



**Приложение 2 към Техническо предложение**

**За обособена позиция № 1:**

„Доставка на електромерни табла НН, за директно измерване“

**ИЗИСКВАНИ ДОКУМЕНТИ ОТ ТЕХНИЧЕСКИ**

**ИЗИСКВАНИЯ И СПЕЦИФИКАЦИИ**

**Приложение 1**



## ТОЧНО ОБОЗНАЧЕНИЕ НА ТИПА НА ОБВИВКИТЕ, МОНТАЖНА ПЛОЧА И ВЪТРЕШНА ВРАТА

### ПРОИЗВОДИТЕЛ И СТРАНА НА ПРОИЗХОД

Производител: DCK HOLOUBKOV BOHEMIA a.s.

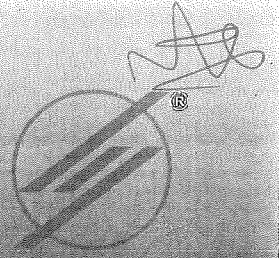
Страна на произход: Czech republic

Адрес: CZ-338 01 Holubkov 336

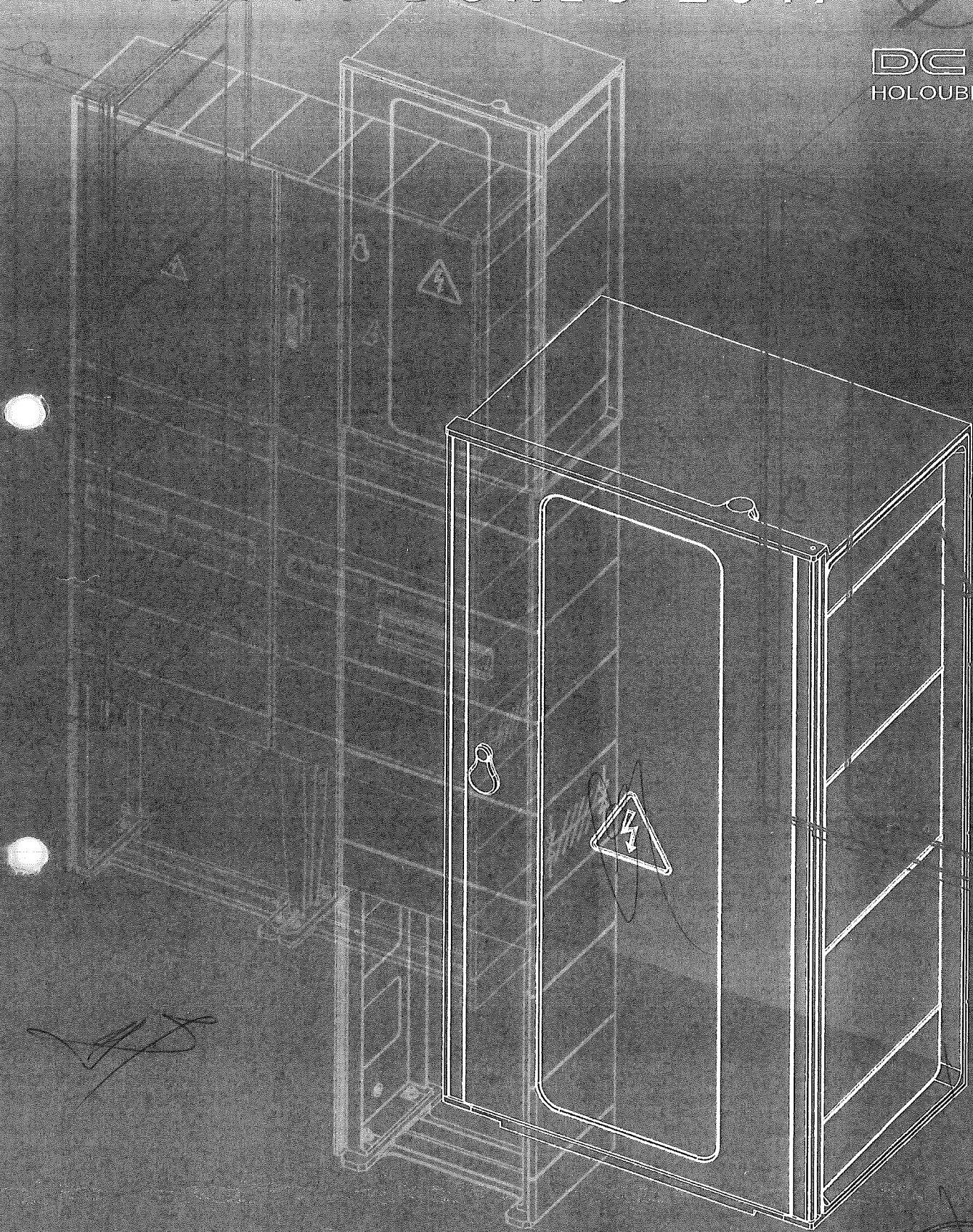
www.dck.cz

№	Наименование на електромерно табло	Габаритни размери W / H / D mm	Точно обозначение на типа на обвивката Референтен №	Вътрешна врата Реф. №	Монтажна плоча Реф. №
1	0 - П	320/470/250	SS1/NS/2Dv450	0-PD	0-PMP
2	1 - П	470/620/250	SS2/NS/2D	1-PD	1-PMP
3	2 - П	620/920/250	SD3/NS/2D	2-PD	2-PMP
4	3 - П	620/920/250	SD3/NS/2D	3-PD	3-PMP
5	1 - ПВ	470/940/250+ осн. 470/910/250	SS2+SS2(v300)/NV/2D +PP2/NL(v900)	1-PVD	1-PVMP
6	2 - ПВ	620/1240/250+ осн. 620/910/250	SD3+SS3(v300)/NV/2D +PP3/NL(v900)	2-PVD	2-PVMP
7	3 - ПВ	620/1240/250+ осн. 620/910/250	SD3+SS3(v300)/NV/2D +PP3/NL(v900)	3-PVD	3-PVMP
8	0 - ПК - 1Ф	320/470/250	SS1/N+PN v450	0 PK 1FD	0-PK 1FMP
9	1 - ПК - 1Ф	470/320/250	SS2/N+PN v300	1 PK 1FD	1-PK 1FMP
10	1 - ПК - 3Ф	320/470/250	SS1/N+PN v450	1 PK 3FD	1-PK 3FMP

