# LIGHT & SAFETY

RPT

**DETAS**
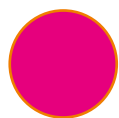**D power** ®

2 0 2 2

RPT

The D-Power production is basically divided in three groups of products: road work warning lights, safety devices for dangerous and fatal points on the roads and beacons and flashers for priority vehicles. Our range of products includes also outdoor LED lights solutions, from LED streetlights to advertising signs.

The technologies we employed represent the state of most advanced technique in this industry. This is confirmed by the **official acknowledgments** from part of the Institutions. Nearly the totality of our products is carrying the **certification in the highest classes of the European standard EN12352**, which is a guarantee of quality, reliability and safety. The technological development of recent years in the semiconductor industry it has allowed us to increase the range of **LED products resulting advantages in terms of consumption and duration**. The new limit that we have achieved and that represented a real challenge at the beginning, have make possible to protect the road work zone workers and at the same time to alert the drivers about a possible danger situation using renewable energy.

This catalogue is a "short form" version. We invite our Customers to visit regularly our website **d-power.com** where they will have the opportunity to be updated about the latest news of our products.

# Index

# Traffic control equipment - Warning and safety light devices

## Scope and applications

*This European Standard specifies the requirements for individual electrically operated light devices, called warning lights, emitting a continuous or regular intermittent light of a single colour which, by their colour and position alone, are used to warn, inform or guide road users.*

*It specifies the requirements for visual, structural and operational performance and the relevant test methods to be used.*

*This European Standard is not applicable to lighting devices, which convey messages by additional means (e.g. variable message*

*signs) or which convey a mandatory instruction (e.g. traffic signals) or which are covered by vehicle lighting regulations.*

*Below you will find a table with the most relevant classes of the norm that covers most of the applications, permanent or temporary, used in the European Union.*
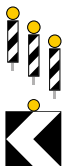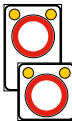
*In the next page we present a guide that can help choosing the proper LED light in different situations.*

*This guide is not an official transposition of the norm but it is to be considered a recommendation based on our experience and the official transpositions of some countries of the European Union.*

## Luminous intensity - Relevant classes

| Class | Area of light emitting surface [cm²] | Min. diameter of light emission [mm] | Range of angles | | Luminous intensity (Day) | | Luminous intensity (Night) |
|---|---|---|---|---|---|---|---|
| | | | Horizontal | Vertical | Min. [cd] | Max. [cd] | Dim to |
| L2H | ≥18 | 48 | +7° ... -7° | +5° ... -5° | 150 | 1500 | 35 % |
| L6 | ≥2x250 | 178.5 | +10° ... -10° | +5° ... -5° | 10 | 100 | 35 % |
| L7 | ≥250 | 178.5 | +10° ... -10° | +5° ... -5° | 20 | 100 | 35 % |
| L8G | ≥250 | 178.5 | +7.5° ... -7.5° | +5° ... -5° | 25 | 100 | 35 % |
| L8M | ≥250 | 178.5 | +7.5° ... -7.5° | +5° ... -5° | 500 | 1500 | 35 % |
| L8H | ≥250 | 178.5 | +7.5° ... -7.5° | +5° ... -5° | 1500 | 5000 | 35 % |
| L9M | ≥700 | 298.6 | +1.5° ... -1.5° | +1.5° ... -1.5° | 2000 | 8000 | 35 % |
| L9H | ≥700 | 298.6 | +1.5° ... -1.5° | +1.5° ... -1.5° | 20000 | 40000 | 35 % |

## FIXED applications

| 50 Urban roads | | L8M L8H | L2H L8M | L2H | L8M L8H | L2H L8M | L2H L8M | | L2H | L8M L8H | L8M L8H |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | **Class** | L8M L8H | L2H L8M | L2H | L8M L8H | L2H L8M | L2H L8M | | L2H | L8M L8H | L8M L8H |
| | **LED light** | Basic 200 | Basic 102 Basic 201 | Basic 102 | Basic 201 | Basic 200 | Basic 200 Basic 201 | | RGR | Basic 200 Basic 201 | Basic 201 |
| 90 70 Secondary roads | **Class** | L8M L8H | L8M L8H | L8M L8H | L8M L8H | L8M L8H | L8M L8H | L8M L8H | L2H | L8M L8H | L8M L8H |
| | **LED light** | Basic 200 | Basic 201 | Basic 201 | Basic 201 | Basic 200 | Basic 200 Basic 201 | Basic 200 Basic 201 | RGR | Basic 200 Basic 201 | Basic 201 |
| 130 110 Main roads and Motorways | **Class** | L9M L9H | | | L9M L9H | L9M L9H | | L9M L9H | L2H | | L9M L9H |
| | **LED light** | Basic 302 | | | Basic 304 | Basic 302 | | Basic 302 | RGR | | Basic 304 |

## TEMPORARY road work zone applications

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 50 Urban roads | **Class** | L6 L7 | L6 L7 | L6 L7 | L8H L8M | L8H L8M | | L8H L8M | | | |
| | **LED light** | D-Star | D-Star | D-Star | Basic 210 | Basic 211 | | Basic 211 | | | |
| 90 70 Secondary roads | **Class** | L6 L7 L8G * | L6 L7 L8G/M * | L6 L7 | L8H L8M | L8H L8M | L8H L8M | L8H L8M | 2 x L9M 23 x L8H | 2 x L9M 3 x L9H | L8H L8M |
| | **LED light** | D-Star | D-Star Basic 210 | D-Star | Basic 210 | Basic 211 | Basic 210 | Basic 211 | Basic 211 Basic 304 | Basic 304 | Basic 210 Basic 211 |
| 130 110 Main roads and Motorways | **Class** | L6 L7 L8G * | L6 L7 L8G/M * | L6 L7 | L8H L8M | L8H L8M | L9M L9H | L8H L9M L9H | 2 x L9M 23 x L8H | 2 x L9M 3 x L9H | L8H L8M L9H L9M |
| | **LED light** | D-Star | D-Star Basic 210 | D-Star | Basic 210 | Basic 211 | Basic 302 | Basic 211 Basic 304 | Basic 211 Basic 304 | Basic 304 | Basic 210 Basic 211 Basic 304 |

* only yellow

# Lighting and signalling design of pedestrian crossings

## SCOPE AND APPLICATION

*This technical specification provides the guidelines to correctly design the lighting of pedestrian crossings on motor vehicle roads in application of EN13201 and UNI/TS 11726.*

## TERMS AND DEFINITIONS

### Waiting area

*Limited area next to the traffic lanes where pedestrians stand before crossing. Typically the waiting area is a portion of the sidewalk.*

### Crossing area

*Transversal portion of the road where pedestrians walk when crossing. This area is identified by the white stripes.*

### Transition zone

*Portion of the crossing area of two-way roads, located in the opposite travel direction lane, where a pedestrian that is already crossing the road must start to be visible to incoming traffic.*

| Road class (EN13201) | Lighting classes of the pedestrian crossings |
|---|---|
| M1 | - |
| M2 | EV1 (50 lux min.) |
| M3 | EV2 (30 lux min.) |
| M4 | EV2 (30 lux min.) |
| M5 | EV3 (10 lux min.) |
| M6 | EV3 (10 lux min.) |

*The different areas for the travel direction are highlighted above:*

1. **waiting area**
2. **crossing area**
3. **transition zone**
4. **traffic lane**
5. **LED streetlight**
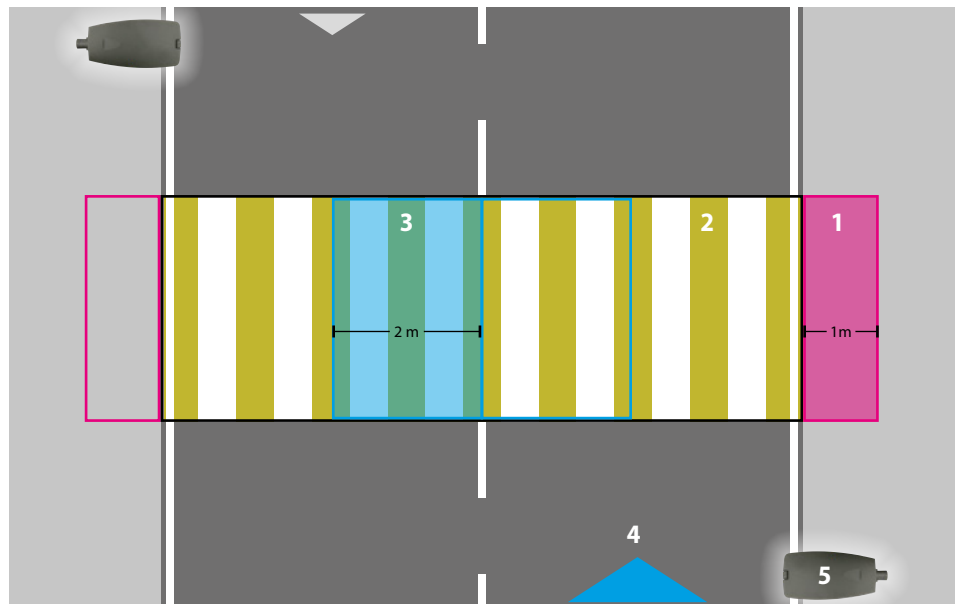
## CALCULATION GRID

*The calculation grid consists in a series of points along the transversal axis of the road passing through the center of the pedestrian crossing which have a constant distance not exceeding 1m, all points are on a plane at a height of 1m from the road level.*

*Four (4) additional points shall be placed at the edges of the measuring area, two (2) at the outer limits of the waiting area and two (2) at the outer limits of the transition zone.*

*All these points are measuring vertical illuminance and shall be oriented towards the incoming traffic.*

*The vertical illuminance measured on the whole axis of the crossing, shall be greater than the applicable EV class.*

*To ensure uniformity, the vertical illuminance measured on the four (4) points at the edges of the measuring area shall be 15% or greater than the applicable EV class.*

## MEASURING AREA

### Two-way roads

*Starts from the outer limits of the waiting area and extends to the outer limits of the transition zone. One traffic direction is considered for evaluation.*

### One-way roads

*Starts from the outer right limits of one waiting area and extends to the outer left limits of the other waiting area.*

## DYNAMIC LIGHTING

*In case interactive systems are installed, the pedestrian crossing and its users may be more visible if the lighting level is increased when they are crossing. At least one (1) lighting class increase from the standby mode is requested. If the standby requirement is already EV1, a minimum increase of 50% is requested.*
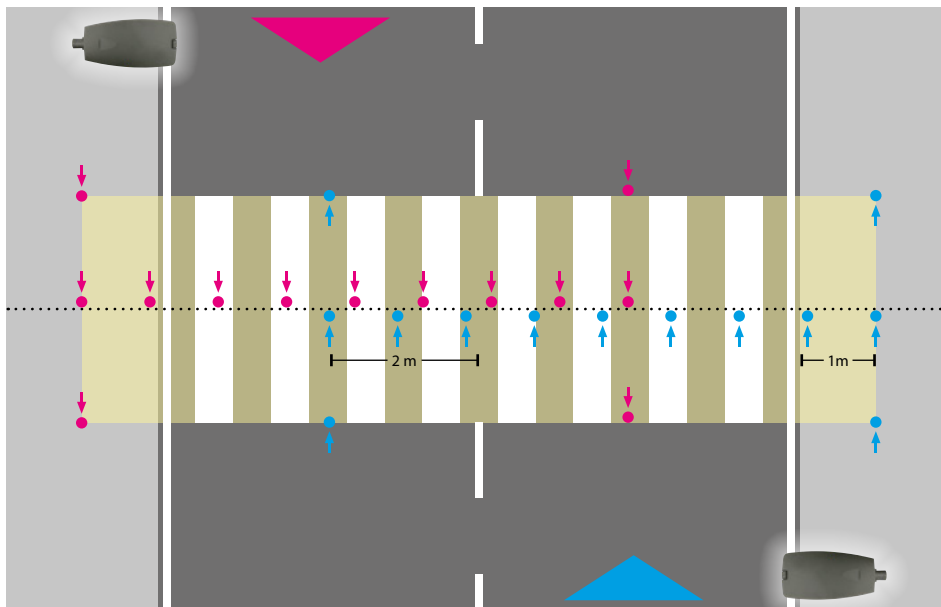


## WARNING AND SAFETY LIGHT DEVICES

*Active safety devices are another way to increase the visibility of pedestrian crossings especially during the day*

- **Backlit signs** *minimum class* **L2** *according to* **EN 12899-1**

- **Flashing lights** *minimum class* **L8M** *(with 90x90 cm signs) or* **L2H** *(with 60x60 cm signs) according to* **EN 12352**.

Box104

Box115

**Legenda:**

| Kit fotovolt. | BOX | Centralina | Armadio | Proiettore LED | RGR | Marker | LEDBOX | Sensore | Radar | Pulsante | Display |
|---|---|---|---|---|---|---|---|---|---|---|---|

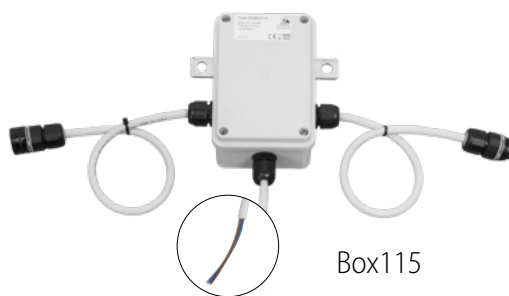| | **Junction boxes / By-pass** | | | **Suitable for:** |
|---|---|---|---|---|
| **Box 100** | | Junction box 2 out | S600 | All BASIC LED lights with external control |
| **Box 104** | | Junction box 3-4 out | S600 | All BASIC LED lights with external control |
| **Box 303** | IP68 | Junction box 2/3 out, TH392, IP68, with cap | L50 | KRONOS SIDE 25 |
| **Box 106** | | Conversion box from standard power supply kit to by-pass for SAFETY RADAR | L50 | RADAR LC INDICATOR FLAT 3/ PLUS/VARIO TEMPOFLASH DOUBLE SYSTEM |
| **Box 115** | | Junction box for sequence central power supply with THB.384 connectors | | LED LIGHTS SEQUENCES BASIC 210 |
| **Box 137** | | By-pass box with diode, sequence light application with multiple power supply | | SEQUENCE LIGHTS SYSTEM with multiple power supply |

| | **Boxes for sequences** | | | **Suitable for:** |
|---|---|---|---|---|
| **Box 113** | | Control unit for sequence CE011, 10th, with night dimming 12/24Vdc | | All BASIC LED lights with external control and RGR marker |
| **box 114** | | Control unit for sequence CE011, 10th, without night dimming 12/24Vdc | | KRONOS SIDE 25 |
| **box 118** | | Control unit for sequence CE011, 10th, with night dimming, 12/24Vdc, guiding light | | All BASIC LED lights with external control and single LEDBOX |

Box108

Box111

| Boxes for fixed devices | | | Suitable for: |
|---|---|---|---|
| Box 108 | | Control unit for double sync. FlashLED night dimming 12-24Vdc | All BASIC LED lights with external control |
| box 109 | | Control unit for triple/quadruple sync. FlashLED night dimming 12-24Vdc | All BASIC LED lights with external control |
| box 124 | | Conversion box from standard power supply kit to by-pass for SAFETY RADAR (external control devices) with M16 cable gland for input LED Lights | All BASIC LED lights with external control |
| box 129 | | Control unit with L50 flash 20%, Night dimming, 12Vdc conn.F 4P for sensor, 2xF 2P for input LED lights | SAFETY RADAR with display "Slow Down" + BASIC 998342 SAFETY RADAR with display "Slow Down" + cup |
| Box 116 | | Control unit for double sync. FlashLED night dimming 12-24Vdc with radar connector | All BASIC LED lights with external control + 4P connector on power supply |
| Box 117 | | Control unit for triple/quadruple sync. FlashLED night dimming 12-24Vdc with radar connector | All BASIC LED lights with external control + 4P connector on power supply |
| Box 119 | | Conversion box from standard power supply kit to by-pass for SAFETY RADAR (external control devices) | All BASIC LED lights with external control with 4P connector |
| Box 111 | | Splitter box for LEDBOX with connectors for SAFETY CROSS | SAFETY CROSS |
| Box 102 | | Splitter box for sensor/push button with connectors for SAFETY CROSS | SAFETY CROSS |

RALLENTA

Safety Cross

Safety Cross

11

**LED lights**

# Basic 80


Adapter for Basic 80
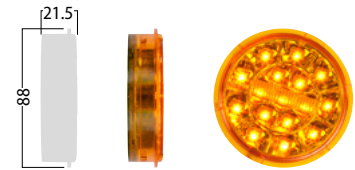
| Certification | **EN12352 - L2H** |
|---|---|
| Input voltage | **12/24 VDC** |
| LED colour | 🟡 ⚪ 🔴 |
| Max. power consumption | **4.1 W** |
| Dimensions | **Ø 88 x 21.5 mm** |

| Flashing | Power cons. @12V | |
|---|---|---|
| Flah LED (10%) | **0.82 Ah** | /day |
| Tri Flash (5%+5%+5%) | **1.23 Ah** | /day |
| Single | **4.1 Ah** | /day |
| Steady | **8.2 Ah** | /day |

FL (FlashLed) = 10%

*Basic 80 and Basic 102 are LED warning lights for fixed or temporary use especially appropriate when reduced dimension is needed.*

*They are available only with external control and they are suitable for all the application where there is a need to warn, inform or guide road users.*

*Some examples of applications:*
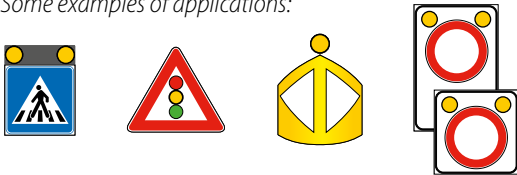
# Basic 102


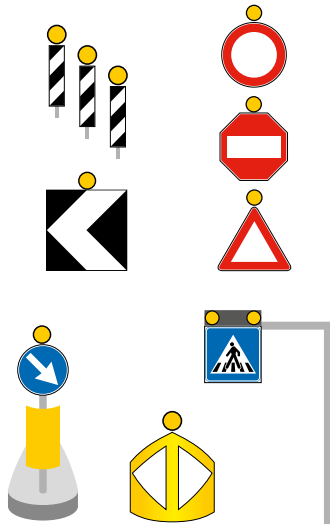Adapter for Basic 102

| Certification | **EN12352 - L2H** |
|---|---|
| Input voltage | **12 VDC** |
| LED colour | 🟡 ⚪ 🔴 🟢 |
| Max. power consumption | **3.8 W** |
| Dimensions | **Ø 139 x 19 mm** |

| Flashing | Power cons. @12V | |
|---|---|---|
| Flash LED (10%) | **0.8 Ah** | /day |
| Tri Flash (5%+5%+5%) | **1.2 Ah** | /day |
| Singolo (50%) | **4.0 Ah** | /day |
| Steady | **8.0 Ah** | /day |

# Basic 200

*Some examples of applications:*

Basic 200 is a LED warning light for fixed applications.

The high luminous efficiency, the uniformity and the wide visual angles, make this product the best in its category.
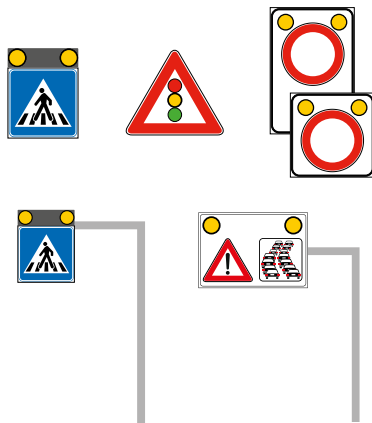
| Certification | **EN12352**<br>**L8H - L8M** |
|---|---|
| Input voltage | **12 VDC - 12/24 VDC** |
| LED colour | 🟡 🔴 🟢 ⚪ |
| Max. power consumption | **7.8 W** |
| Dimensions | **Ø 198 x 65 mm** |

| Flashing | Power cons. @12V | |
|---|---|---|
| Flash LED (10%) | **1.6 Ah** | /day |
| Tri Flash (5%+5%+5%) | **2.3 Ah** | /day |
| Single (50%) | **7.8 Ah** | /day |
| Steady | **15.6 Ah** | /day |

FL (FlashLed) 10%   * on time 50%

# Basic 201

Some examples of applications:

Basic 201 is the flat version of the Basic 200.

The high luminous efficiency, the uniformity and the wide visual angles, make this product the best in its category.
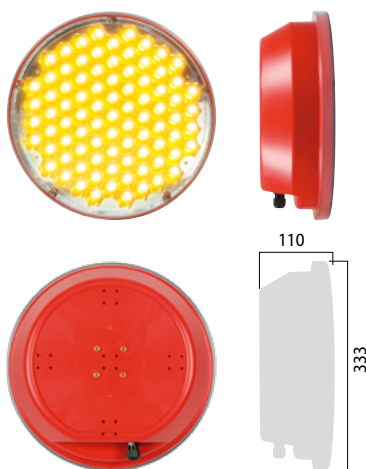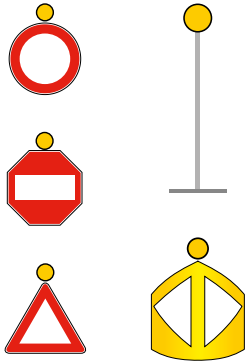
| Certification | EN12352 L8H - L8M |
|---|---|
| Input voltage | 12 VDC - 12/24 VDC |
| LED colour | 🟡 🔴 🟢 ⚪ |
| Max. power consumption | 7.8 W |
| Dimensions | Ø 198 x 25 mm |

| Flashing | Power cons. @12V | |
|---|---|---|
| Flash LED (10%) | 1.6 Ah | /day |
| Tri Flash (5%+5%+5%) | 2.3 Ah | /day |
| Single (50%) | 7.8 Ah | /day |
| Steady | 15.6 Ah | /day |

FL (FlashLed) 10%  * on time 50%
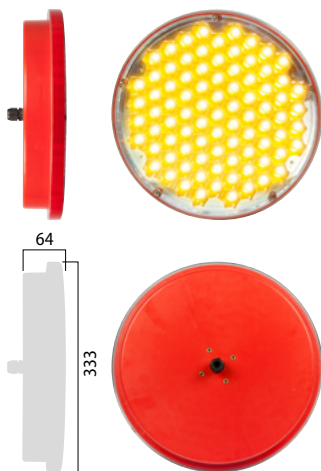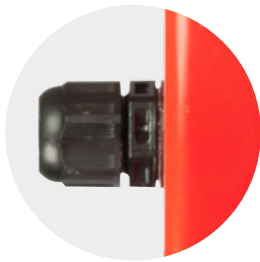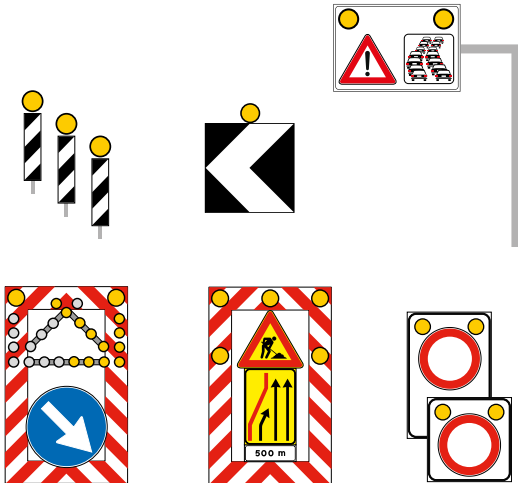
# Basic 302

*Some examples of applications:*

Basic 302 is a LED warning light for fixed applications.

The high luminous efficiency, the uniformity and the wide visual angles, make this product the best in its category.

| Certification | EN12352   L9H - L9M |
|---|---|
| Input voltage | 12 VDC - 12/24 VDC |
| LED colour | 🟡 🔴 |
| Max. power consumption | 17.5 W |
| Dimensions | Ø 333 x 110 mm |

| Flashing | Power cons. @12V | |
|---|---|---|
| Flash LED (10%) | 3.0 Ah | /day |
| Tri Flash (5%+5%+5%) | 4.5 Ah | /day |
| Single (50%) | 15 Ah | /day |
| Steady | 30 Ah | /day |

110

333

# Basic 304

*Some examples of applications:*



Basic 304 is the flat version of the Basic 302.

The high luminous efficiency, the uniformity and the wide visual angles, make this product the best in its category.

| Certification | EN12352   L9H - L9M |
|---|---|
| Input voltage | 12 VDC - 12/24 VDC |
| LED colour | 🟡 🔴 |
| Max. power consumption | 17.5 W |
| Dimensions | Ø 333 x 64 mm |

| Flashing | Power cons. @12V | |
|---|---|---|
| Flash LED (10%) | 3.0 Ah | /day |
| Tri Flash (5%+5%+5%) | 4.5 Ah | /day |
| Single (50%) | 15 Ah | /day |
| Steady | 30 Ah | /day |

# LED traffic lights
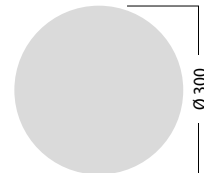
*The recent technology improvement has been adopted by the latest LED traffic lights.*

*In compliance with European standard* **EN12368** *and with very low power consumption, the customer can obtain can better visual safety, a higher energy saving and a long life with no maintenance.*

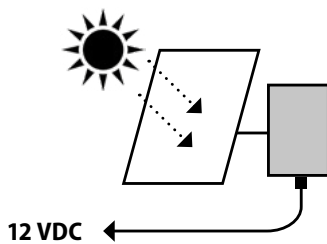| Certification CE | EN12368 | |
|---|---|---|
| Input voltage | **12 VDC** | **230 VAC** |
| LED colour | 🟢 🟡 🔴 | |
| Power cons. @12 VDC | **3 W** | |
| Dimensions | **Ø 200 / 300 mm** | |

Ø 200
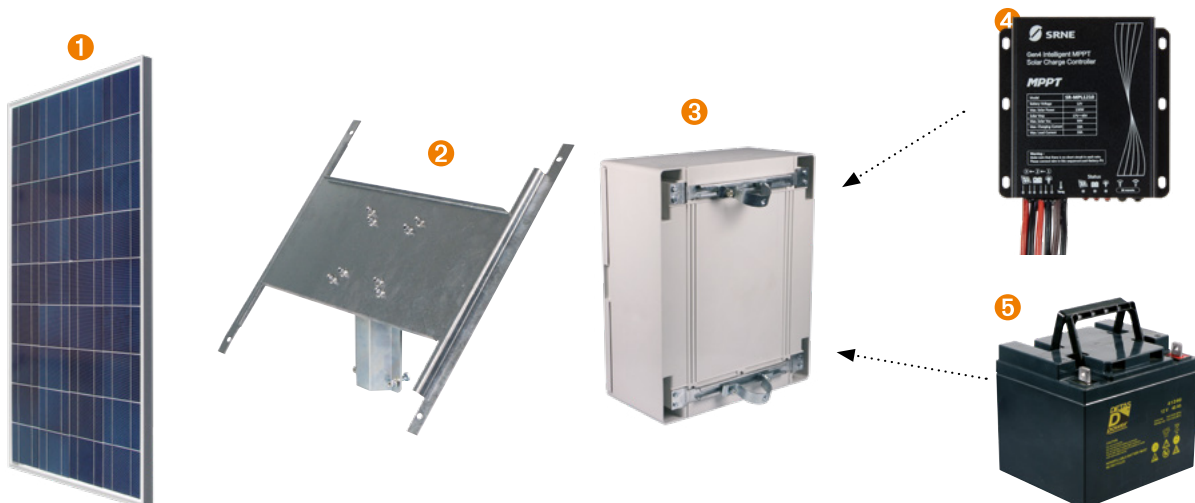
Ø 300

# Photovoltaic Kits

*Stand-alone photovoltaic kits to provide power to the devices throughout the year. Our technical department will choose the best solution for each installation.*

**12 VDC**

| Module | Battery | Mounting plate |
|--------|---------|----------------|
| **50 W** | **45Ah** | **Ø 60 - Ø 90** |
| **100 W** | **90 Ah** | **Ø 60 - Ø 90** |
| **140 W** | **90 Ah** | **Ø 90** |

❶ **Photovoltaic module**
❷ **Mounting plate**
❸ **Cabinet**
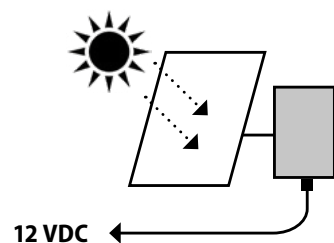❹ **Charging regulator**
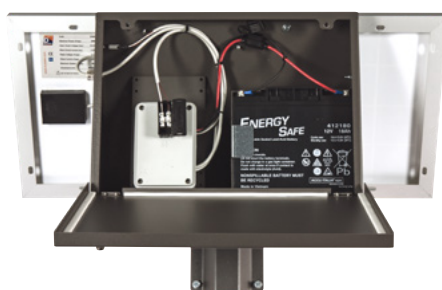❺ **AGM battery specifically designed for photovoltaic system**

Stand-alone compact photovoltaic kits ideal for applications where is not possible to use an external box.

Our technical department will choose the best solution for each installation.

**12 VDC**



10W



20W

| Module | Battery | Mounting plate |
|--------|---------|----------------|
| **10 W** | **12 Ah** | **Ø 60 - Ø 90** |
| **20 W** | **18 Ah** | **Ø 60 - Ø 90** |
| **50 W** | **45 Ah** | **Ø 90** |



50W

# Power Supply/Battery Kits

**230VAC 12VDC**

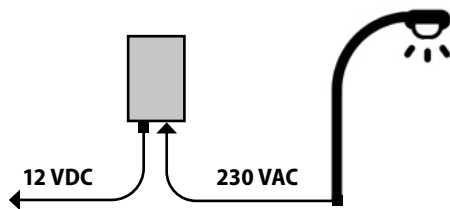*Power supply kit **from public lighting** with a battery to provide power to the devices during daytime.*

❶ **Back-up battery**
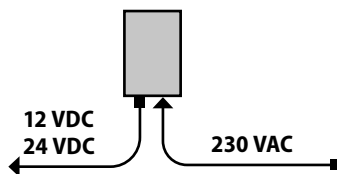❷ **Power supply switch mode Class II**
❸ **Cabinet**

**12 VDC** ← **230 VAC**

| Power supply-Battery | Dimensions |
|---|---|
| **230 VAC / 12 VDC, 2.5 A**<br>**18 Ah**<br>**Class II** | **280 x 360 x 110 mm** |
| **230 VAC / 12 VDC, 2.5 A**<br>**12 Ah**<br>**Class II** | **240 x 280 x 130 mm** |

# Power Supply Kits

**230VAC 12VDC**

*Power supply kit **230 V**, in box IP56, for all devices, available in Class II, suitable to provide energy for fixed devices.*

❷ **Power supply switch mode**
❸ **Box**

**12 VDC**
**24 VDC** ← **230 VAC**

| Power supply | Dimensions |
|---|---|
| **230 VAC / 12 VDC, 2 A**<br>**Class II - IP56** | |
| **230 VAC / 12 VDC, 3.5 A**<br>**Class II - IP56** | **190 x 140 x 70 mm** |
| **230 VAC / 24 VDC, 1.75 A**<br>**Class II - IP56** | |
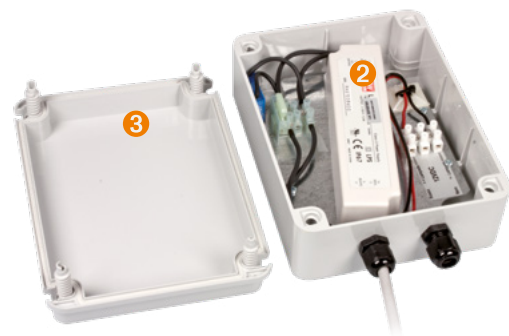
*The PowerStations are Class I supply cabinet ideal for powering high load fixed devices.*

*Three models are available, all equipped with SPD and automatic circuit breaker:*

- **PowerStation 12** (12VDC)
- **PowerStation 24** (24VDC)
- **PowerStation 48** (48VDC)

*Each PowerStation can be equipped with a flashing control unit 12/48V  (see pg. 34).*

| Input voltage | **230 Vac** | | |
|---|---|---|---|
| Output voltage | **12 Vdc** | **24 Vdc** | **48 Vdc** |
| Max. power | **240 W** | **480 W** | **480 W** |
| Max. output current | **20 A** | **20 A** | **10 A** |
| Protections | **Overvoltages - Overcurrents** | | |
| Insulation class | **Class I** | | |
| IP protection class | **IP56** | | |
| Operating temperature | **-10°C ÷ +55°C** | | |
| Dimensions | **260 x 850 x 260 mm** | | |

*Sequence lights systems with cable.*
**EN12352 certified LED lights**.

