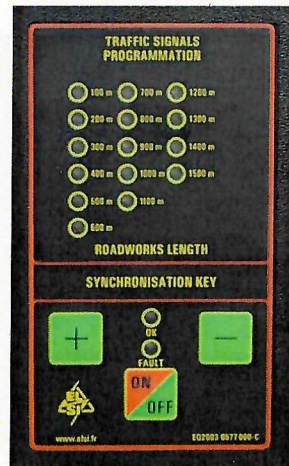
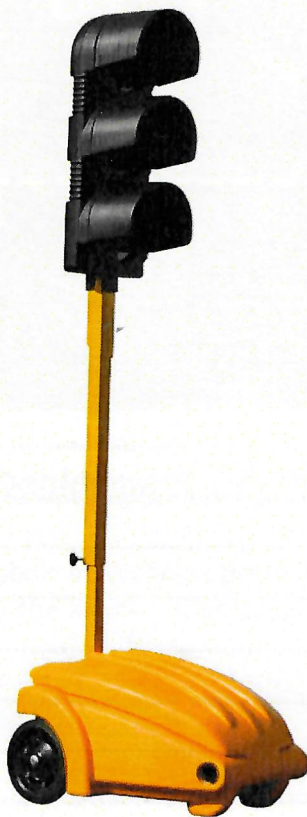


# Diabolo - Diabolux Temporary traffic light user guide



D	Date	18/07/2022	18/07/2022	18/07/2022	Logo and identity update
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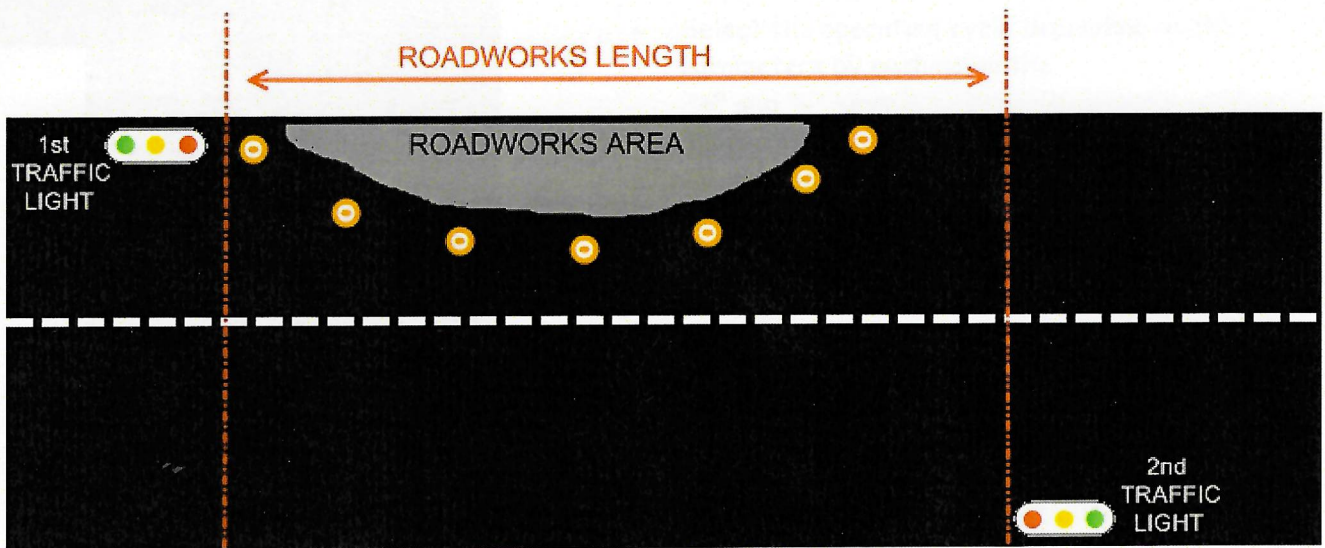
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# 1 Traffic-light installation.

The DIABOLO or DIABOLUX portable traffic signals are twinned and operate in tandem whilst streetworks or roadworks are being carried out.

