

SISTEMI PER LA GESTIONE DEL TRAFFICO - TRAFFIC CONTROL SYSTEM

DNV/03



ACOUSTIC DEVICE FOR BLIND PEOPLE

REFERENCE NORMS

The acoustic device for blind people is made up by two parts, the acoustic device itself (DNV/03) and the reservation pushbutton (PLS/03), linked together and that cannot work independently one from the other, in compliance to the norms indicated below.

CEI Norm 214-7 and 214-7-V1

Law nr. 447 of 26/10/1995 and relevant Decree of Ministry Council of 14/11/1997

Homologation of Ministry of Infrastructure and Transports number 437 of 16/02/05

APPLICATIONS

The device is suitable for being installed on all pedestrian crossings controlled by traffic lights, in order to indicate the go-ahead to blind people, in compliance to D.P.R. no. 503 of 24/07/1996, the Code of the Road, and its regulation of execution and implementation.

GENERAL CHARACTERISTICS

Acoustic device for blind people (DNV) is formed by two parts:

1. Acoustic device (DNV/03) that provides the sound emission of green light, made up by:
 - sensor for detecting background noise
 - microprocessor logic for processing the noise
 - sound transducer for the emission of green light sound
2. Pedestrian crossing reservation device (PLS/03) has the following features:
 - pushbutton for pedestrian reservation
 - luminous sign of confirmation for pedestrian reservation
 - pushbutton for blind pedestrian reservation
 - acoustic signal of confirmation for blind pedestrian confirmation
 - directional arrow indicating the direction and type of pedestrian crossing for blind people



Acoustic device DNV/03

PLS/03 Button

FUNCTIONAL CHARACTERISTICS OF ACOUSTIC DEVICE

- It is possible to configure the device for automatic or for "on demand" functioning. With automatic method the sound emission will be active at any crossing phase while with "on demand" mode the sound emission occurs only after the reservation made by a blind person.
- Sound tone for "green" and "amber" signal is similar to a ring, with modulation frequency of 20 Hz or 10 Hz which can be set through an internal jumper (according to EN 214-7 norm). All through the green time of the pedestrian traffic lights to which it is linked, the device emits 60 sound impulses per minute, during amber time it emits 120 sound impulses per minute, self-adjusting the volume according to background noise.
- It is possible to change upper limit of emitted signal, either according to destination area and to day/night functioning, through an internal jumper or external timer.
- Acoustic device can be turned from 0° to 360° pointing to the centre of the pedestrian crossing in order to produce the highest sound intensity.



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FUNCTIONAL CHARACTERISTICS OF RESERVATION SYSTEM

- front pushbutton for crossing reservation of sighted people, with Led luminous sign confirming the reservation.
- pushbutton for crossing request of blind people put on the bottom surface of the box, provided with a directional tip, indicating the direction of the crossing: mechanical characteristics follow the EN 214-7 norm. This reservation, besides activating normal request for pedestrian crossing, enables the acoustic device for sound emission.
- emission of a constant acoustic signal to indicate the reservation made by a blind person, with a length of maximum 5s and frequency of 2Khz.

TECHNICAL FEATURES OF THE ACOUSTIC DEVICE

The tone of the impulse of the acoustic device is similar to a ring, with frequency modulation that can be set at 10 Hz or 20 Hz (in compliance to CEI 214-7 par. 5.1).

The acoustic signals are connected to the traffic signal head in the following way:

During pedestrian green light:

- Sound impulses = 60 per minute
- Sound level = +5 db on background noise
- Duty cycle 50%

During pedestrian amber light:

- Sound impulses = 120 per minute
- Sound level = +5 db on background noise
- Duty cycle 50%

During pedestrian red light:

- No sound

At each emission, the level of sound pressure automatically adapts to the background noise, overcoming it of 5 dB, never decreasing below 30 dBA. Maximum value can be set through internal jumper according to the area of installation, as indicated by Law nr. 447 of 26/10/1995 and relevant Decree of Ministry Council of 14/11/1997.

- Housing in polycarbonate originally pulp coloured, UV stabilized, self-extinguishing
- Protection Degree IP55 as defined by CEI 214-7 par. 6.1.
- Universal system for fastening on poles, through rotating fixing arm easy to install, also on existing supports for poles Ø 102 mm and on octagonal section poles.

Power supply:

- Devices are powered directly from the traffic lights they are linked to; the emission circuit of acoustic signal is powered through power supply of green and amber lamps (CEI norm 214-7 par. 6.3)

Safety features:

- No sound is emitted in case of installation flashing or switched down (norm CEI 214-7 par. 7.2).



Acoustic device

TECHNICAL FEATURES OF THE RESERVATION DEVICE

Confirmation of pedestrian reservation:

- Luminous sign through red Led (amber or green on demand) until the confirmation of pedestrian green light.

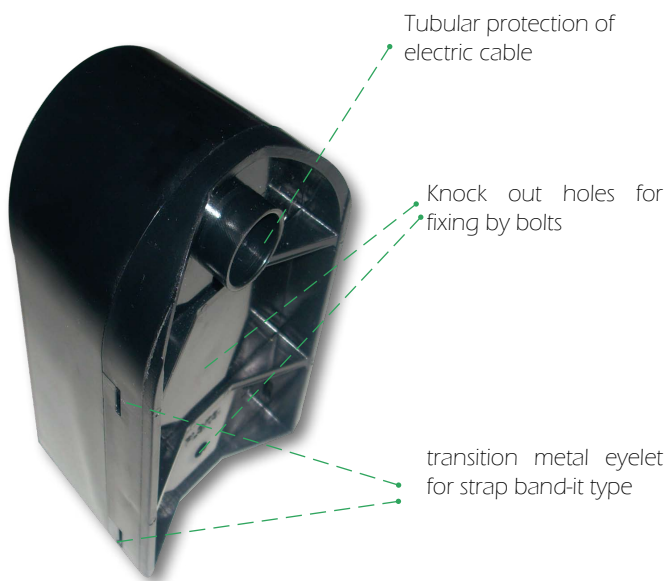
Confirmation of blind pedestrian reservation:

