

## Cabinets and Boxes

House Service Boxes  
Metering Pillars  
Control Cabinet Systems

Cable Distribution Cabinets  
Street Lighting Cabinets



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KH 00



KH 1



BR 400



BR 300



ZS

# nkt cables GmbH

## Development of cable distribution cabinets

More than 40 years ago Felten & Guillaume Carlswerk AG (F&G) as known as of the today's nkt cables GmbH, developed the first cable distribution cabinet housing made of glass fiber reinforced polyester resin (GFP) produced in Germany. Compared to mild steel cabinets, GFP made cabinets are characterised by reduced weight, no maintenance requirement, durability against corrosion and good electrical insulation properties.

In of the sixties, conversion to the new, and upcoming process of sheet moulding technology had started. Subsequently the series 000/100 has been introduced. Continuous enhancements of materials and cooperation with renowned raw material manufacturers as well as changing technical requirements have been the basis for further product developments:

Series 300            mid eighties  
Series 400            mid nineties

## Development of house service boxes

The first cast iron made house service box in Germany was developed and manufactured by F&G.

Continuous development of both, materials and design, enabled F&G as early as at the beginning of the sixties to produce the first GFP made house service box.

nkt cables (formerly F&G) today belongs to the leading manufacturers of house service boxes and cable distribution cabinets in Germany.

## Polyester resin

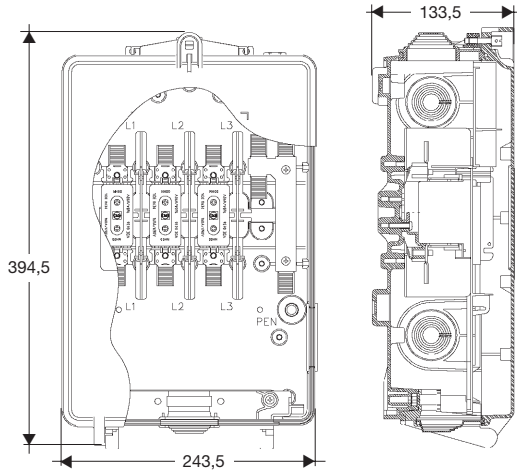
Glass-fibre reinforced polyester resin used as the cabinet housing material is a self-extinguishing compound. This material is corrosion-resistant, insulating and has very high resistance to mechanical stress. The polyester resin is coloured before processing (colour shade gray), so that no painting is required later. Insulation properties, mechanical strength and UV-protection are outstanding characteristics of this material. Due to the low specific gravity of the polyester resin, the housings, especially the removable ones, are so light that they can be comfortably set up or removed at site.

Please see below the table for technical data of the polyester resin currently utilized:

Specific gravity	DIN 53 479	1,65 - 1,75 g/cm <sup>3</sup>
Tensile strength	DIN 53 455	≥ 60 N/mm <sup>2</sup>
Bending strength	DIN 53 452	160...180 N/mm <sup>2</sup>
Impact strength	DIN 53 453	≥ 50 kJ/m <sup>2</sup>
Notched impact resistance	DIN 53 453	74 kJ/m <sup>2</sup>
Water absorption storage for 4 days at room temperature	DIN 53 495	≤ 60 mg
Dimensional stability acc. to Martens	DIN 53 458	≥ 200 °C
Thermal conductivity coefficient	DIN 53 612	0,35 W/m·K
Combustibility	DIN 53 459	Stage 2a
Low temperature stability		- 80 °C
Dielectric strength	DIN 53 481 / VDE 0303T.2	40 kV/mm
Tracking resistance	DIN 53 480	KC > 600
Termite resistance		Good
Light resistance	DIN 53 383	7...8 (stage)
Colour shade		Gray RAL 7035

# House Service Box up to 100 A

## KH 00



House Service Box according to DIN 43627 made from polyester resin moulding material type 803, DIN 16911. Type test according to DIN VDE 0660 part 505. Protection class IP54 and requirements of EN 60529 have been fulfilled.