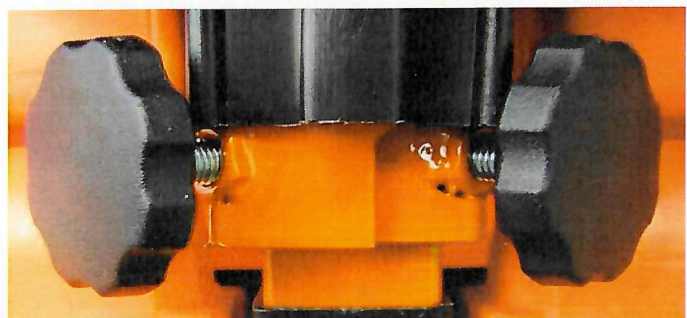
## 1.1 Positioning of the traffic-light (roadworks length).



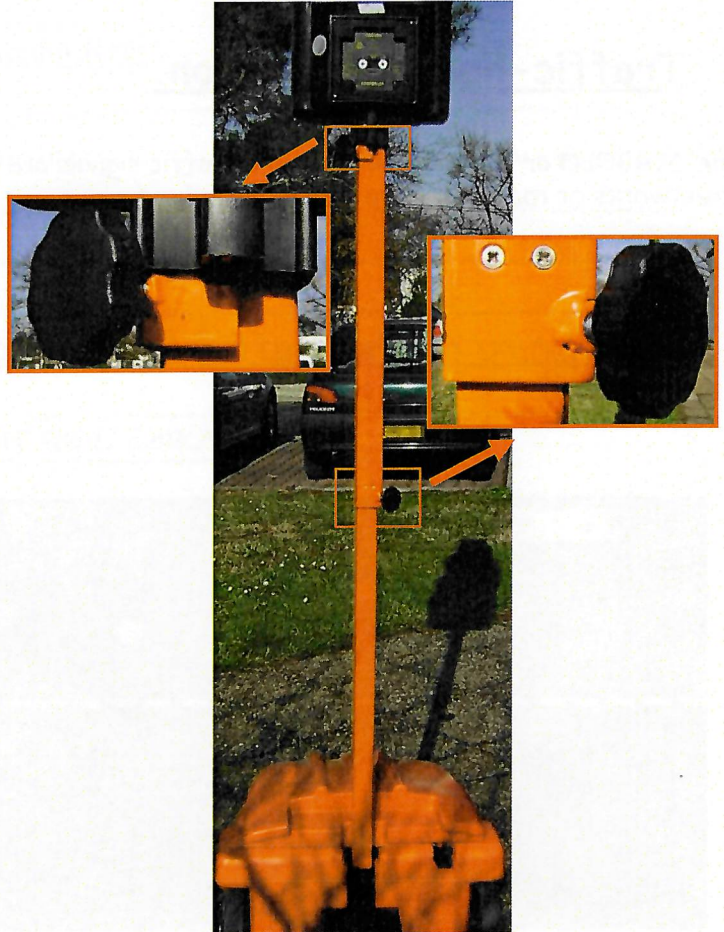
## 1.2 Deployment of the signals.

The Diabolo or Diabolux portable traffic signals are built with a telescopic mast that makes it possible to position the lights folded up and then unfold them once in place.

- Unscrew the two locking screws.



- Unfold the telescopic mast and tighten the locking screws very firmly.

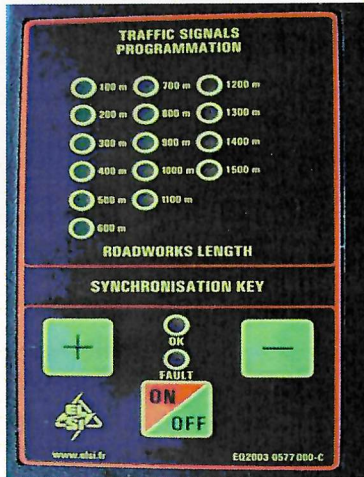


**WARNING:** Pinching risk during this step.  
**ALWAYS WEAR PROTECTIVE GLOVES**

### 1.3 Traffic light start.

Once the signals are installed, starting them consists of synchronizing the two lights using the remote control (otherwise known as the "Synchronisation key").

The length of the roadworks must be known in order to configure the traffic signals correctly.



