes and specifications and adapted to your needs.
You have the choice between various cabinet systems, which have already been tailored to your needs. As licensee of the companies Striebel&John, General Electric and Schneider Electric we produce your sub- and main distributions up to 4000 A for building services in fixed installation and application technique.
Furthermore, for industrial technology the completely with drawable unit-design Okken (as MCC or PCC) up to 7300 A of the company Schneider Electric is available. This modular system provides very high personal safety and very great system availability.

Factory automation machinery according to customer’s wishes

In our house you receive tailor made automating solutions for your individual requirements for small and medium systems. Solutions for reconstruction are also part of our area of responsibility.

Our performance range includes:

- Housing systems: Assembly of your automated production technology in standard or special housings. The assembly can be done according to IEC, EN or US-directives.
- Engineering for small and medium size mechanical engineering firms as well as rationalization solutions.
- Project planning of automated production lines, process control systems, control station design as well as NEA controls with and without synchronization.
- Software development, visualization of processes, system and network coupling, long-distance data transfer and teleservice

Low voltage switch gear in mounting plate construction

We produce low voltage distributions as „type-tested switch gear-combination“ (TSC), which are suitable for assembly in transformer stations. The version is galvanized and in powder coated mounting plate construction.

Niederspannungsschaltanlagen in Tafelbauform

Wir fertigen für Sie Energieverteiler gemäß DIN EN 61439-1/-2, die zum Einbau in begehbare und auch nichtbegehbare Transformatorenstationen geeignet sind. Die Ausführung erfolgt verzinkt und in pulverbeschichteter Tafelbauform.

Low-voltage distribution system

Distribution systems in accordance with customer‘s requirements

Presentation:

Okken is a low-voltage switchgear with a modular design for energy distribution and for the switching of engines. It met the international standards for type-tested switchgear combinations:

- VDE 0660 Part 600
- IEC 61439-1/-2

The standards listed form the subject of the type certificate under real conditions.
Okken guarantees high availability, flexibility and operational reliability of its system.

Standards:

The switching system met the requirements of the following standards:

- type-tested switchgear combination pursuant to IEC 61439-1/-2,
- definition of housing protection types IEC 60529,
- arc fault safety (100 kA eff. 0.3 s) IEC 61641,
- climatic resistance IEC 60068-2.

General properties:

standard production: IEC 61439-1/-2; IEC 60529,
system: modular,
cabinet type: indoor setup,

- degree of protection: IP31/IP41/IP54,
- compact dimensions,
- high personal safety,
- high system availability,
- can be reconfigured during live operation,
- maintenance-friendly,
- high safety in the event of an earthquake,
- can be used in ship-building and offshore installations.

Electrical properties:

rated operational voltage Ue:	400 V AC
rated frequency f:	50 Hz
rated short-time current Icw:	up to 100 (150) kA eff./1 s
rated surge current Ipk:	up to 220 (330) kA
rated current	
horizontal busbar:	up to 7300 A
vertical busbar:	up to 4000 A PCC; up to 2100 A MCC

Low-voltage distribution system

Automation systems in line with customer‘s requirements

We supply tailored automation solutions that meet your individual needs for small and medium-sized systems.
Our portfolio also includes reconstruction solutions.

Housing systems:
setup of your automation technology in:
- special housings are produced for your specific applications, with machine-specific adaptations,
- standard housings from Rittal, ABB, Schneider Electric.

Engineering:
Basic engineering for small and medium-sized mechanical engineering companies as well as rationalisation solutions, including the creation of catalogues of specifications, functional diagrams, indexes of measuring points, operating and monitoring concepts, professional advice to customers.

Project management:
- electrical project management of low-voltage distributions and automation systems.
- electrical project management for mechanical engineering companies in the field of series products, special machinery, line control systems for transport and manufacturing processes.

- documentation drafting with EPLAN, WSCAD, ELCAD according to IEC, EN and US regulations,
- project management of process control systems and control room design,
- project management of NEA control units with/without synchronisation.

Low-voltage distribution
UE20

UE20-2500

Description:

The metal-encapsulated UE20 low-voltage switchgear can be used anywhere on energy supply networks and for industrial applications.

The UE20 switchgear is tested according to the current DIN EN 61439-1 standard and therefore meets the requirements for safe and reliable use.

Thanks to its modular construction, it can be delivered in individual panels or as a complete switchgear, with the equipment, panel sequence and so on being configurable on a specific basis.

Technical data:

rated insulation voltage	u_i	1000 V
operational voltage	u_e	400 V
rated impulse voltage	u_{imp}	8 kV
rated frequency	f_r	50 Hz
rated short-time current	i_{cw}	up to 65 k (1 s)
rated surge current	i_{pk}	up to 143 kA
busbar		up to 4000 A
height (without roof)	mm	1900
width	mm	600–1100
depth	mm	500
degree of protection		IP20

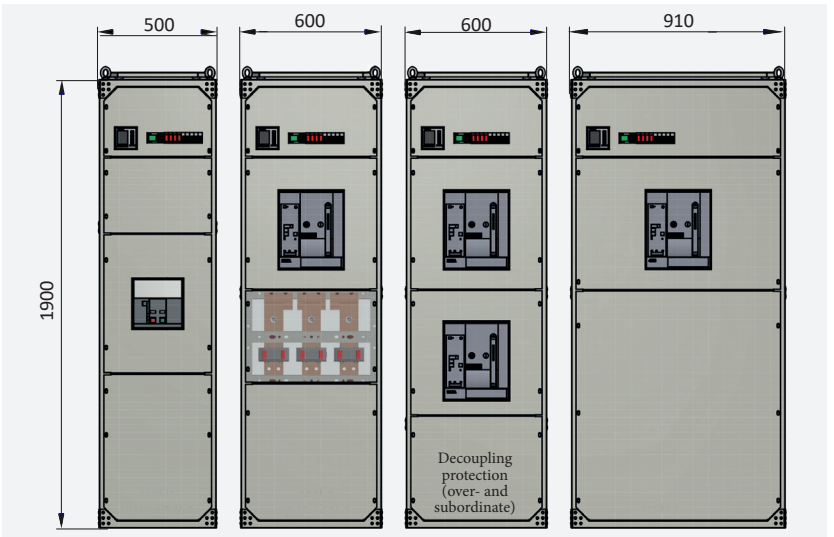
Panel types:

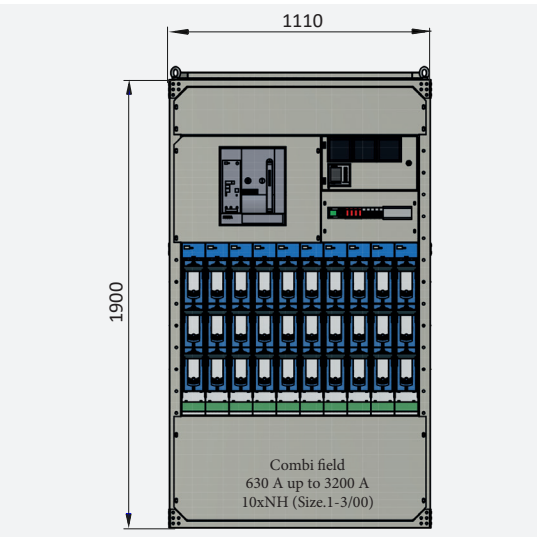
incoming/outgoing feeder panels	Panel
width in circuit breaker up to 1600 A	500 mm
one circuit breaker up to 3200 A	600 mm
one circuit breaker up to 4000 A	910 mm
two circuit breakers up to 1600 A	910 mm
coupling panel	
one circuit breaker up to 1600 A	500 mm
one circuit breaker up to 3200 A	710 mm
one load-break switch up to 3200 A	600 mm
outgoing feeder panels	
6 NH fuse rails size 1–3	710 mm
8 NH fuse rails size 1–3	910 mm
10 NH fuse rails size 1–3	1110 mm
3 circuit breakers up to 630 A	1110 mm
combi panels	
feed: circuit breaker up to 2500 A outputs: 10 NH-Fuse-Switches, vertical design size 1-3	1100 mm

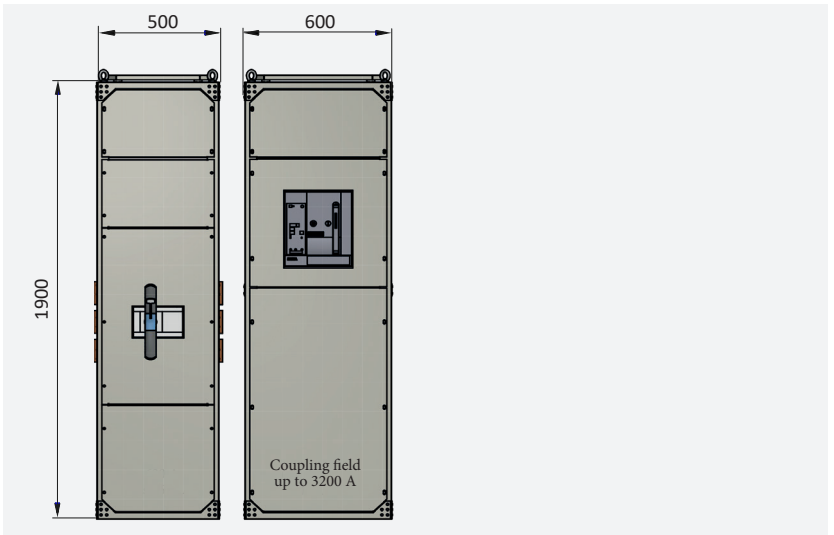
Options:

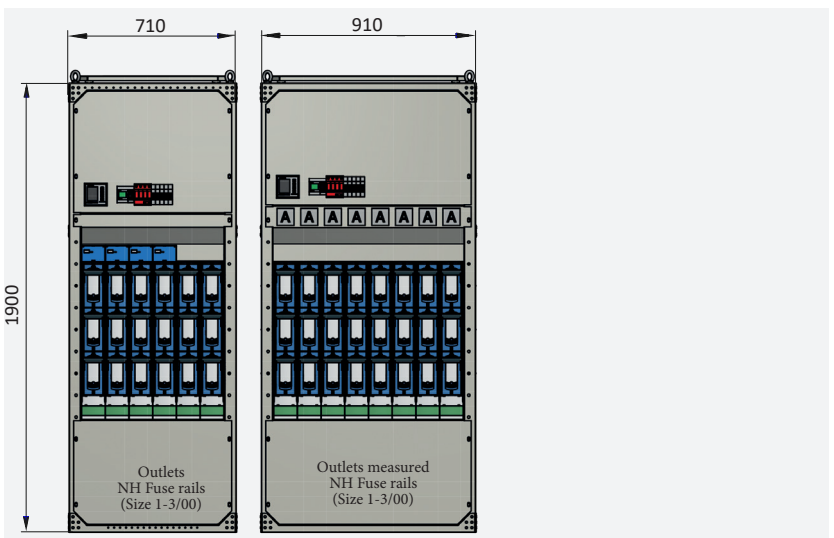
- voltage and current measurement,
- fuse monitoring,
- transformer lugs,
- ball anchorages,
- feed from above/behind (depth 710 mm),
- control functions with circuit breakers (automatic switching, locking and similar).

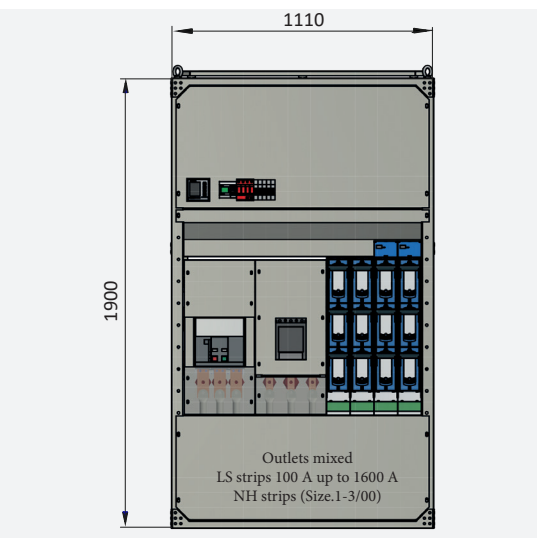
Low-voltage distribution
UE20











Low-voltage switchgear
Panel design

630 A - 1600 A,
H x W = 1350 x 1000 mm
(outgoings can be extended as required)

Standard switchgear:
- circuit breaker ABB
- NH Fuse-Switches, vertical design, size 3 EFEN
- NH Fuse-Switches, horizontal design, size 3/4a EFEN
  other brands possible on request

Outgoing circuits:
- NH Fuse-Rails size 00-3
- NH Fuse-Switch, vertical design, size 00-3
- blanking cover
- standard 10 pieces, can be extended as required

2000 A - 2500 A,
H x W = 1430 x 1000 mm
(outgoings can be extended as required)

Standard incoming switchgear:
- circuit breaker Siemens 3WL size 2
  other brands possible on request

Outgoing circuits:
- NH Fuse-Rails size 00-3
- NH Fuse-Switch, vertical design, size 00-3
- blanking cover
- standard 10 pieces, can be extended as required

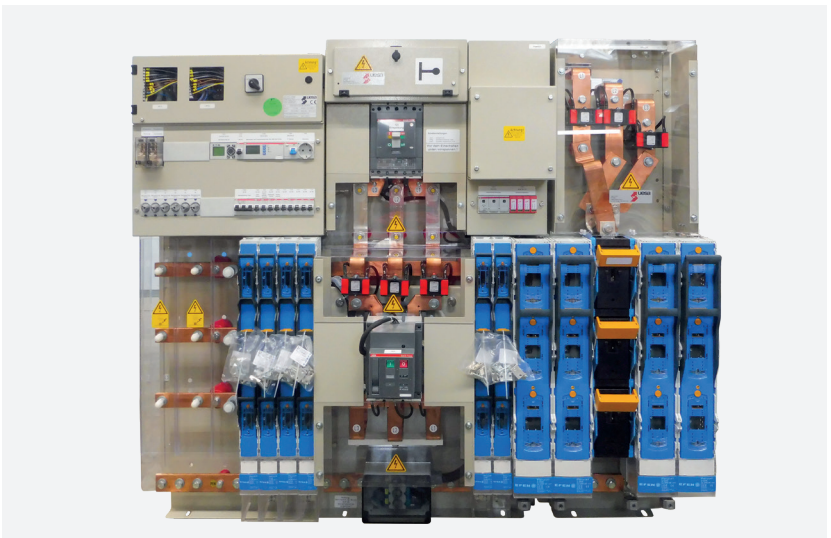
- Version for accessible stations

Low-voltage switchgear
Panel design

- Version for accessible stations

A large number of other variants are possible, eg .:

- Preparation of NS billing measurement



- Feed/draw separated
- Electrically coupled in the direction of the transformer
- Triggering higher-level protection + protection producer unit

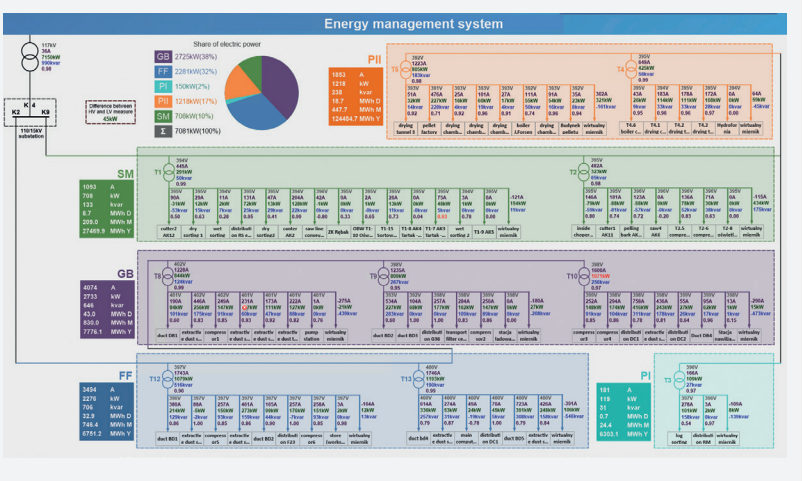
Low-voltage switchgear

uesa Engineering

An important area of our activity is the automation of industrial plants. We advise you in the design of new plants as well as in the automation of existing plants. With our many years of experience in the field of automation we support you from the beginning to the end of your project with project planning, programming and visualisation.

