Consumer unit UK600

Project planning information according to DIN EN 60670-24

- Up to 200% enlarged wiring space
- Available up to 5 rows
- Project-phase-specific order option
- Wifi doors with plastic insert

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General technical data

Standard reference	DIN VDE 60670-24 (VDE 0606-24):2014-03
	Kind of construction acc. to DIN 43871 (1 to 4 rows)
Rated operational voltage	400V AC / 50Hz
Rated current	63A
Protection class	II ⧈
Degree of protection	IP30
Rated insulation voltage (U_i)	690V AC
Rated impulse withstand voltage (U_{imp})	6kV
Condition of installation	Indoor installation
Ambient temperature	Normally +25°C, occasionally +35°C over 24 h, max. +40°C, min. -5°C
Glow wire test	Enclosure 850°C
	N/PE terminals 960°C
Mechanical strength	IK07
Colour	White, RAL9016
Type of installation	Flush, hollow walls, flammable walls
Type of material	Composite
	PS Insulating material for enclosure
	Metallic material for door and frame
Classification enclosure	PD-enclosure (enclosure for pre-determined equipment)
	GP-Gehäuse (general purpose enclosure)
	Special national conditions:
	In Denmark and Italy only GP-enclosure can be used.
	In Belgium, Germany, France and Greece only PD-enclosure can be used.

Types

Consumer unit	UK612N2, UK624N3, UK636N3, UK648N3, UK660N4
	UK610P2RU, UK620P3RU, UK630P3RU, UK640P3RU, UK650P4RU
	UK612E2, UK624E3, UK636E3, UK648E3, UK660E3
	UK610V2RU, UK620V3RU, UK630V3RU, UK640V3RU, UK650V4RU
	UK612NB, UK624NB, UK636NB, UK648NB, UK660NB
	UK612EB, UK624EB, UK636EB, UK648EB, UK660EB
	UK612K, UK624K, UK636K, UK648K, UK660K
Media enclosure	UK636MV, UK648MV, UK660MV
	UK636MW, UK648MW, UK660MW
	UK620MV, UK630MV, UK640MV, UK650MV
	UK624MB, UK636MB, UK648MB, UK660MB
Combi enclosure	UK662CV, UK663CV
	UK662CW, UK663CW

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Use as GP-enclosure

Selection of the GP-enclosure (DIN VDE 60670-24 – AA.1)
The following equivalence shall be verified by the installer to select the correct GP-enclosure.

$$P_{tot} \leq P_{de}$$

Where:

P_{de}	Maximum capability of the enclosure to dissipate power, declared by the manufacturer (Table 1-2-3)
P_{tot}	Total power loss of the electrical accessories and protecting devices to be incorporated into the GP enclosure and their connections calculated as follows:

$$P_{tot} = P_{dp} + 0{,}2\ P_{dp} + P_{au}$$

Where:

P_{dp}	Power loss of the protective devices;
$0{,}2\ P_{dp}$	Power lost by connections, socket-outlets, relays, time delay switches, small appliances;
P_{au}	Power loss of electrical accessories, other than the previous ones (for example transformers, socket-outlets, signal lamps, …);

$$Pdp = \Sigma pe \times Pe \times Ke^2 + \Sigma pn \times Pn \times K^2$$

Where:

p_e	Is the number of poles of the devices of the incoming circuits;
P_e	Is the dissipated power for each pole of the device of the incoming circuits;
K_e	0,85
p_n	Is the number of poles of the devices inside the enclosure except those of the incoming circuits;
P_n	Is the dissipated power for each pole of the devices inside the enclosure except those of the incoming circuits;
K	Is the value (≤ 1) depending on the contemporary use of the connected loads. Without information of the effective loads can be used the values of Table 4.