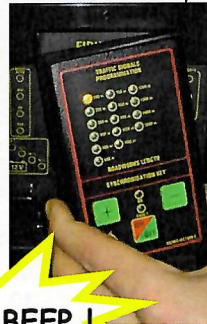
- Turn on the key by pressing the ON/OFF button.
- Select the operating cycle depending on the parameters by pushing on the "+" and "-" keys.

The light corresponding to the right roadworks length must be illuminated.

- Once the operating cycle has been selected, place the key on the first traffic signal, which will light up and the key will make a "BEEP", and then remove the key.



- Then place the key on the second traffic signal, which will make two "BEEP"s, then remove the key.



Put the key here

Once the two signals are synchronised, the key turns off and the signals operate in automatic mode

**NOTE:** starting from when the first of the signals has been synchronised, the key can not be turned off until after the second signal has been synchronised.

**If one of the signals is moved, then the roadworks length may have change, a new synchronisation is necessary:**

- Turn on the key, select the new roadworks length, then put the key on one of the two signals, and it will make two "BEEP"s.
- The other signal is automatically resynchronised (since they are linked by radio signals).



## 2 Usage in automatic mode.

This is the default mode, which means that the two signals will start in this mode when they are powered on.

### 2.1 Description du mode automatique.

In this operating mode, the signals alternate between red and green according to the following cycle:



### 2.2 Cycle durations.

#### 2.2.1 Normal cycle durations

Cycles		1	2	3	4	5	6	7	8
		100 m	200 m	300 m	400 m	500 m	600 m	700 m	800 m
Signal 1	Signal 2	Durations							
G	R	40 s	40 s	40 s	40 s	64 s	64 s	64 s	64 s
A	R	5 s	5 s	5 s	5 s	5 s	5 s	5 s	5 s
BR	BR	15 s	25 s	35 s	45 s	56 s	70 s	80 s	90 s
R	G	40 s	40 s	40 s	40 s	64 s	64 s	64 s	64 s
R	A	5 s	5 s	5 s	5 s	5 s	5 s	5 s	5 s
BR	BR	15 s	25 s	35 s	45 s	56 s	70 s	80 s	90 s
Rt		75 s	95 s	115 s	135 s	181 s	209 s	229 s	249 s

Cycles		9	10	11	12	13	14	15
		900 m	1,000 m	1,100 m	1,200 m	1,300 m	1,400 m	1,500 m
Signal 1	Signal 2	Durations						
G	R	96 s	96 s	96 s	96 s	128 s	128 s	128 s
A	R	5 s	5 s	5 s	5 s	5 s	5 s	5 s
BR	BR	110 s	120 s	130 s	140 s	150 s	160 s	170 s
R	G	96 s	96 s	96 s	96 s	128 s	128 s	128 s
R	A	5 s	5 s	5 s	5 s	5 s	5 s	5 s
BR	BR	110 s	120 s	130 s	140 s	150 s	160 s	170 s
Rt		321 s	341 s	361 s	381 s	433 s	453 s	473 s

### **3 Usage in manual mode.**

This mode makes it possible to block both signals on red (while a large roadworks vehicle is passing for example), both on flashing yellow, or to turn the lights off.

#### **3.1 Switching to manual mode.**

- To change mode put the key on the socket and press on "+" or "-".

The light indicates the selected mode.

- AUTOMATIC mode
- RED manual mode
- BLINKING YELLOW manual mode
- IDLE mode



**NOTE:** Manual mode also makes it possible to use just one single signal at a time.

### **4 Stopping the signals.**

- Put the key on the socket of the signal to be turned off and press the "start/stop" button.



## 5 Description of the signal's control panel.



## 6 DIABOLUX particularity

The Diabolux have got a red time counter inside the yellow signal.



## **7 Changing the battery during operation.**

- The "FAULT" indicator flashes alternately with the "25%" (battery) indicator.
  - The battery should be changed.

Leave the signal operating while the battery is changed, and it will remain synchronised for up to about 20 minutes. If one charged battery is connected during this period, it will continue with its synchronised operation with the second signal.

When batteries are changed, they absolutely must be changed with an identical or equivalent model in order guarantee continued correct operation of the signal.

- For models with two batteries: TWO BATTERIES OF 6V / 192Ah.
- For models with one battery: ONE BATTERY OF 12V / 200Ah.

