

ROMIND T&G



ELECTRICAL SAFETY EQUIPMENT

Voltage detectors - Insulating sticks - Earthing devices

ROMIND T & G is a Romanian private company, whose main activity is designing, manufacturing and trading safety equipment. Our equipment is designed and manufactured in order to provide highest safety standards in works that involves electrical hazards or falling from height hazards.

With a wide range of products and benefiting from the rich experience acquired during the last 18 years, ROMIND has become a known national and international brand, in the work protection equipment area. Presently, the whole range of short-circuiting devices, insulating sticks and voltage detectors manufactured by ROMIND is used by electricians of the most important Romanian companies involved in production, transport and distribution of electricity (Electrica, ENEL, CEZ, E.On, Transelectrica, Hidroelectrica, Termoelectrica).

Our products are made in compliance with the European standards and are certified in terms of compliance by the Certification Body of the Romanian National Research & Development Institute on Occupational Safety.

We are continuously focused on the necessity to offer equipment which will ensure complete protection against risks and an increased ergonomic usage.

Always careful to the requirements of our customers, our Company has implemented an integrated system which takes into account both quality management and environmental and occupational health and safety management, the entire system being in compliance with the regulations of ISO 9001, ISO 14001 and OHSAS 18001 standards.

We would like to offer you the opportunity to be completely informed about our range of products and to find together solutions for a future cooperation.



- conformity marking issued by the Certification Body of the Romanian National Research & Development Institute on Occupational Safety



- European conformity marking

SAFETY FUSE HOLDER

Code: MMPS / 1 - MPR
MMPS / 1 - MPR - L



The device is manufactured from insulating and fireproofed materials: bakelite and polycarbonate. It can be used for handling all the high breaking capacity fuses with sizes between 00 and 3.



Code	Guard material type	Color	Thickness of leather	Test voltage
MMPS/1-MPR	Leather	Gray	2-2,5 mm	5000 V/1min.
MMPS/1-MPR-L	Leather	Red	1,5-2 mm	

FACE SHIELD AGAINST ELECTRICAL ARC FLASH

Code: A3



EN 166; EN 170

Protection against electrical arc flash.

The face shield can be fixed on a wide range of protective helmets.

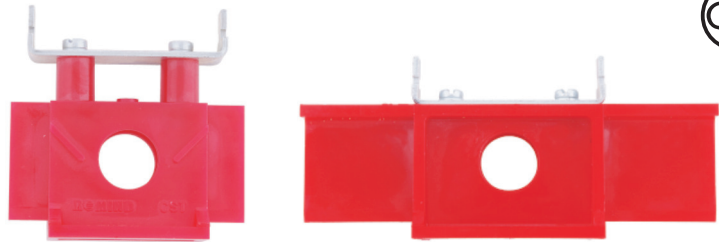
Material	Transparent polycarbonate
Dimensions (mm)	390 x 220
Thickness (mm)	1,5
Optical class	1
UV transmission factor	2-1,2
Medium energy impact resistance	B class
Weight (gr)	200



INSULATING BLADE FOR FUSE SOCKETS



The insulating blade for fuse sockets can be fitted in the fuse sockets (00, 0, 1, 2, 3 sizes) of low voltage fuseboards or cabinets in order to prevent electrical hazards.



The fuses must be handled using a safety fuse holder (code MMPS/1 - MPR, MMPS/1 - MPR-L).

Code	Material	Fuse sockets type	Maximum nominal voltage (V AC)	Test voltage (V/1min AC)	Temperature range (°C)
P 2344-0-00	Red polycarbonate	00	1000	5250	-25 ...+55
P 240-0-00	Red polycarbonate	0, 1, 2, 3	1000	5250	-25...+55

INSULATING FLEXIBLE COVER



EN 61479

The insulating flexible covers can be delivered in various lengths, together with plastic pliers.



Material		Yellow PVC
Maximum nominal voltage (V)		1000
Dielectric rigidity	Test voltage (V/3 min)	5000
	Withstand voltage (V)	10000
Oil resistance		H category
Very low temperature resistance (-40°C)		C category
Very high temperature resistance (+70°C)		W category
UV Resistance		Yes



No. item	Product name	Code	Length (cm)	Weight (kg)	Number of plastic pliers	Thickness (mm)
1	Insulating flexible cover	TE – 150 – 0	150	1,4	4	2,5 ± 0,5
2	Insulating flexible cover	TE – 200 – 0	200	1,9	6	
3	Insulating flexible cover	TE – 250 – 0	250	2,4	6	
4	Insulating flexible cover	TE – 300 – 0	300	2,8	8	

LOW VOLTAGE MULTITESTER



EN 61243-3

Code: EazyVolt I
EazyVolt II



EazyVolt I

EazyVolt II

NOTE: The detectors can be fitted with the "Contact probes for low voltage multimeters".

Detector code:	EazyVolt I	EazyVolt II
Voltage (V AC/DC)	6 - 690	
LED Resolution/Bargraph (V)	±6, 12, 24, 36, 50, 120, 230, 400, 690	
Frequency (Hz)	0...65	
Phase detection	YES	
Phases rotation indication	YES	
Continuity (kΩ)	< 200	
Resistance measurement	NO	YES
Power supply	2 x AAA, 1,5 V battery	
Temperature range (°C)	-10...+55	
Relative humidity	max. 85%	
IP protection	IP 64	
Overall dimensions (mm)	245 x 61 x 36	
Weight (including batteries) (kg)	0,230	

CONTACT PROBES FOR LOW VOLTAGE MULTITESTER

Code: PA 01



The contact probes are designed to be used with the low voltage multimeters EazyVolt I and EazyVolt II.

Maximum operational voltage (V)	1000	
Withstand voltage (V/1min)	6000	
Temperature range (°C)	-25...+55	
Dimensions (mm)	Length	1165
	Handle diameter	30
Type of protection	IP 20	
Weight of one set of contact probes (kg)	0,3	



VOLTAGE DETECTORS (DRY AND WET CONDITIONS)



SR EN 61243-1

The detectors can be used in indoor and outdoor installations through a suitable insulating stick. For wet conditions, the detector must be protected with an aerosol silicone film and for handling it is necessary to use a special insulating stick for wet conditions.

- The voltage detector is permanently in stand-by mode.
- Before each use, a checking test must be performed by pressing the TEST button. Correct operation is indicated as follows: a red intermittent optic signal and an acoustic signal will appear. After this test, the timed green LED lights up. While remaining on, it indicates the good working order of the detector.
- After the routine test, in order to check the presence/absence of the voltage, the detector should be put in contact with the electrical installation.

Voltage presence is indicated by:

- - red intermittent optical signals, good visibility from distance in high lighting ambient conditions;
- intermittent acoustic signals, higher than 90 dB (A).



Code: DTCIER/P 6 - 35 kV



Code: DTCIER/P 110 kV



Code: DTCIER/P 220-400 kV

Code		DTCIER/P 6 – 35 kV	DTCIER/P 110 kV	DTCIER/P 220 – 400 kV
Operational rated voltage (kV)		6 - 35	110	220 - 400
Temperature range (°C)	Operation and storage	-25 ...+55		
	Long-term storage	-10...+45		
Power supply		Alkaline battery 9V, 6LR61 type		
Dimensions (mm)	Without contact electrode	∅ 78 x 150	∅ 78 x 165	∅ 78 x 165
	With contact electrode	∅ 78 x 225	∅ 78 x 380	∅ 78 x 380
Weight (including battery) (kg)		0,370	0,530	0,530

VOLTAGE DETECTORS FOR ELECTRICAL PUBLIC TRANSPORT



Code: DTTU - Tb - for trolley
 DTTU - Tv - for tramway

The voltage detector is designed to check the presence/absence of voltage through direct contact with the verified installation.



DTTU - Tb



DTTU - Tv

Models:

DTTU-Tb:

- contains an electronic functional unit fixed in two insulating sticks;
- can be used for voltage detection on the contact lines of the trolley and in electrical distribution substations.

DTTU-Tv:

- contains an electronic functional unit fixed in an insulating stick and a contact pliers, coupled through an insulated conductor (length of 8 m);
- can be used for voltage detection between the contact line of the tramway and the railway.

- The voltage detector is permanently in stand-by mode.
- Before each usage, a checking test must be performed by pressing the TEST button. Correct operation is indicated as follows: intermittent optical and acoustic signals will appear.
- After the routine test, in order to check the presence/absence of the voltage, the detector should be put in contact with the electrical installation.
- The presence of voltage is indicated by:
 - intermittent optical signals, good visibility from distance in high lighting ambient conditions
 - DC - red color (reverse polarity) / green color (normal polarity)
 - AC - red and green colors
 - intermittent acoustic signal, higher than 69 dB (A).