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Max. power loss P_{de} by ΔT 30K

Table 1 - Consumer unit

Type	Niche dimensions H X B X T in mm	P_{de} (W)
UK61..	355 x 367 x 95	31 W
UK62..	480 x 367 x 95	45 W
UK63..	605 x 367 x 95	54 W
UK64..	730 x 367 x 95	62 W
UK65.. UK66..	855 x 367 x 95	69 W

Table 2 - Media enclosure

Type	Niche dimensions H X B X T in mm	P_{de} (W)
UK62..	480 x 367 x 95	100 W
UK63..	605 x 367 x 95	114 W
UK64..	730 x 367 x 95	133 W
UK65.. UK66..	855 x 367 x 95	155 W

Table 3 - Combi enclosure

Type	Niche dimensions H X B X T in mm	P_{de} (W)
UK662CV	855 x 367 x 95	78 W
UK663CV	855 x 367 x 95	73 W
UK662CW	855 x 367 x 95	75 W
UK663CW	855 x 367 x 95	71 W

Table 4 - (DIN VDE 60670-24 Table AA.1)

Number of main circuits	Diversity factor K
2 and 3	0,8
4 and 5	0,7
6 up to 9	0,6
10 and more	0,5

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Markings, Test and verification to be carried out by the installer

Markings (DIN VDE 60670-24 – AA.2)

The following markings shall be on the equipped GP enclosure:
- Name or identification of the installer;
- Type reference or other means used by the installer to identify the equipped GP enclosure;
- Rated current (I_{nq}) in A,
- Rated voltage in V,
- Symbol for nature of supply,
- Degree of protection of the equipped GP enclosure,
- Symbol for protection by total insulation ⧈,
- Letter N for terminals intended exclusively for the neutral conductor;
- Symbol for earthing terminals for the connection of the protective conductor.

These markings shall be placed on a label, that may be placed also behind the lids or doors, and shall be durable and easily legible.

AA.3 Test and verification to be carried out by the installer

General (DIN VDE 60670-24 – AA.3.1)

Electrical accessories (protective devices, switches, time-delay switches, transformers, terminals, etc…) shall comply with their relevant standards, if any.
For electrical accessories not covered by a standard, refer to their manufacturer's instruction sheets.
Tests and verification shall be performed on the equipped GP enclosure (including lids, covers, doors, protective devices and similar power consuming devices…), wired and mounted as for normal use, as indicated in Table AA.2.

Clause	Characteristics	Tests and verifications
	Identification	Inspection of the marking and of the compliance of the equipped GP enclosure with the wiring diagrams, etc…
AA3.1/2	Protection by total insulation	Verification of the protection by total insulation requirements
AA3.2	Effectiveness of the protective circuit	Verification and test of the effectiveness of the protective circuit
AA3.3	Wiring, mechanical operation and, if necessary, electrical operation	Verification of the correct wiring, mechanical operation and, if necessary, electrical operation tests
AA3.4	Resistance to ageing, protection against ingress of foreign solid objects and against harmful ingress of water	Verification of protection against ingress of foreign solid objects and against harmful ingress of water
AA3.5	Insulation resistance	Test of the insulation resistance
	Temperature rise limits	Covered by calculation according to Clause AA

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Protection by total insulation

Protection by total insulation (DIN VDE 60670-24 – AA.3.2)

For protection, by total insulation, against indirect contact, the following requirements shall be met.

a) The accessories shall be completely enclosed in insulating material.

b) The GP enclosure shall be made of an insulating material which is capable of withstanding the mechanical, electrical and thermal stresses to which it is liable to be subjected under normal use and it shall be resistant to ageing.

c) The GP enclosure shall at no point be pierced by conducting parts in such a manner that there is the possibility of a fault voltage being brought out of the GP enclosure. This means that metal parts, such as an actuating member which for constructional reasons have to be brought through the GP enclosure, shall be insulated on the inside or the outside of the GP enclosure from the live parts for the maximum rated insulation voltage and, if applicable, the maximum rated impulse withstand voltage of all circuits in the equipped GP enclosure.
If an actuating member is made of metal (whether covered by insulating material or not), it shall be provided with insulation rated for the maximum rated insulation voltage and, if applicable, the maximum impulse withstand voltage of all circuits in the equipped GP enclosure.
If an actuating member is principally made of insulating material, any of its metal parts which may become accessible in the event of insulation failure shall also be insulated from live parts for the maximum rated insulation voltage and, if applicable, the maximum rated impulse withstand voltage of all circuits in the equipped GP enclosure.