# EMPTY BOXES 2017



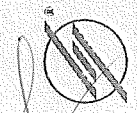
DCK  
HOLOUBKOV



DCK HOLOUBKOV BOHEMIA, A.S.

СЯТИС С ОРГАНИЗАЦИЯ





**DCK**  
HOLOUBKOV

Traditional Czech producer of low-voltage switchboards since 1953

**DCK HOLOUBKOV BOHEMIA a.s.**

ranks among the leading Czech producers and suppliers of outdoor low-voltage switchboards. DCK provide their customers with a wide range of solutions such as house connection boxes, meter boxes, gas-measurement boxes, disconnection boxes, public lighting, construction site boxes and their accessories.

The main production technologies:

**N** – plastic switchboards made of glass fibre reinforced polyester (SMC)

**P** – plastic switchboards made of polycarbonate (PC)

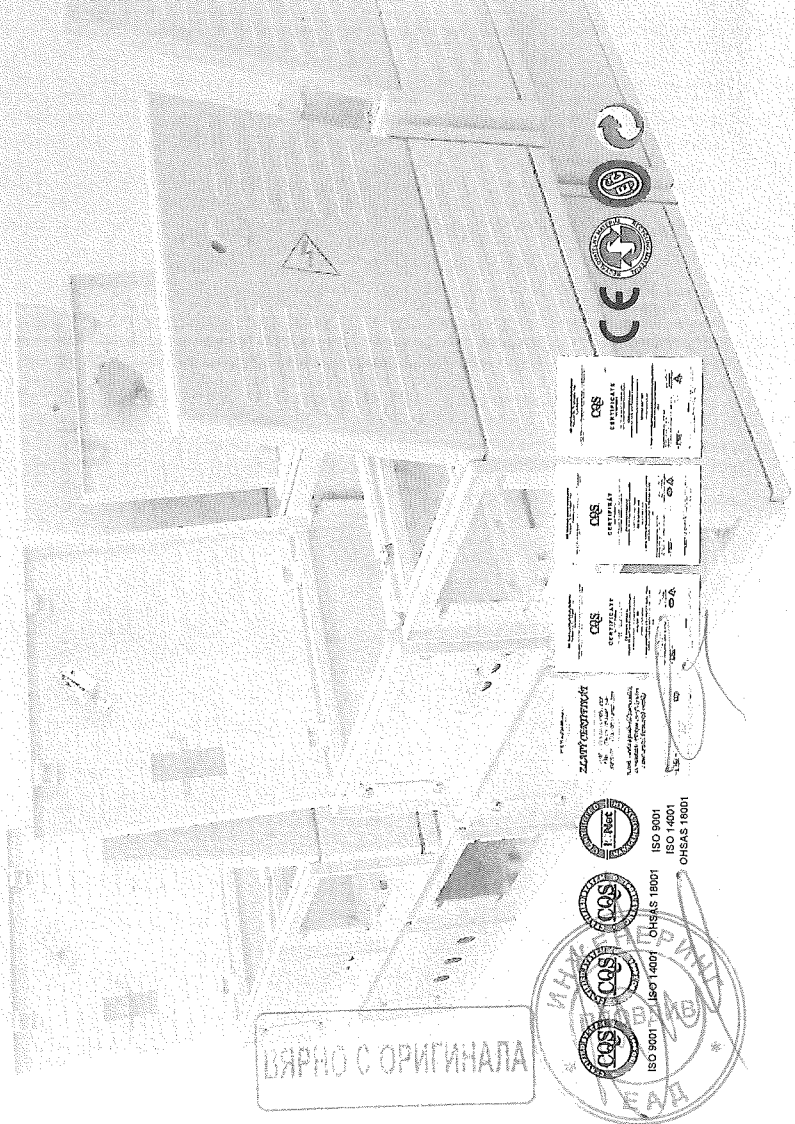
**K** – concrete switchboards with plastic/stainless steel door

DCK multipurpose modular boxes are designed for application on a wall or a pole, into a wall recess or as standalone compact columns. DCK supplies both empty boxes and fully fitted switchboards according to our customers' requirements. Our key customers are power distribution companies and wholesale companies specializing in wiring material. All our products are certified by ECU Prague and comply with the applicable European standards. Several technical designs of company's products are patent protected.