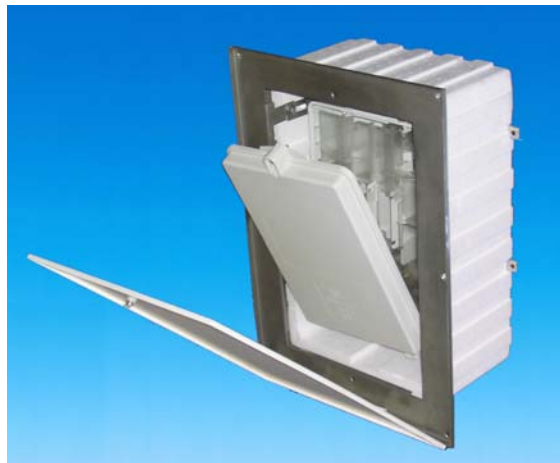
### KH 00 up to 100 A

- Variable lateral cable in- and outlet by simply movable stepped membrane nipples
- Steel frame terminals for in- and outlet area covering 10 to 95 mm<sup>2</sup>
- Contacts mounted on leakage-current resistant PBT-base
- Polyamide made coverage of live parts

### Options

- Polycarbonate made vision panel in the lid
- Polycarbonate made sliding full cover
- Double cable inlet as accessory kit
- Fuse bases made from „Steatite“
- 2-, 3- or 4-point fixing
- lateral PEN-connection
- additional terminals onto the PEN-bar for earthing or the TN-C-S-net
- Combi-kit to link 2 house service boxes
- Conversion kit for double cable connection inlet
- various connection technologies:
  - steel frame terminals
  - bended terminals
  - V- terminals

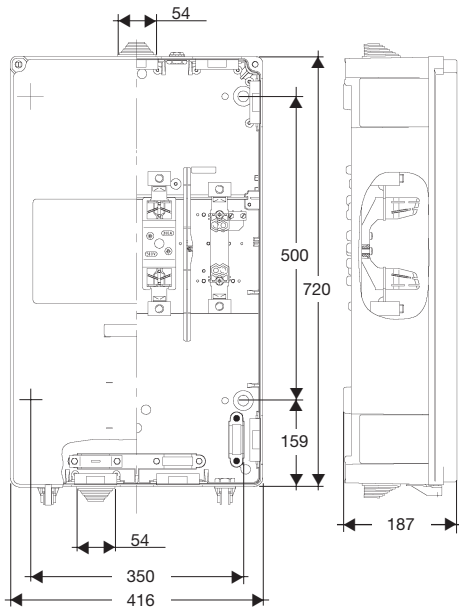
	KH 00
Rated current	100 A
Rated voltage	500 V
Cross section	6 - 95 mm <sup>2</sup>
Height	398 mm
Width	244 mm
Depth	134 mm
Rated short-circuit resistance	120 kA
Impulse withstand voltage (1,2/50 ms)	6 kV
AC withstand voltage	2,5 kV



We deliver numerous accessories: cable gland as well as pylon fixing and the exterior wall installation: "All from one source"

# House Service Box up to 250 A and 400 A

## KH 1



House Service Box according to DIN 43627 made from polyester resin moulding material type 803, DIN 16911. Type test according to DIN VDE 0660 part 505. Protection class IP54 and requirements of EN 60529 have been fulfilled.

### KH 1 up to 250 A and 400 A

- Variable lateral cable in- and outlet by simply movable stepped membrane nipples
- V- terminals for in- and outlet area covering 25 to 240 mm<sup>2</sup>
- Contacts mounted on GFK-base
- Utility-cover and cover for the connection area made of clear transparent polycarbonate

### Options

- Polycarbonate made vision panel in the lid
- Double cable inlet as accessory kit
- Fuse bases made from „Steatite“
- 2-, 3- or 4-point fixing
- lateral PEN-connection
- additional terminals onto the PEN-bar for earthing or the TN-C-S-net
- Combi-kit to link 2 house service boxes
- Conversion kit for double cable connection inlet
- various connection technologies:
  - Steel frame terminals
  - Bended terminals
  - V- terminals
  - Direct connecting terminals
  - Stud bolt terminals
- possible fixtures:
  - 1x3x NH 1/2 + 1x3x NH 00 + N
  - 2x3x / 3x3x NH00 + N

	KH 1
Rated current	250 / 400 A
Rated voltage	500 V
Cross section	25 - 185 mm <sup>2</sup>
Height	720 mm
Width	416 mm
Depth	187 mm
Rated short-circuit resistance	120 kA
Impulse withstand voltage (1,2/50 ms)	6 kV
AC withstand voltage	2,5 kV



We deliver numerous accessories: cable gland as well as py-lon fixing: "All from one source"

# Cable Distribution Cabinets

## General notes

Cable distribution cabinets are an important part of the energy distribution in public power supply and are designed for the demanding requirements of outdoor use. For more than 35 years nkt cables' cable distribution cabinets are manufactured from glassfibre reinforced polyester, a material which fulfills the high electrical and mechanical requirements of the European standard DIN EN60439-1. Even the standard versions fulfill protection level IP 34D (=IP43/IP44) of EN 60529.