d) The equipped GP enclosure shall enclose all live parts, exposed conductive parts and parts belonging to a protective circuit in such a manner that they cannot be touched. The equipped GP enclosure shall give at least the degree of protection IP 3XD.
If a protective conductor, which is extended to electrical equipment connected to the load side of the equipped GP enclosure, is to be passed through an equipped GP enclosure whose exposed conductive parts are insulated, the necessary terminals for connecting the external protective conductors shall be provided and identified by suitable marking. Inside the equipped GP enclosure, the protective conductor and its terminal shall be insulated from the live parts and the exposed conductive parts in the same way as the live parts are insulated.

e) Exposed conductive parts within the equipped GP enclosure shall not be connected to the protective circuit, i.e. they shall not be included in a protective measure involving the use of a protective circuit. This applies also to built-in apparatus, even if they have a connecting terminal for a protective conductor.
If doors or covers of the equipped GP enclosure can be opened without the use of a key or tool, an obstacle of insulating material shall be provided which will afford protection against unintentional contact not only with the accessible live parts, but also with the exposed conductive parts which are only accessible after the cover has been opened; this obstacle, however, shall not be removable except with the use of a tool,

Compliance is checked by inspection.

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Inspection, Degree of protection and Insulating

Inspection of the wiring and the mechanical as well as the electric operation (DIN VDE 60670-24 – AA.3.4)

The correct positioning of cables, effectiveness of connecting means and the correct mounting of the protective devices and other electrical accessories shall be verified.
The effectiveness of the mechanical actuating elements, interlock, etc., if any, shall be checked.
Depending on the complexity of the equipped GP enclosure (including lids, covers, doors, protective devices and similar power consuming devices…), wired and mounted as for normal use, it may be necessary to carry out an electrical functioning test.

Compliance is checked by inspection and manual test(s).

Degree of protection (DIN VDE 60670-24 – AA.3.5)
The UK600 enclosure has an IP degree of IP30.
The IP degree of the equipped GP enclosure shall be verified according to IEC 60529.
The test is not carried out if:

- The GP enclosure has not been modified by the installer in such a way to impair its degree
- Of protection against electric shocks declared by the manufacturer;
- The GP enclosure has been installed according to the manufacturer's instructions.

Insulating (DIN VDE 60670-24 – AA.3.6)
This verification is not mandatory for a single phase equipped GP enclosure having $I_{nq} \leq 32A$.

The verification is made with a test apparatus at a test voltage at least 500 V. The measurement is made between each live conductor and accessible conductive part and between each live conductors.

The test is considered satisfactory if the measured insulating resistance is higher than 1 000 Ω/V, referred to the rated voltage to earth of each circuit.

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Use as PD-enclosure

Rated current and main characteristics (DIN VDE 60670-24 – BB.2)
Rated current oft he enclosure is I_{nq} = 63 A.
The maximum incoming current shall be equal or lower to the maximum rated current of the enclosure as declared by the manufacturer.

Devices to be integrated by the installer (DIN VDE 60670-24 – BB.3)
- MCB according to IEC 60898-1
- RCCB according to IEC 61008-2-1
- RCBO according to IEC 61009-2-1

Dimensions (DIN VDE 60670-24 – BB.4)

Slot units
The slot each row is for 12 devices, expandable to 14 SU.

Type	SU
UK61..	12 + 1
UK62..	24 + 4
UK63..	36 + 5
UK64..	48 + 8
UK65.. UK66..	60 + 10

Dimension of the enclosures

Type	Niche dimensions H X B X T in mm	Wall cut out dimensions for hollow-wall mounting H x B x T in mm
UK61..	355 x 367 x 95	328 x 340 x 88
UK62..	480 x 367 x 95	453 x 340 x 88
UK63..	605 x 367 x 95	578 x 340 x 88
UK64..	730 x 367 x 95	703 x 340 x 88
UK65.. UK66..	855 x 367 x 95	828 x 340 x 88

For distances between parallel routed mounting rails, installation depths, dimensions at the top and at the bottom of the enclosure for incoming and outgoing cable(s) see from page 13.