Project management of automation solutions:

- food industry:
  experience in cocoa processing, chocolate production, weighing, mixing and dispensing processes, milling processes, bakery technology, complex line controls,
- transport processes:
  gravel plants, opencast mines, foundries,
- series production in line with customer specifications, including delivery of mechanical components, such as the machine frame,
- industrial robot solutions:
  - project management of pick and place tasks,
  - integration of complex solutions.



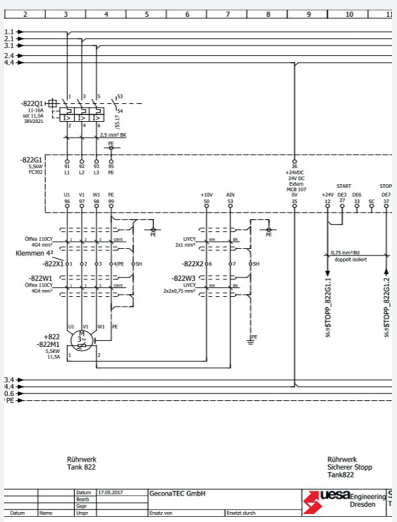
Production and resources consumption (energy, gas and others) monitoring systems

Planning, programming, installation and commissioning of:

- resources consumption monitoring with distribution over individual products/processes/consumers,
- production process monitoring (efficiency and other customer-specific KPIs, micro-stops and bottleneck detection),
- other influencing production factors (outdoor temperature, humidity, etc.),
- visualisation,
- data capture, archiving, processing,
- limit value checks,
- reporting and analysis systems.

Low-voltage switchgear

uesa Engineering

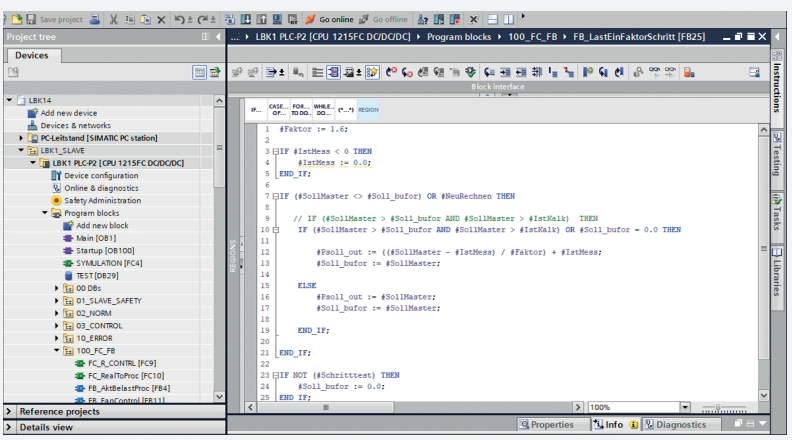


Project management of low-voltage switchgear:

- distributions for steel plants and other industrial properties,
- pump cabinets for water plants, opencast mining equipment,
- NEA control units/grid synchronisations,
- storage compressor stations.
- retrofit

Project planning with:

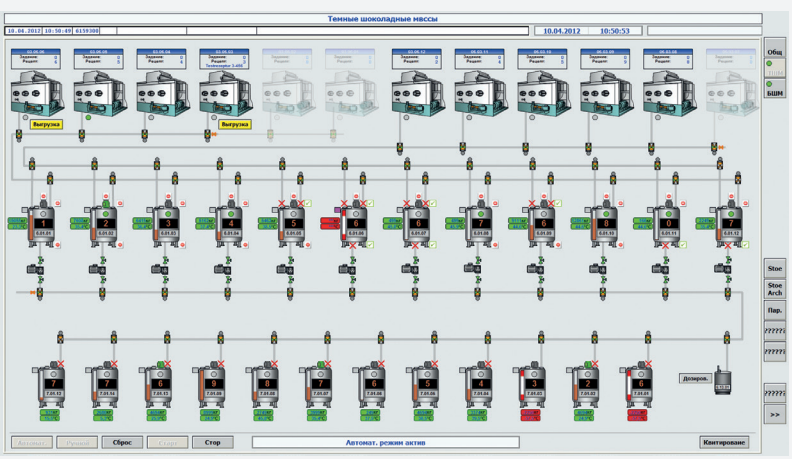
- EPLAN Electric P8



Programming and automation of PLC control systems according to IEC 1131-3:

- Siemens SIMATIC S7
  - > SIMATIC S7-1500
  - > SIMATIC S7-1200
  - > SIMATIC S7-300
  - > SIMATIC S7-400
  - > SIMATIC ET200
- Schneider Electric Modicon:
  - > Modicon 200 Serie
  - > Modicon 340 und 580

and other controllers, e. g. Codesys based



Visualisations:

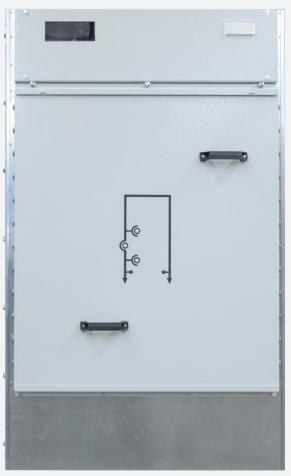
PC and panel based visualisations
we realize standard measuring with:

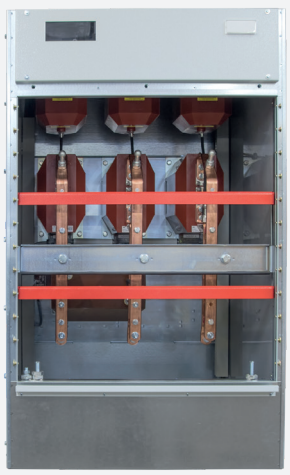
- Siemens:
  - > WinCC Basic/Advanced
  - > WinCC Profesional
  - > WinCC Unified
- AVEVA (Wonderware):
  - > System Platform
  - > InTouch
  - > Edge
  - > Historian

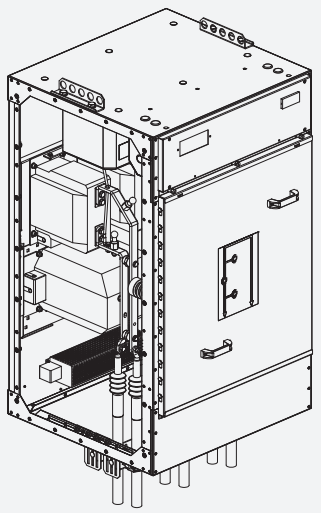
and others on request

Medium-voltage switchgear

Compact measuring panel
MSA-L up to 24 kV







Description:

the compact measuring panel of type MSA-L is type-tested according to the current standard DIN EN 62271-200 and therefore meets the requirements for safe and reliable use in the energy distribution network.
The measuring panel's arc fault resistance has been successfully demonstrated according to IAC-AFL 20 kA/1s in a certified testing field. The measuring panel has been developed and built for use under normal operating conditions according to DIN EN 60694 and can be used in compact stations thanks to its structure.

Setup:

the measuring panel is made from a sheet steel construction in a modular design. The individual elements are connected using steel rivets.
The front closing panel forms a pressure-resistant sheet steel plug-in panel.
Both side walls and the back wall are also made from sheet steel.
The busbars are made of flat copper 40 x 6 mm.
Cables of up to 240 mm^2 to be connected are guided from underneath into the measuring panel and can be secured there using variable cable holding irons.

Special end closures allow cables up to 300 mm^2 to be connected.

Technical equipment:

the measuring panel supports the installation of standardised current and voltage transformers.

Optional additional equipment:

the installation of a second voltage transformer set or self-powered transformers
(e.g.: 2 x GSZ20 or 1 x TGZ20 - from Ritz) is possible.
The separate appliance compartment canbe equipped with various types of measuring equipment, safety elements, etc.

We would be happy to present other equipment options to you on request.

Technical data:

rated voltage	u_r	24 kV
rated short-duration power-frequency withstand voltage	u_d	50 kV
rated lightning impulse withstand voltage		125 kV
rated frequency	f_r	50/60 Hz
rated operating current	i_r	630 A
rated short-duration withstand current (3 s)	I_k	20 kA
rated short-duration withstand current (1 s)	I_k	25 kA
rated impulse current	i_{ma}	65 kA
ambient temperature		-25°C bis +40°C
arc fault qualification	$I_{AC\ AFL}$	20 kA/1s
degree of protection		IP 3XD/IK07
dimensions (mm)	HxWxD	1400x860x843

Medium-voltage switchgear

Air-insulated medium-voltage switchgear type MSA-L up to 24 kV

Description:

the metal-encapsulated, air-insulated switchgear of type MSA-L can be used universally on energy supply networks as well as for industrial applications.
The abbreviation „MSA“ stands for medium-voltage system and the suffix „L“ means air-insulated. The switchgear is installed on the base frame at the front of the panel, ensuring easy and secure installation. All switchgear can be operated with the panel door closed.

The MSA-L switchgear is type-tested according to the current DIN EN 62271-200 standard and therefore meets the requirements for safe and reliable use.
The panels‘ arc fault resistance has been demonstrated successfully according to IAC-AFL 16 kA; 1 s in a certified testing field. The switchgear has been developed and designed for use under normal indoor operating conditions in accordance with DIN EN 60694. The switchgear used has been designed and type-tested according to the relevant switchgear standards.

Thanks to its modular construction, it can be delivered in individual panels or as a complete switchgear, with the equipment, panel sequence and so on being configurable on a specific basis.

Equipment and structure:

the panels are made from a sheet steel construction with a modular design and switchgear permanently installed at the front. The individual housing elements are connected using steel rivets.
The front closing panel forms a pressure-resistant sheet steel door with door fitting either on the right or left.
The panel door is equipped with viewing panes and therefore allows the switchear and switch settings to be checked and monitored.
A polyester wall with feed-throughs separated two neighbouring panels, while the back walls are made from sheet steel.
The busbars are made from rounded copper and are partially insulated.
Cables to be connected are guided from underneath into the switching panels and can be secured there using variable cable holding irons.

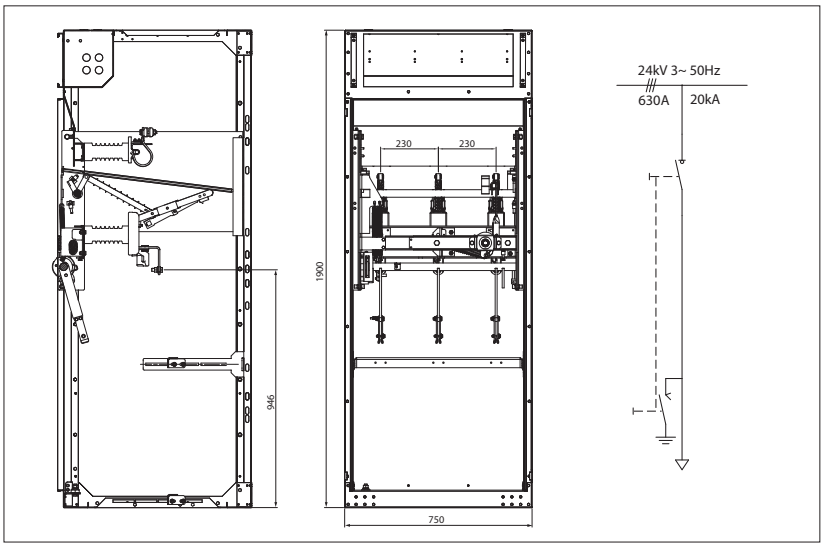
Technical data:

rated voltage	u_r	12 kV	24 kV
rated short-duration power-frequency withstand voltage	u_d	42 kV	50 kV
rated lightning impulse withstand voltage	u_p	75 kV	125 kV
rated frequency	f_r	50 Hz	50 Hz
rated current	i_r	630 A	630 A
rated short-duration withstand current (1s)	I_k	20 kA	20 kA
rated impulse current	i_{ma}	50 kA	50 kA
ambient temperature	$T_{ENVIRONMENT}$	-5 °C bis +40 °C*	-5 °C bis +40 °C*
arc fault qualification iac afl; 1s	$I_{AC\ AFL}$	20 kA	16 kA
degree of protection		IP 2XC	IP 2XC

*** optionally with additional equipment up to -25 °C**

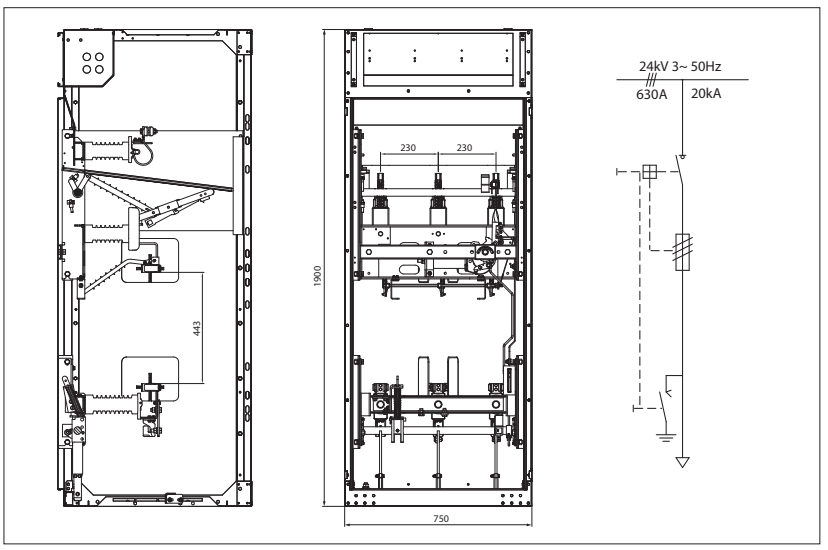
Medium-voltage switchgear

Switch panels

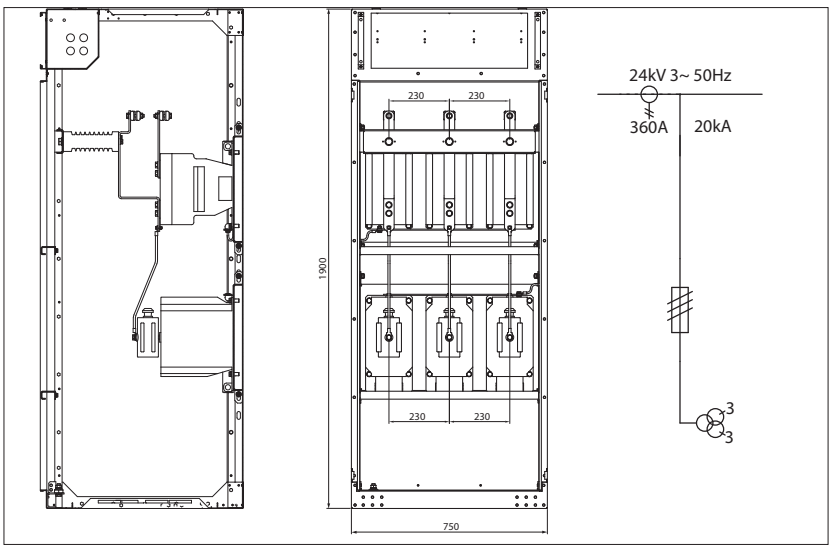


Switch panels type MSA-L-12/24-630-K
Ring cable panels – Load-break switch :
the load-break switch panels are equipped with load-break switches of type KLS and optionally equipped with integrated and locked earthing switches of type EUKS-E1.
The design means that the additional installation of surge arresters is also possible without any problems.

