



## SUBSTATIONS

### Single-phase / three-phase short-circuiting device for conductors of various shapes - universal clamps

SR EN 61230



Code: Msp - CCU - S<sub>p</sub>/I<sub>p</sub> - S/O/P/p      Msp - CCU - 3xS<sub>p</sub>/I<sub>p</sub> - S/P/p  
 Msp - CAU - S<sub>p</sub>/I<sub>p</sub> - S/O/P/p      Msp - CAU - 3xS<sub>p</sub>/I<sub>p</sub> - S/P/p  
 Msp - CARU - S<sub>p</sub>/I<sub>p</sub> - S/O/P/p      Msp - CARU - 3xS<sub>p</sub>/I<sub>p</sub> - S/P/p

**Application:** from the ground, by mounting the phase clamp on the conductor, followed by the tightening of the clamp driving screw.

Classic / automatic phase clamps must be handled using an insulating stick according to the voltage of the installation, provided with "RO bayonet" coupling system.

**Constructive shapes :** *single-phase* or *three-phase*

**Constructive types of phase clamps:**

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

**Components:**

● **Single-phase short-circuiting device** consists of:

- ▶ Phase clamp - 1 piece
- ▶ Earthing cable - 1 piece
- ▶ Earthing clamp - 1 piece

● **Three-phase short-circuiting device** consists of:

- ▶ Phase clamp - 3 pieces
- ▶ Short-circuiting cable - 3 pieces
- ▶ Earthing cable - 1 piece
- ▶ Earthing clamp - 1 piece

**Packing:** waterproof bag

**Related products:**

- Multipurpose modular insulating stick type PMU 20-1 B/ba / PMU 110-2 B/ba / PMU 220-2-B/ba / PMU 400-3-B/ba (see page 10)



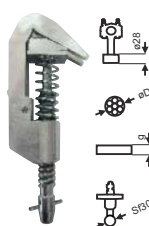
General technical characteristics of short-circuiting devices with phase clamps types CCU, CAU and CARU

	16	25	35	50	70	95	120	
Earthing cable cross-section S <sub>p</sub> (mm <sup>2</sup> )	16	25	35	50	70	95	120	
Nominal short-circuit current for t = 1 s I <sub>sc</sub> (kA)	4	6,25	8,75	12,5	17,5	23,75	30	
Shock (peak) nominal current for t = 0,02 s I <sub>sd</sub> (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	Universal classic clamp (CCU)	Universal automatic clamp (CAU)	Universal automatic rapid clamp (CARU)
Short-circuiting cable length - three-phase short-circuiting device l <sub>f</sub> (m)	max. 1,5	max. 1,5	max. 1,5
Earthing cable length - single-phase / three-phase short-circuiting device l <sub>p</sub> (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 can be mounted g (mm)	max. 40	max. 37	max. 40
Diameter of the sphere-type coupling part Sf (mm)	30	30	30
Diameter of the conductor where the phase clamp can be applied øD (mm)	9 ÷ 32	9 ÷ 32	9 ÷ 32



UNIVERSAL CLASSIC CLAMP (CCU)



UNIVERSAL AUTOMATIC CLAMP (CAU)



UNIVERSAL AUTOMATIC RAPID CLAMP (CARU)