

Phase Connecting Elements for Switchgear Installations

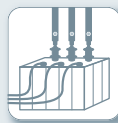
Work according to the 5 Safety Rules

4. Carry out Earthing and Short-Circuiting – EaS Devices

- To be fitted to the phase cable end of single-pole to five-pole earthing and short-circuiting devices
- Anti-rotation element PK1
- Earthing and short-circuiting devices can be configured online via the earthing and short-circuiting configurator



Connecting the phase cable end with universal clamp to a fixed ball point



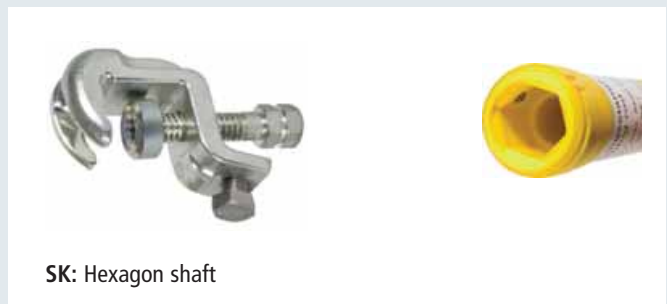
General Information:

Standard	EN/IEC 61230 (DIN VDE 0683-100), threaded T pin shaft DIN 48087
Temperature range	- 25 °C ... + 55 °C
Material (clamp body)	Copper alloy/gal Sn
Material (terminal lug)	Copper alloy/gal Sn
Material (shaft)	Copper alloy/gal Sn
Material (pressure plate)	Copper alloy/gal Sn or St/Zn

Two types of ball head caps are available:

- Rigid ball head cap
- Adjustable ball head cap (4x 90°)

The adjustable ball head cap allows the user to connect the earthing and short-circuiting device to fixed points that are installed in unfavourable positions. Thus, in the vast majority of cases, angled fixed ball points no longer have to be used.



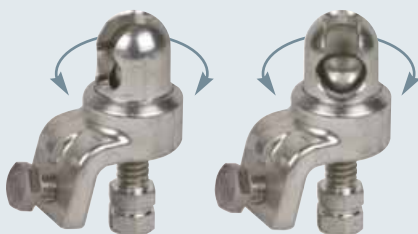
SK: Hexagon shaft



SQ: T pin shaft (bayonet locking mechanism)



Rigid ball head cap



Adjustable ball head cap (4x 90°)

Work according to the 5 Safety Rules

Phase Connecting Elements for Switchgear Installations**4. Carry out Earthing and Short-Circuiting – EaS Devices****Rigid Ball Head Cap, hexagon Shaft**

Type	KKH 20 SK	KKH 25 SK
Part No.	772 310	772 320
For fixed ball point Ø	20 mm	25 mm
Anti-rotation element	PK1	PK1
For cable cross-sections	16 ... 120 mm ²	16 ... 150 mm ²
Max. short-circuit current I _k 0.5 s	33.5 kA	42.0 kA
Max. short-circuit current I _k 1 s	23.7 kA	29.6 kA

Rigid Ball Head Cap, T Pin Shaft

Type	KKH 20 SQ	KKH 25 SQ
Part No.	772 311	772 321
For fixed ball point Ø	20 mm	25 mm
Anti-rotation element	PK1	PK1
For cable cross-sections	16 ... 120 mm ²	16 ... 150 mm ²
Max. short-circuit current I _k 0.5 s	33.5 kA	42.0 kA
Max. short-circuit current I _k 1 s	23.7 kA	29.6 kA

Adjustable Ball Head Cap (4x 90°), hexagon Shaft

Type	KKH 20 D SK	KKH 25 D SK
Part No.	772 330	772 340
For fixed ball point Ø	20 mm	25 mm
Anti-rotation element	PK1	PK1
For cable cross-sections	16 ... 120 mm ²	16 ... 150 mm ²
Max. short-circuit current I _k 0.5 s	33.5 kA	42.0 kA
Max. short-circuit current I _k 1 s	23.7 kA	29.6 kA