*Supplied with M16 - M20 cable glands.*

**BASIC 200**
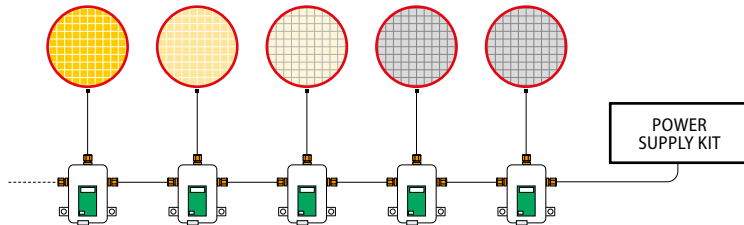
**LEDBOX BASIC 201**

**LED lights for sequential systems with external control.**

POWER SUPPLY KIT

**EXTERNAL CONTROL BOX113**

**BASIC 304**

**LEDBOX BASIC 304**

| Certification | EN12352 | **L8H** (Basic 200/201)<br>**L9M** (Basic 304) | | |
|---|---|---|---|---|
| LED colour | 🟡 | | | |
| Sequence type | **auto-config.** | Input voltage | **12/24 VDC**<br>**12 VDC** | |
| Powered by | Power supply kit | Power supply kit/<br>Battery | Photovoltaic kit | |
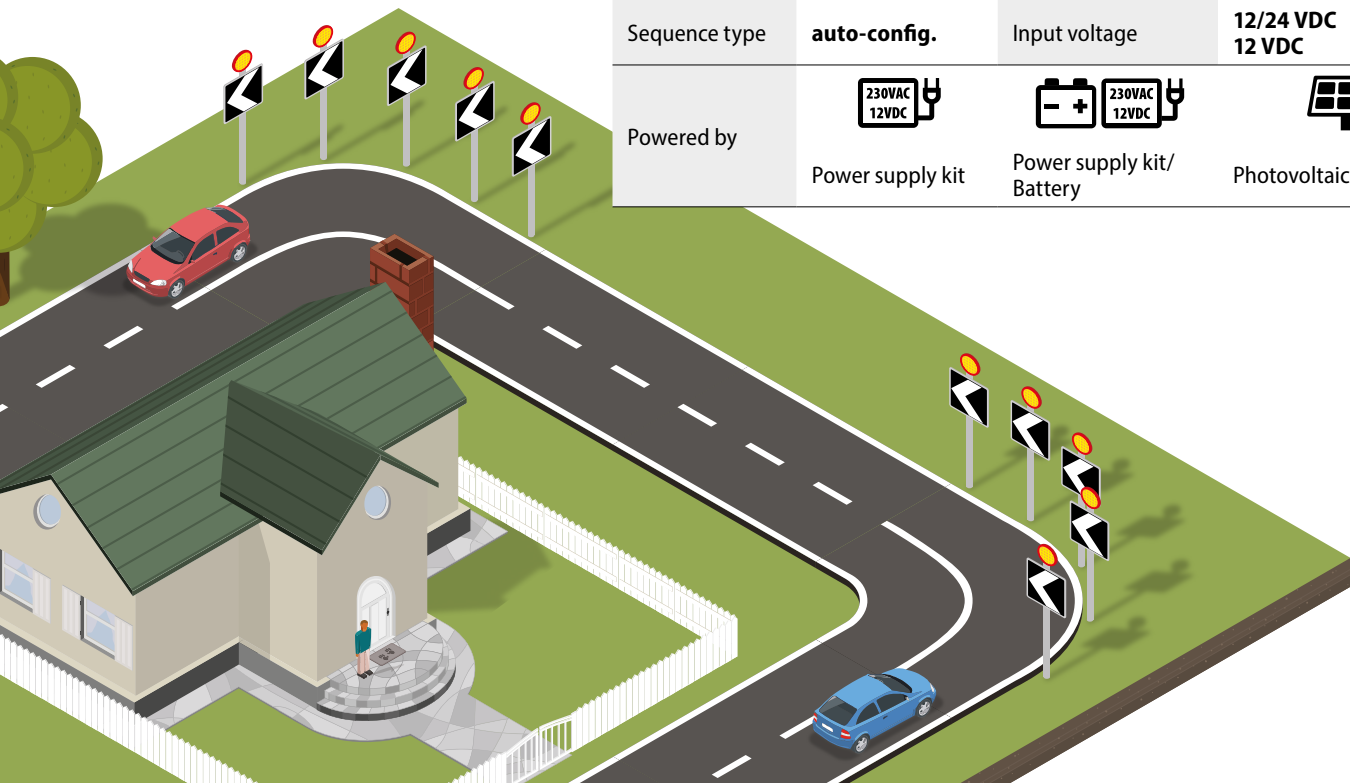
# D-Solar Radio

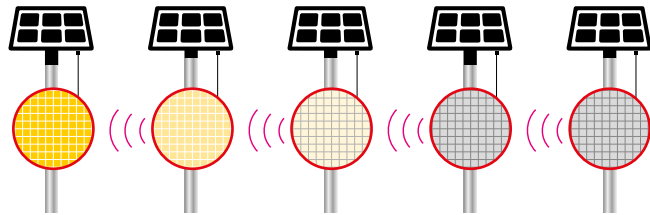*Sequence lights system with wireless radio technology.*

*Ready to mount.*

## EN12352 certified LED lights.

*Min. distance between lights 1 m, max. 80 m.*
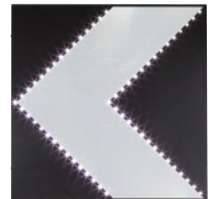
*No lights limit.*

*Synchronous flashing also available.*

**10 W**

**20 W**

**LEDBOX BASIC 201**   **BASIC 200**   **VISUAL LED**

**LEDBOX BASIC 304**   **BASIC 304**

| Certification | EN12352 | L8H (Basic 200)) L9M (Basic 304) | |
|---|---|---|---|
| LED colour | 🟡 / ⚪ Visual LED | | |
| Sequence type | **auto-config.** | Input voltage | **12 VDC** |
| Powered by | | Photovoltaic kit | **10 W** (Basic200) **20 W** (Basic304) |

---

# Visual LED

*LED sequential chevron.*

*Aluminium enclosure painted with epoxy.*

*Also available with backlit sign.*

POWER SUPPLY KIT

| Dimensions | **60 x 60 cm** | | |
|---|---|---|---|
| LED colour | ⚪ **+ diamond grade film** | | |
| Sequence type | **auto-config.** | Input voltage | **12 VDC** |
| Powered by | Power supply kit | Power supply kit/ Battery | Photovoltaic kit |

# SolarTop 24

## LED photovoltaic road marker

*Not carriageable*

*The product must be installed outside of the roadway*

| | |
|---|---|
| Compliance | **EN1463-3** |
| LED colour | 🟡🟡 🔴🔴 ⚪⚪ ⚪🔴 Double side |
| Light | **Steady / Flashing** |
| Working | 🌙 **Only night** |
| Storage | **Ni-Mh battery** |
| Material | **Die-cast aluminum** |
| Dimensions | **97 x 110 x 24.5 mm** |

97
24.5
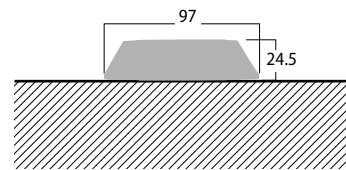
# SolarGround 2

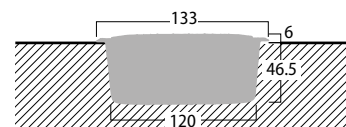## Flush mount photovoltaic LED marker

*Carriageable*

*Even if carriageable the product must be installed outside of the roadway*

| | |
|---|---|
| Compliance | **EN1463-3** |
| LED colour | ⚪ Single side  ⚪⚪ Double side |
| Light | **Steady / Flashing** |
| Working | 🌙 **Only night** |
| Storage | **Ni-Mh battery** |
| Material | **Die-cast aluminum** |
| Dimensions | **Ø133 x 52.5 mm** |

133
6
46.5
120

**LED photovoltaic road marker**

*Not carriageable*

*The product must be installed outside of the roadway*

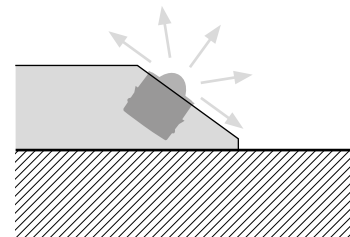| Compliance | **EN1463-3** |
|---|---|
| LED colour | ○ 360° |
| Light | **Steady** |
| Working | ☾ **Only night** |
| Storage | **Lithium battery** |
| Material | **High-strength polymer** |
| Dimensions | **Ø99 x 33 mm** |
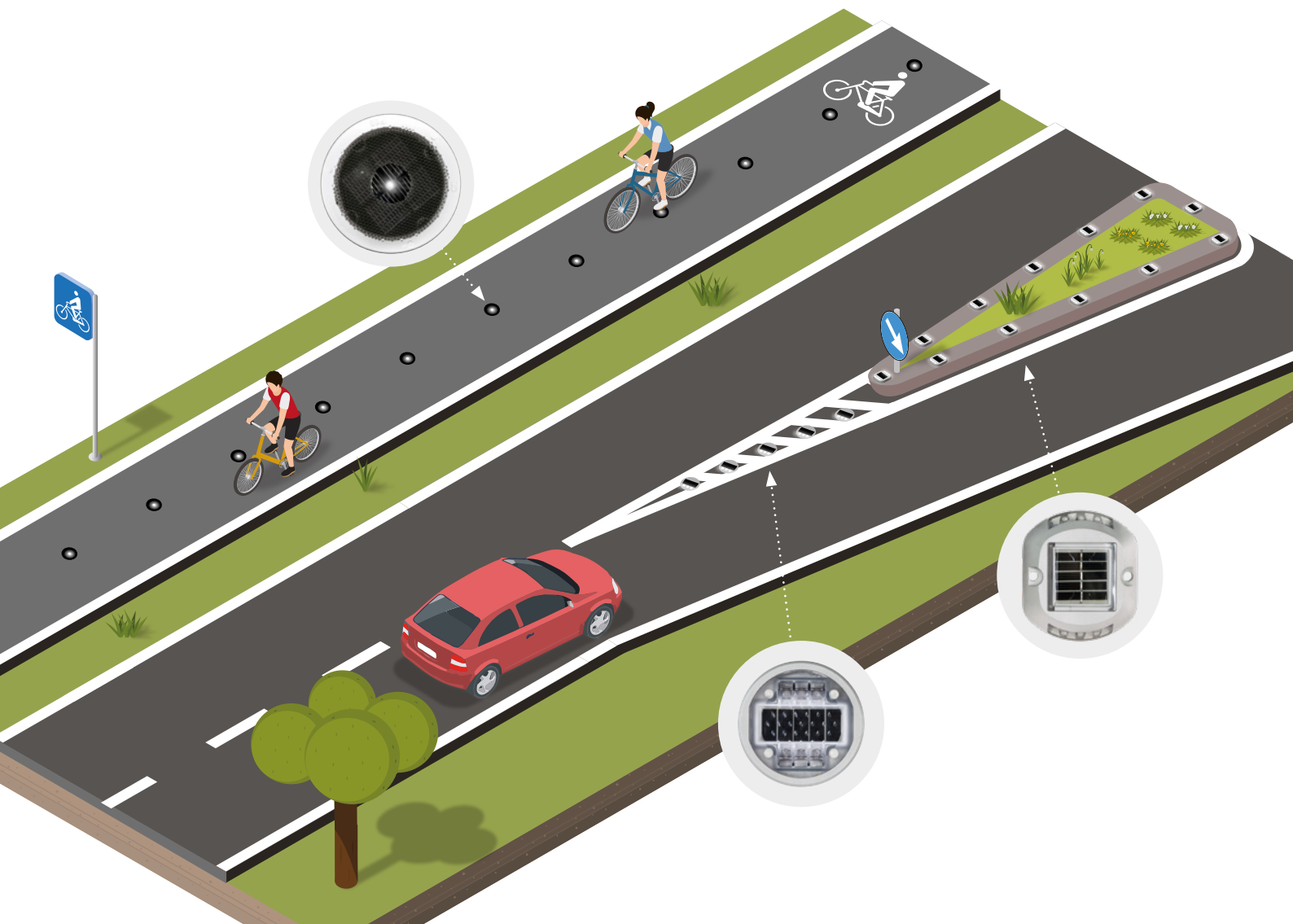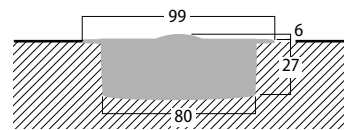
## Carriageable

*Mechanical resistance:18 t*

*Even if carriageable the product should be installed outside of the roadway*

*Self cleaning*



| Certified | **EN1463-2** |
|---|---|
| Reflection | **360° horizontally** **180° vertically** |
| Material | **Tempered glass** |
| Dimensions | **Ø 50 mm** |
| Dome height | **12 mm** |

## The smallest *tempered glass* **road marker** *available on the market*

*Mechanical resistance: 6 t*

*The product should be installed outside of the roadway*

*Self cleaning*



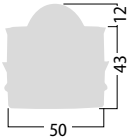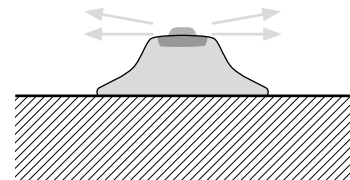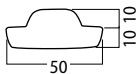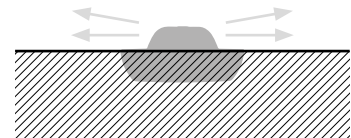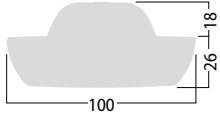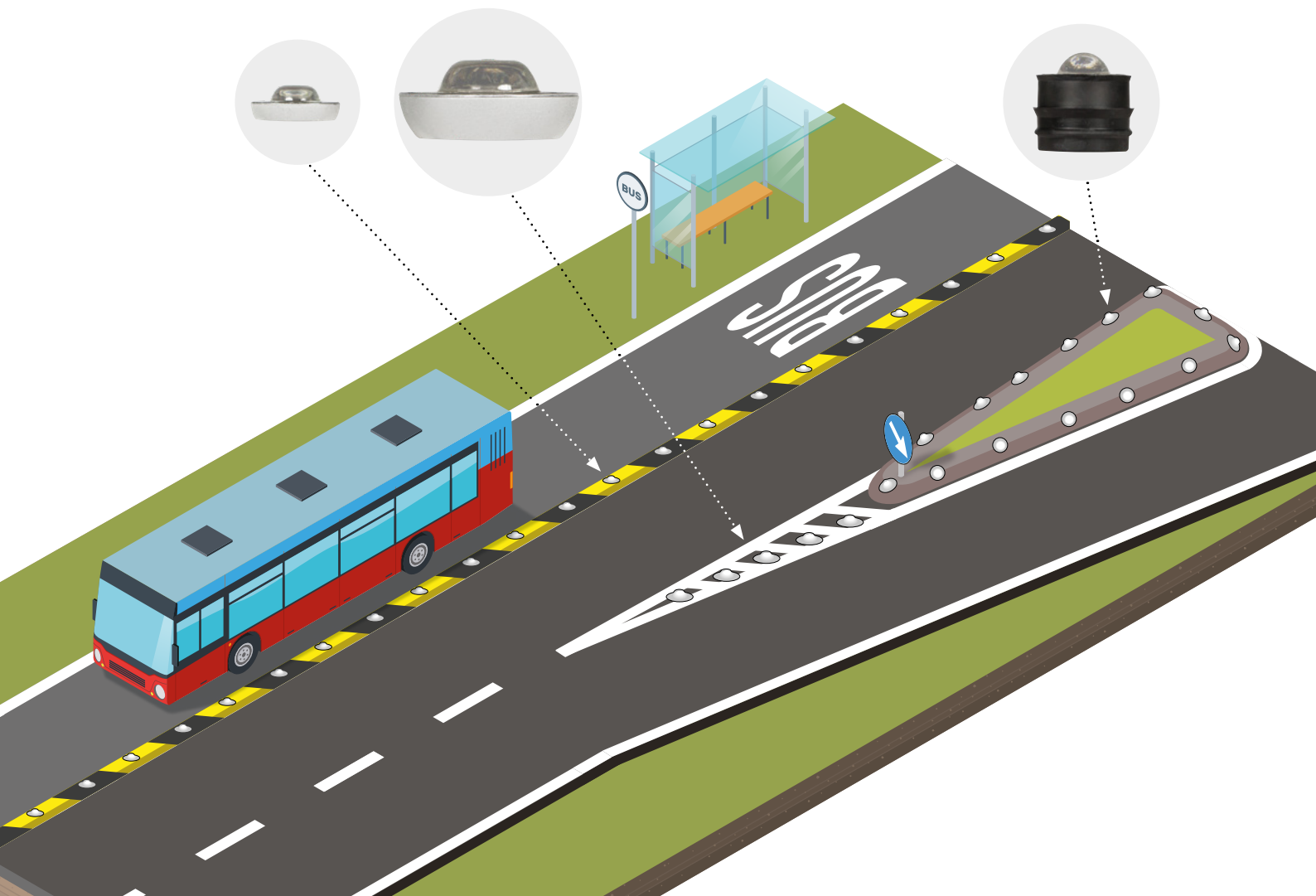| Compliance | **EN1463-2** |
|---|---|
| Reflection | **360° horizontally** |
| Material | **Tempered glass** |
| Dimensions | **Ø 50 mm** |
| Dome height | **10 mm** |

## Carriageable

*Mechanical resistance: 40 t*

*Even if carriageable the product should be installed outside of the roadway*

*Self cleaning*



| Approved | EN1463-2 |
|---|---|
| Reflection | **360° horizontally** |
| Material | **Tempered glass** |
| Dimensions | **Ø 100 mm** |
| Dome height | **18 mm** |

**LED lighting device for the illuminations of escape routes in tunnels**, *with polycarbonate body and stainless steel base.*

*Available in different operating modes:*

- Reverse polarity
- Voltage switch (24V-48V)
- Third wire with PWM.

*External or internal connection on ceramic terminal block to ensure the continuity of power in case of fire.*

**In compliance with EN16276**
**In compliance with EN 1838 (ANAS Guidelines)**

| LED colour | ○ | ● |
|---|---|---|
| Light | **> 15 cd** | **> 100 cd** |
| Absorbed power | **5 W** | **6 W** |
| Powered by | **12÷48 VDC** | |
| Material | **Polycarbonate UL94-V0 Inox AISI 304** | |
| Dimensions | **286 x 144 x 110 mm** | |
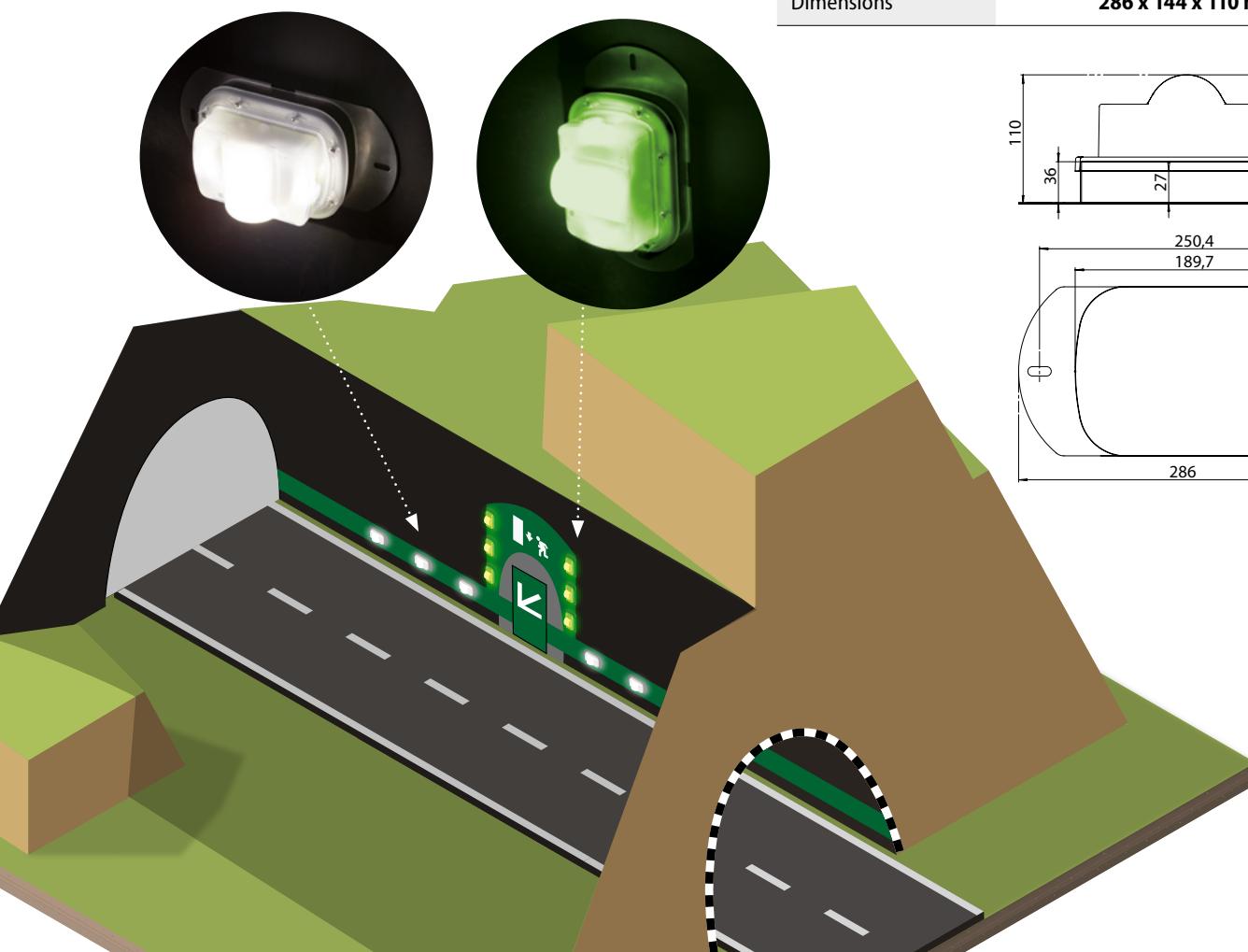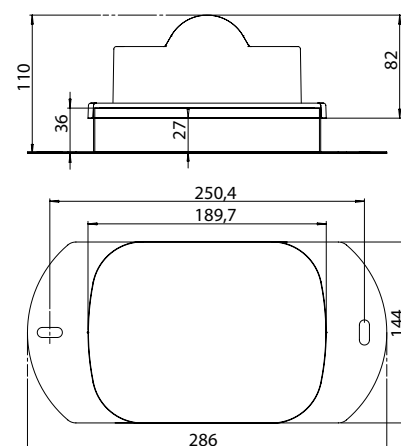
**LED marker** *for tunnels, roundabout, dangerous point, edges, etc.*

**6 high-brightness** *LEDs each side*

*The product must be installed outside of the roadway*



| | |
|---|---|
| Compliance | **EN1463-3** |
| LED colour | 🟡 Single side   🔴⚪ 🟡🟡 Double side<br>Other colours on request |
| Light | **Steady**<br>**Sync. flashing** with external flashing control unit<br>**Sequence** with external control unit |
| Powered by | **11...48 VDC** |
| Max. power consumption | Single side: **0.44 W@48 V**<br>Double side: **0.85 W@48 V** |
| Material | **Polycarbonate V0** |
| Dimensions | **90 x 128 x 25 mm** |



ONE SIDE



DOUBLE SIDE

128   25
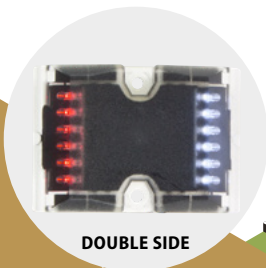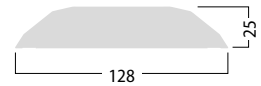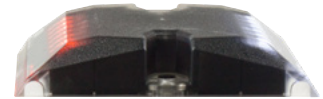
# PowerGround 3

## In-pavement High Power LED

*(>200cd)*

*Carriageable*

*Mechanical resistance: 50 t*

*Available in single side or double side version*

| Compliance | **EN1463-3** |
|---|---|
| LED colour | 🟡 ⚪  Patented LED optics |
| Light | **Steady** <br><br> **Sync. flashing** <br> with external flashing control unit |
| Powered by | **10...48 VDC** |
| Max. power consumption | ⚪ Single side: **3.6 W** <br> ⚪⚪ Double side: **7.2 W** |
| Material | **Steel** |
| Dimensions | **ø155 x 87 mm** |

Template supplied

155

87
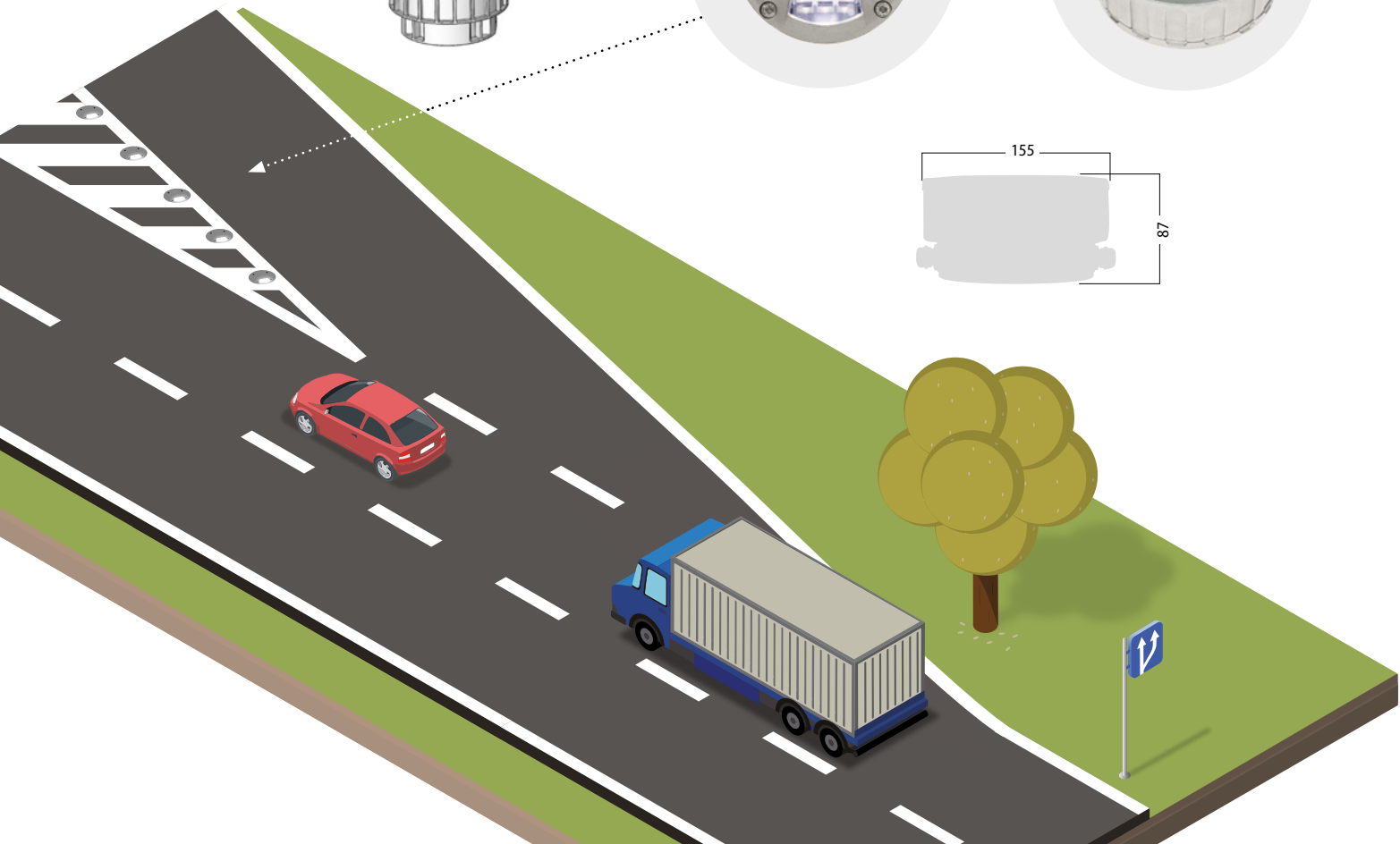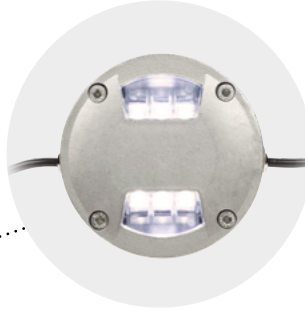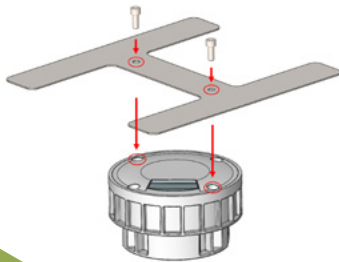
## LED marker for guardrail.