Maximum nominal voltage (V AC/DC)		825
Maximum operational voltage (V AC/DC)		1000
Threshold voltage (V DC)		130 ± 20
Test voltage for verification of the dielectric rigidity (V/1min)		6000
Power supply		Alkaline battery of 9 V, 6LR61 type
Temperature range (°C)	Operation	-25 ...+55
	Long-term storage	-10...+45
Type of protection		IP 20
Weight (kg)	DTTU-Tb	1,19
	DTTU-Tv	1,35

INSULATING MULTI-SECTION STICKS (DRY CONDITIONS)



EN 61235; EN 61230

The insulating sticks are used for:

- Voltage absence detection (using adaptors and detectors);
- Earthing in MV/HV installations - switch operation (using earthing devices).

The insulating sticks contain 1 - 4 elements made of resin polyester/glass fiber tubes, which can be assembled together by coupling elements.

Each stick is equipped with a bayonet coupling system. This system can be adjusted in two positions: fixed or articulated.



Code	Operational voltage U_n (kV)	Withstand voltage U_{inc} (kV)	Number of sections	Diameter of sections (mm)	Total length L_t (m)	Handle length L_m (m)	Useful length L_u (m)	Weight (kg)
PMU-20-1-B/ba	20	60	1	Section 1 – Ø 38	1,33	0,41	0,92	1,1
PMU-20-1-B/baS					1,72	0,8		1,3
PMU-110-2-B/ba	110	190	2	Section 1; 2 – Ø 38	2,57	0,91	1,66	2,2
PMU-220-3-B/ba	220	380	3	Section 1; 2 – Ø 46 Section 3 – Ø 38	3,81	1,11	2,70	3,4
PMU-400-4-B/ba	400	695	4	Section 1; 2 – Ø 46 Section 3; 4 – Ø 38	5,05	1,11	3,94	4,4

INSULATING MULTI-SECTION STICKS (WET CONDITIONS)



EN 60855; EN 61230

The insulating sticks are used for:

- Voltage absence detection (using adaptors and detectors);
- Earthing in MV/HV installations - switch operation (using earthing devices).

The insulating sticks contain 2-4 elements made of resin polyester/glass fiber tubes, which can be assembled together by coupling elements.

Each stick is equipped with a bayonet coupling system. This system can be adjusted in two positions: fixed or articulated.



Code	Maximum operational voltage U_n (kV)	Withstand voltage U_{inc} (kV)	Number of sections	Diameter of sections (mm)	Total length L_t (m)	Handle length L_m (m)	Useful length L_u (m)	Weight (kg)
PMP-110-2-B/ba	110	190	2	Section 1; 2 – Ø 38	2,57	0,91	1,66	3,1
PMP-220-3-B/ba	220	380	3	Section 1; 2 – Ø 46 Section 3 – Ø 38	3,81	1,11	2,7	4,6
PMP-400-4-B/ba	400	695	4	Section 1; 2 – Ø 46 Section 3; 4 – Ø 38	5,05	1,11	3,94	6,1

TELESCOPIC INSULATING STICKS (DRY CONDITIONS - 2 SECTIONS)



EN 61235; EN 61230



The telescopic insulating sticks are used for:

- Voltage absence detection (using adaptors and detectors);
- Earthing in MV/HV installations - switch operation (using earthing devices).

The insulating sticks contain 2 elements made of resin polyester/glass fiber tubes, which slide together and are equipped with a push button lock.

Each stick is equipped with a hexagonal coupling system: fixed (F) or twisted (R). The twisted coupling system allows the positioning of the detector at an angle of 30°, 60° or 90° from the axis of the stick.

Code	Maximum operational voltage U_n (kV)	Withstand voltage U_{inc} (kV)	Diameter of sections (mm)	Total length L_t (m)	Handle length L_m (m)	Useful length L_u (m)	Weight (kg)	
PTU-20-35-F	20	60	Section 1 – Ø38	1,16	0,31	0,85	1	
	35	105		1,36		1,05		
PTU-20-35-R	20	60		Section 2 – Ø29		1,22	0,91	1,1
	35	105				1,42	1,11	
PTU-110-F	110	190		2,13	0,56	1,57	1,1	
PTU-110-R				2,19		1,63	1,2	

TELESCOPIC INSULATING STICKS (DRY CONDITIONS - 4 / 6 SECTIONS)



EN 61235; EN 61230

The telescopic insulating sticks are used for:

- Voltage absence detection (using adaptors and detectors);
- Earthing in MV/HV installations - switch operation (using earthing devices).

The insulating sticks contain 4 - 6 elements made of resin polyester/glass fiber tubes, which slide together and are equipped with a push button lock.

Each stick is equipped with a fixed hexagonal coupling system (F) and a folding metallic foot in order to improve the working conditions.

Code	Maximum operational voltage U_n (kV)	Withstand voltage U_{inc} (kV)	Nr. of sections	Telescoped sections *	Total length L_t (m)	Extended length L_{ext} (m)	Transport length (m)	Weight (kg)
PTU-AS-400-4-C	35-110	190	4	S 1 + S 4	6,05	3,2	1,9	3,5
	220	380		S 1 + S 3+4		4,59		
	400	695		S 1 + S 2+3+4		6,05		
PTU-AS-400-6-C	35-110	190	6	S 1 + S 6	9,02	3,41	2,17	6,2
	220	380		S 1 + S 5+6		4,73		
	400	695		S 1 + S 4+5+6		6,1		
				S 1 + S 3+4+5+6		7,53		
			S 1 + S 2+3+4+5+6	9,02				

*S – Sections; S 1 – base of insulating stick



DISCONNECT INSULATING STICK (DRY CONDITIONS)



EN 61235 EN 61230



The disconnect insulating sticks, PSU and PAE type, are used for operating (closing and opening) the separators or other electrical equipment.

The insulating sticks contain 1-2 elements made of resin polyester/glass fiber tubes, which can be assembled together by coupling elements.

Each stick is equipped with a metallic hanging element.

Code	Maximum operational voltage U_n (kV)	Withstand voltage U_{inc} (kV)	Number of sections	Diameter of sections (mm)	Total length L_t (m)	Handle length L_m (m)	Useful length L_u (m)	Weight (kg)
PSU – 20	20	60	1	Ø 38	1,23	0,41	0,82	1,2
PSU – 35	35	105	1	Ø 38	1,66	0,61	1,05	1,4
PAE – 35	35	105	2	Ø 38	3,02	0,92	2,10	2,7

INSULATING STICK FOR HANDLING THE CABLES (DRY CONDITIONS)



EN 61235; EN 61230

The insulating sticks contain 1 element made of resin polyester/glass fiber tube, equipped with a metallic hook, used for handling the live cables.

Code	Maximum operational voltage U_n (kV)	Withstand voltage U_{inc} (kV)	Diameter of tube (mm)	Total length L_t (m)	Handle length L_m (m)	Useful length L_u (m)	Weight (kg)
PCU – 20	20	60	Ø 38	1,36	0,41	0,95	1,3
PCU – 35	35	105	Ø 38	1,80	0,61	1,19	1,5



RESCUE STICK (DRY CONDITIONS)

EN 61235; EN 61230

The rescue insulating sticks contain 1 element made of resin polyester/glass fiber tube, equipped with a large metallic hook, used for:

- rescue quickly an electrified victim in case of accident;
- remove fallen objects from the live electrical conductors;
- other similar operations.

Code	Maximum nominal voltage U_n (kV)	Withstand voltage U_{inc} (kV)	Diameter of tube (mm)	Total length L_t (m)	Handle length L_m (m)	Useful length L_u (m)	Weight (kg)
PSU – 35 – C	35	105	Ø 38	1,91	0,61	1,30	2



ADAPTORS FOR INSULATING STICKS

EN 61230



The adaptors are designed to realize the connection between the insulating sticks and the voltage detector or other accessories (tools).

THE COUPLING ROD FOR THE VOLTAGE DETECTORS OR OTHER ACCESSORIES	 HEXAGONAL		
ADAPTORS			
CODE	AF E-C	AR E-C	AR C-C
COUPLING SYSTEMS FROM THE TOP OF INSULATING STICK	 BAYONET		 HEXAGONAL

ADAPTORS FOR TELESCOPIC INSULATING STICKS

EN 61230



The adaptors are designed to realize the connection between the telescopic insulating sticks, PTU type, with the bayonet coupling system of the phase clamp or other equipments or tools for working at height.

