

2023/2024 CATALOGUE



Signalite

ROAD PROTECTION

**SIGNALLING MATERIALS AND ACCESSORIES
CONSTRUCTION SITES AND VEHICLES**

OUR INDUSTRIAL EXPERTISE

- Founded in 2007, our company is present across the road signalling market and exclusively distributes its products to manufacturers and installers.
- We design and develop, in accordance with our partners' specifications, vertical signalling products designed to reinforce road safety.
- We dedicate a significant share of our turnover to innovation in order to offer solutions in response to our partners' expectations.
- Every year, we invest in research and development, as well as in industrial tools in order to guarantee the quality and reliability of our equipment.

LIGHT BEACONS



V.M.S.



LED SIGN



PLASTIC BEACONS



OUR CERTIFICATIONS

- ISO 9001
- ISO 14001



OUR VALUES

- Having awareness of the challenge represented by environment protection leads to a benchmark request which can enable socio-economic players to assess their activities regarding the environment.
- To respond to this, we have implemented an environmental management system. That is why, when designing our products, we systematically consider a second life for the latter.
- In synergy with our certifications, our CSR policy allows us to integrate, on a voluntary basis, our company's social, economic and environmental concerns. We are therefore truly focussed on the training of our staff and the participation of disabled workers.
- In addition, we participate in the sponsorship of associations which are active in the disability (shared housing) and intellectual training of adults.



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LUMINOUS BEACONS AND WARNING LIGHTS

1

1.1 Beacons and Warning Lights

1.1.A. KIT OF 3 BEACON LIGHTS TO BE PLACED ON SIGN

☐ Lights compliant with NF EN 12352, L2H category

LIGHTS TO BE SCREWED OR RIVETED

- ☐ CMS LED light Ø 50mm
- ☐ LED light Ø 110mm
- ☐ CMS LED light Ø 110mm
- ☐ CMS LED light Ø 140mm
- ☐ CMS LED light Ø 205mm

LIGHTS ON K8 PLATE

- ☐ LED light Ø 110mm
- ☐ CMS LED light Ø 140mm
- ☐ CMS LED light Ø 205mm

LIGHT ASSEMBLY OPTION

- ☐ Lights assembled onto pliers
- ☐ Lights assembled onto magnet

LIGHT CONNECTIONS

- ☐ Jack: male side light and female side supply.
- ☐ XLR: female side light and male side supply.
- ☐ A/C: male side light and female side supply.
- ☐ Direct, central and flashing connections.

OPTION

- ☐ PU spiral cord 2 x 0.75mm 2m deployed.



1.1.B. CONSTRUCTION SITE SIGN EQUIPPED WITH 2 OR 3-LIGHT KIT

- In accordance with Standard NF EN 12352, as well as XP 98-540, XP 98-541 and XP 98-545.
- Kit of 2 or 3 LED lights with diameter 110 or 140mm.
- Amber-coloured diodes.
- Flanged edge signs made of galvanised steel or aluminium.
- Operation: to be connected to a 12V power supply for a single or double flash operation with light management per twilight sensor.
- Supply via battery cells or batteries.

FEATURES

- Symbols:
 - › AK2; AK3; AK4; AK5; AK14; AK17; AK22; AK30; AK31; AK32
- Signs:
 - › KM1
 - › KM2
 - › KM9 1 and 2 lines
- AK triangles with a dimension of:
 - › 700mm
 - › 1000mm
 - › 1250mm
 - › 1500mm
- Fastening:
 - › Back rail
 - › Lyon foot (only for small and normal ranges)

OPTIONS

- Lights assembled onto pliers
- Lights assembled onto magnet



1.2 K8 and KD 2-light kits

2-LIGHT ANGLE IRON FOR K8 SIGN

- Aluminium angle iron equipped with 2 LED lights Ø 110 or 140mm assembled onto plate.
- On/Off/Night Switch.
- Day/Night operation or Night only with the twilight sensor.
- Single flash or Double flash mode.
- Jack connections or cable gland.
- Power supply to 2-battery cell box or to battery.



1.3 Intervention triangle

- Closed-back aluminium casing sign.
- Transport handle.
- Re-foldable galvanised steel foot.
- Equipped with kit consisting of 3 LED lights Ø 110mm in accordance with European Standard NF EN 12352.
- Operation: to be connected to a 12V power supply for a single or double flash operation.
- Power supply through batteries.

FEATURES

- › Retro-reflective film: Class 2
- › Symbols: AK14; AK30, other pictograms on request
- › Dimensions: 700 and 1000mm



1.4 Directional 5-light bar and work site cascade

1.4.A. DIRECTIONAL LIGHT BAR

- CMS LED lights with Ø 205mm in accordance with European Standard NF EN 12352.
- Assembly onto black lacquered aluminium profile.
- Top hat to facilitate the passing of the cables with rail at the back
- Electronic control box (running to the right, stoppage, running to the left, single flash in Day/Night mode or night only).
- The light intensity and running speed are adjustable.
- Bar designed for traffic management and work site signalling.
- 5 lights guaranteeing long distance visibility.
- Twilight LED cell to avoid dazzling road users.
- Equipment for K8 and KD signs.

FEATURES

- > Dimension (aluminium bar) 1200 x 123mm
- > WEIGHT (aluminium bar + 5 lights) 3kg
- > Lights 12V
- > Consumption 1 to 0.5A in Day mode
. 0.3A in economy (NIGHT) mode



1.4.B. WIRED LED LIGHT CASCADE

- The main light contains the control circuit which controls the other lights.
- It provides momentum which triggers the following lights connected in a series by a 12m cable by default.
- Control by twilight sensor.
- The main light is connected to a 12V power supply by a 5m cable with XLR connections or pliers.
- Cascade with a maximum of 10 lights.

CONTROL LIGHT FEATURES

- › Mode: Flashing
- › Features twilight sensor, Control circuit
- › Voltage 12V
- › Flash power: L8H (>1600 cd)
- › Dimensions (LxHxW) 140 x 230 x 240mm
- › Light part dimensions Ø 200mm
- › Weight: 1.7kg

CONTROLLED LIGHT FEATURES

- › Mode: Stationary/Flashing
- › Voltage 12V
- › Flash power: L8H (>1600 cd)
- › Dimensions (LxHxW) 140 x 230 x 240mm
- › Light part dimensions Ø 200mm
- › Weight: 1.7kg



1.5 Kits of 2 and 3 LED LIGHTS for access control and FLR TRAILER

1.5.A. LED LIGHTS: Ø 200MM

- Compliant with European Standard NF EN 12352. Class L8H.
- Assembly onto aluminium angle iron or pole with dimensions 80 x 40mm or 80 x 80mm.
- Pre-cabled with a 5m cable.
- Power supply voltage 12/24V, 52mm flanges.

FEATURES

- > LED light dimensions Ø 210 x (P) 75mm
- > Light intensity of LED light L8H (>1600 cd)
- > Weight: 0.6kg
- > Consumption 0.9A to 12V



1.5.B. LED LIGHTS: Ø 340MM

- Compliant with European Standard NF EN 12352 Class: L9H.
- Pre-cabled with a 5m cable.
- Power supply voltage: 12, 24, 230V

FEATURES

- > Dimensions (LxH): 340 x 215mm
- > Weight: 2.3kg
- > LED light consumption 1A to 12V



1.6 Power supplies for warning lights

1.6.A. MAGNETIC RECHARGEABLE BATTERY BOX

7 AH BATTERY BOX

- IP66 PC battery box 180 x 180 x 75mm.
- 1 7Ah rechargeable waterproof Lead Battery.
- LED battery discharge indicator.
- 5A protection fuse
- 1 Handle.
- 2 slip-resistant magnets.
- Male XLR connections or female cigarette lighter used to power the lights and recharge the battery.
- Battery life: 4 days in forced start mode at room temperature, in economy and single flash mode.



17 AH BATTERY BOX

- IP66 ABS battery box 289 x 239 x 107mm.
- 1 17Ah rechargeable waterproof Lead Battery.
- LED battery discharge indicator.
- 5A protection
- 1 Handle.
- 4 slip-resistant magnets.
- Male XLR connections and female cigarette lighter used to power the lights and recharge the battery.
- Battery life: 10 days in forced start mode at room temperature, in economy and single flash mode.



Option

- Connected board
- Twilight sensor

BATTERY CHARGER

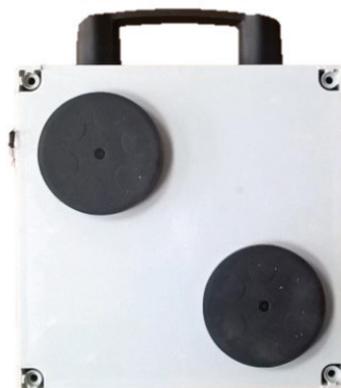
- 230 VAC/12VDC - 2A battery charger
- Charge time:
 - > 7Ah battery in 3 hours.
 - > 17Ah battery in 8 hours.
- Female XLR connections for adaptation to the removable battery tray.

Guarantee

1 year, excluding battery, factory return.

Recommendation:

Suitable for warning lights



1.6.B. 2-BATTERY CELL BOX

- Connections: 3 jacks.
- Flashing unit with single and double flash function, and combined.
- On/Off/Night Switch.
- Forced operation mode or night only.
- Use with 4R25 6VDC battery cells
- Duration of 50Ah battery cells: 25 days in forced start mode at room temperature, in economy and single flash mode.
- Duration of 7Ah battery cells: 4 days in forced start mode at room temperature, in economy and single flash mode.

Recommendation:

Suitable for warning lights



1.6.C. BATTERY TRAY

- Tray with lid for 74Ah open lead battery.
- Connections: XLR with waterproof lid.
- 5A blade fuse 5 x 20mm.
- 2 battery terminals for connection.

Recommendation:

Suitable for any type of cascade



1.6.D. INTEGRATED MOBILE SOLAR BOX 20/40 W 17/26/34 Ah

- Solar panel: 20 or 40W.
- AGM battery 17, 26 or 34Ah.
- Connections: Jack, XLR and A/C.
- Battery indicator.
- ON/OFF switch.
- Transport handle.
- Rails at the back to be placed in a stationary position.
- Closure with padlock.
- Specially designed for bi or tri flash power supply.
- Battery life for a tri flash: 3 weeks without sunlight.

Options:

- Twilight sensor
- Connected board
- 40W panel: suitable for 5-light bars



1.6.E. AUTONOMOUS BOX ON 26AH BATTERY

- 2mm aluminium box.
- 26Ah battery
- Battery voltage indicator
- Robust handle.
- XLR base.
- 3 x Jack outputs.
- Twilight sensor mode: Forced (24h/24) or Auto (NIGHT).
- 230V IEC base for charger.
- Charging indicator.
- 12V output cut-off switch.



FEATURES

- › Overall dimensions: 335 x 195 x 150mm
- › Weight (with integrated battery): 10.5kg
- › Electrical protection indicator (Sheltered 230V connection): . . . IP44
- › Nominal battery capacity: 26Ah at 20 °C
- › Power supply from the integrated charger: 210-240VAC 50 Hz
- › Cell operating mode: Forced/Night only (Auto)
- › 230V charger voltage presence indicator: By white LED
- › Battery voltage multi-function indicator: By RGB LED
- › 12V output protected on male 3-pin XLR base: 3A maximum (Total output current)
- › 12V output protected on cigarette lighter base with Ø 14mm: 3A maximum
- › Protected 6.35mm jack outputs: 3 x 1A maximum per route

Option

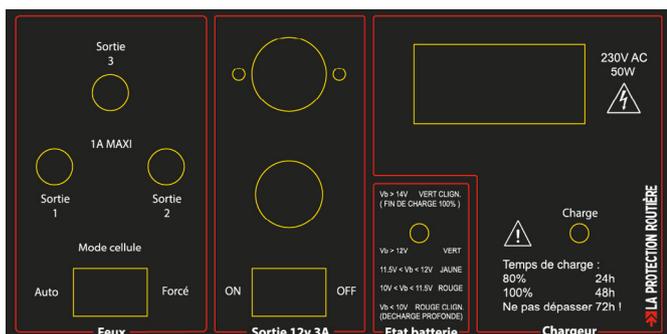
- › Connected board

Recommendation:

- › Suitable for warning lights

Battery life:

- › For the 5-light bar: 60h in economy running mode
- › Flashing mode: for a tri flash with Ø 110mm: 120h in economy mode



1.6.F. AUTONOMOUS BOX ON 38AH BATTERY

- 2mm aluminium box.
- 38Ah max battery
- Battery voltage indicator
- Robust handle.
- 1 XLR base.
- 1 Jack base.
- Twilight sensor mode: Forced or Auto.
- 230V IEC base for charger.
- 12V output cut-off switch.

FEATURES

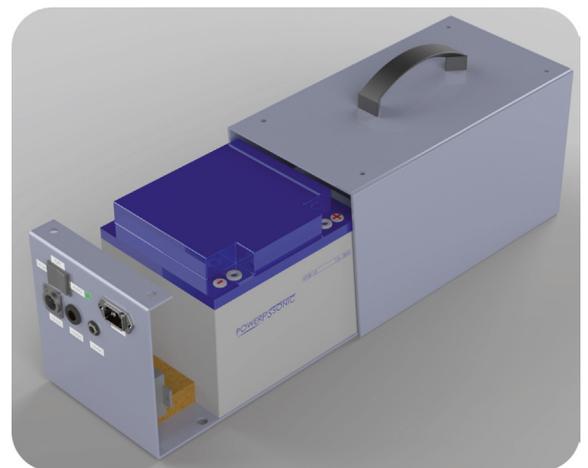
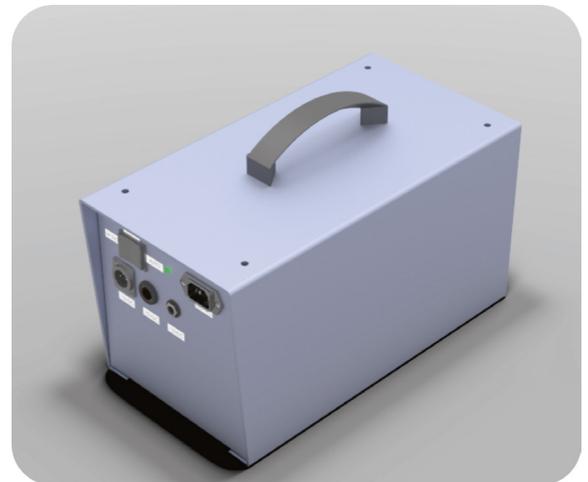
- › Overall dimensions: 340 x 188 x 178mm
- › Weight (with integrated battery): 10.5kg
- › Electrical protection indicator (Sheltered 230V connection): . . . IP44
- › Nominal battery capacity: 38Ah at 20 °C
- › Power supply from the integrated charger: 210-240VAC 50 Hz
- › 12V output protected on male 3-pin XLR base: 3A maximum (Total output current)
- › 12V output protected on cigarette lighter base with Ø 14mm: 3A maximum
- › Protected 6.35mm jack output: 1A maximum
- › Cell operating mode: Forced/Night only (Auto)
- › Battery voltage multi-function indicator: By Tricolour LED

Option

- › Twilight sensor
- › Connected board

Battery life:

- › For the 5-light bar: 86h in economy mode



1.7 Autonomous radio cascade lights and safety lights

1.7.A. WIRELESS SYNCHRONOUS TOPLED CASCADE, LED LIGHTS SYNCHRONISED BY RADIO

Each light of a Synchronous TopLED cascade is equipped with a self-synchronising control circuit enabling multiple configurations and greater operation safety. When they start up, all the lights synchronise to the radio-coded signal of the Frankfurt transmitter.

- Operating modes: Sequential, Running/Prohibition: Synchronous, Alternating.
- Alternating mode: 2-3-2 example
- Uni-directional transmission (one-sided).
- Twilight sensor.
- High intensity LED.
- Self-synchronising.
- Cascade up to 15 lights



ACCESSORIES

- Air alkaline battery cell: compact 50 - 6V - 50Ah

FEATURES

- › Battery life (Cascade mode): 50Ah Night: approx. 116 days
- › Day and Night: approx. 58 days
- › Compliant with EN 12352 Class L6+7

1.7.B. SAFETY TOPLED FOR BEACON

- High power LED. Compliant with Standard EN 12352.
- Mono-battery cell power supply block integrated into and attached to the beacon.
- No external cable.
- Polycarbonate-injected lens.
- Function switch: On/Off and Flashing.
- Twilight sensor.
- Assembly of multi-orientation battery cells
- One-sided (Yellow)
- Double-sided (Red).

FEATURES

- › Flashing frequency 60/min.
- › Battery life (h) (FLASHING/STATIONARY): 1 x 7 Ah: 360/100
- › 1 x 50 Ah: 2400/1000
- › Compliant with EN 12352 Class L6+7



1.7.C. EURO-LITE COMPACT

- High performing LED.
- Uni or bi-directional.
- Start-up during the deployment of the feet.
- Supply via battery cell or battery.
- Protection of batteries against rapid discharge and overload.
- Luminosity: 660 cd.
- Approval: E1 10R-047845.

FEATURES:

- > Power supply (battery cell): 2 battery cells - 6V/50Ah;
- > Power supply (battery): 1 6V/4.5Ah battery
- > Approx. battery life (50Ah battery cell): 30 days
- > Dimensions (LxWxH): 185 x 90 x 345mm
- > Weight 1.3kg
- > Compliant with EN 12352 Class L8M



OPTIONS/ACCESSORIES:

- Support tray and charging of the Eurolite compact lights
- 230V mains charger

One-sided:

- Euro-lite powered by 4 6V/9Ah battery cells
- Euro-lite rechargeable battery with 230V charger included

One-sided with charging tray:

- Charging tray for vehicle

1.7.D. CASCADE FLASHING CONE

- Compliant with NF EN 12352. Class L7.
- Function: cascade flash or synchronised flash.
- Power Supply: 1 4R25 battery cell.
- Functions automatically during the fitting onto the cone and switches off during the removal.
- Maximum distance between cones: 18m.
- Duration of 50Ah battery cell: 100 days



OPTION/ ACCESSORY:

Available in non-synchronisable mode



1.7.E. MAGNETISED FLASHING CONE

- Emergency kit for securing a site.
- Set of 6 units.
- Maximum distance between 2 cones: 15 metres.
- 3 sides of 4 LEDs visible at 360° and at 1.5km.
- Lithium battery, ECE-R10.
- 24 hour battery life.
- 5 hour charging time (12V and 220V).
- Dimensions: 103mm x 91mm x 30mm
- Weight of full kit, charging case + studs: 5.6kg
- Many operating modes, including running.
- Positioning on the cone with magnetised adapter.



1.7.F. BALLASTED PORTABLE CASCADE

1.7.F1 700MM SELF-SYNCHRONISING FLASHING BLADE

- Light intensity: 600 cd.
- Operation duration: 240 hours.
- Colour available: red or blue
- Compliant with NF EN 12352 L8M/L8L.
- Self-synchronisation by radio.
- Easy, fast and safe deployment.
- Functions with 4 LR14 battery cells.

FEATURES

- › Dimension: 710 x 215mm
- › Class II film: 500 x 187mm
- › Base: recycled
- › Blade: ABS



1.7.F2 1000MM SELF-SYNCHRONISING HL FLASHING BLADE

- Light intensity: 750 cd.
- Operation duration: 160 hours.
- Compliant with NF EN 12352 L8M/L8L.
- Self-synchronisation by radio.
- Easy, fast and safe deployment.
- Functions with 4 LR14 battery cells.

FEATURES

- › Dimension: 970 x 215mm
- › Class II film: 750 x 187mm
- › Weight: 12kg



1.7.G. TELE-FLASH WITH BATTERY CELLS OR RECHARGEABLE BATTERY

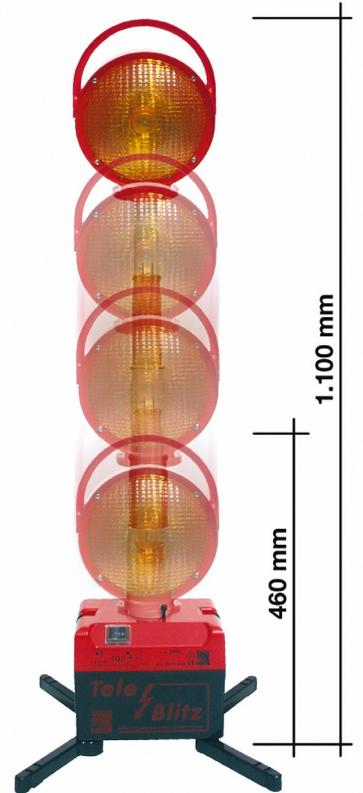
- Light height adjustable up to 95cm, handle included.
- Red/white telescopic support.
- LED flashing light
- Very high luminosity.
- Assembled onto 4 foldable feet, very strong stability.
- Charging possible on 12V/24V vehicle.
- Available in radio synchronisable version.

