



TRANSFORMER STATIONS

Single-phase / three-phase short-circuiting device for conductors of various shapes, provided with universal clamps

SR EN 61230



Code: Msp - CCU - S_p/I_p - S/O/P/p Msp - CCU - 3xS_p/I_f - S_p/I_p - S/P/p
 Msp - CAU - S_p/I_p - S/O/P/p Msp - CAU - 3xS_p/I_f - S_p/I_p - S/P/p
 Msp - CARU - S_p/I_p - S/O/P/p Msp - CARU - 3xS_p/I_f - S_p/I_p - S/P/p

Intended use: earthing of conductors / bars of various forms in transformer stations.

Application: from the ground, by the application of the clamp on the conductor, followed by the tightening of the clamp actuator screw.
 Classic / automatic phase clamps must be handled using an insulating stick according to the installation, provided with "RO bayonet" coupling system.

Constructive shapes : single-phase or three-phase.

Constructive types of phase clamps:

- ✓ Classic Universal Clamp (CCU)
- ✓ Universal Automatic Clamp (CAU)
- ✓ Universal Automatic Fast Clamp (CARU)

Components:

The single-phase short-circuiting device includes the following components:

- Phase clamp - 1 piece
- Earthing cable - 1 piece
- Manual earthing clamp - 1 piece

Three-phase short-circuiting device includes the following components:

- Phase clamp - 3 pieces
- Phase cable - 3 pieces
- Earthing cable - 1 piece
- Manual earthing clamp - 1 piece

Packing: waterproof bag.

Other equipment to be used in conjunction:

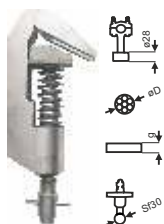
- connecting insulating stick type PMU 20-1 B/ba / PMU 110-2 B/ba / PMU 220-2-B/ba / PMU 400-3-B/ba



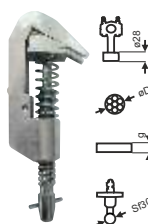
General technical characteristics of short-circuiting devices with universal clamp types CCU, CAU and CARU

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|--|------|-------|-------|-------|-------|-------|-------|
| Earthing S _p cable cross-section (mm ²) | 16 | 25 | 35 | 50 | 70 | 95 | 120 |
| Nominal short-circuit current for t = 1 s I _{sc} (kA) | 4 | 6,25 | 8,75 | 12,5 | 17,5 | 23,75 | 30 |
| Shock (peak) nominal current for t = 0,02 s I _{sd} (kA) | 10 | 15,63 | 21,9 | 31,25 | 43,75 | 59,38 | 75 |
| Test short-circuit current for t = 1 s (kA) | 4,6 | 7,2 | 10,06 | 14,38 | 20,13 | 27,31 | 34,5 |
| Test shock (peak) current for t = 0,02 s (kA) | 11,5 | 17,97 | 25,16 | 35,94 | 50,31 | 68,3 | 86,25 |
| Power factor (according to SR EN 61230) | 2,5 | | | | | | |

| Phase clamp type | Classic universal clamp (CCU) | Universal automatic clamp (CAU) | Universal automatic fast clamp (CARU) |
|--|-------------------------------|---------------------------------|---------------------------------------|
| Length of phase cables - three-phase short-circuiting device l _f (m) | max. 1,5 | max. 1,5 | max. 1,5 |
| Length of the earthing cable - single-phase / three-phase short-circuiting device l _p (m) | max. 10 / max. 8,5 | max. 10 / max. 8,5 | max. 10 / max. 8,5 |
| Thickness of the flat bar where the phase clamp g can be mounted (mm) | max. 40 | max. 37 | max. 40 |
| Diameter of the sphere-type Sf coupling part (mm) | 30 | 30 | 30 |
| Diameter of the conductor where the phase clamp can be applied øD (mm) | 9 ÷ 32 | 9 ÷ 32 | 9 ÷ 32 |



CLASSIC UNIVERSAL CLAMP (CCU)



UNIVERSAL AUTOMATIC CLAMP (CAU)



UNIVERSAL AUTOMATIC FAST CLAMP (CARU)