We would be happy to present other equipment options to you on request.



Switching panels of type MSA-L-12/24-630-T
Transformer output fields – Load-break switches:
the load-break switching panels are equipped with type KLFS load-break switches. The switch contains a memory drive, coupled with a trippol.g device, which causes automatic opening of the switchgear via a control coil and/or striking pol. of the built-in fuses. Expansion is also possible with circuit-proof earthing switches of type EUKFS-E1.
If necessary, optional locking between both switchgears prevents incorrect operation.



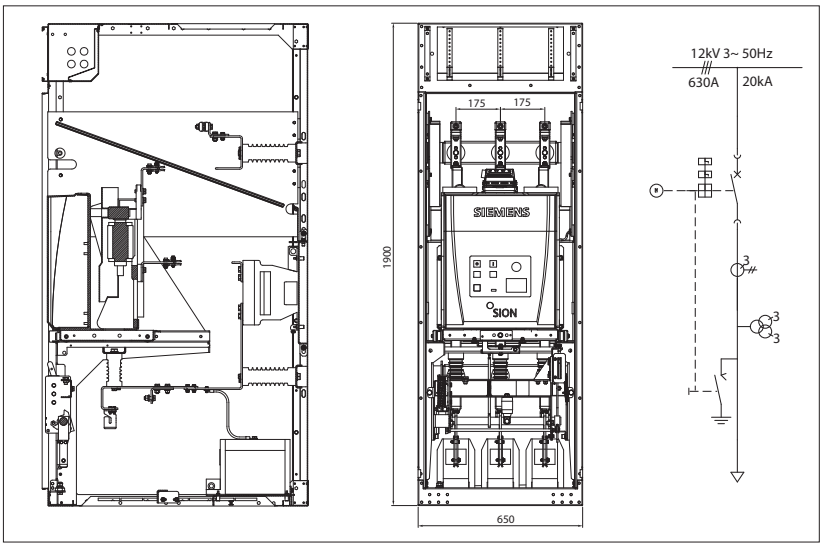
Switching panels of type MSA-L-12/24-630-M
measuring panels:
the MSA-L switchgear series offers a range of switching options for the installation of standardised current and voltage transformers.

Optional additional equipment for all panel types:
including capacitative voltage displays, specific lockable panel doors, panel lighting, installation of measuring instruments and control elements in separate equipment compartment.

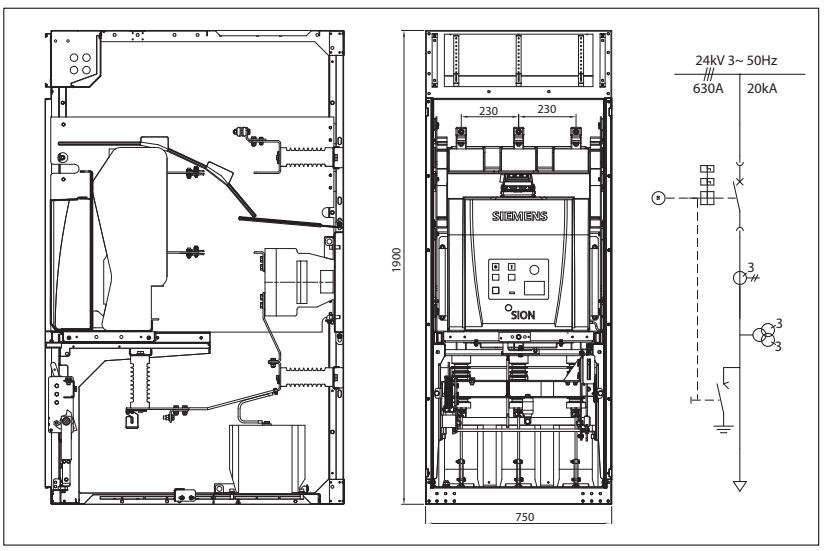
We would be happy to present other switching/ equipment options to you on request.

Medium-voltage switchgear

Switch panels



Switch panels of type MSA-L-12-630-LS (E)
Circuit breaker panels (slot-in technology):
the panels are equipped with circuit breakers of type SION (Siemens) on a slot-in cassette and optionally with integrated and interlocked earthing switches type EULS-E1.
Alternatively, for earthing and short-circuiting, there is an option to use ball anchorages.
The design supports the installation of current and voltage transformers (narrow structure according to DIN 42600 T8/T9).
A wide variety of protection and control devices can be installed in the low-voltage equipment space, which is partitioned from the medium-voltage compartment, according to the customer‘s requirements.



Switch panels of type MSA-L-24-630-LS (E)
Circuit breaker panels (slot-in technology):
the panels are equipped with circuit breakers of type SION (Siemens) on a slot-in cassette and optionally with integrated and interlocked earthing switches type EULS-E1.
Alternatively, for earthing and short-circuiting, there is an option to use ball anchorages.
The design supports the installation of current and voltage transformers (narrow structure according to DIN 42600 T8/T9).
A wide variety of protection and control devices can be installed in the low-voltage equipment space, which is partitioned from the medium-voltage compartment, according to customer requirements.

Medium-voltage switchgear

protective cabinet

QU-protective cabinet example: Internal structure

QU-protective cabinet with Siemens 7SJ80

QU-protective cabinet with Siemens 7SN600 and SEG Woodward MRA4

QU-protective cabinet with SEG Woodward MRA4

Dimensions:

the cabinet dimensions are selected so that it is possible to use all conventional protection relays in the cabinet.
Standard cabinet: H/W/D: 840 x 430 x 400 mm, 850 x 500 x 350 mm, 1200 x 500 x 400 mm, 1200 x 600 x 350 mm.
As well as plant specific top boxes for 8DJH, FBX, SafeRing/SafePlus.

Installation versions:

the cabinet can be installed horizontally or vertically.

Battery system:

the battery system is designed so that a voltage supply to the protective relays is guaranteed for at least 8 hours.
It is possible to put the battery into operation via a button. After 8 hours, the battery system is switched off by a timer relay in order to prevent deep discharging of the batteries.

Potential use:

the dimensions mean that the protective cabinet can also be used in compact stations.

Protective relay:

all conventional protective relays can be used.
The preferred versions for QU-protection are:

- MRA4/MRI4/MRU4/MCDLV4 SEG Woodward,
- 7SJ80 Siemens,
- SPRECON-E-P-DSREY/SPRECON-E-P-DDE6 Sprecher,
- P130/P132 Schneider Electric,
- CM-UFD.M31 ABB.

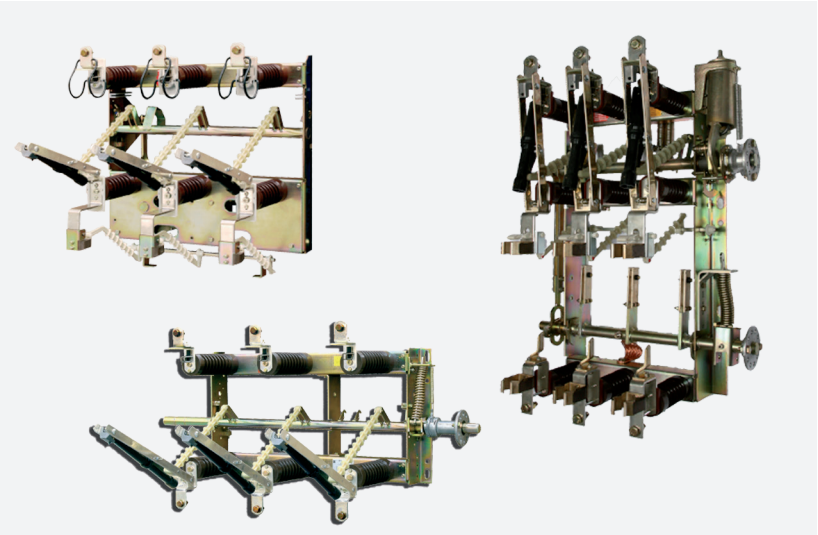
Retrofitting:

it is possible, with very little effort, to retrofit the QU-protection into existing systems.

Deliveries come as standard with a test terminal strip. The use of test sockets is also possible.

Medium-voltage switchgear

Load-break switches, disconnectors, earthing switches



uesa medium-voltage load-break switches, disconnectors and earthing switches offer switchgear manufacturers devices that have proven their technical quality and cost-effectiveness for years.
The medium-voltage load-break switches KL, KLF, disconnector T and earthing switches DES, EUK, EOK with rated voltage up to 24 kV and rated current up to 630 A are used in distribution networks managed by energy supply companies and in industrial networks of small to medium-sized businesses with low switching frequency.
Due to the compact dimensions, these switches can be used as installed devices in existing switchgear concepts from various manufacturers.

Key characteristics of this switchgear include:
- high operational reliability thanks to simple and reliable design,
- easy maintenance and monitoring,
- high dynamic and thermal stability,
- tested in international testing fields.

The KL and KLF load-break switches have encapsulated tilting tube arc extinguishing devices (current interruption without visible arc) and belong to the group of hard gas switches. These generate the extinguishing agent (gas) required to extinguish the arc themselves. Spring-loaded actuators act indirectly and quickly on the movable contact blades, whose speed is thus largely independent of the actuation of the drive.
KL load-break switches are used as cable and handover switches.
KLF load-break switches with HH fuse holder and fuse free release are used as transformer switches.

Disconnectors T are designed without arc extinguishing devices or mechanical spring drives.

DES, EUK and EOK earthing switches can optionally be supplied with quick switch-on devices (E1). The DES earthing switch is designed for universal use.
The EUK and EOK earthing switches are especially suitable for attachment to KL and KLF load-break switches and T disconnectors, and can optionally be installed ex works below or above the load-break switch or disconnector.
The EUK and EOK earthing switches are mechanically interlocked with the load-break switch or disconnector.

Optional equipment can be supplied:
- HH fuse holder below or above the KLF load-break switch, fitted with lever for fuse free release,
- auxiliary switch,
- tripped signalling contact for KLF load-break switches,
- shunt release for KLF load-break switches,
- motor drive for KL and KLF load-break switches and T disconnectors,
- switching lever with ring eyelet (for switch rod actuation),
- disc drive with linkage (1500 or 2000 mm long),
- rotary drive for lateral rotary lever actuation.

The switchgear is certified according to the European IEC CN standard.

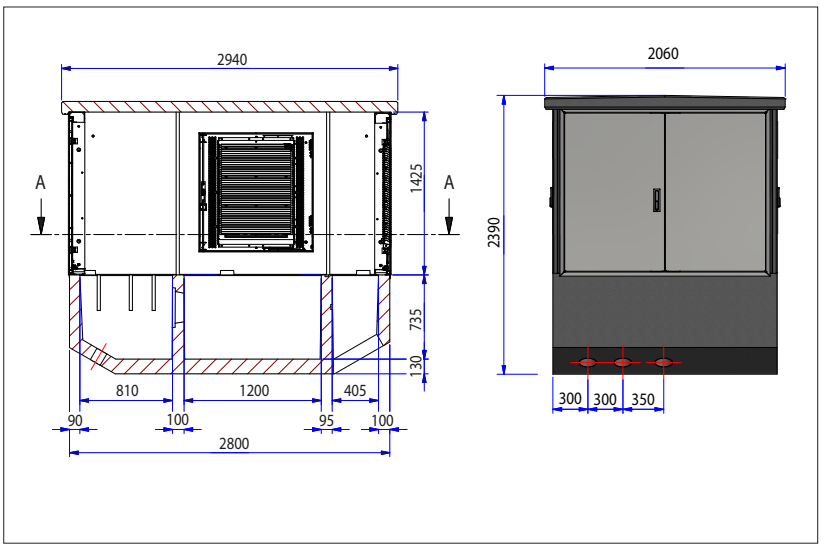
Transformer stations

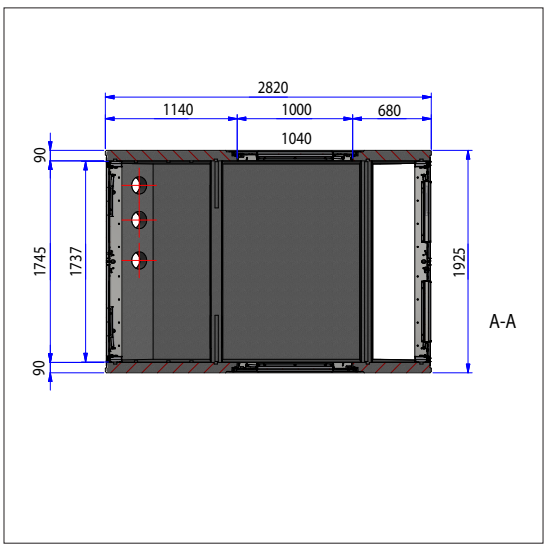
Type KS 19-28
Concrete compact station

Details:

- concrete station
- compact, non-accessible
- 1 transformer
- tare weight 6300 kg
- designed in various RAL colours

- length: 2820 mm
- width: 1925 mm
- height: 2290 mm





Component:

- the structure of the KS 19-28 is a reinforced concrete assembly construction with the basic components of a cellar element, wall element and roof element,
- upper section can also be made from sheet metal,
- concrete with strength class C 30/37,
- transformer space as a self-contained tub, waterproof,
- medium-voltage segment with waterproof cable feed-throughs,
- low-voltage segment in the area of the base plate open/optionally closed with cable feed-throughs,
- doors and ventilation grilles made from sheet steel produced in-house, UV-resistant powder coating,
- construction power feeds with cable attachment option,
- external coating underneath with bitumen protective layer, facade as per customer‘s requirements (rubbing plaster, roll plaster, Etc.).