*RGR, thanks to its high visibility and low power consumption, is an excellent solution for dangerous curves, motorway exits, tunnels and all the other dangerous situations on the road. Ideal for zones with high presence of fog.*

| Approved | EN12352 L2H | | |
|---|---|---|---|
| LED colour | 🟡 | | |
| Light | **Steady** | **Sync. flashing** with external flashing control unit | **Sequence** with external control unit |
| Powered by | **18...48 VDC** | Power consumption (steady light) | **3.84 W@48 V** |
| Material | **ABS** | | |
| Dimensions | **70 x 140 x 45 mm** | | |

140

70
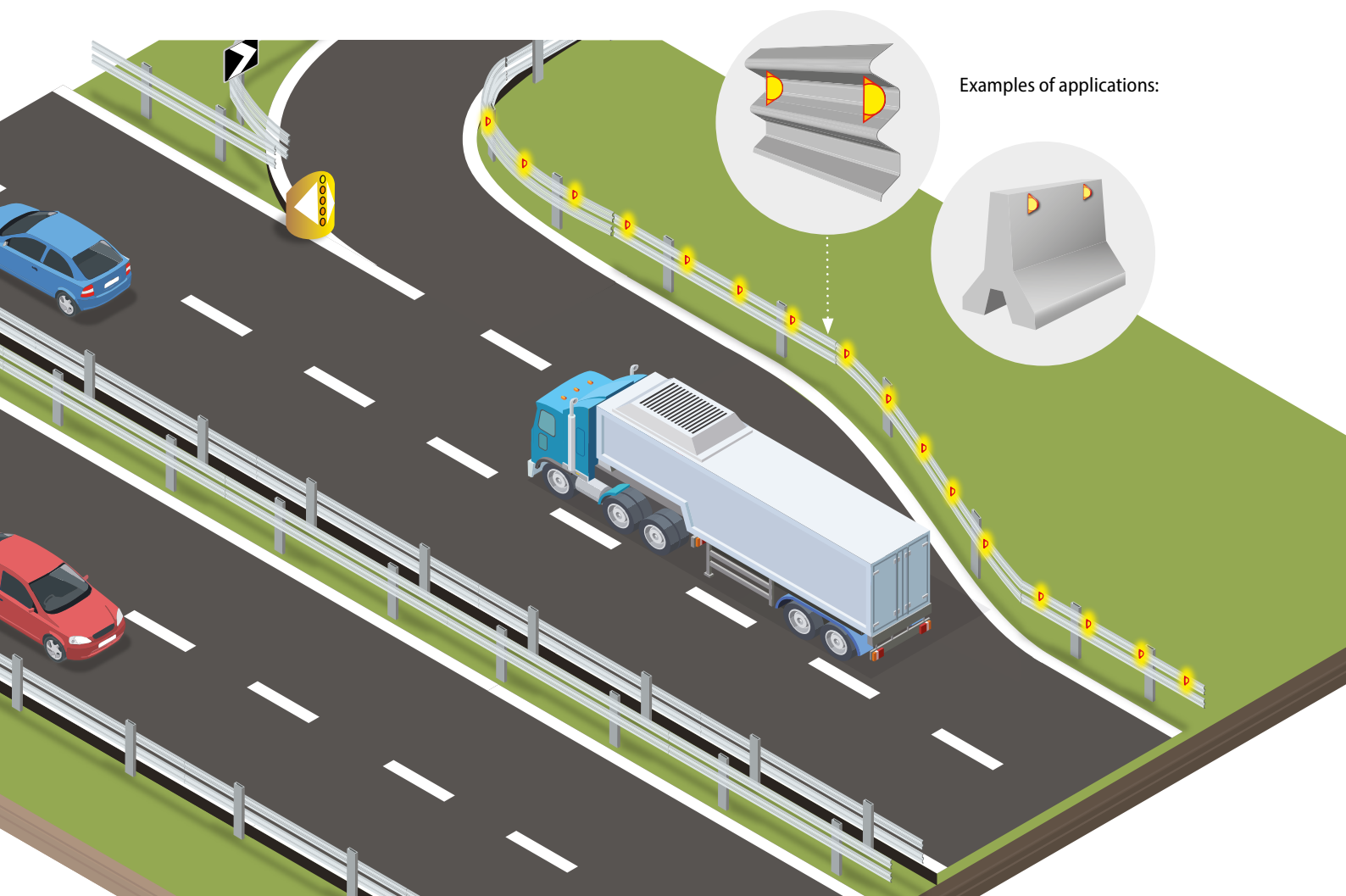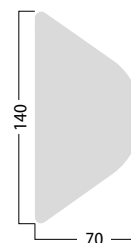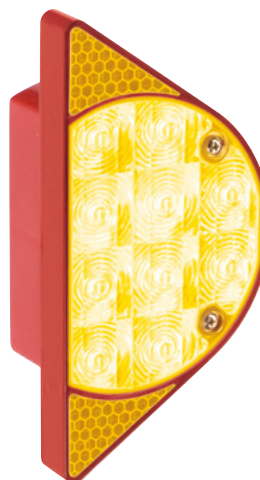
Examples of applications:

# Kronos

**Luminous LED insert with very low power consumption.**

*Ideal for cuspidal points, roundabouts and fatal edges.*

*Ready for installation.*

*Suitable to photovoltaics.*



| LED colour | ● ○ | | Other colours on request |
|---|---|---|---|
| Light | **Steady** | **Sync. flashing** with external flashing control unit | **Sequence** with external control unit |
| Powered by | **12 VDC 230 VAC classe II** | Max. power consumption | **6 W** |
| Material | **Die cast aluminum body PP formwork** | | |
| Dimensions | **ø145 x 136 mm** | Dome height | **45 mm** |
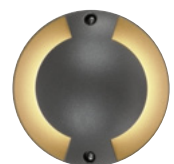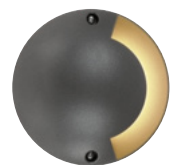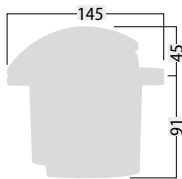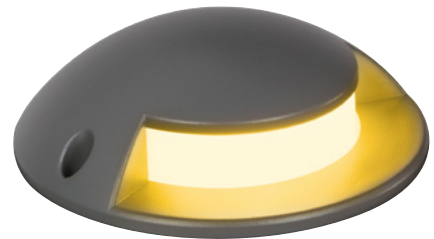
# Flashing control unit

*Flashing control unit for road marker series.*

| Connectable markers | Nr. max. |
|---|---|
| Side 25 | **160** |
| Kronos | **40** |
| RGR | **60** |
| PowerGround 3 HP | **65** |

| | |
|---|---|
| Input voltage | **12/48 VDC** |
| Functions | **night dimming remote control** |
| Duty cicle | **50% 20% <10%** |
| Dimensions | **125 x 80 x 50 mm** |
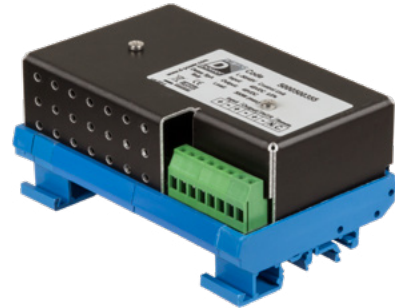
# Power supplies

*AC-DC DIN rail mountable power supply.*

| Model | **GSA SWP10** | **GSA SWP20** |
|---|---|---|
| Certifications | **UL, cUL, CE** | **UL, cUL, CE** |
| Input voltage | **85...264 VAC** | **85...264 VAC** |
| Output wattage | **240 W** | **480 W** |
| Output voltage | **48 VDC** | **48 VDC** |
| Output current | **5 A** | **10 A** |
| Efficiency | **>94%** | **>94%** |

**GSA SWP10**

**GSA SWP20**

## Ideal for junctions, cusps and other dangerous spots.

*Operating with photovoltaic panel or 230 VAC.*

*LED Basic 102 sequential.*

*Arrows in Class 2 film.*

*Shock resistant.*

*Various sizes available.*

SEQUENCE
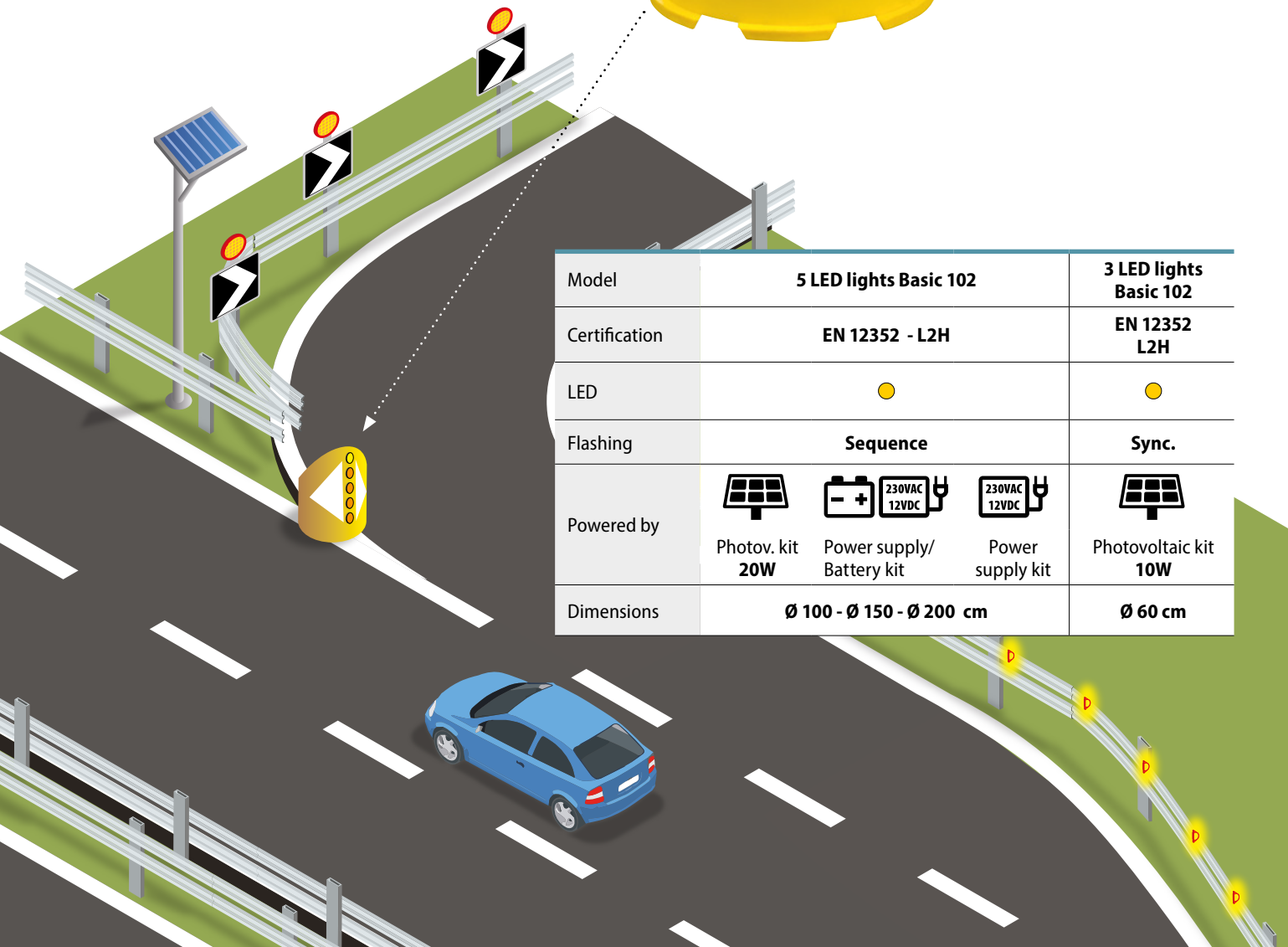
| Model | 5 LED lights Basic 102 | | | 3 LED lights Basic 102 |
|---|---|---|---|---|
| Certification | EN 12352 - L2H | | | EN 12352 L2H |
| LED | 🟡 | | | 🟡 |
| Flashing | Sequence | | | Sync. |
| Powered by | Photov. kit **20W** | Power supply/ Battery kit | Power supply kit | Photovoltaic kit **10W** |
| Dimensions | Ø 100 - Ø 150 - Ø 200 cm | | | Ø 60 cm |

# Dangerous points kit

## LED markers powered by a compact photovoltaic kit.

*Ideal for dangerous points, roundabouts and fatal edges.*

*The kit includes:*
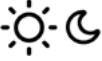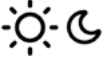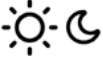
**SIDE 25**: *LED marker single side amber*

**Box 303**: *junction box 2/3 out,TH 392, IP68, with cap.*

**Compact photovoltaic kit**
**20W** *mounting plate- Ø 60.*

**PV 20W**

**SIDE 25**

**BOX 303**

### Number of connected markers:

| 3 | 6 | 7 | 15 | 15 | 30 |
|---|---|---|---|---|---|
| Flashing on time **50%** | Flashing on time **50%** | Flashing on time **20%** | Flashing on time **20%** | Flashing on time **10%** | Flashing on time **10%** |
| ☀·☾  ☾ | | ☀·☾  ☾ | | ☀·☾  ☾ | |

**Watch the video**:
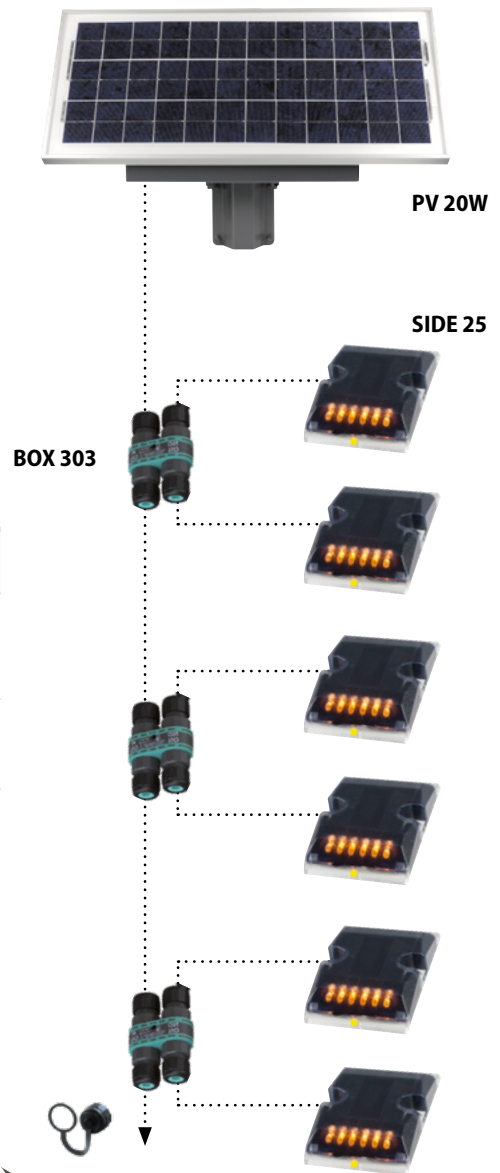
**ECOSOLAR 2x BASIC 201**





**ECOSOLAR BASIC 201**



**ECOSOLAR BASIC 201**

**Ecosolar** *is a line of products with a wide range of **solar powered devices** designed to signalize dangerous situation and integrate the traffic signs.*
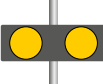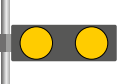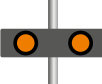
*The Ecosolar line uses **LED lights certified to EN 12352**.*

*The compact design and the **extremely easy installation** make the Ecosolar the perfect choice for any type of pole and traffic signs.*
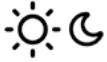
*The Ecosolar line is designed to be installed also on existing traffic signals.*

*Power saving options ensures high autonomy even in critical weather conditions.*

*To ensure the correct operation of the devices it is however necessary that the photovoltaic panel receives direct sunlight at least during the central part of the day.*

| photovoltaic panel **5 W** | photovoltaic panel **10 W** | photovoltaic kit **10 W** | photovoltaic kit **10 W** | photovoltaic kit **10 W** |
|---|---|---|---|---|
| Basic 201 | Basic 201 | Basic 201 | Basic 102 | Basic 102 double side |
| some example of applications: | | | | |
| | | | | |

# Ecosolar



**BASIC 201**



**BASIC 102**



| Certification | Basic 201<br>Basic 102 | **EN12352 - L8H**<br>**EN12352 - L2H** |
|---|---|---|
| LED colour | 🟡 | |
| Powered by | 🔲 | Photovoltaic |
| Working | ☀️ 🌙 **24 hrs** 🌙 | **Optional only night** |
| Fixing | **Ø 60**<br>**Ø 90** | |
| Box dimensions | 1 Basic 201<br>2 Basic 201<br>2/4 Basic 102 | **210 x 210 x 120 mm**<br>**600 x 2 10 x 120 mm**<br>**600 x 160 x 60 mm** |

**Ecosolar** *are powered only by photovoltaic energy.*

*For solutions powered by the electrical network, see* **LED Box** *on the next page.*

# LED Box

**LED Box** *is a family of products designed to keep a low impact in aesthetics while delivering a great active safety signal.*

*They are provided as standard with external control, but there are some models with integrated control unit or with 230 VAC power supply.*
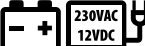
*The* **LED Box** *external control can be used with:*

- *Our Compact Photovoltaic Kit with S600 controller.*
- *Our Box and control units (see pages 10-11).*
- *Our DIN rail mountable flashing control unit (see page 32).*

**BASIC 304**

**BASIC 102**

**BASIC 201**

*Some examples of applications:*

| Certification | Basic 201 | **EN12352 - L8H** | |
|---|---|---|---|
| | Basic 102 | **EN12352 - L2H** | |
| | Basic 304 | **EN12352 - L9H   L9M** | |
| LED colour | 🟡 | | |
| Input voltage | **230 VAC** **12 VDC** | Other voltages on request | |
| Powered by | 230VAC 12VDC | 230VAC 12VDC | |
| | Power supply kit | Power supply kit/Battery | |
| Fixing | **Ø 60** **Ø 90** | | |
| Box dimensions | 1 Basic 201 | **210 x 210 x 120 mm** | Other dimensions on request |
| | 2 Basic 201 | **600 x 210 x 120 mm** | |
| | 2 Basic 201 | **900 x 210 x 120 mm** | |
| | 2 Basic 102 | **600 x 160 x 60 mm** | |
| | 4 Basic 102 | **800 x 1000 x 45 mm** | |
| | 1 Basic 304 | **360 x 360 x 115 mm** | |

# D-Solar

**D-solar** *are LED lights with photovoltaic suitable for highways and heavy traffic areas.*

*They are ideal for cuspidal points, crossroads and fatal edges.*

*The photovoltaic kit is bigger than the one used for the Ecosolar and that makes them a perfect choice for application with critical weather conditions.*

*Easy to install and to maintain.*
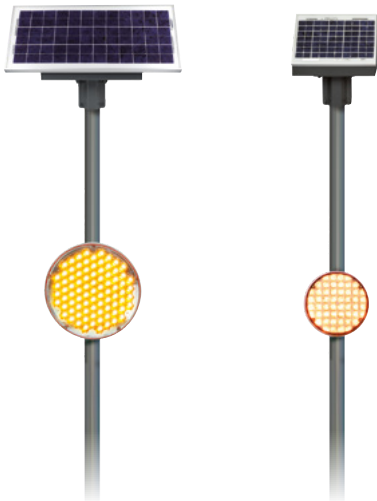
20 W
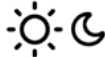
10 W

BASIC 302

BASIC 200

| Approved | Basic 200<br>Basic 302 | **EN12352 - L8H**<br>**EN12352 - L9M** | |
|---|---|---|---|
| LED colour | 🟡 | | |
| Powered by | ▦ | Photovoltaic kit | **10 W** Basic 200<br>**20 W -**Basic 302 |
| Working | ☼ ☾ | **24 hrs** | ☾ **Optional only night** |
| Fixing | **Ø60** | | |
| Dimensions | Basic 200<br>Basic 302 | **Ø198 x 65  mm**<br>**Ø335 x 110 mm** | |

# LED backlit signs



**SLIM**

**BOLD**

*\* This model can only be equipped with a silk-screened glass and not with the translucent film.*

**DOUBLE SIDE**

**DOUBLE SIDE**



*D-Power presents a wider range to satisfy the growing needs in road signalling.*

**The ultrathin LED signals** *guarantee an high uniformity of backlighting and low maintenance.*

*Designed and built according* **EN12899**.

*The technology we use allows reaching the highest classes of the norm while keeping low the power consumption and overall sizes.*

band-it

Ø 60

Ø 90

*The backlit signals can be supplied with various traffic sign films according to the applicable road code, made using* **Class 2 Superior translucent films\***.

*Available with several mounting options.*

*The new finishing color and design make them suitable for use in town centers, where the aesthetical impact is an important issue.*

**The LED backlit dividing marker** *includes the Class 2 Superior translucent film.*
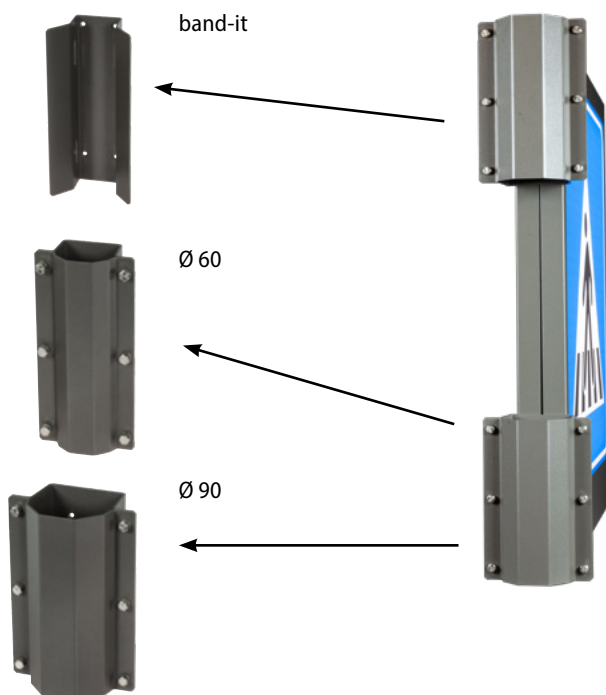
# LED backlit signs

| LED backlit signs | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Certification: **EN12899** | | | LED colour: ○ | | Input voltage: **12 vdc - 230 vac** | | | |
| LED backlit signs | single side | single side | double side | double side | single side | single side | single side | double side | single side |
| Light emiss. area [cm] | **90 x 90** | **82 x 75** | **90 x 90** | **90 x 90** | **Ø 60** | **60 x 60** | **60 x 60** | **60 x 60** | **40 x 50** |
| Power cons. @12V | **36 w** | **32 w** | **51 w** | **46 w** | **8w** | **24 w** | **24 w** | **24 w** | **7 w** |
| Dimensions [mm] | **1000 x 1000 x 45** | **940 x 830 x 58** | **1005 x 1285 x 62** | **1065 x 1103 x 200** | **Ø 650 x 40** | **640 x 640 x 43** | **640 x 640 x 43** | **645 x 735 x 68** | **280 x 544 x 164** |

*Some examples of applications:*
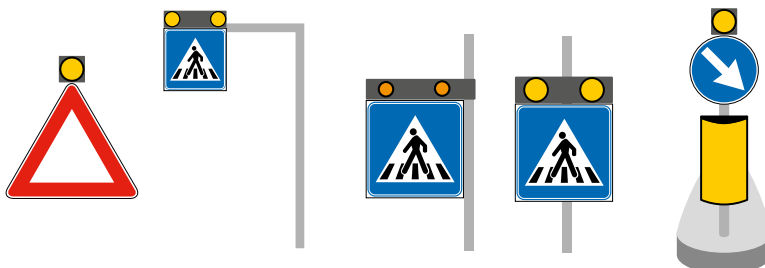
**Safety Radar Solar Box is very effective device for speed reduction nearby cities, dangerous points, motorway ramps, one-way street etc.**

*Flashing lights system with doppler radar which detects the car and the speed and sends a signal to the lights if the limit has been exceeded.*

*Easy retrofit of existing signs.*

**Radar LC/LCL**     **Radar FALCON BASIC**

**LEDBOX BASIC 102**     **LEDBOX BASIC 201**

| Certification | Basic 201 Basic 102 | EN12352 L8H EN12352 L2H |
|---|---|---|
| LED colour | 🟡 | |
| Powered by | | Photovoltaic kit **20 W** |
| Radar range | Radar LC: **100 m** | Radar LCL: **200 m** |
| Led Box dimensions | 1 Basic 201 2 Basic 102 | **210 x 210 x 120 mm** **600 x 160 x 60 mm** |
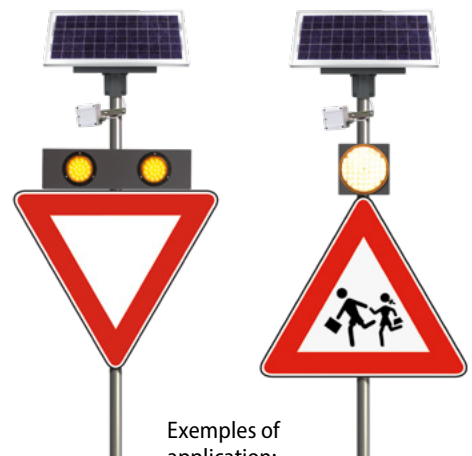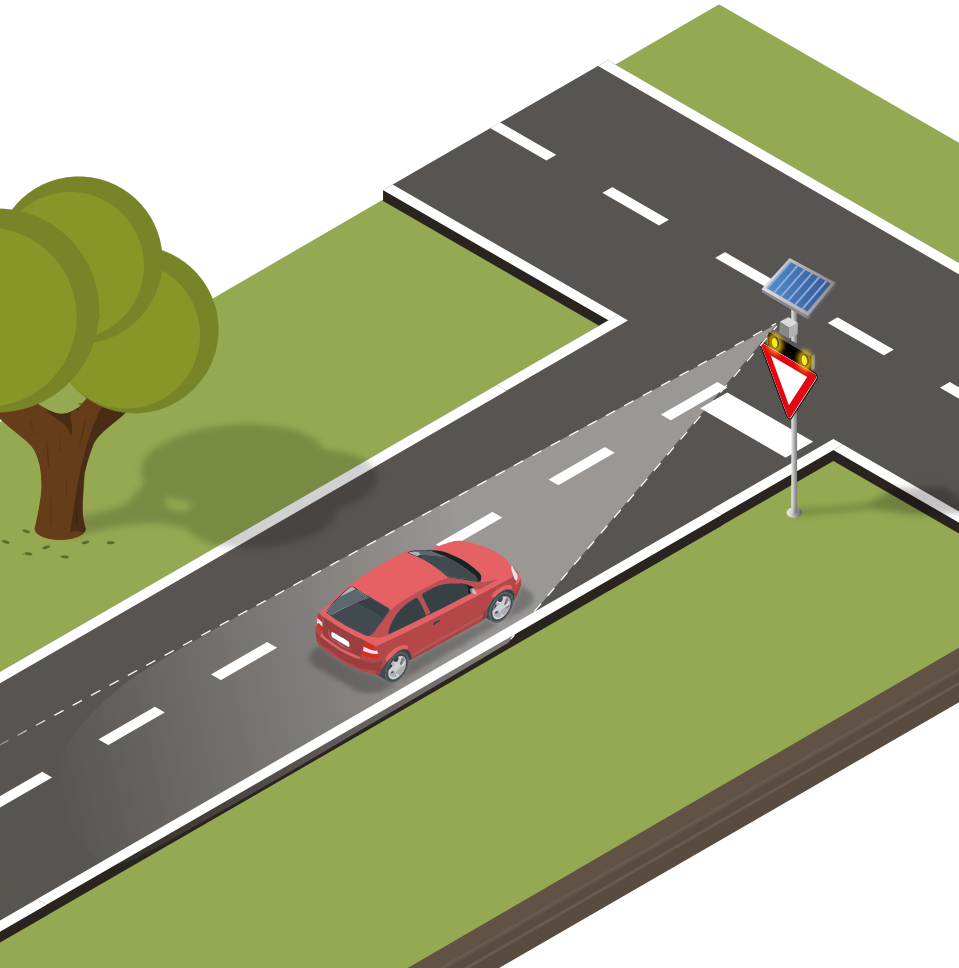
Exemples of application:
**Safety Radar Solar box**

**Safety Radar is very effective device for speed reduction nearby cities, dangerous points, motorway ramps, one-way street etc.**

*Flashing lights system with doppler radar which detects the car and the speed and sends a signal to the lights if the limit has been exceeded.*

*Available with LED message panel..*

*Signage panel not provided.*

**Radar LC/LCL**    **Radar FALCON BASIC**

**BASIC 201**

| Certification | **Basic 201** | **EN12352 L8H** | | |
|---|---|---|---|---|
| LED colour | 🟡 | | | |
| Powered by | 230VAC 12VDC Power supply kit | 230VAC 12VDC Power supply/ Battery kit | Photovoltaic kit | 50 W 100 W con display |
| Radar range | Radar LC: **100 m** | Radar LCL: **200 m** | | |
| Diplay dimensions | **850 x 190 x70 mm** | Typeface height | **100 mm** | |
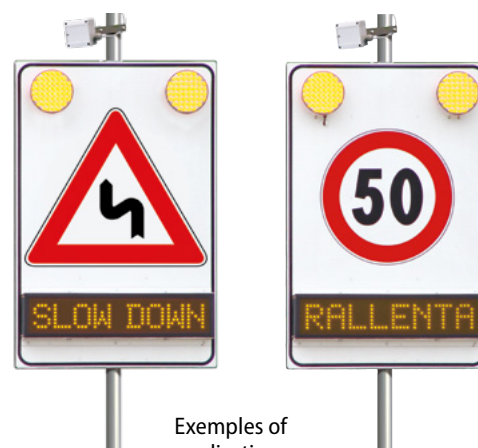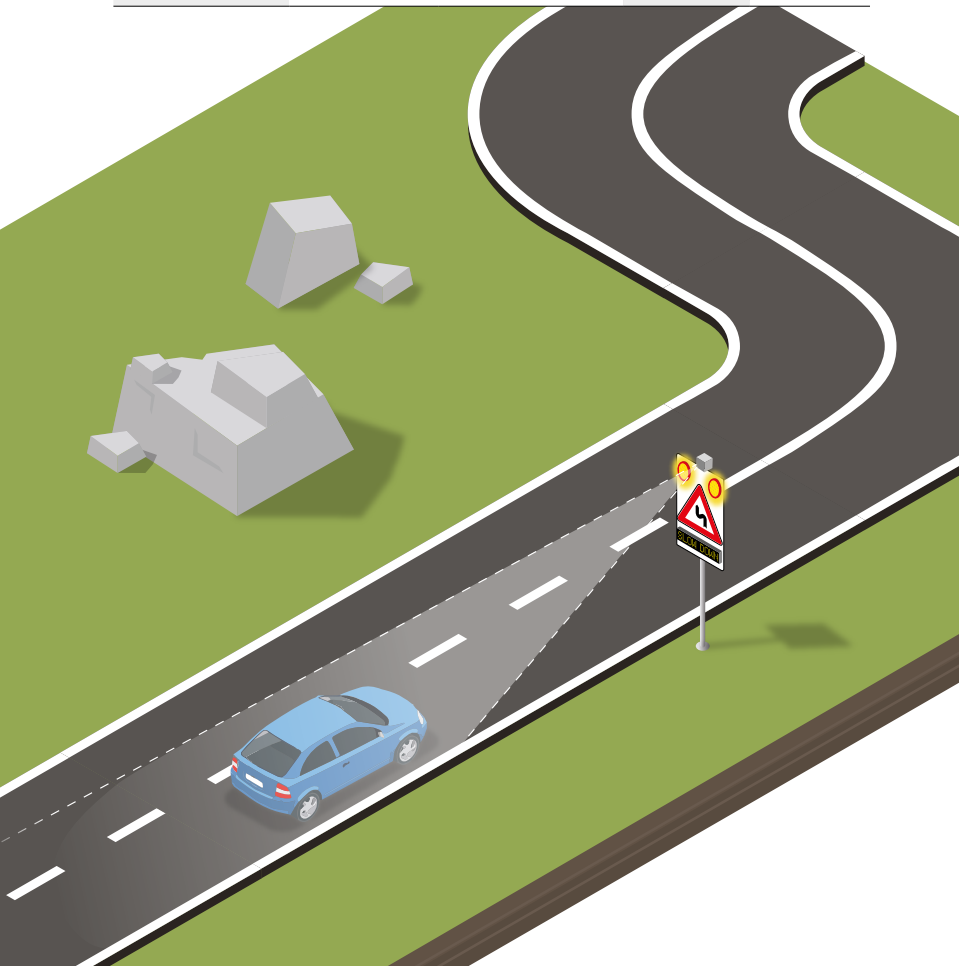
Exemples of application:
**Safety Radar**

**Variable message sign** *available*
*with or without radar detector.*

*Ideal to warn, inform or guide road users.*

*Time scheduled programming.*

*Up to 8 images can be displayed*
*at different setting speeds.*

*Speed values displayable from 5 to 255 km/h.*

| LED colour | 🟡 |
|---|---|
| Altezza carattere max. | **50 cm** |
| Risoluzione | **32 x 28** (896 LED) |
| Powered by | Photovoltaic kit — **50 W - 45 Ah** + 2 Basic201: **100W - 90 Ah** |
| | Power supply kit — **230 VAC/12 VDC** |
| | Power supply/Battery kit — **230 VAC/12 VDC 18 Ah Battery** |
| Software | **Included** / App Android |
| Connection | **Bluetooth** (100m outdoor) **RS232** — Optional: e-mail GSM-GPRS-GPS |
| Vehicle detection | **Bidirectional** (only statistic) |
| Dimensions | **685 x 720 x 60 mm** |

*Some examples of views:*

# Indicator Flat 3
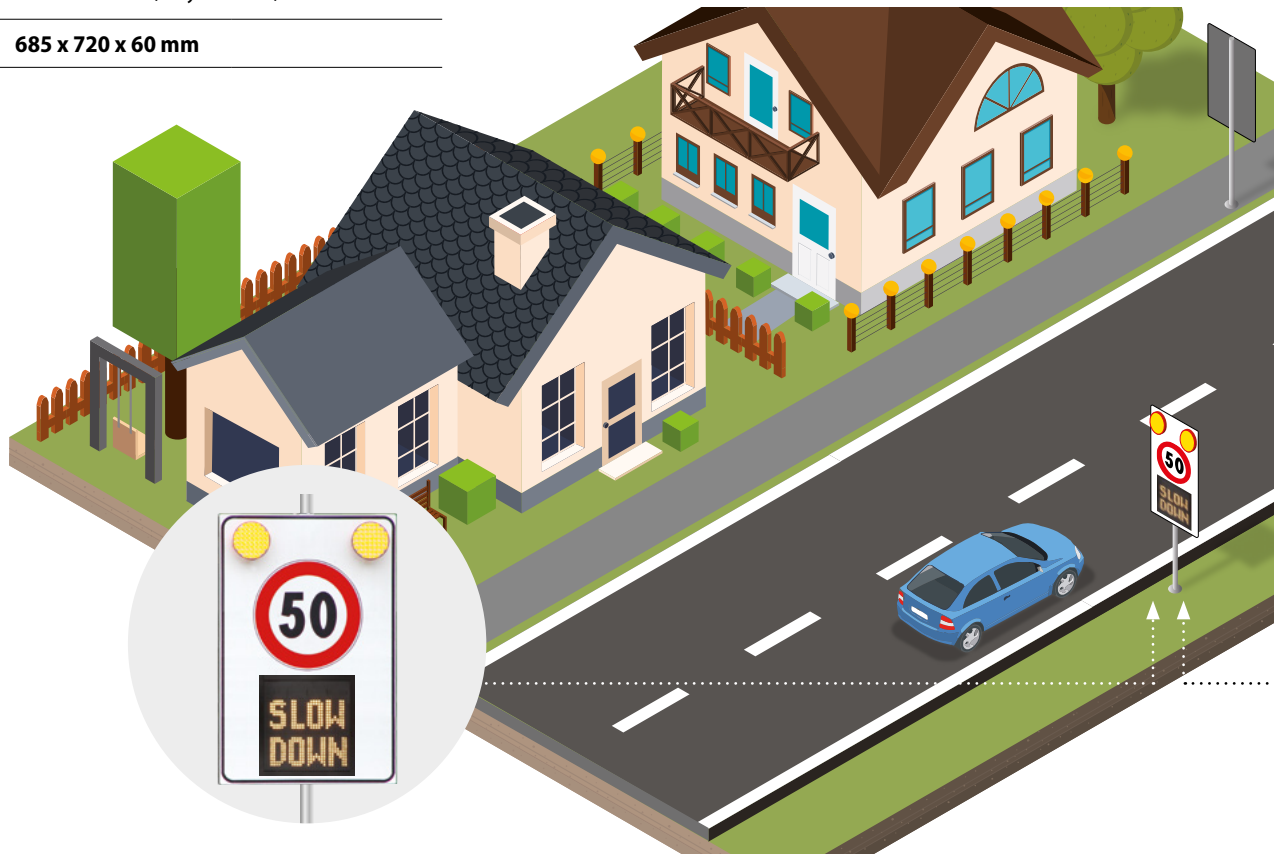
**Radar based**, *it is the ideal active signal to encourage safe driving in schools areas, road working zones, motorway intersections, etc.*

**All the options can be deactivated allowing to use the device in standard mode (only amber).**

*Some examples of views:*

| | | |
|---|---|---|
| **Bicolour display** | 48 | 67 |
| **Speed limit function** | 70 — ALTERNATING → FROM 1 TO 99 | |
| **Smile function** | 70 — ALTERNATING → smile / frown OR ! / ✓ | |

| | |
|---|---|
| LED colour | 🟡 🔴 🟢 ⚪ |
| Digit height max. | **30 cm** |
| Functions | **Smile + speed limit** |
| Powered by | Photovoltaic kit **50 W - 45 Ah** |
| | Power supply kit **230 VAC/12 VDC** |
| | Power supply/Battery kit **230 VAC/12 VDC 18 Ah Battery** |
| Software | **Included** / App Android |
| Connection | **Bluetooth** (100m outdooor) **RS232** — Optional: e-mail-GSM-GPRS-GPS |
| Vehicle detection | **Bidirectional** (only statistic) |
| Dimensions | **640 x 410 x 75 mm** |

DETECTED SPEED
50
70

# Indicator Cam

INDICATOR CAM is a mobile tool for speed enforcement on factory premises, supplied with 12V battery. **Exceeding the speed limit will trigger the recording of an image sequence.**

The storage images contain time and speed information.

