

SAFETY EQUIPMENT







SAFETY EQUIPMENT

Safety first!

When work is to be carried out on railway or electrical installations, the safety of personnel, materials and system components must be given the highest priority.

Although the safety measures and processes in different parts of the world are still not standardized; all operators are agreed on one point - safe working can only be ensured if a number of conditions are met:

- Regulations and instructions are followed meticulously and consistently.
- · Personnel have had solid training, and are continuously re-trained.
- Mutual reliance when carrying out work on electrical installations.
- Use of reliable tools and work equipment.

Remember the 5 safety rules:

- Disconnect completely / Isolate the lines.
- Reclosing lockout to prevent re-connection.
- Check the absence of voltage in all the lines.
- Installing earthing and short circuit systems.
- Signaling zone and safeguard any adjacent live sections.

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VOLTAGE DETECTORS

Voltage detectors Absence-of-voltage detectors



3rd Safety rule:

One of the most important operations when working on electrical switchgear is to check that voltage is absent, and this requires voltage detectors that meet the highest quality and reliability requirements.

The optimal arrangement of the light-emitting diodes, the integration of the acoustic element as well as an innovative self-test are basic elements of all device designs. With our many years of experience, we have the opportunity to develop and deliver voltage detectors for reliable use even in critical field situations.



Electric railway systems around the world are operated with different voltage systems.

Mosdorfer Rail can supply voltage detectors for all common voltage systems:

- 15 kV at 16.7 Hz.
- 25 kV at 50 Hz.
- 1500 V DC.
- 3000 V DC.
- Voltage supply for trolley lines.
- Voltage supply for urban rail systems with third rail.

Depending on type, our voltage detectors are suitable for use on railway catenaries and electric power lines as well as on switchgear.

The possible operating conditions should be taken into consideration when selecting a suitable voltage detector. Voltage detectors with a contact electrode extension have universal application, as they allow reliable indications even in difficult electrical field conditions.

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VOLTAGE DETECTORS

Voltage detector AC for Catenaries (2 parts)



The KP-Test 5R 15 kV 16,7 Hz and KP-Test 5R 25 kV 50 Hz capacitive voltage detectors are designed for use on railway catenaries. It indicates the presence of operating voltage when brought into contact with the conductor. For transport separable into two parts.

Technical description:

- Bright LEDs for clear recognition.
- Particularly loud, integrated audible signal.
- · Extensive self-test functions at switch-on.
- Contact electrode in hook form with contact pin for optimum contact with the catenary.
- For single-phase networks.

KP-Test 5R

LNo.	Version / Reference	Voltage (kV AC)	Frequency (Hz)	Total length LG (mm)	Transport length LT (mm)	Carrying bag
930.300.002	Depending on language	25	50	4,795	2,440	Included
930.310.002	Depending on language	15	16,7	4,795	2,440	Included

Voltage detector AC for Catenaries (5 parts)



The KP-Test 5R 15 kV 16,7 Hz and KP-Test 5R 15 kV 50 Hz capacitive voltage detector designed for use on railway catenaries. It indicates the presence of operating voltage when brought into contact with the conductor.

The voltage detector can be disassembled into five individual components for transport in service vehicles.

Technical description:

- Bright LEDs for clear recognition.
- · Particularly loud, integrated audible signal.
- Extensive self-test functions at switch-on.
- Separable contact electrode in hook form with point-contact for optimum contact with the catenary.
- For single-phase networks.

The KP-Test 5R 15 kV 16,7 Hz is designed and manufactured according DIN VDE 0681, Part 6.

KP-Test 5R

LNo.	Version / Reference	Voltage (kV AC)	Frequency (Hz)	Total length LG (mm)	Transport length LT (mm)	Carrying bag
930.300.602	Depending on language	25	50	4,785	1,080	Included
930.310.602	Depending on language	15	16,7	4,785	1,080	Included



VOLTAGE DETECTORS

Voltage detector DC for Catenaries



The KP-Test 5R DC double-pole voltage detector is designed for use on the catenary systems of DC voltage railways. It indicates the presence of operating voltage when brought into contact with the conductor. With its extensive, integrated self-tests, the KP-test 5R DC voltage detector ensures maximum user safety.

Technical description:

- Double-pole type for the catenary systems of DC voltage railways with nominal voltages between 500 V DC and 4,000 V DC.
- Second pole designed with practical magnetic connection to rail (cable length = 6.5 m).
- Hook-type contact electrode with high-quality contact pin for optimum contact.
- Self-test at switch-on also checks the connecting cable.
- Can be used in rain and snow.
- Integrated audible signal for reliable voltage tests even in a noisy environment.
- Extremely bright LEDs in clear layout to prevent confusion.
- Induced AC voltage signal detection.
- Voltage testing possible even with a high proportion of leakage current on disconnected contact wires.
- Available separately without insulating pole.
- · Available separately without insulating pole, but with additional adapters.
- Available with convenient carrying case.