Technical equipment:

- compliant with the technical connection conditions of the respective DSO,
- type tests compliant with IEC 62271-202: with medium-voltage switchgear from Ormazabal type GA and Siemens type 8DJH.

Medium voltage:

- use of 2 to 4-panel, type-tested SF6-insulated switchgear from well-known manufacturers in the range from 6 to 36 kV.

Transformers:

- use of standard three-phase current oil or cast resin transformers possible; max. technical dimensions, determined by the structure,
- ventilation dimensioned for transformer outputs of up to 630 kVA, opt. up to 800 kVA.

Low voltage:

- use of standard and customer-specific low-voltage distributions in mounting plate construction,
- option: LV-side measurement.

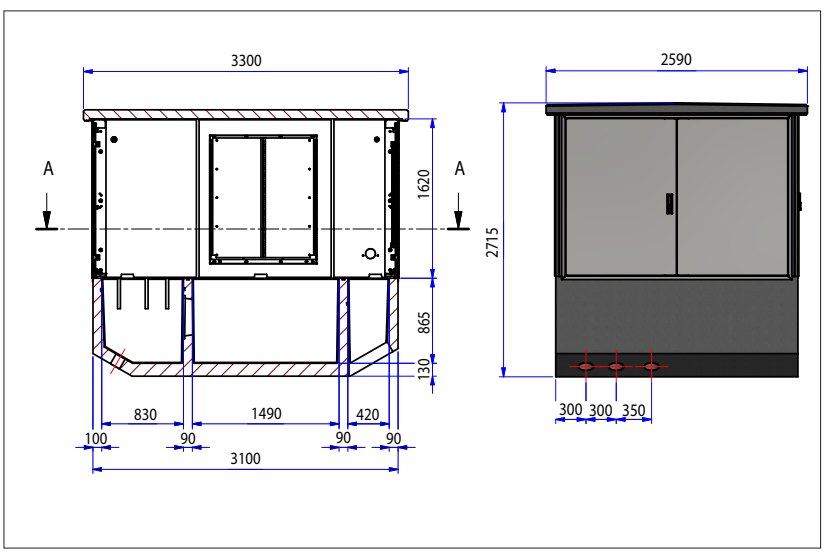
Transformer stations

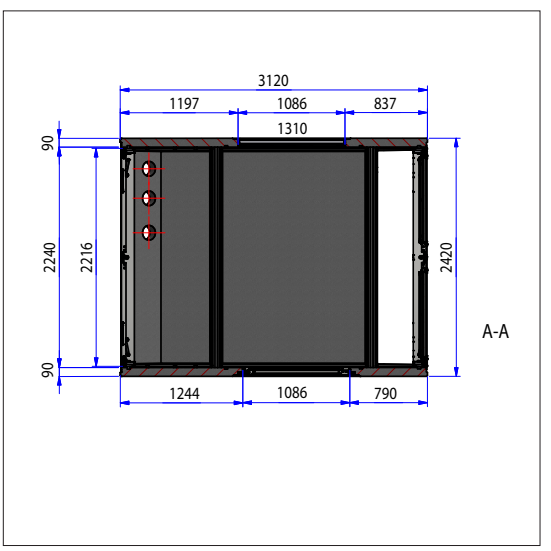
Type KS 24-31
Concrete compact station

Details:

- concrete station
- compact, non-accessible
- 1 transformer
- tare weight 8650 kg
- designed in various RAL colours

- length: 3120 mm
- width: 2420 mm
- height: 2615 mm





Component:

- the structure of the KS 24-31 is a reinforced concrete assembly construction with the basic components of a cellar element, wall element and roof element,
- upper section can also be made from sheet metal,
- concrete with strength class C 30/37,
- transformer space as a self-contained tub, waterproof,
- medium-voltage segment with waterproof cable feed-throughs,
- low-voltage segment in the area of the base plate open/optionally closed with cable feed-throughs,
- doors and ventilation grilles made from sheet steel produced in-house, UV-resistant powder coating,
- construction power feeds with cable attachment option,
- external coating underneath with bitumen protective layer, facade as per customer‘s requirements (rubbing plaster, roll plaster, etc.).

Technical equipment:

- compliant with the technical connection conditions of the respective DSO,
- type tests compliant with IEC 62271-202: with medium-voltage switchgear make: Siemens Typ 8DJH and Schneider Electric type FBX and measuring field of type MSA produced in-house. Fabr.: ABB Safeplus.

Medium voltage:

- use of 2 to 4-panel, type-tested SF6-insulated switchgear from well-known manufacturers in the range from 6 to 36 kV,
- use of air-insulated measuring fields of type MSA produced in-house.

Transformers:

- use of standard three-phase current oil or cast resin transformers possible,
- ventilation dimensioned for transformer outputs of up to 1000 kVA, opt. up to 1250 kVA.

Low voltage:

- use of standard and customer-specific low-voltage distributions in mounting plate construction,
- option: LV-side measurement.

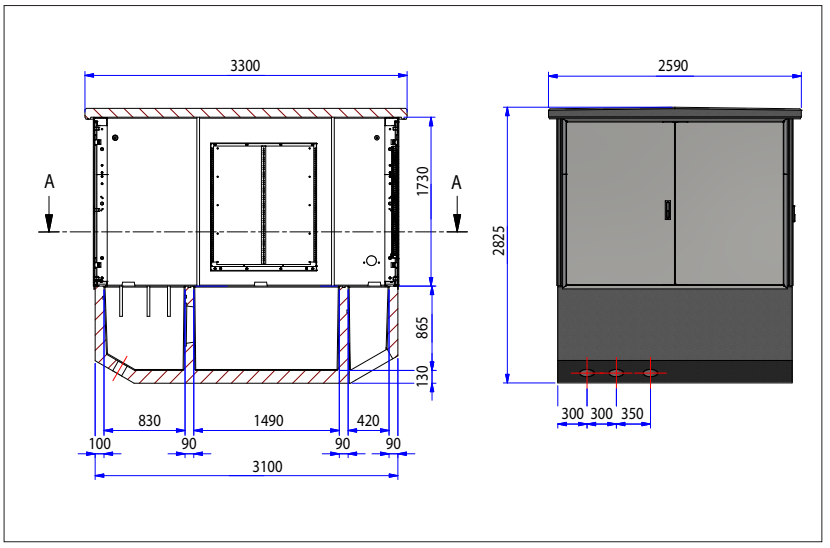
Transformer stations

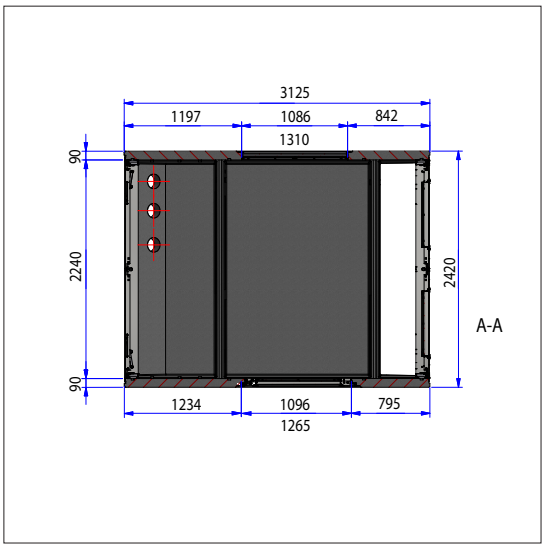
Type KS 24-31 H
Concrete compact station

Details:

- concrete station
- compact, non-accessible
- 1 transformer
- tare weight 8800 kg
- designed in various RAL colours

- length: 3125 mm
- width: 2420 mm
- height: 2725 mm





Component:

- the structure of the KS 24-31 H is a reinforced concrete assembly construction with the basic components of a cellar element, wall element and roof element,
- upper section can also be made from sheet metal,
- concrete with strength class C 30/37,
- transformer space as a self-contained tub, waterproof,
- medium-voltage segment with waterproof cable feed-throughs,
- low-voltage segment in the area of the base plate open/optionally closed with cable feed-throughs,
- doors and ventilation grilles made from sheet steel produced in-house, UV-resistant powder coating,
- construction power feeds with cable attachment option,
- external coating underneath with bitumen protective layer, facade as per customer‘s requirements (rubbing plaster, roll plaster, etc.).

Technical equipment:

- compliant with the technical connection conditions of the respective DSO,
- type tests compliant with IEC 62271-202: with medium-voltage switchgear from Siemens type 8DJH and Schneider Electric type FBX and measuring field of type MSA produced in-house. ABB Safeplus.

Medium voltage:

- use of 2 to 4-panel, type-tested SF6-insulated switchgear from well-known manufacturers in the range from 6 to 36 kV,
- use of air-insulated measuring fields of type MSA produced in-house.

Transformers:

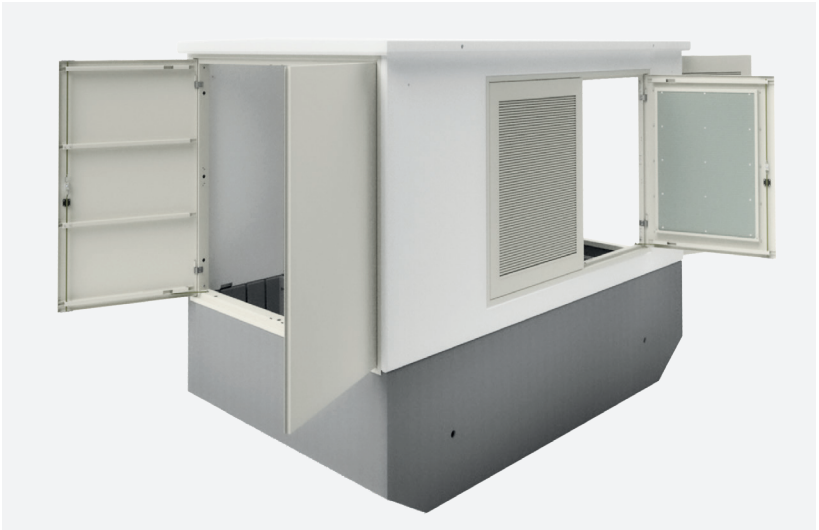
- use of standard three-phase current oil or cast resin transformers possible,
- ventilation dimensioned for transformer outputs of up to 1250 kVA, opt. up to 1600 kVA.

Low voltage:

- standard and customer-specific low-voltage distributions in mounting plate construction,
- option: LV-side measurement.

Transformer stations

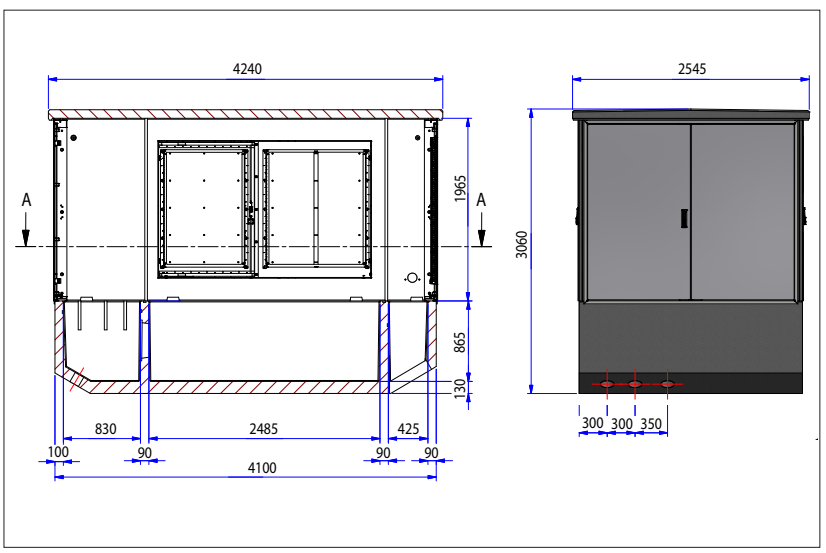
Type KS 24-41 H
Concrete compact station

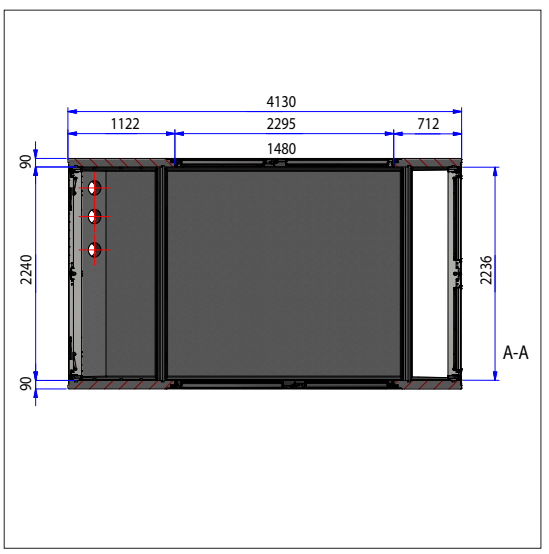


Details:

- concrete station
- compact, non-accessible
- 1 transformer
- tare weight 11050 kg
- designed in various RAL colours

- length: 4130 mm
- width: 2420 mm
- height: 2960 mm





Component:

- the structure of the KS 24-41 H is a reinforced concrete assembly construction with the basic components of a cellar element, wall element and roof element,
- upper section can also be made from sheet metal,
- concrete with strength class c 30/37,
- transformer space as a self-contained tub, waterproof,
- medium-voltage segment with waterproof cable feed-throughs,
- low-voltage segment in the area of the base plate open/optionally closed with cable feed-throughs,
- doors and ventilation grilles made from sheet steel produced in-house, UV-resistant powder coating,
- construction power feeds with cable attachment option,
- external coating underneath with bitumen protective layer, facade as per customer‘s requirements (rubbing plaster, roll plaster, etc.).

Technical equipment:

- compliant with the technical connection conditions of the respective DSO.

Medium voltage:

- use of 2 to 4-panel, type-tested SF6-insulated switchgear from well-known manufacturers in the range from 6 to 36 kV,
- use of air-insulated measuring fields of type MSA produced in-house.