These records can be retrieved over the factory network or directly by e-mail.



**Control panel**

Indicator CAM offers several interfaces (USB, Bluetooth, Wi-Fi, LAN, HSDPA) to download or transfer the collected data.

The control panel allows the user to change parameter settings on site.



**32 km/h**

02.03.2016 - 11:03:29 / +1000ms - image-sequence 1/3 -
detected speed = 32km/h
Location: Parcheggio 1 - I-25086 Rezzato - ID = 5678
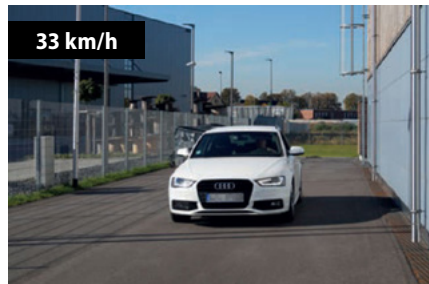


**33 km/h**

02.03.2016 - 11:03:29 / +1000ms - image-sequence 2/3 -
detected speed = 33km/h
Location: Parcheggio 1 - I-25086 Rezzato - ID = 5678



**35 km/h**

02.03.2016 - 11:03:29 / +1000ms - image-sequence 3/3 -
detected speed = 35km/h
Location: Parcheggio 1 - I-25086 Rezzato - ID = 5678

# Traffic 3000
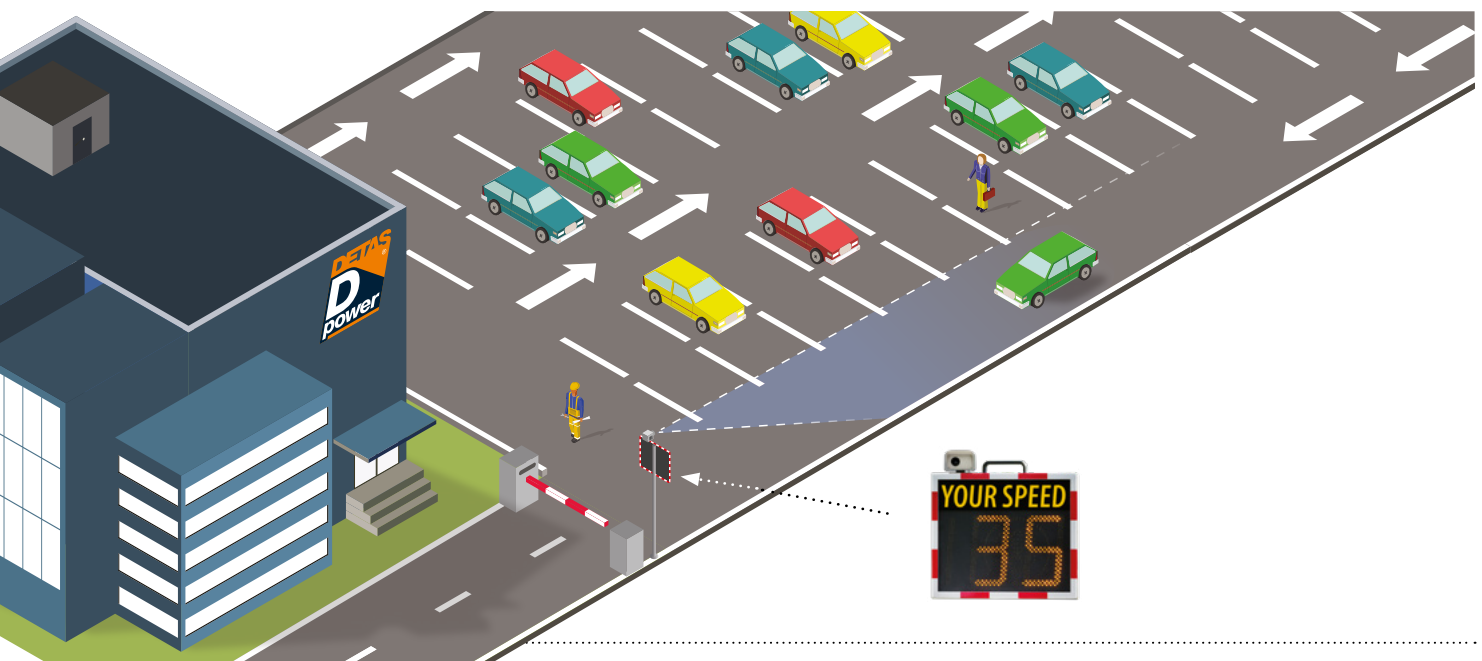
*Radar based* **traffic counter**

*powerful compact and easy to handle.*

*Easily installed on the side of the road from 1 to 3 m high.*

**Available e-mail version with GSM/GPRS/GPS.**

*The device automatically sends all stored traffic data, together with GPS position details (Google Maps compatible), by e-mail every 1 to 7 days (adjustable).*

*An e-mail or SMS will be sent if the battery voltage is low or the data storage is 95% full.*

| | |
|---|---|
| Powered by | **18Ah** Battery<br>2 weeks operating time |
| Software | **Included** |
| Connection | **RS232**<br>Bluetooth or e-mail versions,<br>GSM-GPRS-GPS optional |
| Vehicle detection | **1-255 km/h**<br>Arriving, leaving and bidirectional |
| Data | 10 speed classes - 5 vehicle classes<br>360.000 vehicles |
| Dimensions | **372 x 260 x 234 mm** |

## Vehicle distribution

1642 2%
4309 6%
4415 6%
12512 17%
50005 69%

- Due ruote
- Auto
- Furgoni/SUV
- Autocar/BUS
- Autoarticol
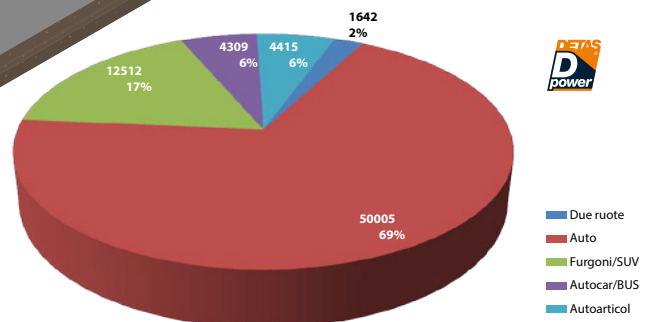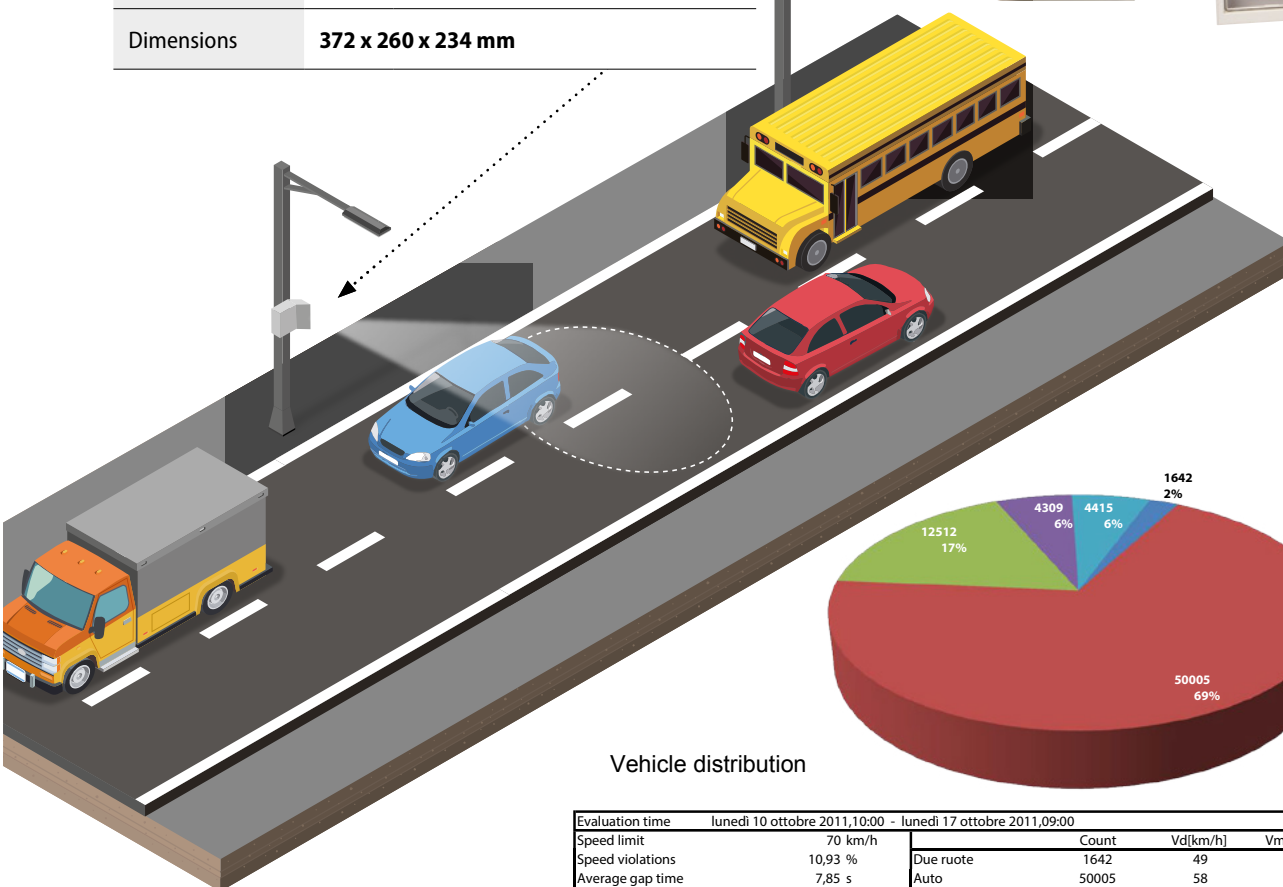
| Evaluation time | lunedì 10 ottobre 2011,10:00 - lunedì 17 ottobre 2011,09:00 | | | | |
|---|---|---|---|---|---|
| Speed limit | 70 km/h | | | | |
| Speed violations | 10,93 % | Count | Vd[km/h] | Vmax[km/h] | V85 [km/h] |
| Average gap time | 7,85 s | Due ruote | 1642 | 49 | 93 | 63 |
| Queue traffic | 32,00 % | Auto | 50005 | 58 | 120 | 69 |
| ADT | 10412 | Furgoni/SUV | 12512 | 58 | 109 | 69 |
| | | Autocar/BUS | 4309 | 55 | 101 | 65 |
| LGV traffic share | 11,97 % | Autoarticol | 4415 | 55 | 94 | 63 |
| Evaluation direction | Arriving | Total | 72883 | 58 | 120 | 68 |
| Adaptationer: | Mario Rossi | | | | |
| Comment: | Viale Italia | | | | |
| Location: | Brescia | | | | |
| Arriving vehicles from: | | | | | |
| Departing vehicles to: | | | | | |

# Animal Guardian 4

**Animal Guardian is an innovative device to prevent the fatal street crossing by the wild animals.**

*It's powered from a high efficiency solar module and it is working during the night emitting both a luminous signal and a constant sound.*

*The activation is given by the vehicle head lights.*

| LED colour | 🔵 🟠 🟢 **+ beep** |
|---|---|
| Powered by | **Photovoltaic panel** with auxiliary Li-Pol Battery |
| Working | 🌙 **Only night** |
| Fixing | **Screw** |
| Dimensions | **36 x 160 x 70 mm** |
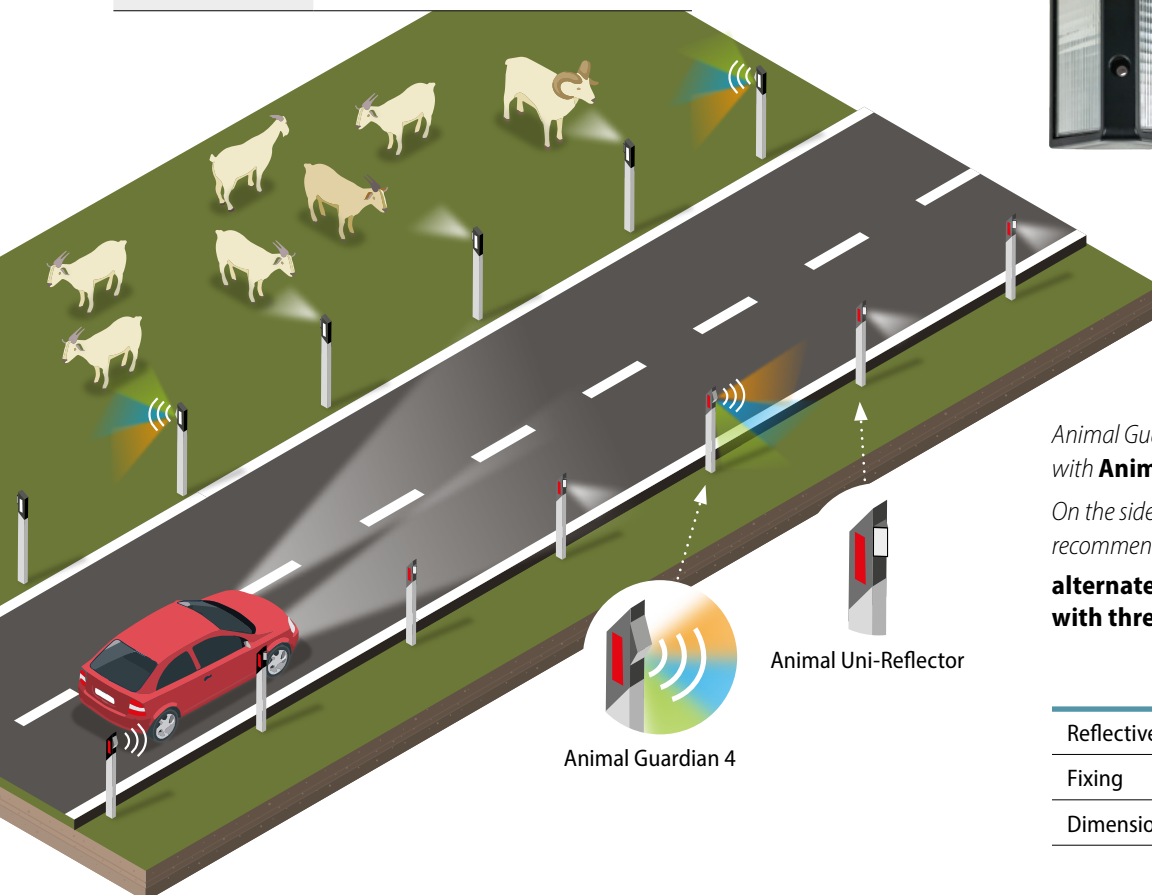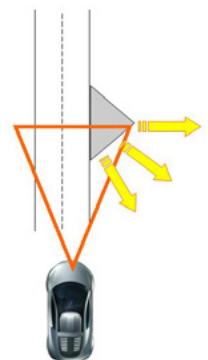
## Animal Uni-Reflector

Animal Uni-Reflector

Animal Guardian 4

*Animal Guardian can be integrated with **Animal Uni Reflector**.*

*On the side an example of minimum recommended installation:*

**alternate each Animal Guardian with three Animal Uni-Reflectors.**

| Reflective colour | ⚪ | 🔵 optional |
|---|---|---|
| Fixing | **Screw** | |
| Dimensions | **45 x 197 x 64 mm** | |

**TempoFlash is a safety device that advises the road users about the ice condition of the road surface.**

*When the outside temperature goes below 3°C the LED flashing double system activates.*

**The temperature can also be displayed.**

*Available version with a high precision temperature probe to insert directly into the ground.*

*The system sends an SMS at a set temperature and can be used in "remote control mode" at any time to obtain information (temperature, system status etc.).*





| Certification | Basic 201 | EN12352 L8H | |
|---|---|---|---|
| LED colour | 🟡 LED lights | 🔴 Display | |
| Powered by | **230VAC 12VDC** Power supply kit | **230VAC 12VDC** Power supply/ Battery kit | Photovoltaic kit |
| Power consumption | **13 W** max. | **+ 6 W** display | |
| Display | **740 x 310 x 70 mm** | | |
| Digit height | **20 cm** | Reading distance | **100 m** |
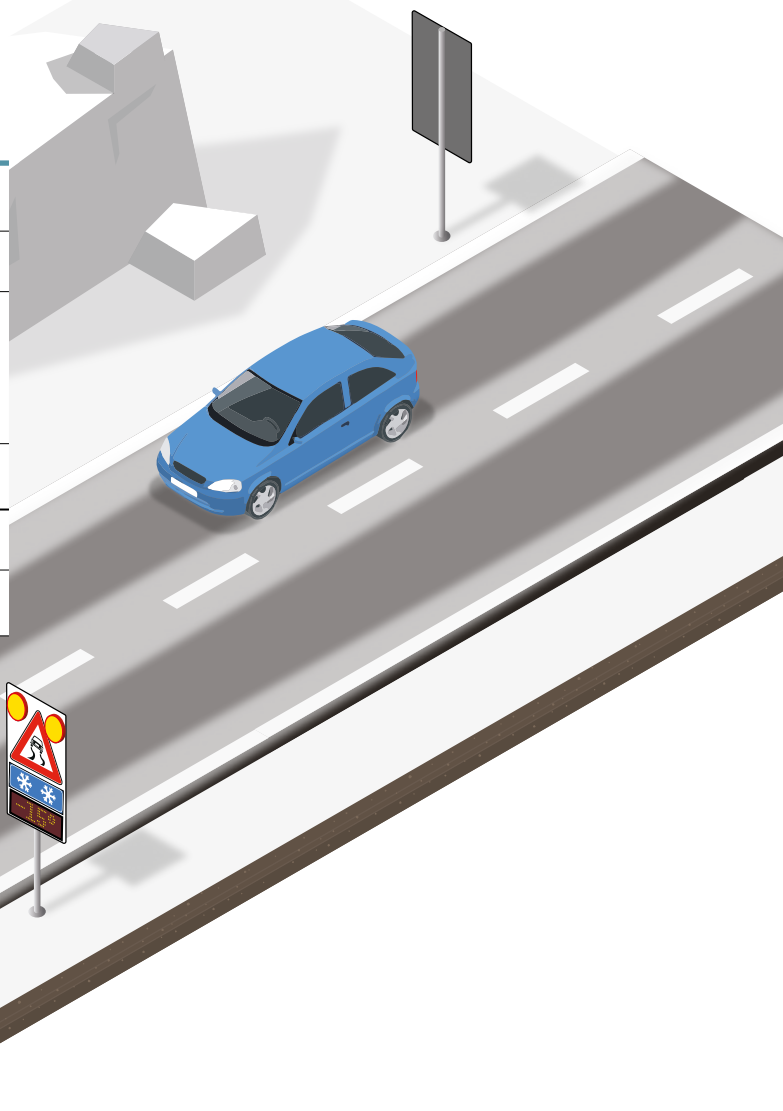
# Time Box

**Time Box** *is ideal for schools, companies or others applications where it is important that the signalization it activated only in some hours of the day with a weekly programming.*

**The system only operates at the scheduled time.**

*It's available also the **Time Box Pro** with which is possible, through an antenna, to synchronize different systems with each other for application like **Low Emission Zones**.*

| Certification | **Basic 201 EN12352 L8H** |
|---|---|
| Time Box consumption | 0,5 W (42 mA @12 V) |
| Time Box Pro consumption | 1 W (84 mA @ 12 V) |

Antenna for Time Box Pro

Power supply kit

Power supply/ Battery kit

Photovoltaic kit

**Time Box**

LEDBox

Traffic light

SCHOOL ZONE

Variable message panel
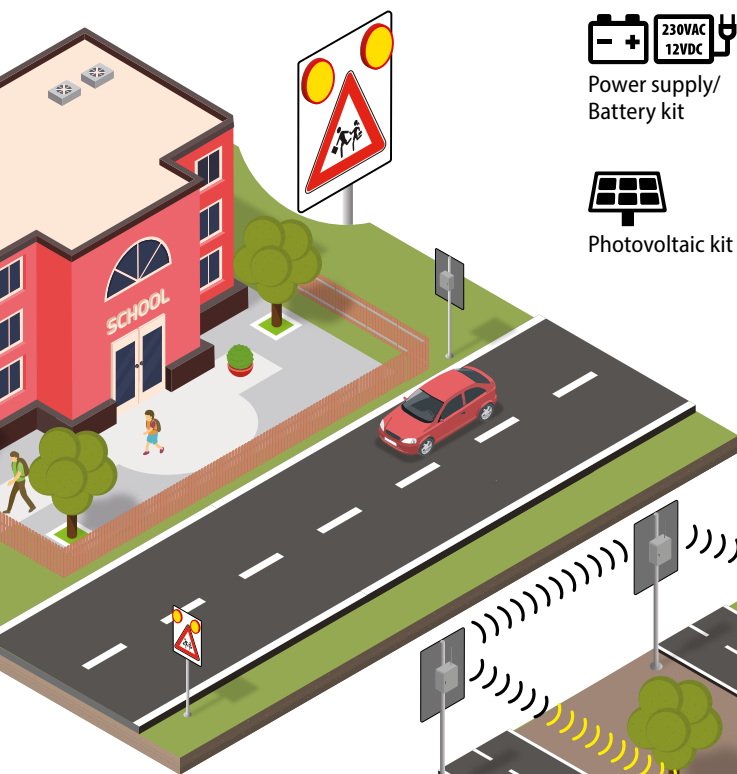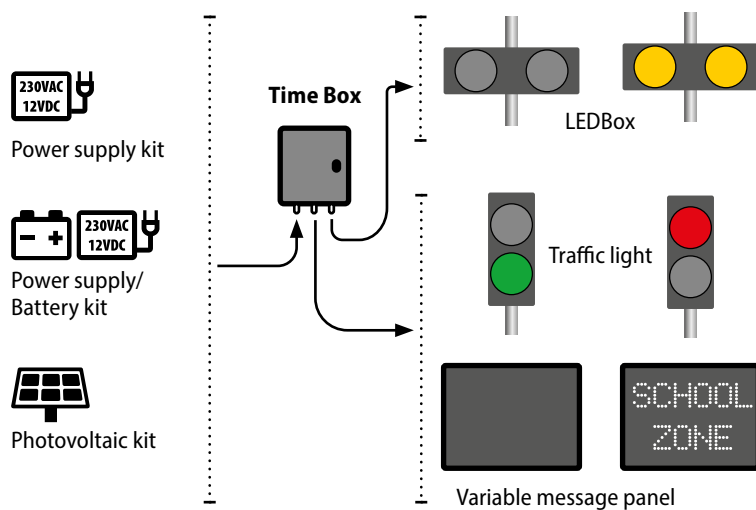
**Time Box** *application near school building*
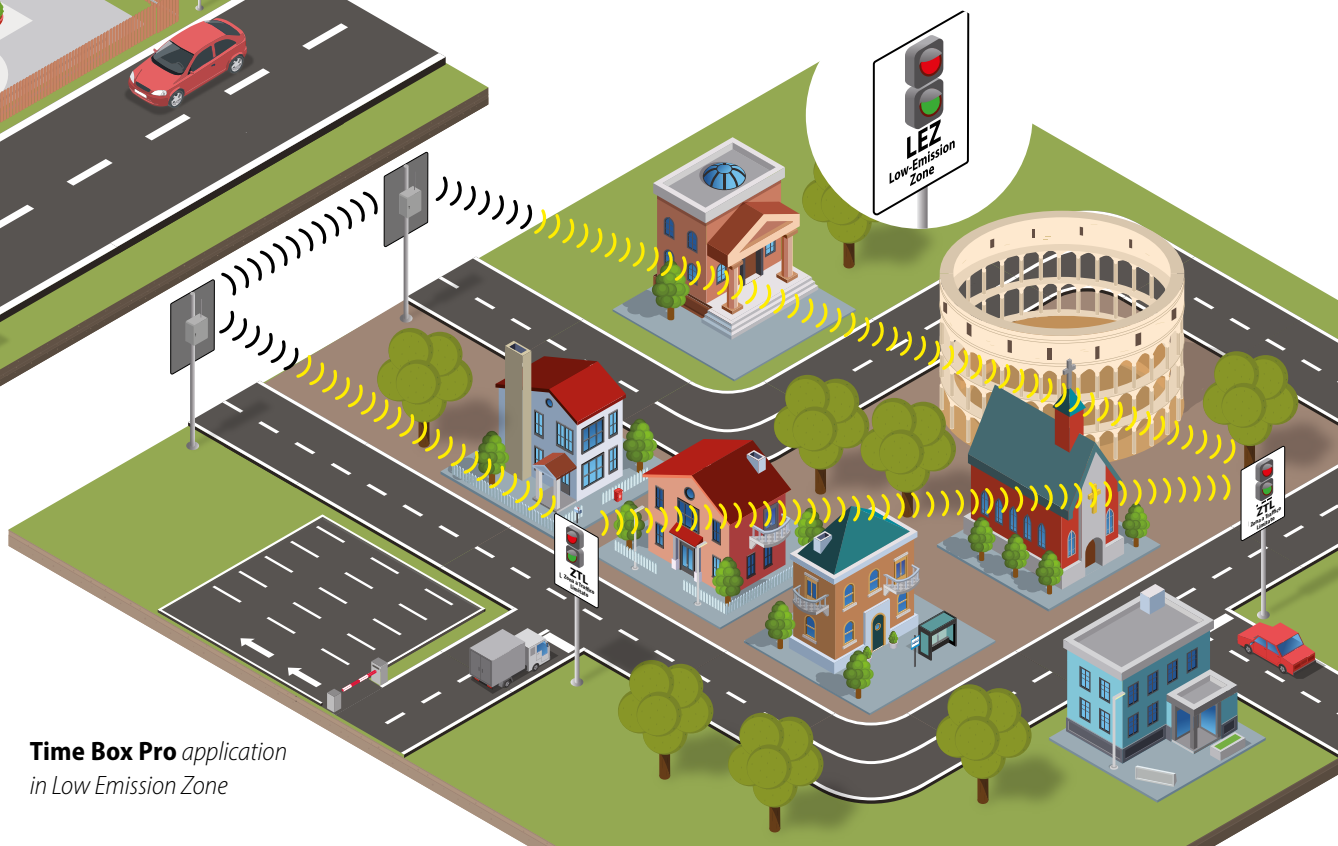
**Time Box Pro** *application in Low Emission Zone*

# Wrong Direction Vehicle Detector

**This system detects vehicles driving in the wrong direction using induction loops.**

*Photovoltaic power supply, 12 VDC or 230 VAC.*

*Control cabinet containing the CPU for managing and storing events, GPS module and control unit for LED flashers.*

*A **wireless** connection between the control cabinet and flashers is available.*

**Features:**

- Vehicle detection by inductive-loop traffic detectors
- Sends an SMS or E-mail in case of anomaly, mulfunction or low battery.
- the System is equipped with a modem that stores data of the wrong way events
- Different working logics are available together with different types of flashing for Basic 302/201/200 (50%,10% and triflash).
- **Optional camera to send via E-mail or ftp the images or videos of the events.**