KP-Test 5R DC

LNo.	Version / Reference XXXX	Nominal Voltage (V DC)	No. Of insulating poles included	Transport length LT (mm)	Carrying bag
930.350.501.XXXX	(*)	750 – 1,500	4	1,200	Included
930.350.501.XXXX	(*)	750 - 1,500	2	2,670	Included
930.350.501.XXXX	(*)	750 - 1,500	0	1,110	Included
930.350.501.XXXX	(*)	1,500	4	1,200	Included
930.350.501.XXXX	(*)	1,500	2	2,670	Included
930.350.501.XXXX	(*)	1,500	0	1,110	Included
930.350.501.XXXX	(*)	3,000	4	1,200	Included
930.350.501.XXXX	(*)	3,000	2	2,670	Included
930.350.501.XXXX	(*)	3,000	0	1,110	Included

(*) Depending on voltage and marking language

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EARTHING INSULATED POLES

Earthing insulated poles for Rail systems



The earthing pole is a manually operated insulating pole used to connect the line connection clamps of earthing and short-circuiting devices to parts of high-voltage equipment for the purpose of earthing and short-circuiting. It consists of insulating part, black ring, handle and receiving head for the attachment of a line connection clamp.

Earthing poles for railway systems are used for connecting railway earthing devices. The contact wire clamps are brought to the contact wire. These earthing poles are made with red marking strips on a white background. This makes it possible to mark the workplace optimally.

These earthing poles include different strips for identification and signalizing the situation of the pole, in special for dark areas, allowing an optimum identification of the work site.

Technical description:

- Contact wire earthing terminals held by spindle and cross-pin.
- Receiving head with roller locking device allows the earthing pole to be easily attached / detached from the contact wire earthing terminal.
- Robust construction for use in railway applications.



Telescopic insulating pole / Pluggable insulating pole



EARTHING INSULATED POLES

Telescopic insulating poles

Earthing poles for railway systems, in two-part design. These earthing poles are used mainly for transformers and railway power lines. They are continuously adjustable.

Technical description:

- Receiving head for handling of line connection clamps with spindle and cross-pin.
- Receiving head available as roller locking device.
- Earthing poles made of glass-fiber reinforced polyester tube, colored yellow.
- Available for indoor and outdoor applications.
- Hand guard and end cap made of non-slip rubber.

362.744 model (2 parts)

LNo.	Length range (m)	Pole length extended (m)	Transport length (mm)	Weight (kg)	Carrying bag
362.744.001	1.8 - 3.5	3,500	1,800	3.8	Included
362.744.744.E	2.6 - 5.0	5,000	2,630	4.5	Included
362.744.744.E1	2.6 - 5.0	5,050	2,680	4.5	Included
362.744.744.E7	4.1 – 7.0	7,000	4,130	7.5	Included

Pluggable insulating poles



Earthing pole for railway systems in three-piece design. Thanks to the short carrying length, this type is suitable for transport in all common passenger vehicle types. The connection between the earthing pole and the contact wire earthing terminal can be locked using a slider. The earthing pole can thus be used to mark the work site.

Technical description:

- Receiving head for handling of line connection clamps with spindle and cross-pin.
- Receiving head available as roller locking device.
- Earthing poles made of glass-fiber reinforced polyester tube, colored yellow.
- Available for indoor and outdoor applications.
- Hand guard and end cap made of non-slip rubber.

362.744 model (3 parts)

LNo.	Length range (m)	Pole length extended (m)	Transport length (mm)	Weight (kg)	Carrying bag
362.744.001.M	3.5	3,500	1,250	4.2	Included



EARTHING INSULATED POLES

Pluggable insulating poles



Earthing pole for railway systems in five-piece design. Thanks to the short carrying length, this type is suitable for transport in all common passenger vehicle types. The connection between the earthing pole and the contact wire earthing terminal can be locked using a slider. The earthing pole can thus be used to mark the work site.

Technical description:

- Receiving head for handling of line connection clamps with spindle and cross-pin.
- Receiving head available as roller locking device.
- Earthing poles made of glass-fiber reinforced polyester tube, colored yellow.
- Available for indoor and outdoor applications.
- Hand guard and end cap made of non-slip rubber.