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Connections

Connections (DIN VDE 60670-24 – BB.5)

N/PE Terminals

N/PE terminals with connection units

N-Terminal	Screw connection system	Spring connection system
ZK507	3 x 16,0 mm²	2 x 10,0 mm²
ZKS11B	5 x 16,0 mm²	6 x 6,0 mm²
ZKS16B	7 x 16,0 mm²	9 x 6,0 mm²
ZK51B	1 x 2,5 - 25 mm²	5 x 1,5 - 4,0 mm²
ZK82B	2 x 2,5 - 25 mm²	8 x 1,5 - 4,0 mm²
ZK113B	3 x 2,5 - 25 mm²	11 x 1,5 - 4,0 mm²
ZK144B	4 x 2,5 - 25 mm²	14 x 1,5 - 4,0 mm²

PE-Terminal	Screw connection system	Spring connection system
ZKS11G	5 x 16,0 mm²	6 x 6,0 mm²
ZKS16G	7 x 16,0 mm²	9 x 6,0 mm²
ZKS21B	9 x 16,0 mm²	12 x 6,0 mm²
ZKS26G	11 x 16,0 mm²	15 x 6,0 mm²
ZK113G	3 x 2,5 - 25,0 mm²	11 x 1,5 - 4,0 mm²
ZK144G	4 x 2,5 - 25,0 mm²	14 x 1,5 - 4,0 mm²
ZK206G	6 x 2,5 - 25,0 mm²	20 x 1,5 - 4,0 mm²
ZK237G	7 x 2,5 - 25,0 mm²	23 x 1,5 - 4,0 mm²
ZK268G	8 x 2,5 - 25,0 mm²	26 x 1,5 - 4,0 mm²

Configurations

Enclosure	N-Screw terminal	PE-Screw terminal
UK61..	1 x ZKS11B + 1 x ZK507	1 x ZKS16G
UK62..	1 x ZKS16B + 1 x ZK507	1 x ZKS21B
UK63..	2 x ZKS11B + 1 x ZK507	1 x ZKS26G
UK64..	1 x ZKS11B + 1 x ZKS16B + 1 x ZK507	1 x ZKS26G
UK65.. UK66..	2 x ZKS16B + 1 x ZK507	1 x ZKS11G + 1 x ZKS21B

Enclosure	N-Quick terminal	PE-Quick terminal
UK61..	1 x ZK51B + 1 x ZK82B	1 x ZK113G
UK62..	1 x ZK51B + 2 x ZK82B	1 x ZK144G
UK63..	1 x ZK51B + 2 x ZK113B	1 x ZK206G
UK64..	2 x ZK82B + 1 x ZK144B	1 x ZK237G
UK65.. UK66..	1 x ZK51B + 2 x ZK82B + 1 x ZK144B	1 x ZK268G

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Use as GP-enclosure

Protection against electric shock (DIN VDE 60670-24 – BB.6)
In order to ensure the protection against electric shock only original ABB STRIEBEL & JOHN parts/components may be used.
The original parts/components must be assembled according to ABB STRIEBEL & JOHN assembly instructions.
The requirements of DIN VDE 0100-410 „Protection for safety - Protection against electric shock“ must be observed.

IP degree & IK code (DIN VDE 60670-24 – BB.7)
The enclosure has an IP degree by IP30.
The equipped GP-enclosure shall give at least the degree of protection IP3XD (protection by total insulation).
Remark IP degree (DIN EN 60529)

IP3_ _	Protection against ingress of solid foreign objects. The access probe of 2.5 mm Ø shall not penetrate.
IP_ 0 _	No Protection against ingress of water.
IP_ _ D	Protection against access to hazardous parts. The access probe of 1.0 mm Ø, 100 mm length, shall have adequate clearance from hazardous parts.

The UK600 enclosure with door has a mechanical strength (IK-Code) by IK07.

Remark IK-Code (IEC 62262)

IK07	Impact energy 2 Joule Equivalent mass 0,5 kg Height of fall 400 mm

Wiring (DIN VDE 60670-24 – BB.8)
Internal wiring shall be such that minimum creepage distances between live parts and metallic accessible or not accessible parts not lower than 3 mm.

Cross-sections of conductors shall be in accordance with the wiring rules.