CODE	ACMIT/C	ACAI/C	CASC/C
ADAPTORS			

EARTHING AND SHORT-CIRCUITING DEVICE FOR NON-INSULATED L.V. OVERHEAD LINES

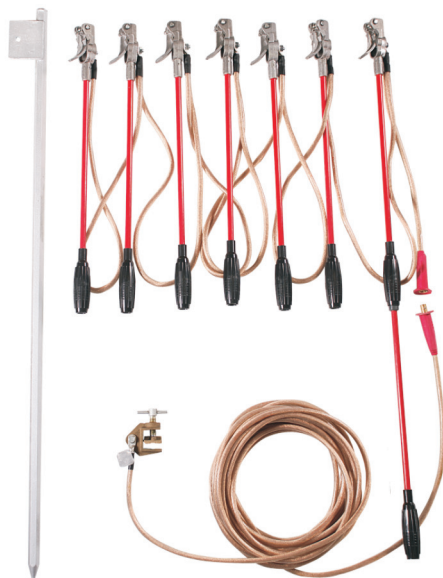


EN 61230

Code: Msp - 1 - nxS_f/I_f - S_p/I_p - O/p

Components:

- Short-circuiting subassembly;
- Earthing subassembly;
- Mobile earthing rod.



Nominal voltage of network Un (kV)	max. 1	
Short-circuiting S _f and earthing S _p cable section (mm ²)	16	25
Nominal short-circuiting current for t = 1s I _{sc} (kA)	4	6
Peak current for t = 0,02s I _{sd} (kA)	8	12
Short-circuiting cables length I _f (m)	max. 1	
Earthing cable length I _p (m)	max. 15	
Number of phase clamps	max. 7	
Protection length of the insulating stick (m)	0,35	
Total protection length of the stick, using the extension (m)	0,84	
Range of diameters of the conductor on which can be applied the phase clamp (mm)	5 ÷ 16	
Range of sections of the conductor on which can be applied the phase clamp (mm ²)	25 ÷ 120	
Temperature range (°C)	-25...+55	

EARTHING AND SHORT-CIRCUITING DEVICE FOR INSULATED L.V. OVERHEAD LINES

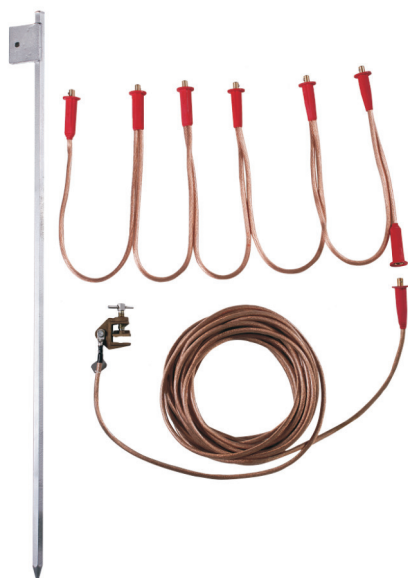


EN 61230

Code: Msp - T - 1 - nxS_f/0,7 - S_p/I_p - F/p

Components:

- Short-circuiting subassembly;
- Earthing subassembly;
- Mobile earthing rod.



Nominal voltage of network Un (kV)	max. 1	
Short-circuiting S _f and earthing S _p cable section (mm ²)	16	25
Nominal short-circuiting current for t = 1s I _{sc} (kA)	4	6
Peak current for t = 0,02s I _{sd} (kA)	10	15
Short-circuiting cables length (m)	0,7	
Earthing cable length I _p (m)	max. 15	
Number of phase connection plugs	max. 7	
Type of connector on which can be applied the phase connection plug	COT 10 – 95 A	
Temperature range (°C)	-25...+55	

VOLTAGE CONNECTORS FOR INSULATED LOW VOLTAGE OVERHEAD LINES



EN 61230

Code: COT 10 - 95A

The voltage connectors are permanently installed on insulated overhead lines. The mounting of the voltage connectors can be made on live lines with special tools.

Each voltage connector contains an insulation piercing clamp, type SL 11.118 (manufacturer: ENSTO Finland) and a subassembly for connection with the phase plugs of a short-circuiting device.



Nominal voltage of network Un (kV)	max. 1
Sections of the insulated conductors on which can be mounted the voltage connectors S _c (mm ²)	10; 16; 25; 35; 50; 50 OI+Al; 70; 95
Nominal short-circuiting current for t = 1s I _{sc} (kA)	6
Peak current for t = 0,02s I _{sd} (kA)	15
Dielectric rigidity of the case (kV/1min)	9
Case type	Waterproof and ventilated
Material of the case	High density polyethylene (HDPE)
Material of the contact elements	Aluminum alloy
Material of the tightening elements	Stainless steel
Tightening methods	With torque key
Tightening couple value	26 Nm
Protection against corrosion and oxidation (Al/Cu contact)	Contact elements: tinning and neutral vaseline with dropping point at 120° C. Tightening elements: stainless steel
Compensation measures for the leaking at cold of the aluminum conductor	Two elastic elements from stainless steel that assure a tightening couple constant in time
Minimum admitted temperature for installation (°C)	-20
Temperature range (°C)	-25...+55

EARTHING AND SHORT-CIRCUITING DEVICE FOR LOW VOLTAGE SOCKET FUSES

Code: Msp 1 - nxS_f/I_f - S_p/I_p - B/p
Msp 1 - nxS_f/I_f - S_p/I_p - B00/p



EN 61230

The phase clamps of the device can be fitted in the fuse sockets (00, 0, 1, 2, 3 sizes) of low voltage fuseboards or cabinets.
The phase clamps must be handled using a safety fuse holder (code MMPS/1 - MPR, MMPS/1 - MPR-L).

Components:

- 1÷3 x Phase clamp;
- 1 x Manual earthing clamp;
- 1÷3 x Short-circuiting cable;
- 1 x Earthing cable.



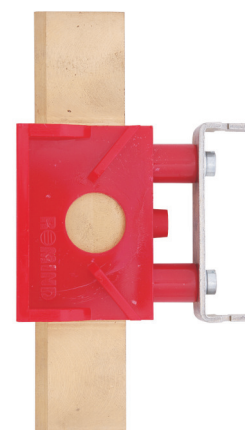
Nominal voltage of network Un (kV)		max. 1		
Short-circuiting S _f and earthing S _p cable section (mm ²)		16	25	35
Nominal short-circuiting current for t = 1s I _{sc} (kA)	Short-circuiting devices for fuse sockets sizes 0; 1; 2; 3	4	6	8
	Short-circuiting devices for fuse sockets size 00	4	-	-
Peak current I _{sd} for t = 0,02s I _{sd} (kA)	Short-circuiting devices for fuse sockets sizes 0; 1; 2; 3	10	15	20
	Short-circuiting devices for fuse sockets size 00	10	-	-
Short-circuiting cables length I _f (m) – three-phased short-circuiting device		max. 1,2		
Earthing cables length I _p (m) – three-phased short-circuiting device		max. 5,5		
Earthing cables length I _p (m) – single-phased short-circuiting device		max. 6,7		
Temperature range (°C)		-25...+55		

CONNECTING BLADE FOR FUSE SOCKETS

Code: P 2282-0-00

The connecting blades can be fitted in the fuse sockets (0, 1, 2, 3 sizes) of low voltage fuseboards or cabinets.
The device must be handled using a safety fuse holder (code MMPS/1 - MPR, MMPS/1 - MPR-L).

Nominal current (A)	250
Temperature range (°C)	-25...+55
Weight (kg)	0,32



**EARTHING DEVICE FOR FLEXIBLE CONDUCTORS, ROUND BARS, FIXED POINTS
“Tr” OR “T” TYPE - CLASSIC EXTRUDED CLAMP**

Code: Msp - Cr - S_p/I_p - O



EN 61230

Components:

- 1 x Classic extruded phase clamp (Cr);
- 1 x Manual earthing clamp;
- 1 x Earthing cable.