More than 60 years of tradition and plans for future strengthen our commitment to achieve a high technological level in our products and production processes, meet our customers' requirements and thus keep and develop our business position in the European market and achieve permanent prosperity.

January 2017

... Future is our inspiration



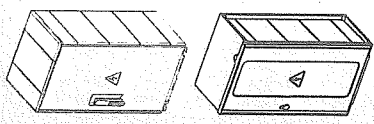
**MATERIAL SOLUTIONS**

**SMC - THERMOSETIC PLASTIC**

**Switchboards and columns made of thermoset – SMC**  
SMC (sheet moulding compound) is a thermoset glassfibre reinforced material based on unsaturated polyester resin. The material is stiff, health unexceptionable, resisting to static and dynamic strain, with uneasy flammability – category B flammability class HB40, V/O, it is self-extinguishing plastic according to UL 94-V0. A long exposure to weather conditions causes a removal of the outer resin layer and glass fibre disclosure. This change doesn't have any impact on mechanical strength or electrical properties of the material. The products are supplied in the basic color shade RAL 7035. CSN EN 61439-1 ed.2; CSN EN 61439-5 ed.2 and certified by ECU Prague.

**BASIC PARAMETERS:**

Specific weight – ISO 1183	1,75-1,8 (g/cm <sup>3</sup> )
Electrical resistance of the surface – IEC 93	10 <sup>12</sup> -> 10 <sup>13</sup> (Ohm)
Dielectric strength – IEC 243	25 (kV/mm)
Heat and fire retardancy – IEC 695	960 (°C)
Short-term heat resistance – IEC 216	170 (°C)
Permanent heat resistance – IEC 216	155 (°C)
Protection level against outer mechanical clash impacts – (-35°C/+40°C)	IK 10
Covering level	IP 44 (IP 54)
Way of disposal	...combustion or storage as industrial waste, category „Other Waste“
Colour	...RAL 7035



**POLYCARBONATE**

**Switchboards and columns made of thermoplastic – PC**  
These are linear polyesters derived from carbonic acid and bisphenol A with flame retardant, UV filler and covering color RAL 7035. The material is flexible with excellent mechanical properties, heat resistance, dimension steadiness, with uneasy flammability – category B, flammability class HB40, V-O, it is self-extinguishing plastic according to UL 94-V0 and toxic unexceptionable. The material is not attacked by mildews and micro-organisms. It has an increased stabilisation against weather conditions. UV radiation causes the coloring to get visibly yellow with no impact on the physical properties of the material. A surface finish of the switchboards with UV filler is used as the retardant of this process. Properties and technical parameters of the switchboards are in accordance with CSN EN 62208 ed.2; CSN EN 61439-1 ed.2; CSN EN 61439-5 ed.2 and certified by ECU Prague.

**BASIC PARAMETERS:**

Specific weight ISO 1183	1,21 (g/cm <sup>3</sup> )
Electrical resistance of the surface IEC 93	10 <sup>12</sup> (Ohm)
Dielectric strength IEC 243	34 (kV/mm)
Heat and fire retardancy IEC 695	960 (°C)
Short-term heat resistance IEC 216	140 (°C)
Permanent heat resistance IEC 216	115 (°C)
Protection level against outer mechanical impacts – (-35°C/+40°C)	IK 10
Covering level	IP 44
Way of disposal	...recycling
Colour	...RAL 7035

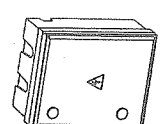


**CONCRETE**

**Switchboards made of concrete + thermoplastic (PC) door**  
DCK offers also switchboards made of concrete + plastic door according to individual requirements of their customers. Also plastic frames + plastic door can be supplied separately if necessary (usually when customers provide the concrete body of the box on their own – export purposes mainly). Properties and technical parameters of the switchboards are in accordance with CSN EN 62208 ed.2; CSN EN 61439-1 ed.2; CSN EN 61439-5 ed.2 and certified by ECU Prague.

**BASIC PARAMETERS:**

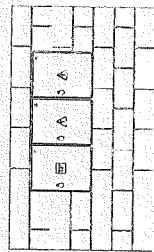
Pressure strength – CSN EN 12390-3	≥ 30 (N/mm <sup>2</sup> )
Frost resistance – CSN 73 1322	T = 25
Frost resistance coefficient – CSN EN 73 1322	≥ 0,75
Weight activity according to Code of Law No. 18/1997	IK 10
and Regulation 307/2002 CL and 499/2005 CL	IK 10
Protection level against outer mechanical impacts – (-35°C/+40°C)	IP 42 (IP 44)
Covering level	IP 42 (IP 44)



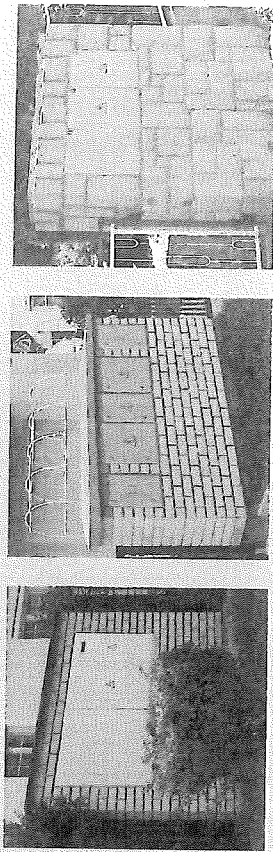
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# CONSTRUCTION SOLUTIONS