362.784 & 362.744 model (5 parts)

LNo.	Length range (m)	Pole length extended (m)	Transport length (mm)	Weight (kg)	Carrying bag
362.784.001	5.0	5,000	1,100	5.0	Included
362.744.744.E	5.0	5,000	1,100	4.9	Included
362.744.744.E1	7.0	7,000	1,400	5.4	Included

Pluggable insulating poles



Earthing pole for railway systems in three-piece design. Thanks to the short carrying length, this type is suitable for transport in all common passenger vehicle types. The connection between the earthing pole and the contact wire earthing terminal can be locked using a slider. The earthing pole can thus be used to mark the work site.

Technical description:

- Receiving head for handling of line connection clamps with spindle and cross-pin.
- Receiving head available as roller locking device.
- Earthing poles made of glass-fiber reinforced polyester tube, colored yellow.

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- Available for indoor and outdoor applications.
- Hand guard and end cap made of non-slip rubber.

362.744 model (7 parts)

LNo.	Length range (m)	Pole length extended (m)	Transport length (mm)	Weight (kg)	Carrying bag
362.744.744.E7.T7	7.0	7,000	1,000	5.8	Included



Single-pole earthing and short circuit Cables



Fitted on both sides with compression type cable lugs with 30° angled palms and 13 mm mounting hole for M12 connecting screw. The conductor exits on the cable lugs are provided with a bending protection device.

Technical description:

- DIN copper tin-platted lugs (section depending on Icc (kA)).
- Insulated copper cable (section depending on Icc (kA)).
- These short circuit cables can be customized according to Tech. Specifications from Customers (on request).

LNo.	Cable cross section (mm ²)	Cable length range XX (m)	Carrying bag
163.LAT.16.XX	16	1 – 20	On request
163.LAT.25.XX	25	1 – 20	On request
163.LAT.35.XX	35	1 – 20	On request
163.LAT.50.XX	50	1 – 20	On request
163.LAT.70.XX	70	1 – 20	On request
163.LAT.95.XX	95	1 – 20	On request
163.LAT.120.XX	120	1 – 20	On request

Shunt connectors for Rail



The shunt connector simulates the presence of a train.

Shunts or short circuit connector is a very safe shunting device used to block a track section of the railway circuits to give a "stop" condition to oncoming train. This to protect work teams, or avoid collisions between oncoming trains and obstacles on the rail.

Technical description:

- 2 rail earthing clamps.
- Insulated copper cable with Copper lugs to connect both clamps.
- Other lengths available on request,.

LNo.	Cable cross section (mm ²)	Cable length (m)	Carrying bag
169.SUT.002	16	1.8	Included
169.SUT.003	25	1.8	Included



SUSPENSION HOOK & PLATES

Suspension hook for earthing wire

L-No.

Technical description:
Hanging hook suitable for rope cross section: 50mm²
Steel, hot-dip galvanized hook.

A suspension hook is necessary for profile-free earthing of overhead lines. This allows the earthing and short-circuiting cable to be anchored to the mast

LNo.	Cable cross section (mm ²)	Material	Carrying bag
360.453.453	50	A2	On request

outside the track profile.

Dielectric plate for energy works protection



Dielectric plate to isolate electrical components and used as a physical separator of live elements.

Technical description:

- PVC dielectric plate of 4 or 6 mm of width.
- Angles models available on request.
- Other dimensions available on request, according to Customers' specifications.

LNo.	Width (mm)	Dimensions (m)	Colour	Accesories
166.PL.100	4	1.0 x 1.0	Red	Nylon screws/ nuts on request
166.PL.160	4	1.5 x 1.1	Red	Nylon screws/ nuts on request
166.PL.200	4	0.8 × 0.7	Red	Nylon screws/ nuts on request
166.PL.300	6	1.0 x 1.0	Grey	Nylon screws/ nuts on request



RAIL EARTHING CLAMPS

Rail earth clamps for Railway systems

0	LNo.	Rail type	Max cr section (mm	ross cable cii ²)	Max short rcuit current (kA)	Weight (kg)
	363.322.005	I	50		40 (I _k 0.12 s)	2.13
	LNo.	Rail type	Max cr section (mm	oss cable cii ²)	Max short rcuit current (kA)	Weight (kg)
6	364.901.001	Iľ	70		13.8 (I _k 1 s)	5
1	LNo.	Rail type	Max cr section (mm	oss cable ciı ²)	Max short cuit current (kA)	Weight (kg)
	360.628.002	I	120		23.7 (l _k 1 s)	0.97
The second	LNo.	Rail type	Max cr section (mm	oss cable ciı ²)	Max short rcuit current (kA)	Weight (kg)
	000.601.793	I	50		40 (I _k 0.12 s)	1.2
•	LNo.	Rail type	L max (mm)	Max cross section cable (mm ²)	Max short circuit current (kA)	Weight (kg)
	364.806.002.1	P	46	50	8 (I _k 1 s)	0.86
	364.806.002.2	P	36	50	8 (I _k 1 s)	0.8