Earthing cable section S _p (mm ²)	16	25	35	50	70	95	120
Nominal short-circuiting current for t = 1s I _{sc} (kA)	3,5	6	8	12	16	20	30
Peak current for t = 0,02s I _{sd} (kA)	8,75	15	20	30	40	50	75
Earthing cable length I _p (m)	max. 10						
Range of diameters of the conductor on which can be applied the phase clamp (mm)	17 ÷ 32						
Temperature range (°C)	-25...+55						
Earthing method	With manual earthing clamp*						
* For earthing cable sections of 120 mm ² and length greater than 8 m (maximum 10 m), the equipment is fitted only with earthing terminal (without manual earthing clamp)							



**EARTHING DEVICE FOR FLEXIBLE CONDUCTORS, ROUND BARS, FIXED POINTS
“Tr” OR “T” TYPE - AUTOMATIC EXTRUDED CLAMP**

Code: Msp - CAEr - S_p/I_p - O



EN 61230

Earthing cable section S _p (mm ²)	16	25	35	50	70	95	120
Nominal short-circuiting current for t = 1s I _{sc} (kA)	3,5	6	8	12	16	20	30
Peak current for t = 0,02s I _{sd} (kA)	8,75	15	20	30	40	50	75
Earthing cable length I _p (m)	max. 10						
Range of diameters of the conductor on which can be applied the phase clamp (mm)	17 ÷ 32						
Temperature range (°C)	-25...+55						
Earthing method	With manual earthing clamp*						
* For earthing cable sections of 120 mm ² and length greater than 8 m (maximum 10 m), the equipment is fitted only with earthing terminal (without manual earthing clamp)							



Components:

- 1 x Automatic extruded phase clamp (CAEr);
- 1 x Manual earthing clamp;
- 1 x Earthing cable.



EARTHING DEVICE FOR FLEXIBLE CONDUCTORS, ROUND BARS, FIXED POINTS “Tr” OR “T” TYPE - AUTOMATIC CLAMP

Code: Msp - CA - S_p/I_p - O/p



EN 61230



Components:

- 1 x Automatic phase clamp (CA);
- 1 x Manual earthing clamp;
- 1 x Earthing cable.

Earthing cable section S_p (mm ²)	16	25	35	50	70	95	120
Nominal short-circuiting current for $t = 1s$ I_{sc} (kA)	3,5	6	8	12	16	20	30
Peak current for $t = 0,02s$ I_{sd} (kA)	8,75	15	20	30	40	50	75
Earthing cable length I_p (m)	max. 8						
Range of diameters of the conductor on which can be applied the phase clamp (mm)	17 ÷ 32						
Temperature range (°C)	-25...+55						



EARTHING DEVICE FOR BUS BARS OF ELECTRICAL SUBSTATIONS EQUIPPED WITH SPHERICAL FIXED POINTS

Code: Msp - CAR - S_p/I_p - S



EN 61230



Components:

- 1 x Fast automatic phase clamp (CAR);
- 1 x Manual earthing clamp;
- 1 x Earthing cable.

Earthing cable section S_p (mm ²)	16	25	35	50	70	95	120
Nominal short-circuiting current for $t = 1s$ I_{sc} (kA)	3,5	6	8	12	16	20	30
Peak current for $t = 0,02s$ I_{sd} (kA)	8,75	15	20	30	40	50	75
Earthing cable length I_p (m)	max. 9,5						
Diameter of the spherical fixed point (mm)	30						
Temperature range (°C)	-25...+ 55						



“Tr” FIXED POINTS

The “Tr” fixed points can be applied on round flexible conductors in order to improve the montage conditions and to mark the place of installation for short-circuiting devices.



EN 61230

Nominal short-circuiting current for t = 1s I _{sc} (kA)	30
Peak current for t = 0,02s I _{sd} (kA)	75
Range of nominal diameters of the flexible conductors ØD (mm)	19 ÷ 36
Range of sections of the flexible conductors (mm ²)	185 ÷ 680
Temperature range (°C)	-25...+55

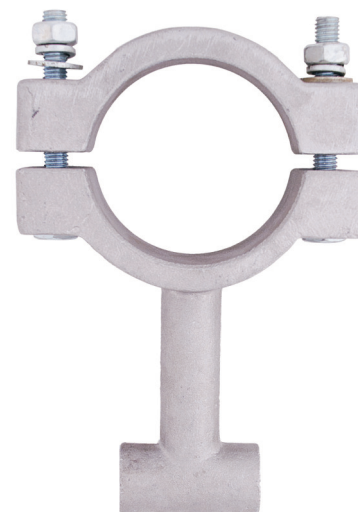


“T” FIXED POINTS

EN 61230

The “T” fixed points can be applied on rigid round bars in order to improve the montage conditions and to mark the place of installation for short-circuiting devices.

Nominal short-circuiting current for t = 1s I _{sc} (kA)	30
Peak current for t = 0,02s I _{sd} (kA)	75
Nominal diameters of the flexible conductors ØD (mm)	55; 80
Temperature range (°C)	-25...+55



EARTHING DEVICE FOR BUS BARS OF ELECTRICAL SUBSTATIONS - CLASSIC CLAMP

Code: Msp - C - S_p/I_p - P/p

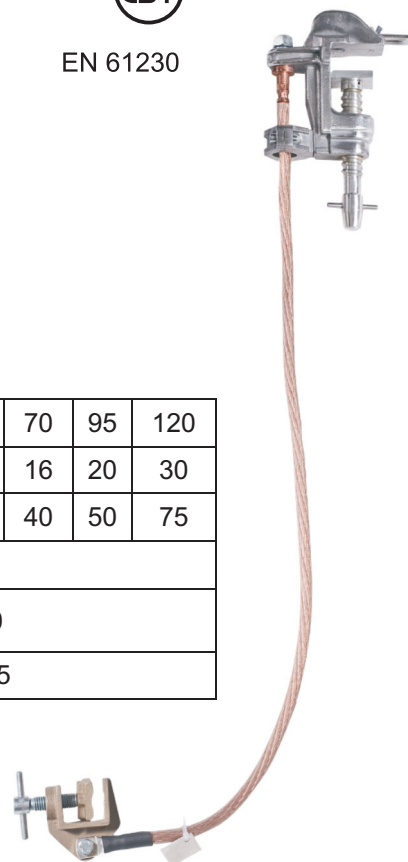


EN 61230

Components:

- 1 x Classic phase clamp (C);
- 1 x Manual earthing clamp;
- 1 x Earthing cable.

Earthing cable section S_p (mm ²)	16	25	35	50	70	95	120
Nominal short-circuiting current for $t = 1s$ I_{sc} (kA)	3,5	6	8	12	16	20	30
Peak current for $t = 0,02s$ I_{sd} (kA)	8,75	15	20	30	40	50	75
Earthing cable length I_p (m)	max. 8						
The thickness of the bus bar on which can be applied the phase clamp (mm)	max. 40						
Temperature range (°C)	-25...+55						



EARTHING DEVICE FOR BUS BARS OF ELECTRICAL SUBSTATIONS - AUTOMATIC CLAMP

Code: Msp - CA - S_p/I_p - P/p

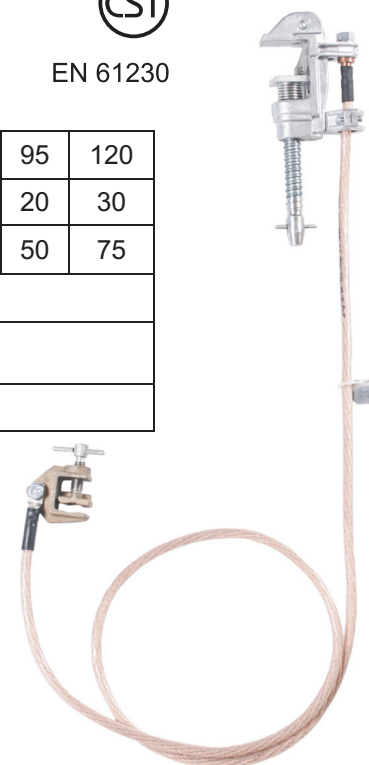


EN 61230

Earthing cable section S_p (mm ²)	16	25	35	50	70	95	120
Nominal short-circuiting current for $t = 1s$ I_{sc} (kA)	3,5	6	8	12	16	20	30
Peak current for $t = 0,02s$ I_{sd} (kA)	8,75	15	20	30	40	50	75
Earthing cable length I_p (m)	max. 8						
The thickness of the bus bar on which can be applied the phase clamp (mm)	max. 37						
Temperature range (°C)	-25...+55						

Components:

- 1 x Automatic phase clamp (CA);
- 1 x Manual earthing clamp;
- 1 x Earthing cable.