Transformers:

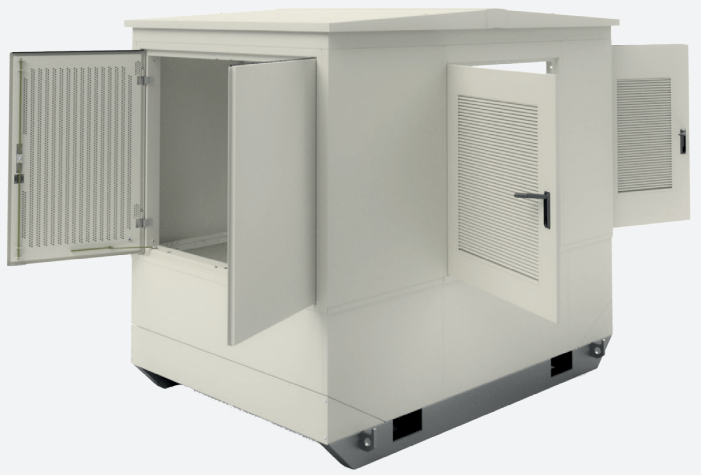
- use of standard three-phase current oil or cast resin transformers possible,
- ventilation dimensioned for transformer outputs of up to 2000 kVA, opt. up to 2500 kVA.

Low voltage:

- standard and customer-specific low-voltage distributions in mounting plate construction,
- option: LV-side measurement.

Transformer stations

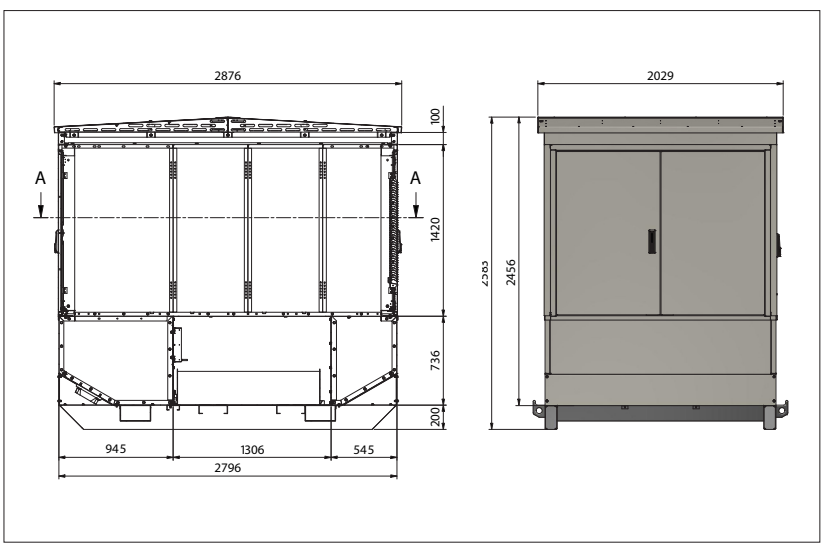
Type US 19-28
Compact, non-accessible, sheet metal

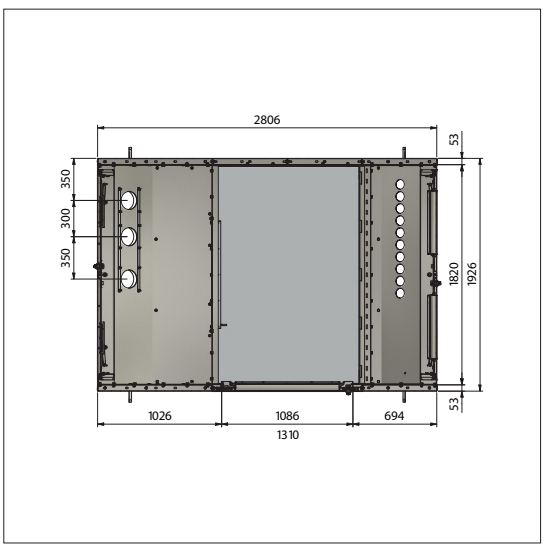


Details:

- sheet metal station
- compact, non-accessible
- 1 transformer 630 kVA
- tare weight approx. 1,5 t (Trafo: 630 kVA)
- designed in various ral colours

- length: 2806 mm
- width: 1926 mm
- height: 2456 mm





Use:
- the modular construction means there are numerous possible uses: use as a construction power station (with runners), as a grid and customer station for permanent use (buried) and as a grid centre station for use in the immediate vicinity of electrical consumers, as an alternative to setting up electrical plant rooms.

Component:
- housing: robust full-steel design, hot dip galvanised, powder-coated, unit tested, ransformer space as a self-contained tub,
- doors and ventilation grilles made from sheet steel with UV-resistant powder coating, colour freely selectable from RAL table,
- medium-voltage segment with waterproof cable feed-throughs,
- low voltage segment with bushings or open with small animal protection.

Technical equipment:
- compliant with the technical connection conditions of the respective DSO,
- type tests compliant with IEC 62271-202: with medium-voltage switchgear from Siemens type 8DJH.

Medium voltage:
- use of 2 to 4-panel, type-tested SF6-insulated switchgear from well-known manufacturers in the range from 6 to 36 kV.

Transformers:
- use of standard three-phase current oil or cast resin transformers up to 630 kVA,

Low voltage:
- use of standard and customer-specific low voltage distributions in mounting plate construction.
- option: LV-side measurement.

Transformer stations

Rental stations
Concrete/sheet metal

Details:

- concrete station (type KS 19-28)
- compact, non-accessible
- 1 transformer
- tare weight 6300 kg
- designed in various RAL colours

- length: 2820 mm
- width: 1925 mm
- height: 2456 mm

Details:

- sheet metal station (type US 19-28)
- compact, non-accessible
- 1 transformer 630 kva
- tare weight approx. 1,5 t
- designed in various ral colours

- length: 2806 mm
- width: 1926 mm
- height: 2580 mm

Our rental stations offer a variety of solutions for our customers. Whether for the safeguarding of construction power connections, the bridging of faults or for use as a grid centre station, the possible uses are many and varied.

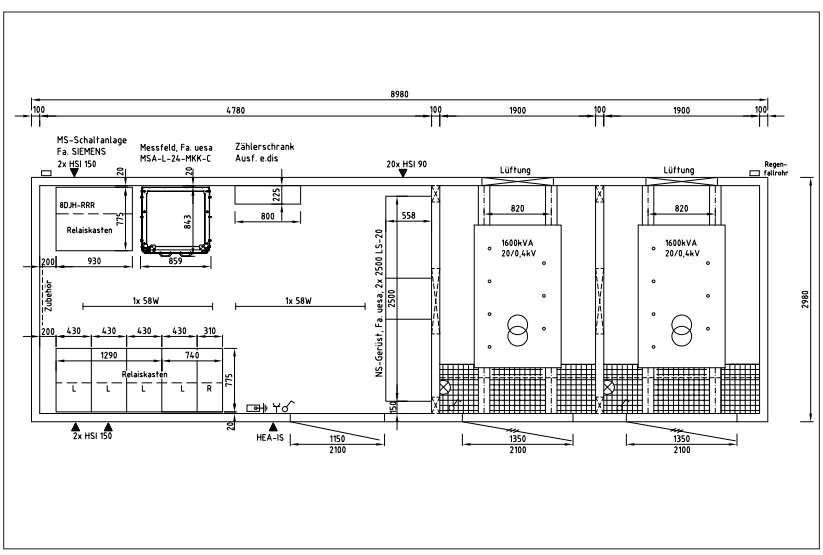
We can provide customers looking for the direct use of stations on a rental basis with solutions-orientated offers. We also offer solutions for investors who are looking for rental stations as a rental property for onward rental over a longer period.

The compact transformer station can be supplied with concrete housing and also as a sheet metal station. Oil and cast resin transformers up to 630 kVA can be used for voltages up to 36 kV.

The medium-voltage switchgear is adapted to the prevailing grid conditions.
The stations are tested according to IEC 62271-202.

Transformer stations

compact, accessible



Component:

- production of the structure in an element-based construction from reinforced concrete,
- concrete with strength class C 30/37, waterproof,
- production of the cellar in a cell construction without work gaps to ensure resistance to water and oil,
- introduction of external cables via water-resistant cable feed-throughs,
- doors and ventilation grilles made from sheet steel or aluminium, colour options and selection according to manufacturers' colour palettes,
- construction power feed with cable attachment option,
- external coating underneath with bitumen protective layer, facade as per customer's requirements (rubbing plaster, roll plaster, etc.).

Technical equipment:

- compliant with the technical connection conditions of the respective DSO.

Medium voltage:

- use of type-tested air and SF6-insulated switchgear from well-known manufacturers in the range from 6 to 36 kV.

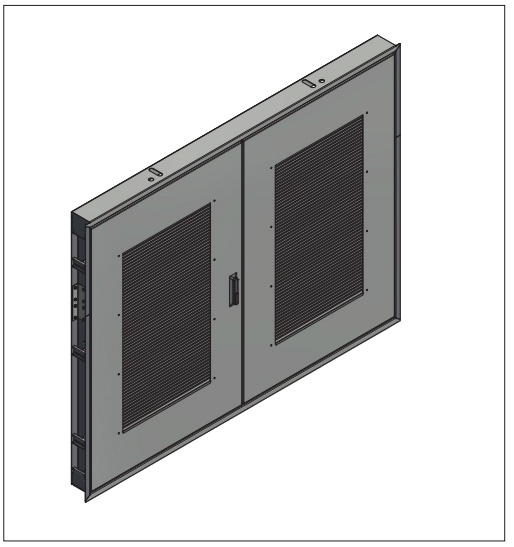
Transformers:

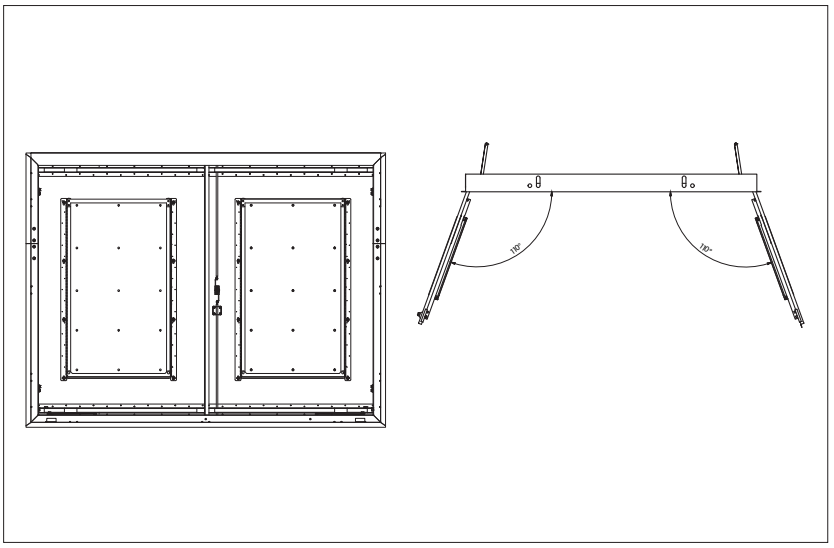
- use of standard three-phase current oil or cast resin transformers possible, maximum technical dimensions determined by the structure.

Low voltage:

- use of low-voltage distributions in panel construction or cabinet construction produced in-house in accordance with your requirements,
- options: compensation systems, battery or UPS systems, use of control and instrumentation components.

Doors made from sheet steel/aluminium/ stainless steel for compact stations



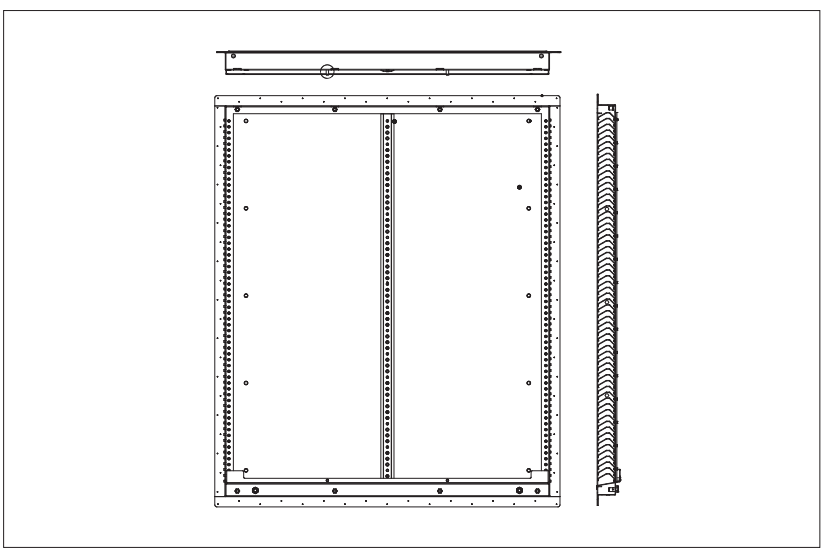


Standard designs doors:

- sheet metal parts made from galvanised sheet steel with powder-coated surface, sheet metal parts made from aluminium with anodised surface or stainless steel,
- option of integration into the equipotential bonding,
- lock with three-point locking,
- locking bars made from stainless steel,
- piercing protection in accordance with DIN VDE 0101,
- insect protection,
- type tested,
- protection category: IP23D.

The dual-cylinder swivel lever lock is made from black zinc die cast metal.

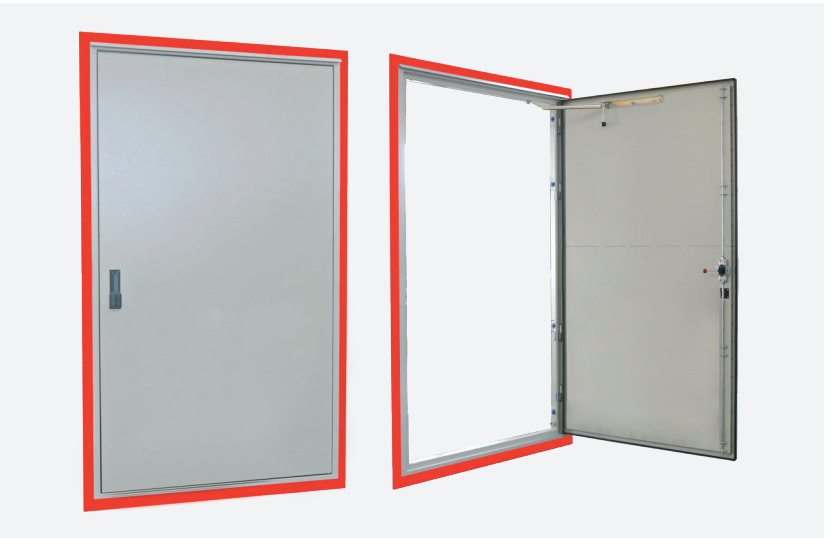
Sheet steel/aluminium/ stainless steel ventilation grille

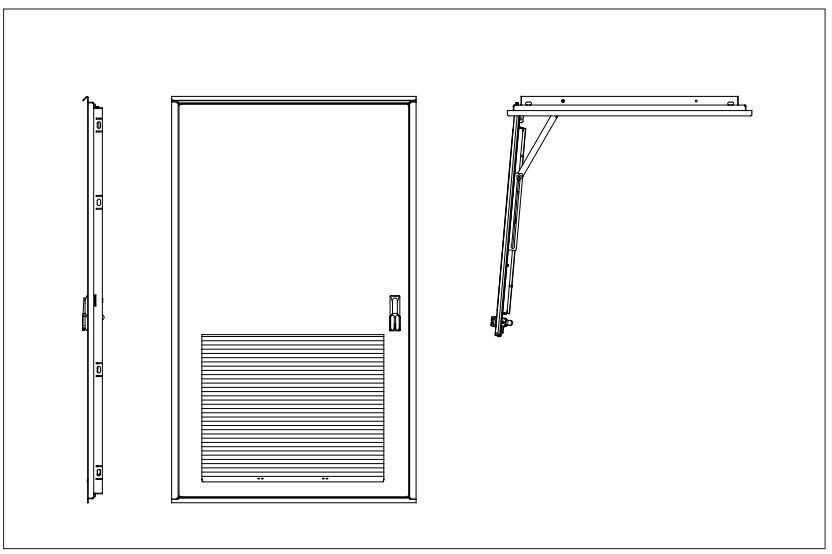


Standard designs ventilation grille:

- sheet metal parts made from galvanised sheet steel with powder-coated surface, sheet metal parts made from aluminium with anodised surface,
- dimensions are possible from H/W: 210 x 500 mm up to 2000 x 750 mm,
- favourable flow coefficient,
- high free ventilation cross-section,
- option of integration into the equipotential bonding,
- piercing protection in accordance with DIN VDE 0101,
- insect protection,
- type tested,
- colour: standard is RAL 7035 (other RAL colours are possible),
- degree of protection: IP23D.