LIGHT FEATURES ON BATTERY CELLS

- › Flash frequency: approx. 60/min.
- › Flash power: 2J
- › Power Supply: 4 battery cells, 6V/7Ah
- › Battery life/h approx. : Days: 4, Nights: 10
- › Dimensions (LxWxH): 215 x 155 x 450mm
- › Weight: 2.5kg

LIGHT FEATURES ON BATTERY

- › Flash frequency: approx. 60/min.
- › Flash power: 2J
- › Power Supply: 1 battery, 6V/7Ah
- › Battery life/h approx. : Days: 5, Nights: 10
- › Dimensions (LxWxH): 215 x 155 x 450mm
- › Weight: 4.2kg



1.8 Airport traffic lights

1.8.A. PORTABLE LIGHTS

This warning signal which is used at the airport on a daily basis is the best visual reinforcement for the demarcation of safety perimeters or the beaconing of temporary work sites. Furthermore, it is also perfectly suitable as a complement to the marking of the traffic lanes when flexible structures are necessary since stationary lights cannot be used. The use of the devices is extremely simple just like their storage in a simple shelf system which also serves as a charging station.

ADVANTAGES:

- › Low cost
- › Sustainability
- › Exceptional quality
- › Ultra fast implementation

TECHNICAL EQUIPMENT

- › LED lighting
- › Light intensity >10 cd according to the ICAO standards
- › Horizontal 360° indicator/turning light 180° vertical
- › Functioning on two batteries 12Ah
- › Selectable operating modes:
 - › automatic twilight control
 - › day and night
- › Waterproof charging plug
- › Robust plastic box for intensive use
- › The battery box is equipped with a retro-reflective adhesive
- › Support secure due to its size removable
- › Anti-skid support. 8kg weight
- › Highly resistant to rupture thanks to a flexible rubber adapter which connects the lamp to the support.



1.8.B. TRANSPORT TRAILER

Fully equipped, the trailer can contain up to 70 safety lights. It is equipped with a trailer coupling with a spherical head. The airport transport trailer is designed in accordance with traffic law. Roof-mounted fan with ventilation included to prevent the accumulation of unwanted heat on the inside. The shelf system for the interior design is composed of two levels to receive the lamps, including their charging equipment. A transport bolt for all the lamps guarantees their firm position and avoids any potential damages during the transportation. This system also has a drain for any run-off water or rainwater which could stay on the lamps after use. The inside may be fitted and equipped individually on request.

FEATURES

- › The dimensions of the vehicle (LxWxH) . . . 5200 x 1600 x 2059mm
- › total weight at authorised maximum load 2000kg
- › authorised maximum payload 1400kg



1.8.C. MULTI-CHANNEL POWER SUPPLY BLOCK

TECHNICAL SPECIFICATIONS

- Simultaneous charging of up to 10 portable lights.
- Safety lighting available
- Practical charging indicator



1.8.D. STANDBY LIGHTS

TECHNICAL SPECIFICATIONS

- › Built-in two-body solar stud (container stationary and lens interchangeable thanks to the built-in dowels).
- › Patented and micro-controlled DC-DC converter technology.
- › High quality photovoltaic cell.
- › The stud is assembled onto a receiving cup fixed permanently on the ground. This facilitates, after many years of operation, the changing of the stud without having to do any civil engineering work.



1.9 Work site lamps

1.9.A. SIGNALLED

- Work site lamp on 1 or 2-battery cell box.
- Head rotating at 360°.
- Polycarbonate-injected lens.
- Protected secret switches.
- Twilight sensor.
- Assembly of battery cells of any orientation.
- Multi-support fastening flanges, 50mm circle or 52mm square.



BI-BATTERY CELL FEATURES

- › Flashing frequency: approx. 60/min.
- › Power Supply: 2 x 6V 50Ah
- › Battery life: Flashing 2400h/Stationary 1000h
- › Weight: 1.1kg

MONO-BATTERY CELL FEATURES

- › Flashing frequency: approx. 60/min.
- › Power Supply: 1 x 6V 7Ah
- › Battery life (h): Flashing 300h/Stationary 80h
- › Weight: 0.74kg

1.9.B. OPTIMA LED LIGHT

- Powerful light on double battery cells.
- Polycarbonate-injected lens.
- Twilight sensor.
- Assembly of battery cells of any orientation.

- Multi-support fastening flanges, 50mm circle or 52mm square.
- Class L8L - EN 12352



FEATURES

- › Flashing frequency: approx. 60/min.
- › Power: 300 cd
- › Battery life (h): Flashing 500h/Stationary 120h
- › Power Supply: 2 x 50Ah
- › Average consumption: 1.5A
- › Dimensions (L x H x W): 120 x 190 x 335mm
- › Weight: 1kg

1.9.C. WORK SITE SIGNALLED 4000 LAMP

- Lens Ø 210.
- Polycarbonate injection.
- 80 LEDs per lamp.
- Light intensity: 560 cd.
- Intertwined double magnifying lens enabling amplification of the light source.
- Double switch.



FEATURES

- › Power Supply: 4 x 6V 50Ah
- › Battery life: Nights: 120; days/nights: 50

Available in self-synchronising version.

1.9.D. WORK SITE SOLAR LAMP

This bi-directional work site lamp functions like a traditional work site lamp but the battery does not need to be replaced thanks to the integrated solar panel and its rechargeable lithium battery. It is also equipped with an integrated anti-theft attachment and a photoelectric cell.

OPERATING MODE

- DAY mode
 - › The lamp remains lit in a stationary position
- NIGHT mode
 - › The lamp is activated in the evening when daylight decreases.
 - › It starts to flash at twilight thanks to an integrated photoelectric cell and switches off when the sun rises.

FEATURES

- › Composition Lens Ø 18cm – PC
 Box – PeHD
 Anti-theft attachment – electro-galvanised steel
- › Solar panel 164 x 21 x 3mm
 12 amorphous cells (6.96 Voc, Isc 55 mA, Vm 6V, Im 50 mA,
 O/T -30°/+60°, 3.3 W, 1000W/m)
 Duration of charged battery: +/- 30 hours
- › Battery Lithium 3.7V, 1250mAh, DC 1.5mAh
- › Colour Lens – yellow
 2 LEDs – yellow – Long life
- › Frequency Flashing +/- 60 per min.
- › Luminosity 6 cd
- › Internal switches On/off and stationary during the day/flashing at night
- › Photovoltaic cell Activation from 300 Lux
- › Dimensions (HxLxD) 35 x 19 x 11cm
- › Weight 750gr
- › Accessory Plastic polyvalent key



REINFORCED LED SIGNALLING

2

2.1 R1 beaconing and warning light

2.1.A. 205MM CMS LED LIGHTS

- LED with high amber luminosity
- Compliant with NF EN 12352 L8H
- Light Ø 200 (light Ø 300mm on request)

FEATURES

- >> Frequency of flashes 60/min
- >> Flash power: 1935 cd
- >> Casing dimensions for R1 light .. Ø 200mm: 300 x 300 x 120mm
- >> Weight: ~4kg

POWER SUPPLY

- 230V.
- Street lighting.
- Solar power supply.



2.1.B. BEND SIGNALLING

2 R1 lights associated with the J4 bend beacon

(cf. CIRCULAR N° 78-110 of 23 August 1978 on the indication of bends and SETRA guide on the indication of bends - case study, July 1981).



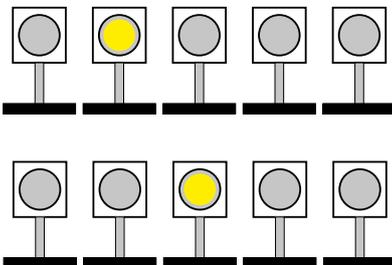
2.1.C. SYNCHRONISED CASCADES OF MORE THAN 2 LIGHTS

IP65 box 500 x 400 x 210mm containing the following materials:

- Management module via a website beyond 8 cascades.
- Solar regulator.
- 80W/165W solar panel.
- 55Ah 12V batteries and protection with external fuse circuit breaker.
- Board cascade with 8 8A/12V outputs per output.
 - Synchronisation control board, management via GSM for extension.
- Connected synchronisable flashing board for cascade with more than 2 lights



GSM SYNCHRONISATION OPTION VIA CONNECTED BOARD



- Secure communication based on the M2M (Machine to Machine) communication protocols and smart cities.
- Long range even across obstacles.
- Strong immunity to interferences.
- Encrypted communications between the ring roads.

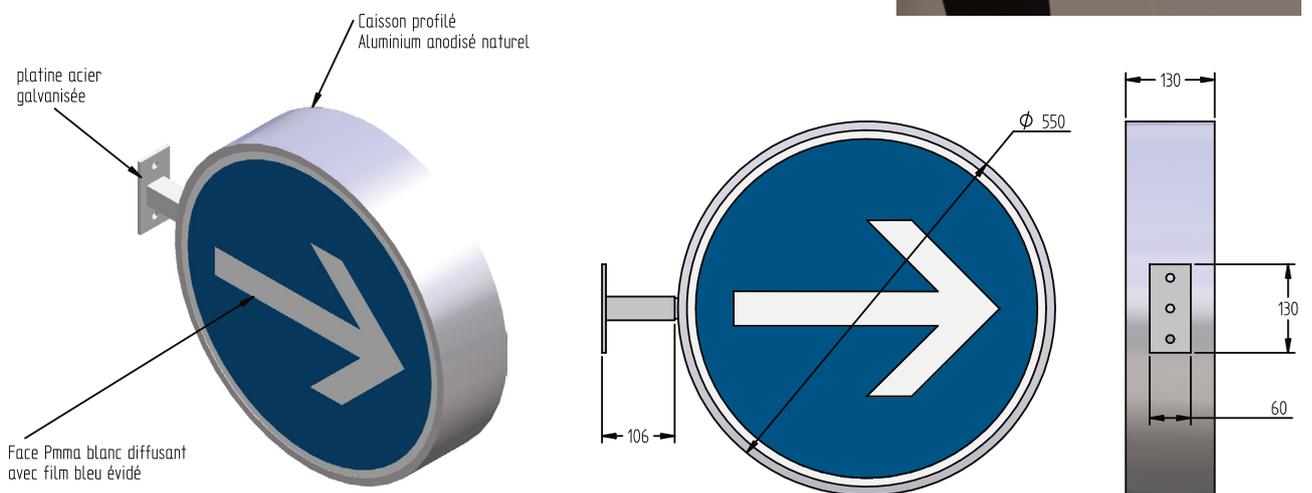
Advantages and limits

- Easy to deploy (wireless).
- Requires a power supply for each light
- No synchronisation is lost if any of the controlled lights is faulty.

2.2 LED backlit signs



- 130mm closed-back aluminium casing
- 3mm diffuse white PMMA side
- Strong LED density in order to enable an optimum reading of the sign
- Electronic management board with single or double flash function
- Any symbol and any range
- Rails at the back for fastening onto pole or flag mounting for fastening onto wall
- Power Supply:
 - › 12V for street lighting and solar power supply
 - › or 230V



2.3 Reinforced LED signs

- 50mm closed-back aluminium casing
- Listel and pictogram created with very bright LEDs.
- Strong LED density in order to enable an optimum reading of the sign
- Fastening by rails.
- Bi-component epoxy resin-coating of the PCB LEDs for perfect waterproofness and protection of the connections.
- Operating mode:
 - › Either electronic management board with the following functions
 - › Single flash
 - › Double flash
 - › Slow flashing and consumption management
 - › Or connected board
 - › Mode configurable through website.
- Any symbol and any range, including signs.



FEATURES

- › Symbols: All symbols
- › Triangular: from 500 to 1500mm
- › Round: from 450 to 1250mm
- › Square-shaped: from 350 to 1500mm



2.4 Power Supplies

2.4.A. MAINS POWER SUPPLY

Our range of mains power supplies lets you connect all our signalling if you have a permanent 230VAC electrical source.



Panel with integrated power supply

2.4.B. STREET LIGHTING POWER SUPPLY

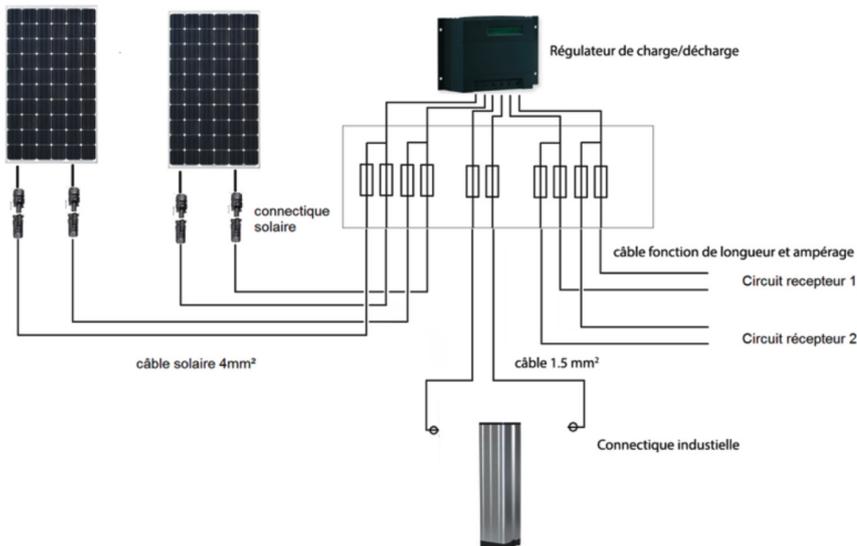
- Different street lighting power supply casings are available depending on the signalling connected. A high performing battery charger ensures the charging of the integrated battery during the night.
- Battery protection circuit breaker.
- Charger power supply protection circuit breaker.

2.4.C. SOLAR POWER SUPPLY

- Depending on the type of signalling and your geographic location, we can offer you the solar panel and its casing which are most suitable.
- The solar panel is supplied with its suitable support and equipped with a fastening rail.
- For high power applications, several panels can be paired.
- The assembly is carried out on a cylindrical pole.
- Solar charge regulator with 4 functionality indicator LEDs.



Installation example



2.4.D. INTEGRATED 17AH SOLAR POWER SUPPLY

- Solar panel support with integrated electronics.
- 17Ah battery.
- 50 to 80W solar panel.
- 1 male XLR base for the consumer connection.
- 2 rear M10 rails for fastening onto pole.
- Solar charge regulator.

FEATURES

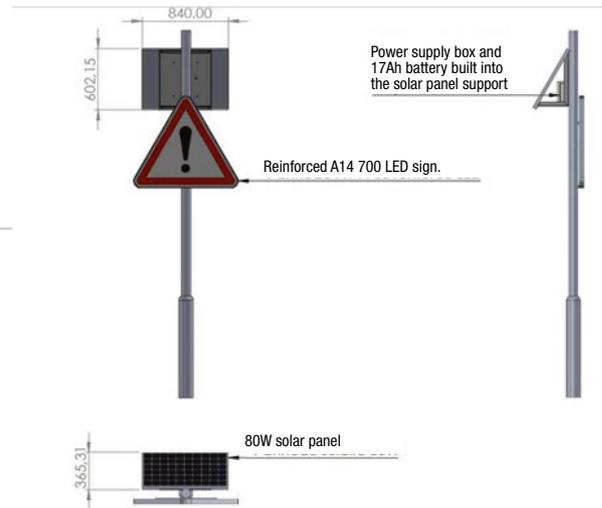
- › Overall dimensions: 840 x 600 x 360mm (LxWxD)
- › Weight (with integrated battery). 10kg
- › Electrical protection indicator: P66
- › Nominal battery capacity 17Ah at 20 °C
- › Peak power of the solar panel: 50-80 W
- › 12V output protected on male XLR base: 5A maximum

Option

- Connected board

Recommendation:

- Suitable for any type of equipment supplied by SIGNALITE



2.4.E. OPTIONS FOR POWER SUPPLIES AND REINFORCED LED SIGNS



To avoid power supplies or signs providing energy in vain and/or to attract the attention of motorists, they can be paired with one or more of the options below:

Daily, weekly or yearly clock:

Makes it possible to schedule a time slot for the operation of the sign in order to save energy during periods where lighting of the LEDs is not necessary.

Example: near a school, it makes it possible to schedule the lighting according to the school entry and exit times.

Doppler radar:

This radar is capable of detecting all types of vehicles approaching or moving away from it. It is also possible to programme a speed threshold, ideal for limit signs.

Size detector:

Detector with an adjustable height enabling the activation of a light system when a vehicle exceeds the size limits.

Counter direction detection:

Sensor enabling the start-up of a light system during the detection of a vehicle moving in the opposite direction.

Twilight sensor:

Automatically adapts the light intensity according to the ambient luminosity.

Temperature sensor:

Adds a temperature threshold for the activation of the sign.

Synchronisation of the lighting of the signs by modem or radio:

Enables the simultaneous operation of signs to the side and on the centre line on the same road, or the synchronisation of several signs on successive pedestrian crossings.

Delay system:

Keeps the sign lit up for a pre-defined time following the issue of an activation request via a modem or radar.

Sequencer:

Sequences the flashing of the LEDs of several parts of a sign or of several signs.

Pedestrian call button:

Activation of a sign or light system after a pedestrian presses a button provided for this purpose.

2.5 Road detectors

2.5.A. SIZE DETECTOR

OPERATION:

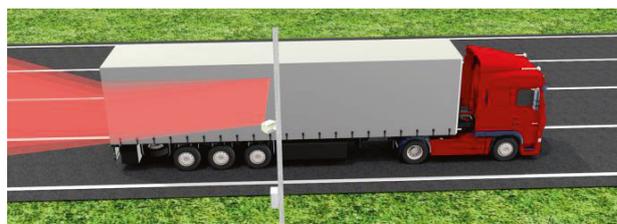
- This radar was designed to identify moving vehicles which exceed a certain authorised height. This system is generally installed near a bridge, tunnel or any other structure to be protected.
- Its operation is based on a four-plane laser scanner which improves its accuracy, thus avoiding the activation of false alarms. The luminous beam, which is invisible to the human eye and is 96° wide, is projected towards the target before being sent back towards a lens which filters out any parasitic illumination.
- This laser scanner is equipped with an internal heating system which prevents the formation of condensation on the lenses.
- In addition to alerting in the event of exceeding the maximum height, the device can also indicate in which lane the vehicle is located. Compared to the classic photoelectric cell systems composed of distant transmitters and receivers, it offers a simplified installation since its laser and control unit are placed on just one pole. In the same way, it is no longer necessary to manage and adjust the different elements, you only need to install it on the centre line of the lane to be monitored.
- The control unit is composed of an IP65 box containing: the electrical power supply, the CPU and a communication interface

FEATURES

- › Technology Laser Scanner
- › Laser wavelength 905nm - not visible
- › Laser Class Class 1
- › Scanning angle 96°
- › Maximum detection distance and speed 20m - 150km/h
- › Minimum detection size 50mm
- › Communication mode Ethernet
- › Alarm activation Relay contact, digital output, Software
- › Power Supply 12 or 24Vdc
- › Protection IP65
 - › Temperature range:
 - Version 1: -20°C to +50°C
 - Version 2: -40°C to +60°C

ALARM

The radar can transmit an alarm in different forms: by relay type dry contact, by digital output or by software protocol



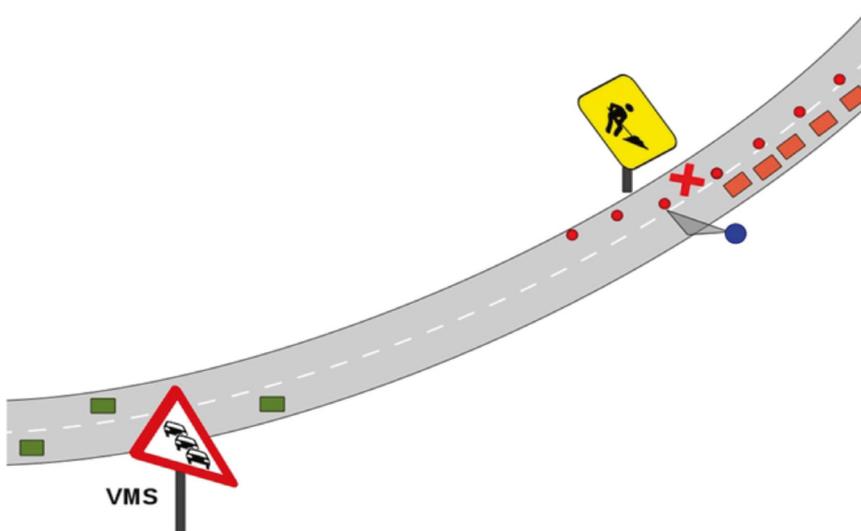
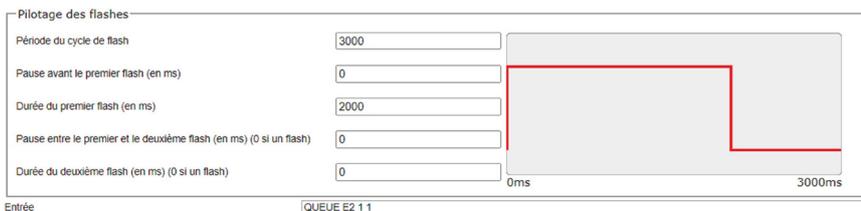
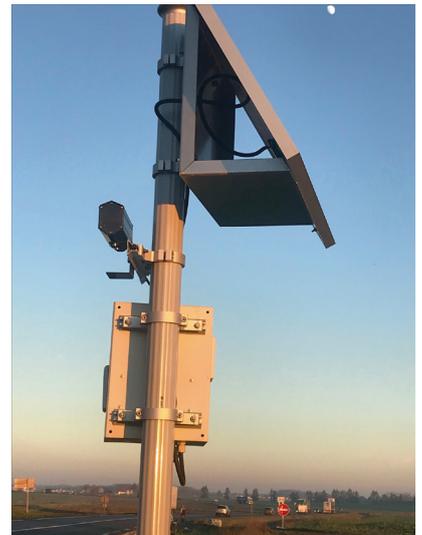
2.5.B. TRAFFIC JAM DETECTOR

OPERATION:

- The radar measures every vehicle which passes into its field of detection and transmits each measurement towards its interface.
- When the measured speed is below the "Traffic Jam Speed", a meter is increased.
- If this meter reaches a figure greater than the "Traffic Jam Number" without the "Traffic Jam Timer" reaching the set value (in seconds), the relay is activated.
- The radar maintains the contact as long as the speed measurements are below the "fluid speed". If the measurements exceed the "Fluid Speed" for a "Fluid Number", the relay is activated.
- If there is no measurement (vehicle detection) during the "Fluid Timer" (in minutes), the relay is also activated.
- Application: with connected transmitting and receiving board
- Choice of transmitter activation input

FEATURES

- > Frequency K Band: 24.1250 GHz
- > Detected speed range from 5 to 250km/h
- > Degree of protection IP65
- > Electrical power supply 12-60V CC
- > Electrical consumption +/- 89mA at 12V CC
- > Transmission power < 5mW
- > Operating temperature From -40°C to +75°C
- > Dimensions 70 x 100 x 270mm
- > Processor 20MHz RISC micro-controller
- > Interface RS-232
- > Baud rate from 9600 to 115,200pb
- > Weight 1.3kg, excluding all taxes and cable and assembly support
- > Horizontal installation angle 45°
- > Installation height 2.5m to 5m
- > Detection range maximum 10m
- > User output Inverter relay contact
- > Resistive load: 110VAC 0.5A – 24VDC 1A
- > Inductive load: 110VAC 0.2A – 24VDC 0.3A



2.5.C. COUNTER DIRECTION DETECTOR

OPERATION:

This multifunction model, equipped with two relays, can manage traffic lights, detect speeding vehicles or manage smart street lighting.