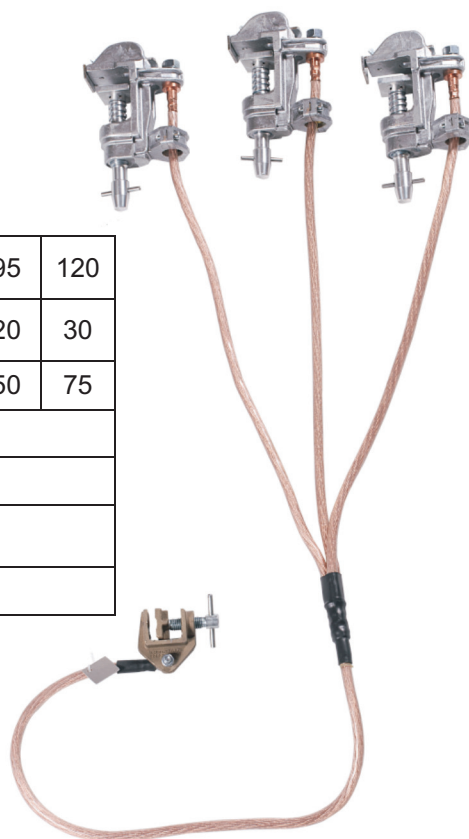


EARTHING AND SHORT-CIRCUITING DEVICE FOR BUS BARS OF ELECTRICAL SUBSTATIONS - CLASSIC CLAMP

Code: Msp - C - 3xS_f/I_f - S_p/I_p - P/p



EN 61230



Short-circuiting S _f and earthing S _p cable section (mm ²)	16	25	35	50	70	95	120
Nominal short-circuiting current for t = 1s I _{sc} (kA)	3,5	6	8	12	16	20	30
Peak current for t = 0,02s I _{sd} (kA)	8,75	15	20	30	40	50	75
Short-circuiting cable length I _f (m)	max. 1,5						
Earthing cable length I _p (m)	max. 7						
The thickness of the bus bar on which can be applied the phase clamp (mm)	max. 40						
Temperature range (°C)	-25...+55						

Components:

- 3 x Classic phase clamp (C);
- 1 x Manual earthing clamp;
- 3 x Short-circuiting cable;
- 1 x Earthing cable.

EARTHING AND SHORT-CIRCUITING DEVICE FOR BUS BARS OF ELECTRICAL SUBSTATIONS - AUTOMATIC CLAMP

Code: Msp - CA - 3xS_f/I_f - S_p/I_p - P/p



EN 61230



Components:

- 3 x Automatic phase clamp (CA);
- 1 x Manual earthing clamp;
- 3 x Short-circuiting cable;
- 1 x Earthing cable.

Short-circuiting S _f and earthing S _p cable section (mm ²)	16	25	35	50	70	95	120
Nominal short-circuiting current for t = 1s I _{sc} (kA)	3,5	6	8	12	16	20	30
Peak current for t = 0,02s I _{sd} (kA)	8,75	15	20	30	40	50	75
Short-circuiting cable length I _f (m)	max. 1,5						
Earthing cable length I _p (m)	max. 7						
The thickness of the bus bar on which can be applied the phase clamp (mm)	max. 37						
Temperature range (°C)	-25...+55						

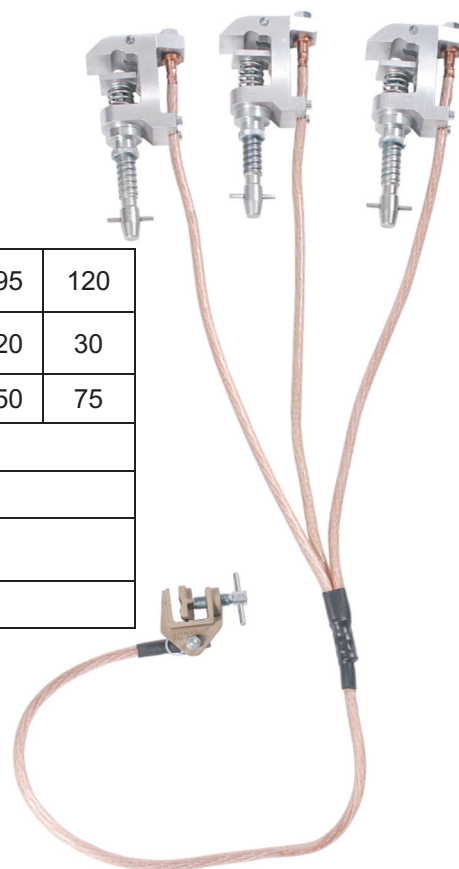
EARTHING AND SHORT-CIRCUITING DEVICE FOR THE BUS BARS OF THE ELECTRICAL SUBSTATIONS - AUTOMATIC EXTRUDED CLAMP



EN 61230

Code: Msp - CAE - 3xS_f/I_f - S_p/I_p - P/p

- Components:**
- 3 x Automatic extruded phase clamp (CAE);
 - 1 x Manual earthing clamp;
 - 3 x Short-circuiting cable;
 - 1 x Earthing cable.



Short-circuiting S _f and earthing S _p cable section (mm ²)	16	25	35	50	70	95	120
Nominal short-circuiting current for t = 1s I _{sc} (kA)	3,5	6	8	12	16	20	30
Peak current for t = 0,02s I _{sd} (kA)	8,75	15	20	30	40	50	75
Short-circuiting cable length I _f (m)	max. 1,5						
Earthing cable length I _p (m)	max. 7						
The thickness of the bus bar on which can be applied the phase clamp (mm)	max. 36						
Temperature range (°C)	-25...+55						

EARTHING AND SHORT-CIRCUITING DEVICE FOR BUS BARS OF THE ELECTRICAL SUBSTATIONS - AUTOMATIC CLAMP

Code: Msp - CA - 3xS_p/I_p - P/p

- Components:**

- 3 x Automatic phase clamp (CA);
- 1 x Manual earthing clamp;
- 3 x Earthing cable.



EN 61230



Earthing cable section S _p (mm ²)	16	25	35	50	70	95	120
Nominal short-circuiting current for t = 1s I _{sc} (kA)	3,5	6	8	12	16	20	30
Peak current for t = 0,02s I _{sd} (kA)	8,75	15	20	30	40	50	75
Earthing cable length I _p (m)	max. 8,5						
The thickness of the bus bar on which can be applied the phase clamp (mm)	max. 37						
Temperature range (°C)	-25...+55						

EARTHING AND SHORT-CIRCUITING DEVICE FOR BUS BARS OF ELECTRICAL SUBSTATIONS EQUIPPED WITH SPHERICAL FIXED POINTS

Code: Msp - CAR - 3xS_f/I_f - S_p/I_p - S



EN 61230

Components:

- 3 x Fast automatic phase clamp (CAR);
- 1 x Manual earthing clamp;
- 3 x Short-circuiting cable;
- 1 x Earthing cable.

Short-circuiting S _f and earthing S _p cable section (mm ²)	16	25	35	50	70	95	120
Nominal short-circuiting current for t = 1s I _{sc} (kA)	3,5	6	8	12	16	20	30
Peak current for t = 0,02s I _{sd} (kA)	8,75	15	20	30	40	50	75
Short-circuiting cable length I _f (m)	max. 2,5						
Earthing cable length I _p (m)	max. 7						
Diameter of the spherical fixed points (mm)	30						
Temperature range (°C)	-25...+55						



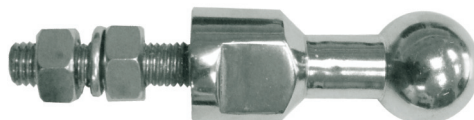
SPHERICAL FIXED POINTS

Code: P 2180-0-00 M x L



EN 61230

The spherical fixed points can be applied on the bus bars of the electrical substations in order to improve the montage conditions and to mark the place of installation for short-circuiting devices, equipped with fast automatic phase clamps (CAR).



Nominal short-circuiting current for t = 1s I _{sc} (kA)	30
Peak current for t = 0,02 s I _{sd} (kA)	75
Diameter of sphere (mm)	30
Dimension of the screw	M12; M14; M16
Free length of the screw – upon request (mm)	30; 40; 50; 60; 70; 80
Type of phase clamp that can be applied on this fixed point	Fast automatic clamp (CAR)

EARTHING AND SHORT-CIRCUITING DEVICE FOR THE MEDIUM VOLTAGE OVERHEAD LINES, APPLICATION FROM THE GROUND - AUTOMATIC SELF-LOCKING CLAMP

Code: Msp - CAA - AS - 3xS_p/I_p - O/p



EN 61230

Components:

- 3 x Automatic self-locking phase clamp (CAA);
- 1 x Manual earthing clamp;
- 3 x Earthing cable;
- 1 x Mobile earthing rod;
- 1 x Removal hook (CDA/C);
- 1 x Application adaptor (C).