Doors for technology stations (accessible transformer stations)





Standard designs and special designs:

- sheet metal parts made from galvanised sheet steel with powder-coated surface,
- option of integration into the equipotential bonding,
- lock with panic function and three-point locking,
- dual-cylinder swivel lever lock made from black die cast metal,
- locking bars made from stainless steel,
- piercing protection in accordance with DIN VDE 0101,
- insect protection,
- type tested,
- degree of protection: IP43.

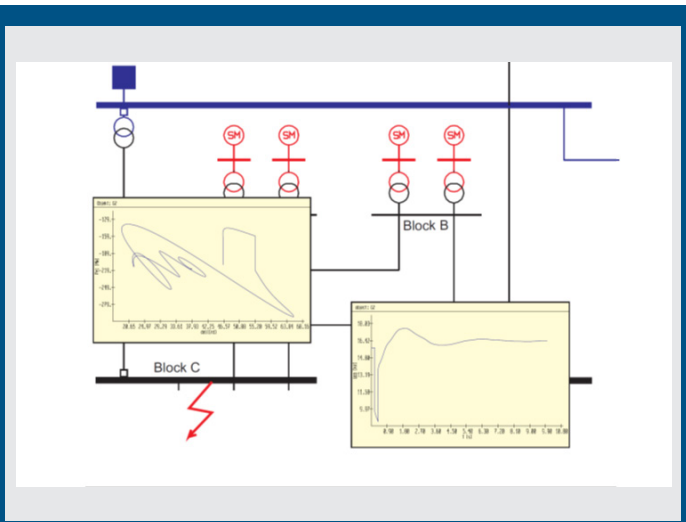
The doors for the accessible technology stations are made in the version shown with ventilation unit or with lockable underneath ventilation. Special frames have been developed for use in reconstruction measures which cover different construction dimensions.

Please do not hesitate to contact us if you have any queries regarding possible dimensions and designs.

E-Mobility

Planning - installation- service
Everything from a single source

Network calculation/planning



Grid analysis/grid calculation

- Short-circuit current calculation,
- Power flow calculation,
- Calculation of grid dynamics,
- Grid protection concepts/protection settings,
- Grid design,
- Grid expansion planning.

Transformer stations

- E-mobility solutions for fuel stations and rest stops,
- Delivery of stations for all supply network operators and utility companies in Germany,
- Interface from the MV network of the supply network operator to the LV network for charging technology,
- Custom configuration of transformer stations,
- Option to have medium voltage-side measurement in the transformer station.

Cable distribution cabinets, measuring cabinets

- Cable distribution cabinets,
- Direct measurements up to 63 A (for all supply network operators and utility companies),
- Transformer measurements up to 630 A (for all supply network operators and utility companies).

E-Mobility

Planning - installation - service
Everything from a single source

DC-Charging stations

Charging station for simultaneous DC charging of up to two electric vehicles with up to 500 A charging-current

Characteristics:

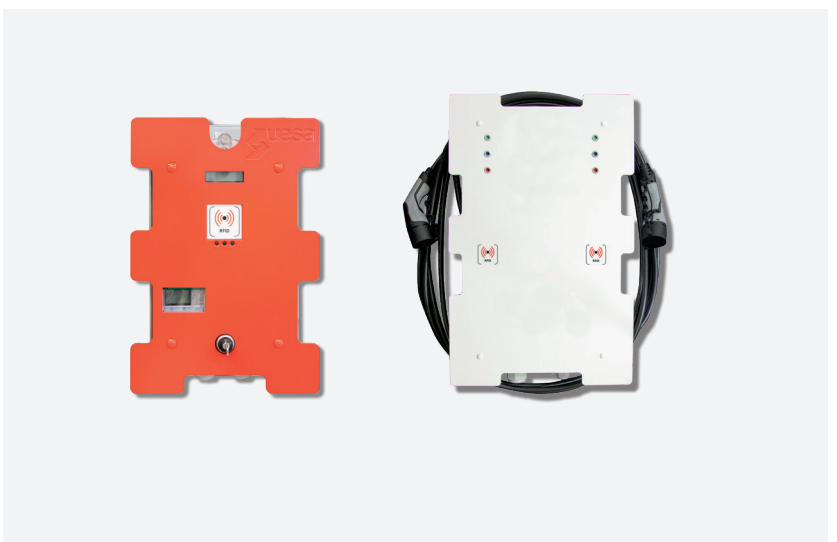
- Outdoor distributor made from powder-coated stainless steel, IP44,
- Vandalism protection, customer-specific design of the housing (labeling),
- Touch panel for starting and stopping the charging process and for information,
- Identification via RFID chip or direct payment system.

AC-Charging stations

Charging station for simultaneous AC charging of up to four electric vehicles with up to 22 kW

Characteristics:

- Outdoor distributor made from powder-coated stainless steel, IP44,
- Vandalism protection, customer-specific design of the housing (labeling),
- Touch panel for starting and stopping the charging process and for information,
- Identification via RFID chip for releasing the charging points.



AC-Wall boxes

Characteristics:

- Housing made from fibreglass-reinforced plastic, IP 54,
- Each charge controller 3.7 kW, 7.4 kW, 11 kW or 22 kW possible,
- Charging cable type 2 with LED status indicator,
- Use for private and semi-public charging.

DC Charging station according to calibration law (certified by PTB)

Calibrated charging station for simultaneous DC charging of up to two electric vehicles up to 360 kW with payment system uesa/LS-E-1DC200-D-B1
Catalog-No.: 1121-20.5500.55-1

Housing:

- Outdoor cabinet made of powder coating stainless steel, vandalism resistant,
- Housing colour: RAL 9016 textured powder coating,
- Colour door/roof: RAL 7001 textured powder coating,
- Degree of protection: IP44,
- Protection class: I,
- Dimensions: 1870x700x400 mm (HxWxD),
- Two-pieces back panel,
- incl. door with three-point locking system and viewing windows,
- incl. double locking lever RAL 9005,
- Without stainless steel socket.

Equipment:

- Without DSO measurement,
- AC feed with 3x10 mm² terminal sets,
- 2 DC supply lines 2-pole directly on CU rail with V-terminals up to 240 mm²,
- 1 protective earth connection directly on CU busbar rail with V-terminals up to 240 mm²,
- 2 calibrated DC-meters readable from outside any time of the day,
- 2 DC charge controllers,
- 2 DC quick charging cable with CCS connector as per IEC 61851-1 “Mode 4” up to 200 A (6 m),
- 2 cable holders with parking position,
- Charging point control via compact payment system (NFC/RFID-reader or chip & reader with polepad) and 10“ touchscreen display,
- Incl. OCPP 1.6 communications interface, via RJ45 LAN port or via LTE Wifi router with LTE antenna,
- incl. state/error/operating state display,
- incl. service socket, control cabinet heating.

Characteristics:

- AC nominal voltage: 230 V,
- AC nominal current: 16 A,
- Frequency: 50 Hz,
- DC nominal voltage: 200-900 V,
- DC nominal current: 2x200 A,
- Cos phi: 1
- DC power consumption/station: max. 360 kW,
- DC power consumption/charge point: max. 180 kW,
- Load factor: 1,
- Operating temperature range: -25 to +55 °C,
- Storage temperature range: +5 to +55 °C,
- Accuracy class (EN50470): Class A,
- Ad-hoc charging.

- Stainless steel socket
- Concrete base

AC/DC Charging station according to calibration law (certified by PTB)

Calibrated charging station for electric vehicles with payment system
uesa/LS-E-1AC/1DC200-D-B1
Catalog No.: 1131-20.4500.55-1
AC-DC charging station with 1x AC and 1x DC charging point each or electric vehicles according to IEC 61851-1/IEC 61851-23/ DIN SPEC 70121.

Housing:

- Outdoor cabinet made of powder coating stainless steel, vandalism resistant,
- Housing colour: RAL 9016 textured powder coating,
- Colour door/roof: RAL 7001 textured powder coating,
- Degree of protection: IP44,
- Protection clas: I,
- Dimensions : 1870x700x400 mm (HxWxD),
- Two-pieces back panel,
- incl. door with three-point locking system and viewing windows,
- incl. double locking lever RAL 9005,
- Without stainless steel socket.

Equipment:

- Without DSO measurement,
- AC feed with 5x16 mm² terminal sets,
- 1 MCB C32/3-pole,
- 1 RCCB type A 40 A/0.03 A 4-pole,
- 1 AC charge controller with DC fault detection
- 1 installation contactor 40 A/4-pole,
- 1 calibrated energy meter readable from the outside,
- 1 AC charging point 22 kW with charging cable type 2 according to IEC 61851-1 „Mode 3“ (4 m),
- 1 DC supply line 2-pole directly on CU rail with V-terminals up to 240 mm²,
- 1 DC protective earth connection directly on CU busbar with V-terminals up to 240 mm²,
- 1 calibrated DC-counter readable from the outside
- 1 DC charge controller,
- 1 DC fast charging cable with CCS plug according to IEC 61851-1 „Mode 4“ up to 200 A (6 m),
- 2 cable holders with parking position,
- Charging point control via compact paymentsystem (NFC/RFID reader or chip & magnetic stripe reader with pole pad) and 10“ touchscreen display,
- incl. communication interface OCPP 1.6 via RJ45 LAN port or via LTE Wifi router with LTE antenna
- incl. status/error/operating status display,
- incl. service socket,
- incl. control cabinet heating.

Characteristics:

- AC nominal voltage: 230/400 V,
- AC nominal current: 63 A,
- Frequency: 50 Hz,
- Cos phi: 0.9,
- AC power consumption/column: max. 22 kW,
- AC power consumption/charging point: max. 22 kW,
- DC nominal voltage: 200-900 V,
- DC nominal current: 200 A,
- Cos phi: 1,
- DC power consumption/station: max. 180 kW,
- DC power consumption/charge point: max. 180 kW,
- Load factor: 1,
- Operating temperature range: -25 to +55 °C,
- Storage temperature range: +5 to +55 °C,
- Accuracy class (EN50470): Class A,
- Ad-hoc charging.

DC-Power-Module up to 600 kW

DC-power-module 90-264 kW

DC-power-module 16,5-132 kW

DC-power-module 600 kW

DC Rectifier cabinet for EV charging with switchover
uesa/PM-1AC/2DC160
Catalog No.: 4321-00.8808.00-1

Housing:

- Outdoor cabinet box made of galvanized sheet steel with powder coating,
- Colour housing: RAL 9016 structured,
- Colour roof: RAL 7001 structured,
- Colour socket: RAL 7001 structured,
- Degree of protection: IP44,
- Protection class: I,
- Dimensions: 2444x1999x660 mm (HxWxD), incl. socket and roof,
- with doors on both sides,
- incl. double locking levers.

Equipment:

- 1 AC power supply via MCCB molded case circuit breaker 630 A up to 240 mm² (5-pole feed),
- 1 AC outgoing via fuse switch disconnector NH00/3-pole incl. fuses 80 A, with 5x35 mm² terminals,
- 1 fuse switch disconnector NH00/3-pole incl. fuses 160 A, as pre-fuse for overvoltage protection,
- 1 overvoltage protection DVM TNS 255,
- up to 8 places for 19“ installation module EM-DC-40 kW,
- 2 DC outputs from busbar, can be connected together or separately via contactors, with V-terminals up to 240 mm²/3-pole,
- 1 DC-control module,
- 2 insulation monitoring units,
- 2 current/voltage sensors,
- 6 DC power contactors,
- incl. active cooling, (fan on roof, exit filters in the doors),
- incl. service socket.

Characteristic data:

- AC nominal voltage: 230/400 V,
- AC nominal current: max. 630 A,
- Frequency: 50 Hz,
- Cos phi: 0,9,
- DC power consumption/station: max. 320 kW,
- DC power consumption/charging point: max. 160 kW (dual charging point operation),
- DC power consumption/output: max. 320 kW (single charging point operation),
- DC nominal voltage: 300-900 V,
- DC nominal current: max. 400 A (2x200 A),
- Cos phi: 1,
- Load factor: 1,
- Operating temperature range: -25 to +55 °C,
- Storage temperature range: +5 to +55 °C.

Mobile DC-Charger 40/60 kW

Mobile DC rectifier charger for electromobility
uesa/PM-1DC60-D
Catalog No.: 2423-00.0770.03-9
Mobile DC rectifier charger for electromobility
uesa/PM-1DC60-D
Catalog No.: 2423-00.0770.03-9

Housing:

- Outdoor distribution made of galvanized sheet steel with powder coating,
- Housing colour: RAL 9016 structured,
- Roof colour: RAL 7001 structured,
- Socket colour: RAL 7001 structured,
- Degree of protection: IP44,
- Protection class: I,
- Dimensions: 1560x760x860 mm (HxWxD),
- Single door on both sides,
- incl. single locks,
- Actively ventilated,
- incl. mobile transport trolley,
- Weight: approx. 165 kg.