*Optional:*

**Basic 304**

**Traffic light Ø300**

**Speaker**

**Camera**

**Induction loop**

**Control cabinet**

**Watch the video:**
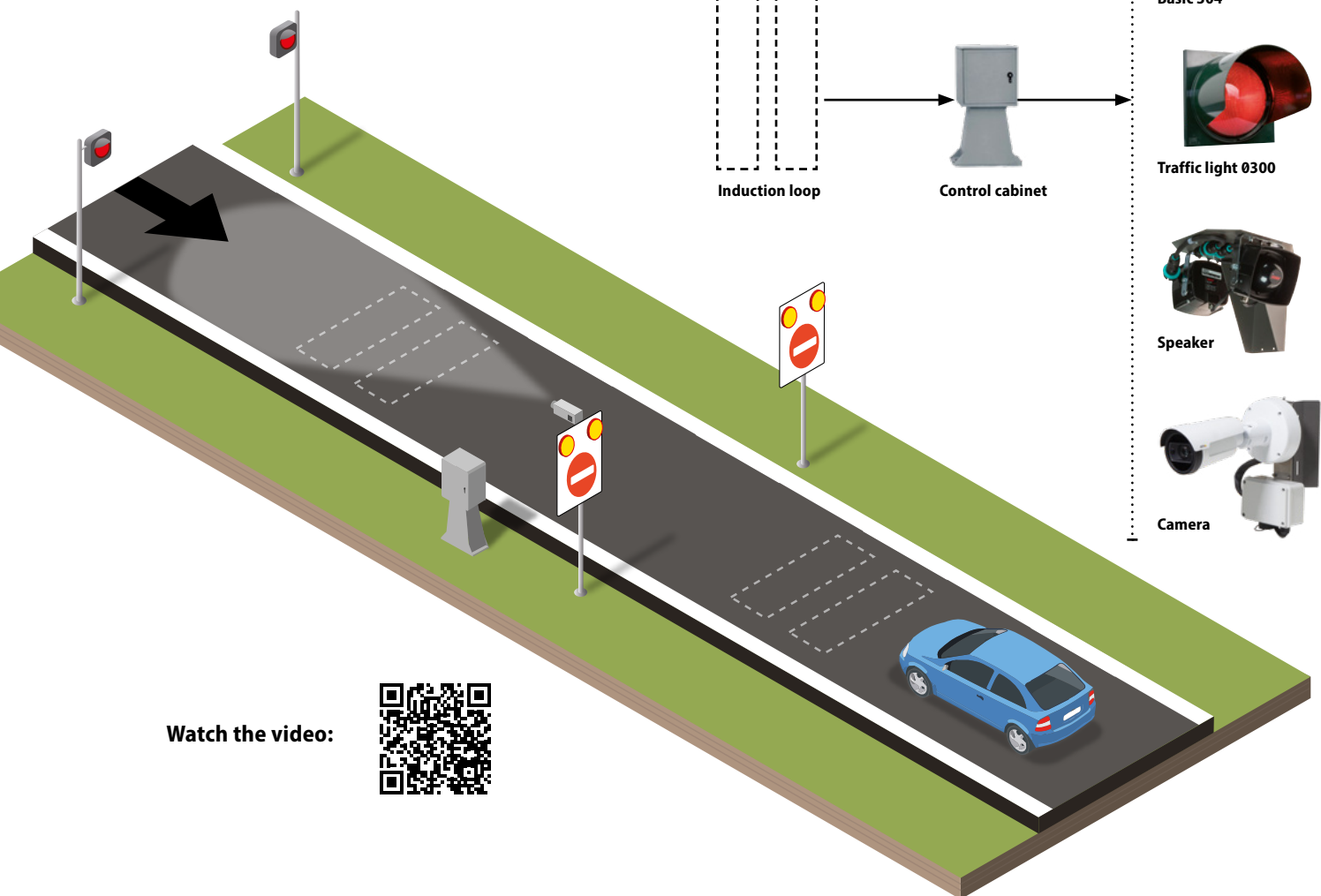
# Vehicle Height Detector

**The RAV is a system capable of detecting the height of vehicles in transit with only one sensor installed on the side of the road.**

*If the sensor detects that the maximum allowed height has been exceeded, the system*

*Activates a pair of flashers, a siren, a traffic light or a fixed message panel.*

*The RAV is i***deal for underpasses, tunnels, overpasses***, or any another application where exceeding the maximum allowed height can be dangerous.*

*It is possible to define the length and width of the area of detection and the minimum size of the object to be detected.*

*It is possible to have a* **wireless** *connection between the control unit and sensor in addition to the standard connection with cables.*

*The system is powered at* **230V**

**Sensor**  →  **Control unit**  →  
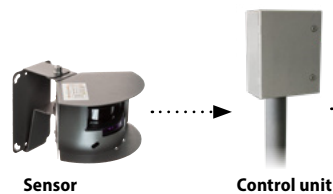
Optional:

**Basic 304**

**Basic 201**

**LED traffic lights**

**Speaker**

**LED panel**
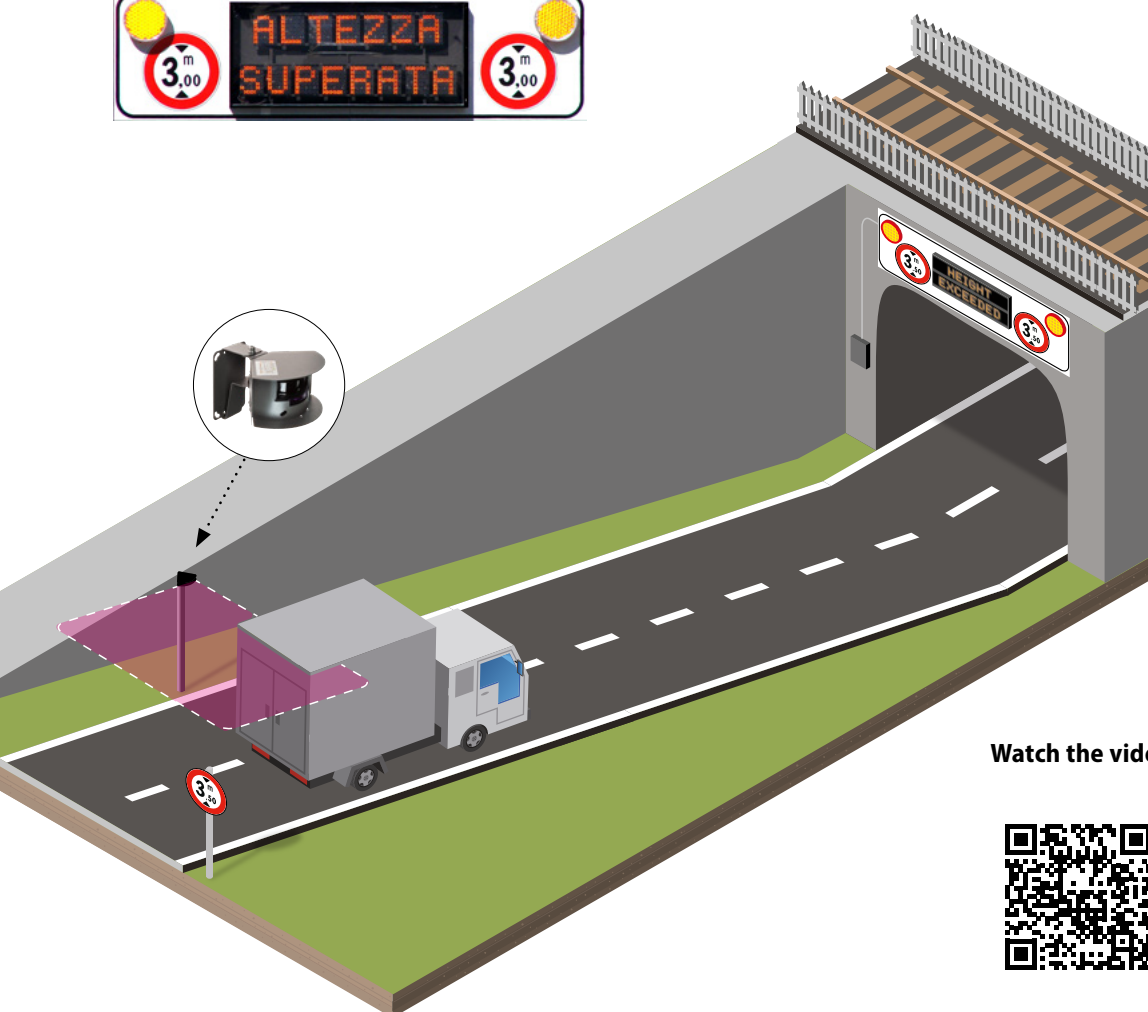
**Watch the videos:**

# Underpass Flood Detector

*RAS is a modular alarm system designed to warn road users in case of flooding of underpasses.*

*The **capacitive technology sensor** is highly reliable and is able to detect flooding and generate an alarm that is transmitted to the control unit.*

**The control unit is equipped with fixed or flashing outputs to which can be connected LED warning lights, traffic lights or LED message panel.**

*RAS can be integrated with a **4G router** to send an alarm to the competent authorities.*

*The system can be powered at **230V** or with a **photovoltaic kit.***

*Optional:*

**Sensor**

**Control unit**

**Basic 304**

**Basic 201**

**LED traffic lights**

SOTTOVIA ALLAGATO

**LED panel**

Ø 90    Ø 60    band-it
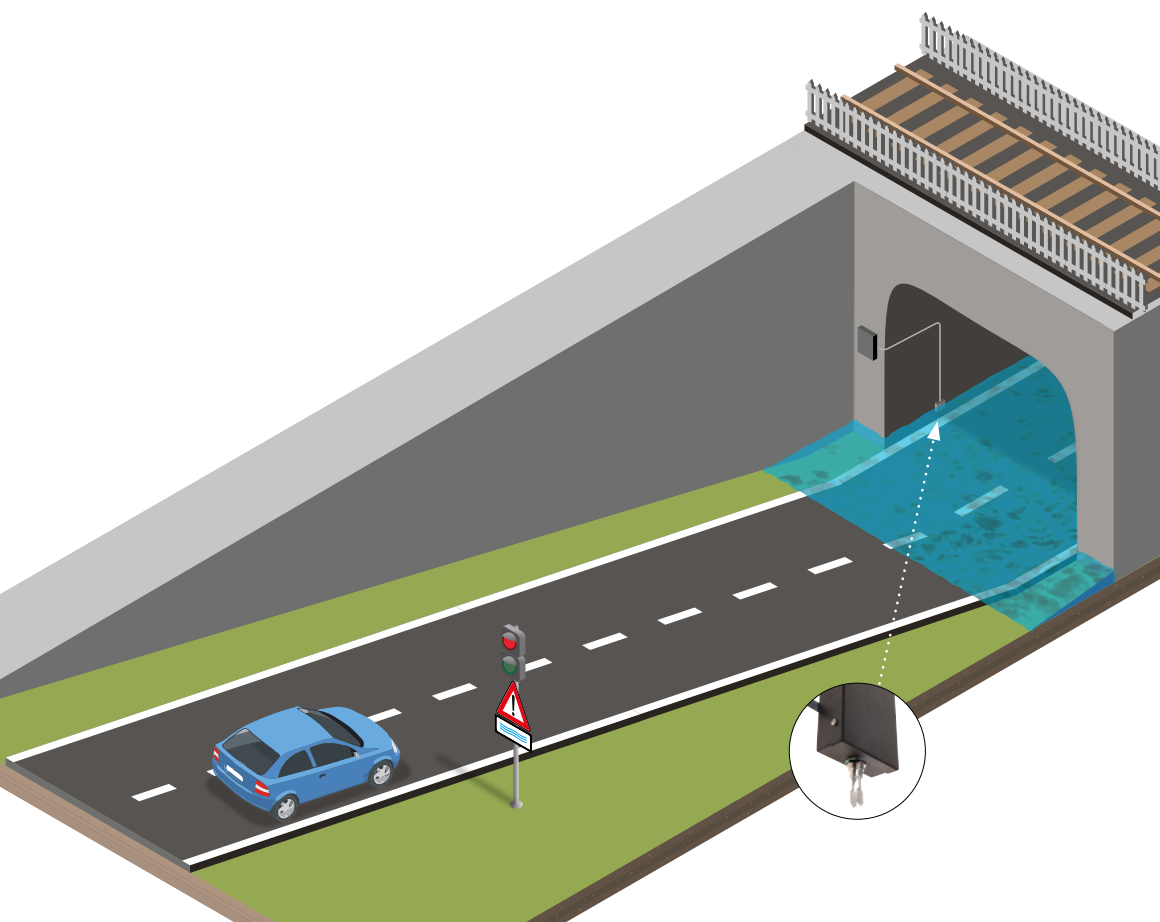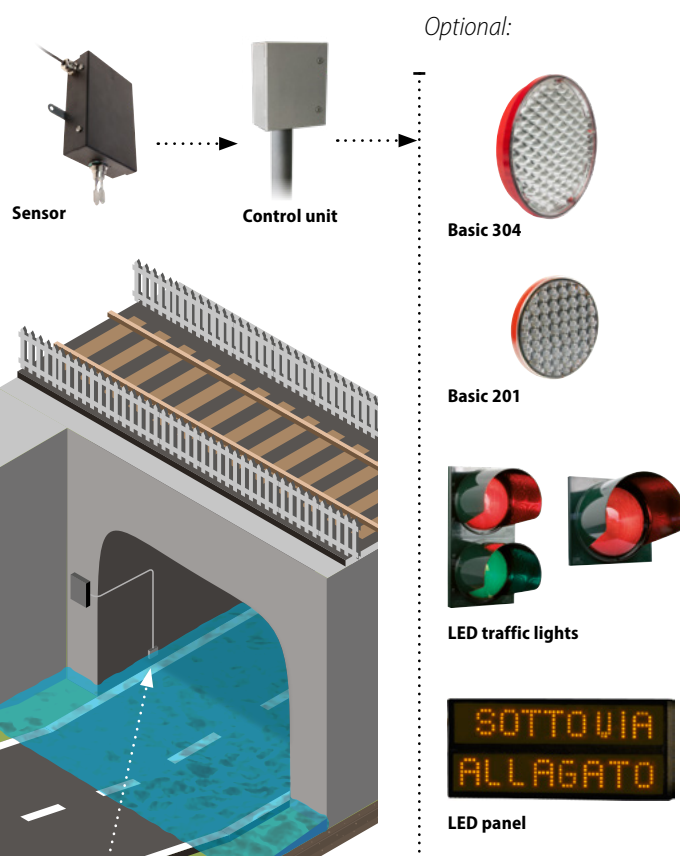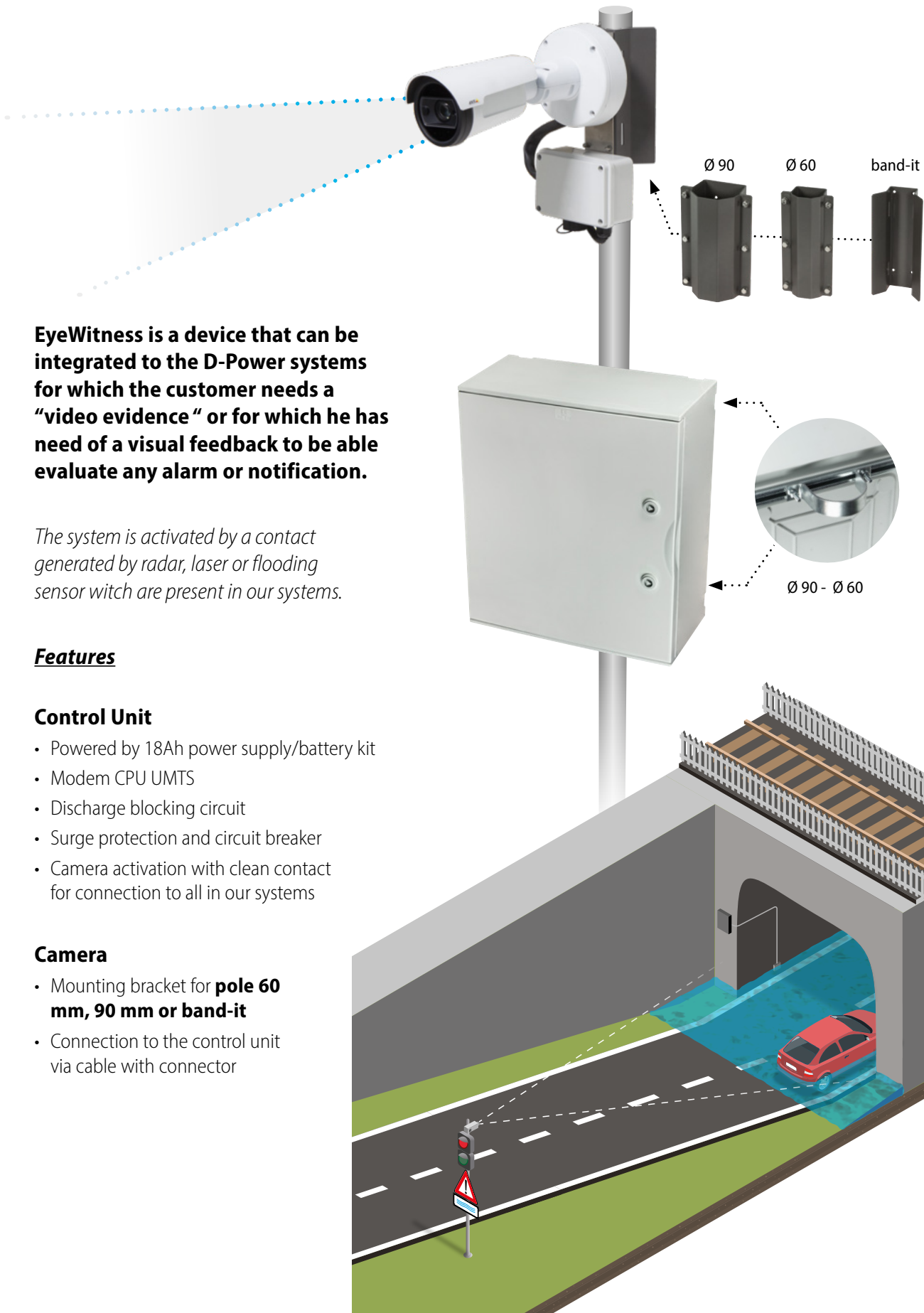
**EyeWitness is a device that can be integrated to the D-Power systems for which the customer needs a "video evidence " or for which he has need of a visual feedback to be able evaluate any alarm or notification.**

*The system is activated by a contact generated by radar, laser or flooding sensor witch are present in our systems.*

Ø 90 - Ø 60

## Features

### Control Unit

- Powered by 18Ah power supply/battery kit
- Modem CPU UMTS
- Discharge blocking circuit
- Surge protection and circuit breaker
- Camera activation with clean contact for connection to all in our systems

### Camera

- Mounting bracket for **pole 60 mm, 90 mm or band-it**
- Connection to the control unit via cable with connector

**The Blackout system provides an auxiliary power supply integrable in all systems in which is essential to report a power failure.**

*The power supply is activated directly from the lack of voltage on the line and provides power to the system with the included battery. The battery is automatically recharged from the line as soon as it is restored.*
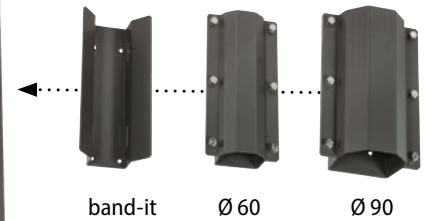
band-it        Ø 60        Ø 90

| Powered by | Power supply/ Battery kit | **230 VAC/12 VDC** **Battery 18 Ah** |
|---|---|---|
| Activated by | **lack of voltage on the line** | |
| Fixing | **band-it - Ø60 - Ø90** | |
| Dimensions | **28 x 36 x 11 cm** | |

Basic 304

Basic 201

**230 VAC**        **12 VDC**
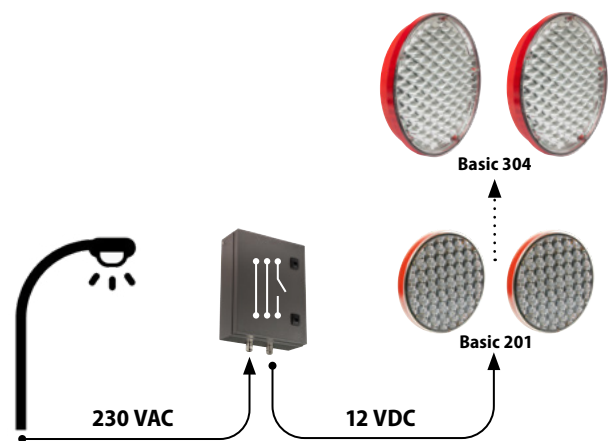
# Pedestrian crossing lighting systems

*At night and in poor visibility hours, the pedestrian crossings must be properly illuminated and signaled:*

## SIGNAL

**using LED flashers** *certified according to* **EN 12352** *and LED backlit signals according to* **UNI 12899**.

## ILLUMINATE

**an horizontal plan**, *highlighting the crossing with a minimum recommended light level of 100 lux (average)* **and a vertical plan**, *lighting perfectly the body of pedestrians making them visible, starting from the waiting area, extremely important factor to prevent accidents on crossings.*

*The LED luminaires* **Talos G and Talos N** *have been designed with a dedicated optic specifically to illuminate crossings, creating a positive contrast between the pedestrian and the surrounding environment, producing a* **very high vertical illumination** *level according to* **EN13201.**

# Lighting glossary
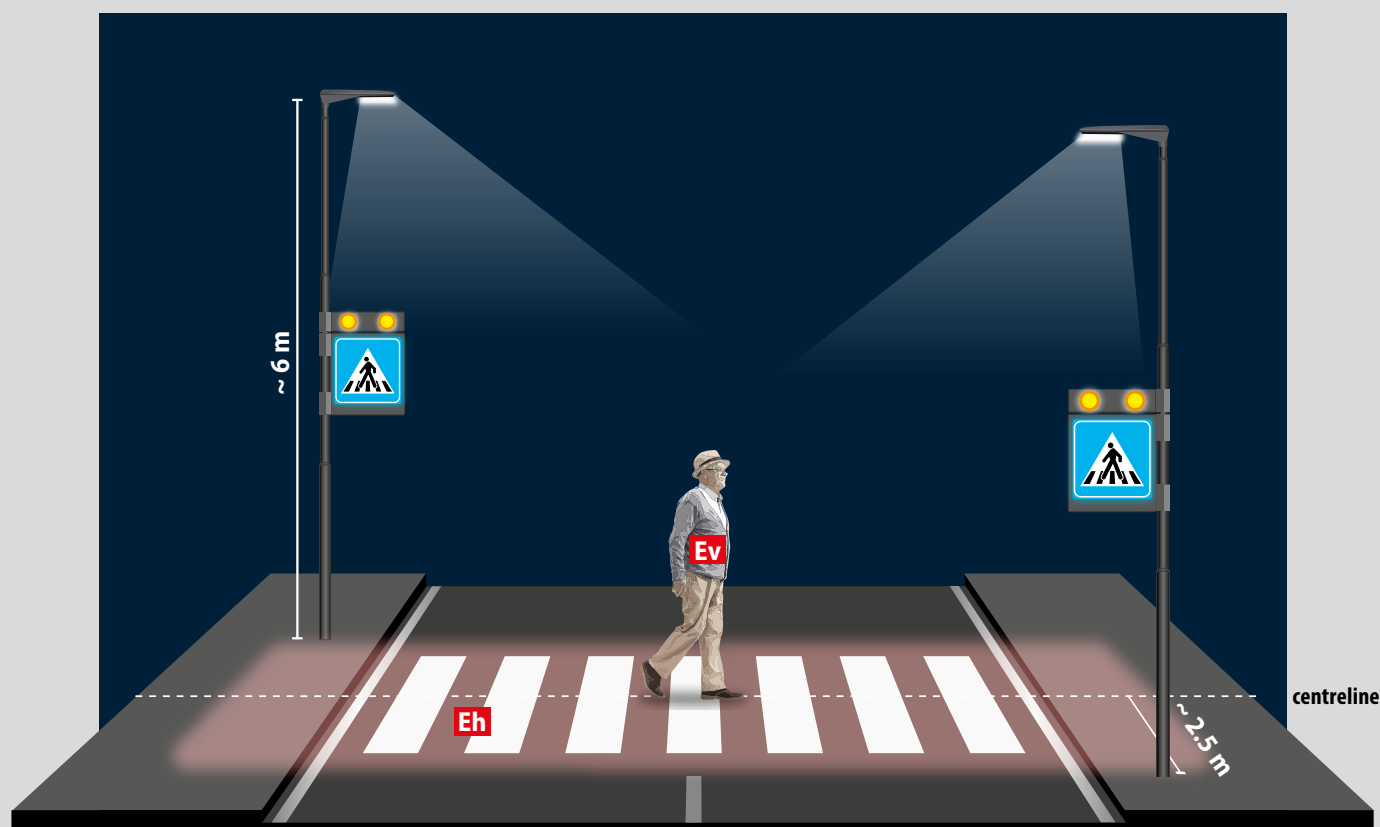
**Luminous flux [lumen]**

*The luminous flux is measured in lumens and represents the quantity of light produced from a fixture, hence it can't be measured on a point or surface.*

*It is a task of the optics to distribute this light properly on the crossing. For instance, a light fixture producing 15,000 lm, may provide less light on the crossing of a fixture producing 12,000 lm.*

**Illuminance [lux]**

*The illuminance is the quantity of light measurable on a plan of the crossing. It is measured in lux and in most of the cases the determining factor is the average illuminance and the overall uniformity (ratio between min lux and avg lux).*

**Horizontal illuminance Eh [lux]**

*Is the quantity of light measured on the horizontal plan [Eh] of the crossing. The high level achievable and the super concentrated beam allow an unmatched visibility and ease of **identification from distance of the crossing**.*

**Vertical illuminance Ev [lux]**

*Is the quantity of light measured on the vertical plan [Ev] of the crossing. The high level achievable allows the **maximum visibility of pedestrians**, creating a positive contrast with the surrounding environment.*

# APL Classic

*APL Classic is the first **signalling and illuminating system for pedestrian crossings** designed to achieve the highest levels of safety for pedestrians using the latest technologies.*
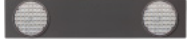
**Without APL**



**With APL**



## Components of APL Classic system

| LED streetlights | LED backlit signs - double side | | LEDBOX | |
|---|---|---|---|---|
| Talos G | 60 x 60 | 90 x 90 slim | 4 projectors Basic 102 | 2 projectors Basic 201 |
| | **Power supply** | | **ELV control unit** | |
| Talos N | Power supply/Battery kit | | (Extra Low Voltage) | |

## APL Classic 230

*The flashing lights are always active while the street lights and backlit signs only work at night.*
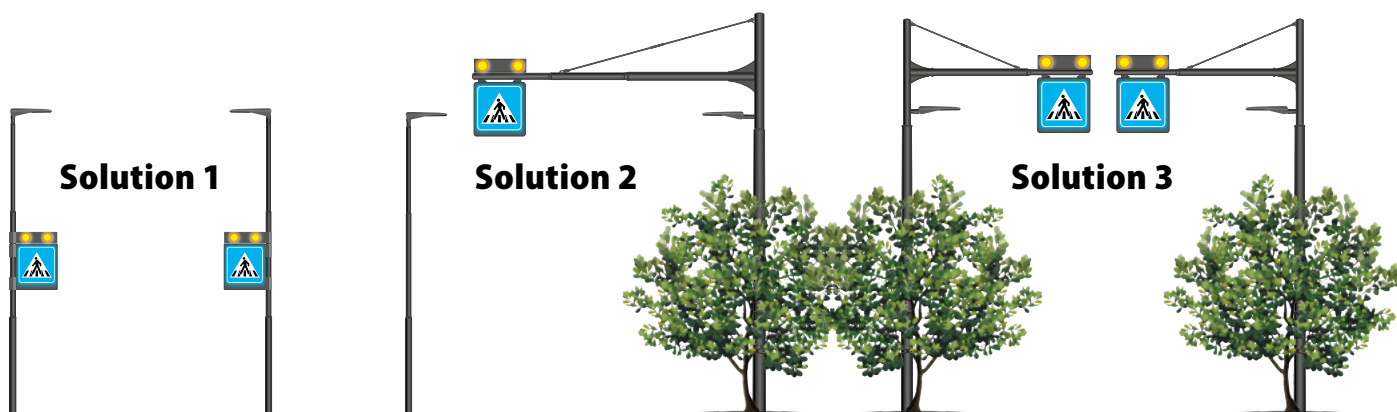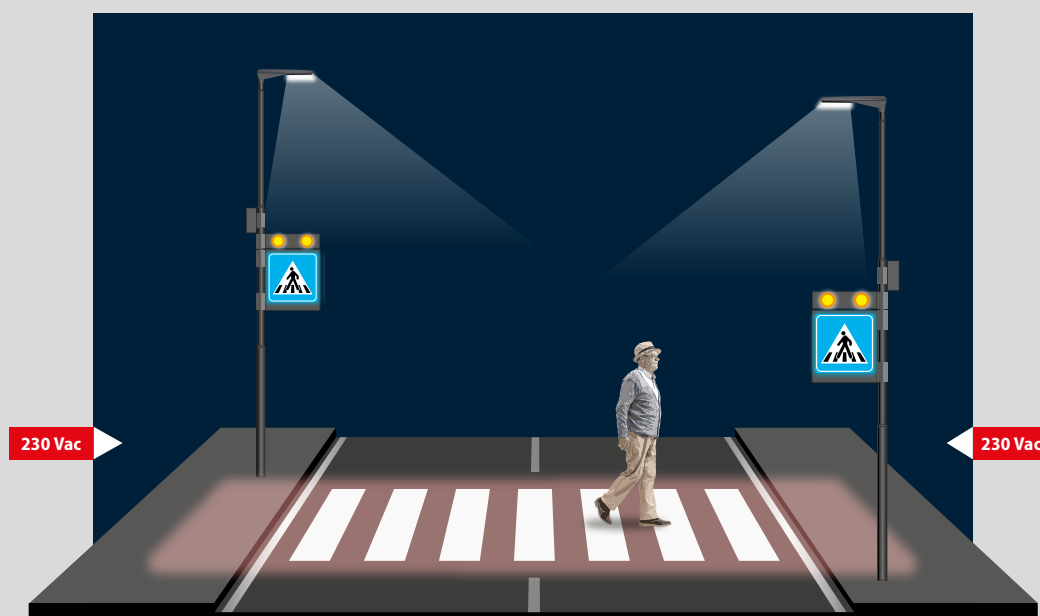


**230 Vac**    **230 Vac**

**Solution 1**

**Solution 2**

**Solution 3**

*Solutions 2 and 3 are suitable for installations on roads with limits above 50 km/h (e.g. 70)*

## APL Classic-ELV

**(Extra Low Voltage)** *is the first system for the signaling and lighting of pedestrian crossings in extra low voltage which makes it ideal for installations where the 230V power supply is available only on one side of the road, making the installation procedure and the crossing of the street with cables, safer and easier.*

**24 Vdc**

**12 Vdc**

**230 Vac**
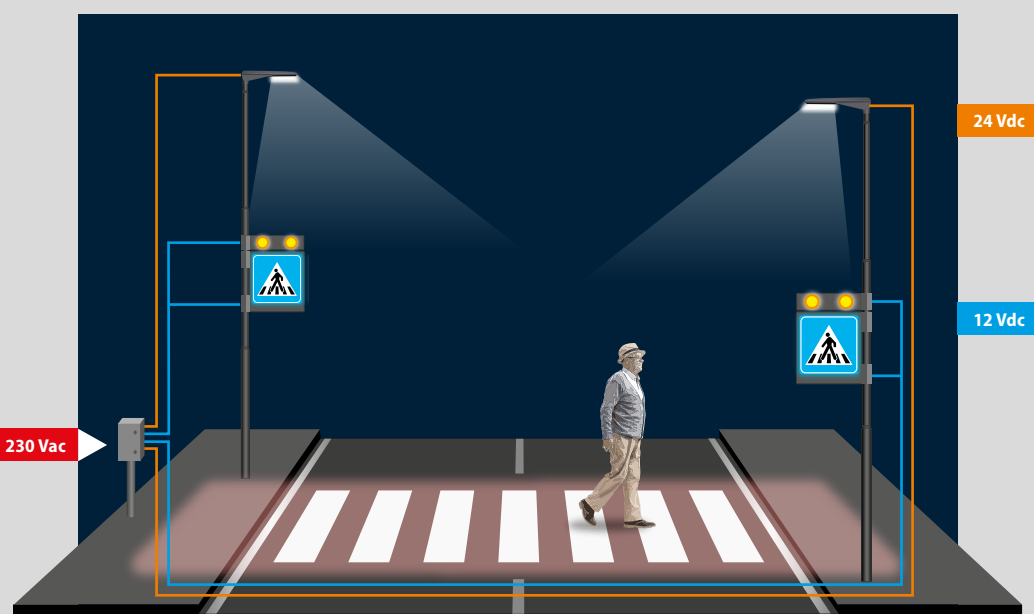
## Solution 4



**1**



**2**

| Components of solution 4 - APL Classic 230 | | | | |
|---|---|---|---|---|
| **LED streetlights** | **LED backlit signs - double side** | | **LEDBOX** | |
| Trilogy N | 90 x 90 slim | 90 x 90 bold | 2 projectors Basic 201 | Power supply/ Battery kit          Kit Astro |