Beside this purpose, these cabinets are preferred housings for combinations of control units and power supply in numerous applications. Special applications are catered for by nkt cables based on standard cabinets which are economically fulfilling the customer demands, e.g. water pump control, traffic light systems, and similar customized purposes.

### Electrical equipment

Cable distribution cabinets can be equipped with 3-pole fuse rails according to German standard DIN 43623 or with load break rails. Both are fixed directly to the optionally integrated busbar system. In special cases a longitudinal busbar separation can be delivered to separate busbar sections by fuses or separation pieces. Optional insulated busbars are also available.

The center distance of fuse rails can be specified to be either 100 mm, 105 mm or 110 mm. Fuse rails for a nominal current of 400 A are specified as a standard. But also fuse rails or load break rails for 160A can be installed with a corresponding adapter. Alternatively load break rails for 400 A or 630 A can be used.

### Bursting safety

The cable distribution cabinets are designed to provide bursting safety in case of short circuit current up to 10 kA (arc-over time > 0,3 s)

### Door lockers

The cabinets are equipped with a three-point lock. The locking takes place through a swiveling lever of shock-resistant insulation materials. The swiveling levers are provided for semi-cylinder locks. On request, other locks - e.g. for 2 section semi-cylinder locks - can be installed.

### Base

Except series 371...374 the cabinets are installed on DIN sized bases, also made from glassfibre reinforced polyester.

### Lighting equipment


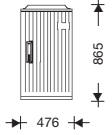
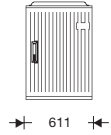
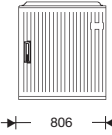
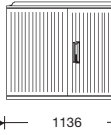
To be independent from external light sources during inspections, an optional lighting system can be installed inside the cabinet.

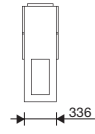
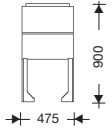
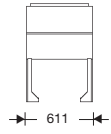
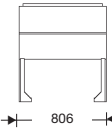
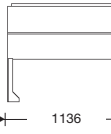
### Connection for construction site supply

Cable glands in sidewalls of cabinet or base can be provided optionally to allow a cable connection for power supply at construction sites. It is closed with a blind screw fitting so that it can only be opened from inside the cabinet.

# Cable Distribution Cabinets

## Series 400 DIN

	side-view	DIN-Size				remarks
		00	0	1	2	
Type						
Series 400		401	402	404	406	without frame
Series 410		411	412	414	416	with frame

	side-view	DIN-Size				
		00	0	1	2	
standard socket						

Cabinets series 400 are the advanced successors of the well proven series 300. The latest design features flexible and customer orientated equipment options. Optimized stability by structured surfaces of doors and backwalls have been highlighted. Such surface makes it more difficult to stick posters. This effect is increased by an optional special varnish enabling easier removal of graffiti.

### Dimensions and requirements

The dimensions of series 400 are in accordance with requirements of the German standards DIN 43629 part 1, part 2 and part 3. Series 400 is available in DIN sizes 00, 0, 1 and 2. It can be mounted without limitation on bases with dimensions according to DIN 43629 part 2.

In all respect series 400 complies with the electrical and mechanical requirements of European standard EN 60439-5 (DIN/VDE 0660 part 503 and part 500) and IEC 439 respectively.

### Design features

The standard cabinets of series 400 are designed as a self supporting housings. Optional installation frames made from galvanized steel are available. All cabinet components and interior can be fixed by self-cutting screws without used of any integrated metal parts. Therefore, it shall be possible to fully recycle series 400 cabinet parts.

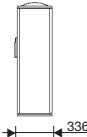
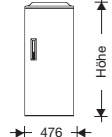

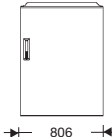
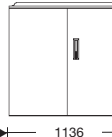
Pin hinges at the doors allow an opening angle of 180°. When cabinets are installed in a row side by side doors can be opened approx. 110°. The removable hinge pins allow easy installation and deinstallation of the doors, including a change from left to right hand opening.