Equipment:

- AC feed via 5 m connection cable 35 mm²/5-pole up to 100 A and CEE plug 125 A,
- 1 main switch 100 A/4-pole with door operator,
- 1 RCD 100 A/0,03 A type B/4-pole,
- 3 converters 100/5 A,
- 1 MID-calibrated energy meter,
- 1 19-inch inserts, each with 2x rectifier modules,
- 1 DC fast charging cable with CCS plug according to IEC 61851-1 „Mode 4“ up to 200 A (6 m),
- 1 DC charge controller,
- 1 relay board,
- 1 precharge circuit,
- 1 insulation monitoring unit,
- 1 current/voltage sensor,
- 2 DC power contactors,
- 1 GSM module,
- Charging point control via 7“ touchscreen display,
- incl. OCPP 1.6 communication interface, via RJ45 LAN port or via LTE Wifi router with LTE antenna,
- incl. status/error/operating status display,
- incl. emergency stop button,
- incl. active ventilation (fan in the roof, outlet filters in the doors).

Load management:

- External/internal load management: optional,
- Earth fault monitoring,

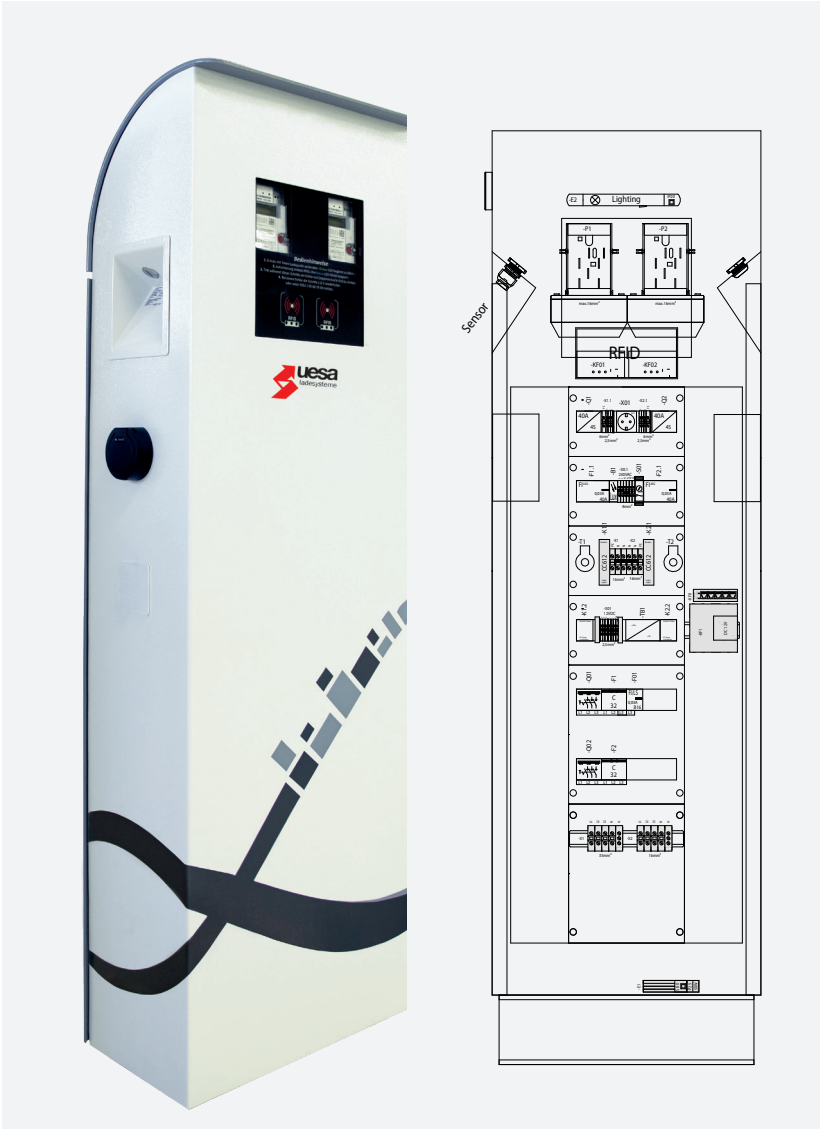
Communication:

- TCP-IP,
- CAN-bus,
- Modbus,
- Remote control and maintenance.

Characteristic data:

- AC nominal voltage: 230/400 V,
- AC nominal current: max. 125 A,
- Frequency: 50 Hz,
- Cos phi: 1,
- DC power consumption/outlet: max. 60 kW,
- DC nominal voltage: 300-900 V,
- DC nominal current: 75 A,
- Cos phi: 1,
- Load factor: 1,
- Operating temperature range: -25 bis +55 °C,
- Storage temperature range: +5 bis +55 °C.

AC-Charging station according to calibration law (certified by PTB)



- Stainless steel socket
- Concrete base

Calibrated charging station for simultaneous AC-charging of up to two electric vehicles up to 22 kW
uesa/LS-E-2AC-2as
Catalog No.: 1111-60.4400.30-2

Housing:

- Outdoor cabinet made of powder coating stainless steel, vandalism resistant,
- Housing colour: RAL 9016 textured powder coating,
- Door/roof colour: RAL 7001 textured powder coating,
- Degree of protection: IP44,
- Protection class: I,
- Dimensions: 1870x700x400 mm (HxWxD),
- Two-pieces back panel,
- incl. door with three-point locking,
- incl. double locking lever RAL 9005,
- Without stainless steel socket.

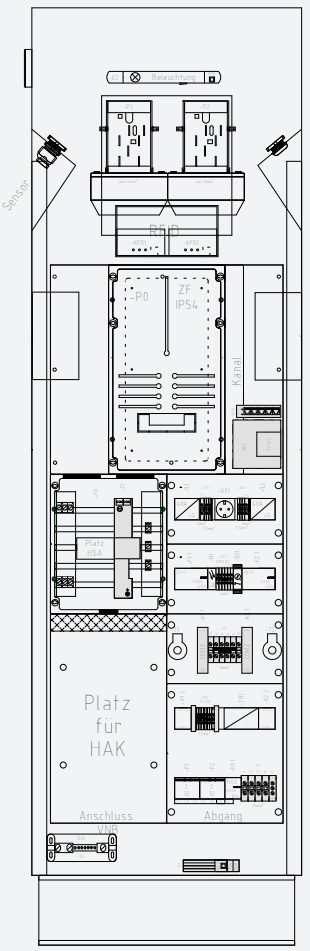
Equipment:

- Without DSO measurement,
- Power supply with 2x sets of terminals 5x35 mm²,
- 2 main switches 63 A/3-pole,
- 2 MCB type C32/3-pole.,
- 2 RCCB type A 40 A/0.03 A 4-pole,
- 2 AC charge controllers with DC fault detection,
- 2 installation contactors 40 A/4-pole,
- 2 energy meters, readable from outside any time of the day,
- 2 AC charging points 22 kW with charging socket type 2 in accordance with IEC 61851-1 „Mode 3“ (incl. interlocking according to IEC 62196),
- Access to the charging points via RFID-reader,
- incl. communication interface OCPP 1.6, via LAN connection RJ45 or via LTE Wifi router with LTE antenna,
- incl. status/error/operating status display,
- incl. service socket, control cabinet heating.

Characteristic data:

- AC nominal voltage: 230/400 V,
- AC nominal current: 63 A,
- Frequency: 50 Hz,
- Cos phi: 0.9,
- AC power consumption/station: max. 44 kW,
- AC power consumption/charging point: max. 22 kW,
- Load factor: 1,
- Operating temperature range: -25 to +55 °C,
- Storage temperature range: +5 to +55 °C,
- Accuracy class (EN50470): Class A,
- Ad-hoc charging.

AC Charging station according to PTB calibration law with DSO metering



- Stainless steel socket
- Concrete base

Calibrated charging station for simultaneous AC charging uesa/LS-E-2AC-VNB-TN-S according to specification of Avacon/E.DIS Catalog-No.: 1115-60.4400.30-4

Housing:

- Outdoor cabinet made of powder coating stainless steel, vandalism resistant,
- Housing colour: RAL 9016 textured powder coating,
- Colour door/roof: RAL 7001,
- Degree of protection: IP44,
- Protection class: I,
- Dimensions: 1870x700x400 mm (HxWxD),
- Two-pieces back panel,
- incl. door with three-point locking,
- incl. double locking lever RAL 9005,
- Without stainless steel socket.

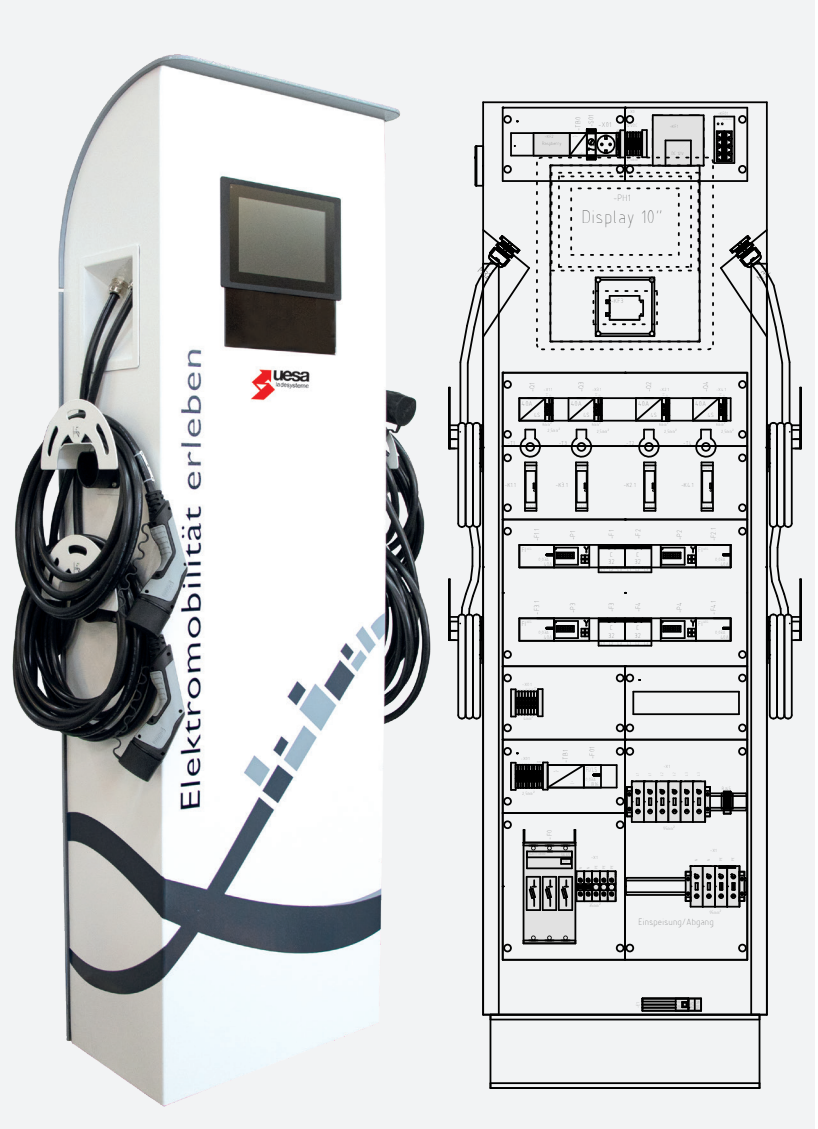
Equipment:

- incl. DSO energy measurement up to 30 kVA,
- 1 place for house connection box-1x3NH00 (incoming grid: TN-C),
- 1 selective main circuit breaker E50 A, 3x1-pole switchable, on 5-pole busbar system/12x5 mm Cu,
- 1 surge arrester DSH ZP B2 SG TNS 255 on busbar system 5-pole/12x5 mm Cu,
- 1 main earthing rail,
- 1 metering space IP54 according to DIN 43 870 (16 mm² wiring according to VDE-AR-N 4101),
- 2 MCB C32/3-pole,
- 2 RCCB type A 40 A/0.03 A 4-pole,
- 2 AC charging controllers with DC fault detection,
- 2 installation contactors 40 A/4-pole,
- 2 energy counter readable from outside,
- 2 AC charging points 22 kW with type 2 charging sockets according to IEC 61851-1 “Mode 3” (incl. lock as per IEC 62196),
- Control of charging points via RFID reader,
- Incl. OCPP 1.6 communications interface, via RJ45 LAN port or via LTE Wifi router with LTE antenna,
- incl. status/error/operating status display,
- incl. service socket, control cabinet heating,
- incl. static load management preset to 44 A/30 kVA (power increase to 43 kVA/63 A only with approval of the responsible DSO).

Characteristic data:

- AC nominal voltage: 230/400 V,
- AC nominal current: 63 A,
- Rated Deversity Factor RDF=0,7,
- Frequency: 50 Hz, Cos phi: 0.9,
- AC power consumption/station: max. 44 kW,
- AC power consumption/charging point: max. 22 kW,
- Load factor: 1,
- Operating temperature range: -25 to +55 °C,
- Storage temperature range: +5 to +55 °C,
- Accuracy class (EN50470): Class A,
- Ad-hoc charging.

AC-charging station



- Stainless steel socket
- Concrete base

AC charging station with four charging points for electric vehicles according to IEC 61851-1 uesa/LS-4AC-D-1ad, Catalog-No.: 1112-40.4444.35-3

Housing:

- Outdoor cabinet made of powder coating, stainless steel vandalism resistant,
- Housing colour: RAL 9016, textured powder coating,
- Door/roof colour: RAL 7001, textured powder coating,
- Degree of protection: IP44,
- Protection class: I,
- Dimensions: 1870x700x400 mm (HxWxD),
- Two-pieces back panel,
- incl. door with three-point locking,
- incl. double locking lever RAL 9005,
- Without stainless steel socket.