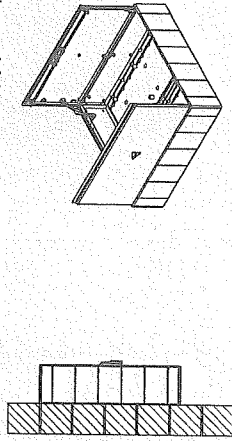
## V Wall recess application (type V)



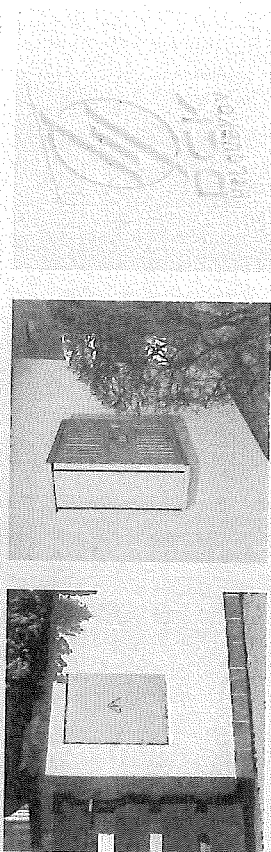
Boxes intended for application into a wall recess are supplied with open bottom if not specified otherwise in ordering. Open bottom is made by a special part called spacer - rail and enables also further application on a column.



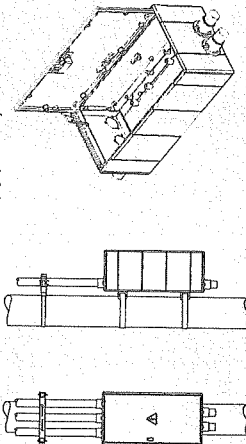
## N Wall-mounted application (type N)



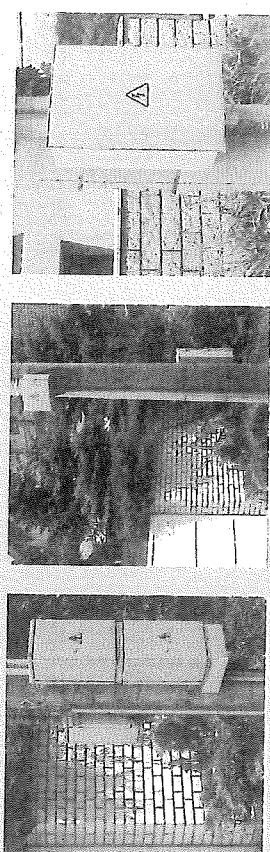
Boxes intended for application on a wall are supplied with full/closed bottom if not specified otherwise in ordering.



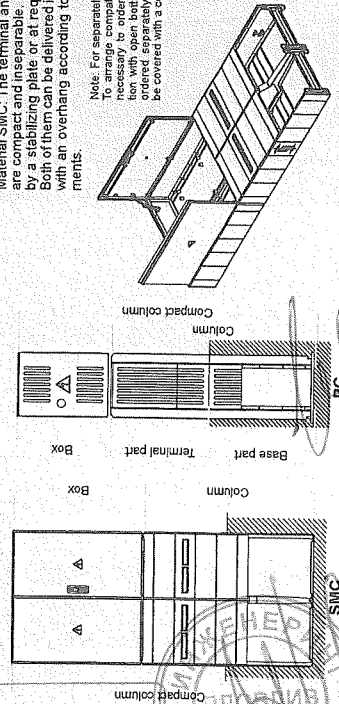
## S Pole application (type S)



Empty boxes intended for application on electrical pole are supplied with full/closed bottom and equipped with 2 holders. According to the requirement can be supplied with cable glands. Different requirements need to be specified in ordering.

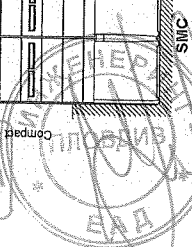
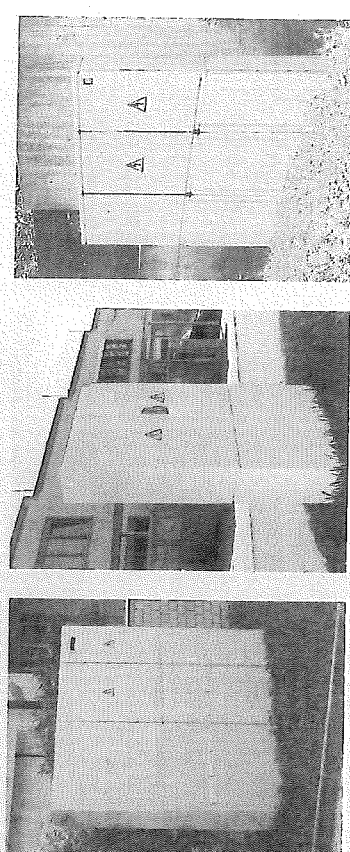


## K Compact column (box + base = type K)



Material SMC: The terminal and base part of the column are compact and inseparable. Each column is stabilized by a stabilizing plate or at request by stabilizing strips. Both of them can be delivered in standard dimensions or with an overhang according to the customer's requirements.

