

Instructions for Use

Marten-free Marderschock Profi

MR-710 / V2

Dear Client,
Congratulations for choosing one of our quality products. Please follow these instructions carefully and keep them with you.

Functional method

The **marten-free Marderschock Profi** device produces an acoustic signal with a frequency of 12 - 24 kHz at intervals of around 22 seconds for each on and off period. In addition the device has 4 x 2 high-voltage plates (plus/minus) on two cables which are charged up by a capacitor in the device to around 450 V/DC ($\pm 20\%$). The high-voltage plates are mounted in the engine compartment such that a marten entering the compartment and touching one of the plates will get a painful, but not lethal, electric shock. In the time taken for the capacitor to charge up again, the animal has the chance to flee the engine compartment without being killed due to permanent muscle contraction caused by prolonged contact with a high voltage. As a third marten deterrent function, an **LED light flashes** 3 times when the high voltage is triggered, which scares and repels the intruders.

Assembly

The **marten-free Marderschock Profi** device is fastened by means of self-tapping screws or binders in the engine compartment on the carriage. The connecting cable to the car battery must be passed in that manner that it doesn't get in contact with movable or hot parts (e.g. ventilating wheel, exhaust manifold).

NOTE: Contact between the metal plates of the high-voltage plates and the vehicle earth will lead to a short-circuit which can completely destroy the device.

NOTE: Assembly should only be carried out by authorised specialists!

Please attach the enclosed yellow warning sticker in a prominent, highly visible location, within the vehicle engine compartment. (e. g. On the air filter or the Marten Shock unit).



Caution – High Voltage!
Disconnect the device from the battery or deactivate it completely before doing any servicing work in the engine compartment. Wait at least 3 minutes until the high voltage of the modules has been reduced and no lights can be seen on the device.

Electrical connection

The device is connected directly to the car battery. The red cable is connected to the positive pole, the brown cable to the negative pole. The grey cable is connected to terminal 15 (ignition lock, car radio) of the car battery. The control circuit switches the device on automatically when the ignition is turned off, and off when the ignition is turned on. This prolongs the operational lifetime of the device, since it only operates when the ignition is switched off.

The splash-proof **marten-free Marderschock Profi** device repels marten in 3 ways **with innovative technology** by means of an acoustic signal (modern 12 - 24 kHz frequency in intervals), highly effective high voltage + bright, scaring light. The device is connected directly to the car battery. If the connection via terminal 15 is defective, the device as a precaution automatically switches on after about 60 seconds when the vehicle stops or it switches off through the generated engine vibrations or when the vehicle is driven (auto power-off).

Take the device into operation by pressing the built-in power-on switch. The red and white LEDs light up when it is correctly connected.

The red LED lights up approximately every 22 seconds, or when the acoustic signal (repellent frequency) is sent. The white LED only flashes 3 times after the high voltage is activated by touching of the contact surfaces and supports the deterrent effect on the intruding animal.

Important note! Make sure that the marten shock device is switched off after starting the engine or while driving (grey cable connection to terminal 15). If this is not possible, the device must be securely fastened to a high-vibration spot in the engine compartment so that the vibration sensor switches the device off when the engine is started.

Manual on/off switch to interrupt functioning during servicing of the vehicle.

NEW: The marten shock device is fitted with an automatic shutdown when the car battery reaches a voltage of less than about 11 volts. This prevents deep discharge by the marten-shock device. When this "Car-Battery-Control" (CPC) is activated, the marten shock device is deactivated and the load on the car battery is reduced. When the battery voltage (by battery replacement or recharging) increases to about 11 volts or higher, the marten shock device is switched on in active mode again.

Important note! Electrical connection of CAN/BUS system:

If your vehicle is equipped with a CAN/BUS system, connect the grey cable to the fuse of terminal 15.

