Traffic Lights

SIBESTAR S.r.l.

PORTABILE TRAFFIC LIGHTS
WITH QUARTZ TIMING

TRAFFIC LIGHT
INFRINGEMENT DETECTOR

VEHICLE SPEED ACTIVATED
TRAFFIC LIGHTS

TRAFFIC LIGHTS FOR PEDESTRIAN CROSSING
WITH LIGHTS ACTIVATED BY SPEED OF
VEHICLES FROM BOTH DIRECTIONS

TRAFFIC LIGHT FOR ROAD CROSSING BY
VISUALLY IMPAIRED PEDESTRIANS

SECOND COUNTER

RADAR SPEED REDUCTION SIGNS

Sibestar traffic lights are constantly evolving so as to be updated for innovations in this sector.
This means better traffic flow and better road safety for the users.
In addition to installation, which includes building works if needed, Sibestar guarantees maintenance and support 365 days a year.

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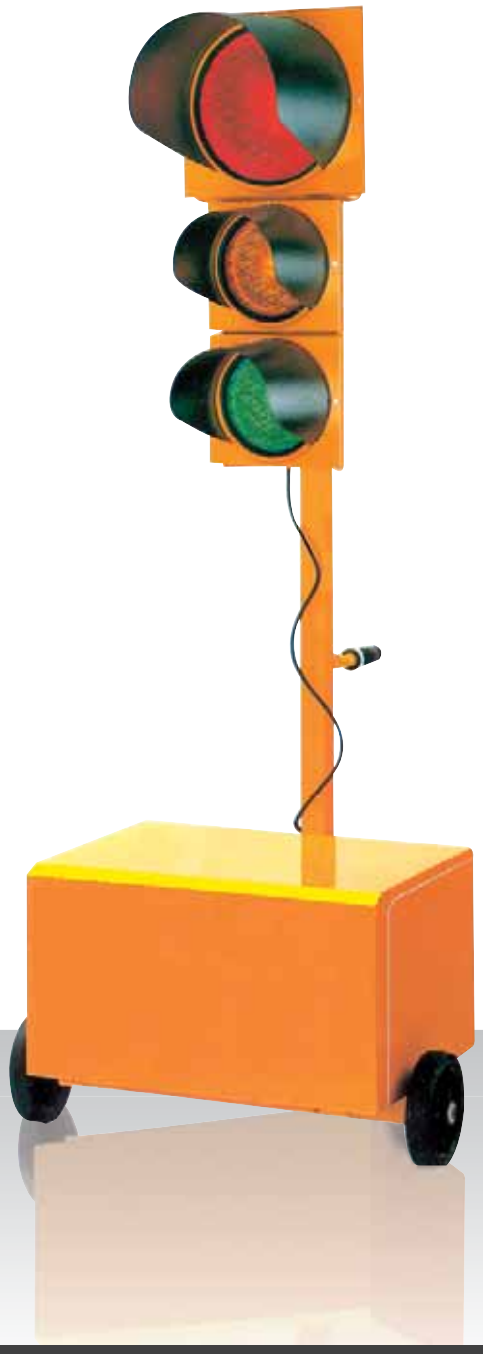
Traffic lights

PORTABILE UNITS WITH QUARTZ TIMING



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PORTABILE UNITS WITH QUARTZ TIMING

Light units

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TECHNICAL CHARACTERISTICS:

- 12 V DC power supply
- CURRENT DRAWN (max) 2,2 A with E 27 - 25 W lamps
- RESISTIVE LOAD 12 V 25 W – E 27 lamps
- Working time between recharging:
- WITH COLOUR SEQUENCING *90 hours – continuous use, *150 hours – daytime use;
- FLASHING *200 hours – continuous use
- WORKING TEMPERATURE from -20 to +60 (°C)
- SYNCHRONISATION MEMORY **min. 30 sec. max 3 hours
- INTERNAL BATTERY Ni-Cd rechargeable (data preserved)

LED VERSION

- 12 V DC power supply
- CURRENT DRAWN max 2,2 A
- Working time between recharging:
- WITH COLOUR SEQUENCING *260 hours continuous use, *450 hours daytime use;
- FLASHING *600 hours continuous use

*with rechargeable 12 Volt 180 Ah automotive batteries in good condition.
**depends on the charge level of the Ni-Cd batteries.