Note: For separately ordered boxes and columns, stability with DCK column, if it is necessary to order V application with open bottom if boxes and columns are ordered separately. At request can the bottom be covered with a cover plate.



### SMC N-DIN Switchboards and columns made of thermoset

**Type** DIN DIN

**DIN**

V, K 460 x 865 x 320  
N, S 460 x 865 x 320

460 x 320 x 320

Standard size of box and pillar is DIN00 according to the standards DIN 43629. Standardly supplied with open bottom. Boxes can be mounted on a column. Boxes intended for application on a wall or on electrical pole are supplied with full/closed bottom. At customer's request they can be supplied completely assembled or in parts. Production can be limited by a minimum order quantity.

### Design variants of model series N

**a/** smooth surface (Standard)

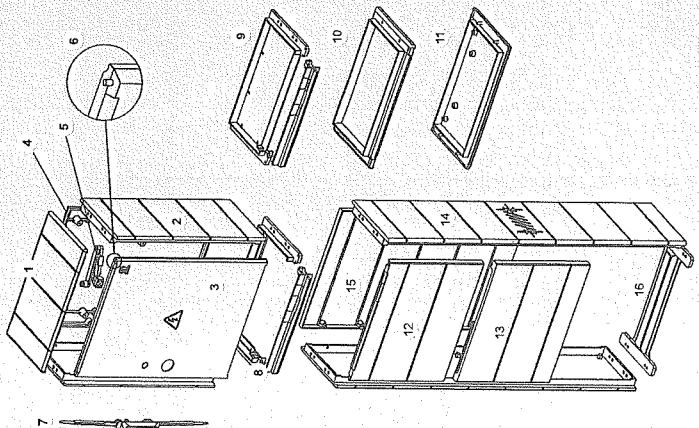
**b/** grooved surface (custom-made)

**c/** flat roof (Standard)

**d/** SMC slanted roof with overhang (custom-made)  
Each size is available.  
Production can be limited by a minimum order quantity.

### Standard box assembly

Position	Description
1	Roof (standard fit)
2	Box side wall
3	Door
4	Back wall
5	Door stopper
6	Door hinges
7	3-point locking system
8	Spacer with rail into a wall recess or for assembly of a compact column - open cable space) Construction type: V, K
9	Spacer with rail + plastic cover for assembly of a compact column - closed cable space / 2 separate areas) Construction type: K
10/	Solid spacer (for assembly of 2 boxes in vertical way)
11	Bottom cover (for application on a wall and on a pole) Construction type: N, S
12	Base front cover (upper part)
13	Base front cover (lower part)
14	Base side wall
15	Base back wall
16	stabilising plate



### SMC N-C switchboards and columns made of thermoset

These are monolithic plastic switchboards with an easy way of installation without any assembling. Usually supplied with open bottom. Closed/full bottom custom made only.

**Type** SP SP1/N-C

325 x 290 x 170

**Type** SS SS2/N-C

320 x 400 x 220

**Type** PP PP2/N-C

330 x 1200 x 220

**Type** KD KD2/N-C

330 x 400 x 220

**Type** SS2/N-C

475 x 600 x 220

**Type** PP2/N-C

475 x 1200 x 220

**Type** KD2/N-C

475 x 600 x 220

**Type** SS2/N-C

640 x 800 x 220

**Type** PP2/N-C

640 x 1200 x 220

**Type** KD2/N-C

640 x 800 x 220

Note: Model series SS/N-C can be mounted beside each other only. SP1/N-C separately supplied. At customer's request we can produce also columns in a height option of ,900" or terminal part in height option of ,600". Production can be limited by a minimum order quantity.

### Empty boxes with transparent inside door

**Type** SS SS2/N 2D 450

N, S 320 x 470 x 260

**Type** SS2/N 2D

N, S 470 x 620 x 260

**Type** SS2/N 2D

N, S 620 x 830 x 260

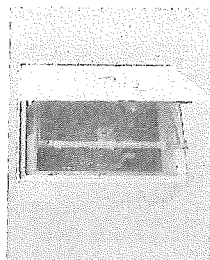
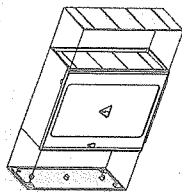
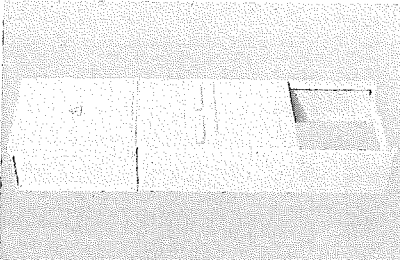
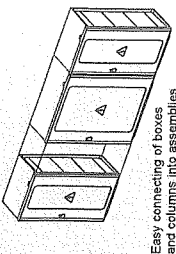
Intended for meter boxes with 2115 (50) 2115 (50) fitting.

1x single-phase electrometer + 1x tariff delay release

2x single-phase electrometer + 1x tariff delay release or 1x three-phase electrometer + 1x tariff delay release

6x single-phase electrometer + 1x tariff delay release or 1x three-phase electrometer + 1x tariff delay release

These boxes are standardly supplied with transparent inside door. This new model series are intended for use as electrometer boxes. These boxes can be equipped according to customer's request. Production can be limited by a minimum order quantity. Note: Location of the space for a circuit breaker is given by a construction of mould.

