Hint for mounting the device

The **marten-free Marderschock Profi** device should be mounted in an area of the engine compartment where it is protected from becoming wet and dirty. The cables with the high-voltage plates must be laid such that the bare upper surfaces of the plates cannot contact any electrical or earthed parts. The high-voltage plates are drilled at each corner with a 3.1 mm hole. The cables are drawn through two of the holes. The two free holes are used to attach the plates to the car body with self-tapping screws (2.9 mm) or cable-ties. **When attaching the plates to the car body, ensure that the screw-heads do not contact the metal surfaces (high-voltage surfaces) of the plates.** The plates should be arranged

such that a marten entering the engine compartment is forced to touch them. A shock will only be received when the car body and the plate are touched at the same time. Therefore it is recommended that the plates are mounted in the vicinity of the cables which are in danger of being bitten in the upper engine compartment. Even when as a rule the car electrics are completely insulated, care should be taken to mount the plates such that no conducting components can be touched. Sparks from the plates to car electrical parts cannot occur, because the voltage of 450 V/DC ($\pm 20\%$) can only produce sparks of max. 0.7 mm length. A clearance of 5 mm to other electrical parts eliminates any possible danger. Utmost care must be taken that the metal surfaces of the plates cannot become very dirty or be constantly exposed to moisture. This can produce leakage current which can lead to a short-circuit and breakdown of the high voltage. Normal atmospheric humidity is no cause for concern.

The high-voltage modules consist of corrosion-resistant contact surfaces, alternately with plus and minus switching. The patent-pending interconnected contact surfaces release the best possible voltage output to the intruding animal when it touches, rubs against or steps on them.

The high-voltage modules are designed for installation in the all engine compartments with screws, cable ties or other fastening materials. The signal colours allow rapid detection in case of repairs or inspection work in the engine compartment.

NOTE: If your vehicle will not be used for a longer period of time, please be sure to disconnect the device during this period.

As additional safety, an insulated jumper can be connected between the contact surfaces in any high-voltage module to bring about a specific discharge. When servicing work is being done in the engine compartment, the device must be turned off (by removing the fuse or by means of the switch). It is necessary to wait at least 3 minutes until the high voltage on the platelets is reduced.

Important safety notice

As an additional safety measure, the minus-plates may be shorted to earth with a piece of isolated wire to deliberately discharge the system. For safety, before performing any service work within the engine compartment, the device should be switched off (by removing the fuse or using the built-in switch). Once switched off, it takes at least 3 minutes until the high voltage is removed from the plate.

General notes

If your vehicle has already been attacked by martens, the animals have most probably left scent-marks to mark their territory. These scents must be removed before mounting the marten shocker device, since other martens may enter the engine compartment even when it is protected. The best way to do this is to have the engine washed thoroughly. Besides this, the animals often leave scent-marks under the vehicle, e.g. on the parking space. It is therefore recommended to remove these marks with a brush and detergent so that the marten does not have any reason to defend its territory. On account of the electrical control circuit, the LED control lamp may glow brighter or dimmer. This has no effects whatsoever on the function.

Technical data

Model No.:	MR-710
Input:	12V/DC 30 mA
Power consumption:	0,42 W
Miniature fuse:	1 A external
Acoustic pressure:	approx. 85 dB
Sound frequency:	approx. 12 – 24 kHz ($\pm 10\%$)
Sound on duration:	approx. 22 secs +/- 4 secs
sound off duration:	approx. 22 secs +/- 4 secs
Number of high voltage plates:	4 x 2 pieces (plus/minus)
Plate voltage:	450 V/DC ($\pm 20\%$)
High voltage dissipation time (when device is switched off):	max. 3 Min
Water resistant:	IP65

Safety instructions

Important: Damage caused by not adhering to the operating instructions is not covered by guarantee. Our company accepts no liability whatsoever for any resulting consequent damages.

- Only operate the device at its intended voltage.
- In case of repairs, only use original spare parts, to avoid serious damage.
- Check feed cables and conducting cables connected to the device for breaks or insulation defects. If you find a defect, or there is visible damage do not use the device.
- Repairs or other works, e.g. changing a fuse, etc. may only be carried out by an appropriately trained, skilled person.
- It must be noted that operator or connecting errors lie outside the influence of our company and we cannot accept any liability for resulting damages.
- Always check whether the device is suitable for the respective place where you intend using it.

1. This is not a Toy. Supervise children to prevent playtime with the appliance.
2. Keep the appliance out of reach of children.
3. Avoid using the appliance in areas with flammable vapor or explosive dust.
4. If the appliance gets dirty, use dry cloths to clean it. Avoid using water or any other liquids, as they can damage the appliance or create a potential electrical hazard.

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