Earthing S _p cable section (mm ²)	16	25	35	50	70
Nominal short-circuiting current for t = 1s I _{sc} (kA)	3,5	6	8	12	16
Peak current for t = 0,02s I _{sd} (kA)	8,75	15	20	30	40
Earthing cable length I _p (m)	max. 15				
Range of diameters of the conductor on which can be applied the phase clamp (mm)	6 ÷ 32				
Temperature range (°C)	-25...+55				



Note: The application and the removal of the phase clamps from the overhead lines will be made with the telescopic insulating stick, code PTU-AS-400kV-6-C.

ATTENTION! It is recommended that the earthing and short-circuiting cables sections of the short-circuiting devices not to exceed S=50 mm². Otherwise, the applying of the phase clamps will be very difficult, due to the weight of the cables.

EARTHING DEVICE FOR HIGH VOLTAGE OVERHEAD LINES – AUTOMATIC SELF-LOCKING CLAMP

Code: Msp - CAA - S_p/I_p - O/p



EN 61230

Components:

- 1 x Automatic self-locking phase clamp (CAA);
- 1 x Manual earthing clamp;
- 1 x Earthing cable;
- 1 piece/set x Application – removal adaptor, AMD/E type.

Note: The application and the removal of the phase clamps from the overhead lines will be made with the insulating multi-section stick, PMU type.

Earthing S _p cable section (mm ²)	16	25	35	50	70	95
Nominal short-circuiting current for t = 1s I _{sc} (kA)	3,5	6	8	12	16	18
Peak current for t = 0,02s I _{sd} (kA)	8,75	15	20	30	40	45
Earthing cable length I _p (m)	max. 10					
Range of diameters of the conductor on which can be applied the phase clamp (mm)	6 ÷ 32					
Temperature range (°C)	-25...+55					



EARTHING AND SHORT-CIRCUITING DEVICE FOR MEDIUM VOLTAGE OVERHEAD LINES, APPLICATION FROM THE GROUND OR FROM THE POLE - AUTOMATIC SELF-LOCKING CLAMP -

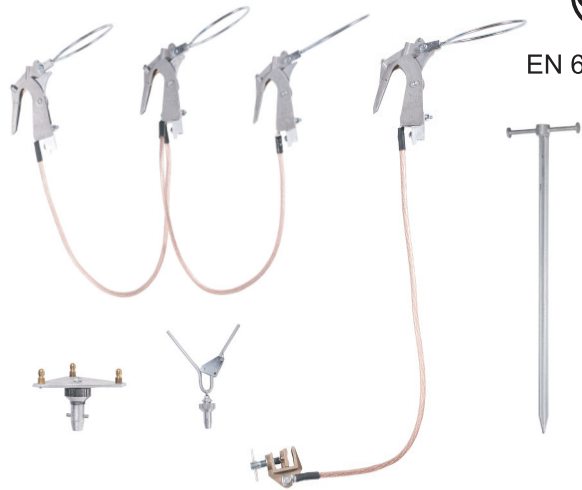


EN 61230

Code: Msp - CAA - U - 2xS_f/I_f - S_p/I_p - O/p

Components:

- Single phase subassembly (earthing device):
 - 1 x Automatic self-locking phase clamp (CAA);
 - 1 x Earthing cable;
 - 1 x Manual earthing clamp;
- Short-circuiting subassembly:
 - 3 x Automatic self-locking phase clamp (CAA);
 - 2 x Short-circuiting cable;
- 1 x Mobile earthing rod;
- 1 x Clamp dispenser head;
- 1 x Removal adaptor, CDAU/E code.



Nominal voltage of network Un (kV)	max. 35		
Short-circuiting S _s and earthing S _p cable section (mm ²)	16	25	35
Nominal short-circuiting current for t = 1s I _{sc} (kA)	3,5	6	8
Peak current for t = 0,02s I _{sd} (kA)	8,75	15,0	20,0
Short-circuiting cable length I _f (m)	max. 4		
Earthing cable length I _p (m)	max. 15		
Range of diameters of the conductors on which can be applied the phase clamp (mm)	6 ÷ 32		
Temperature range (°C)	-25...+55		

EARTHING AND SHORT-CIRCUITING DEVICE FOR MEDIUM VOLTAGE OVERHEAD LINES, EQUIPPED WITH AUTOMATIC SELF-LOCKING CLAMP FIXED IN THE STICK



EN 61230, EN 61235

Code: Msp - CAA - AST - 3xS_f/I_f - S_p/I_p - O/p - E

Components:

- 3 x Automatic self-locking phase clamp (CAA);
- 1 x Manual earthing clamp;
- 3 x Short-circuiting cable;
- 1 x Earthing cable;
- 1 x Mobile earthing rod;
- 3 x Insulating stick.



Short-circuiting S _f and earthing S _p cable section (mm ²)	16	25	35	50	70
Nominal short-circuiting current for t = 1s I _{sc} (kA)	3,5	6	8	12	16
Peak current for t = 0,02s I _{sd} (kA)	8,75	15	20	30	40
Short-circuiting cable length I _f (m)	max. 2,5				
Earthing cable length I _p (m)	max. 15				
Range of diameters of the conductor on which can be applied the phase clamp(mm)	6 ÷ 32				
Insulating stick	Total length L _t (m)	1,6			
	Useful length L _u (m)	0,8			
Temperature range (°C)	-25...+ 55				

EARTHING AND SHORT-CIRCUITING DEVICE FOR MEDIUM VOLTAGE OVERHEAD LINES, APPLICATION FROM THE GROUND – “PELICAN” TYPE

Code: Msp - AS - 3x35/10 - O/p



EN 61230
EN 61235

The earthing and short-circuiting device for medium voltage overhead lines, equipped with self-locking phase clamps (“Pelican” type), is applied from the ground on conductors up to 10,5 m.

Components:

- 3 x Telescopic stick – self-locking clamp (“Pelican” type) subassembly;
- 1 x insulating stick;
- 1 x Cable transportation drum;
- 3 x Earthing and short-circuiting cables, 10 m x 35 mm²;
- 1 x Manual earthing clamp;
- 1 x Mobile earthing rod;
- 1 x Special adapting electrode for voltage detector (DTCIER/ 6-35 kV).

The phase clamp locking on the conductor is realized through the own weight of the clamp and sticks subassembly. The body of the clamp and of the telescopic stick are made from aluminum alloys. The operator’s protection against electrical hazard during the application of the phase clamps is ensured by the insulating stick.

The checking of the absence of voltage is made through the clamp – telescopic stick subassembly, with the DTCIER/P-6-35 kV voltage detectors mounted instead of the phase clamp.

Section/ length of the short-circuiting and earthing cable (mm ² / m)	35/10
Nominal short-circuiting current for t = 1 s I _{sc} (kA)	8
Peak current for t = 0,02s I _{sd} (kA)	20
Length of the telescopic stick, closed/ extended (m)	2,45 / 6,35
Total length of the insulating stick (m)	3,42
Range of diameters of the conductor on which can be applied the phase clamp (mm)	4 ÷ 22
Temperature range (°C)	-25...+55

EARTHING AND SHORT-CIRCUITING DEVICES FOR MEDIUM VOLTAGE OVERHEAD LINES, APPLICATION FROM THE POLE – AUTOMATIC SELF-LOCKING CLAMP (with clamp dispenser head)

Code: Msp - CAA - AST - 3xS_f/I_f - S_p/I_p - O/p



EN 61230

Components:

- 3 x Automatic self-locking phase clamp (CAA);
- 1 x Manual earthing clamp;
- 3 x Short-circuiting cable;
- 1 x Earthing cable;
- 1 x Mobile earthing rod;
- 1 x Clamp dispenser head;
- 1 x Removal hook (CDA/E).