**230 Vac**
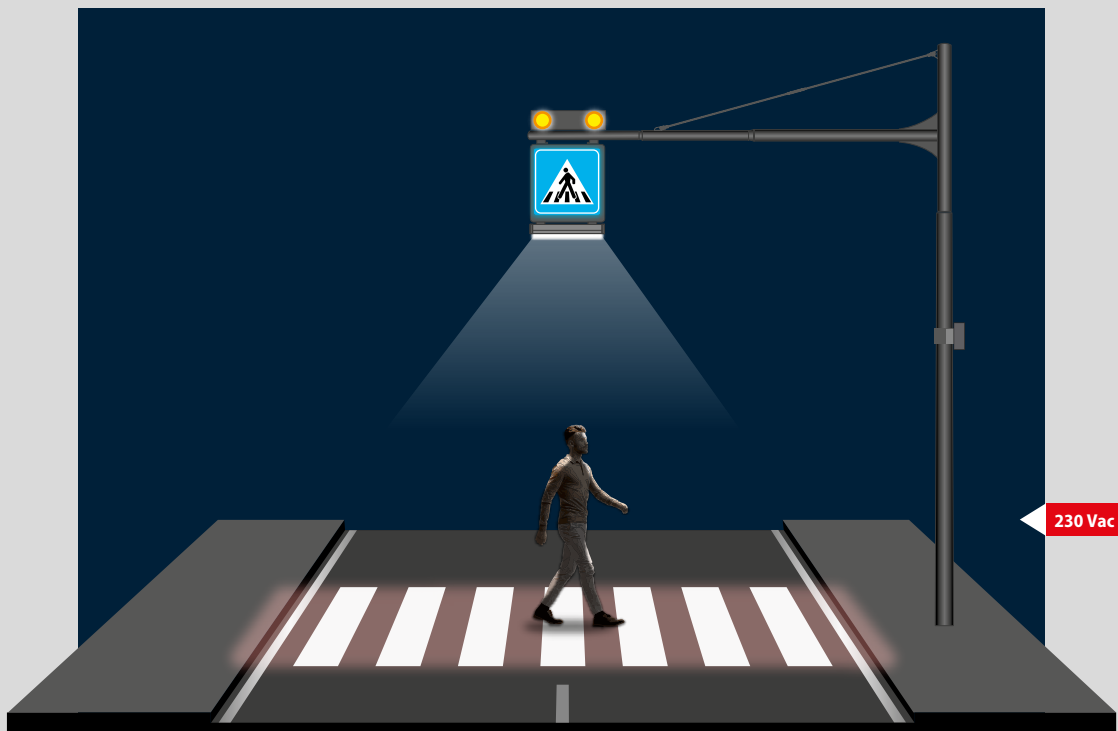
**The APL Classic Solution 4** *originated from a need to offer a product that can be used as a retrofit on old installations and for some applications where it is not possible to lay a pole on one side of the road.*

*This solution, however, does not comply with the* **UNI/TS 11726** *because it only guarantees good horizontal illumination but not the vertical one that is necessary to make the pedestrian visible.*

*As you can see in* **picture 1** *a pedestrian crossing exactly on the axis is visible even if not illuminated correctly.*

*If the pedestrian crosses on another area  (***picture 2***) for one traffic direction is going to be visible only thanks to the negative contrast that is created between its black shape and the background illuminated by the surrounding public lighting..*

*It is important to remember that, in order to prevent accidents, the pedestrian must be visible from the waiting areas and this solution does not reach an adequate level of vertical illuminance in such areas, especially on wide roads.*

## Solution 4
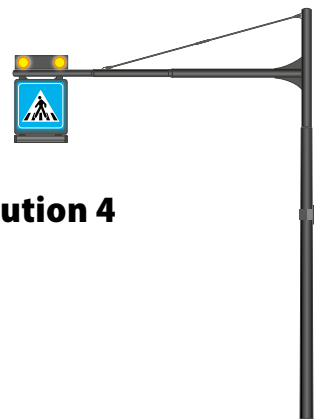


**Power Supply/Battery Kit** *has been created for connection of the public lighting network (available only at night), in addition to a flashing module for the LEDBox (L-50), it is equipped with a battery for operating the lights also during daytime.*

**Kit Astro** *has been created for connection to the 230V network (available 24 hours a day), and in addition to flashing module for the LEDBox (L-50), it is equipped with an astronomical switch that turns off the backlit sign and LED light fixtures during daytime.*

**ledpedestriancrossing.com**

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**DETAS SpA** D-Power division  - Via Treponti, 29 - 25086 Rezzato (BS) ITALY
Tel. +39 030 2594120 - info@d-power.com - **d-power.com**
ISO 9001 - ISO 14001 certified company

# APL Smart

*APL Smart is the latest evolution of* **signalling and lighting of pedestrian crossings** *created to make them* **interactive** *and safer.*

**1 - Stand-by 40%**



**2 - 100%**



## Components of APL Smart system

| LED streetlights | LED backlit signs - double side | | LEDBOX | |
|---|---|---|---|---|
| | 60 x 60 | 90 x 90 slim | 4 projectors Basic 102 | 2 projectors Basic 201 |
| Talos G | | | | |
| | **Control unit** | | **Activation devices** | |
| | **APL Smart** | **APL Smart wireless** | Sensor and push-button | Touch-button |

## APL Smart-ELV

**1** - *The system is activated by a* **push-button** *or by a* **sensor**.

**2** - *Thanks to the intelligent dimming the lighting level for the pedestrian crossing goes* **from 40% up to 100%**. **LED flashers** *start working.*
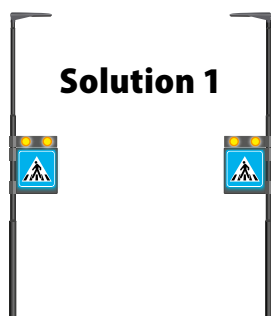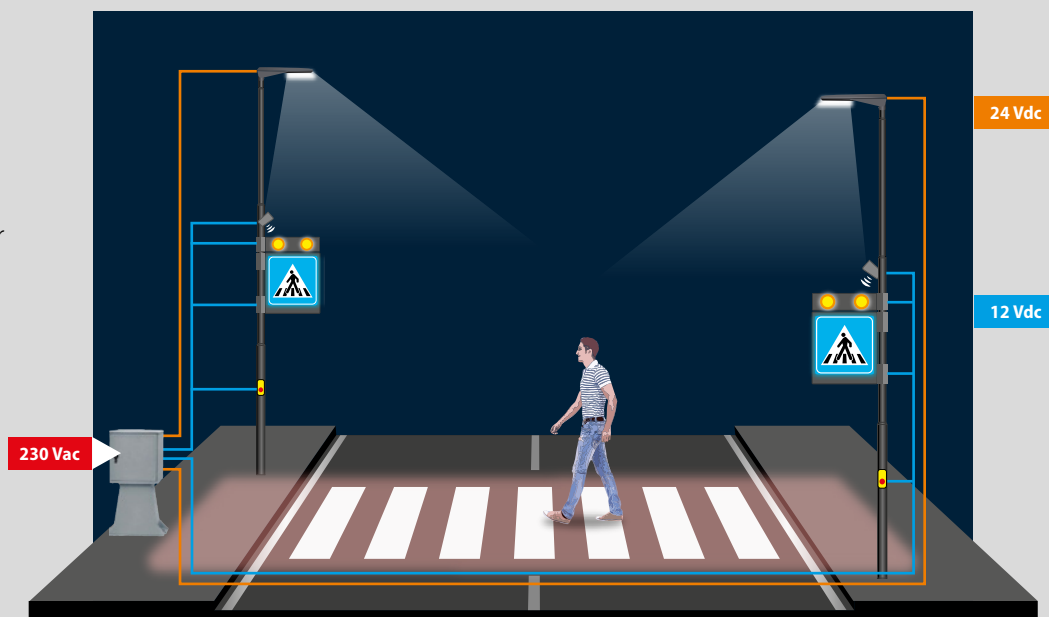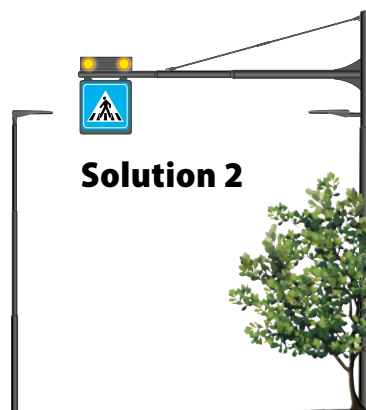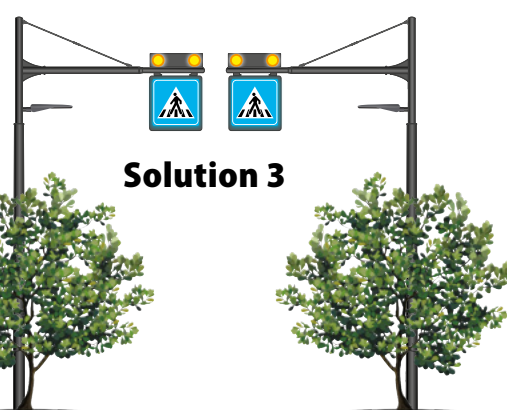


**24 Vdc**

**12 Vdc**

**230 Vac**

### Solution 1

### Solution 2

### Solution 3

*Solutions 2 and 3 are suitable for installations on roads with limits above 50 km/h (eg.* **70** *)*

## APL Smart wireless 230

*Does not require wiring inside the road.*

*Available only with Talos G.*

**230 Vac**

**230 Vac**
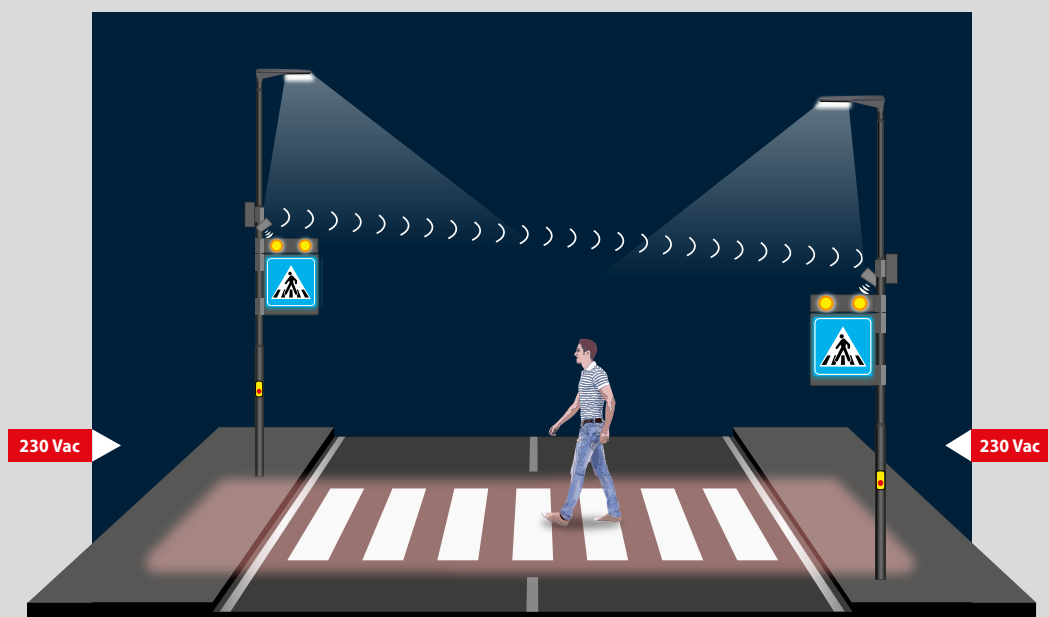
*APL Solar combines the technological advantages of our LED APL solutions with the need to install such systems in* **areas not covered by AC network**.





## Components of APL Solar system

| LED streetlights | LEDBOX | Photovoltaic kit | APL Solar active wireless module | APL Solar active activation devices |
|---|---|---|---|---|
| Talos N | 4 projectors Basic 102 | 140 W | | Sensor and push-button |

## APL Solar

*Even if with lower power comparing to AC APL (APL Classic and APL Smart), the APL SOLAR (with Talos N 18W) can guarantee sufficient* **horizontal and vertical illuminace** *levels in compliance with the* **EN 13201** *and a good warning system thanks to the LED warning lights certified and approved according to* **EN 12352**.

*In the* **Photovoltaic Kit** *battery and charging regulator are integrated with the PV module. In this way we can avoid to use an external box.*

*Peak power* **140 W.**

**12 Vdc**

**Solution 1**
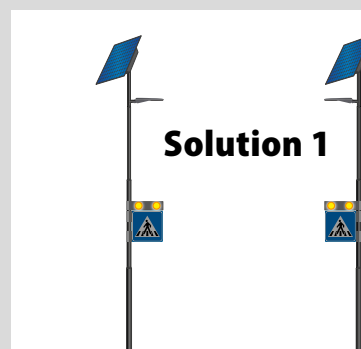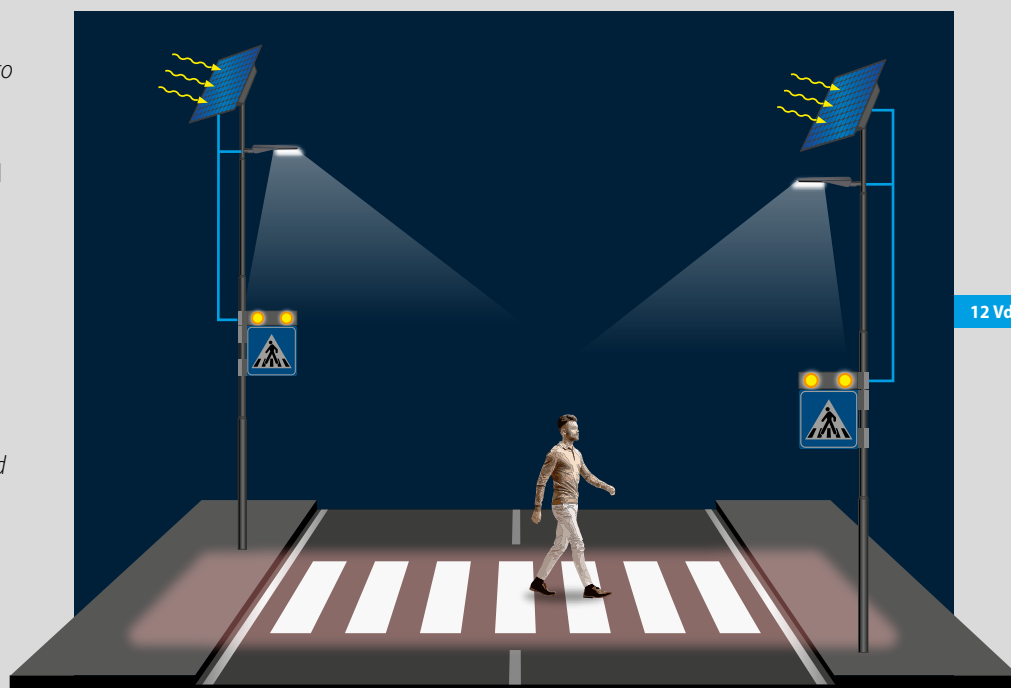
## APL Solar active

- *Lighting is activated automatically at night to allow a basic safety level and makes the crossing visible to drivers and pedestrians*

- *The LED flashers are activated by* **push button or motion sensor**. *A wireless connection activates immediately the flashers of the opposite side*

**12 Vdc**

**APL**
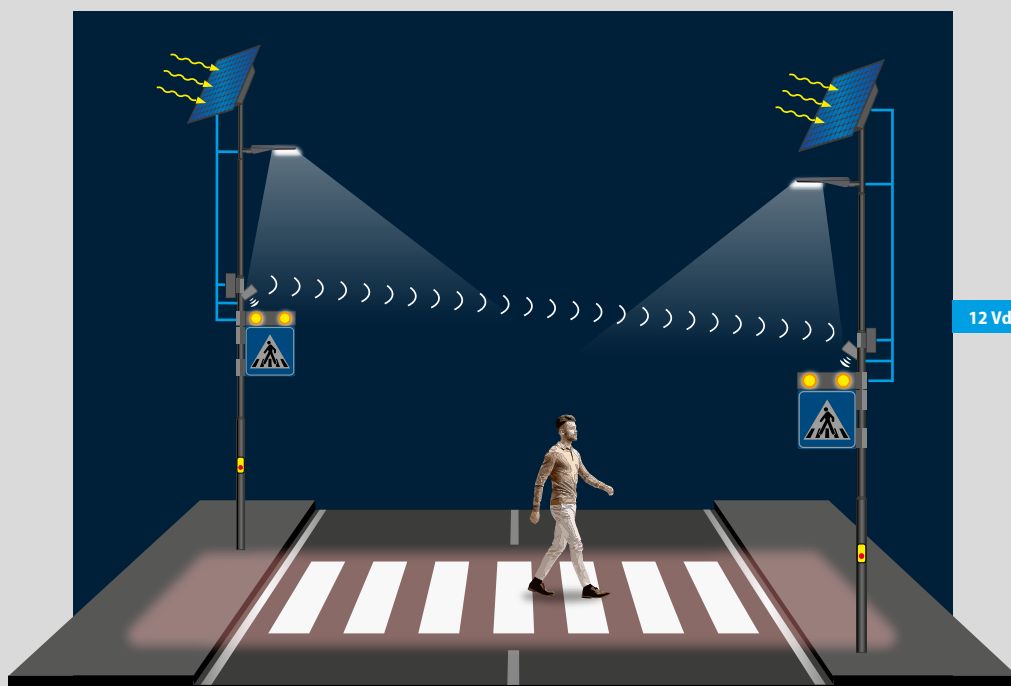


**TALOS G**



**TALOS N**
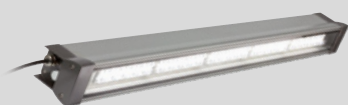


**TRILOGY N**



**DOUBLE SIDE 90X90 SLIM**



**DOUBLE SIDE 90X90 BOLD**



**DOUBLE SIDE 60X60**

**LED Streetlights** with dedicated double asymmetric optic targeting the highest classes **EV** of the **EN13201.**

| | | | |
|---|---|---|---|
| Compliance | **EN13201** | Certification | |
| LED optics | **Asymmetric L -R**  Specific for pedestrian crossing | | |
| Input voltage | **230 VAC** | **24 VDC** | **12 VDC (**APL Solar) |
| Power cons. | **TALOS G**<br>**TALOS N** | **137 W**<br>**68 W** | **18 W (**APL Solar) |
| Material | **Die-cast aluminum SUPERCAST®** | | |
| Mounting | **Ø60** | | |
| Dimensions | **TALOS G**<br>**TALOS N** | **690 x 360 x 225 mm**<br>**500 x 260 x 195 mm** | |

**LED bar specifically designed for pedestrian crossing.** The narrow optic is able to deliver very high horizontal values on the zebra crossing. It is used in combination with 90x90 backlit signs.

| | |
|---|---|
| Compliance | **EN13201** |
| LED optics | **Symmetric**   Specific for pedestrian crossing |
| Input voltage | **230 VAC**          **12 VDC** |
| Power cons. | **45 W** |
| Material | **Aluminum**          Adjustable bracket included |
| Dimensions | **80 x 91 x 1000 mm** (w/o bracket) |

Our **backilluminated LED signs** are extremely important to make the pedestrian crossing visible from long distances. The perfect uniformity and luminance values of the signs are our competitive advantage.
The backilluminated sign LED 90x90 can be equipped with lower LED Trilogy bar.

| | | | |
|---|---|---|---|
| Compliance | **EN12899** | | |
| LED colour | ◯ **Double side** | | |
| Input voltage | **230 VAC - 12 VDC** | | |
| Light emission area | **90 x 90 cm** | **90 x 90 cm** | **60 x 60 cm** |
| Power cons. | **51 W** | **46 W** | **36 W** |
| Mounting | **Tilting system** | **Tilting system** | **Ø60 - Ø90 mm Band-it** |
| Dimensions | **1000 x 1000 x 62 mm** (w/o bracket) | **1065 x 1103 x 200 mm** (w/o bracket) | **645 x 735 x 68 mm** (w/o bracket) |

# The components

**LEDBOX BASIC 102**
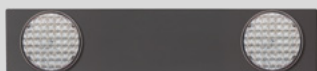
**LEDBOX BASIC 201**

**SENSOR AND PUSH-BUTTON**     **TOUCH-BUTTON**

**LEDBOXes** are devices with certified LED projectors to be combined with our backlit to increase visibility of the pedestrian crossing especially during the daytime.

| | | |
|---|---|---|
| Certification | Basic 201<br>Basic 102 | **EN12352 - L8H**<br>**EN12352 - L2H** |
| LED colour | 🟡 | Basic 201 x 2 (single side)<br>Basic 102 x 4 (double side) |
| Input voltage | **230 VAC** | **12 VDC** |
| Power cons. | Basic 201<br>Basic 102 | **15 W**<br>**15 W** |
| Fixing | Pole | **Ø60 - Ø90**<br>**Band-it** |
| Box dimensions | | **600 x160 x 60 mm**<br>**900 x 210 x 120 mm** |

**Activation devices.**
The sensor and the buttons make the system interactive and safer.

| | |
|---|---|
| Certification | CE |
| Input voltage | **12 VDC** |

## Control and power supply units

**CONTROL UNIT**

Fiberglass cabinet, base, power supplies, timer, flashing control module, predisposition for Pb AGM battery, battery charging system.

**CONTROL UNIT CLASSIC ELV**

Fiberglass cabinet.
Pole with fixing bracket.

Power supplies, protections and flashing control module.

**WIRELESS CONTROL UNIT**

Akzo900 powder coating metal cabinet, timer power supply, flashing/ radio control module, battery charging system.

Battery: 9Ah Pb AGM
Mounting: band-it / pole Ø90 mm

**KIT ASTRO**

Time Box Astro has been created for connection to the 230V network (available 24 hours a day), and in addition to flashing module for the LEDBox (L-50), it is equipped with an astronomical switch that turns off the backlit sign and LED light fixtures during daytime.

Flashing: L50
Flash 10%
Mounting: band-it / pole Ø90 mm

**POWER SUPPLY/ BATTERY KIT**

Power Supply/Battery Kit has been created for connection of the public lighting network (available only at night), in addition to a flashing module for the LEDBox (L-50), it is equipped with a battery for operating the lights also during daytime.

Battery: 12Ah - 18Ah
Flashing: L50
Flash 10%
Mounting: band-it / pole Ø90 mm

**PHOTOVOLTAIC KIT**

The battery and the charging regulator are **integrated with the PV module**. In this way we can avoid to use an external box.

Peak power: 190 W
Battery: 90 Ah
Output voltage: 12 V
Mounting: pole Ø90 mm

## Safety system for crosswalks with pedestrian radar and flashing lights.

**1.** *The system starts to work when a pedestrian approaches the crosswalks zone within the sensor area.*

**2. The LED lights flash on both sides of the road through a wireless communication.**

*No wiring inside the road.*

*Easy installation on existing signs.*

*Energy saving function.*

*Increased noise immunity.*

*New flash functions available.*

**PHOTOVOLTAIC KIT 20 W**

**PEDESTRIAN SENSOR**

**TOUCH BOTTON**

**LEDBOX FLAG BASIC 102**

**LEDBOX BASIC 201**
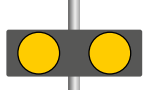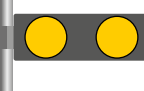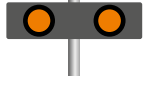
Single-sided

double sided

| Certification | Basic 201 | **EN12352 - L8H** |
| --- | --- | --- |
| | Basic 102 | **EN12352 - L2H** |
| LED colour | 🟡 | |
| Powered by | Photovoltaic kit | **20 W - 18 Ah** |
| Activated by | **Pedestrian sensor** | |
| | **Touch button** | |
| Fixing | **Ø60** | |
| | **Ø90** | |
| Box dimensions | Basic 201 | **600 x 210 x120 mm** |
| | Basic 102 | **600 x 160 x 60 mm** |
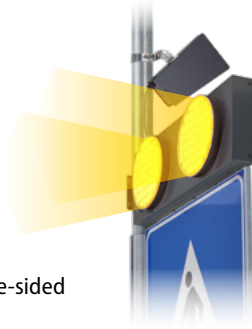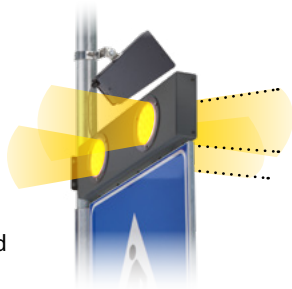
**Possible configurations:**

| Powered by | Activated by | LED Box |
| --- | --- | --- |
| Photovoltaic kit | Pedestrian sensor | Basic 201 Single side |
| | | Basic 201 Single side |
| | Touch button alternatively | Basic 102 Single side |
| | | Basic 102 Double side |

**Activation of LED lights**

**SENSOR Height 3 m**

**DETECTION AREA 0,30 x 4 m**
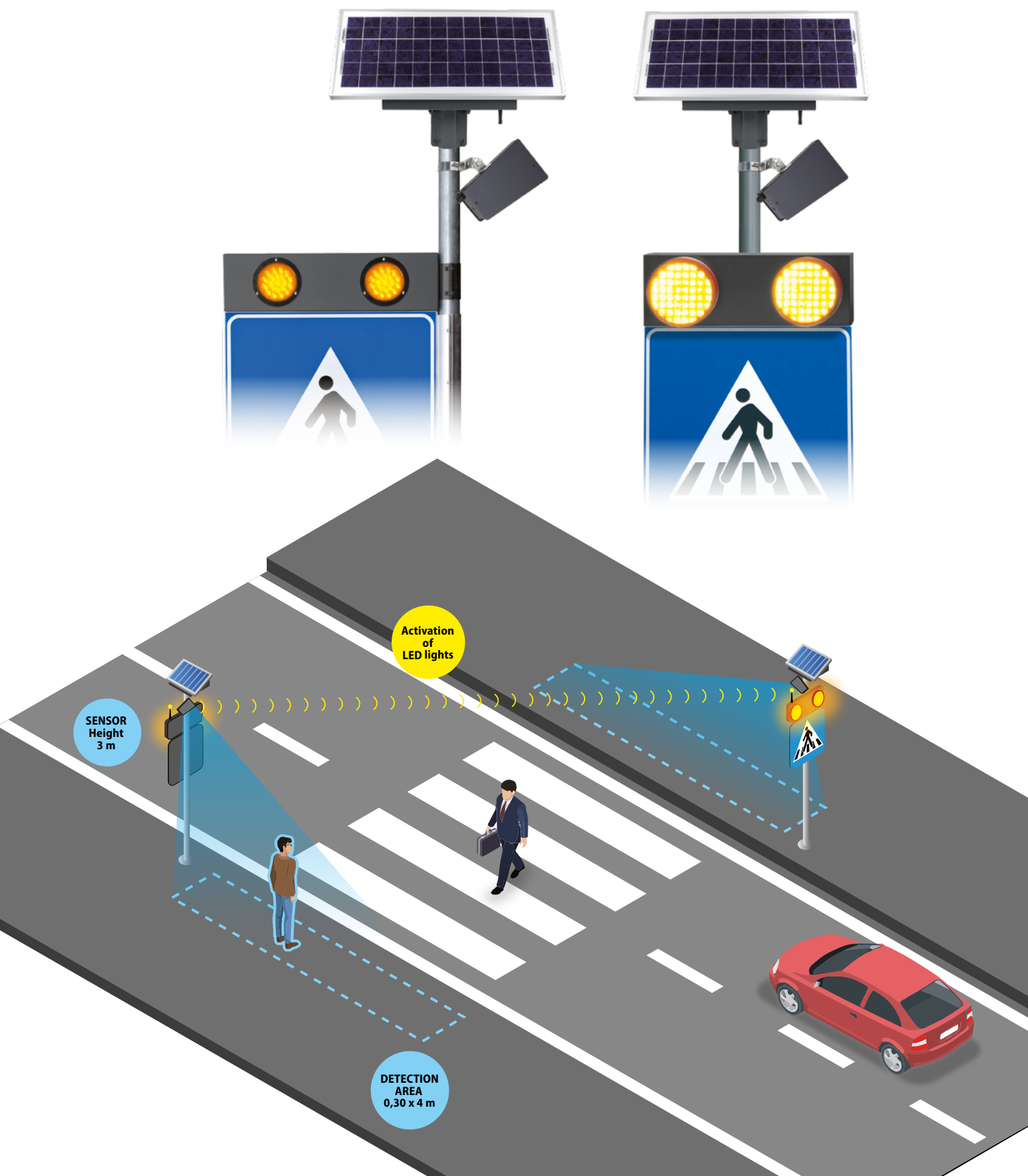
# Trilogy Bust

*The easiest and less expensive way to properly* **light places not reachable by the power grid.**

*Ideal for:*

- **bus shelters**
- **canopies**
- **gates**
- **gardens**
- **patio**
- **kiosks**
- **advertising signs**



**TRILOGY**

| | |
|---|---|
| LED colour | ○ **5700 K** |
| Powered by | Photovoltaic kit **20 W** |
| Autonomy | **>7 days** without sun |
| Trilogy material | **Aluminum** adjustable bracket included |
| Dimensions | **Trilogy: 80 x 91 x 300 mm** (w/o bracket) **Kit PV: 345 x 400 x 175 mm** |
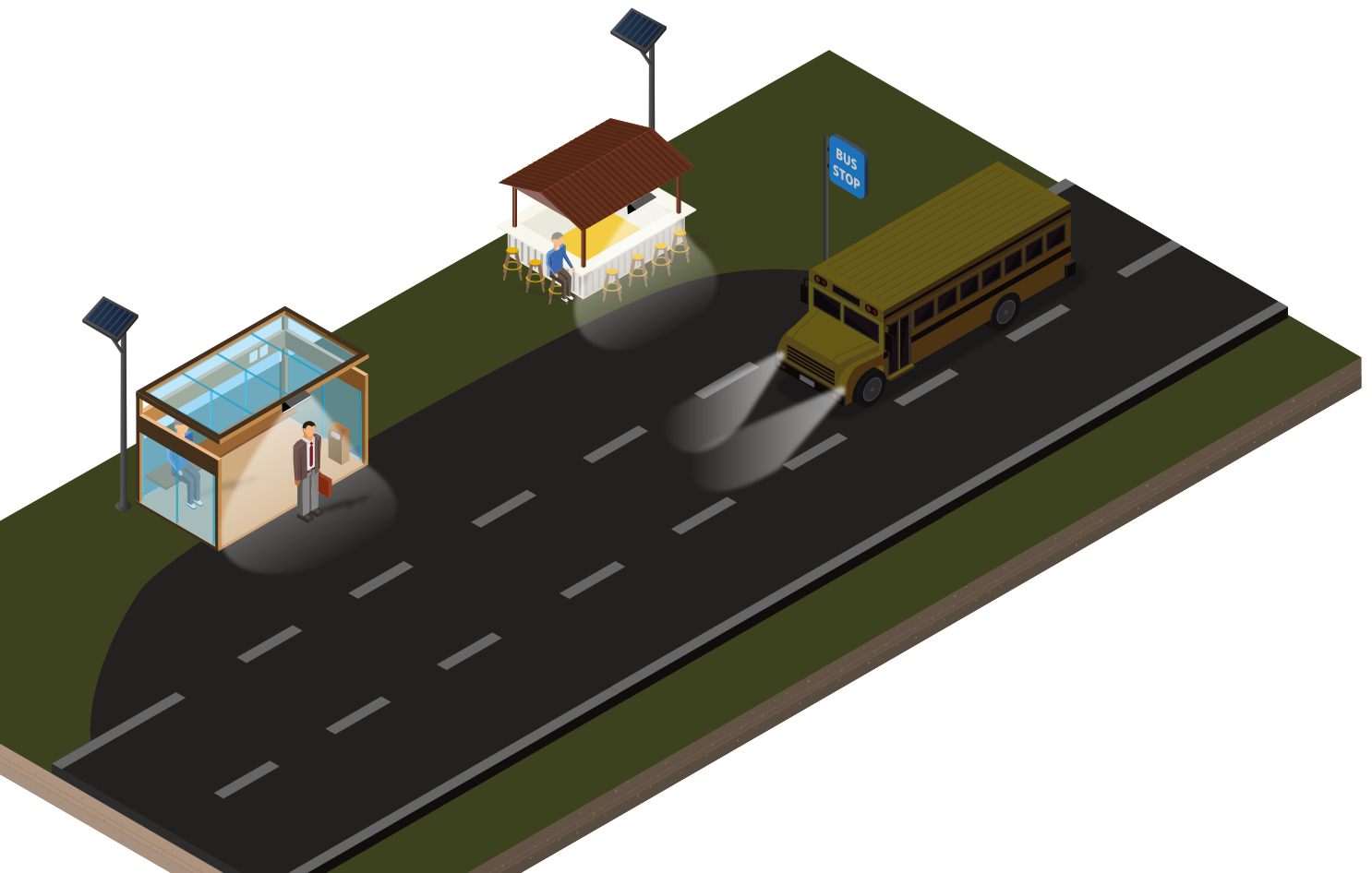
# Talos N phoyovoltaic

With **PV lighting solutions**, you can bring light in areas not accessible from the power supply, reducing the installation costs by avoiding the laying of new cables.