- Acoustic signal with sound frequency = 2 KHz as indicated by norm CEI 214-7-V1
- Sound level = 50dBA at 1mt as indicated by norm CEI 214-7-V1

Power supply:

- Directly from acoustic device (norm CEI 214-7 par. 6.3).
- Housing in polycarbonate originally pulp coloured, UV stabilized, self-extinguishing
- Protection Degree IP55 as defined by CEI 214-7 par. 6.1.
- Universal system for fastening on poles Ø102, octagonal poles and to walls through bolts or "Band-it" bands.
- Adapter in soft material to house it on Ø102 pole.

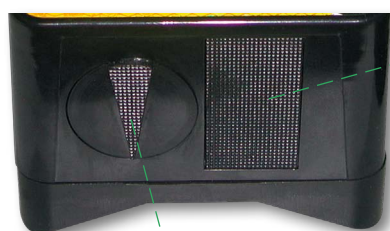
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Tubular protection of electric cable

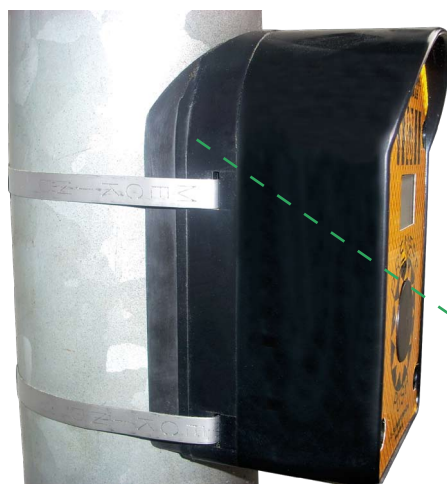
Knock out holes for fixing by bolts

transition metal eyelet for strap band-it type



button noise for booking green phase and activating the acoustic device by blind pedestrian

orientable cusp during installation phase with tactile indicator of the direction of pedestrian crossing activated



Adapter in a soft material for pole of Ø102 mm

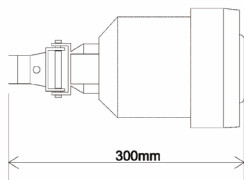
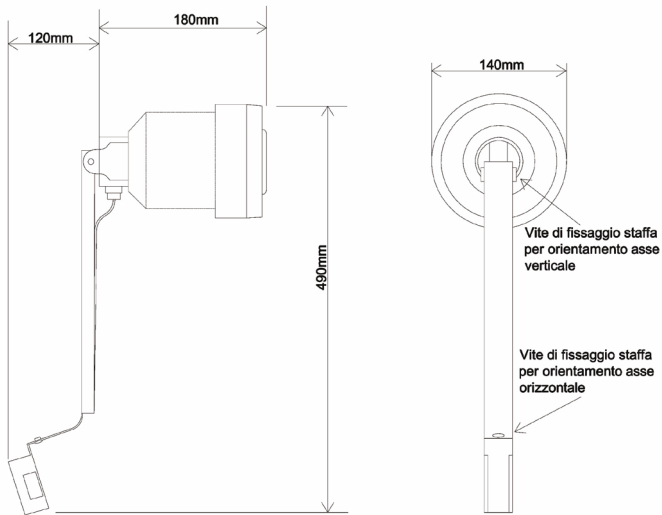
Installation on Ø 102 mm pole with metal band



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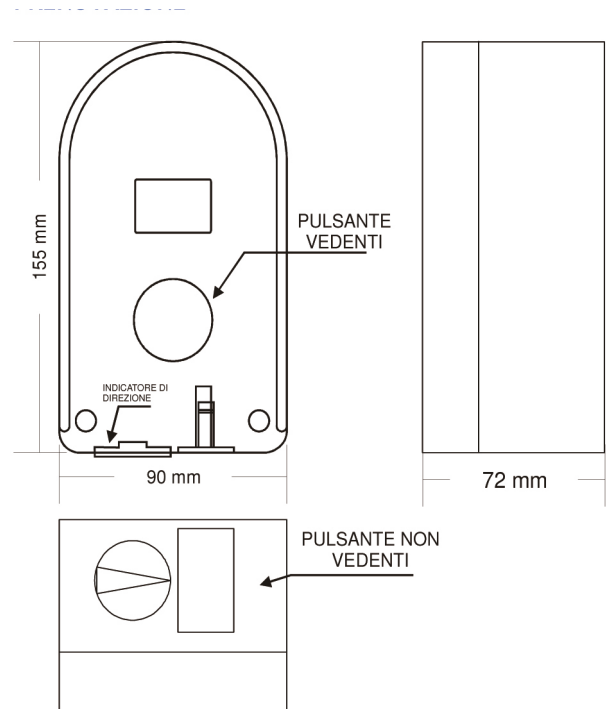
DIMENSIONAL DRAWING DEVICE SOUND

DIMENSIONAL DRAWING BOOKING DEVICE



Peso staffa 580 grammi
Peso avvisatore 750 grammi

Weight 750 gr.



Weight 350 gr.

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LA SEMAFORICA SRL
Via Ponticello, 17
35129 Padova
Italy

www.lasemaforica.com

Tel. 049 773055 - Fax 049 8074002 - e-mail: info@lasemaforica.com

Company with ISO 9001:2008 certificate for projects, installation and maintenance of luminous signs for traffic safety. Clearance SOA cat. OS09 class IV.