Short-circuiting S _f and earthing S _p cable section (mm ²)	16	25	35	50	70	95
Nominal short-circuiting current for t = 1 s I _{sc} (kA)	3,5	6	8	12	16	18
Peak current for t = 0,02s I _{sd} (kA)	8,75	15	20	30	40	45
Short-circuiting cable length I _f (m)	max. 2,5					
Earthing cable length I _p (m)	max. 15					
Range of diameters of the conductor on which can be applied the phase clamp (mm)	6 ÷ 32					
Temperature range (°C)	-25...+55					

EARTHING AND SHORT-CIRCUITING DEVICE, FOR MEDIUM VOLTAGE OVERHEAD LINES, APPLICATION FROM THE POLE – AUTOMATIC SELF-LOCKING CLAMP (with mounting adaptor)

Code: Msp - CAA - AST - 3xS_f/I_f - S_p/I_p - O/p - CR



EN 61230

Components:

- 3 x Automatic self-locking phase clamp (CAA);
- 1 x Manual earthing clamp;
- 3 x Short-circuiting cable;
- 1 x Earthing cable;
- 1 x Mobile earthing rod;
- 1 x Mounting adaptor (E);
- 1 x Removal hook (CDA/E).



Short-circuiting S _f and earthing S _p cable section (mm ²)	16	25	35	50	70	95
Nominal short-circuiting current for t = 1 s I _{sc} (kA)	3,5	6	8	12	16	18
Peak current for t = 0,02s I _{sd} (kA)	8,75	15	20	30	40	45
Short-circuiting cable length I _f (m)	max. 2,5					
Earthing cable length I _p (m)	max. 15					
Range of diameters of the conductor on which can be applied the phase clamp (mm)	6 ÷ 32					
Temperature range (°C)	-25...+55					

EARTHING DEVICE FOR THE ELECTRICAL CONTACT LINE (RAILWAY, SUBWAY, TRAMWAY)

Code: Msp - CrTf - S_p/I_p - Fc/ps

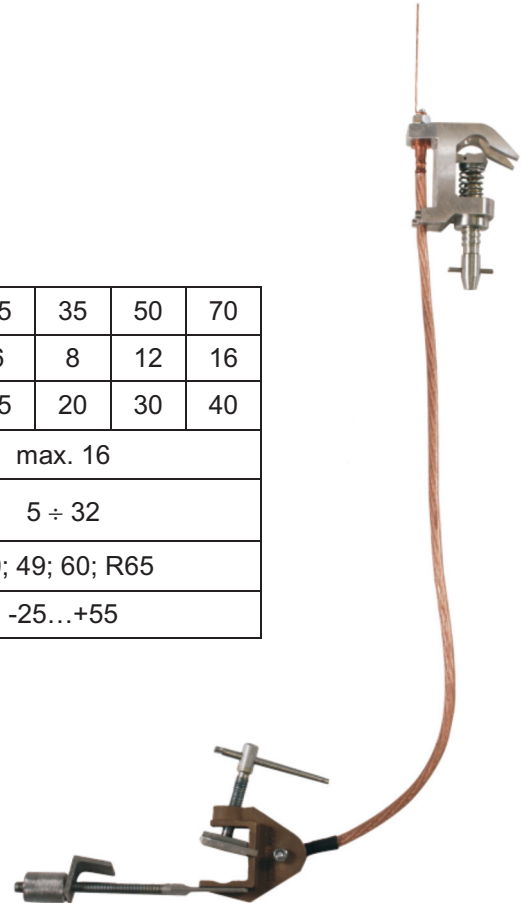
EN 61230



Components:

- 1 x Classic extruded phase clamp (CrTf) for the contact line;
- 1 x Manual earthing clamp;
- 1 x Earthing cable.

Earthing S _p cable section (mm ²)	16	25	35	50	70
Nominal short-circuiting current for t = 1s I _{sc} (kA)	3,5	6	8	12	16
Peak current for t = 0,02s I _{sd} (kA)	8,75	15	20	30	40
Earthing cable length I _p (m)	max. 16				
Range of diameters of the contact line on which can be applied the phase clamp (mm)	5 ÷ 32				
Type of the railway tracks	40; 49; 60; R65				
Temperature range (°C)	-25...+55				



EARTHING CLAMP FOR RAILWAY TRACKS

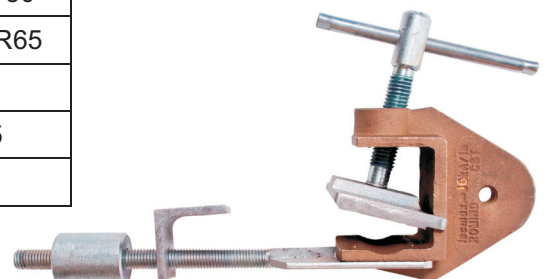
Code: P 2185-0-00

EN 61230



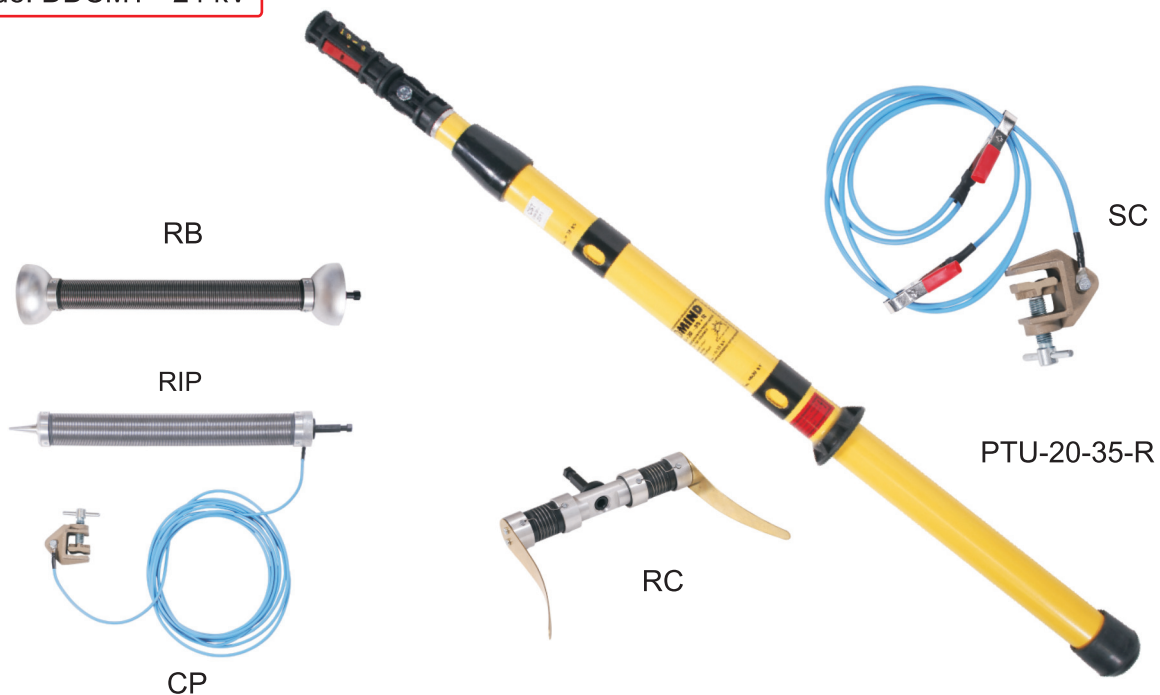
The earthing clamps body is made of cooper-aluminum alloy and zinc plated steel. The manual earthing clamp is being fixed under the rail.

Nominal short-circuiting current for t = 1s I _{sc} (kA)	16
Peak current for t = 0,02s I _{sd} (kA)	40
Dimensions (mm)	285 x 150 x 50
Type of rail on which it is applied	40; 49; 60; R65
Earthing cable length I _p (m)	max. 16
Temperature range (°C)	-25...+55
Weight (kg)	1,6



DISCHARGING DEVICE FOR THE REACTIVE POWER COMPENSATION SYSTEMS (CONDENSERS)

Code: DDCMT - 24 kV



The discharging device can be used in electrical installations with maximum nominal voltage of 24 kV for discharging of:

- remanent voltage of the condensers and batteries of the condensers;
- remanent voltage after electrical tests;
- remanent voltage of the AC electrical motors.

Components:

- Telescopic insulating stick PTU-20-35-R type;
- Battery discharge resistance (RB);
- Condenser discharge resistance (RC);
- Discharge resistance after voltage increasing test (RIP);
- Earthing and short-circuiting device (SC);
- Earthing device (CP) for the RIP resistance.