Comprises two portable trolleys with electronic control units and stamped polycarbonate lights (3 lights with brighter red), for use in sites with continuous traffic, with two identical and independent light units which don't need cables to connect them. Set-up is very simple, with the equipment being designed to work with two 12V automotive batteries (one per trolley). Each unit has wheels and is easily moved and transported, thanks to its low weight and compactness. The trolley is made of 15/10 steel sheeting over a tubular 15/10 steel structure and painted with yellow epoxy powder paint (RALL-2003).
Complies to EEC regulations:
Machinery directive 89/392/EEC
73/23/EEC-93/68/EEC Electrical Equipment designed for use within certain voltage limits.
Harmonised IEC standards complying with:
EN292/2-1991 Machine safety standard.
EN 60204/1-1993 Safety of machinery. Electrical equipment of machines.

Traffic lights

TRAFFIC LIGHT INFRINGEMENT DETECTOR

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TRAFFIC LIGHT INFRINGEMENT DETECTOR

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TECHNICAL CHARACTERISTICS:

- Traffic light state recording with translator connected to light electrical supply;
- Under-road inductive sensor detects vehicle passage;
- Minimum distance between infringing vehicles 1,3 sec;
- Automatic stop when film exhausted;
- Data captured photographically: vehicle photographed from behind, traffic light on red, the tenths of seconds from start of red phase, month, day of month, day of week, hours, minutes and seconds;
- Allows photographic documentation of infringement;
- Component homologation documented.

Traffic lights

VEHICLE SPEED ACTIVATED TRAFFIC LIGHTS

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VEHICLE SPEED ACTIVATED TRAFFIC LIGHTS

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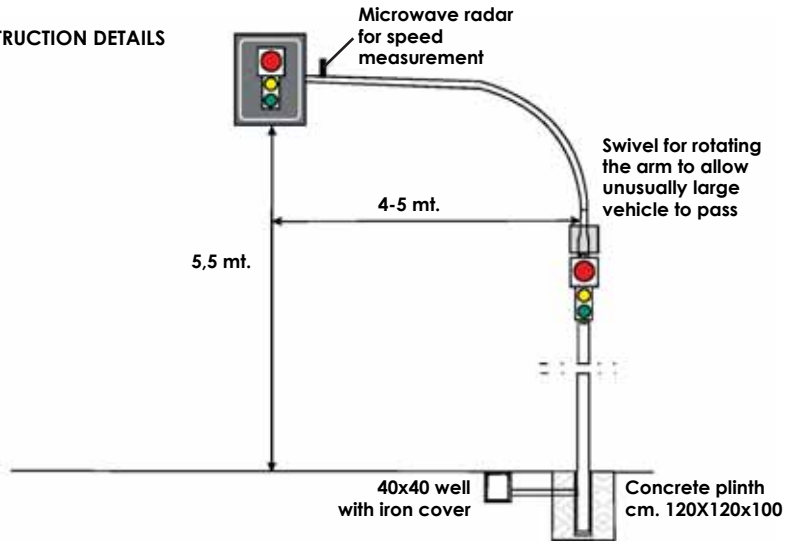
CONSTRUCTION DETAILS



Control panel

TECHNICAL CHARACTERISTICS:

- An effective way of limiting speeds
- Use is advised particularly near junctions or dangerous bends, at the start of built-up areas, near schools, pedestrian crossings, etc
- The traffic light, normally mounted on a single pole, detects the arriving vehicle's speed with a microwave radar.
- If the speed exceeds the preset limit, the light changes from green to amber and then red, thereby penalizing the undisciplined driver.
- The times of the phases can be programmed, and by altering the time on red, it's possible to stop drivers or simply slow them down, to avoid noise and environmental pollution.
- Our system has been tested by various councils with more than positive results and no particular maintenance is needed.
- To ensure good functioning, it's advisable to install the detector on a straight section of road at least 130m in length.
- A solar panel powered version is also available.