Our systems are characterized by the use of top quality components and oversized to ensure the best reliability:

- Use a **regulator** to protect the batteries from deep discharge and overload.
- Specific **AGM Batteries** for photovoltaic applications.
- Compact kit with battery and **electronics integrated.**
- Dimensioning based on latitude and output light required, offers a range of autonomy in the absence of sun between 5 and 10 days.

Other combinations available.

**TALOS N**

| Talos N | **Die-cast aluminum Supercast®** | Tempered glass | IP66 |
|---|---|---|---|
| LED | ○ **4000-5700 K** | **CRI >70** | **L80 >100.000 hrs** |
| Photovoltaic kit | | **12 VDC 140 W** | |
| Autonomy | **5...10 days**  without sun | | |
| Dimensions | **Talos N:  260 x 500 x 195 mm**  (mounting Ø60) **PV panel: 1470 x 670  x 35 mm** | | |

**Waste management** *and disposal are increasingly important matters for environment protection and most of the times high costs are involved with them.*

*The poor average quality of products on the market results in shorter lifetimes, and the use of imported non-rechargeable batteries and other difficult to dispose materials makes the problem even worse from the ecologic and economic standpoint.*

*Detas SpA created* **Clean Power,** *an eco-label that distinguishes products that, while guaranteeing high performance standards, are characterised by a reduced environmental impact throughout their entire life cycle.*

*CleanPower identifies both a line of products for* **temporary signalling,** *including hybrid solar beacons and rechargeable products, and all those products linked to permanent signalling which, due to the characteristics of the materials used, construction and power supply, are designed to increase their lifecycle in a sustainable perspective.*

*We believe that providing high quality products that can* **last longer** *and be easily maintained is the solution to the problem and we hope that this will help the environment and at the* **same time** *help our customers* **save money and time.**

# CleanPower



**SOLAR**

**Solar Hybrid**
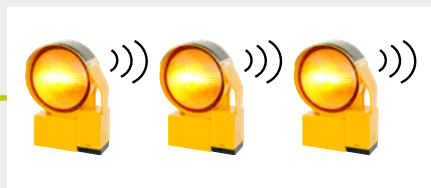
**Solar Hybrid Radio**



230VAC
12VDC

**Power supply**

**HYDRA**

**RECHARGEABLES**

**D-Star V2**

**D2-Basic 210**
**D4C-Basic 210**
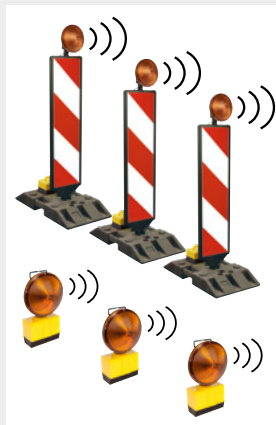
**Sequences:**
**D2-Basic 210 Radio**
**D4C-Basic 210 Radio**

**D4-Box**

**Rechargeable**
**batteries**

**Power Bank** with
18 Ah Battery

**Speed display**
**ISS arrows**
**Temporary**
**traffic lights**

*Some examples of applications:*
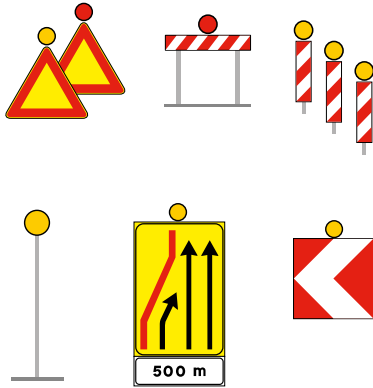


### Adapter for Ø40 mm panels



*Basic 210 is a LED warning light for temporary use.*

*It is available in different models and it is suitable for all the applications where there is a need to warn, inform or guide road users.*



| Certification | EN12352 L8H - L8M |
|---|---|
| Input voltage | 12/24 VDC |
| LED colour | 🟡 🔴 🟢 |
| Max. power consumption | 6 W |
| Dimensions | Ø 210 x 85 mm |

| Flashing | Power cons. @12V | |
|---|---|---|
| Flash LED (10%) | 1.2 Ah | /day |
| Tri Flash (5%+5%+5%) | 1.8 Ah | /day |
| Single (50%) | 6 Ah | /day |
| Steady | 12 Ah | /day |

# Basic 211

*Some examples of applications:*
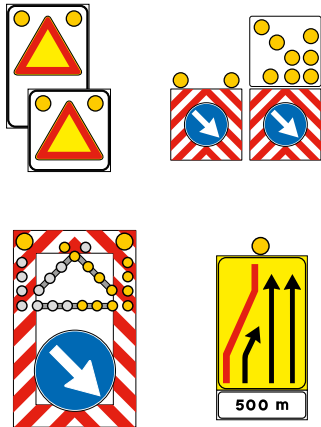
*Basic 211 is the flat version of the Basic 210.*

*It is available in different models and it is suitable for all the applications where there is a need to warn, inform or guide road users.*

| Certification | **EN12352**<br>**L8H - L8M** |
|---|---|
| Input voltage | **12/24 VDC** |
| LED colour | 🟡 🔴 🟢 |
| Max. power consumption | **6 W** |
| Dimensions | **Ø 210 x 55 mm** |

| Flashing | Power cons. @12V | |
|---|---|---|
| Flash LED (10%) | **1.2 Ah** | /day |
| Tri Flash (5%+5%+5%) | **1.8 Ah** | /day |
| Single (50%) | **6 Ah** | /day |
| Steady | **12 Ah** | /day |

# Basic 308

*Some examples of applications:*
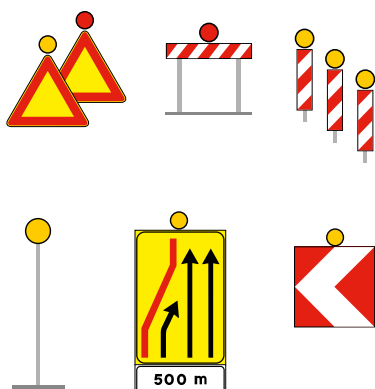


**Adapter for Ø40 mm panels**
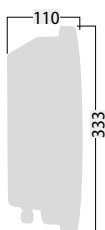




*Basic 308 is a LED warning light for temporary use.*

*The high luminous efficiency, the uniformity and the wide visual angles, make this product the best in its category.*

| Compliance | EN12352 L9M |
|---|---|
| Input voltage | 12 VDC - 12/24 VDC |
| LED colour | 🟡 🔴 |
| Max. power consumption | 17.5 w |
| Dimensions | Ø 333 x 110 mm |

| Flashing | Consumi @12V | |
|---|---|---|
| Flash LED (10%) | **3.0 Ah** | /day |
| Tri Flash (5%+5%+5%) | **4.5 Ah** | /day |
| Singole (50%) | **15 Ah** | /day |
| Steady | **30 Ah** | /day |

# Basic 309

*Some examples of applications:*
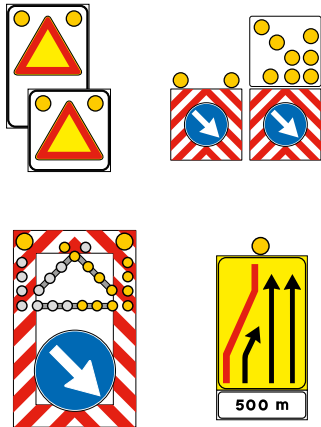
*Basic 309 is the flat version of the Basic 308.*

*The high luminous efficiency, the uniformity and the wide visual angles, make this product the best in its category.*

| Compliance | **EN12352**<br>**L9M** |
|---|---|
| Input voltage | **12 VDC - 12/24 VDC** |
| LED colour | 🟡 🔴 |
| Max. power consumption | **17.5 W** |
| Dimensions | **Ø 333 x 64 mm** |

| Flashing | Consumi @12V | |
|---|---|---|
| Flash LED (10%) | **3.0 Ah** | /day |
| Tri Flash (5%+5%+5%) | **4.5 Ah** | /day |
| Singole (50%) | **15 Ah** | /day |
| Steady | **30 Ah** | /day |

# Hydra

It is an **advanced modular battery charger** and main element of the CleanPower eco-line, capable of charging up to 6 different devices at the same time.

It automatically recognizes the battery voltage and signals the charging state.

It is able to independently distinguish and set the charge levels for AGM and lithium-iron-phosphate batteries, and for 6 Vdc and for 12 Vdc batteries.

## On the road or at your company

Thanks to the connectors compatible with all the CleanPower line, Hydra allows you to recharge all products both from the vehicle (12/24 Vdc) and from a fixed location (230 Vac).

| | |
|---|---|
| Input | **10 ÷ 30 VDC** |
| Output current | **up to 2 A x 6** |
| Output | **AGM battery - LiFePO4 6 VDC/ 12 VDC** |
| Connections | **cables with connectors compatible with the lines D-Star, D1, D2 e D4** |

*230V mains power supply kit, in IP56 enclosure, available in Class II.*

OUT
OUT
OUT
OUT
OUT
OUT

**HYDRA**

**12 VDC
24 VDC**

**230 VAC**
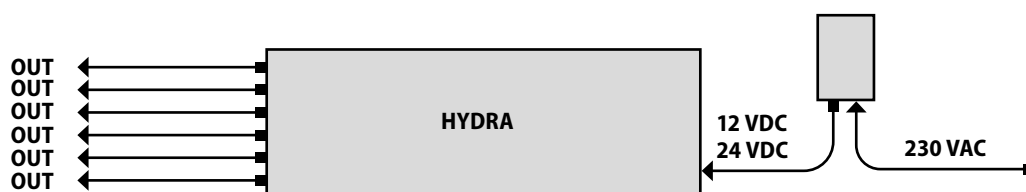
# D1-Solar Hybrid

*From our twenty-year experience on photovoltaic technologies, it comes the D1-Solar Hybrid, an innovative roadworks lamp capable of combining performance and environmental responsibility.*

**The best from both power supplies.**

*D1-Solar Hybrid is equipped with a double power supply:* **photovoltaic (with lithium battery) and with 4R25 battery.**

*The system automatically alternates between one or the other to offer the best in terms of power, efficiency and autonomy.*

**Always ready for use:** *the possibility of using the traditional battery also allows you to use the lamp immediately without waiting for solar recharge.*

**Self-sufficient in the twilight version:** *the D1-Solar Hybrid is completely autonomous and can operate for up to 5 years without the need to replace the internal lithium battery.*

**Greater autonomy:** *in the more powerful radio version, which work 24 hours, the photovoltaic power supply allows, in optimal solar conditions, to triple the normal autonomy of the non-rechargeable battery.*

| Optic | **Single-sided or double-sided** |
|---|---|
| Photovoltaic module | **800 mW** |
| Input voltage | **4,5 Ah - 3,2 V** |
| Steady | **• Pole 60 mm**<br>**• Pole 48 mm**<br>**• Panel White/Red**<br>**• Bracket** |

## Warning Panel

| Dimensions | **290 x 1330 x 50 mm** |
|---|---|

• Without film
• With double sided film EG class 1
• With double sided film HI class 2

## Base with recycled rubber

| Dimensions | **800 x 400 x 120 mm** |
|---|---|
| Weight | **27 kg  ±15%** |

**LED Warning light mono-battery**.

*Unbreakable lens.*

*Works with 1 or 2* **6V 4R25** *batteries.*

*Easy to replace battery. Antitheft metal bracket included.*

*Other colours on request.*

| Model | D-Star 2 ➜ | | | | FlashLED | Super FlashLED |
|---|---|---|---|---|---|---|
| **Approved EN 12352** | L6 | L7 | L7 | L7 | L8G | L8L |
| LED colour | 🟡🟡 | 🟡 | 🔴🔴 | 🔴 | 🟡 / 🟡🟡 | 🟡 |
| Operating time in hours with 2 batteries — 7Ah | 800 | 1000 | 250 | 500 | 400 / 200 | 300 |
| 25Ah | 2800 | 3300 | 900 | 1800 | 1500 / 750 | 1100 |
| 50Ah | 4500 | 6600 | 1800 | 3600 | 3000 / 1500 | 2200 |
| Dimensions | 195 x 380 x 95 mm | | | | | |

**Multifunction Key**



**LED Warning lights**

*Unbreakable lens. Works with 1* **6V 4R25** *Battery.*

*Metal bracket, rechargeable version and other colours on request.*

# D-Solo

| Model | D-Solo | | | |
|---|---|---|---|---|
| **Approved EN 12352** | L6 | L7 | L7 | L7 |
| LED colour | 🟡🟡 | 🟡 | 🔴🔴 | 🔴 |
| Operating time in hours with 1 battery — 7 Ah | 400 | 500 | 130 | 250 |
| 25 Ah | 1400 | 1700 | 450 | 900 |
| 50 Ah | 2300 | 3300 | 900 | 1800 |
| Dimensions | 195 x 360 x 105 mm | | | |

**LED Warning Light**.

*Imported model not incompliance with* **EN 12352**.

*Metal Bracket on request*

| Model | Mini D-Lite | |
|---|---|---|
| Certification | **CE** (Non compliance EN 12352) | |
| LED colour | 🟡🟡 | 🔴🔴 |
| Operating time in hours with 2 battery    7 Ah | **700** | **260** |
| Dimensions | **185 x 330 x 90 mm** | |

**LED Warning Light**.

*Imported model not incompliance with* **EN 12352.**

*With Metal Bracket.*

mono **D-Lite**

| Model | Mono D-Lite | |
|---|---|---|
| Certification | **CE** (Non compliance EN 12352) | |
| LED colour | 🟡🟡 | 🔴🔴 |
| Operating time in hours with 1 battery    7 Ah | **350** | **130** |
| Dimensions | **180 x 330 x 105 mm** | |

# D2-Basic 210



**Advance warning LED lights.**

*Single flash.*
*Wide range of settings.*
*Possibility of twilight function.*
*Works with 2 batteries 6V 4R25.*

| Certification **EN 12352** | | L8H - L8M |
|---|---|---|
| LED colour | | 🟡 |
| Operating time in hours with 2/4 batteries | 7Ah | **150** |
| | 50Ah | **1000** |
| Dimensions | | **210 x 370 x 113 mm** |

# D4C-Basic 102



**Advance warning LED lights.**

*Single flash.*
*Wide range of settings.*
*Possibility of twilight function.*
*Works with 4 batteries 6V 4R25.*

| Model | | **D4C-Basic 102** |
|---|---|---|
| Certification **EN 12352** | | **L2H** |
| LED colour | | 🟡 |
| Operating time in hours | 4 batt. 7Ah | **400** |
| | 4 batt. 50Ah | **2850** |
| | 1 batt. 700Ah | **15000** |
| LED light dimensions | | **Ø 139 x 19 m** |
| Box dimensions | | **150 x 165 x 235 mm** |

**Advance warning LED lights.**

*Single flash.*
*Wide range of settings.*
*Possibility of twilight function.*
*Works with 4 batteries 6V 4R25.*



| Model | | D4C-Basic 210 |
|---|---|---|
| Certification **EN 12352** | | **L8H - L8M** |
| LED colour | | 🟡 |
| Operating time in hours | 4 batt. 7Ah | **300** |
| | 4 batt. 50Ah | **2000** |
| | 1 batt. 550Ah | **11500** (480 d) |
| LED light dimensions | | **Ø 210 x 85 mm** |
| Box dimensions | | **150 x 165 x 235 mm** |

# D4C-Basic 308

**Advance warning LED lights.**

*Single flash.*
*Wide range of settings.*
*Possibility of twilight function.*
*Works with 4 batteries 6V 4R25.*



| Model | | D4C-Basic 308 |
|---|---|---|
| **Approved EN 12352** | | **L9M** |
| LED colour | | 🟡 |
| Operating time in hours | 4 batt. 7Ah | **110** |
| | 4 batt. 50Ah | **800** |
| | 1 batt. 550Ah | **4400** (180 d) |
| LED light dimensions | | **Ø 333 x 110 mm** |
| Box dimensions | | **150 x 165 x 235 mm** |
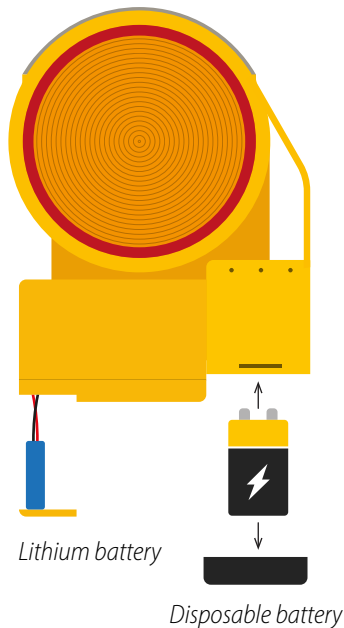
## Quick Start mode
D1-Solar Hybrid L6 - L7

*This is how the D1 Solar Hybrid L6 and L7 lamps work* **with twilight function** *(night only): yellow, red, single-sided and double-sided.*

*The lamp only needs a disposable battery to start if the built-in lithium battery is flat, after that it is completely autonomous and does not require further battery changes.* **It does not need a disposable battery to operate**, *so we recommend the use of* **flow amperage disposable batteries**.
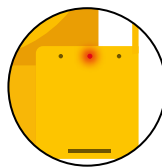
*Lithium battery*

*Disposable battery*

**LED ON**
*Disposable battery in operation*
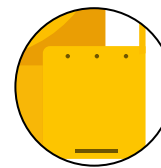
**LED OFF**
*Lithium battery in operation*

*Disposable battery until exhaustion*

*Photovoltaic with lithium battery*
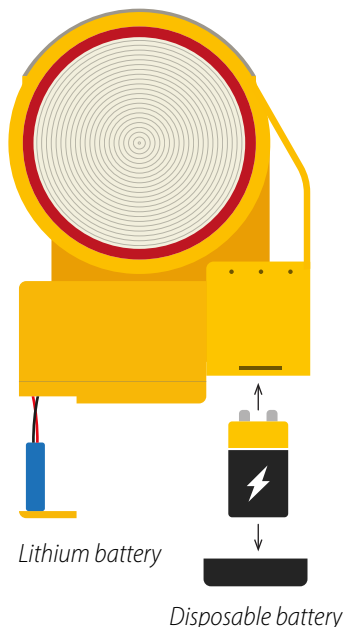
## Combo mode
D1-Solar Hybrid FlashLED L8G - Radio L8L

*This is how the D1 Solar Hybrid L8G and Radio L8L lamps operate,* **with day and night function** *(single-sided only).*

*The lamp* **works only if a disposable battery is also inserted**, *the solar panel and the lithium battery are not sufficient to guarantee the functioning of the lamp but they help increasing the autonomy of the disposable battery, therefore the use of* **disposable batteries with high amperage** *is recommended.*
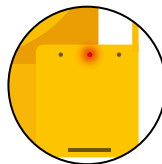
*Lithium battery*
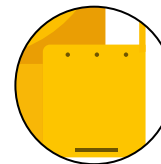
*Disposable battery*

**LED ON**
*Disposable battery in operation*

**LED OFF**
*Lithium battery in operation*

*Disposable battery*

*Photovoltaic with lithium battery*

*Disposable battery*

*Photovoltaic with lithium battery*

## LED radio sequence with solar technology

*Thanks to the contribution of solar panels, in optimal solar conditions, the autonomy of the radio lamp can triple the normal autonomy of the non-rechargeable battery.*
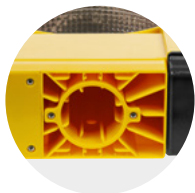
| Certification **EN 12352** | **L8L** |
|---|---|
| LED Colour | 🟡 |
| Input voltage | **6 V** |
| Fixing | • **Pole for 60 mm** <br> • **Pole for 48 mm** <br> • **Panel white/red** <br> • **Bracket** |

**LED Sequence light system with wireless radio technology.**

*Min. Distance system light 1 m, max 80m. no lights limit.*

*Available functions: twilight switch, night guide light.*

| Certification **EN 12352** | **L8H - L8M** | |
|---|---|---|
| LED Colour | 🟡 | |
| Input voltage | **12 V** | |
| Operating time in hours | 7 Ah: **140 h** | 50 Ah: **1000 h** |
| Fixing | **Pole 48 o 60 mm** | |
| Dimensions | **210 x 370 x 113 mm** | |

| Certification **EN 12352** | **L8H - L8M** | |
|---|---|---|
| LED Colour | 🟡 | |
| Input voltage | **12 V** | |
| Operating time in hours | 7 Ah: **280 h** | 50 Ah: **2000 h** |
| Fixing | **Panel adapter, Pole 48 o 60 mm** | |

## LED sequence light system self-configuring.

*All the lights are the same model.*
*Electronic control integrated into the lights.*
*Standard day and night operation.*
*on request only night.*
*12V standard 230/12V input on request.*
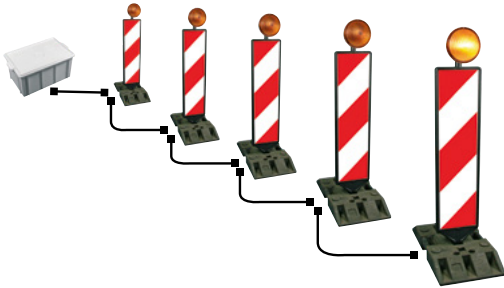
| Certification EN 12352 | Basic 210: L8H - L8M |
|---|---|
| Sequence type | Self-configuring |
| LED colour | 🟡 |
| Input voltage | 12 V |
| Connection cables | 6 - 13 - 19 - 25 - 39 m |
| Power supply cable | 10 m |
| Fixing | Panel adapter, bracket for 48 o 60 mm pole |

**A**: supply cable

**C**: supply cable

**T**: cap

T    C    C    C    C    A

### Signalling panel

| Dimensions | 290 x 1330 x 50 mm |
|---|---|

• Without film
• With double side EG class 1 film
• With double side HI class 2 film
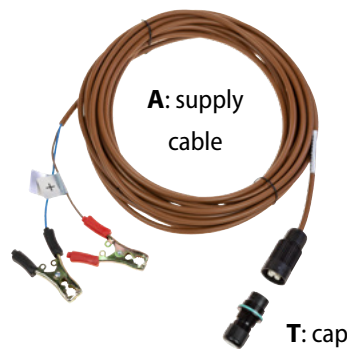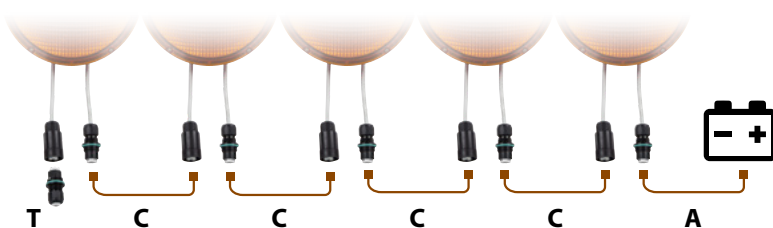
### Battery case

| Dimensions | 680 x 410 x 320 mm |
|---|---|

### Base in recycled rubber

| Dimensions | 800 x 400 x 120 mm |
|---|---|
| Weight | 27 kg ±15% |

# Temporary LED traffic lights

*The SL19 model is completely foldable, and allows you to place the traffic light inside the cart.*

## SL19 MPB  /  SL19 SQD

| Certification | CE |
|---|---|
| LED colour | 🔴 Ø 200 mm<br>🟡 Ø 200 mm<br>🟢 Ø 200 mm |
| Operating time<br>90 Ah battery | **360 hrs** |
| Dimensions (bended) | **400 x 740 x 420 mm** |
| Adjustable height | **1520 ➔ 1820 mm** |

**DUAL / MPB** **Interchangeable controllers**

## Electronic controller
# DUAL

*Quartz synchronization.*

*Each control unit manages one traffic light.*

**4 operating modes:**

- *automatic*
- *flashing*
- *manual*
- *standby (off without losing the synchronization).*

*Usable only* **for alternate one-way**.

# Temporary LED traffic lights

*This feature makes the product more compact and protects the traffic light during transportation. di proteggere la lanterna semaforica durante la movimentazione.*

Countdown

**Interchangeable optics**

Traffic light

### SL16 MPB / SL16 SQD

| Certification | **EN12368**<br>**CE** |
|---|---|
| LED colour | 🔴 **Ø 200 / 300 mm**<br>🟡 **Ø 200 mm**<br>🟢 **Ø 200 mm** |
| Operating time<br>90 Ah battery | Traffic light optics:: **430 hrs**<br>Countdown optics: **360 hrs** |
| Dimensions (bended) | **450 x 700 x 850 mm** |
| Adjustable height | **1800 ➔ 2050 mm** |

**DUAL / MPB Interchangeable controllers**

## Electronic controller
# MPB

*Each remote control manages up to*
**4 groups of 4 traffic lights**.

**4 operating modes:**

- *automatic*
- *flashing*
- *manual*
- *standby (off without losing sync).*
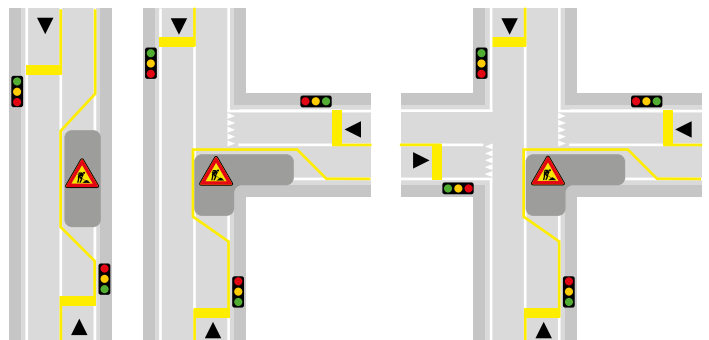
*Usable* **for alternate one-way, T intersection and 4-way intersection.**

## Temporary LED traffic lights

IThe devices is equiped with a **wireless remote control** to activate manually the green or the red light.

*The LED beacon placed on top of the traffic light is visible at 360° and it's connected to the red phase as a feedback for the operator using it.*

*It is ideal for all situations where vehicle traffic management is not regular and must therefore be manually adjusted:*

**Temporary stopping the traffic to allow the exit of vehicles from a construction site, pedestrian crossing near schools,etc.**

| Certification | **CE** |
|---|---|
| LED colour | 🔴 **Ø 200 mm**<br>🟡 **Ø 200 mm**<br>🟢 **Ø 200 mm** |
| Operating time<br>90 Ah battery | **360 hrs** |
| Dimensions (bended) | **450 x 700 x 850 mm** |
| Adjustable height | **1800 → 2050 mm** |

**Wireless remote control**

*3 configurations available:*

**SL16 Manual** *(default setting)*
*Using the remote control you switch* **from red to green manually.**

**SL16 Manual Restart Red** *(on request)*
**Always red**e and when you press the remote button it turns green for a few seconds.

**SL16 Manual Restart Green** *(on request)*
**Always green** *and when you press the remote button it turns red for a few seconds*
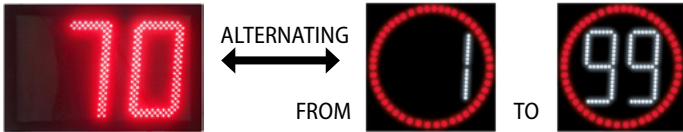
**Radar based**, *it is the ideal active signal to encourage safe driving in road working zones, motorway intersections, etc.*

**All the options can be deactivated allowing to use the device in standard mode (only amber).**

| | |
|---|---|
| LED colour | 🟡 🔴 🟢 ⚪ |
| Digit height max. | **30 cm** |
| Functions | **Smile + speed limit** |
| Operating time 90 Ah battery | **Up to 35 days** (consumption depends on traffic volume) |
| Software | **Included** / App Android |
| Connection | **Bluetooth** (100m outdooor) **RS232** — Optional: e-mail-GSM-GPRS-GPS |
| Vehicle detection | **Bidirectional** (only statistic) |
| Display dimensions | **640 x 410 x 75 mm** |

*Some examples of views:*

| | |
|---|---|
| **Bicolour display** |  |
| **Speed limit function** |  ALTERNATING — FROM — TO |
| **Smile function** |  ALTERNATING — OR |

## Foldable
### Electronic flag weaver,

*The Wave electronic flag- weaver is equipped with a foldable mobile trolley complete with a sign designed to assume different configurations (deviation to the right or to the left)*

*Wave works with a 12V commercial type automotive battery positioned inside the battery compartment.*

*Wave's compact structure makes handling, transport and installation operations easy on the construction sites.*



*Also available con Basic 309*
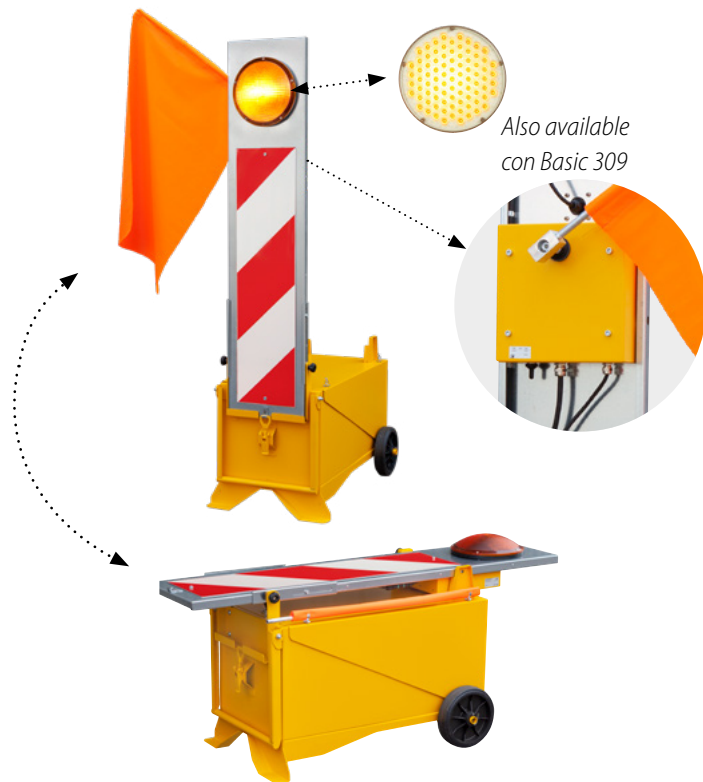
| Optic | **Basic 211/305** | Certification | **EN12352 L8H-L8M** |
|---|---|---|---|
| LED colour | 🟡 | | |
| Power Supply | **12 Vdc** | | |
| Absorbed power | **24 W** | | |
| Frequency of weaving | **30 cycles/min** | | |
| Max dimens. | **1500 x 490 x 1200 mm** | | |
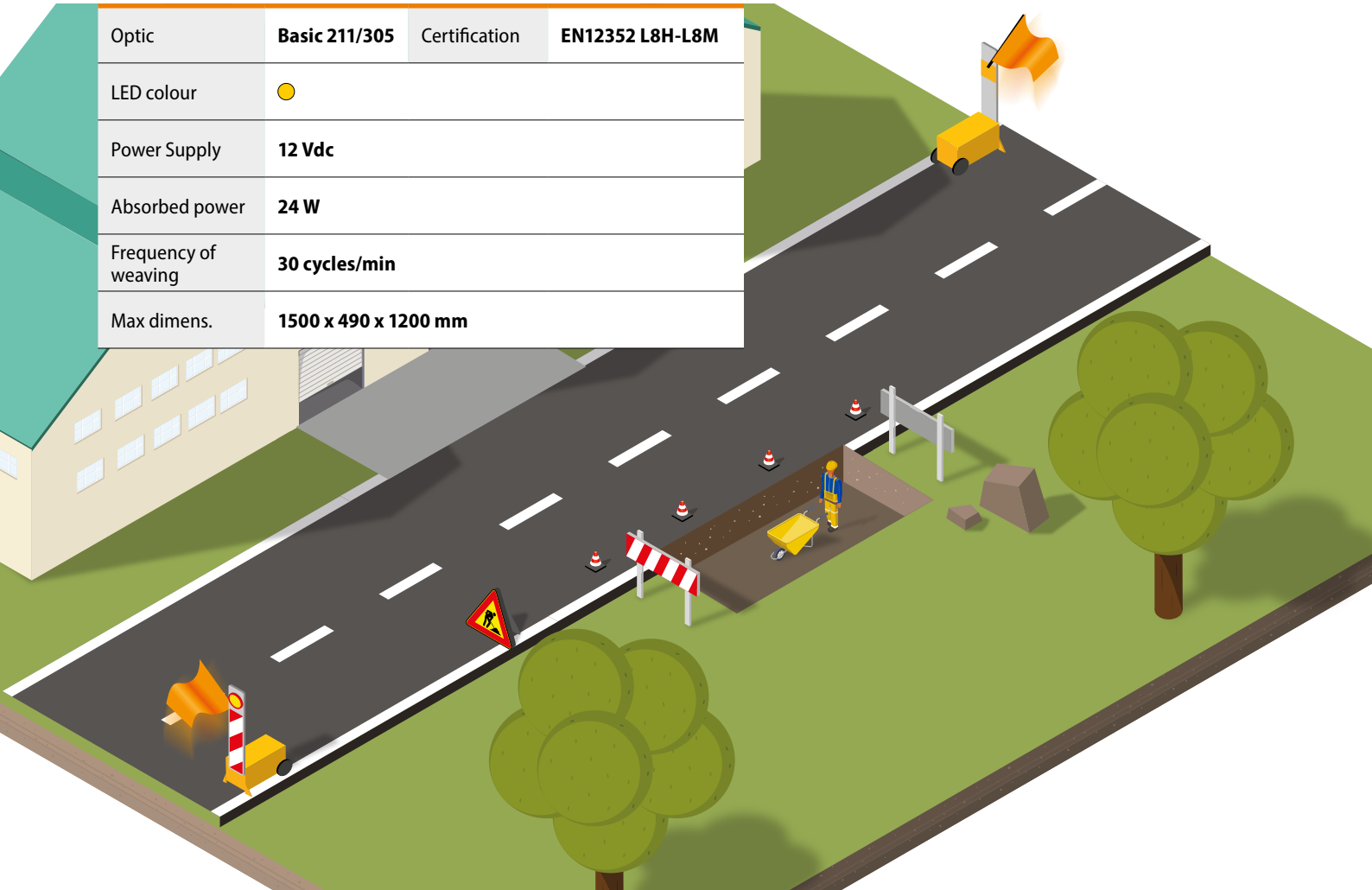
## Height vehicle detector
### for road work zone.