In order to ensure a correct operation of the traffic light:

- Open the signal's casing.
- Disconnect the two battery terminals starting with the negative terminal.
- Replace the battery.
- Reconnect starting with the positive terminal, taking particular care not to connect the terminals backwards (Risk of damage).
- Reclose the casing

## **8 Faults and defects.**

### **8.1 The signal does not start.**

- Check the status and connections of the battery.
- If the battery is properly charged, contact the after sales service group.

### **8.2 Synchronisation is impossible.**

- The "FAULT" indicator flashes alternately with the "OK" indicator on the remote control.
  - Check that the infrared link windows are clean.
  - Check the key battery status.
- The "FAULT" indicator flashes alternately with the "25%" (battery) indicator.
  - The battery should be changed.

### **8.3 Synchronisation of a working signal is impossible.**

- Since the signals are connected by radio link, if the link is disturbed then the signals will work in autonomous mode.
  - Check that the other signal is always lit.
  - The radio connection might be being disturbed by an external factor - contact the after sales service group.
- The "FAULT" indicator flashes alone
  - The wire between the two electronic cards of the traffic light might be damaged or disconnected.
  - Contact the after sales service group.

### **8.4 The signal will not leave "BLINKING YELLOW" mode.**

- The "FAULT" indicator flashes alternately with the "25%" (battery) indicator.
  - The battery should be changed.
- The "FAULT" indicator flashes alternately with the "RED SIGNAL STATUS" indicator.
  - The RED LED lens is maybe damaged or disconnected.
  - Contact the after sales service group.
- The radio link might be disrupted.
  - The battery of the other signal must be discharged.
  - Contact the after sales service group.

### **8.5 The "YELLOW" phase never lights up.**

- The "FAULT" indicator flashes alternately with the "YELLOW SIGNAL STATUS" indicator.
  - The YELLOW LED lens is maybe damaged or disconnected.

- Contact the after sales service group.

## **8.6 The "GREEN" phase never lights up.**

- The "FAULT" indicator flashes alternately with the "GREEN SIGNAL STATUS" indicator.
  - The GREEN LED lens is maybe damaged or disconnected.
  - Contact the after sales service group.

## **9 Maintenance and autonomous operations.**

### **9.1 Signal autonomous operation.**

The battery delivered with the signal is expected to operate for 3 weeks in automatic mode. An indicator makes it possible to check the battery charge (see page 7).

When the battery power critical threshold is reached on one of the signals, that being 10.8 Volts, or about 25% of capacity, the two signals will automatically switch into blinking yellow mode. Below the 25% threshold, at around 10.2 Volts, the signal will automatically turn itself off.

### **9.2 Battery charging WARNING.**

ALWAYS DISCONNECT THE SYSTEM BEFORE CHARGING THE BATTERY

USE A BATTERY CHARGER CORRECTLY REGULATED FOR THE BATTERY MODEL.

RESPECT THE BATTERY POLARITIES DURING CHARGING  
(RISKS OF EXPLOSION/ACID SPILLAGE)



### **9.3 Battery changing WARNING.**

When batteries are changed, they absolutely must be changed with an identical or equivalent model in order to guarantee continued correct operation of the signal.

- For models with two batteries: TWO BATTERIES OF 6V / 192Ah.
- For models with one battery: ONE BATTERY OF 12V / 200Ah.

#### **Replacing the battery:**

- Open the signal's casing.
- Disconnect the two battery terminals starting with the negative terminal.
- Replace the battery.
- Reconnect starting with the positive terminal, taking particular care not to connect the terminals backwards (risks damaging the equipment).
- Reclose the casing

**Note :** If the signal is operating while the battery is changed, it will remain synchronised for up to about 20 minutes. If one charged battery is connected during this period, it will continue with its synchronised operation with the second signal.

**WARNING: THERE ARE RISKS OF BATTERY SHORT-CIRCUITING WHEN USING THE TERMINAL DISMANTLING TOOL (acid spillage).**



**USED BATTERIES MUST BE RECYCLED OR DISPOSED OF IN A PROPERLY DESIGNATED LOCATION.**



N - Dangereux pour l'environnement



## 9.4 Replacing the Synchronisation Key battery.

- Battery model: 9V Type 6LR61
- Open the case and replace the battery