Adjustable Ball Head Cap (4x 90°), T Pin Shaft

Type	KKH 20 D SQ	KKH 25 D SQ
Part No.	772 331	772 341
For fixed ball point Ø	20 mm	25 mm
Anti-rotation element	PK1	PK1
For cable cross-sections	16 ... 120 mm ²	16 ... 150 mm ²
Max. short-circuit current I _k 0.5 s	33.5 kA	42.0 kA
Max. short-circuit current I _k 1 s	23.7 kA	29.6 kA

Round Pin Clamp, T Pin Shaft**NEW**

For round pins in switchgear installations

Type	RBK 35 SQ
Part No.	715 312
For round pins Ø	35 mm
Anti-rotation element	PK1
For cable cross-sections	16 ... 150 mm ²
Max. short-circuit current I _k 0.5 s	42.0 kA
Max. short-circuit current I _k 1 s	29.6 kA

Phase Connecting Elements for Switchgear Installations

Work according to the 5 Safety Rules

4. Carry out Earthing and Short-Circuiting – EaS Devices

Universal Clamp, hexagon Shaft



Type	UK 25 SK	UK 30 SK
Part No.	773 034	773 130
For fixed ball point Ø	20 / 25 mm	25 / 30 mm
For T pins with a collar width of	15 mm	18 mm
Rd / Fl clamping range	20 mm	30 mm
Anti-rotation element	PK1	PK1
For cable cross-sections	16 ... 120 ^{*)} mm ²	16 ... 120 ^{*)} mm ²
Max. short-circuit current I _k 0.5 s	33.5 kA	33.5 kA
Max. short-circuit current I _k 1 s	23.7 kA	23.7 kA

Universal Clamp, T Pin Shaft



Type	UK 25 SQ	UK 30 SQ
Part No.	773 234	773 330
For fixed ball point Ø	20 / 25 mm	25 / 30 mm
For T pins with a collar width of	15 mm	18 mm
Rd / Fl clamping range	20 mm	30 mm
Anti-rotation element	PK1	PK1
For cable cross-sections	16 ... 120 ^{*)} mm ²	16 ... 120 ^{*)} mm ²
Max. short-circuit current I _k 0.5 s	33.5 kA	33.5 kA
Max. short-circuit current I _k 1 s	23.7 kA	23.7 kA

Phase Connecting Element, T Pin Shaft



With M16 threaded pin for installation in switchgear installations

Type	PAS EK SQ 16
Part No.	771 316
Dimensions	M16
Anti-rotation element	PK1
For cable cross-sections	16 ... 150 mm ²
Max. short-circuit current I _k 0.5 s	42.0 kA
Max. short-circuit current I _k 1 s	29.6 kA

*) Clamping range and maximum cable cross-section of universal clamps used for:			
Fixed ball point Ø	T pin collar width	Rd / Fl clamping range	Cable cross-section
20 / 25 / 30 mm	15 / 18 mm	20 / 30 mm	70 mm ²
20 / 25 / 30 mm	15 / 18 mm	–	95 mm ²
– / 25 / 30 mm	–	–	120 mm ²

The clamps must have the same maximum short-circuit current as the earthing and short-circuiting cables!

Work according to the 5 Safety Rules

4. Carry out Earthing and Short-Circuiting – EaS Devices

- For connecting the phase cables of single-pole and three-pole earthing and short-circuiting devices to overhead lines
- With coupling aid for safe attachment on conductor cables
- Easy coupling due to spring-loaded clamp
- Anti-rotation element PK1 or PK2 and long threaded T pin shaft
- Earthing and short-circuiting devices can be configured online via the earthing and short-circuiting configurator



EaS Configurator:
www.dehn.de/en/euk



Phase Connecting Elements for Overhead Lines



Phase screw clamps used on an overhead line



Phase screw clamp fitted with fixed coupling aid allows safe coupling



Spring-loaded phase screw clamp

General Information:

Standard	EN/IEC 61230 (DIN VDE 0683-100), threaded T pin shaft DIN 48087
Temperature range	- 25 °C ... + 55 °C
Material (pressure plate)	Aluminium alloy
Material (clamp body)	Aluminium alloy
Material (shaft)	Copper alloy/gal Sn or StSt
Material (coupling aid)	St/gal Zn



Crimped cable lug, type PK1:
 Standard anti-rotation cable lug with cut-out.