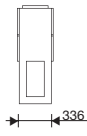
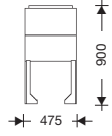
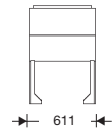
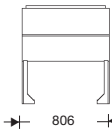
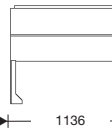
Standards of sizes 00, 0 and 1 are delivered with one wing doors, size 2 – and optionally size 1 – with two wing doors.

Predetermined breaking points premoulded at the fixing points between cabinet and base shall break in case of physical force. A damage of the base and the consequent digging work is thus avoided.

# Cable Distribution Cabinets

## Series 300 - DIN

	side-view	DIN-Size				remarks
		00	0	1	2	
Type						
Series 340 Height=1250mm		-	342	-	346	without frame
Series 350 Height=840mm		351	352	354	356	without frame
Series 360 Height=840mm		361	362	364	366	with frame
Series 380 Height=1100mm		381	382	384	386	without frame
Series 390 Height=1100mm		391	392	394	396	with frame

	side-view	DIN-Size			
		00	0	1	2
Standard socket					

### Various series

A wide variety of cabinets is available in self supporting version (interior or fixed directly to cabinet walls) or in removable version (interior fixed to an integrated frame).

The series can be summarized as follows:

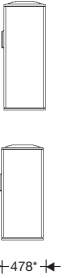
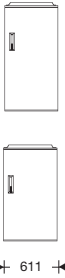

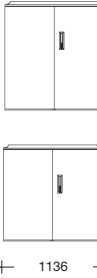
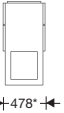
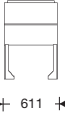
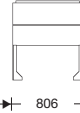

1. Self supporting
  - 1.1 Series 330: height 1100 or 1250mm extra depth 478mm
  - 1.2 series 340: height 1250mm cabinet components fixed by screws
  - 1.3 Series 350: height 840mm, cabinet components fixed by screws
  - 1.4 Series 380: height 1100mm, cabinet components fixed by screws
  - 1.5 Series 370: sidewalls with integrated base part, cabinet components fixed by screws
2. Removable cabinet (frame version)
  - 2.1 Series 360: height 840mm, cabinet components fixed by screws
  - 2.2 Series 390: height 1100mm, cabinet components fixed by screws
  - 2.3 Series 100: height 840mm, cabinet fixed with adhesive, double wall doors
  - 2.4 Series 000: height 1100mm, cabinet fixed with adhesive, double wall doors

### Frame

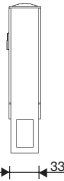



Removable cabinets include a galvanized steel frame. Considering the corresponding regulations the cabinet can be removed for maintenance or repair during operation.

# Cable Distribution Cabinets





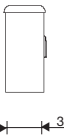






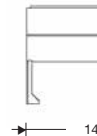
## Series 330 - deep design

	side-view	DIN-Size				remarks
		00	0	1	2	
Series 330	 ↔478↔		 ↑1250↓ ↑1100↓ ↔611↔	 ↔806↔	 ↔1136↔	with frame *special depth
Type						
Socket only for Series 330	 ↔478↔		 ↑900↓ ↔611↔	 ↔806↔	 ↔1136↔	*special depth

## Series 370 - high design

	side-view	DIN-Size			remarks
		00	0	1	
Series 370	 ↔336↔	 ↑1720↓ ↔476↔	 ↔611↔	 ↔806↔	without frame, with integrated base
Type		371	372	374	

## Series 000 / 100 - DIN

	side-view	DIN-Size					remarks
		00	0	1	2	3	
Series 000	 ↔328↔			 ↑1165↓ ↔765↔	 ↔1085↔	 ↔1405↔	with frame
Type							
Series 100	 ↔328↔			 ↑750↓ ↔765↔	 ↔1085↔	 ↔1405↔	with frame
Type							
Standard socket	 ↔336↔			 ↔806↔	 ↔1136↔	 ↔1456↔	