Traffic lights

TRAFFIC LIGHTS FOR PEDESTRIAN CROSSING WITH LIGHTS ACTIVATED BY SPEED OF VEHICLES FROM BOTH DIRECTIONS

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Traffic lights

TRAFFIC LIGHTS FOR PEDESTRIAN CROSSING WITH LIGHTS ACTIVATED BY SPEED OF VEHICLES FROM BOTH DIRECTIONS

Radar

Control panel

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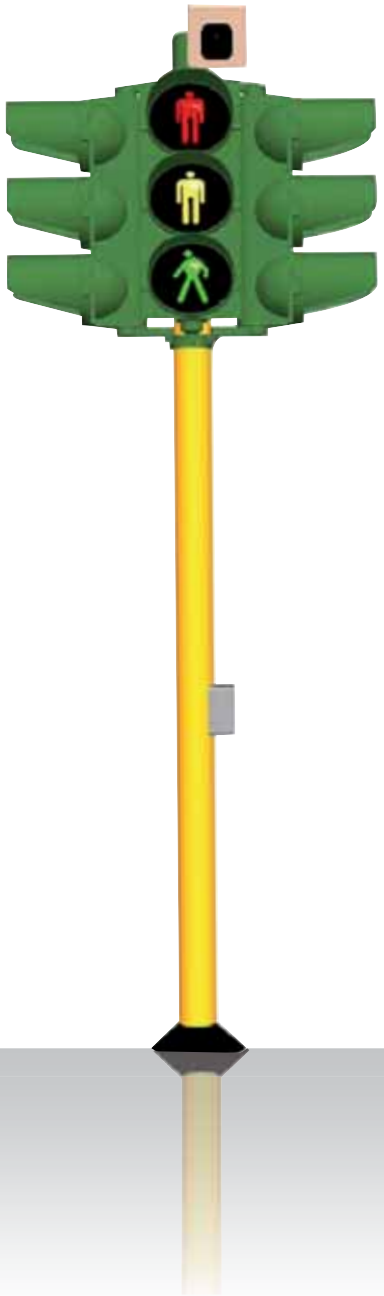
TECHNICAL CHARACTERISTICS:

- An effective way of limiting speeds
- Use is advised particularly near junctions or dangerous bends, at the start of built-up areas, near schools, pedestrian crossings, etc
- The traffic light can detect the arriving vehicle's speed with a microwave radar,.
- If the speed exceeds the preset limit, the light changes from green to amber and then red, thereby penalizing the undisciplined driver.
- The times of the phases can be programmed, and by altering the time on red, it's possible to stop drivers or simply slow them down, to avoid noise and environmental pollution.
- Our system has been tested by various councils with more than positive results and no particular maintenance is needed.
- To ensure good functioning, it's advisable to install the detector on a straight section of road at least 130m in length.

Traffic lights

TRAFFIC LIGHT FOR ROAD CROSSING BY VISUALLY IMPAIRED PEDESTRIANS



Request device

Acoustic device

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This solution is suitable for pedestrian crossings with traffic lights to signal it's safe to cross to visually impaired persons according to Art. 6.4 of D.P.R. (Presidential Decree) 24 July 1966 no. 503, of the Italian Highway Code Art. 41 comma 5 and in compliance with the relevant legislation for implementation of Art. 162 comma 5.

APPLICABLE LAW

The equipment complies with the following laws
IEC 214-7 proposal
Law 447 of 26-10-1995 and related D.P.C.M. – 14 November 97

GENERAL CHARACTERISTICS

The equipment has two parts:
• the request-to-cross device consists of: a button for the normally sighted-persone's request for crossing, a light signal to confirm that the request has been accepted, a request button for visually-impaired persons, and an audio signal to confirm for visually impaired persons that the request has been accepted;
• the safe-to-cross acoustic device consists of:
a microprocessor controller, an ambient noise sensor, an audio transducer which emits the safe-to-cross signal.
The two parts are functionally and electrically integrated and, as required by law, cannot function disconnected one from the other.
Each part is mounted in its own housing, one suitable for mounting at the top of the traffic light pole near the lights themselves, the other, for the request to cross, on the pole at a convenient height.

FUNCTIONAL CHARACTOERISTICS

The pedestrian crossing, as required by law, must have on both sides of the road a request-to-cross and a safe-to-cross device, connected in such a way that, when crossing is requested, the safe-to-cross signal is emitted on both sides of the road.

REQUEST DEVICE

The request device is designed for two types of users, normally-sighted and visually impaired pedestrians. The request inserted by normally-sighted persons is signalled to the traffic light controller, which initiates the changing of the lights and also sends a feedback signal which lights up the signal to show that the request to cross has been accepted.
The request by visually impaired persons is signalled to the acoustic device mounted on the same pole. The request is memorised, a "request accepted" signal is sent back to the request device which emits an acoustic signal as per paragraph 4.2. of IEC standards 214-7; the request device mounted on the opposite side of the road sends the request to its corresponding acoustic device; the traffic light regulator then proceeds as for a normally sighted-person's request.
In particular when the request by a visually-impaired person is inserted when the visual signal says it's safe to cross, the system stores this request until it can be inserted in a new crossing cycle.

ACOUSTIC DEVICE

The acoustic device emits 60 beeps a minute when it's safe to cross (green visual signal) and 120 beeps a minute during the amber phase. The unit beeps only when there is a crossing request and the sound volume can be regulated, for the whole of the duration of the acoustic signal, so that it is regulated relative to the background noise level present during the duration of the acoustic signal.
The acoustic signal is tied in to the green phase of the traffic lights, so that is a request to cross is inserted when the lights are on green, the request will be satisfied during the successive traffic light cycle.
For every crossing request received, provided it is possible to satisfy the request, the unit sends a signal to the request device in order that the audio "request accepted" signal is activated, as well as sending a crossing request to the traffic light controller.