The speed range, detection distance and direction of movement are adjustable for both relays.

Compact and light, it is fast to set up without the need to stop traffic or carry out civil engineering works.

PRINCIPLE:

Detecting a vehicle moving at a speed included in the determined range and/or in the chosen active detection zone activates the relay(s). The relays are released when the movement stops or no longer responds to the chosen conditions.



FEATURES

- › Range Adjustable – Average: 120m – Trucks: up to 250m
- › Range of detectable speeds. from 3 to 200km/h
- › Detection direction Approach, distance or bi-directional
- › Dimensions 68 x 99 x 119mm
- › Weight (excluding cable and support) 320g (LV)
- › Degree of protection IP65, EN 50102 (IK)
- › Fastening system Double-L (provided), suitable for M8 screws and bolts
- › Operational temperature range from -40 °C to +60 °C
- › Power Supply 10-30VAC/12-60VDC
- › Consumption < 1VA
- › Frequency K Band – 24.165 – 24.235 GHz
- › Transmission power 5mW
- › User outputs 2 LEDs on front side – RS-232 two reversing relay contacts
(resistive load 30VAC 0.3A – 60VDC 0.3A)
- › Reaction time < 250ms
- › Relay maintenance time Adjustable



2.5.D. PEDESTRIAN ZONE DETECTOR

OPERATION:

This radar was designed to detect pedestrians and cyclists waiting to cross the road in order to make sure that the crossing stage is only authorised when they are present in the waiting zone.

Its development is based on a time-of-flight distance measurement radar technology capable of detecting mobile and stationary targets in a zone whose dimensions can be adjusted by an Android application. Unlike the optical sensors, it does not require the cleaning of the lens and maintains a stable and reliable detection under all weather conditions.

The electromagnetic wave signal transmitted by the radar is reflected by an object in its detection field, adjustable between 1 and 6m: by detecting the reflected signal, it can determine the distance and position of the object. Accuracy is granted by the operating frequency: 79 - 81 GHz.

STRONG POINTS:

- Temperature, moisture and dust without influence
- Huge performances under all exterior lighting conditions (even in total darkness)
- Compact size thanks to the reduced size of the antenna and the MMIC (Monolithic Microwave Integrated Circuit) technology
- Narrow detection beam
- Cost lower in relation to the LIDAR and other detection technologies
- Configuration easy on site thanks to the application

FEATURES:

- › Frequency:77 - 81 GHz
- › Modulation: FMCW
..... (frequency modulated continuous wave)
- › Power Supply: 9-24VDC
- › Energy consumption < 2.5 W
- › Range and field Length of the field of vision: 1 - 6m
..... Width of the field of vision: ± 1.5m
- › Measurement accuracy5cm
- › Visual indication red LED: power ON
..... green LED: detection ON
- › Inputs/Outputs. 1x NO & 1x NC Relay
..... .1x digital input
- › Mechanics Robust IP67 box and stainless steel support
- › Dimensions: L: 73.6 x H: 107.9 x D: 17.2mm
- › Weight 200g
- › Working conditions Temp.: -40 °C ~ +85 °C
..... Humidity: ≤ 90 %



2.6 Counting systems

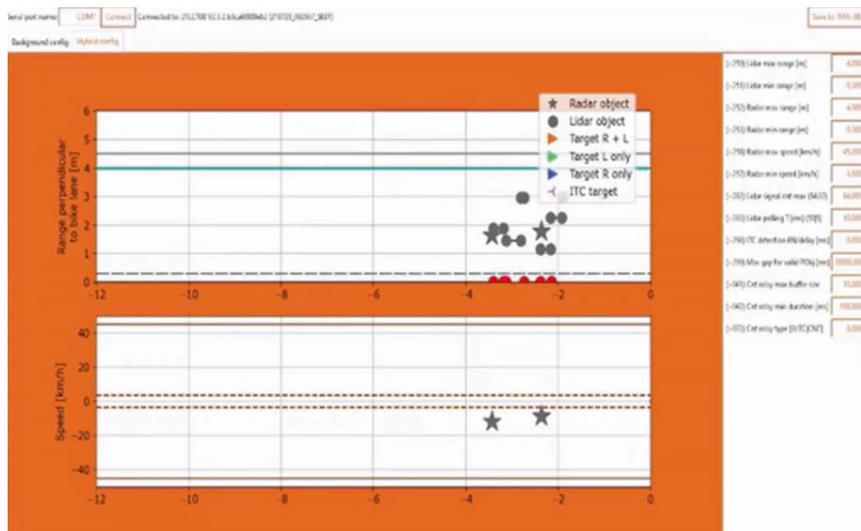
2.6.A. DETECTOR FOR CYCLE PATHS

- All the radar/LIDAR elements are built into the totem to count the bikes circulating around the cycle paths with great accuracy and discretion. It also measures their speed.
- The painted aluminium structure includes the Radar, the modem, the battery and the solar panel, making the assembly perfectly autonomous.

FEATURES

- > Detection direction
Bi-directional
- > Dimensions (excluding support) L 463 x H 2600 x D 259mm (solar panel included)
- > Weight 50kg, battery, solar panel and anchor plate included
- > Degree of protection IP65
- > Assembly 4 threaded rods, anchor plate available as an option
- > Operational temperature range from -20 °C to + 60 °C
- > 12V Battery Power Supply rechargeable by solar panel or street lighting
- > 220V power supply available as an option
- > Consumption 130mA/12VDC
- > K Band Frequency 24.165–24.235 Ghz + LIDAR (905mm wavelength)
- > User input (adjustments) RS-232
- > User output RS-232/4G modem

Bike detection graph



2.6.B. GREEN MOBILITY MAGNETIC DETECTORS



Cyclists are more and more present in the urban world. Whether on a purpose-built or mixed track, their presence requires the environment to be adapted to ensure their completely safe integration. The Green Mobility magnetic detectors provide specific detection and counting solutions to support you in the adaptation of your installations.

OPERATING PRINCIPLE:

These are vehicle detectors which react to any metallic presence or variation. They then transmit the command to the management system. The Green Mobility versions have a specific detection algorithm and suitable sensitivity. Combined with particular induction loops, they react accurately to the magnetic print from a bike, scooter etc.

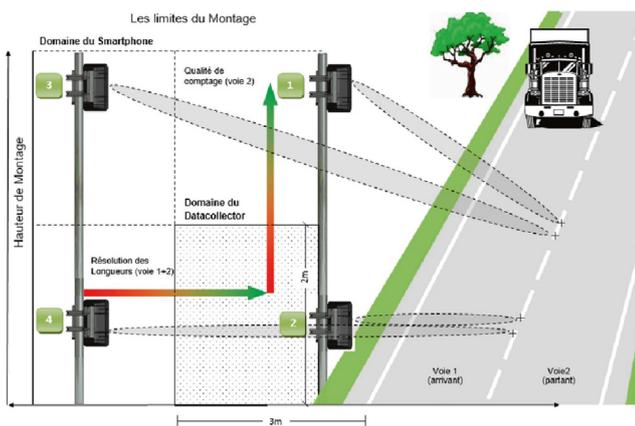
STRONG POINTS:

- Detection accuracy. Thanks to the recommended magnetic loops and its specific algorithm, the Green Mobility detector ensures an accurate and reliable detection and location of the cyclists.
 - Self-test: During the start-up, the entire installation is checked automatically then makes way for a permanent control.
-
- › Technology Magnetic detection by inductive loop
 - › Sensitivity Constant throughout the inductance range used
 - › Mode Omnidirectional
 - › Loop inductance Min 10 μ H Max 1500 μ H
 - › Output type On/off relay/golden contact for low current
 - › Transferred power NO/NC relay = Max 2A/28VAC/DC,
..... mini 10mA/ 5VDC. Positive safety
 - › Power supply voltage 230VAC - 24VDC
..... Electronic current and voltage protection
 - › Consumption < 1.5V
 - › Temperature range Storage: -50°C to +85°C
..... Use -30°C to +70°C.
 - › Degree of protection IP40 - UV resistant
 - › Dimensions with base 80 x 42 x 102mm
 - › Connection 11-pin base
 - › Interfaces Switch and potentiometer
..... Diagnostic message and relay output by LED
 - › Conformity EC

2.6.C. ROAD COUNTER

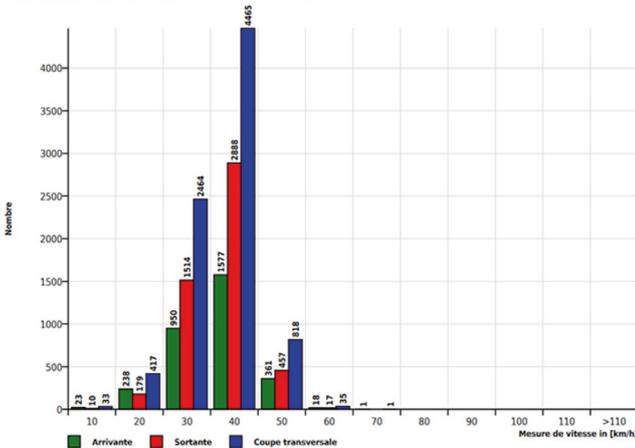
- This non-intrusive measurement data acquisition system is the perfect tool for traffic investigations. Its configuration is easy and traffic monitoring can be carried out on site using a smartphone without interrupting the traffic flow.
- Modern on-board wireless GPRS communication allows the user to access remote data without being on site.
- Environmentally-friendly electrical power supply
- This counter, which is of a low energy consumption design, can also be powered with the solar option which extends its data collection capabilities up to 365 days a year.
- Flexible and progressive

PRINCIPLE:

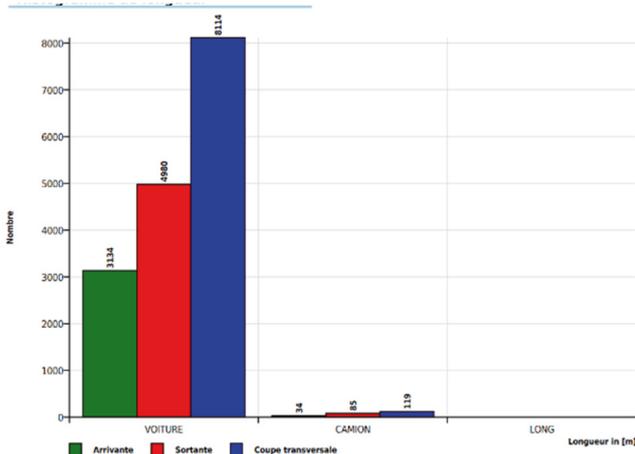


TYPE OF DATA COLLECTED

Speed histogram



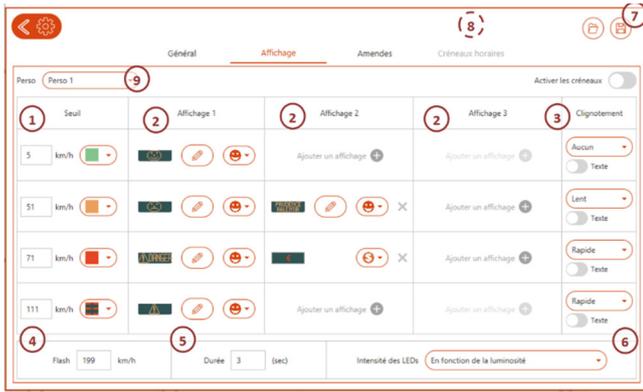
Length histogram



FEATURES

- › Sensor: Microwaves, 24.125 Ghz, output power 5mW
- › France: limited, at the minimum, to 24.075 GHz/ type 24.125 GHz/ maximum 24.175 GHz
- › United Kingdom: limited, at the minimum, to 24.150 GHz/ type 24.200 GHz/ maximum 24.250 GHz
- › Range of speed measurements: 3-250km/h or 2-155mph
- › SDR weight: 4.7kg (without rechargeable battery cell)
- › Room temperature: -20°C to + 50°C
- › Box: PP + PC
- › Casing dimensions (LxHxD): 300 x 350 x 150mm
- › Units: Metric or British (Imperial)
- › Data flow: Up to 115,200 bauds
- › Memory: 512kB (buffer RAM) + SD Card
- › Standard data format: Binary
- › Data format on option: Speed, date (dd:mm:yy), time (hh:mm:ss), direction (veh. only), length
- › Resolution: 1km/h; 0.1m
- › Configuration: With DataCollector + myTrafficData
- › BT smartphone range: Up to 50m of visibility from the front
- › Calibration: Automatic
- › Installation angle: . . . Horizontal 45°, Vertical 90° 60° (configurable)
- › Lateral installation distance: Up to 10m (without prior configuration: up to 3m)
- › Installation height: Up to 8m (without prior configuration: up to 3m)

SOFTWARE:



Configuration control interface:

For each speed threshold, it is possible to adjust the following elements:

- Colour of the figures (green, amber, red) or “anti-record” display (3 different “anti-record” displays are available: 2 centred red lines, 6 red lines or nothing).
- The text(s) combined with the speed range.
- The type of flashing.
 - › 3 general parameters are also adjustable:
 - › the speed threshold for the activation of the flashing light,
 - › the duration of each display,
 - › the light intensity of the diodes.
- Time slots.

The user can schedule four operating periods for each day of the week. Each period can be configured differently so as to adapt the message according to the speed and time of the day.

For example, near a school, it is possible to display “30m/h zone” messages during class times and “50m/h zone” messages in the evenings or at the weekends.

Statistical functions/reporting

- Direct export towards Excel
- General graph
- Speed classes
- Hourly throughputs
- Evolution curves of the average speed
- Excess speed percentage...



2.7.B. GRAPHIC SIS/VMS

The graphic SIS/VMS is equipped with a connected board and a radar operating as a radar speed sign indicating the speed of the vehicle with a warning if the set limit is exceeded, configurable via the supervision site.



FEATURES:

- › Input/output voltage:230VAC/12VDC
- › Maximum current: 8A
- › Number of LEDs (1 module): 4096
- › Network: GSM, integrated antenna
- › Radar:Integrated
- › Centralised status and management: Standard NFP99-340/341 (TEDI/LCR)
- › Web access: Any recent navigator



2.7.C. MOBILE CARRIAGE

- This carriage can easily move road signalling equipment across all types of work sites.
- This kit can be transported into any utility vehicle.
- To make the sign as autonomous as possible, we suggest that you add a solar kit to avoid any discharge of the battery which is too quick.
- Equipped with the speed information sign, it becomes a polyvalent tool designed for both the user and the road authorities.
- It makes it possible to:
 - › warn motorists about their speed in real time,
 - › inform the road authorities about the speeds and flows of users with statistics.



TECHNICAL FEATURES OF THE CARRIAGE:

Mechanics

- › Casing materials Aluminium
- › Sliding pole materials Aluminium
- › Dimensions with pole 200 x 70 x 70cm
- › Movement 2 wheels enabling the movement
 in the manner of a sack truck

Electronics (with the battery option)

- › Voltage 12V
- › Capacity 24Ah
- › Battery life (without solar kit) with one around 10 days
- › Road traffic 6000 vehicles/d

2.7.D. SUPERVISION SITE

THE SITE CONTROLS AND CONFIGURES THE GRAPHIC SIS/VMS EQUIPMENT

Voltage monitoring
Equipment operation mode
Alarms
Location

The screenshot shows a software interface for equipment supervision. At the top, there are navigation tabs: 'Équipements mobiles', 'Flash', 'Historique', 'Télécommande', and 'PIV'. The main header displays 'Flash synchronisé / Triflash (CM19968 SES NOUVELLE DEFILANTE 8 J4 N°2.8 / 0a026028)'. Below this, there are three main sections:

- Batterie:** A line graph showing voltage levels over time, with a y-axis ranging from 13.4 to 15.0.
- Alarmes:** A table with columns for 'Type', 'Source', 'Début', and 'Acquittement'. One alarm is listed: 'Équipement tombé' from 'équipement' starting on 16/02/2022 at 21:17.
- Map:** A satellite-style map showing the location of the equipment, with a yellow marker indicating the specific site.

CONTROL OF THE INSTALLED EQUIPMENT:

The 'Accueil' page provides a summary of active alarms. It features a table with the following data:

Alimentation insuffisante	Équipement tombé	Choc physique	Équipement muet
0	2	0	8

Under the 'Équipement muet' column, there is a list of equipment IDs: 1000089c, 0a029043, 0a02904b, 0a027046, 0a028031, 0a02a040 (highlighted), test bureau / 0a02901f, and test véhicule / 0a028045.

SIS MODE

The SIS MODE interface includes several components:

- PIV en mode Panneau d'information vitesse (Radar pédagogique):** A section for speed limit control.
- Débits horaire (veh/h):** A graph showing hourly traffic flow for 'Entrées' (yellow) and 'Sortie' (blue).
- Vitesses moyennes horaires (km/h):** A graph showing average hourly speeds for 'Entrée proche' (yellow), 'Sortie proche' (blue), 'Entrée lointain' (red), and 'Sortie lointain' (green).
- Alarmes:** A table showing an 'Équipement muet' alarm from 'équipement' on 24/01/2022 at 23:30.
- Messages:** A table with columns for 'Début', 'Fin', 'Priorité', and 'Contenu'. One message is shown: 'PIV 30 km/h' starting on 07/02/2022 at 15:52 and ending on 08/02/2023 at 15:52.

Arrows from the 'Messages' table point to two physical speed limit sign images:

- Below the speed limit:** A sign displaying '20 km/h'.
- Above the speed limit Alternating flashing light:** A sign displaying '21 km/h' and a 'DANGER' warning sign with a red triangle.

2.8 Photovoltaic creations

2.8.A. PHOTOVOLTAIC BIKE SHELTERS

- This photovoltaic bike shelter freely ensures the charging of the batteries of e-bikes.
- With a power of 1.3kWc, the equipment enables the simultaneous charging of 8 bikes.
- Thanks to the energy storage in the batteries, this assembly is operational 24 hours a day.
- Possibility of performance on 2, 4 or 6 bikes.
- The shelter is composed of a central steel tube pole with a diameter of 264mm, with a 700 x 700mm ground-mounted metal plate and equipped with 4 strengthening gussets. On the upper part of this pole, a connecting node is built-in, it allows the connection of 4 tube-shaped covering support arms with a 76mm diameter.
- The covering is composed of a perimeter frame with a 60 x 40mm section, the assembly is closed by goffered sheet metal panels. The structure is equipped with solar panels. The module has a 3000 x 3000mm dimension. All shades are available in the RAL colour chart.



2.8.B. AUTONOMOUS 24V PROJECTORS

- In photovoltaics, there are many configurations.
- In this scenario, it is necessary to light two panels upstream and downstream from a river for information regarding the river alternation in case of a rise in the water level.
- The projector is only powered at night by an astronomical clock, taking into account the sunrise and sunset.
- The assembly is composed of 2 110Wc solar panels, so 220Wc in total, and a 700 x 590 x 260 box equipped with 2 maintenance-free, watertight and lead-acid 12V/98Ah batteries
- A solar regulator
- A programmable astronomical clock
- Battery protection circuit breakers, solar panels and usage
- A 24VDC/50W LED projector.



2.8.C. LED LIGHT STRIPS

- LED light strips are the most simple and most economical choice for lighting with great efficiency at the points where the 220V network is not present: bus stop, bus shelters, bike shelters, gardens, courtyards, billboards etc.
- The system automatically regulates the luminosity according to the battery charge for an operation greater than 13 hours per night (100%, 50%, 25% regulation range).
- The solar panel must be faced southwards without obstacles (avoid trees, façades etc.)