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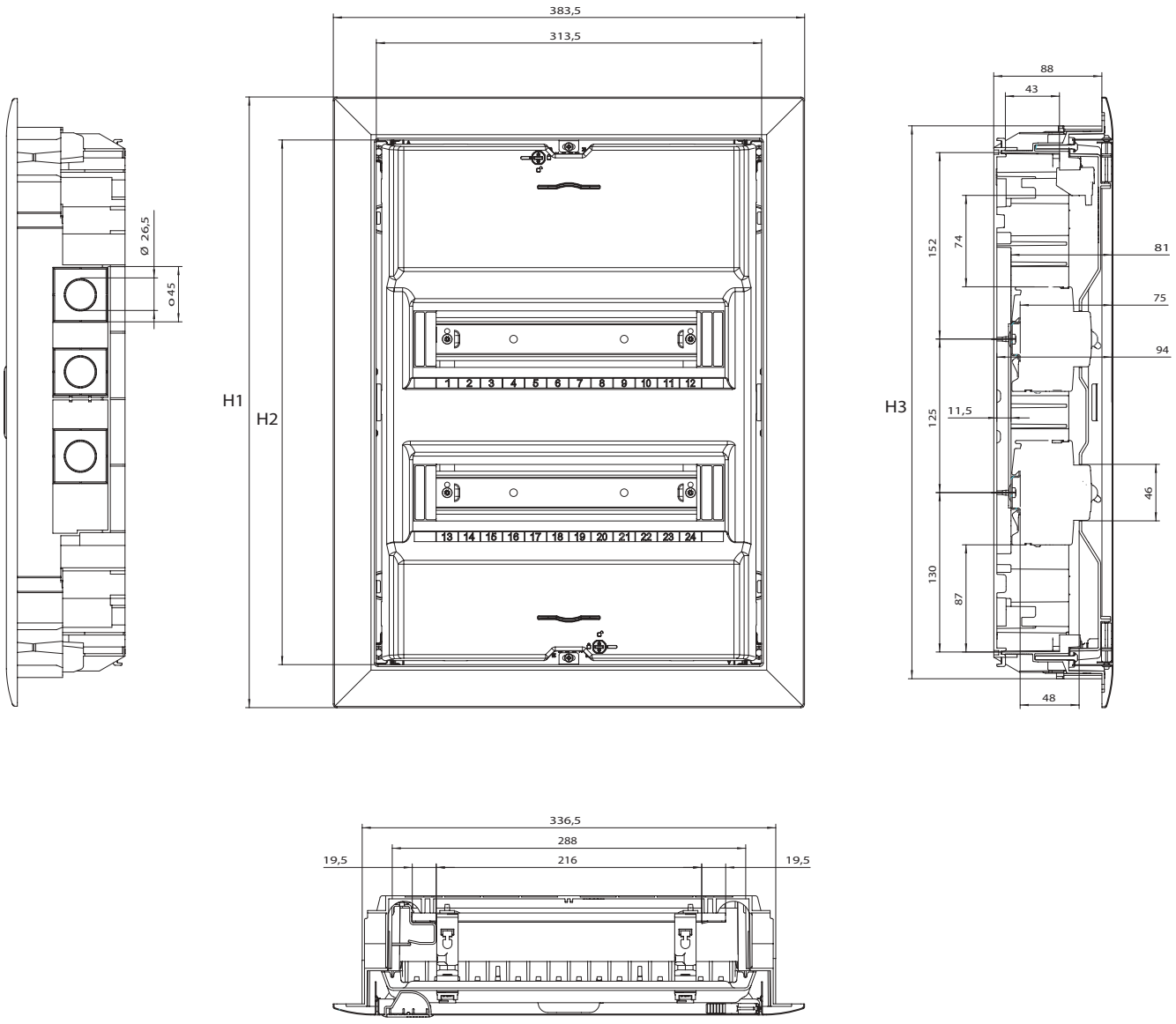
Dimensions