# POLYCARBONATE

## Switchboards and columns made of thermoplastic

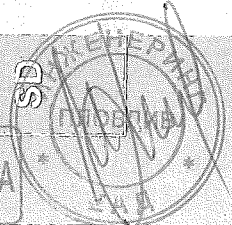
**Model series**

Type	SP2/P	SS2/P	SR22/P	SR222/P
SP	 V.S. 215 x 230 x 120 N.S. 215 x 230 x 120	 V.K. 274 x 291 x 242 N.S. 274 x 291 x 242	 V.K. 688 x 670 x 242 N.S. 688 x 670 x 242	 V.K. 1242 x 670 x 242 N.S. 1242 x 670 x 242
Type	SS1/P	SR1/P	SR11/P	SR111/P
SS	 V.K. 484 x 602 x 242 N.S. 484 x 602 x 242	 V.K. 888 x 670 x 242 N.S. 888 x 670 x 242	 V.K. 1322 x 670 x 242 N.S. 1322 x 670 x 242	 V.K. 1922 x 670 x 242 N.S. 1922 x 670 x 242
Type	SD1/P	SD2/P	SD3/P	SD4/P
EP	 V.K. 374 x 602 x 242 N.S. 374 x 602 x 242	 V.K. 484 x 602 x 242 N.S. 484 x 602 x 242	 V.K. 594 x 602 x 242 N.S. 594 x 602 x 242	 V.K. 704 x 602 x 242 N.S. 704 x 602 x 242

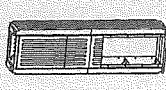
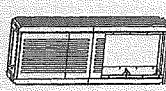

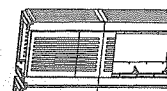



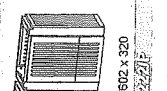
DCK PC boxes of the same height and width can be lined up and assembled beside and above each other. Connecting of boxes and columns in one compact entity is easy and simple. At customer's request they can be supplied completely assembled or in parts. Production can be limited by a minimum order quantity.

Note: SP2/P, SS1/P-C and EP1/P-C can be mounted in vertical way only. SP1/P supplied separately.

БЯРНО С ОРИГИНАЛА



**Model series**

Type	PP1/P	PP2/P	PP3/P	PP32/P
PP	 374 x 1225 x 242	 484 x 1225 x 242	 540 x 1225 x 320	 1080 x 1225 x 320
Type	KD1/P	KD2/P	KD3/P	KD32/P
KD	 374 x 602 x 242	 484 x 602 x 242	 540 x 602 x 320	 1080 x 602 x 320

DCK boxes can be mounted on a column. Standard height of PC columns is 1225 mm. At customer's request we can produce also terminal part 602 mm high. According to the requirement they can be supplied completely assembled or in parts. Each column is stabilized by a stabilizing plate or strips. Both of them can be delivered in standard dimensions or with an overhang. Production can be limited by a minimum order quantity.

Handwritten signature or mark.

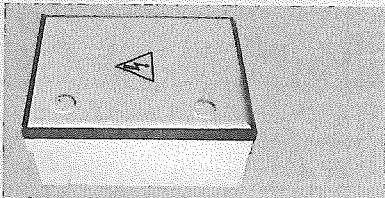


# CONCRETE

## Switchboards made of concrete + thermoplastic (PC) door

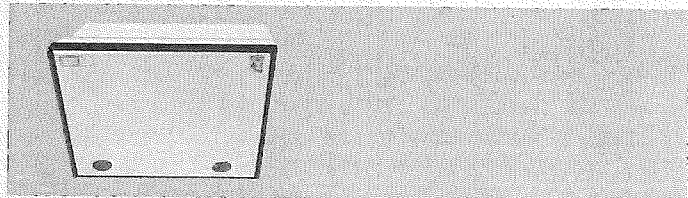
It is possible to supply only plastic frame and door.

Type	SS2/K	SS2/K	SS2/K
410 x 510 x 250			
410 x 510 x 250			
540 x 510 x 250			
540 x 510 x 250			



# XCLUSIVE door

Stainless-steel door is intended for installation in historical buildings or in luxury housing development and due to their high quality they satisfy needs of the most demanding customers.



# ACCESSORIES

## Plastic holder

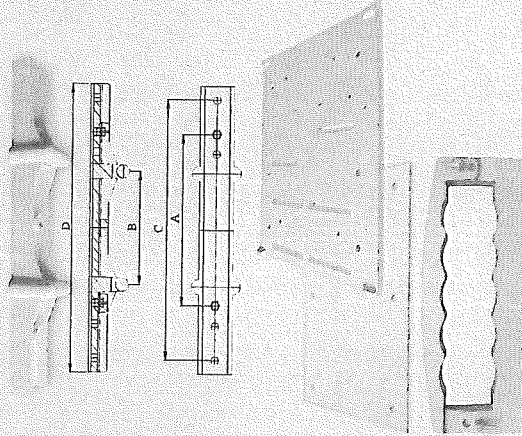
These are intended as a transition element for easy and quick fastening of boxes on a pole. Type must be specified in order. DCK provides their customers with following types of holders:

Type	A [mm]	B [mm]	C [mm]	D [mm]
Holder SP	198	130	310	330
Holder SV-C	222	130	-	240
Holder SV	268	130	410	430
Holder ER	378	130	510	530
Holder UNI	130	65	-	160

Production of some types of holders can be limited by a minimum order quantity.