VARIABLE MESSAGE SIGNS

3

3.1 Connected systems

3.1.A. FOR SIMPLE DISPLAYS



The connected board can be used in many existing products and for different functionalities. It is also configurable remotely with a display of its operating status via a supervision site accessible for each customer with a username and password.

3.1.A1 SYNCHRONISED FLASHES

Single Flash, Double Flash, Stationary.

APPLICATIONS:

- Light display (LED signs, R1 Light, LED Light etc.).
- Running ones (configurable running).
- Control board for synchronised running ones via 8-output board.
- Synchronised dynamic panels.

3.1.A2 CLOCKS

Operation in Flash Mode but while following a defined schedule.

APPLICATIONS:

- Light display (school hours, holidays, daily etc.).
- Relay.

3.1.A3 REMOTE CONTROLS

Enables, via a radar for example, the activation of a sign located further away.

APPLICATIONS:

- Traffic jam.
- Transmitter/Receiver.

FEATURES:

- › Input/output voltage: 12-24VDC
- › Standby current: 1mA
- › Maximum current: 8.5A
- › Power: 100W max
- › Number of outputs: 1
- › Number of synchronised lights: unlimited
- › Clock Principle synchronous millisecond
- › Antenna integrated
- › Web access Any recent navigator



3.1.B. FOR VARIABLE DISPLAYS

3.1.B1 SIS (SPEED INFORMATION SIGN):

In this mode, the SIS is equipped with a connected board and a radar operating as a radar speed sign indicating the speed of the vehicle with a warning if the set limit is exceeded, configurable via the supervision site.

3.1.B2 VMS (VARIABLE MESSAGE SIGN):

In this mode, the VMS is equipped with a connected board which controls the display on the sign, configurable via the supervision site.

Display possibility:

- Any type of sign with or without text.
- Text only.
- Dynamic (alternance of 2 displays).

FEATURES:

- › Input/output voltage: 230VAC/12VDC
- › Maximum current: 8A/module
- › Number of LEDs (1 module): 4096
- › Network: GSM, integrated antenna
- › Centralised status and management: Standard NFP99-340/341 (TEDI/LCR)
- › Web access Any recent navigator



3.1.C. ONLINE SUPERVISION SITE

The site controls and configures all the equipment which you have.

Alarms in progress

Alimentation insuffisante	Equipement tombe	Choc physique	Equipement muet
0	2	0	8
	test bureau / 0a02901f test véhicule / 0a028045		100089c 0a029043 0a02904b 0a027046 0a028031 0a02a040 test bureau / 0a02901f test véhicule / 0a028045

EQUIPMENT CONTROL:

Callouts: Voltage monitoring, Equipment operation mode, Alarms, Location

EQUIPMENT CONFIGURATION:

Pilotage des flashes

Horaires

Heure d'allumage	Heure d'extinction	Modèle calendrier
Minit	Minit	L1m.VJ... période scolaire (petites vacances+ ps fermés = éteint)
Minit	Minit	L1m.VS... période scolaire (petites vacances+ ps fermés = éteint)
Minit	Minit	L1m.VJ... période scolaire (petites vacances+ ps fermés = éteint)
Minit	Minit	Dimanche uniquement - période scolaire (petites vacances+ ps fermés = éteint)
Minit	Minit	L1m.VJ... période scolaire (petites vacances+ ps fermés = éteint)
Minit	Minit	L1m.VS... période scolaire (petites vacances+ ps fermés = éteint)
Minit	Minit	L1m.VJ... période scolaire (petites vacances+ ps fermés = éteint)
Minit	Minit	Mardi uniquement - période scolaire (petites vacances+ ps fermés = éteint)

SIS MODE

Alarms

Type	Source	Début	Acquittement
Equipement muet	équipement	24/01/2022 23:30	

Messages

Début	Fin	Priorité	Contenu
07/02/2022 15:52	08/02/2030 15:52	5	PIV 30 km/h

Start and end of display

En dessous de la vitesse

Au-dessus de la vitesse

Affichage par alternance

VMS MODE

Start and end of display

Page 1

Page 2

Choice of picture to be displayed

Text which will be displayed

3.1.D. EQUIPMENT MANAGEMENT VIA CELLULAR MODEM

Remote equipment control set using the GSM network. The solution consists of a display console, one or more activation remote controls and equipment control modules.

OPERATION:

- Connection of the equipment to be controlled on the output of the control module.
- Dispatch of the activation/shutdown instructions via push button.
- Confirmation of the proper reception of the instructions on the remote control.
- Display and control of the equipment pool on the console.

MAIN MONITORING CONSOLE:

- 7" control touch screen with a LINUX kernel.
- Display of the status of all the equipment.
- Control of equipment with acknowledgement of receipt when sending instructions.
- Possibility of remote update in the event of the addition of equipment (Internet access required).
- 220V power supply and battery.

EQUIPMENT CONTROL MODULE:

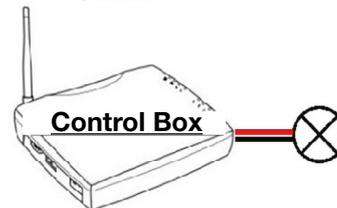
- GSM modem operating on M2M protocol.
- Equipment activation or shutdown
- Confirmation by acknowledgement of receipt of the proper receipt of the instructions.
- 12/24V power supply according to equipment.

REMOTE CONTROL FOR ACTIVATING ALL THE EQUIPMENT:

- Display of the connection to the cell network.
- Dispatch of the instructions for activating/shutting down all the controlled equipment by a push button.
- Display of the status of the equipment when the remote control is switched on.
- Display of the proper reception of the instructions by the equipment.
Power supply through rechargeable Lithium Polymer battery (USB-C Connector)

SECURING:

- The equipment control modules only respond to instructions from authorised N°s.
- Access of the console to the Internet is done through a secure and numbered connection (Bank RSA).



3.1.E. GSM MODULE MANAGEMENT APPLICATION

GSMCONTRALL APPLICATION:

GSMContrAll is a commercial application enabling the sending of text messages of instructions on the GSM control boxes and is available from the Playstore for ANDROID systems.

Configuration:

Once the application is installed, you can choose the number of systems to control (ex: BOUYGUES 1/2/3), allocate each one a telephone number, allocate functionalities and configure them to choose their functionality (3 choices):

Example:

- STATUS for finding out about the system's current status.
- ON to activate the system
- OFF to de-activate the system

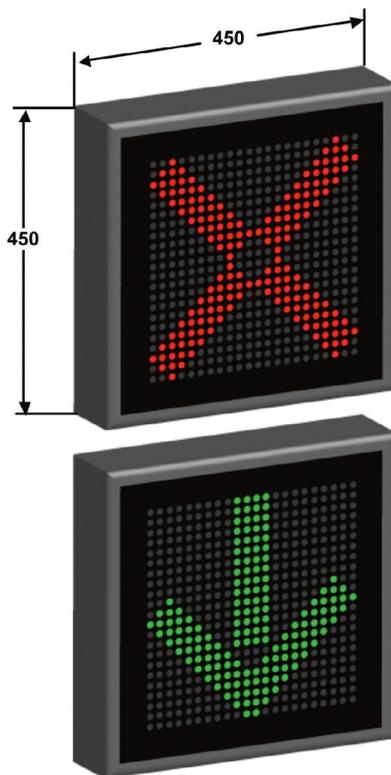
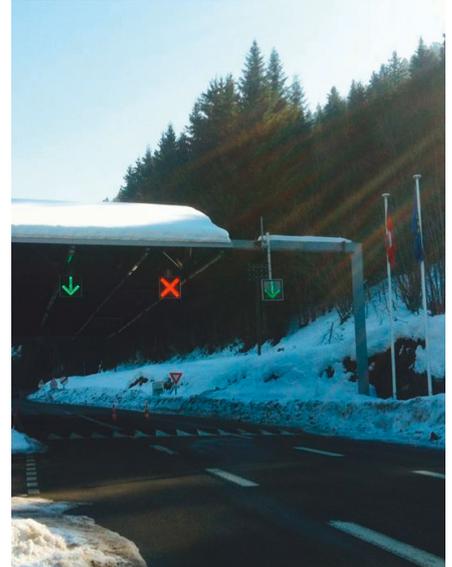
You just need to click on any of the choices offered, which will transmit the command corresponding to the host.



3.2 Lane allocations

3.2.A. 640x 640 LANE ALLOCATION LIGHTS

- Box in RAL lacquered aluminium profile of your choice (polyester or natural anodised powder as standard)
- Overall dimensions 700 x 700mm (other dimensions upon request)
- Opening by the front 4mm polycarbonate side.
- Fastening at the rear side using 2 Ø 60mm lacquered aluminium flanges.
- IP44 or IP55 electrical protection, and IK09 mechanical protection
- RGB LED with high luminosity
- 30° reading angle.
- Typical luminance of 125cd/dm².
- Management via supervision site.
- Automatic adjustment proportional to the luminosity via a cell embedded into the casing, or via manual adjustment on 10 levels by the supervision site.
- Power Supply 190-240V 50/60Hz.
- Variable consumption from less than 20W (pitch-black) to 100W (full sunlight)



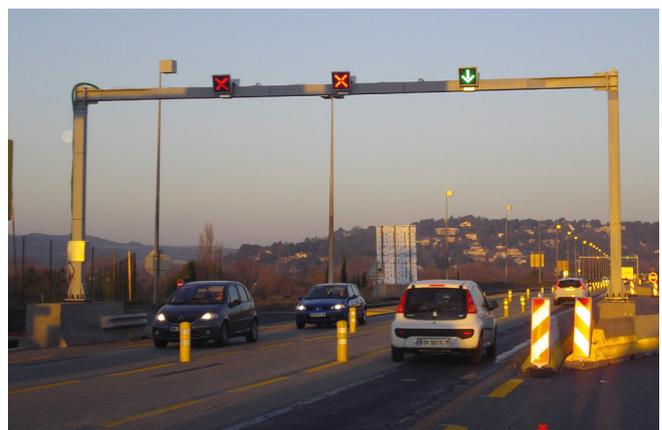
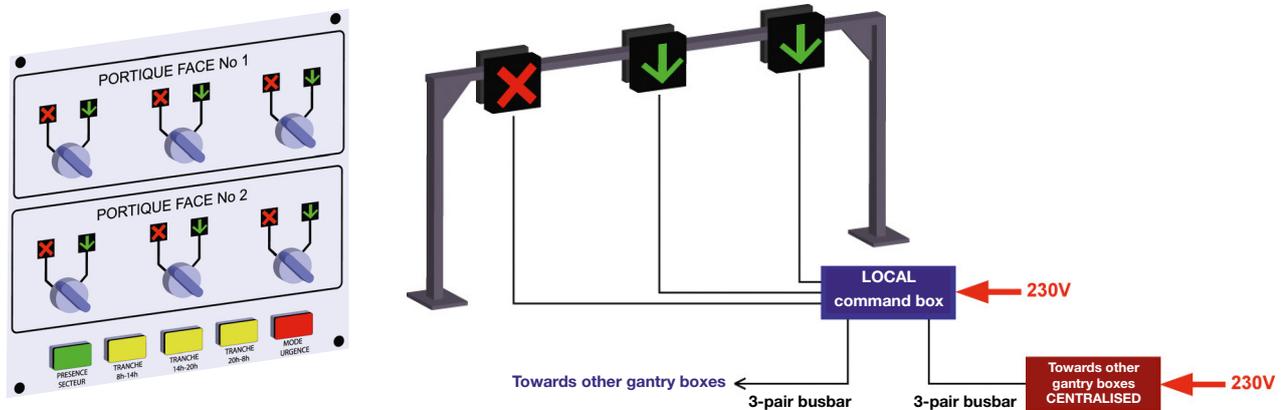
3.2.B. CENTRALISED F.A.V. GANTRY COMMAND BOX (EXAMPLE)

Technical features of the gantry command boxes

CONNECTIONS

- 300 x 400 x 200mm metal box, IP65 with lock.
- Arrival of the power supply cable from the box to the metal cable gland with terminals.
- The cable section is calculated to show a line loss less than 10% of the nominal 230V voltage (the FAVs operate from 190 to 240VAC).
- Passage of the cables via metal cable glands onto removable back plate.
- Centralised command of the boxes via SYT type 3-pair busbar
- All the power supply and command cables are terminated by withdrawable terminals for an easy disassembly with a keyed connection.
- Surge protector and differential circuit breaker for the general power supply of the box.
- Local or centralised command of several lane allocation configurations.

BLOCK DIAGRAM



3.3 VMSs (variable message signs)

3.3.A. V.M.S. 2 DIFFERENT DISPLAYS

Dynamic 1300 x 1300mm casing equipped with 2 LED luminous pictograms.

MAIN TECHNICAL FEATURES:

- 130mm thick aluminium casing
- Overall dimensions of 1300(L) x 1300(H)mm with 3mm aluminium rear side. Hot-lacquered thermo finishing (RAL colour to be defined or natural anodised as standard)
- Opening of the front side by screwed bead.
- Opening of the rear side for the current maintenance operations by means of two 650 x 250mm aluminium doors with "gutter" profile frame and seal. Stainless steel cam lock.
- 4mm thick polycarbonate front side.
- Stainless steel internal strengthening structure. A2 stainless steel screws and bolts.
- Red and white LED luminous pictograms with very high luminosity (4500 mcd minimum), with a 30° reading angle.
- Definition matrix of the 88 x 88 point pictograms (average distance of 14mm between each LED). Useful size of the display matrix: 1230 x 1230mm.
- Diode density of 65 LEDs/dm²/colour, i.e a luminance greater than 300cd/dm²/colour.
- Electrical protection indicator: IP55/Mechanics: IK08
- Forced thermostatic ventilation with IP55 anti-dust filter accessible via the rear of the casing (Temperature > 40 °C)
- Tropicalisation of the electronic boards via 2-layer acrylic varnish.
- Modular 10kA surge protector incorporated.
- Power Supply 220-240VAC 50Hz or 10 to 18VDC (to be specified)
- Average power consumed: 55W in active mode, 5W in standby mode.
- Automatic luminosity adjustment per integrated photoelectric cell.
- Remote management via GSM/GPRS modem with antenna integrated into the casing.
- 230V or 12VDC electrical connection on waterproof EN175301 connector.
- 200W anti-condensation heating optional.

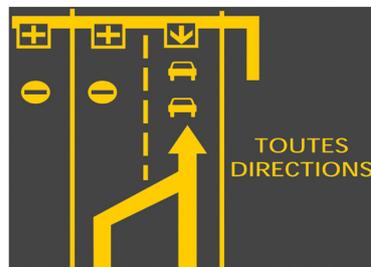
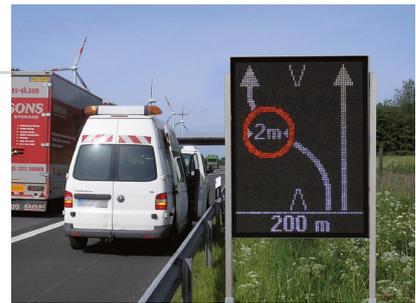


3.3.B. GRAPHIC V.M.S.

1100 x 1100 or 1300 x 1300mm dynamic graphic LED casing

MAIN TECHNICAL FEATURES:

- Bi-colour LED red and white or red and amber matrix with very high luminosity
- Stationary, flashing or alternating display of the pictograms and texts
- Dimensions: 1100 x 1100 and 1300 x 1300mm
- Library of road pictograms
- Cell for the automatic adjustment of the luminosity
- Adjustable flashing speed
- Memory location for symbols
- IP55 electrical protection, and IK08 mechanical protection
- Thermostatic forced ventilation (Temperature > 40°C) with filters
- Reading angle: 30°
- Power Supply 230V/50 at 60Hz
- Electrical connection by waterproof EN175301 connector on the rear side
- Configuration and parameterisation by PC Windows software (XP to Seven)
- 200W thermostatic anti-condensation heating as an option



3.3.C. 3-LINE DISPLAY V.M.S.

Sign with displays on several lines

MAIN TECHNICAL FEATURES:

- 8-character (Height: 100mm) LED amber or white monochrome display with very high luminosity (5000mcd)
- 30° reading angle
- Reading distance: 50m minimum
- Anonised aluminium casing
- 2mm anodised aluminium rear side
- 4mm thick polycarbonate front side
- Fastening by 2 aluminium rails for M10 bolts at the rear
- Thermostatic forced ventilation as standard
- IP55 electrical protection, and IK08 mechanical protection

ELECTRICAL FEATURES:

- Photoelectric cell integrated for luminosity adjustment on 255 levels.
- Power Supply 220-240 VAC (75VA maximum) or 10-18VDC (60W maximum).
- Electrical connection by waterproof EN175301 IP65 connector.
- Weekly hourly programming of the operating ranges for optimising the battery life in solar power or street lighting.



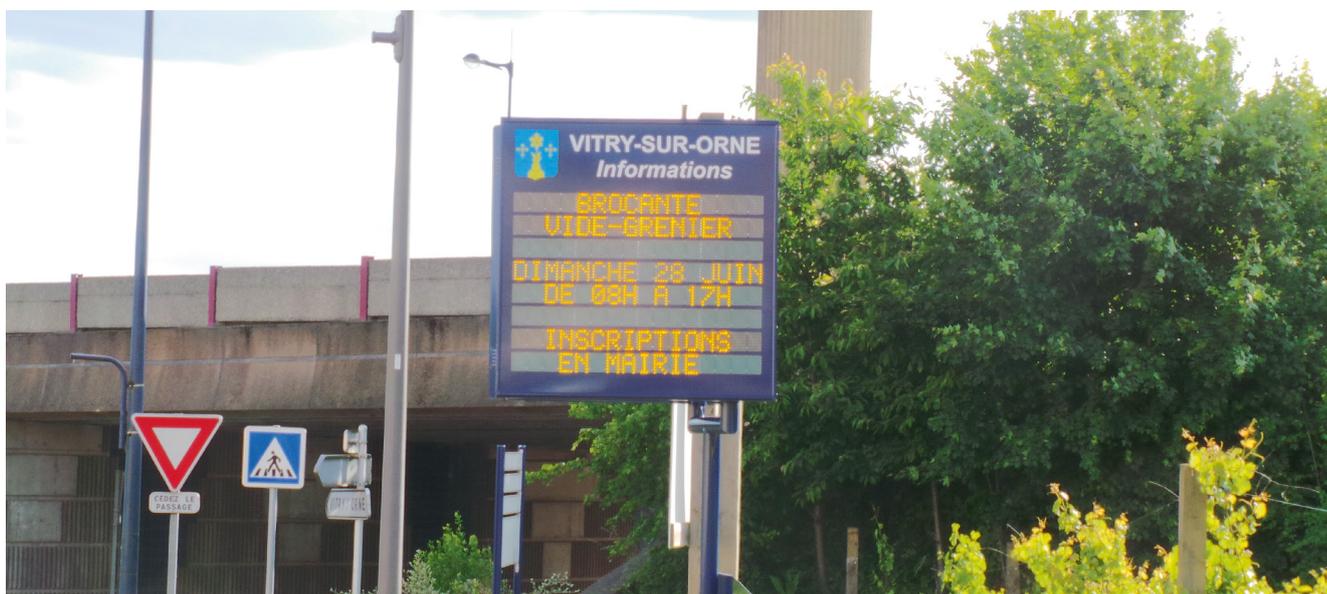
3.3.D. MUNICIPAL INFORMATION V.M.S.

MAIN TECHNICAL FEATURES:

- Thermo-lacquered aluminium box in the RAL of your choice
- Dimensions 1500 x 1500 x 152mm
- Polycarbonate front side with customised screen printing (coat of arms + text) in the RAL of the commune display
- One-sided and double-sided display
- 8 display lines per side
- 16 characters per display line
- Height of the characters 100mm when being read at a distance of 45/50 metres outside
- 230VAC power supply
- 5mm 8500mcd WHITE oval LED technology with mini 85° horizontal angle and mini 35° vertical angle
- Luminosity control sensor
- Memory of 156 pages programmable over time on a calendar level (days+times). An integrated real time clock enables the display of the time, date, day, holiday and even the outdoor temperature on the display sign (information much appreciated by the citizens, it represents a regular, even daily, point of reference).
- Management software provided and connection by:
 - › WIFI
 - › Network cable
 - › GSM in SMS mode (2 SIM cards borne by the customer)
- Reinforced tubular pole
 - › 4m high
 - › Ø 100mm

DISPLAY FEATURES:

- › Legibility angle: . . . 85° horizontal angle and 35° vertical angle
- › Alphanumeric display
- › Date & time display
- › Temperature display
- › Calendar programming



3.3.E. SAFETY DISPLAY

- Anodised aluminium box with dimensions 950 x 930 x 152mm
- 2 mounting brackets for assembly onto wall or onto support
- 230VAC power supply
- 1 set of 2 red characters for displaying the number of accidents
- 1 set of 4 red characters for displaying the number of days without accidents
- 1 set of 4 green characters for displaying the record number of days without accidents
- Height of the characters 50mm when being read at a distance of 20/25 metres outside
- Control sensor
- Complete screen printing of the front side
- The number of days without accidents increases automatically every day at 1 or 2 minutes past midnight
- 12-button XBEE (radio) remote control for a range of nearly 10/15 metres



3.4 Connected VMSs

The variable message signs are equipped with a connected board which controls the display, configurable via the supervision site.