## Advertising Cabinet

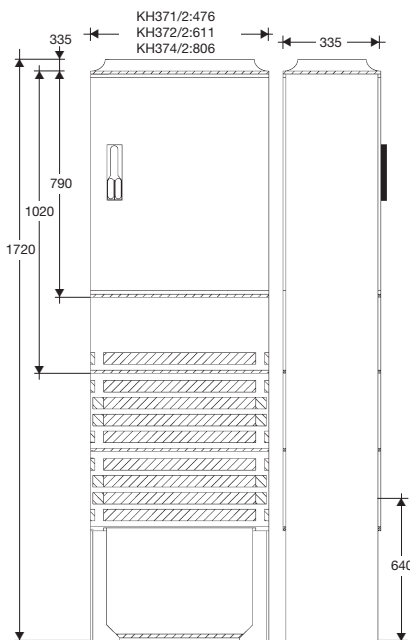


City lights have a new star: the advertising cabinet. An innovative product of nkt cables to position advertisements in a different and attractive way.

Based on 1250mm high series 340 size 2 this special cabinet displays DIN A0 posters behind a impact-proof and backlighted polycarbonate screen.

A real eyecatcher at exposed places which can easily replace existing DIN size cabinets on the same base by means of base adapters.

## Metering Pillars



Metering pillars are designed for outdoor use at leisure areas of all kinds. Individual consumers in chalets, on boats or in caravans can be supplied with power via the metering pillars. Main feature is the easy access at any time for the distributor or operating company.

One wing swing doors are equipped with 3 point locking, which is operated by a swing handle made from impact resistant insulating material. It can optionally be equipped with 2 independent semi cylinder (standard: 1 cylinder).

### Versions

- single customer systems
- multiple customer systems
- transformer systems

## Street Lighting Cabinets

SB



The standard street lighting cabinet is based on 370 series. Other series can be used depending on the corresponding requirements.

### Technology

The power supply part of the street lighting cabinet is comparable with the metering panel design. Other designs are possible, but only with the approval of the power supply utility.

Further switching options are night or part night switch and a part night switch with limited consumption.

The 3-pole connections can be specified with 2, 4, 6 and 8 outputs respectively. Other configurations can be created on request.

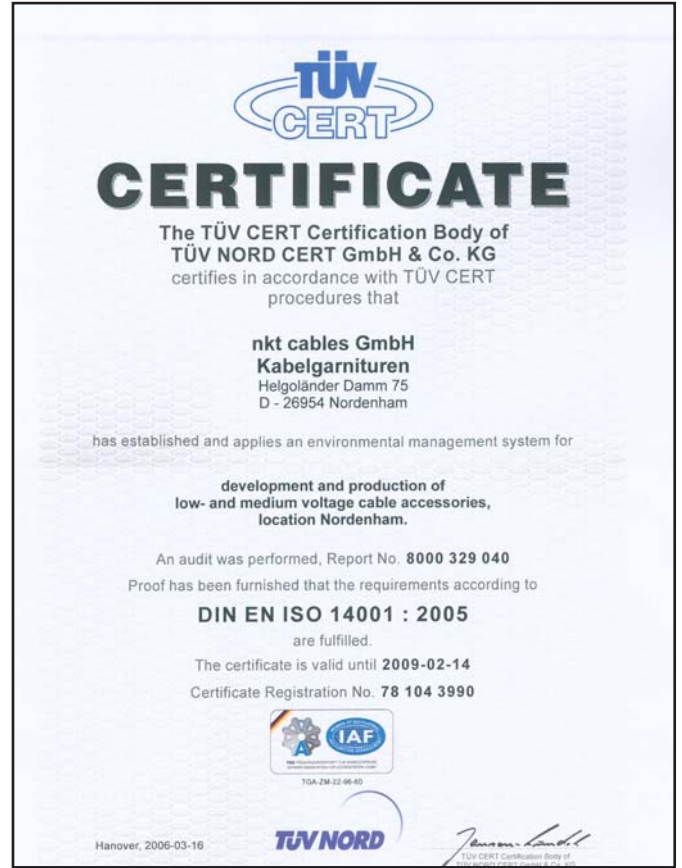


## Other Control Cabinet Systems



- Distribution cabinets for marine ports or camping grounds
- Market and fairground distribution
- Cabinets for cathode corrosion protection
- Distribution cabinets for public transportation supply
- Multi utility ('FourOne': power/water/gas/telecom)
- Distribution pillars

...and many more. Please specify your requirements!



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