



Kemo Electronic GmbH

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HR.Nr. HRB 111 486  
 UstNr: DE 814 380 369

## M176 - Defensa ultrasónica de roedores 12 V/DC, resistente al agua con IP 65\*



Chases away the marten through high-voltage plates (movable) charged electrically to approx. 200 - 300 V/DC through electric shock in the motor compartment of the vehicle (only weak current pulses that merely chase the marten away but do not kill it) and through strong, aggressively pulsating ultrasonic sounds. Extremely low current consumption ( $< 0.005$  A), switches off automatically at a battery voltage of  $< 11.5$  V/DC (does not discharge the battery if vehicles are being parked for quite some time). The basic device with the ultrasound radiation is splash-proof according to IP 65\* and may be mounted directly at the vestibule opening of the marten in the car. Built-in brightly blinking LED.

Los accesorios disponibles:

M038N - Transformador de corriente directa

Z115 - Cojín de "masa" para dispositivos de descarga eléctrica

Z176 - Set de ampliación con 2 placas de alta tensión para M176

This clip only shows that the module is waterproof, it is not suitable for permanent use under water.

### Technical Data:

Features: splash-proof | 3-fold effectiveness: ultrasound, electric shock, pulsating light

Operating voltage: 12 - 15 V/DC (car battery)

Sealing: The control unit including the loudspeaker is splash-proof according to IP 65\* (it can be mounted at the entrance holes of the motor vehicle.)

Average power consumption:  $< 5$  mA

Switch-on function: soft start so that the vehicle computer will not be disturbed

Automatic switch-off: if the battery voltage decreases to  $< 11,5$  V ( $\pm 5\%$ )

Output voltage: approx. 200 - 300 V/DC

Ultrasonic frequency: approx. 22 kHz  $\pm 10\%$

Acoustic pressure: max. approx. 100 dB  $\pm 20\%$  (Ultrasonic devices should have a sound pressure level exceeding 100 dB (C) to avoid habituation (ADAC test results). (Source <http://de.wikipedia.org/wiki/Marderabwehr>)

Angle of radiation ultrasound: approx. 160°

Loudspeaker: impact sound generator, which makes the upper side of the case oscillate (splash-proof)

Sound: sine, aggressively pulsating

Temperature range: approx.  $-25^{\circ}\text{C}$  to  $+80^{\circ}\text{C}$

Functional display: flashing LED (approx. every 5 - 12 sec.)

Cable length high-voltage cable: approx. 4 m ( $\pm 10\%$ )

Fuse in the fuse holder: 1 A

High-voltage contact plates: 6 pieces, movable, approx. 62 x 42 mm each, stainless steel

Dimensions basic device: approx. 40 x 50 x 70 mm (without cable entry + fastening feet)

Cable for terminal 15: If this cable is connected with „Positive“, the marten defence disconnects. The marten defence switches on if it is connected with „Negative“ or does not receive any signal.

CAN data bus: suitable for vehicles with CAN data bus.

Voltage peaks: The device is protected against voltage peaks in the vehicle power supply up to 40V ( $< 20\text{ms}$ ).

Optical deterrent: The built-in pulsating LED unsettles the nocturnal martens in addition.

Why does the device have no frequency change? Answer: Martens and other small predators emit short and intense warning cries, no siren sounds! Our anti-marten device imitates these tones very naturally and is, therefore, optimal to scare away martens.

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\*IP65: No penetration of dust at a low pressure of 20mbar in the case. Protected against hose water from any direction against the case (corresponds to 12.5 ltr./minute – garden hose) (test period: 5 minutes)

**M176**