DISPLAY POSSIBILITY:

- Any type of sign with or without text.
- Text only.
- Dynamic (alternance of 2 displays)

DESCRIPTION:

Composition of the sign from standard 640 x 640mm slabs

LED matrix sign full colour 640 x 640mm

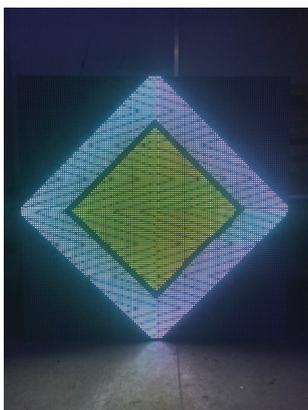
- Supervision and management via a GSM connection with integrated subscription for 5 years.
- Possibility of displaying combinations of pictograms (1 to 4) and text (different fonts).
- Pictograms: libraries of the main police signs.
- Spacing between (RGB) LEDs: 10mm.
- Automatic luminosity.
- Modular design: from 0.4 to more than 16m²
- Simplified maintenance.
- Centralised status and management in accordance with Standard NFP99-340/341 (TEDI/LCR) on TCP/IP
- The module is a class 1 PIP, with the INIT, P, PA, PE, ST, TST and VIDE commands
- With certain functions of class 2: (ID, DT, TRACE, P1, PS)
- Dynamic management of the space:
 - › **Mode 1** : amendment of the length of the lines: e.g 3 lines of 15 characters + pictogram or 3 lines of 20 characters
 - › **Mode 2** : amendment of the width of the characters: e.g 3 lines of 20 characters + optional pictogram or fixed configuration
 - › **As standard**, up to 4 pictograms per sign, size 400, 700 and 1200mm



Example of 4 modules for a dimension of 1280 x 1280mm

TECHNICAL FEATURES:

INPUT	Voltage	220VAC or 12VDC
	Max total current/module (640 x 640mm)	8A
	Number of LEDs (per module)	4096 RGB LEDs
	Connections	Withdrawable screw connector
COMMUNICATION	Network	GSM, integrated antenna
	Subscription	5 years of communication included in the price
	Configuration	Alternation of 2 events
	Priority of the events	Selection of the priority from 1 to 5
	Text on slab	Centring + positioning



SUPERVISION SITE

The site controls and configures your equipment.

Control of the installed equipment:

Alarms

Type	Source	Début	Acquittement
Équipement muet	équipement	24/01/2022 23:30	-

Messages

Début	Fin	Priorité	Contenu
07/02/2022 15:52	08/02/2030 15:52	5	PIV 30 km/h

En dessous de la vitesse **Au-dessus de la vitesse Affichage par alternance**

3 VARIABLE MESSAGE
3 SIGNS

3.5 Short stop terminals

PRINCIPLE

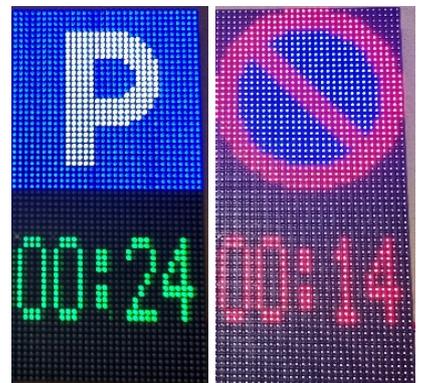
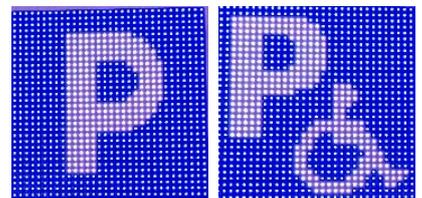
- The 'Short stop' terminals operate with a magnetic detection loop.
- They facilitate the management of the parking time by supervising the exceedance of the authorised duration. The manager can therefore control the parking times remotely.
- A ground loop must be fitted to detect the presence of a vehicle which transfers information to the short stop terminal.
- Inside the terminal, a connected board gives access to an interface on site.
- The information is transferred to a distant network which recovers the data.

OPERATION:

- › The blue meter indicates that the spot is free.
- › The authorised parking time is displayed in blue on the meter.
- Upon the arrival of a vehicle:
 - › The meter counts and turns green.
- Upon the departure of the vehicle, the terminal resets itself to the initial status (spot free).
- If the vehicle exceeds the authorised parking time:
 - › The light turns red or the pictogram says "parking prohibited".
 - › The meter turns red or no meter display.
- Any duration exceedance will be sent via the dedicated site to then be transferred in the form of a notification.
- The order and duration of these 3 types of parking can be configured at any moment.

FEATURES:

- LED matrix sign full colour 32 x 16cm
 - › Remote supervision and management via a web application
 - › Possibility of displaying combinations of pictograms and text
 - › Several operating modes:
- The upper pictograms
 - › Two events are possible.
 - › Blue pictogram: when the spot is free or the count has not reached 0.
 - › Parking prohibited or Red: when the duration of the meter is exceeded.
- The digital counter
 - › It remains blue if no car is present and displays the parking duration.
 - › It starts to count when it detects a vehicle and then remains green.
 - › Once it arrives at 0, it changes colour and displays the prohibited parking pictogram as well as the exceedance duration, or not (configurable). In the absence of a vehicle, it only displays the authorised parking duration.
- Possibility of programming, Pre-defined pictograms in library.
- Centralised status and management in accordance with Standard NFP99-340/341 (TEDI/LCR) on TCP/IP



INPUT	Voltage	220VAC or street lighting
	Total maximum current	1A
	Number of LEDs (1 module)	384 RGB LEDs
	Connections	Withdrawable screw connector
COMMUNICATION	Network	GSM, integrated antenna
	Subscription	
STATISTICS on Subscription option	Level 1 (subscription)	Monthly statistics
	Level 2 (subscription)	Daily statistics

LOOP INSTALLATION PRECAUTION:

- The loop is installed under the road in order to detect the vehicle.
- The cable used has a 1.5 mm² section.
- No metallic mass must be located less than 1 metre away from the loop so as not to disturb the detection of the vehicle.
- The loop must be 25 metres for optimum efficiency.
- Prior to the fitting of the loop, make a 3mm wide and 40mm deep groove in the ground.

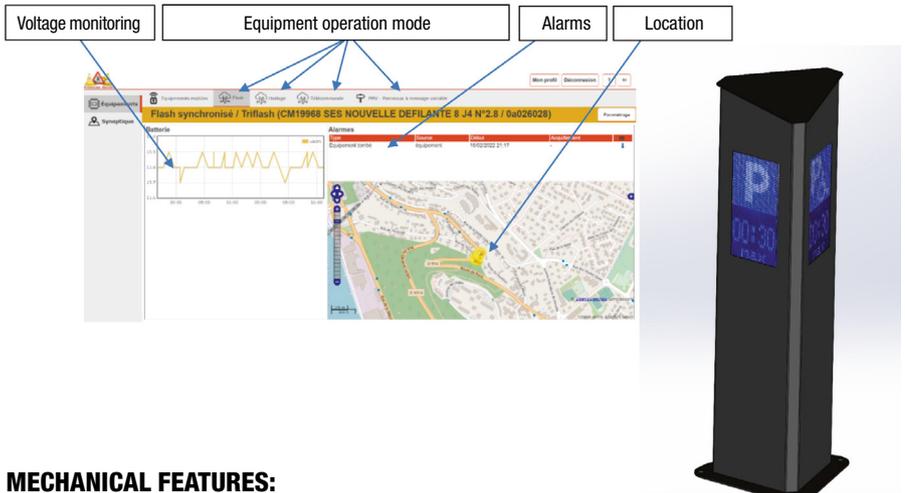
LOOP TAIL:

- The loop tail must be composed of an insulating sheathed braid made up of 20 braids/metre.
- The loop must be fitted more than 1 metre away from any metal mass.

CONNECTING CABLE:

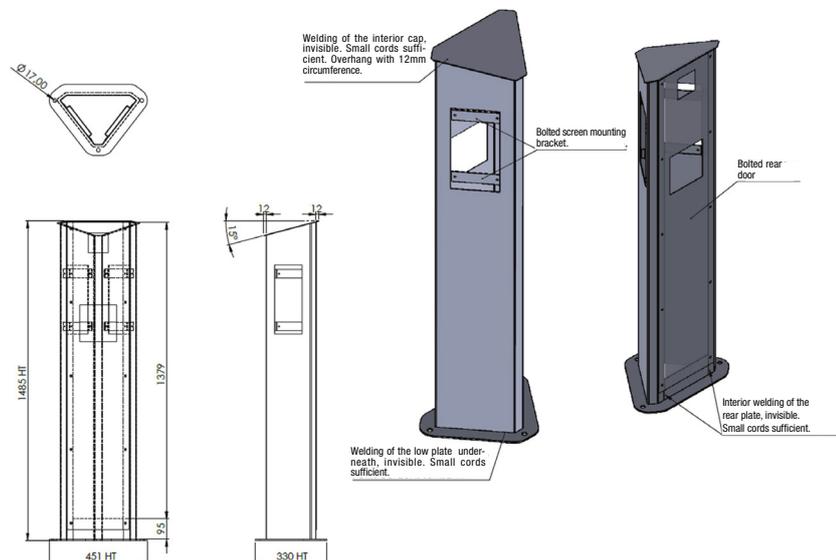
- The connecting cable must be twisted at a rate of 20 braids/metre and must be shielded with a ground shielding connection on the detector side.
- The loop tail and the connecting cable must be connected to the detector contained in the power supply box.
- The insulation of the assembly must reach an order value of 1MΩ in relation to the ground.
- Adjusting the sensitivity of the loop detector:
 - There are 3 levels of sensitivity. For the adjustment, refer to the constructor instructions (provided with the product).
 - Cable section: 1.5 mm²
 - The braid of the loops must be connected to the mass.

SUPERVISION SITE:



MECHANICAL FEATURES:

- › Weight: 50kg
- › Dimensions: 1485 x 330 x 451mm (HxDxL)
- › Paint RAL according to the customer's charter.



ON-BOARD SIGNAGNE

4

4.1 Roof triangles

4.1.A. LUMINOUS TRIANGLE FOR VEHICLE

- Double-sided or one-sided rail-mounted triangle.
- 50mm closed back aluminium profile.
- Connection of the triangle with double-purpose hinge.
- 500 and 700mm range
- Retro-reflective film: Class 2.
- AK5 or AK14.
- 74mm LED lights.
- 36 LEDs per light.
- Light intensity: 511cd.
- LED with very high luminosity.
- Electronics and coated lenses.
- Twilight sensor.
- Not sensitive to vibrations.
- 12V/24V bi-voltage, 5m cable.
- In accordance with Standard EN 12352, class L2H, C1, F2, 03, T1.



LED FEATURES

- › Consumption: 1.2A at 12V and 360mA at 24V
- › Operating temperature: -30°C to + 75°C.

4.1.B. ELECTRICAL LIFT FOR LUMINOUS TRIANGLE

- Aluminium fairing.
- 12V or 24V power supply.
- 12 or 24V waterproof electrical jack.
- Jack mounted onto the side of the fairing to benefit from a height less than 90mm in order to encourage the passing of vehicles under the size limiters.
- Suitable for the 2 ranges



4.1.C. LUMINOUS TRIANGLE SUPPORT ON MAGNETIC BASE

- Assembly of the roof triangle onto aluminium support.
- Magnetic fastening at 3 points (speed > 60km/h recommended).
- 6m output cable.
- Connections: A/C power point
- Only for the 500mm triangle



4.2 Assembled roof bars

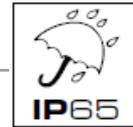


- 1400mm or 1700 mm long pre-cabled anodised aluminium bar
- High groove for the assembly of the signalling elements.
- Low groove for sliding the adhesive fastening elements (2 per bar) and adapting them to the vehicles.
- Turning or flashing lights on shaft or base plate for maintenance and protection.
- Possibility of adding work lights.
- Assembly according to the customer's specifications.



4.3 Turning and flashing lights

4.3.A. EVOLUSIGN FLASHING LIGHTS



- Approved traffic lights developed with LED light source.
- The lights are available with
 - › EVOLUSIGN R turning effect
 - › EVOLUSIGN F flashing effect
- The EVOLUSIGN F SY version enables the synchronisation of several devices with a 3-point fastening base (ISO B1) or fastening by M12 (P) bolts exclusively.

ELECTRICAL FEATURES

- › Power supply voltage 12/24VDC +/- 10%
- › Maximum Current 2.3A

MECHANICAL FEATURES

- › Unbreakable polycarbonate dome (fastening by screwing) highly resistant to collisions.
- › Reinforced fibreglass polyamide base.
- › IP65

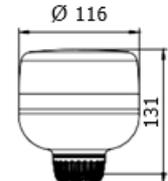
OPTICAL FEATURES

- › Optical group composed of 8 LEDs which enable a turning or flashing effect at high intensity.



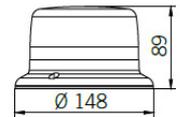
4.3.A1 EVOLUSIGN R A/F A

- › ISO 4148 shaft base,
- › form A (interlocking on connection power points)
- › Weight R A: 0.37kg
- › Weight F A: 0.46kg



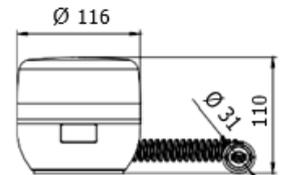
4.3.A2 EVOLUSIGN R B/F B

- › ISO 4148 base plate,
- › form B1
- › Weight R B: 0.34kg
- › Weight F B: 0.43kg



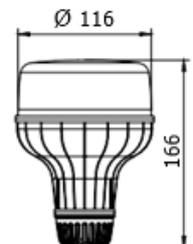
4.3.A3 EVOLUSIGN R MV/F MV

- › Magnetic base
- › + sucker
- › + coiled cigarette lighter cable
- › Weight R MV: 0.87kg
- › Weight F MV: 0.96kg



4.3.A4 EVOLUSIGN R FLEX/F FLEX

- › ISO 4148 flexible shaft base,
- › form A (interlocking on connection power points)
- › Weight R Flex: 0.44kg
- › Weight F Flex: 0.53kg



4.3.B. CRYSTAL JUNIOR LED

- Approved traffic lights developed with LED light source.
- The lights are available with
 - › CRYSTAL JUNIOR R turning effect
 - › CRYSTAL JUNIOR F flashing effect
- CRYSTAL JUNIOR R and CRYSTAL JUNIOR F enable the synchronisation of several devices with a 3-point fastening base
- (ISO B1) or fastening by M12 (P) bolts exclusively.



ELECTRICAL FEATURES

- › Power supply voltage 12/24VDC +/- 10%
- › Current 0.3A to 2.3A

MECHANICAL FEATURES

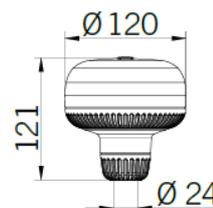
- › Unbreakable polycarbonate dome (fastening by screwing) highly resistant to collisions.
- › Reinforced fibreglass polyamide base.
- › IP degree: 65, 66, 69K

OPTICAL FEATURES

- › Optical group composed of 8 LEDs which enable a turning or flashing effect at high intensity.

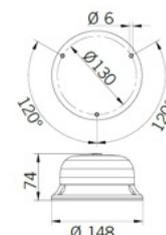
4.3.B1 CRYSTAL JUNIOR R A/F A

- › ISO 4148 shaft base,
- › form A
- › Weight: 0.53kg



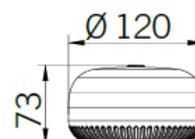
4.3.B2 CRYSTAL JUNIOR R B/F B

- › ISO 4148 base plate,
- › form B1
- › Weight: 0.39kg



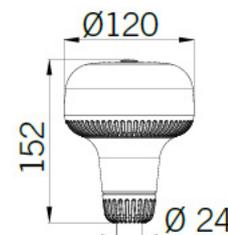
4.3.B3 CRYSTAL JUNIOR R M/F M

- › Magnetic base
- › + coiled cord with cigarette lighter power point
- › Weight: 0.73kg



4.3.B4 CRYSTAL JUNIOR R FLEX/F FLEX

- › ISO 4148 flexible shaft base,
- › form A (interlocking on connection power points)
- › Weight: 0.61kg



4.3.C. CRYSTAL 2.0 LED

- R65-approved traffic lights, Class 2
- Two levels of light intensity:
 - › Day mode
 - › Night mode, automatic management of the functions via twilight sensor
- Developed with LED light source.
- The lights are available with
 - › CRYSTAL 2.0 R turning effect
 - › CRYSTAL 2.0 F flashing effect.
- Synchronisation of several devices possible (3-point fastening base (ISO B1) or fastening by M12 (P) bolts exclusively).



ELECTRICAL FEATURES

- › Power supply voltage 12/24VDC +/- 10%
- › Current 0.7A to 3.8A

MECHANICAL FEATURES

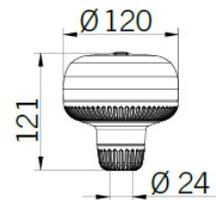
- › Unbreakable polycarbonate dome (fastening by screwing) highly resistant to collisions.
- › Reinforced fibreglass polyamide base.
- › IP degree: 65, 66, 69K.

OPTICAL FEATURES

- › Optical group composed of 8 LEDs which enable a turning or flashing effect at high intensity.

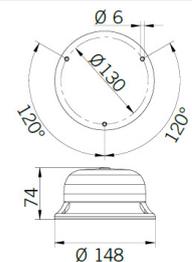
4.3.C1 CRYSTAL 2.0 R A/F A

- › ISO 4148 shaft base,
- › form A
- › Weight: 0.53kg



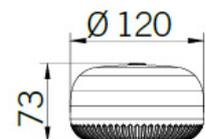
4.3.C2 CRYSTAL 2.0 R B/F B

- › ISO 4148 base plate,
- › form B1
- › Weight: 0.39kg



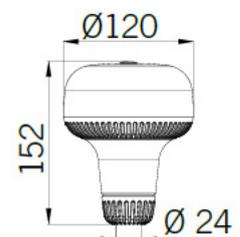
4.3.C3 CRYSTAL 2.0 R M/F M

- › Magnetic base
- › + coiled cord with cigarette lighter power point
- › Weight: 0.73kg



4.3.C4 CRYSTAL 2.0 R FLEX/F FLEX

- › ISO 4148 flexible shaft base,
- › form A (interlocking on connection power points)
- › Weight: 0.61kg



4.4 LED GDO lights, speed

- R65-approved LED lights.
- Its unique and specific aerodynamic form, composed of a magnetic base with very high adherence, enables a speed of more than 200km/h.
- Equipped with turning (Turning LED GDO) or flashing (Flashing LED GDO) LED light source.
- Available in the following versions:
 - › Coiled cable and cigarette lighter power point (SAC)
 - › Coiled cable and 90° mono jack power point

FEATURES

- › Power supply voltage 12/24VDC
- › Current 0.6/0.25A (12/24V Flashing LED),
..... 0.9/0.45A (12/24V Turning LED)

OPERATING TEMPERATURE

- › -30/+50 °C

MECHANICAL FEATURES

- › Unbreakable polycarbonate dome, highly adherent magnetic base made of thermoplastic elastomer
- › IP degree: 55

OPTICAL FEATURES

- › Turning LED GDO: optical group composed of 8 LEDs enabling an intense turning effect
- › Flashing LED GDO: optical group composed of an LED enabling a powerful flashing effect



4.5 LED light bars

4.5.A. 1210MM LONG EXTRA FLAT BAR

- Signalling bar with a low profile and aerodynamic design
- Equipped with a robust structure and a very powerful LED lens, it meets the requirements of ECE Regulation R65 Class 2, for the realisation of a powerful flashing light effect.
- Also equipped with LED headlights with a dazzling function and side projectors for lighting the area of operation around the vehicle.
 - › Aluminium/polycarbonate structure which grants high resistance to collisions and maximum sustainability.



FEATURES

- › Power supply voltage 12/24VDC +/- 10%
- › Consumption 7.4A to 3.9A
- › Operating temperature -30/+50°C
- › Weight: 10kg

OPTICAL FEATURES

Standard factory configuration:

- › Angle modules with 9 LEDs + 10 modules with 3 LEDs for a flashing effect with high intensity (different flash types possible)
- › 2 6-LED modules with route function + 2 lateral modules.

Other configurations possible upon request.

4.5.B. 400MM LONG EXTRA FLAT MINI BAR

- Signalling bar with a low profile and aerodynamic design
- Very resistant polycarbonate structure.
- Developed with LED technology which produces a powerful flashing effect
- The mini bar is available in the following versions:
 - › Magnetic (with coiled cable and socket for cigarette lighter with ON/OFF switches)
 - › Permanent fastening (exclusively upon request).
- Unbreakable polycarbonate lenses and structure highly resistant to collisions.



FEATURES

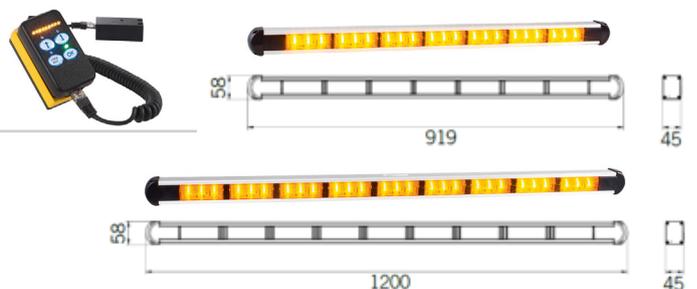
- › Power supply voltage 12/24VDC +/- 10%
- › Consumption 4.5A to 2.3A
- › Weight: 1.65kg

OPTICAL FEATURES

- › 42 1W LEDs which enable a flashing effect with high intensity.
- › Different flash types possible.

