LA SEMAFORICA

DNV/03

Acoustic Device For The Visually Impaired

ACOUSTIC DEVICE FOR THE VISUALLY IMPAIRED

The device is suitable for installation at all pedestrian crossings controlled by traffic signal heads, in order to indicate the walk phase to visually impaired persons, in compliance with the provisions of Presidential Decree 24/07/1996 No. 503, the Italian Highway Code and its implementing and enforcement regulations.

REFERENCE STANDARDS

The acoustic device for the visually impaired consists of two parts, the acoustic device (**DNV/03**) and the push-button device (**ZEBRA** or **PLS/03**), interconnected with each other and, in compliance with the standards listed below, they cannot operate independently from one another.

- CEI Standard 214-7 and 214-7-V1
- Law No. 447 of 26/10/1995 and related Decree of the Council of Ministers of 14/11/1997

Acoustic device **DNV/03**, which provides the acoustic emission of the walk signal, consisting of:

- Sensor for ambient noise detection
- Microprocessor-based control logic for noise processing
- Acoustic transducer for the emission of the walk signal
- Pedestrian push-button device **ZEBRA**, consisting of:
- "TOUCH" button for pedestrian call
- Visual indication confirming pedestrian call
- "TOUCH" button for pedestrian call for the visually impaired
- Acoustic indication confirming the call for the visually impaired
- Adjustable directional arrow indicating the direction and type of pedestrian crossing for the visually impaired

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Functional features of the Zebra push-button device

- Front "TOUCH" button for the pedestrian call for sighted users, with LED light indication of successful call, large in size and customizable in various languages upon customer request.
- "TOUCH" button for the request made by visually impaired users, located on the lower face of the housing and equipped with a tactile cone indicating the direction of the crossing, with mechanical characteristics compliant with CEI 214-7. This call, in addition to activating the normal pedestrian crossing request, also enables the acoustic device for the audible signal.
- Emission of a continuous acoustic signal to indicate that the call made by the visually impaired user has been accepted, with a maximum duration of 5 s and a frequency of 2 kHz.

Functional Features of the Acoustic Device

- Ability to configure the device for automatic operation or "on request" mode. In automatic mode, the sound emission is active during every pedestrian crossing phase, while in "on request" mode, the acoustic signal is emitted only after a request from a visually impaired person.
- The timbre of the walk and yellow phase acoustic signal is produced as a trill, with a selectable modulation frequency of 20 Hz or 10 Hz via internal jumper (in accordance with CEI 214-7 standard). For the duration of the green phase of the associated pedestrian light, the device emits 60 sound pulses per minute; during yellow, 120 pulses, automatically adjusting the volume based on external noise.
- Ability to vary the maximum emitted signal level, not only based on the target area but also according to day/night operation, via internal jumper or external timer. The acoustic indicator can be oriented from 0° to 360° toward the center of the pedestrian crossing to emit the maximum sound intensity..

Technical Specifications of the Acoustic Device

The timbre of the acoustic signal pulse is produced as a trill with a selectable modulation frequency of 10 Hz or 20 Hz (in accordance with CEI 214-7, section 5.1).

The acoustic signals are paired with the pedestrian light as follows:

During the green pedestrian phase:

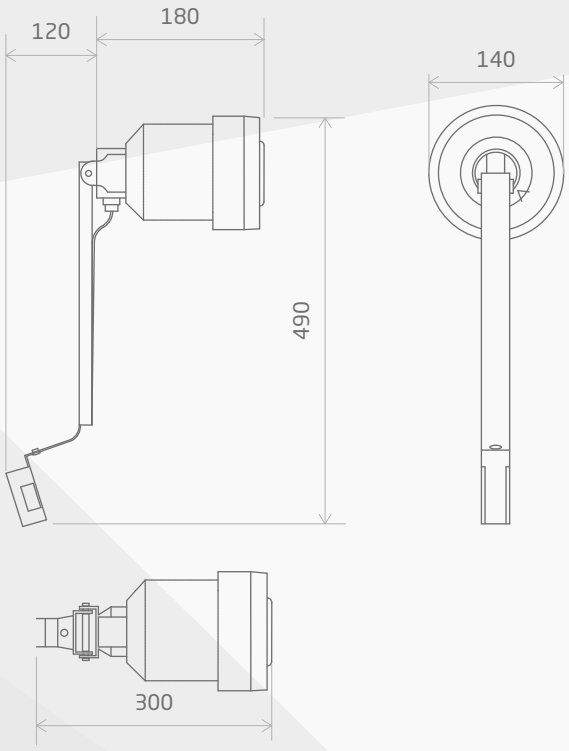
- Sound pulses = 60 per minute
- Sound level = +5 dB above ambient noise
- Duty cycle (on-off ratio) = 50%

During the yellow pedestrian phase:

- Sound pulses = 120 per minute
- Sound level = +5 dB above ambient noise
- Duty cycle (on-off ratio) = 50%

During the red pedestrian phase:

- No sound



All dimensions in mm

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