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CONTACT WIRE EARTHING CLAMPS

Contact wire earth clamps for Railway systems

	LNo.	Max cross section cable (mm²)	Wire size Ø (mm)	Max short circuit current (kA)	Clamping width (mm)	Weight (kg)
	363.418.418	120	4.5 - 3.5	23.7 (I _k 1 s)	34	0.814
6	LNo.	Max cross section cable (mm²)	Wire size Ø (mm)	Max short circuit current (kA)	Clamping width (mm)	Weight (kg)
See.	363.499.001	50	Ri80-150	36.5 (l _k 12 s)	30	1.07
		May cross	Wire	May short	Clamping	
	LNo.	section cable (mm ²)	size Ø (mm)	circuit current (kA)	width (mm)	Weight (kg)
SI	363.499.499	50	Ri80-150	36.5 (l _k 12 s)	30	0.94
	LNo.	Max cross section cable (mm²)	Wire size Ø (mm)	Max short circuit current (kA)	Clamping width (mm)	Weight (kg)
rr l	361.499.MT	120	2x Ri80-150	36.5 (l _k 12 s)	40	0.70
		R	igid catenary prof	file		
S	LNo.	Max cross section cable (mm ²)	Wire size Ø (mm)	Max short circuit current (kA)	Clamping width (mm)	Weight (kg)
-	361.499.499.2	120	2x Ri80-150	36.5 (I _k 12 s)	40	1.02



CONTACT WIRE EARTHING CLAMPS

Line earth clamps for Energy Providers

En	LNo. 360.414.414	Max cross section cable (mm ²) 95	Pin size Ø (mm) 20	Max short circuit current (kA) 18.7 (I _k 1 s)	Clamping range (mm) 5 - 20	Clamping width (mm) 38	Weight (kg) 0.720
E.	LNo.	Max cross section cable (mm²)	Pin size Ø (mm)	Max short circuit current (kA)	Clamping range (mm)	Clamping width (mm)	Weight (kg)
and the second	361.346.346	150	25	23.7 (I _k 1 s)	5 - 20	38	0.754
T	LNo.	Max cross section cable (mm ²)	Circular size Ø (mm)	Max short circuit current (kA)	Clamping range (mm)	Clamping width (mm)	Weight (kg)
	360.419.419	70	2 - 30	13.8 (l _k 1 s)	2 - 30	35	0.370
	LNo.	Max cross section cable (mm ²)	Pin size Ø (mm)	Max short circuit current (kA)	Clamping range (mm)	Clamping width (mm)	Weight (kg)
Ĭ	364.704.001X	95	20	23.7 (l _k 1 s)	2 - 20	38	0.806
		Max cross	Pin	Max short	Clamping	Clamping	Weight
9	LNo.	section cable (mm ²)	size Ø (mm)	circuit current (kA)	range (mm)	width (mm)	(kg)
	360.333.333X	120	25	23.7 (I _k 1 s)	5 - 25	38	0.902



CONTACT WIRE EARTHING CLAMPS

Line clamps for Energy Providers



LNo.	Max cross section cable (mm²)	Wire size Ø (mm)	Max short circuit current (kA)	Clamping width (mm)	Weight (kg)
364.459.001	150	10 – 85	29.6 (I _k 1 s)	40	0.886
363.647.647.1	150	50 - 150	29.6 (I _k 1 s)	50	0.958



LNo.	Max cross section cable (mm ²)	Wire size Ø (mm)	Max short circuit current (kA)	Clamping width (mm)	Weight (kg)
363.245.006	120	4.5 - 35	23.7 (I _k 1 s)	34	0.714



LNo.	Max cross section cable (mm²)	Wire size Ø (mm)	Max short circuit current (kA)	Clamping width (mm)	Weight (kg)
360.333.333	150	5 - 25	23.7 (I _k 1 s)	50	0.850



LNo.	Max cross section cable (mm ²)	Wire size Ø (mm)	Max short circuit current (kA)	Clamping width (mm)	Weight (kg)
360.330.330	95	5 - 20	18.7 (l _k 1 s)	38	0.754







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SALES TERMS & CONDITIONS Please, visit <u>www.mosdorfer.com</u> or consult to Commercial Team.