4.5.C. MULTI-FUNCTION BAR

- Multi-function bar with compact design destined for the circulation control operations.
- Available with seven or nine LED modules, it offers an excellent optical performance as well as excellent installation flexibility.
- Aluminium profile structure and polycarbonate lenses.
- The flashing functions are selected and simulated by the remote control.
- Aluminium profiles and polycarbonate lenses.
- Types of flashing selectable



TECHNICAL FEATURES

- › Power supply voltage 12/24VDC
- › Degree of protection IP55
- › Operating temperature -30/+50°C
- › Weight: 1.40 or 1.90kg

OPTICAL FEATURES

- › Modules with 3 very bright LEDs.
- › Six different types of flashing: Single Flash (1F), Double Flash (2F), Centre/Side, Centre/End, Left/Right and Right/Left alternating
- › Light intensity:
 - › 7-module bar: 1700 cd(p)
 - › 9-module bar: 2000 cd(p)

4.6 Modular light bars

- Modular light signalling bar available with LED or halogen technology (amber version only).
- Many length configurations possible: From 324mm (1 module) to 1620mm (7 modules)

MECHANICAL FEATURES:

Polycarbonate domes and aluminium profile

FASTENING:

- › Magnetic only for 324mm length
- › Double magnetic up to 4 modules maximum
- › Permanent
- › Permanent with interior cabling

ELECTRICAL FEATURES

- › Power supply voltage 12/24VDC +/-10%
- › Consumption according to configuration

OPTICAL FEATURES AT YOUR CHOICE:

4.6.C1 RAH

- › H1 halogen light source (12V - 55W, 24V - 70W)

4.6.C2 R LED

- › Optical group composed of 8 LEDs enabling a turning effect at high intensity

4.6.C3 8 LEDS

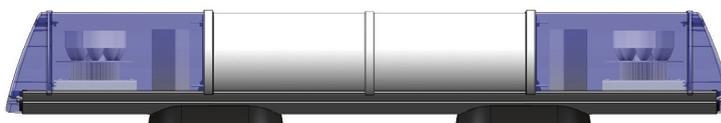
- › Optical group composed of 8 LEDs enabling a flashing effect at high intensity.

4.6.C4 OPALINE

- › LED opaline light module onto which logos or writing can be applied.

4.6.C5 RLS-8XLS

- › LED optical groups with a chrome reflective body which makes it possible to obtain the effect of 2 light devices.
- › Turning effect (RLS) or flashing effect (8XLS).



4.7 Traffic lights

4.7.A. MANUAL WORK AND SEARCH LIGHTS

- Polypropylene tanking, 130 x 80mm glass lens.
- Vacuum metallic reflector, H3 lamp not included.

FEATURES

- › Available with or without handle
- › H3 search light dimension 150 x 90 x 90mm
- › H1 long range super projector Ø 245mm

Option: the lights are available without a handle or switch.



4.7.B. MOTORISED WORK LIGHTS

- Wide emitted (Work D) or narrow focussed (Search P) beam.
- Rotation: 360° horizontal, 260° vertical.
- Rotations ensured by gear motors.
- 12V or 24V power supply, standard H1 lamp.
- Coiled remote control cord, 3m long.
- DIN B1 base plate, DIN A or magnetic shaft.
- Transparent polycarbonate dome.



FEATURES

- › Dimensions (DiameterxH): 160 x 194mm
- › Weight: 1.1kg
- › Protection: IP55
- › Consumption: 4.6A (12V - 55W) - 2.9A (24V - 70W)

Wired command

- › Shaft, work, 12V
- › Shaft, search, 12V
- › Base plate, work, 12V
- › Base plate, search, 12V

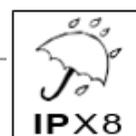
Command by radio

- › Shaft, work, 12V
- › Shaft, search, 12V
- › Base plate, work, 12V
- › Base plate, search, 12V

Contact us for 24V references.

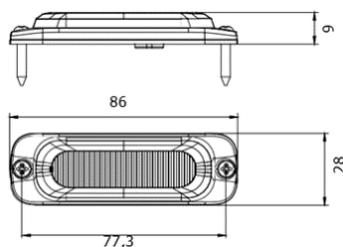
4.7.C. PENETRATING LIGHTS

- Available in blue or amber.
- 12/24V power supply.
- Flashing effect with high intensity.



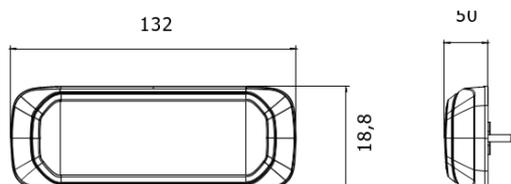
4.7.C1 KIT OF 2 3-LED LIGHTS

- 86 x 77.3 x 28mm
- Weight: 40g



4.7.C2 6-LED LIGHT

- 132 x 28.8 x 50mm
- Weight: 130g



4.7.D. HIGH PERFORMING 9-LED LIGHT

- 9 CREE LEDs with high luminosity.
- Power supply: 12/24V bi-voltage.
- Chassis: aluminium, lens: polycarbonate.
- Protection Indicator: IP68.
- Protection against polarity reversals.
- Power: 2160 lumens 30°.
- Electromagnetic compatibility (EMC) compliant with European Directives 7/245/EEC 2009/19/EC.
- Approval: EMC E3 2168.
- Connection: coiled 3500mm cable with cigarette lighter power point equipped with a switch.

FEATURES

- › Dimensions (LxHxD): 99 x 150 x 64mm
- › Weight: 1.1kg
- › Consumption: 27W



4.7.E. RS 2000 PLUS

- The RS 2000 plus directional light has a very low energy consumption thanks to the exclusive use of LED technology, without compromising operational safety.
- As a warning, it indicates the kilometres to the construction sites in advance.
- With the Secura 52 support already mounted, the long range traffic light can be securely fastened and is therefore optimally protected against theft.

FEATURES

- › Available in set of 2 lights connected by 3.5m cable, controlled system
- › Compliant with Standard EN 12352 class L8H
- › Possible usage: Pre-warning
- › Lens, 200mm
- › Long-lasting LED technology with 4 high performing LEDs
- › Double circuit LED system
- › Very low current consumption, only 120mA (0.12A)
- › Robust box of a flat and compact design with a low installation depth.
- › Screwless assembly and disassembly
- › Splash-resistant box

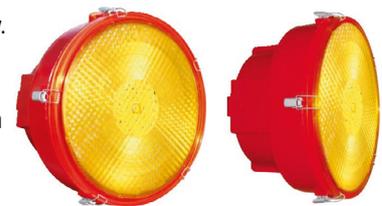


4.7.F. LONG DISTANCE MS 340 TRAFFIC LIGHT

- Compact design with light intensity and energy efficiency thanks to its energy-saving LED technology.
- It reliably secures the construction sites, indicates any hazardous road areas and improves the perception of road safety trailers.
- Depending on your needs, you can equip the work site vehicles, luminous arrows and road signs with an optical alert system highly visible from kilometres away.

FEATURES

- › Available in set of 2 directional lights connected together permanently with a 3.5m connection cable.
- › Standard EN 12352 - L9M/L9L, WL 5 (flash)
- › Standard EN 12352 - L9H/L9M, WL 7 (flashing)
- › Possible usage: pre-warning, securing of vehicles, mobile roadblock signs and luminous arrows
- › Long-lasting LED technology with 4 high performing LEDs
- › Box protected against water projections
- › Secura 82 support optional



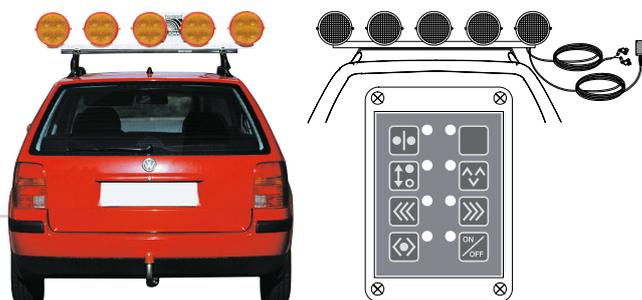
4.7.G. ELECTRONIC SIREN

- Voltage: 12V.
- Current: 350mA
- Power: 105dB at 1m.
- Protection indicator: IP54.
(Fire Brigade, Police, Paramedics, Gendarmerie)



4.7.H. MULTILUX 5 DIRECTIONAL LIGHT BAR

- Mounted on roofs or at the rear of a vehicle, this light bar is ideal for traffic management and signalling.
- Five high power Halogen lights (20 watts each) guarantee high long distance visibility.
- Twilight sensor to avoid dazzling road users.
- The six different displaying modes are selected by remote control from the passenger compartment of the vehicle.



FEATURES

- › Dimensions (LxWxH): 140 x 15 x 25cm
- › Weight: 8kg
- › Lights: 5 x 12V, 20W, Halogen
- › Consumption: 1.8 - 8.5A

4.7.I. SIGNAFLU LUMINOUS ARROW (FLU = EMERGENCY LUMINOUS ARROW)

- 15-lamp arrow (20W).
- Twilight sensor.
- Left or right flashing arrow controlled by wired remote control directly from the passenger compartment.
- Bi-voltage 12V/24V.
- Compliant with EN 12352.
- Lights 20W, diameter 180 for very high visibility.
- Xenon lights Ø 340 optional.



FEATURES

- › Electrical consumption: 9.5A
- › Dimensions (LxHxW): 1050 x 1030 x 175mm
- › Weight: 25kg

Delivered with battery terminals and wired remote control + 10m cable.

4.7.J. BEACONING KIT FOR INTERVENTION VEHICLE

- Kit of 5 LED or Xenon flashing lamps.
- Intervention triangle.
- 5 Cones with retro-reflective strips.
- Retro-reflective or fluorescent tripod flexible sign.



4.8 VMS vehicles

4.8.A. POLVIS

- Multi-signal LED variable message sign for roof mounting.
- 12V power supply.
- Remote control with LCD screen.
- High intensity LED: red, yellow, white, blue.
- Upper LED pictogram:
 - › DANGER (AK14) TRAFFIC JAM (AK30)
 - › OVERTAKING PROHIBITED (B3)
 - › LEFT DIVERSION/RIGHT DIVERSION
- Text Messages (examples):
 - › ACCIDENT/WORKS WARNING
 - › SLIPPERY ROAD
 - › VEHICLE BREAKDOWN
- 2 flashing blue LED paving stones (Amber available on request).
- Rise and Descent by electrical jack.
- Black epoxy lacquered stainless steel flat framework.

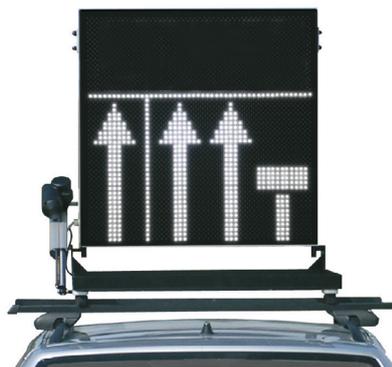
FEATURES

- › Dimensions (LxWxH): Overall: 950 x 850 x 150mm
. LED sign: 800 x 800 x 90mm
- › Weight: 39kg
- › Chassis: Aluminium



4.8.B. GRAPHIC POLVIS

- Bi-colour matrix with very bright fixed LED.
- Flashing display, plus symbols and text.
- Creation of animated 6-image sequences.
- 900 x 1000mm sign: 780mm triangle, 750mm square and circle with a 750mm diameter.
- Library of 1500 signs and texts
- Pixels: 2304 red ones and 2304 white ones.
- 12V power supply.
- Lifting by electrical jack.
- Wireless remote control with control screen.
- Lifting and lowering of the sign during the movement of the vehicle.
- Stainless steel structure, painted black.



4.9 Graphic VMS trailer

- Graphic signalling trailers make it possible to secure work sites on roads and motorways. The graphic display enables a dynamic presentation (fixed or animation of 6 to 12 alternating images) of the message(s). The user's attention is therefore drawn to the danger without having to read anything. This trailer creates efficient communication on the nature of the situation by combining well-known pictograms with a graphic animation (text or image). Two long range lights with a 340mm diameter on the upper part ensure the long distance warning.
- Its compact construction decreases the weight of the assembly and therefore allows itself to be towed by a light vehicle. The mobile assembly is mounted onto a galvanized steel framework. The lifting is ensured by an electrical jack. An electrical device locks the position (high or low).
- Command of the sign is carried out either with a wired box or by radio.
- The trailer is delivered with a set of pre-programmed configurations. Memory locations are available for programming user pictograms through the RS232 series connection.

VMS, DOUBLE GRAPHIC LED SIGN

CHASSIS AND ENERGY

- Hot-galvanised chassis
- Lifting mechanism by electrical jack.
- Electrical locking in transport and service positions.
- 2 long range directional MS 340 projectors (approved).
- Cable remote control with touch keyboard and large format display (radio command on request).
- Beam adjustable in height: from 350 to 1000mm.
- 2 rear support legs and jockey wheel.
- Steel battery box with aluminium lid containing two 180Ah batteries and an automatic mains charger



UPPER SIGN

- Bi-colour LED red and white matrix with very high focused luminosity.
- Stationary, flashing or alternating display (symbols and text)
- Dimensions: 1010 x 1010 x 180mm.
- Pixels: 1024 red ones and 1024 white ones.
- Cell for the automatic adjustment of the luminosity (manual adjustment possible).
- Adjustable flashing speed.
- Creation of animated 6-image sequences.



LOWER SIGN

- Yellow LED matrix with very high luminosity.
- Programming of all the usual road diversions (up to 4 lanes).
- Stationary, flashing or alternating display (symbols and text)
- Dimensions: 1268 x 1657 x 180mm.
- Pixels: 1024 yellow ones.
- Cell for the automatic adjustment of the luminosity (manual adjustment possible)
- Adjustable flashing speed.
- Memory location for 150 symbols.
- Creation of animated 6-image sequences.

PROGRAMMING

- Simultaneous display of four different symbols or messages: two on the upper part and two on the lower part.

FEATURES

- | | |
|---|---|
| › Length: 3840mm | › Lighting angle (LED): 20-23 °C |
| › Width: 1820mm | › Light Power: > 8000cd |
| › Height deployed: 3840mm | › LED diameter: 5mm |
| › Lowered height: 1380mm | › Wavelength: Yellow 592, Red 630 |
| › Total Authorised Laden Weight : 750kg | › White LED Nature Spectrum: |
| › Dead weight (approx.): 450kg | › Yellow/Red = AlinGaP, White = InGaN |
| › Flashing frequency: 15 to 60/mn | |
| › Temperature Range: from -30 to +70 °C | |
| › Protection: IP 54 | |

4.10 Beaconing of vehicles

THE DECREE OF 7 APRIL 2006 AMENDING THE DECREE OF 20 JANUARY 1987 related to the additional signalling of urgent intervention vehicles and slow-moving vehicles. It accurately determines the configuration, positioning and identification of the additional signalling and optical performance of the retro-reflective system (class A and class B).

MATERIAL:

Either red fluorescent and white retro-reflective material, or white and red retro-reflective material.

IDENTIFICATION:

The number of approval must appear on each white stripe of the signalling strip.

POSITIONING:

Minimum surface area to respect

- Back: 0.32 m²
- Side: 0.16 m²
- Front: 0.16 m²

For daily intervention in the road sector, you must use a certified red/white retro-reflective beacon.

It is recommended to use a Class B retro-reflective film for better visibility during the day and at night.

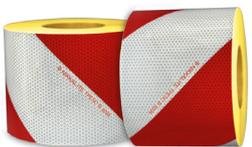


THE CLASSES:



CLASS A micro-beads

- Efficiency distance: 0 to 100m.
- UTAC-approved TPESC A 5099.



CLASS A micro-beads

- Efficiency distance: 0 to 250m.
- Conformable.
- Great angularity.
- Double-layered.
- UTAC-approved TPESC B 5098.



CLASS B micro-prisms

- Single-layered.
- Efficiency distance: 0 to 500m.
- Easy to fit.
- Recommended for interventions on fast lanes and motorways.
- UTAC-approved TPESC B 06014.



4.11 Intervention vehicles

4.11.A. BEACONING ROLLS:

The retro-reflective films are available in 2-roll kits (1 right one and 1 left one) with the following dimensions:

- 9m x 14cm
- 9m x 28cm
- 45.7m x 14cm
- 45.7m x 28cm



4.11.B. PRE-CUT

4.11.B1 B1. PRE-CUT KITS

Class A.

Class B Micro-prisms.

- Front Kit,
- Rear Kit,
- Front/Rear Kit,
- Mini lateral Front/Rear Kit,
- Maxi lateral Front/Rear Kit.



4.11.B2 BEACONING STRIPS: “SERVICE”, “WORKS”

Class A or Class B Micro-bead retro-reflective film,

Class B micro-prisms.

2 dimensions possible:

- 50 x 15cm
- 100 x 30cm

For any other marking, contact us.



4.11.C. SPECIFIC VEHICLES - INDUSTRY

Black/Yellow Class A Micro-bead retro-reflective film.

2-roll kit: 1 Right One/1 Left One.

- 10m x 5cm.
- 10m x 10cm.
- 10m x 14cm.
- 25m x 5cm.
- 25m x 10cm.
- 25m x 14cm.



4.12 Firefighters

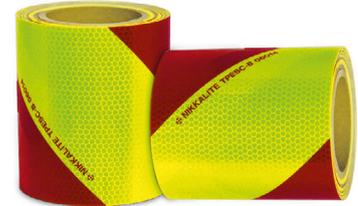
In accordance with the Decree of 7 April 2006 amending the Decree of 20 January 1987, and the Firefighter Equipment Recommendation Guidebook.

4.12.A. FRONT AND REAR SIGNALLING

- Alternating retro-reflective red/retro-reflective fluorescent yellow micro-prismatic film.
- Class B. Single-layered.
- Excellent day/night contrast.

4.12.A1 2-ROLL KIT (RIGHT ONE + LEFT ONE)

Several dimensions available.



4.12.A2 PRE-CUT KITS

- Front kit,
- Rear kit,
- Full rear kit,
- Standard front/rear kit,
- Full front/rear kit.



4.12.B. LATERAL SIGNALLING

- Single-layered micro-prism film.
- Compliant with ECE 104.
- Available in yellow, red and white.
- 50m x 5cm roll.



4.13 Municipal Police

Signalling from municipal police vehicles in accordance with Decree n° 2005-425 of 28 April 2005 related to signalling from municipal police officer service vehicles, adopted in compliance with L-412-52 of the Municipalities Code.

- Retro-reflective film.
- Optimum visibility during the day and at night.
- Easy to apply on any car body.



4.14 LED children transportation sign

- Light Signal compliant with the Decree of 29-11-99.
- High intensity fluorescent retro-reflective background for enhanced visibility.
- Background enhanced by LED.

OPERATION

- The opening of the door triggers the flashing unit (1Hz).
- Its closure stops the operation. Latency time at shutdown can be added.

BACKGROUND

- A fluorescent micro-prismatic Class 3 background is used for enhanced visibility.

FOUNDATION

- Unbreakable flexible polymer support (Polycarbonate)
- Fastening by Sucker or metal support

DIMENSIONS

- 250 x 250mm
- 400 x 400mm
- Thickness 6mm

ELECTRICAL FEATURES

- Consumption: according to light type
- Protection: IP68

OPTIONS

- Programming of specific sequences
- One-sided or double-sided



PLASTIC BEACONS

5

5.1 Temporary beacons

5.1.A. K5C - 60 x 60 mm PEDH BEACON

- 60 x 60mm square foot for greater resistance.
- PEDH-injected beacon.
- Reflective zone protected by overhang.
- Available one-sided or double-sided and in Class 1 or 2 film.

FEATURES

- › Dimensions (HxL):beacon: 1225 x 300mm
- › Weight: approx. 2.8kg



5.1.B. K5C - 40 x 40 mm PEDH BEACON

- 40 x 40mm square foot + metal reinforcement.
- PEDH-injected beacon.
- Reflective zone protected by overhang.
- Available one-sided or double-sided and in Class 1 or 2 film.

FEATURES

- › Dimensions (HxL):beacon: 1225 x 300mm
- › Weight: approx. 3.5kg



5.1.C. PLASTIC BLOCKS

- Heavy, unbreakable and stackable base.
- Anti-skid profile.
- Resistant to ice, salt, exhaust smoke and oils.
- Materials: Recycled

5.1.C1 15KG PLASTIC BLOCK

- Block prints:
 - › 80 x 40mm (St Andrew's cross)
 - › or 60 x 60mm
 - › or 40 x 40mm



FEATURES

- › Dimensions (HxLxW): 380 x 380 x 140mm
- › Weight: 15kg

5.1.C2 25KG PLASTIC BLOCK

- Block prints:
 - › Ø42 (x2) + 40 x 40 + 60 x 60 + 80 x 80 + 80 x 40

FEATURES

- › Dimensions (HxLxW): 800 x 400 x 120mm
- › Weight: 25kg



5.2 Customised Beacons

Customised printing on Class 1 or Class 2 Film



- Customisable pedestrian beacon
- Class 1 monochrome printing



- Customisable beacon with white background
- Class 1 or 2 quadri-coloured printing

5.3 Self-lifting beacons

MINI-GUIDE III (L82)

- Body highly resistant to collisions (PP).
- Natural rubber foot screwed onto the body, replaceable.
- Protected retro-reflective zone.
- One-sided or double-sided.
- Class 2 film.