Crimped cable lug, type PK2:
 Cable lugs without cut-out for connecting parts from other manufacturers are available on request.



Clamp with long shaft and earthing stick with aluminium cone coupling

Phase Connecting Elements for Overhead Lines

Work according to the 5 Safety Rules

4. Carry out Earthing and Short-Circuiting – EaS Devices

Standard Phase Screw Clamp

Short-circuit-proof, even if the conductor cables are corroded due to weathering



Type	PSK 4 30 SQL	PSK 10 65 SQL
Part No.	784 201	784 301
Clamping range Ø	4 ... 30 mm	10 ... 65 mm
Anti-rotation element	PK1	PK1
For cable cross-sections	16 ... 70 mm ²	16 ... 120 mm ²
Max. short-circuit current I _k 0.5 s	19.5 kA	33.5 kA
Max. short-circuit current I _k 1 s	13.8 kA	23.7 kA

Phase Screw Clamp with Coupling Aid

Short-circuit-proof, even if the conductor cables are corroded due to weathering



Type	PSK 4 30 SQL EH	PSK 10 65 SQL EH
Part No.	784 401	784 501
Clamping range Ø	4 ... 30 mm	10 ... 65 mm
Anti-rotation element	PK1	PK1
For cable cross-sections	16 ... 70 mm ²	16 ... 120 mm ²
Max. short-circuit current I _k 0.5 s	19.5 kA	33.5 kA
Max. short-circuit current I _k 1 s	13.8 kA	23.7 kA

Spring-loaded Phase Screw Clamp

Easy coupling due to spring-loaded clamp



Type	PSK FV 4 30 SQL
Part No.	784 480
Clamping range Ø	4 ... 30 mm
Anti-rotation element	PK1
For cable cross-sections	16 ... 70 mm ²
Max. short-circuit current I _k 0.5 s	19.5 kA
Max. short-circuit current I _k 1 s	13.8 kA

Phase Screw Clamp with Wide Clamping Range

Ideally suited for use with Al and Al/St conductor cables, pipes and fixed phase points



Type	PSK 10 85 SQL
Part No.	784 085
Clamping range Ø	10 ... 85 mm
Anti-rotation element	PK2
For cable cross-sections	16 ... 150 mm ²
Max. short-circuit current I _k 0.5 s	29.6 kA
Max. short-circuit current I _k 1 s	29.6 kA

Phase Screw Clamp

Ideally suited for use in inclined positions



Type	PSK 10 32 SQL
Part No.	784 032
Clamping range Ø	10 ... 32 mm
Anti-rotation element	PK2
For cable cross-sections	16 ... 95 mm ²
Max. short-circuit current I _k 0.5 s	18.7 kA
Max. short-circuit current I _k 1 s	18.7 kA

Phase Screw Clamp with Safety Bow

Ideally suited for use in inclined positions



Type	PSK 10 32 SQL SB
Part No.	784 038
Clamping range Ø	10 ... 32 mm
Anti-rotation element	PK2
For cable cross-sections	16 ... 95 mm ²
Max. short-circuit current I _k 0.5 s	18.7 kA
Max. short-circuit current I _k 1 s	18.7 kA

Work according to the 5 Safety Rules

Phase Connecting Elements for Overhead Lines**4. Carry out Earthing and Short-Circuiting – EaS Devices****Spring-Loaded Phase Clamp**

Spring-loaded clamp for overhead lines without shaft
Single-pole or three-pole coupling aid for easy coupling and removal of the clamp, the spring-loaded clamp is connected by simply removing the coupling aid



Type	PK FV 4 25
Part No.	784 490
Clamping range Ø	4 ... 25 mm
Anti-rotation element	PK1 / PK1
For cable cross-sections	16 ... 70 mm ²
Max. short-circuit current I _k 0.5 s	13.8 kA
Max. short-circuit current I _k 1 s	13.8 kA