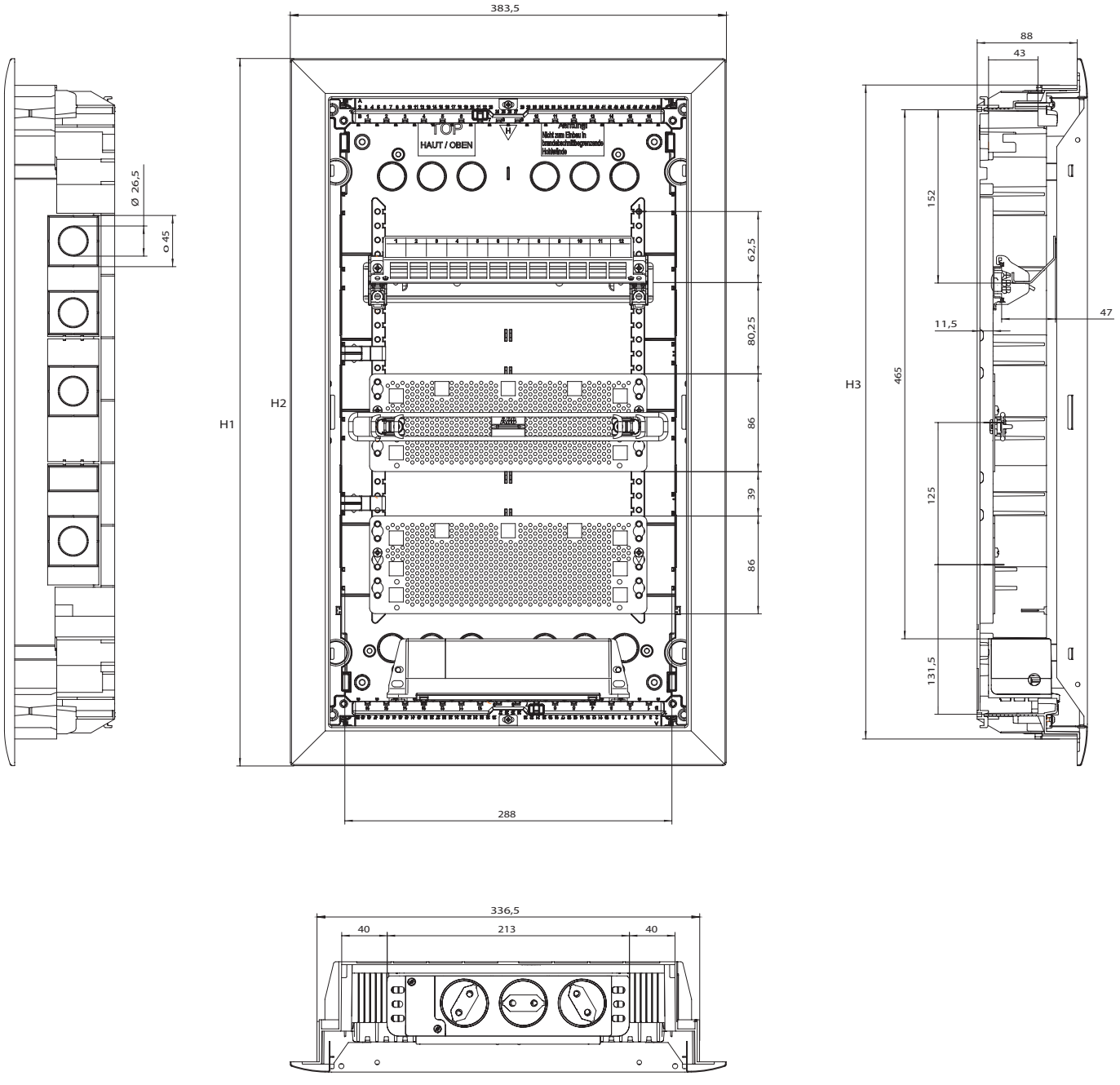


Type	Allowable power loss Pzul according to DIN 43671 (W)			Max. output capacity Pde in accordance with DIN VDE 60670-24 (W)	Dimensions		
	20K	25K	30K	30K	H1	H2	H3
UK61..	10,0	13,0	16,0	31,0	372	302	325
UK62..	11,5	15,0	19,0	45,0	497	427	450
UK63..	14,5	19,0	24,0	54,0	622	552	575
UK64..	16,5	21,5	27,0	62,0	747	677	700
UK66..				69,0	872	802	825