FEATURES

- › Dimensions: with handle: 730 x 155
- Weight: 1kg



5.4 Bases

5.4.A. L49 BASE

- Unbreakable.
- Skid-resistant.
- Resistant to ice, salt, exhaust vapour and oils.
- Highly resistant plastic.
- Equipped with reflectors.
- Screw fastenings.
- Recommended as a support for Mini Guide III.

FEATURES

- › Dimensions (LxWxH): 174 x 120 x 24mm
- › Weight: approx.0.2kg
- › Material: Recycled plastic



5.4.B. L51 “MINI-GUIDE” BASE

- Skid-resistant.
- Resistant to ice, salt, exhaust vapour and oils.

FEATURES

- › Dimensions (LxWxH): 590 x 260 x 70mm
- › Weight: approx. 7kg
- › Material: recycled plastic



5.4.C. L54 “MINI-GUIDE” BASE

- Skid-resistant.
- Bevelled edges.
- Resistant to ice, salt, exhaust vapour and oils.
- Accessories: reflective arches.

FEATURES

- › Dimensions (LxWxH): 1000 x 270 x 90mm
- › Weight: approx. 14kg
- › Material: Recycled plastic



5.4.D. LN60 SEPARATOR, GUIDANCE IN 3D

- Lateral profile suitable for crossing.
- Average weight, easy to use and install.
- 100% manufactured from highly resistant recycled composites.
- **As an option:** reflective arches can be clipped on to increase night visibility.

FEATURES

- › Dimensions (HxWxL): 1000 x 270 x 90mm
- › Weight: approx. 16kg



5.4.E. TERMINAL CAP A, LN61

- One edge is bevelled.
- The other one contains the metal connector.
- Anti-skid inserts.
- 100% manufactured from highly resistant recycled composites.

FEATURES

- › Dimensions (LxW): 440 x 270mm
- › Weight: approx. 5kg



5.4.F. TERMINAL CAP B, LN62

- One edge is bevelled.
- The other one contains the metal hook receiving groove.
- Anti-skid inserts.
- 100% manufactured from highly resistant recycled composites.

FEATURES

- › Dimensions (LxW): 440 x 270mm
- › Weight: approx. 5kg



5.4.G. L65 REFLECTIVE ARCH

- Fastening by “clipping”.
- Follows exactly the profile of the separator.
- Anti-collision polymer.
- The addition of reflective arches is optional. However, we recommend using them on motorways and work sites at night.



5.5 Permanent beacons

5.5.A. SUSPENDED BAR TO WARN ABOUT HAZARDS

- Reflective polyethylene cylinder to manage traffic.
- With metal cable for installation between ceiling and ground.
 - Clearly indicates hazards: pipes, cables and walls.
 - Fastening of the bar at the desired height.

DESCRIPTION:

- › Interior and exterior
- › Made of polyurethane
- › Height variable
- › Reflective red/white colour
- › Dimensions: 950mm high; 100mm diameter
- › Steel wire length: 2500mm
- › Wire and pliers included



5.5.B. BALIFIX

Balifixes are cylinders which are fully retro-reflective to indicate hazards and separate lanes.

- To separate lanes and crossings, to mark the end of a site or to indicate obstacles.
- Highly visible during the day and at night.
- The cylinders are made of ageing-resistant polyethylene, and crossing over the cylinders is safe. This guarantees great passive security.
- Easy to install: Via a bayonet closure between the cylinder and the robust foot. The foot is screwed to the ground or installed via a standard adhesive.
- Environment: the foot is made of recycled rubber and the body is made of recyclable PE.
- The material is flexible and resistant, even in sub-zero temperatures.
- The Balifix remains flexible even after many collisions.

AVAILABLE FORMATS

- › Height: 460:weight: 1.50kg
- › Height: 760:weight: 2.00kg
- › Height: 1000weight: 2.50kg
- Recycled foot for balifix and baliflex: 2kg
- Red-white nylon chain, 50m



5.5.C. BALIBACK

The Baliback is a self-lifting beacon with just one part equipped with 3 class 2 retro-reflective strips.

- The cylinders manage traffic, indicate hazards and separate lanes.
- The cylinder made of flexible polyurethane is robust, it is resistant to ageing and can be crossed over safely. Gives great passive security.
- Simple installation: The foot is screwed to the ground or installed via a standard adhesive.

AVAILABLE FORMATS

- > Height: 750mm and Ø80mm
- > Weight: 1.50kg
- >



5.5.D. BALIFLEX

- Beacon composed of two self-lifting parts at the base.
- Bayonet system ensuring the verticality of the beacon following a collision.
- Beacon equipped with retro-reflective film: 2 strips for the 750 and 1000mm beacons.
- Recycled 1kg PVC base which can be bolted or adhered.
- Recycled foot for BALIFLEX and BALIFIX: 2kg

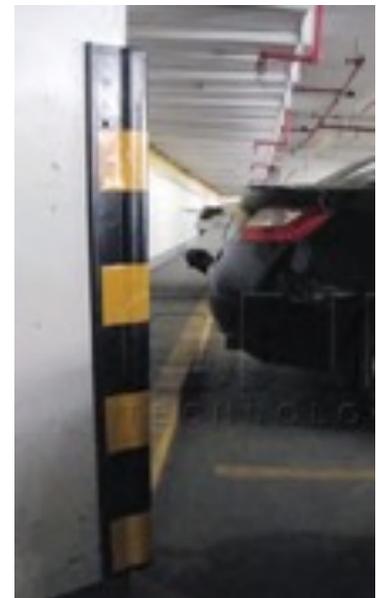
AVAILABLE FORMATS

- > 46cm red baliflexclass 2
- > 75cm red baliflexclass 2
- > 100cm red baliflexclass 2



5.5.E. PROTECTIVE ANGLE IRON

- Ensures the protection of cars in car parks where the obstacles are at a sharp angle.
- Easy to install.
- Manufacturing by compression, recycled rubber.
- Yellow retro-reflective strips.
- For the interior and exterior.
- Flexible and adhesive PU foam.
- Wear and tear resistant.
- Resistant to UV rays, solvents and silicon.
- Light classification: UL94.
- Length: 1000 x 60mm.



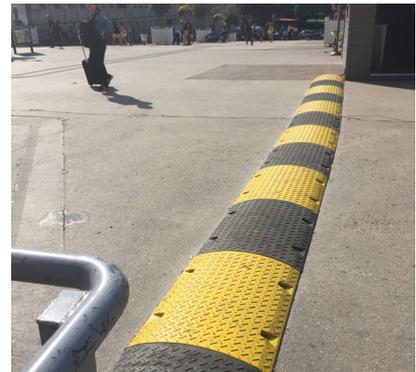
5.7 Cable passages

5.7.A. CABLE PASSAGE

- Speed bump version with insertion of 2 passages of 50 x 35mm cables
- 2 15 x 15mm channels.
- 2 x 35 x 35mm channels.
- Protects the cables from traffic by letting the vehicles circulate without disruption.
- Anti-skid surface.
- Crossing speed 10km/h maximum
- Black or yellow element.

FEATURES

- › Dimensions (LxHxW): 800 x 600 x 80mm
- › Weight: 29.4kg
- › Materials: Recycled PVC
- › Compression resistance: 274kg/cm
- › Fire resistance: Class 1



5.7.B. FLAT 3-TUNNEL CABLE PASSAGE FOR HGVS

Designed for the occasional traffic of HGVs. Recommended crossing speed 5km/h.
Tested up to 12 tonnes of load per axle.

- Resistant to wear and tear with its hard rubber mixture.
- Passing height 75mm.
- Ribbed and anti-skid surface.
- Installation made permanent with connectors.
- All the elements are manufactured with male/female interlocking.

FEATURES

- › Cable passage: 3 cables - 2 68 x 50mm channels,
. 1 55 x 50mm channel
- › Dimension: 960 x 600 x 75mm
. net length 885mm (installed)



5.7.C. PIPE-CABLE PASSAGE

- Pipes, tubes and cables up to 75mm in diameter.
- Protects the cables from traffic by letting the vehicles circulate without disruption.
- For work sites and HGVs.
- Extension made possible by male/female interlocking and
- Elements highly resistant to wear and tear, made of reinforced rubber mixture.
- 85mm high, extremely flat ramp.
- Yellow reflective tape.
- Dimensions of the elements: 855 x 300 x 85mm.
- 2 92mm channels for pipes up to 75mm in diameter.



5.8 Separators

5.8.A. PARKING STOP

- Parking stop and lane separation.
- Material: Recycled rubber.
- Fitted onto concrete and asphalt (fastenings: connectors or coach screw).

FEATURES

- > 500 x 150 x 100 - Weight: 4.1kg.
- > 900 x 150 x 100 - Weight: 7.7kg.
- > 1200 x 150 x 100 - Weight: 10.5kg.
- > 1800 x 150 x 100 - Weight: 14.0kg.



5.8.B. HGV PARKING STOP

- 1000(L) x 300(W) x 150(H) mm.
- Robust - suitable for articulated trucks.
- 100% recycled rubber - very resistant.
- Moulded yellow markings for high visibility.
- Adherent surface - reduces the risk of blocked vehicles.
- Contains 5 145 x 10mm coach screws with dowels.
- One parking stop per wheel.



5.9 Speed Cushion

5.9.A. SPEED CUSHION

- Compliant with the CERTU recommendations.
- Composed of 6 central elements and 4 angle elements.
- Central and angle element: 900 x 500mm.
- Height: 65mm
- Delivered with 44 M12 screws and 10 x 140 dowels + 16 protective caps.
- One-directional or two-directional white retro-reflective strips.
- Anti-skid surface.
- Connection using moulded connections to facilitate the assembly.
- SRT coefficients compliant with the CERTU recommendations.



FEATURES

- > Dimensions (LxWxH): 3000 x 1800 x 65mm
- > Materials: 80% recycled rubber and natural rubber



5.9.B. REMOVABLE ROUNDABOUT FOR PEDESTRIAN PROTECTION

- The island separates and directs the flow of traffic, and helps with crossings.
- Rubber semi-circle with retro-reflective tape.
- Ballastable with sand, soil, stones or rubber provided for this purpose.
- Possibility of implementing a 60mm pole to add a B21a sign.

FEATURES

- > Dimensions for the semi-circle: 2000 x 120 x 150mm
 1600 x 100 x 150mm
- > Dimensions of the interior part: 1720 x 860 x 120mm
 1320 x 660 x 120mm



5.11 Barriers

5.11.A. WORK SITE CONTAINMENT BARRIER

- The design of the junction system creates secure junctures, even on unstable ground.
- Unlocked or locked mode configurations preventing any unauthorised dismantling.
- Compliant with Standard BS 7818 related to containment systems for use during events for pedestrian control.
- Also suitable for construction applications around temporary excavations and road works.
- The barrier can be supplied with standard feet or anti-stumbling feet.
- Information regarding the contractor, warning signs and reflective messages can be placed at the front and back.
- High density polyethylene-moulded barrier with high impact resistance and in just one piece.
- Resistant and sustainable.
- Orange upper section in standard version. (Other colours on request).
- Customisation service available on request.
- Refer to the wind resistance test data.

AVAILABLE FORMATS

- > 1000 x 1000mm
- > 1000 x 2000mm



5.11.B. ANTI-STUMBLING FOOT

Specially designed for preventing the risk of stumbling of pedestrians constituted by classic barrier feet. The ClearPath foot contains the following:

- Front section made of high density polyethylene.
- Rear section weighed down for more stability
 - > 600mm wide, pedestrian side 180mm
 - > Weight 3kg
 - > Manufactured from 100% recycled material



5.11.C. HEAVY FOOT BARRIER 660

- New generation of lane separators.
- The modular system can be shaped in any design required.
- The high density polyethylene (PEHD) moulded upper section can be filled with water to add weight.
- Self-weighed down base (18kg).
- Compact piling to reduce transport costs.
- Can be easily converted into a fence. You just need to insert the metal fence into the designated holes.
- Company customisation available.

AVAILABLE FORMATS

- > 660 x 1000 x 520mm
- > 1720 x 1000 x 520mm



5.12 Road safety plates

5.12.A. PEDESTRIAN PLATE

- Pedestrians only
- Placed on a 700mm wide trench, it can bear a load of 250kg
- The risk of stumbling for pedestrians is considerably reduced.
- The edges are made from flexible rubber which grabs onto the road, avoiding any instability
- Central section made of reinforced plastic
- Yellow colour (as standard)
- Dimensions 1125 x 1125mm



5.12.B. SAFETY PLATE 1200 AND 1600

- Designed mainly for use during road works.
- Moulded from a single piece of reinforced composite glass.
- Anti-skid surface and bevelled edges to avoid stumbling.
- The lower side has a ribbed framework which adds strength.
- Can bear a weight of up to 200kg.
- Yellow colour.
- Can be printed in relief with the name or logo of a company.
- Underside ribbed for better resistance.



AVAILABLE FORMATS

- › 1200 x 800mm Weight 12kg
..... to cover trenches with a maximum width of 700mm
- › 1600 x 1200mm Weight 33kg.
..... to cover trenches with a maximum width of 900mm

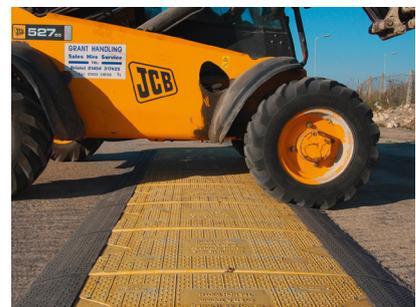


5.12.C. HGV TRENCH COVER

- Trench covering system.
- Tested with a 44t vehicle.
- Easy to lift by 2 people.
- Anti-skid surface.
- Ideal alternative to steel plates.
- Flexible noise-reducing edges.
- Anchoring dowel strengthening stability.
- Each road plate is equipped with super resistant connecting hooks which lock between themselves easily and safely.
- The design of the ramp contributes to slowing down traffic for added security.

FEATURES

- › Dimensions 1500 x 500mm



TRAFFIC LIGHT SIGNALLING

6

6.1 Work site traffic lights

6.1.A. WORK SITE MULTISIGNAL 2.0 LIGHTS

- Mobile work site traffic lights with display of the waiting time.
- Usable for alternating traffic on one lane.
- The “traffic function” radar sensor is situated in the upper half-chamber and is therefore protected against vandalism or other similar influences. It is mounted on all the installations as standard.
- The use of a solar kit considerably prolongs the duration of use and, in ideal conditions, enables an autonomous operation during the summer.

FEATURES

- › In accordance with RiISA, VDE 0832, DIN EN 12368, DIN EN 12675
- › Red time counter with “quartz function” and “traffic function”
- › Pre-programmed standard installation (narrow passage, outlet) or individual programming
- › Programme memory for individual programming for a fast implementation of recurring work stations
- › Remote control, large lit up LED screen
- › Maximum distance between 2 lights (depending on environment) 2500m
- › 6 different frequencies, automatic selection of the frequency, coded
- › Up to 8 signal transmitters
- › Automatic adaptation of the light intensity which saves energy and extends the battery life
- › Locking against the green/green display (cable/radio mode)
- › Programming depending on the time of the day and the day of the week
- › Feedback (wired/radio mode)
- › Protection against deep discharge of accumulators
- › Telescopic pole



SOLAR KIT CONSISTING OF:

- › 30W voltaic panel
- › Fastening kit for the telescopic pole
- › Charge regulator
- › Battery cable

BATTERIES

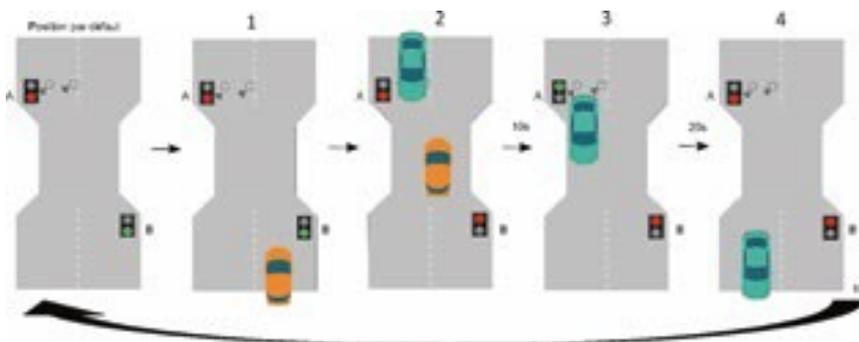
- › 12V/230Ah
- › 12V/180Ah

6.1.B. DETECTION OF INCOMING/OUTGOING VEHICLES

BI-COLOUR LIGHTS MANAGEMENT AUTOMATON

- Provision and programming of automaton with one or more bi/tricolour lights in order to improve the flow of traffic in private car parks, at lane narrowings, bridges etc.

IMPLEMENTATION EXAMPLE:



6.2 Reward lights

CONTROLLED REWARD LIGHT PACK CONCERNING SPEED MEASUREMENT

- R22 light (Ø 200mm)
- Traffic repeater
- Controller (reduced 400 x 400mm box)
- Detection systems:
 - › Speed detection and measurement by radar with serial connection.
 - › Backup detection near the traffic light zone through radar with a tracking system for vehicle detection and maintenance in case of stoppage (detection by magnetic loop possible).
- Types of power supply:
 - › Direct 230V power supply: Box of reduced size (400 x 400mm)
 - › Power supply to street lighting: Box with battery, charger and converter (230V light power supply)
- 3.70m pole (140 x 90mm)
 - › Aluminium material, crude steel or RAL (your choice)

AN EDUCATIONAL TOOL FOR ENCOURAGING ROAD USERS TO RESPECT THE SPEED LIMIT

- Placed in the current section, this traffic light remains red in the absence of vehicles. It turns green when it detects any approaching vehicle(s) which is/are respecting the speed limit. When no more vehicles are detected, the signal turns red again.
- **“Red sanction” lights, which make the light turn red when a road user does not respect the speed limit, remain prohibited.**

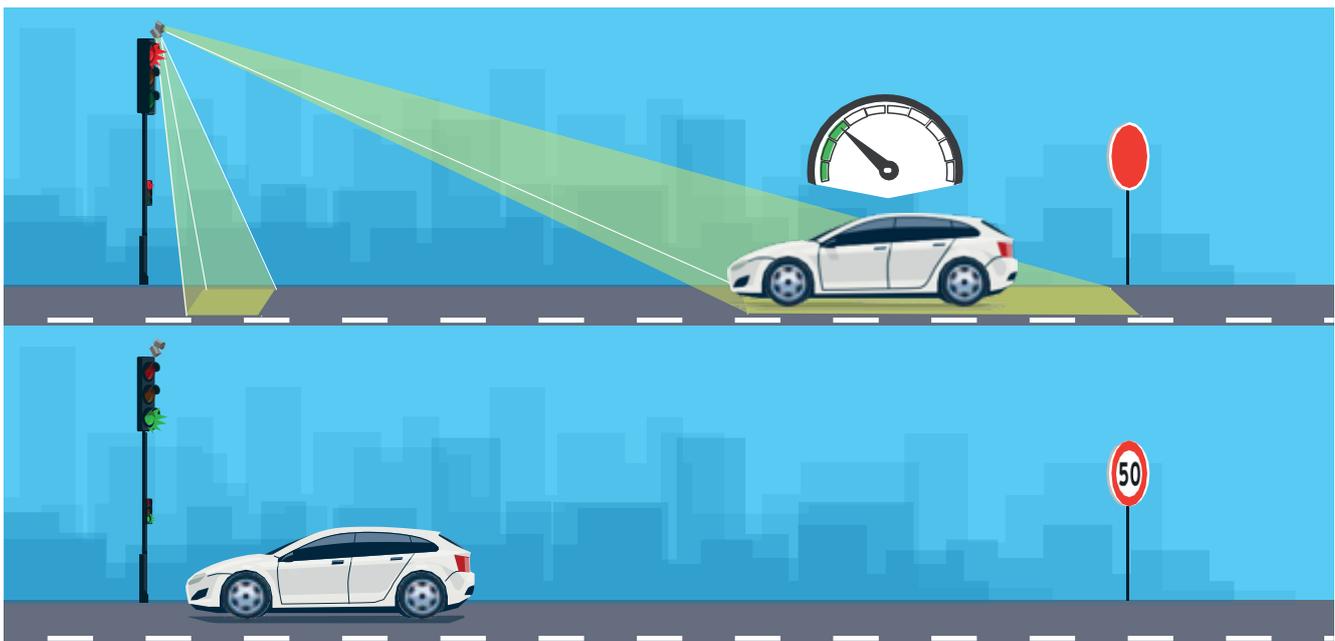
AN EFFICIENT AND CHEAPER ALTERNATIVE

- “Green Reward” lights are an efficient alternative for enforcing the respect of the speed limit, and cheaper than double bends, speed bumps or raised plateaus. These latest solutions disrupt users without discriminating their driving speed. On the other hand, “Green Reward” lights reward virtuous drivers, thus stimulating a positive change to the behaviours on the road.