## Mounting plates

These boards can be used in each type of box. In addition to standard DCK perforations, full plates can be supplied as well. At customer's request can be adjust according to a special requirements.



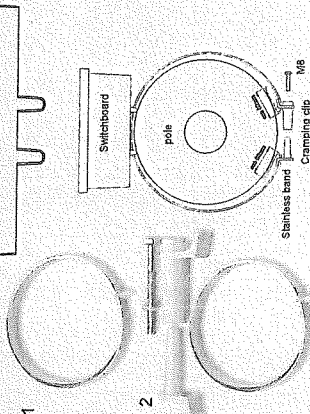
## Plastic tube holder

The plastic universal holder is intended for easy fastening of cable tubes on a pole and design for one, two or three tubes is available.



## Ways of fastening on electric pole

- 1) Stainless-steel tape**  
It's a 120 cm long stainless-steel band 1.6 cm wide. A special fastening tool is necessary for fastening with stainless-steel band.
- 2) DCK installation set**  
This special installation set is intended for easy and quick fastening of cable boxes (type N-S) on a pole. This set consists of a stainless band, a cramping clip and a screw.

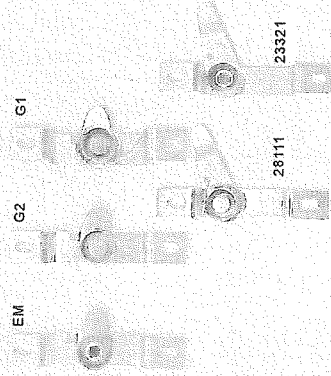


## Locking systems

- 1) One point locking system**  
Standard energetic lock according to ČSN 35 9754. DCK provides their customers with 5 types of one point locks which enable to lock the box in one point.

SMC and concrete boxes:	G1, G2, EM
PC boxes	28111, 23321

Note: Using of one point lock by each type of boxes should be discussed. Delivery with box only. Keys are not parts of one point locks and must be ordered separately.



**2) 3-point locking system with exchangeable cylinder**

This system allows to lock the box in three directions. Note: Cylinders are not part of the locks and must be ordered separately.

\* Option with a special loop for a padlock.

**Lock insertions - Cylinders**

- 1) Crescent shaped lock cylinder  
Standard energetic lock cylinder in accordance with GSN 35 9754.
- 2) Square shaped lock cylinder  
Production can be limited by a minimum order quantity.
- 3) Half lock cylinder  
Key is a part of half lock cylinder. Production can be limited by a minimum order quantity.

**Other lock cylinder types**  
At customer's request can be made also other types of lock cylinders.  
Note: Keys are not parts of cylinders and must be ordered separately.

**Keys**

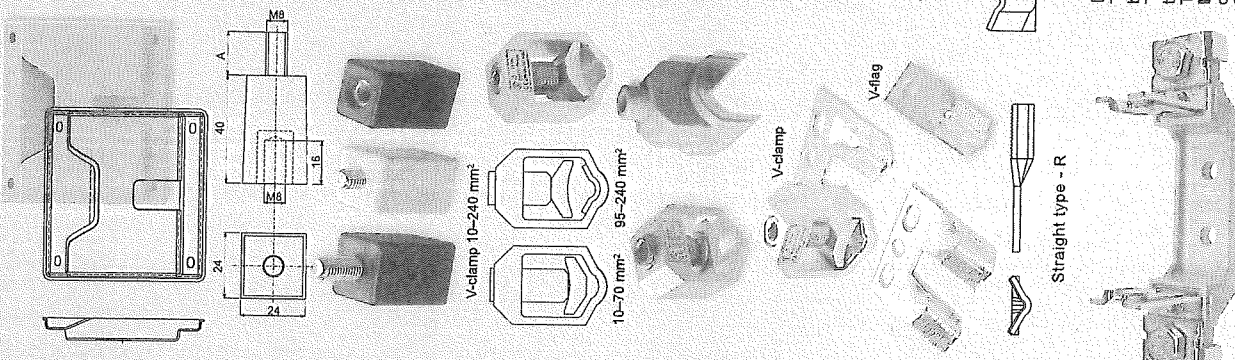
- 1) Energetic UNI key  
All types of one point locks can be opened with this universal key. This combined key enables to open not only crescent shaped locks and cylinders but also square shaped cylinders. Must be ordered separately.
- 2) Square shaped key  
It is intended for square shaped cylinders. Must be ordered separately.
- 3) Half lock cylinder key  
It is intended for standard Half lock cylinders. Key is a part of half lock cylinder.

**Cable gland**  
Plastic cable glands are intended for cable inlet from cable tubes to the box. Maximum cable cross-section = 150mm<sup>2</sup>.  
At customer's request we can supply also cable glands type PG.

**Ventilation grommet**  
In case of extreme climatic conditions box can be equipped with additional ventilation grommet.

**Transparent plastic window**  
This polycarbonate window is intended for application into door and enables for example to read the electrometer without door opening. Production can be limited by a minimum order quantity.