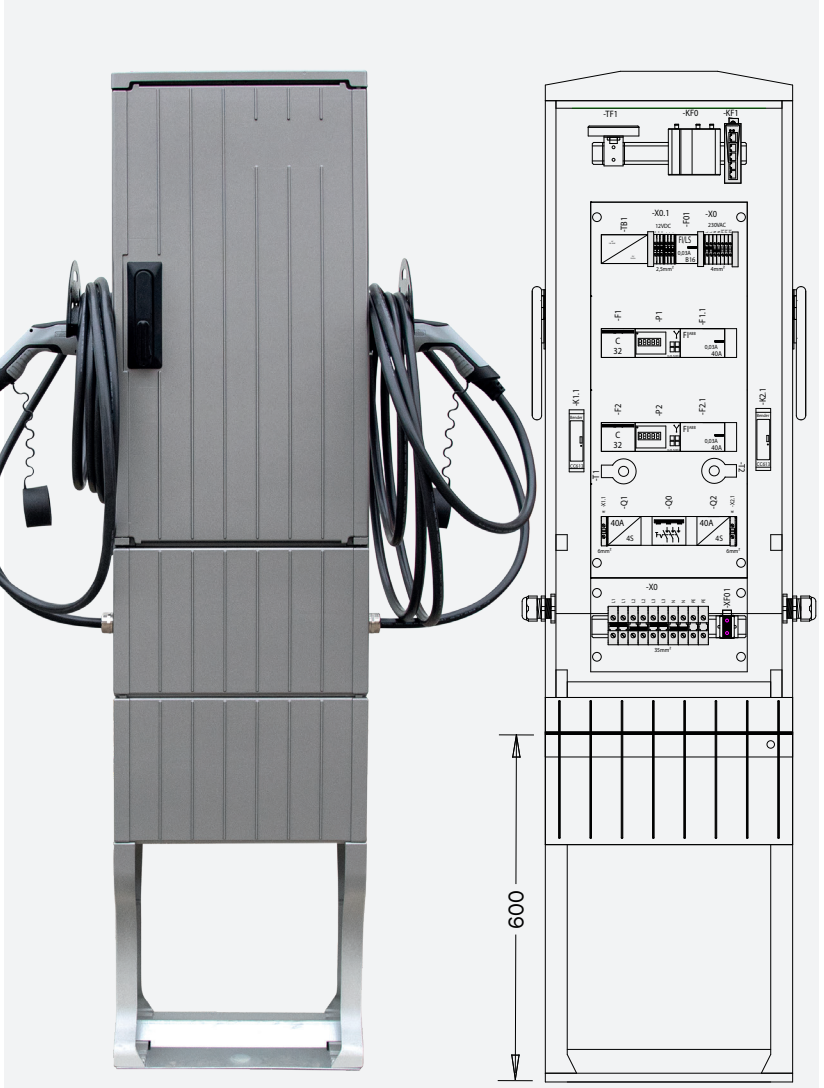
Equipment:

- Without DSO measurement,
- AC feed with 2x 5x95 mm² terminal set,
- 1 fuse switch disconnector NH00/3-pole incl. fuses 125 A,
- 4 MCB C32/3-pole,
- 4 RCCB type A 40 A/0,03 A 4-pole,
- 4 AC charge controllers with DC fault detection,
- 4 installation contactors 40 A/4-pole,
- 4 energy rail meters MID calibrated,
- 2 AC charging points 22 kW with charging cable type 2 according to IEC 61851 „Mode 3“ (6 m),
- 2 AC charging points 22 kW with charging cable type 2 according to IEC 61851 „Mode 3“ (10 m)
- 4 cable holders with parking position,
- Charging point control via compact payment system (NFC/RFID reader or chip & reader with polepad) and 10“ touchsceen display,
- Control of the charging points via RFID reader,
- Incl. OCPP 1.6 communications interface, via RJ45 LAN port or via LTE Wifi router with LTE antenna,
- incl. status/error/operating status display,
- incl. service socket, control cabinet heating.

Characteristic data:

- AC nominal voltage: 230/400 V,
- AC nominal current: 125 A,
- Frequency: 50 Hz,
- Cos phi: 0.9,
- AC power consumption/station: max. 88 kW,
- AC power consumption/charging point: max. 22 kW,
- Load factor: 1,
- Operating temperature range: -25 to +55 °C,
- Storage temperature range: +5 to +55 °C,
- Accuracy class (EN50470): Class A,
- Ad-hoc charging.

AC-charging bollard 2x22 kW



AC charging bollard with two charging points 22 kW for electric vehicles according to IEC 61851-1
uesa/LP-2AC-FL-D-RFID-ZP-LTE-1ad-LK
Catalog-No.: 3512-20.4000.38-3-LTE

Housing:

- Made of fiberglass reinforced plastic,
- Front and rear panel with textured finish,
- Colour: RAL 7035,
- Degree of protection: IP44,
- Protection class: II,
- Dimensions: 1600x395x224 mm (HxWxD) incl. socket,
- incl. single lock (RAL 9005),
- incl. socket made of fiberglass reinforced plastic with cable catch rail.

Equipment:

- Without DSO measurement,
- Feed with 2 terminal sets 5x35 mm², bridged for loop through,
- 1 main switch 63 A/3-pole,
- 2 MCB type C32/3-pole,
- 2 RCCB, type A 40 A/0.03 A 4-pole,
- 2 AC charge controllers with DC fault detection,
- 2 installation contactors 40 A/4-pole,
- 2 DIN rail meters MID calibrated,
- 2 AC charging points 22 kW with charging socket type 2 according to IEC 61851-1 „Mode 3“ (6 m)
- Charging point control via RFID reader,
- Incl. OCPP 1.6 communications interface, via RJ45 LAN port or via LTE Wifi router with LTE antenna,
- Incl. status/error/operating status display via DPM2x16FP LED and display module.

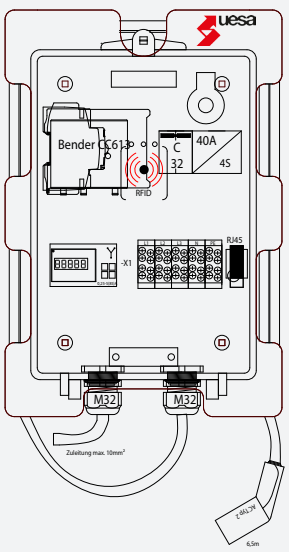
Characteristic data:

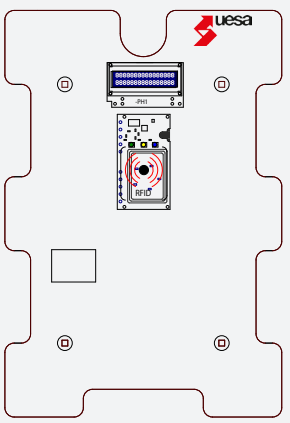
- AC nominal voltage: 230/400 V,
- AC nominal current: 63 A,
- Frequency: 50 Hz,
- Cos phi: 0.9,
- AC power consumption/bollard: max. 44 kW,
- AC power consumption/charging point: max. 22 kW,
- Load factor: 1,
- Operating temperature range: -25 to +55 °C,
- Storage temperature range: +5 to +55 °C,
- Accuracy class (EN50470): Class A,
- Ad-hoc charging/direct payment.

Optional extensions:

- Base filler,
- Special paint,
- Surge protection device.

AC-wallbox 3,7-22 kW





AC-wallbox with one charging point for electric vehicles according to IEC 61851-1
uesa/WB-1AC-D-RFID-ZP-LTE-1ad
Catalog-No.: 5612-10.3000.38-3-LTE

Housing:

- Made of fiberglass reinforced plastic,
- Wallbox colour: RAL 9016,
- Degree of protection: IP44
- protection class: II,
- Dimensions: 440x300x150 mm (HxWxD).

Equipment:

- incl. front panel/advertising panel/design panel as cable holder RAL 9016,
- Feed via main conductor junction terminal 5x25 mm²,
- without MCB,
- without RCCB,
- 1 AC charging controller with DC fault detection,
- 1 MID-calibrated energy meter, legible from the outside,
- 1 installation contactor 40 A/4-pole,
- 1 AC charging point 22 kW with type 2 charging socket according to IEC 61851-1 „Mode 3“ (6 m),
- Charging point control via RFID reader,
- Incl. OCPP 1.6 communications interface, via RJ45 LAN port or via LTE Wifi router with LTE antenna,
- Incl. status/error/operating status display via DPM2x16FP LED and display module,
- incl. square lock (sealable).

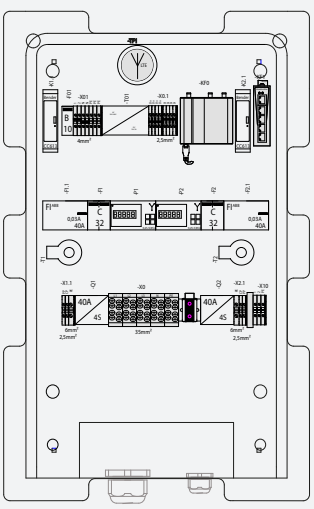
Characteristic data:

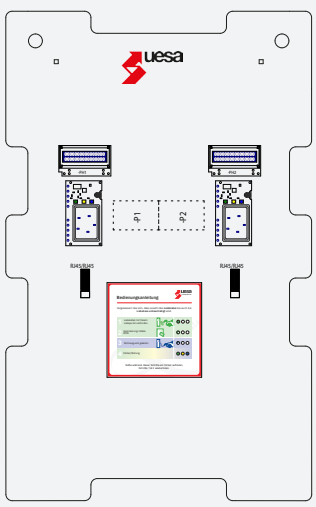
- AC nominal voltage: 230/400 V,
- AC nominal current: 32 A,
- Frequency: 50 Hz,
- Cos phi: 0.9,
- AC power consumption/wallbox: max. 22 kW,
- AC power consumption/charging point: max. 22 kW,
- Load factor: 1,
- Operating temperature range: -25 to +55 °C,
- Storage temperature range: +5 to +55 °C,
- Ad-hoc charging.

Optional extensions:

- Special paint,
- Additional control of the charging points via key switch/key button for external integration of an e.g. inverters (please specify mode of operation when ordering).

AC-wallbox 2x22 kW





AC-wallbox with two charging points for electric vehicles
uesa/WB-2AC-D-RFID-ZP-LTE-1ad
Catalog-No.: 5612-20.3000.38-3-LTE

Housing:

- Made of fiberglass reinforced plastic,
- Wallbox colour: RAL 9016,
- Degree of protection: IP44, protection class: II,
- Dimensions: 780x490x200 mm (HxWxD).

Equipment:

- incl. front panel/advertising panel/design panel as cable holder RAL 9016,
- Feed via main conductor junction terminal 5x25 mm² for loopoleg through,
- 2 MCB C32/3-pole,
- 2 RCCB type A 40 A/0.03 A 4-pole,
- 2 AC charge controllers with DC fault detection,
- 2 MID-calibrated energy meters, legible from the outside,
- 2 installation contactors 40 A/4-pole,
- 2 AC charging point 22 kW with type 2 charging socket according to IEC 61851-1 „Mode 3“ or 2 AC charging point 22 kW with type 2 charging cabel according to IEC 61851-1 „Mode 3“
- Charging point control via RFID reader,
- Incl. status/error/operating status display via DPM2x16FP LED and display module,
- Incl. OCPP 1.6 communications interface, via RJ45 LAN port or via LTE Wifi router with LTE antenna,
- incl. square lock (sealable).

Characteristic data:

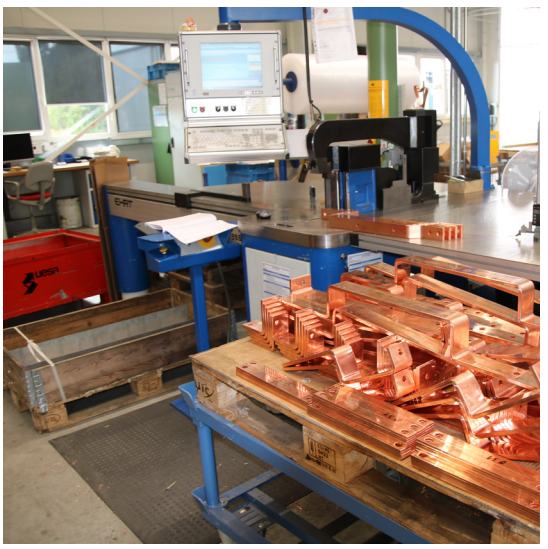
- Nominal voltage AC: 230/400 V,
- Nominal current AC: 63 A,
- Frequency: 50 Hz,
- Cos phi: 0.9,
- AC power consumption/wallbox: max 44 kW,
- AC power consumption/charging point: max. 22 kW, (förderfähig auf 11 kW konfiguriert),
- Load factor: 1,
- Operating temperature range: -25 to +55 °C,
- Storage temperature range: +5 to +55 °C,
- Accuracy class (EN50470): class A,
- Ad-hoc charging.

optional extensions:

- Special paint,
- Additional control of the charging points via key switch/key button for external integration of an e.g. inverters (please specify mode of operation when ordering).

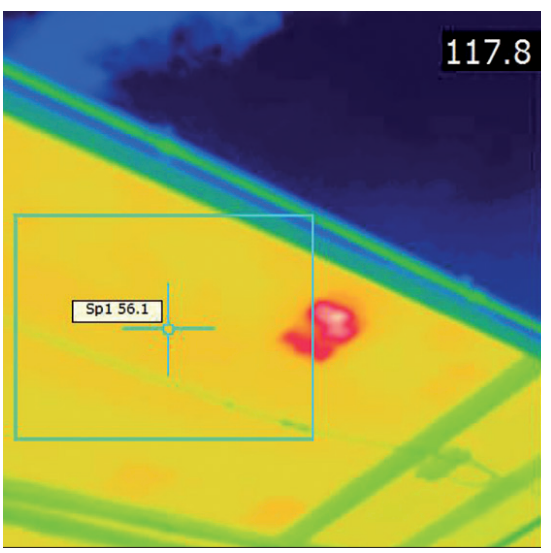
Component production

Copper processing
Assembly production



Uesa‘s component production facility in Uebigau has been a major player in the production of components for the electrical industry since 2002.
The portfolio of services ranges from the manufacture of all types of stamped, formed and milled parts with/without surface finishing in copper production to module assembly.
Other services include MAG and WIG welding, helium leak testing, vibratory grinding, copper rail assembly (set nuts) and copper rail (round/flat) shrink tubing.
A team of highly qualified employees and a modern machine park guarantee the best quality.
In our design department we are able to make 3D drawings of your products.
We use Mechanical Desktop and Inventor software.
The tools and equipment required for production are manufactured in the uesa and by external tooling companies.

Solar system



uesa GmbH offers the technical operation, maintenance and repair of solar parks.
In addition to monitoring, our services also include scheduled maintenance work on generator connection boxes, inverters and transfer stations.
Our special „Thermography“ service identifies modules with faulty cells.

Our references (a selection):
- Lönnewitz solar park - approx. 33 MWp,
- Merseburg solar park - approx. 4 MWp,
- Allstedt solar park - approx. 18 MWp,
- Cottbus Drewitz solar park - approx. 29 MWp,
- Finow solar park - approx. 60 MWp.

Our services:
- Operational management and monitoring,
- String measurements (idle voltage, insulation resistance, earthing resistance),
- Maintenance and repair within 24 hours,
- Thermography.

Our qualifications:
- Meteocontrol: Safer‘SUN training course,
- Skytron: System principles, system components, plant monitoring with PV Guard,
- SMA: Large-scale PV plants with Sunny Central,
- TÜV SÜD Academy: photovoltaic systems.

We would delighted to make you an offer for your solar park!

uesa GmbH - A company of the uesa Group

Products from our extensive production and services portfolio:

- Low-voltage distributions in an open scaffold construction up to 2500 A and in cabinet construction up to 7300 A
- Automation and control systems
- Cable, house connection and special distributors
- House connection boxes for connection to the public power network
- Meter connection pillars, street lighting cabinets, camp-site and marketplace distributors
- Charging pillars and wall boxes for e-mobility
- Transformer stations also for wind power, biogas and photovoltaic systems
- Construction power transformer stations with sheet metal housings and runner supports, rental stations
- Safety checks, maintenance of transformer stations
- Medium-voltage switchgears up to 24 kV
- Stamped, formed and milled parts made from copper, steel and polyester
- Solar system service

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07.2023