Always choose equipment which is approved in France and EC-certified

WARNING! The use of equipment non-compliant with the regulations will incur the liability of the local authorities and the criminal liability of their representatives in case of a physical road accident

DOUBLE DETECTION RADAR



6.3 Traffic light lenses

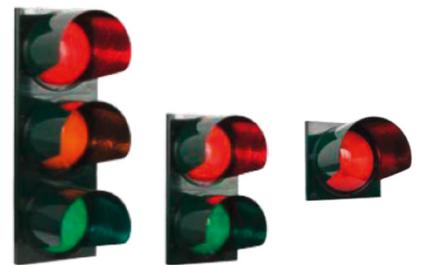
6.3.A. TRAFFIC LIGHT LENSES

- 100, 200 and 300mm lens
- Equipped with a reflector and a visor
- LED technology light
- Wall fastening for light head



6.3.B. CROSSING LIGHTS

- Ø 100 or Ø 200 LED uni-colour, bi-colour or tri-colour lights.
- Black polycarbonate case with high and low attachments, LED technology,
- Delivered with visor.
- 12V or 220V power supply.
- Complies with Standard EN 12368, low consumption. Increase in visual safety, saves lots of energy, increased lifespan, absence of maintenance.
- Manage alternations, platform availability, lane blockages etc.



6.3.C. STOPLIGHT R24

- Light with a 200mm diameter.
- Stationary red light.
- 12 or 230V power supply.
- Operation with a controller.



HORIZONTAL LIGHT SIGNALLING

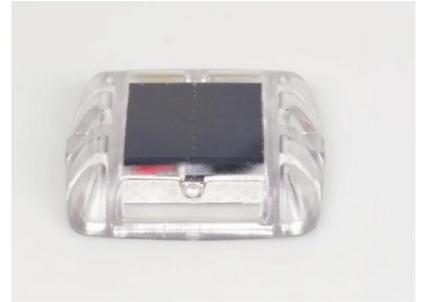
7

7.A.SIGNASOLAR VISION 1

Non-passable stud suitable for mounting onto parts, walls, roads and paths where there is no traffic load.

SPECIFICATIONS:

- › 1 highly efficient Nichia LED
- › 2200mAh Li-Polymer rechargeable battery,
- › transparent polycarbonate box
- › 2 reflectors (reflector sheet of 3M diamond quality) or 2 prismatic reflectors.
- › Dimensions (LxWxH): 100 x 100 x 20mm. . Weight: 160g



7.B.REGULAR SIGNASOLAR VISION 2

Passable stud for embedded mounting onto roads, paths and parts. Suitable for light loads.

SPECIFICATIONS:

- › 2 highly efficient Nichia LEDs
- › 2850mAh Li-Polymer rechargeable battery
- › transparent polycarbonate box, black box with divisible tongues for easy installation
- › 8 stainless steel Torx screws.
- › Dimensions: Ø 128mm, H: 32mm (2.5mm after installation). Weight: 330g



7.C.REGULAR SIGNASOLAR VISION 2 (STAINLESS STEEL RING)

Passable stud for embedded mounting onto roads, paths and parts. Suitable for loads at average or low speed.

SPECIFICATIONS:

- › 2 highly efficient Nichia LEDs
- › 2850mAh Li-Polymer rechargeable battery,
- › transparent polycarbonate box, black box with divisible tongues for easy installation, stainless steel containment ring
- › 8 stainless steel Torx screws.
- › Dimensions: Ø 128mm, H 32mm, (2.5mm after installation). Weight: 415g



7.D.“ROCK SOLID” SIGNASOLAR VISION 2 (STAINLESS STEEL RING)

Passable stud for embedded mounting onto roads, paths and parts. Suitable for heavy loads and high speeds.

SPECIFICATIONS:

- › 2 highly efficient Nichia LEDs
- › 2850mAh Li-Polymer rechargeable battery
- › transparent polycarbonate box
- › black box with heavy stainless steel locking ring
- › 6 stainless steel Torx screws in 6 threaded stainless steel inserts
- › rubber O-ring closure
- › Dimensions: Ø 156mm, H 35mm (5mm after installation). Weight: 900g

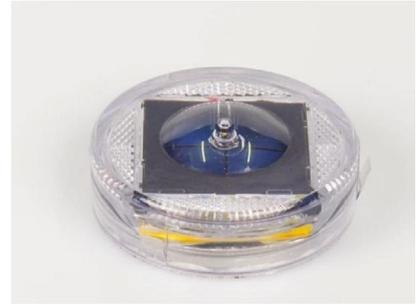


7.E.SIGNASOLAR VISION 3 “ROUNDAABOUT EDGE”

Non-passable stud for embedded mounting onto parts and pavements.

SPECIFICATIONS:

- › 1 highly efficient Nichia LED
- › 2850mAh Li-Polymer rechargeable battery
- › transparent polycarbonate box
- › 4 “prismatic” reflectors
- › Dimensions: Ø 84mm, H 25mm (7mm after installation). Weight: 155g



7.F.SIGNASOLAR VISION 3 “ROUNDAABOUT EDGE” (WITH BOX)

Non-passable stud for embedded mounting onto parts and pavements. Box for “floating” mounting or unsuitable foundation.

SPECIFICATIONS:

- › 1 highly efficient Nichia LED
- › 2850mAh Li-Polymer rechargeable battery
- › transparent polycarbonate box
- › 4 “prismatic” reflectors
- › Dimensions: Ø 84mm, H 25mm (7mm after installation). Weight: 205g



7.G.SIGNASOLAR VISION 4 “PAVEMENT, ROUNDAABOUT” (PASSABLE)

Passable stud for embedded mounting onto parts and pavements. Suitable for light loads.

SPECIFICATIONS:

- › 1 highly efficient Nichia LED
- › 2850mAh Li-Polymer rechargeable battery
- › transparent polycarbonate box
- › 4 “prismatic” reflectors
- › Dimensions: Ø 84mm, H 25mm (7mm after installation). Weight: 175g



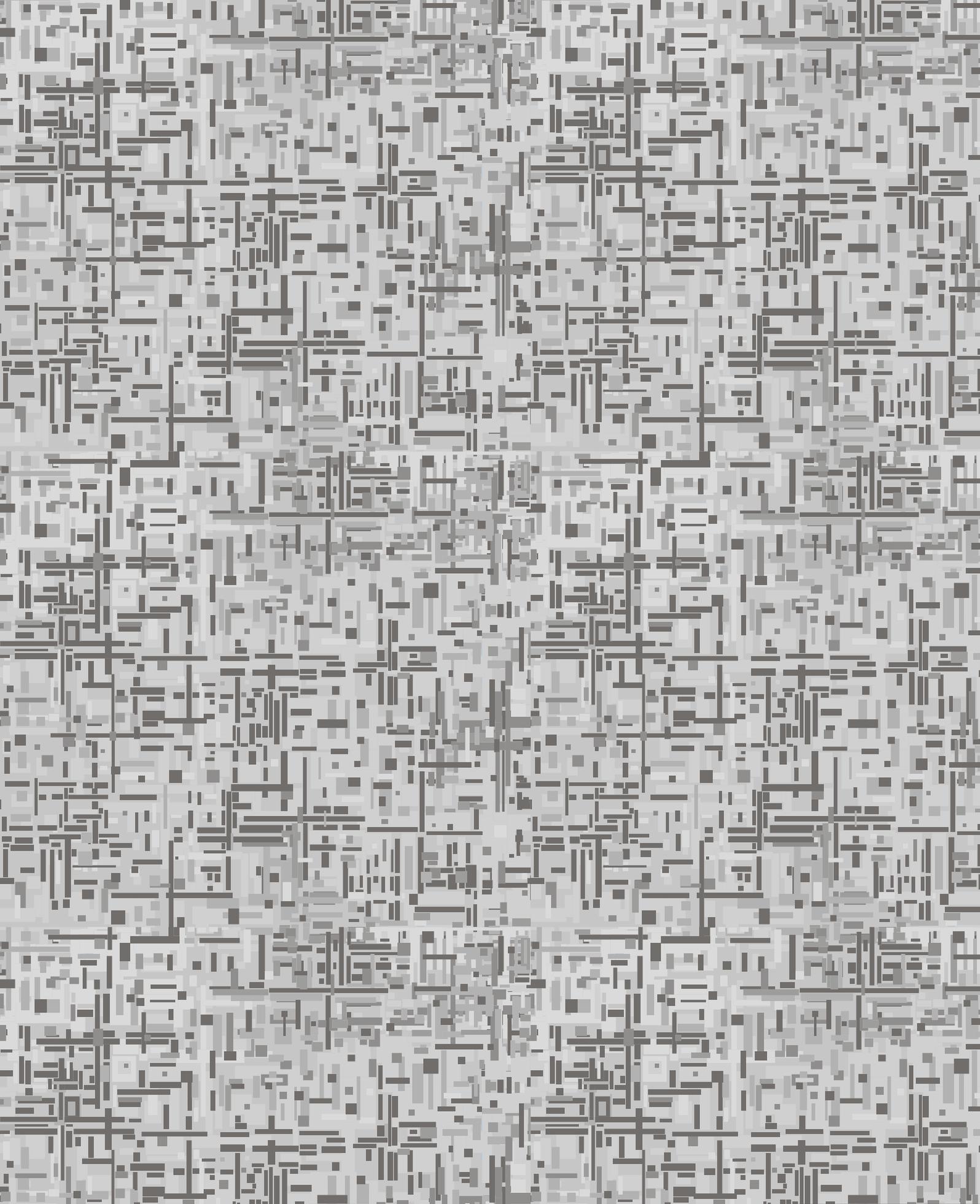
7.H.SIGNASOLAR VISION 4 “PAVEMENT, ROUNDAABOUT” (ACCESSIBLE BY CAR, INCLUDING THE HOUSING)

Passable stud for embedded mounting onto parts and pavements. Suitable for light loads. Box for “floating” mounting or unsuitable foundation.

SPECIFICATIONS:

- › 1 highly efficient Nichia LED
- › 2850mAh Li-Polymer rechargeable battery
- › transparent polycarbonate box
- › 4 “prismatic” reflectors
- › Dimensions: Ø 84mm, H 25mm (7mm after installation). Weight: 225g





ACCESSORIES

8

8.1 Chargers and batteries

8.1.A. AUTOMATIC 4-WAY CHARGER

- Multi-channel power supply block
- Simultaneous charging of up to 4 lamps
- Charging indicator.



8.1.B. AUTOMATIC 10-WAY CHARGER

- Multi-channel power supply block
- Simultaneous charging of up to 10 lamps
- Charging indicator.

8.1.C. 230V/12V/10A/20A AUTOMATIC CHARGER

- High performing automatic charger.
- Charger for charging 12V batteries.
- Protection against overloads.
- Short circuit and polarity reversal protection.
- Operates regardless of temperature.
- 230V-12/24V 120A charger.
- Protection class IP 31.
- 230 V-12V 10A charger for 1 battery up to 135/180Ah.
- 230V-12/24V 20A charger for 2 batteries up to 135/180Ah.
- Use: luminous arrow trailers and graphic trailers.



FEATURES

- > 185 x 75 x 144mm Weight: 980g
- > 240 x 75 x 144mm Weight: 1600g

8.1.D. 230V/12V/30A AUTOMATIC CHARGER

- Automatic charger for service and power batteries (max. 2 x 180Ah).
- Power supply of equipment during charging (include a buffer battery)
- Overload, short circuit and polarity reversal protection. Operates regardless of temperature.
- Use: luminous arrow trailers and graphic trailers.



8.1.E. RECHARGEABLE BATTERY FOR POWER SUPPLY, 12V

- Discharge at constant current.
- Provision of energy over long periods.
- Many charging cycles.
- Use: mobile signalling trailers, Halogen light arrow, electronic flashing lights, traffic lights, light cascades



8.2 Battery cells

8.2.A. IEC 4R25, 6V/7AH BATTERY CELL

- Dry Zinc-Carbon battery cell without mercury or cadmium.
- Long lifespan, good performance.
- Duration of extended storage.
- Use: warning lights, work site lamps, beacon lights, cones.
- Weight: 0.6kg
- Dimensions 65 x 65 x 110mm



8.2.B. IEC 4R25, 6V/50AH BATTERY CELL

- Air-alkaline battery cell without mercury or cadmium.
- Long lifespan, good performance.
- Battery cell activated by addition of oxygen through an automatic valve.
- Use: warning lights, work site lamps, beacon lights, cones.
- Weight: 0.6kg
- Dimensions 65 x 65 x 110mm



8.2.C. 6V/120AH BATTERY CELL

- Air-alkaline battery cell without mercury or cadmium.
- Long lifespan, good performance.
- Battery cell activated by addition of oxygen through an automatic valve.
- Use: beacon lights with compartment.
- Weight: 2kg
- Dimensions 160 x 75 x 130mm



General sales conditions

The sales of the company's products are governed by these conditions, except for the general purchasing conditions of the purchaser. They shall be deemed fully accepted by the purchaser. In the event of a derogation from any of these clauses without express consent from the vendor, the latter may demand its strict application at any moment. Whatever the tolerance duration, in no case may it become the parties' new agreement.

1 - Order - Confirmation

The stock orders shall be transferred by the client in writing (email or letter) and considered to be accepted definitively after written confirmation from the vendor. Any form, regardless of its form (letter, fax, telephone etc.) shall include: the full name, address, identification number and corporate form of the purchaser; the reference to a possible order; the exact quantity; the quality by specifying the sort, brand and reference to a provided sample; the presentation and packaging, and the desired provision date.

2 - Delivery - Risk transfer

Unless otherwise stipulated, the products shall be delivered EXW (incoterms 2000), i.e. ex-works. In the absence of the specification of the imperative nature of the delivery deadline in the order, any deadline shall be deemed to be provided for information purposes. In any case, the delivery deadline shall start from the date of the order confirmation by the vendor. Except in the event of deliberate negligence by the vendor, no compensation shall be due and may not be claimed for non-compliance with the deadline or delivery date. The vendor shall be liberated from their obligations for any event out of their control which impedes or delays the delivery of the products and which is not attributable to any intentional or heavy fault on their part. If the impediment is temporary, the execution of the contract shall be suspended for the duration of this impediment. However, if the duration exceeds 30 days, each party shall have the right to terminate the contract without compensation. If, when the impediment occurs, the vendor has already manufactured a part of the order, the purchaser shall be obliged to take delivery of the manufactured products under the stipulated conditions and to pay for them. If the purchaser refuses to accept them, since the delivery deadline has already expired, the vendor shall have the right to put the products in a warehouse at the expense of the purchaser and claim the reimbursement for the transport costs from them. If the receipt refusal exceeds 15 days following the stipulated delivery date, the vendor shall have the right to terminate the contract, re-sell the products and claim, from the purchaser, the payment of the difference between the initially agreed price and the re-sale price, as well as for any harm they would have suffered. Any return of the sold stock products accepted by the vendor caused by an error attributable to the purchaser shall lead to an invoice, calculated at the vendor's price, intended to cover the costs for the transportation and re-packaging of the returned products. Products manufactured on request shall never be taken back.

3 - Prices

Unless otherwise indicated, the vendor's prices shall be understood to exclude all taxes and packaging, and to be ex-works. The prices shall be given for units expressed according to the nature of the product, as specified in the price list. The vendor's prices shall be provided for information purposes and may be amended without prior notice. The prices appearing in the price lists shall be limited to the quantities available in stock from the vendor upon receipt of the order. Due to the handling costs and risks of product deterioration caused by the splitting of the kit units, the products shall be exclusively sold according to the kit unit indicated in the price list without a possibility of breakage.

4 - Transportation

The reservations and remedies against the transporter shall fall to the purchaser who shall immediately send the vendor, for information, copies of all the documents they have issued in this respect. The purchaser shall immediately proceed with the reservations and observations detailed in the delivery documents issued by the transporter. They shall confirm them by registered letter with a request for an acknowledgement of receipt within three working days following the receipt (Article L.133-3 of the Commercial Code).

5 - Payment

The starting point of the payment deadline is the shipment date. The payment date shall be stated on the invoice. The vendor reserves the right to adapt the amount to the purchaser's situation and make the execution of the orders dependent on the provision of guarantees or the payment on order or prior to the delivery. The change in legal status of the purchaser and/or the worsening of their financial situation may, by operation of law, lead to the immediate payment of the debts concerning any merchandise delivered but unpaid. All invoices must be paid, even if there is a disagreement regarding the delivered merchandise. If an expired invoice is not paid, only partially paid or is paid after the expiration of the scheduled deadline, then the vendor may demand: late penalties from the expiration day with an amount equal to that arising from the application of a rate equal to one and a half times the legal interest rate to the remaining amounts due; the immediate payment of any non-expired invoices; payment before delivery of any order already accepted or already made, or the issue of a guarantee. In case the purchaser refuses these conditions, the vendor may refuse to deliver or may terminate the contract and/or ongoing orders even if they are duly accepted. Any payment by the purchaser, regardless of the charge which the latter would have to give them later on, and even if its amount corresponds exactly to any of the invoices, shall first and foremost be charged for the invoices corresponding to products already used or re-sold by the purchaser.

6 - Retention of ownership

THE TRANSFER OF OWNERSHIP OF THE PRODUCTS IS SUBJECT TO THE FULL PAYMENT OF THE PRICE ON THE DUE DATE BY THE PURCHASER OR ON ANY DUE DATE SET LATER ON IN THE EVENT OF A DUE DATE POSTPONEMENT. THE PAYMENT SHALL BE CONSIDERED COMPLETED UPON THE EFFECTIVE RECEIPT OF THE PRICE.

As a result of this ownership retention clause:

- the vendor, whether or not they are the owner of the transformed products, may take them back if an invoice due is not paid or in the event of the purchaser's credit deterioration even out with the initiation of any collective proceedings;
- the products in stock delivered by the vendor to the purchaser shall be treated by them as being stored with them and shall be validly insured by them, at their expense, against any risks likely to harm the value of the merchandise;
- the purchaser shall immediately warn the vendor of any measures taken by third parties which could affect or jeopardise the retention of ownership, such as seizures or collaterals.
- in the case where identification of the products is impossible, any products meeting the same specifications and not identified themselves shall be considered to be the vendor's products, up to the amount of the vendor's claim. For the purposes of facilitating this identification, it shall be forbidden for the purchaser or their substitutions to remove the distinctive trademarks from the products before their use.

7 - Complaints - Limitation of liability

The vendor may not be sought after if the purchaser does not strictly comply with the provisions of Article 1 above. Without prejudice to the provisions of Article 5 above, and under penalty of inadmissibility, the purchaser shall warn the vendor in writing:

- before using the products and within 48 hours, at the latest, of the delivery in case of clear non-compliance of the quantity of the products received in relation to the order;

- before use and, at the latest, within 7 hours of the delivery if the products display apparent defects or any clear non-compliance of the quality in relation to the order, i.e. if the fault or irregularity may be revealed by a basic check or a visual inspection;

- during trials or their use, and, at the latest, within four months of the delivery in case of a hidden defect, i.e. if the fault or irregularity may only be revealed during a thorough examination, trials or their use.

Complaints shall only be admissible if the fraction of the products used does not exceed 10% of the delivered quantity. The use of the products for a quantity greater than 10% shall constitute an absolute acceptance of the merchandise by the purchaser. If the purchaser notices any irregularities during its use, the work shall stop immediately or no more than 10% of the merchandise shall be consumed. The buyer shall inform the vendor of the situation in writing. The vendor shall make himself available to analyse, on site, the work to be carried out, the performance of the merchandise and its conditions of use. The work may only be pursued following a formal agreement between the vendor, purchaser and, possibly, the user of the merchandise. If a complaint is justified by the vendor, the latter shall, at their expense, take back the faulty merchandise which shall be returned to them by the purchaser in good condition in the original packaging or similar. The vendor shall replace the merchandise as soon as possible with its stock or provision possibilities. If the replacement is impossible, a credit note corresponding to the faulty products shall be issued. The observation of a fault on a portion of the products may not justify the total refusal and/or exempt the purchaser from paying for the entire delivery as well as any amount they owe in time. In any case, any compensation due by the vendor shall be limited to the value of the merchandise recognised as non-compliant and shall, in any case, be limited to the direct material damages except for any compensation for immaterial and/or indirect damages.

8 - Advice

The description of the products in the vendor's catalogues and price lists shall be provided for information purposes. If certain features of the product are considered to be essential, it shall be up to the purchaser to ensure they are clarified and guaranteed in writing. The vendor may only inform or advise the purchaser if the latter spontaneously and completely puts them in a position to do so. In the event of silence from the purchaser at the moment of the order or during the transformation of the products, the purchaser, deemed to be a professional, shall be considered to be sufficiently informed of the features of the products they have ordered and used. Information on the technical data sheets is based on data which the manufacturers consider reliable. The values are provided for information purposes only and are communicated without guarantee. In no case shall they constitute a guarantee. The purchasers shall independently determine, before use, if this material is suitable for their intended use.

9 - Applicable law - Allocation of competence

Any disagreement which may occur between the parties related to the interpretation, execution and/or end of these conditions and, more generally, as a result of their commercial relations shall be submitted to the Villefranche-Tarare Commercial Court, even in the case of an introduction of a third party or multiple defendants. The applicable law is French law.



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