Nominal voltage of network (kV)	max. 24
Useful/ total length of the PTU 20-35R insulating stick (m)	1,11 / 1,42
Battery discharge resistance (RB) (Ω)	50
Condenser discharge resistance (RC) (Ω)	2,5
Discharge resistance after increasing voltage test (RIP)(Ω)	75
The length of the earthing cable (CP) (m)	6
The length of the earthing and short-circuiting device (SC) (m)	1,5

EARTHING CLAMPS

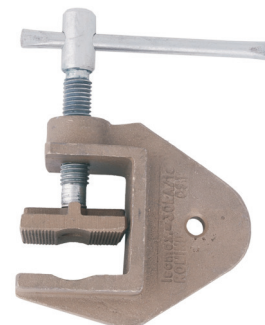


EN 61230

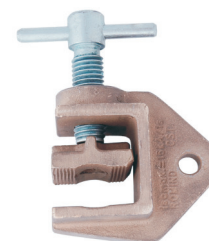
The earthing clamps are made of cooper-aluminum alloy and zinc plated steel.

Earthing clamp	Standard type CLPN-30	Small type CLPR-16
Nominal short-circuiting current for $t = 1s I_{sc}$ (kA)	30	16
Peak current for $t = 0,02s I_{sd}$ (kA)	75	40
Dimensions (mm)	105 x 127 x 50	70 x 83 x 40
Maximum thickness of the bus bar on which can be applied(mm)	30	20
Cable length of earthing and short-circuiting device I_p (m)	max. 17,5	
Temperature range ($^{\circ}C$)	-25...+55	
Weight (kg)	1,09	0,48

CLPN-30



CLPR-16



EARTHING CLAMPS WITH SCRAPING SYSTEM

The earthing clamps body is made of cooper-aluminum alloy and the contact and scraping system is made of zinc plated steel.

P2277-0-00

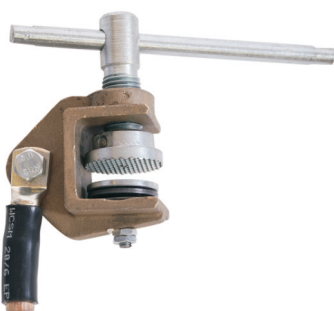


Use: removing layers of oxides, impurities and paint from the bus bars of the earthing circuits or painted poles of high voltage overhead lines.



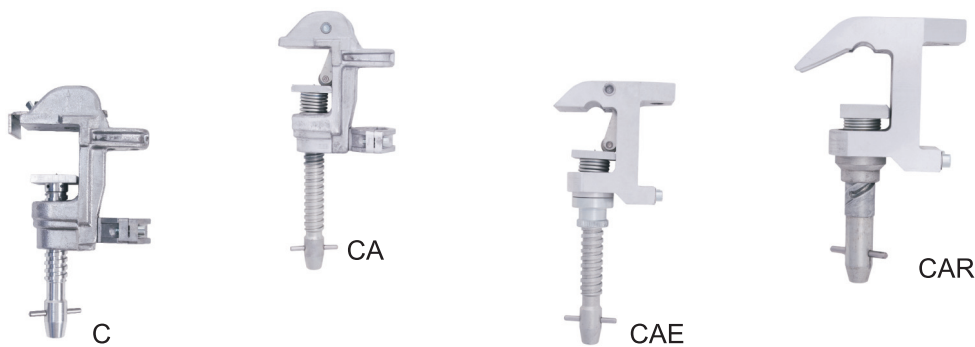
EN 61230

P2366-0-00



Earthing clamp with scraping system	Standard type P 2277-0-00	Small type P 2366-0-00
Nominal short-circuiting current for $t = 1s I_{sc}$ (kA)	16	12
Peak current for $t = 0,02s I_{sd}$ (kA)	40	30
Dimensions (mm)	105 x 145 x 50	70 x 95 x 40
Maximum thickness of the bus bar on which can be applied (mm)	17	11
Cable length of earthing and short-circuiting device I_p (m)	max. 17,5	
Temperature range ($^{\circ}C$)	-25...+55	
Weight (kg)	1,25	0,6

PHASE CLAMPS FOR BUS BARS AND SPHERICAL FIXED POINTS



EN 61230

Clamp type	Classic clamp (C)	Automatic clamp (CA)	Automatic extruded clamp (CAE)	Fast automatic clamp for spherical fixed points (CAR)
Clamp code	P 231-0-00C	P 235-0-00	P 2247-0-00	P 2178-0-00
Nominal short-circuiting current for $t = 1 \text{ s } I_{sc}$ (kA)	30	30	30	30
Peak current for $t = 0,02 \text{ s } I_{sd}$ (kA)	75	75	75	75
Dimensions (mm)	123 x 170 x 62	120 x 188 x 62	107 x 172 x 50	120 x 170 x 50
Thickness of the bus bar on which it can be applied (mm)	max. 40	max. 37	max. 36	Ø 30
Length of earthing and short-circuiting cable l_f (m)	8,5			
Temperature range (°C)	-25...+55			
Weight (kg)	0,74	1,02	1,04	0,98

PHASE CLAMPS FOR FLEXIBLE CONDUCTORS, ROUND BARS, FIXED POINTS “Tr” AND “T” TYPE AND RAILWAY CONTACT LINE



EN 61230

Clamp type	Classic clamp (C)	Automatic clamp (CA)	Classic extruded clamp (Cr)	Automatic extruded clamp (CAEr)	Railway “CrTf” clamp
Clamp code	P 237-0-00C	P 236-0-00	P 2179-0-00	P 2256-0-00	P 2231-0-00
Nominal short-circuiting current for $t = 1 \text{ s } I_{sc}$ (kA)	30	30	30	30	16
Peak current for $t = 0,02 \text{ s } I_{sd}$ (kA)	75	75	75	75	40
Dimensions (mm)	120 x 200 x 62	120 x 200 x 62	120 x 160 x 50	120 x 180 x 56	120 x 158 x 50
Range of dimensions of the conductor on which it can be applied (mm)	Ø 17 ÷ Ø 32	Ø 18 ÷ Ø 32	Ø 17 ÷ Ø 32	Ø 17 ÷ Ø 32	Ø 5 ÷ Ø 32
Earthing cable length l_p (m)	max. 8		max. 10		max. 16
Temperature range (°C)	-25...+55				
Weight (kg)	0,79	1,24	0,96	1,12	0,96

PHASE CLAMPS FOR MEDIUM AND HIGH VOLTAGE OVERHEAD LINES



EN 61230

- FOR MV OVERHEAD LINES -

- FOR HV AND MV OVERHEAD LINES -



“Pelican” type



CAA type

- SELF-LOCKING CLAMP -

- AUTOMATIC SELF-LOCKING CLAMP -

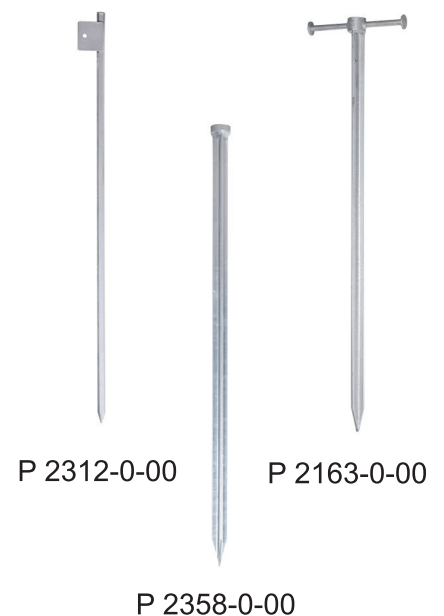
The self-locking clamps, Pelican type and the automatic self-locking clamps (CAA) are made of aluminum alloy.

Clamp type	Self-locking clamp, “Pelican” type	Automatic self-locking clamp CAA type
Clamp code	P 265-4-00	P 2155-1-00x
Nominal short-circuiting current for $t = 1s$ I_{sc} (kA)	8	18
Peak current for $t = 0,02s$ I_{sd} (kA)	20	45
Dimensions (mm)	130 x 100 x 75	116 x 164 x 46
Range of diameters of the conductor on which can be applied (mm)	Ø 4 ÷ Ø 22	Ø 6 ÷ Ø 32
Maximum length of earthing and short-circuiting cable l_f (m)	10	17,5
Temperature range (°C)	-25...+55	
Weight (kg)	0,5	0,5

MOBILE EARTHING RODS

The mobile earthing rods are made of zinc plated steel.

Code	P 2312-0-00	P 2163-0-00	P 2358-0-00
Length (mm)	1150	1200	1200
Section type	Hexagon 18	„T” shaped	„T” shaped
Temperature range (°C)	-25...+55		
Weight (kg)	3,0	4,6	3,8



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