Accessory for Spring-Loaded Phase Clamp**Single-pole Coupling Aid with Gear Coupling**

For ISMTC N 36 ZK 10600 telescopic sticks for use from the ground

Type	EH1 PK FV ZK
Part No.	784 461
Total length	520 mm

**Accessory for Spring-Loaded Phase Clamp****Three-pole Coupling Aid with T Pin Shaft**

For earthing sticks with bayonet locking mechanism for use from towers or aerial working platforms

Type	EH3 PK FV SQL
Part No.	784 463
Total length	500 mm



Phase Connecting Elements for Overhead Lines

Work according to the 5 Safety Rules

4. Carry out Earthing and Short-Circuiting – EaS Devices

Rigid Ball Head Cap



Type	KKH 20 SQL	KKH 25 SQL
Part No.	772 314	772 324
For fixed ball point Ø	20 mm	25 mm
Anti-rotation element	PK1	PK1
For cable cross-sections	16 ... 120 mm ²	16 ... 150 mm ²
Max. short-circuit current I _k 0.5 s	33.5 kA	42.0 kA
Max. short-circuit current I _k 1 s	23.7 kA	29.6 kA

Universal Clamp



Type	UK 25 SQL	UK 30 SQL
Part No.	773 236	773 331
For fixed ball point Ø	20 / 25 mm	25 / 30 mm
For T pins with a collar width of	15 mm	18 mm
Rd / Fl clamping range	20 mm	30 mm
Anti-rotation element	PK1	PK1
For cable cross-sections	16 ... 120 ^{*)} mm ²	16 ... 120 ^{*)} mm ²
Max. short-circuit current I _k 0.5 s	33.5 kA	33.5 kA
Max. short-circuit current I _k 1 s	23.7 kA	23.7 kA

The clamps must have the same maximum short-circuit current as the earthing and short-circuiting cables!

*) Clamping range and maximum cable cross-section of universal clamps used for:			
Fixed ball point Ø	T pin collar width	Rd / Fl clamping range	Cable cross-section
20 / 25 / 30 mm	15 / 18 mm	20 / 30 mm	70 mm ²
20 / 25 / 30 mm	15 / 18 mm	–	95 mm ²
– / 25 / 30 mm	–	–	120 mm ²

Accessory for Phase Connecting Elements

Three-pole Phase Connecting Plate with Round Pin

Phase connecting plate for phase clamps



Type	PAP 3 M12 SSM B13 RB
Part No.	728 313
Anti-rotation element	PK1
Borehole	Ø12.5 mm
Max. short-circuit current I _k 0.5 s	33.5 kA
Max. short-circuit current I _k 1 s	23.7 kA

Accessory for Phase Connecting Elements

Two-pole Phase Connecting Plate

Allows to connect two phase screw clamps with PK1 anti-rotation element.

Type	PAP 2 M12 SSM B13
Part No.	728 312
Anti-rotation element	PK1
Borehole	Ø12.5 mm
Max. short-circuit current I _k 0.5 s	33.5 kA
Max. short-circuit current I _k 1 s	23.7 kA



Work according to the 5 Safety Rules

Phase Connecting Elements for Railway Applications

4. Carry out Earthing and Short-Circuiting – EaS Devices



Earth Clamp for Overhead Contact Lines



With contact electrode and flexible threaded T pin shaft according to DIN 48087

For 80 a.c. to 120 a.c. overhead contact lines

Type	FEK 4 15 TS FSQ
Part No.	784 755
Clamping range \varnothing	4 ... 15 mm
Anti-rotation element	PK2 (\varnothing 10.5 mm)
DB drawing No.	3 Ebgw 01.54
DB material No.	157 536

Conductor Clamp



With contact electrode and threaded T pin shaft according to DIN 48087

For supply and traction power lines

Type	LK 4 40 TS SQL
Part No.	784 352
Clamping range \varnothing	4 ... 40 mm
Anti-rotation element	PK2 (\varnothing 10.5 mm)
DB drawing No.	3 Ebgw 01.65
DB material No.	157 539