*RAV Mobile is a system that detects the height of vehicles in transit to protect bridges or overpasses during maintenance operations.*

**Each module is equipped with fixed or flashing outputs**.

**Speakers** *and* **360 ° LED beacons** *can be connected to a RAV Mobile module in order to promptly alert the workers in the working area.*

*It is possible to define length and width of the detection area and also the minimum size of the object that has to be detected.*

**Programmable with IR remote control**.

**LED beacon**

**Sensor**

**Slave 1B**

**Slave 1A**

**Speaker**

**Master 1**

| Max. detection area | 25 x 25 m | | |
|---|---|---|---|
| Module connections | Wireless - max. distance 1 km | | |
| Powered by @ 12 V | 230VAC 12VDC Power supply | Battery | Photovoltaic kit |
| Control unit consumption | 2.4 W (200 mA @12 V) | | |

# ISS 90x90

**Directional LED arrows.**

*Versions with **8** or **13 lights.***

*Optional remote control.*
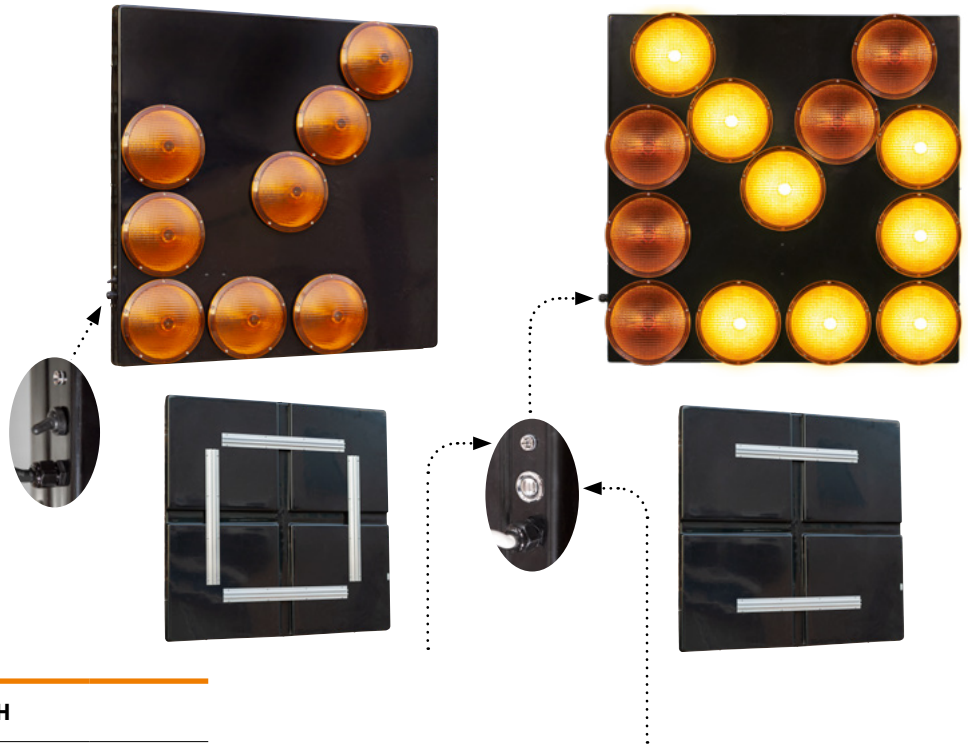
| Certification | Basic 211 **EN12352 L8H** | |
|---|---|---|
| LED colour | 🟡 | |
| Powered by | **12/24 VDC** | |
| Model | 13 lights | 8 lights |
| Power cons. | **30 Ah** | **30 Ah** |
| Dimensions | **900 x 900 x 105 mm** | |

# ISS 60x60

| Certification | Basic 102 **EN12352 L2H** | |
|---|---|---|
| LED colour | 🟡 | |
| Powered by | **12 VDC** <br> **24 VDC** su richiesta | |
| Model | 13 lights | 8 lights |
| Power cons. | **28 Ah** | **28 Ah** |
| Dimensions | **600 x 600 x 65 mm** | |
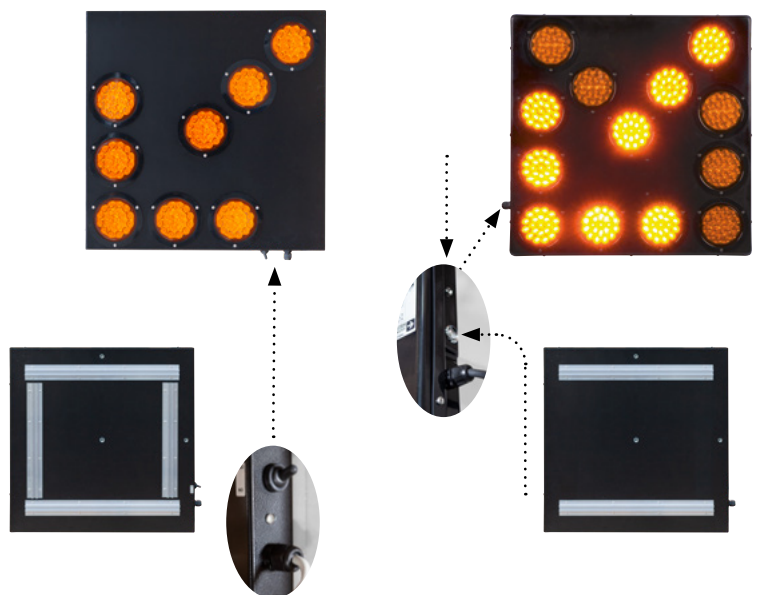
## Directional LED arrows with electrical motorization.

**13 lights** *Basic 211.*

**Scorrimento elettrico**.

*Con fig.398.*

*Optional motorized arrow.*
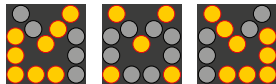
With external
control unit included

Stop button

| Certification | Basic 211 **EN12352 L8H** |
|---|---|
| LED colour | 🟡 |
| Powered by | **12 VDC** |
| Model | 13 lights |
| Power cons. | **30 Ah/d** |
| Dimensions [**mm**] | **1070 x 1140 (1840** extended) **x 300 (+ 80** brackets) |

fig. **400** - fig. **401**

## Motorized Light Trailer completely automatic.

- Fig. 400 o fig.401 with vertical lifting
- Galvanized steel frame
- GVW max. 750 kg
- Aluminum signalling frame
- Closed case to house the batteries
- Adjustable shaft in height with repulsion
- Aluminium panels with Reflective Film Cl II
- Telecomando wireless su richiesta
- Fig.401:
    **23 - Basic 211 LED**
    **2 - Basic 304 LED**
- Fig.400:
    **5 - Basic 304 LED**
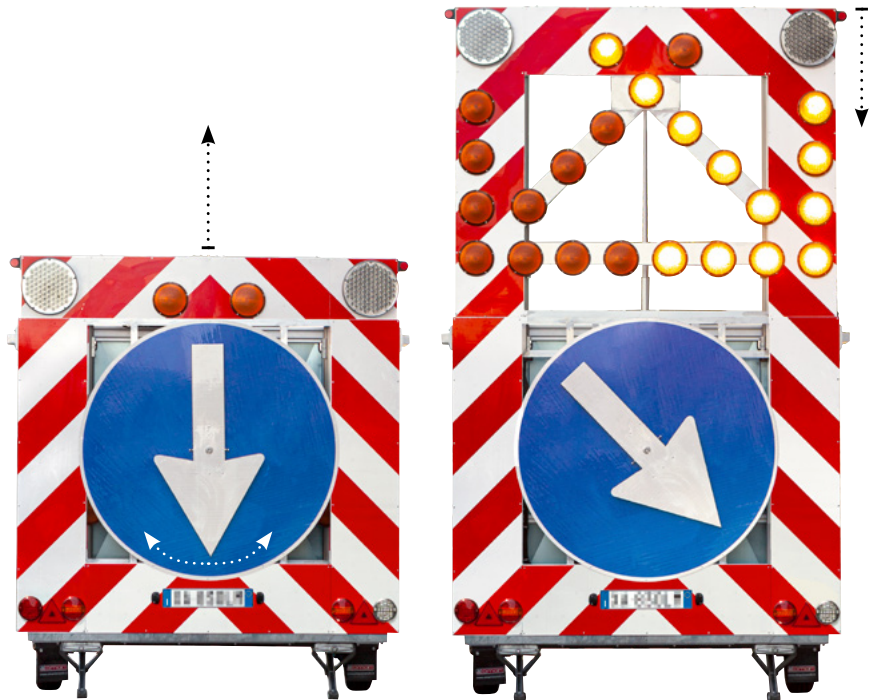
| Certification | Basic 211 **UNI EN12352 L8H** Basic 304 **UNI EN12352 L9H** |
|---|---|
| LED Colour | 🟡 |
| Power supply | **12/24 VDC** |
| Power cons. | Fig 400: **75 Ah/d** Fig. 401: **100 Ah/d** |
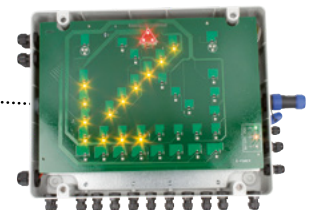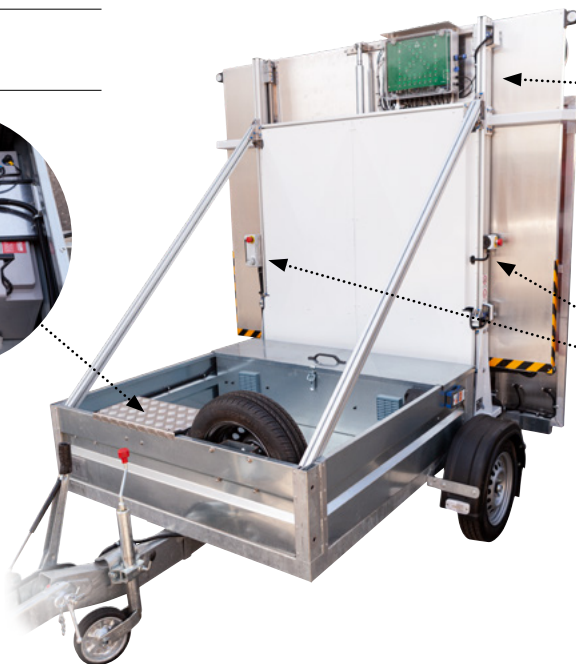


Control unit with synoptic table

Battery

Stop button fig. 401

**Watch the video:**

Remote control fig. 401

**Fig. 401**



| left arrow | right arrow | cross | triangle | double arrow |
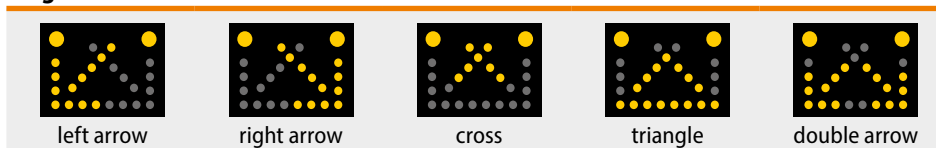
**Optional bar**
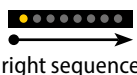
| right sequence | left sequence | barrier | central seq. |
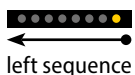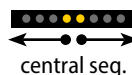
**Fig. 400**
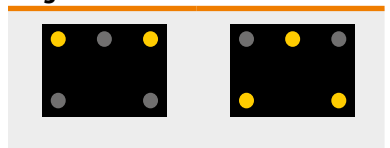
fig. **400** - fig. **401**

## Motorized Structure completely automatic.

- Fig. 400 o fig.401 with vertical lifting
- Galvanized steel frame
- Aluminum signalling frame
- Aluminium panels with Reflective Film Cl II
- Wireless remote control on request.
- Fig. 401:
  **23 - Basic 211 LED**
  **2 - Basic 304 LED**
- Fig. 400:
  **5 - Basic 304 LED**
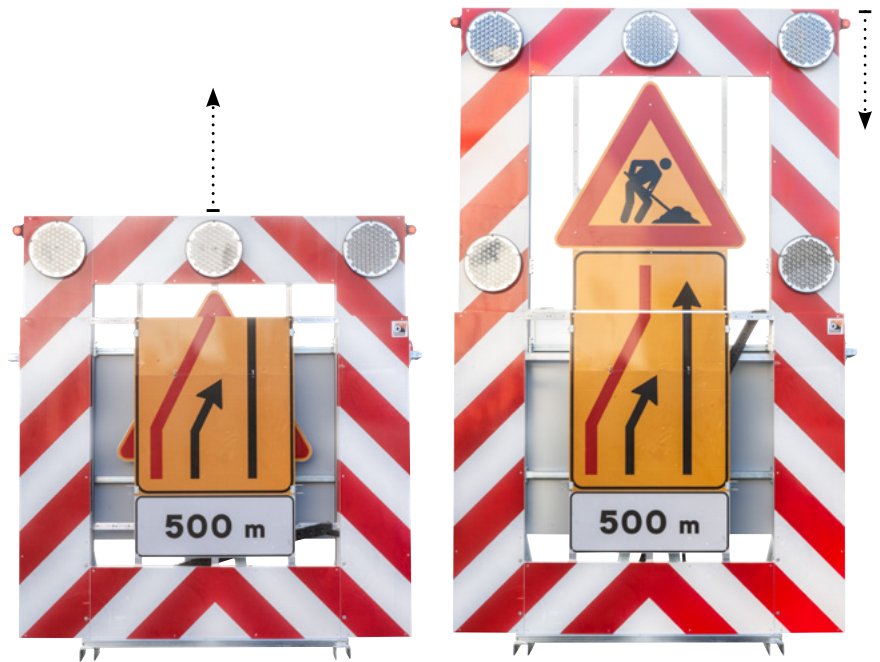
### Signage trolley

- load-bearing frame
- MCPC max. kg 750
- Battery box
- Variable height drawbar

| Certification | Basic 211 **EN12352 L8H** Basic 304 **EN12352 L9H** |
|---|---|
| LED Colour | 🟡 |
| Power supply | **12/24 VDC** |
| Power cons. | Fig 400: **75 Ah/d** Fig. 401: **100 Ah/d** |
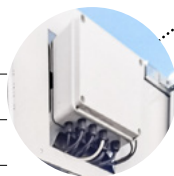
Control unit fig. 400

Controller fig. 400

Stop button

### Fig. 401

| | | | | |
|---|---|---|---|---|
| left arrow | right arrow | cross | triangle | double arrow |

### Fig. 400

**Barra opzionale**

| | | | |
|---|---|---|---|
| right sequence | left sequence | barrier | central seq. |
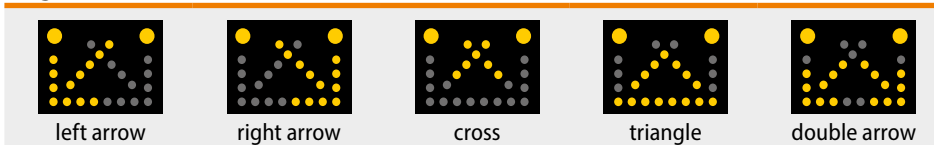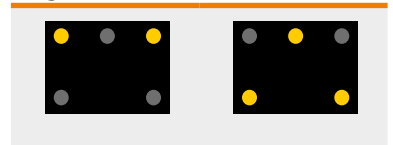
fig. **400** - fig. **401**

# Light Trailer and Structure with manual lifting

- Available with signalling panel fig.400 o fig. 401
- Aluminum signalling frame
- Aluminium panels with Reflective Film Cl II
- Optional remote control
- Fig.401:
  **23 - Basic 211 LED**
  **2 - Basic 304 LED**
- Fig.400:
  **5 - Basic 304 LED**

## Light Trailer

- Galvanized steel frame
- GVW max. 750 kg
- Closed case to house the batteries
- Adjustable shaft in height with repulsion


fig. 400


fig. 401


Control unit


LED headlights


Control panel
(optional remote control)
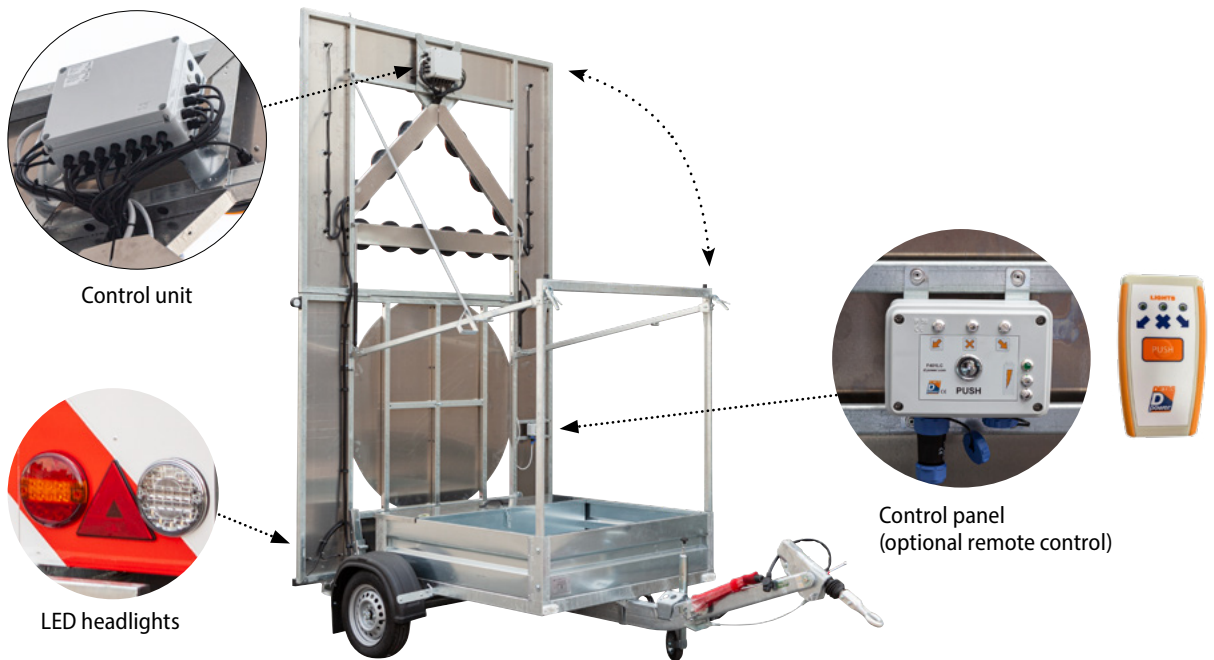
### Fig. 401



| left arrow | right arrow | cross |

### Fig. 400



| Certification | Basic 211  **EN12352  L8H**<br>Basic 304  **EN12352  L9H** |
|---|---|
| LED colour | 🟡 |
| Powered by | **12/24 VDC** |
| Power cons. | Fig 400*:* **75 Ah/d**<br>Fig. 401*:* **100 Ah/d** |

## 4R 25 6V batteries

| | Packing weight | Packing |
|---|---|---|
| **7 Ah**<br>**50 Ah** | **15 kg**<br>**17 kg** | **24 pz.**<br>**20 pz.** |
| **5 Ah**<br>rechargeable | **0.8 kg** | **1 pz.** |



## AIR-Alkaline batteries

| **550 Ah - 12 V** | **19.8 kg** |
|---|---|
| **0% Cd - 0% Hg** | Light<br>Cheap<br>Compact |

For warning lights up to 1 year autonomy and for sequence systems.



## Rechargeable batteries
## 12 V - DEEP CYCLE AGM

| **7 Ah**<br>**9 Ah**<br>**12 Ah**<br>**18 Ah**<br>**45 Ah**<br>**90 Ah** | **2.3 kg**<br>**2.5 kg**<br>**4 kg**<br>**5.7 kg**<br>**15 kg**<br>**30 kg** |
|---|---|



## Battery tester



## D4 box

| Dimensions | **150 x 165 x 235 mm** |
|---|---|



## Power Bank
## with 18 Ah battery



## Anti theft metal brackets

| Pole Ø48 mm (max. Ø50) | Pole Ø60 mm (max. Ø80) | Pole Ø90 mm |
|---|---|---|



## Metal bracket

## Rechargeable and magnetic LED flood light.

*3 operating modes: 100% - 30% intensity and blinking function.*
*Charged by vehicle charging cable or 230/12V battery charger.*
*Aluminium body.*
*Steel bracket.*
*Polycarbonate lens.*

| Power | 15 W | Brightness | 1200 lm |
|---|---|---|---|
| Powered by | Batteria ricaricabile al litio 7.4 V - 4.4 Ah | Protection | IP65 |
| Runtime | 3 ore (steady light 100%) | Charging time | 7 hrs |
| Dimensions | 115 x 220 x 100 mm | Fixing | Magnetic |

# NX270

## LED rechargeable torch with signalling kit.

*3 operating modes: 100%-50% intensity and blinking function.*
*Charged by vehicle charging cable or 230/12V battery charger.*
*Red-yellow cones and tripod provided.*

| Light beam | 5° x 800 m | Brightness | 140 lm |
|---|---|---|---|
| Powered by | Rechargeable battery Ni-Cd 4.8 V - 2.2 Ah | Protection | IP65 |
| Runtime | 3 hrs (steady light 100%) | Charging time | 8 hrs |
| Dimensions | Ø55 x 265 mm | Fixing | Adapter |

# Impulse 102

**Emergency LED kit for dangerous zones, accident etc.**

**9 different flashing patterns.**

*Charging from the mains or cigarette lighter.*

*Lithium-ion battery, runtime from 5 to 60 hours.*

*Magnetic, shock resistant and waterproof.*

**Watch the video:**
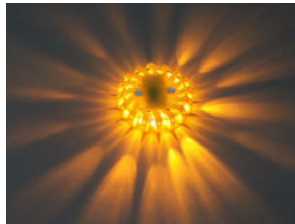
# LED torch

*Torch LED double colour*

*Compliant with technical standards C.d.S. art. 181 (art. 43 C.d.S.) in red light mode*

| Supply | 3 VDC |
|---|---|
| Type of light | Red: static and flashing<br>Green: static |
| Batterie | nr. 2 - 1,5 V tipo "D" |
| Autonomy | > 120 ore (flashing)<br>> 60 ore (static) |
| Dimensions | Ø 40 x 550 mm |
| Protection | IP65 |
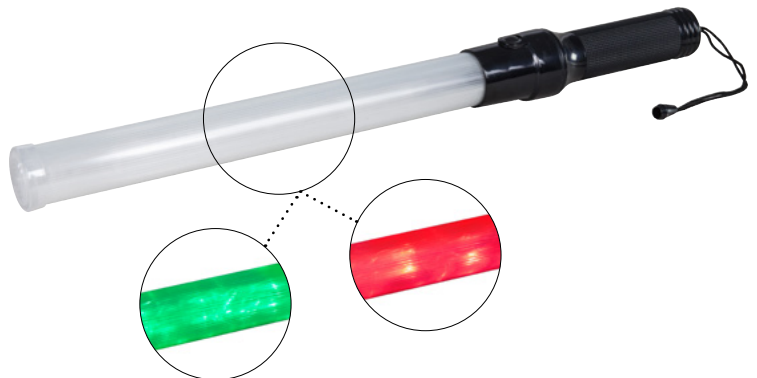
# LightShield

**LED system for emergency signalling in dangerous areas.**

*Set of 6 LightShields, rechargeable inside the case or individually.*

*Charging from the mains (230V) or cigarette-lighter socket (12V).*

*9 different selectable flashing modes*

*Single magnetic devices, supplied with accessories for positioning on cones or with pockets for personal protection.*

*Supplied with:*

**6 -** LightShields

**6 -** Pocket accessories for belt fastening

**6 -** Accessories for positioning on cones

**6 -** Power cables

Case

USB cable
Power supply 12/230 V

**magnetic**

**for belt fastening**

**Watch the video:**
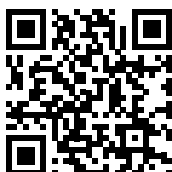
# **Gold** series

**LED beacon** *for or industrial and safety vehicles.*

| European approval | ECE R10 - ECE R65 |
|---|---|
| LED colour | 🟡 |
| Input voltage | **12/24 VDC** |
| Power consumption | **0.70 A @ 12 V** |
| Mounting | **Fixed / magnetic / FLX** |
| Dimensions | **Ø146 x 121 mm    F**<br>**Ø146 x 141 mm    M** |

# **400 LED** series

**LED beacon** *for or industrial and safety vehicles.*
*Available blue version for law enforcement vehicles.*
*Availabe vesion  ICAO certified.*

| European approval | ECE R65 |
|---|---|
| LED colour | 🟡 |
| Input voltage | **12/24 VDC** |
| Power consumption | **0.72 A @ 12 V** |
| Mounting | **Fixed / magnetic / FLX** |
| Dimensions | **Ø140 x 152 mm    F**<br>**Ø140 x 165 mm    M** |

## High Intensity LED mini bar

*with 8 reflector modules.*

*17 selectable flash patterns.*

| European approval | ECE R65 |
|---|---|
| Colours | 🟡 |
| Input voltage | 12/24 VDC |
| Average power consumption | 5.1 A |
| Mounting | Fixed or magnetic |
| Dimensions | 381 x 79 x 229 mm |

## **Blaze** LED

## LED light mini bar

*with minimum aerodynamic impact.*

| Colours | 🟡 |
|---|---|
| Input voltage | 12 VDC<br>24 VDC |
| Power consumption @12V | 3 A |
| Mounting | Fixed or magnetic |
| Dimensions | 400 x 145 x 210 mm |

## High Intensity LED mini bar
with 8 reflector modules.

17 selectable flash patterns.

| | |
|---|---|
| **European approval** | **ECE R65** |
| Colours | ⬤ |
| Input voltage | **12/24 VDC** |
| Average power consumption | **5.1 A** |
| Mounting | **Fixed or magnetic** |
| Dimensions | **381 x 79 x 229 mm** |
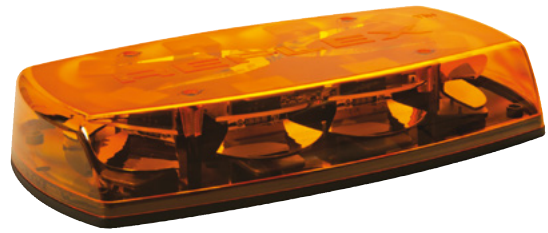
**12** series

## Slim profile and ultra-bright
**LED light bar** *with minimum aerodynamic impact.*

*Low current draw.*
*Long life LEDs maintenance-free.*
*360º light output.*
*Built-in 33 selectable flash patterns.*
*7 standard configurations ECE R65.*
*Optional control unit.*

| | |
|---|---|
| **European approval** | **ECE65R** |
| Colours | ⬤ |
| Input voltage | **12/24 VDC** |
| Average power consumption | **7.2 A** |
| Mounting | **fixed** |
| Available lengths | **1220 mm - 1370 mm - 1520 mm** |

**Directional LED bar**

*with control head right / left / flasher.*

*Length 222 cm,*

**6 Basic 304 LED lights approved to EN 12352 L9H.**

**12 or 24 V.**

*With external controller.*

**Directional LED bar**

*with control head right / left / flasher.*

*Length 130 cm.*

**5 Basic 210 LED lights approved to EN12352 L8H.**

**12 or 24 V.**

*With external controller.*

## Directional LED bar

*Directional arrow with control head right / left / flasher.*
*With external controller.*

| Colour | 🟡 |
|---|---|
| Input voltage | **12 / 24 VDC** |
| Max. power consumption | **1.6 A** |
| Mounting | **Fixed** |
| Dimensions | **1232 x 51 x 76 mm** |

## NCC66

## Directional LED bar

*with control head right / left / flasher.*
*Length 100 or 110 cm,*
**5 Basic102 LED lights approved to EN 12352 L2H.**
**12 V.**
*With external controller.*

# NCC3703A

**3 or 6 LED modules.**

*Do not require any external controller.*
*Several flashing patterns.*

| European approval | ECE R65 |
|---|---|
| Colour | 🟡 |
| Input voltage | **12 / 24 VDC** |
| Max. power consumption | **0.4 A @ 12 V** |
| Mounting | **Fixed** |
| Dimensions | **93 x 35 x 15 mm** |

# NCC3705A

**4 LED modules.**

*Do not require any external controller.*
*Several flashing patterns.*

| European approval | ECE R65 |
|---|---|
| Colour | 🟡 |
| Input voltage | **12 / 24 VDC** |
| Max. power consumption | **0.9 A @ 12 V** |
| Mounting | **Fixed** |
| Dimensions | **158 x 35 x 15 mm** |

# Golight 2020

*Wired remote control.*
*Cable with connector L=500 mm.*
*UV ray and saltwater resistant.*

| Input voltage | 12 VDC |
|---|---|
| Luminous intensity | 400.000 cd |
| Power consumption | 65 W |
| Avarage Amp. draw | 5.5 A |
| Mounting | Fixed / suction cup |
| Rotation | 370° x 135° vertical |
| Dimensions | 165 x 178 x 178 mm |

# Golight Stryker 3051

*On request white colour.*
*Wireless remote control.*
*Weatherproof for land and sea applications.*

| Input voltage | 12 VDC |
|---|---|
| Luminous intensity | 500.000 cd |
| Power consumption | 65 W |
| Avarage Amp. draw | 5.5 A |
| Mounting | fixed |
| Rotation | 370° x 135° vertical |
| Dimensions | 170 x 182 x 206 mm |

**LED work lights** *for fixed mounting on vehicles.*

*White light (6500K), luminous beam 60°.*
*High efficency optics (93%).*
*LED powered singularly: one single failure doesn't compromise the functionality of the light body.*
*Protection: IP67.*

DTS-LED POINT 6

DTS-LED POINT 12

DTS-LED POINT 18

30°

| Models | Power cons. | Input voltage | Luminous flux | Dimensions |
|---|---|---|---|---|
| DTS-LED POINT 6 | **18 W** | | **1260 lm** | **96 x 79 x 64 mm** |
| DTS-LED POINT 12 | **36 W** | **9÷32 VDC** | **2520 lm** | **164 x 79 x 64 mm** |
| DTS-LED POINT 18 | **54 W** | | **3780 lm** | **232 x 79 x 64 mm** |