> Dimensions in mm

Media enclosure UK600

Dimensions

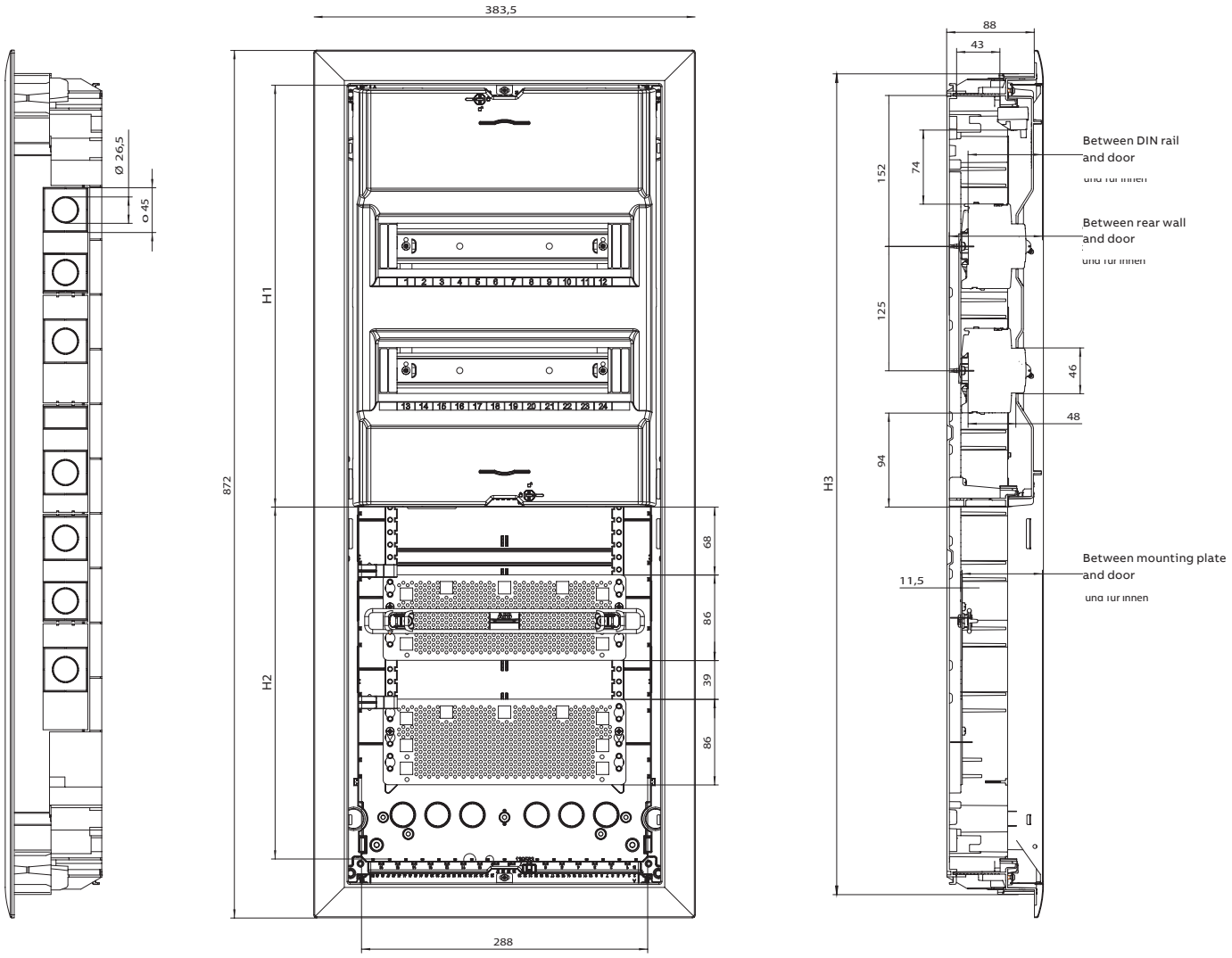


Type	Allowable power loss Pzul according to DIN 43671 (W)			Max. output capacity Pde in accordance with DIN VDE 60670-24 (W)	Dimensions		
	20K	25K	30K	30K	H1	H2	H3
UK62..	11,5	15,0	19,0	100,0	497	427	450
UK63..	14,5	19,0	24,0	114,0	622	552	575
UK64..	16,5	21,5	27,0	133,0	747	677	700
UK65.. UK66..				155,0	872	802	825

> Dimensions in mm

Combi enclosure UK600

Dimensions



Type	Max. output capacity Pde in accordance with DIN VDE 60670-24 (W)	Dimensions		
	30K	H1	H2	H3
UK662CV	78,0	424	353	825
UK663CV	73,0	549	228	825
UK662CW	75,0	424	353	825
UK663CW	71,0	549	228	825

> Dimensions in mm

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