**Backfill material**  
The backfill material (keramzit) is intended to be used for filling up the internal space of a compact pillar above the terrain level.



**Case for documents**

Necessary documentation can be placed directly in switchboards owing to this box. Plastic case is made of thermoplastic. Can be fixed to the inner side of the box with screws or glue. Production can be limited by a minimum order quantity.

**Supporting insulators**

These are intended for mounting and fastening of busbars and conducting parts to the construction of electrical devices. Insulators are made of inflammable material and are designed for indoor use. We provide our customers with two types of insulators:

Type	PI 40-17	PI 40-6	PI 40
Screw length A [mm]	17	6	-
Supporting height [mm]	40	40	40
Weight [g]	41	41	35
Operating voltage [V]	do 1000	do 1000	do 1000
Operating temperature [C]	-40 + +130	-40 + +130	-40 + +130
Fire retardancy	HB40, V-O	HB40, V-O	HB40, V-O

Production can be limited by a minimum order quantity.

**V-clamp**

V-clamps are intended for connection of wires to V-shaped terminal flags.

**V-clamp NT/10-240**

Internal rotating part of the V-clamp enables clamping of a wire within the range of 10-240 mm<sup>2</sup>.

**V-clamp NT/95**

This V-clamp enables clamping of a wire within the range of 10-95 mm<sup>2</sup>.

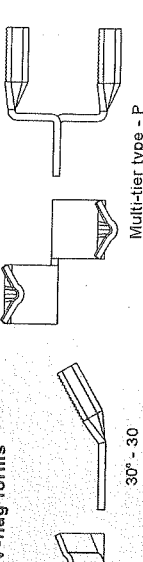
**V-clamp plastic cover**

This is not a part of V-clamp and must be ordered separately.

**V-Flag**

AV-shaped terminal flag forms together with the V-clamp a V-shaped connection clamping set. It enables clamping Cu, Al wires within the range of 10-240 mm<sup>2</sup> thanks to the V-clamps. The V-shaped terminal flags are available as straight type or multi-tier type and for one or two conductors. Production of some types of V-flags can be limited by a minimum order quantity.

**V-flag forms**



**Fuse Bases Size 00**

The single-pole 00-size fuse bases are designed for 00 and 000-size fuse blades. The rated current of the fuse base is 160A. The base is made of a composite providing good mechanical strength and thermal resistance. Optional accessories: contact cover.

**Terminal connection types:**

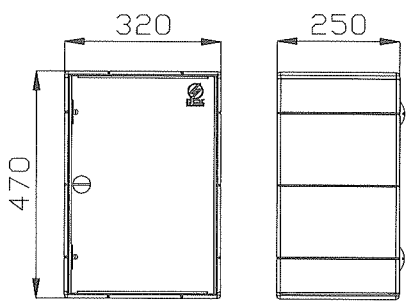
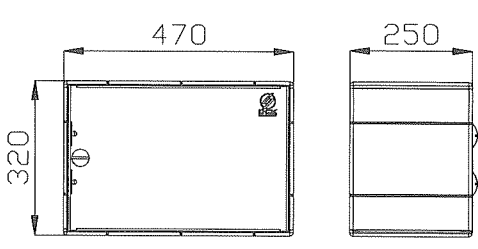
- M - H-type clamp for direct connection of one or two wires up to 50mm<sup>2</sup> in cross section
- S - screw-type clamp for cable lug connection by means of M8 screw
- V - V-type clamp for wire connection with shackles (NT/95 type) up to 95mm<sup>2</sup> in cross section

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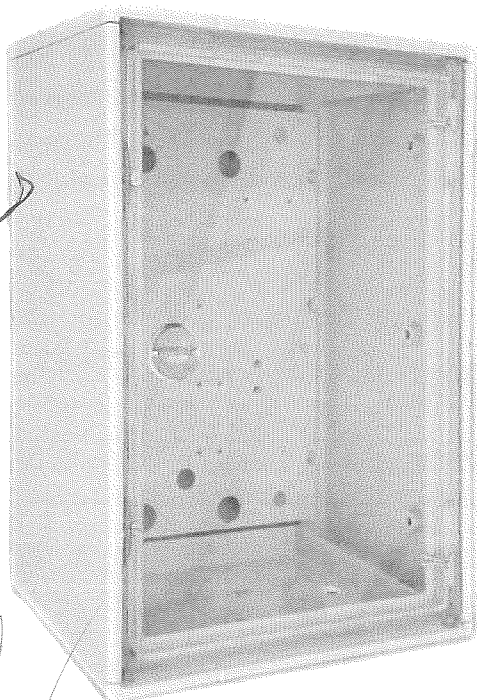


# Empty boxes with transparent door

Model type: N+P

type	SS1/N+PN v450	SS2/N+PN v300
SS		
	N, S 320x470x250	N, S 470x320x250
meter boxes with possibility of the following fitting:	1x single-phase electrometer + 1x tariff delay release or 1x three-phase electrometer + 1x tariff delay release	2x single-phase electrometer + 1x tariff delay release

These SMC boxes are standardly supplied with transparent door from polycarbonate. This new model series are intended for use as electrometer boxes. These boxes can be equipped according to the customer's request. Production can be limited by a minimum order quantity.



ВЯРНО С ОРИГИНАЛА