SAFETY

REQUEST DEVICE

The request device does not emit the "request accepted" sound if the acoustic device cannot comply with the request.

ACOUSTIC DEVICE

The device is connected in parallel with the traffic lights themselves, so that the sound and light signals are always synchronized.
The acoustic signal is delayed compared to the green safe-to-cross signal to allow safety checks.
The acoustic signal doesn't sound if:
there is a power failure (automatic, since the acoustic signal is connected in parallel with the green and amber lights of the pedestrian crossing)
voltage to red pedestrian crossing light above the legal maximum for a signal which, for safety, must be OFF (50 V)
voltage to green and amber pedestrian crossing lights below the legal minimum for a signal which, for safety, must be ON (160 V)
flashing lights.

TRAFFIC LIGHT FOR ROAD CROSSING BY VISUALLY IMPAIRED PEDESTRIANS

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TECHNICAL CHARACTERISTICS:

CROSSING REQUEST ACCEPTED SIGNAL

- The signal has the following characteristics:
- Sound frequency 2KHz +- 10%
- Audio level 50 dBA at 1 metre

SAFE TO CROSS SIGNAL

- The signal has the following characteristics:
- During the green phase:
- Beeps per minute 60 +- 1% with duty cycle 50% +- 1%
- Sound frequency 800 Hz +- 10% with 20 Hz modulation
- During the amber phase:
- Beeps per minute 120 +- 1% with duty cycle 50% +- 1%
- Sound frequency 800 Hz +- 10% with 20 Hz modulation
- Audio level regulated according to ambient noise level:
- On ambient noise 5 10 dB
- minimum 30 dBA
- Maximum 60 dBA (as per table B of DPCM 14-11-1997)

CONSTRUCTION CHARACTERISTICS OF ACOUSTIC DEVICE

- Plastic housing IP55 protection
- REQUEST DEVICE
- Plastic housing IP55 protection
- Including:
- Button with anti-vandal construction for normal pedestrian request
- Printed letters and symbols
- Confirmation of acceptation for crossing request with green high intensity LEDs
- Concealed button for crossing request for visually-impaired persons with mechanical characteristics as per IEC 214-7
- Direction arrow with mechanical characteristics as per IEC 214-7
- Cable entrance/exit with protection collar for where cables pass into pole, sealable after mounting to avoid water and dust ingress
- Fixing to pole with two M6 bolts screwed into holes provided, or with "band-it" ties

Traffic lights

SECOND COUNTER

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Traffic lights

SECOND COUNTER

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TECHNICAL CHARACTERISTICS:

- This counter is an addition to traffic lights, to provide an indication to drivers and pedestrians of how long each traffic light phase lasts.
- The second counter shows, with a countdown, the duration of the green GO phase and the red STOP phase, helping to optimise the phases while avoid the risk of infringement of the rules of the road.
- Thanks to the technology used in this product, the average life of the lights used in the counter is approximately 10 years. This is because, in place of the normal lights, modern high-illumination long-life LEDs are used. If one or more LED should fail, the device can still be used. The LED technology, as well, allows a marked reduction in energy consumption with each device consuming only 10W.
- Installation and programming are extremely easy, since the device can be mounted independently of the traffic lights structure, and its sophisticated controller. The device calculates itself the red and green times, programming itself after the first two light cycles.

Traffic lights

RADAR SPEED REDUCTION SIGNS

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RADAR SPEED REDUCTION SIGNS

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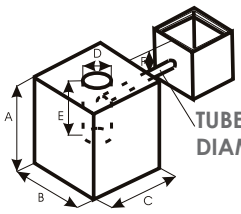
TECHNICAL CHARACTERISTICS:

- Three figure amber LED display, 28,5 cm high;
- Visible at more than 150 m;
- Automatic brightness adjustment;
- Integrated radar sensor;
- Sealed glass fibre hosing with double opening doors;
- Speeds detected are memorised;
- Software for managing statistics;
- 102mm diameter galvanised pole;
- Can be powered from photovoltaic panel.

BASE STRUCTURE



TUBE 100 mm DIAMETER

WELL, INTERNAL DIMENSIONS
40 X 40 cm

PLINTH 250 kg/m3 CONCRETE

100mm DIAMETER TUBE FOR ELECTRICAL CONNECTION FROM THE WELL TO THE PANEL

A= 0,6 MT.
B=C= 0,5 MT.
D= 200 MM
F= 20 CM