TTS
Trafic Technologie Système

Made in France

DIRECTIONS FOR USE
TEMPO TRAFIC LIGHT

tempo

CAUTIONS

To avoid any damage, and when the equipment will not be used for a longer period (more than a month), **disconnect the batteries and accumulators** from the yellow cupola, from the remote control and from the battery box.
Periodically control the batteries used_by dates.

For the handling of the traffic light, or its accessories such as the battery, the use of PPE is mandatory (gloves, glasses and safety shoes).

POWER ON

```
TTS-Tempo-2 2016
    001-V-100
```

Battery voltage

```
FEUX:        12.0V
CLIGNOTANT      M
```

Display when switched on

In order to become familiar with the programming procedure, it is advisable to test the configuration of the lights in the workshop, before putting them into service on site.

■ Turn on the Tempo traffic lights by connecting the switch placed in the battery box.
■ At that time, the Tempo traffic light is in a waiting state « central orange light flashing ».
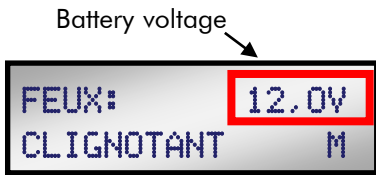
CONTROL MANAGEMENT

Control Management with remote control

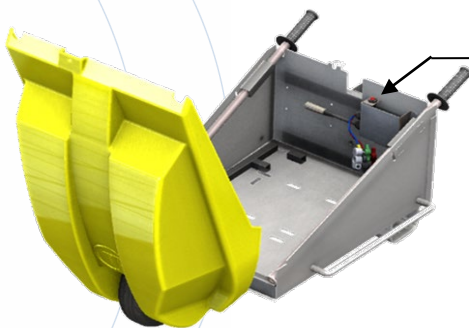Selection of the different modes by successive pression on the + ou – (mode) user-defined keys.

-Fixed cycle
-Uneven traffic
-Free cycle
-Crossroad 3T
-Crossroad 3X
-Crossroad 4T
-Crossroad 4X

The setting of the various user modes described in this manual always starts with the same step.

FORCING MODES

Control Management with pushing button

Selection of the different modes by successive pression on the button
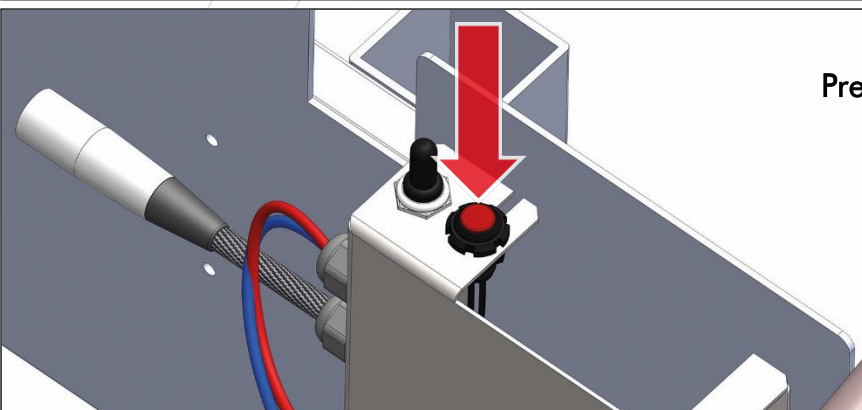
-Flashing orange
-Stand by
-Red only
-Fixed cycle when traffic light is programmed otherwise « not synchrinized » displayed

RESET

Press down the push button for 5 seconds without disconnecting the battery.

SWITCH OFF

By the switch and press down the push button for 5 seconds.

2 LIGHTS ALTERNATING PROGRAMMING - BALANCED TRAFFIC

	Traffic Length	100m	200m	300m	400m	500m	600m
	Full RED	**12"**	**22"**	**32"**	**42"**	**52"**	**62"**
Low Traffic (2000 cars/jour)	**Yellow**	20"	20"	20"	24"	28"	32"
Medium Traffic (2 to 5000 cars/jour)	**Yellow**	30"	30"	36"	46"	54"	
Heavy Traffic (5 to 8000 cars/jour)	**Yellow**	44"	66"	90"	112"		
Very Heavy Traffic (8 to 11000 cars/jour)	**Yellow**	120"					

***Full red** = Time when both lights are red.
 Waiting time = 2x full red + yellow

2 LIGHTS ALTERNATING PROGRAMMING - UNBALANCED TRAFFIC

	Length	100m	200m	300m	400m	500m	600m
	Full RED	**12"**	**22"**	**32"**	**42"**	**52"**	**62"**
Heavy Traffic (5 à 8000 véh./jour)	**Yellow with traffic**	30"	44"	58"	72"		
	Yellow against traffic	20"	24"	32"	38"		
Very Heavy Traffic (8 to 11000 cars/jour)	**Yellow with traffic**	46"	72"	98"			
	Yellow against traffic	26"	38"	50"			
Traffic Limit (11 to 14000 cars/jour)	**Yellow with traffic**	86"					
	Yellow against traffic	45"					

With traffic

Against traffic

- Times are given in seconds.
- The crossed out sections represent impossible traffic combinations, in an alternating 2 lights configuration on a work site.

STEP 1
Switch on

```
TTS-Tempo-2
    001-V100
```

Battery voltage

```
LIGHT:      12.0V
FLASHING     M
```

Displayed
when
switch on

■ Turn on the Tempo traffic lights by the switch placed in the battery box.

■ At that time, the Tempo traffic light is in a waiting state « central orange light flashing ».

STEP 2
Traffic programming

```
FIXED CYCLE       ▲
TRAFFIC: LOW      ▼
```

▲ LOW
  AVERAGE
  HEAVY
▼ VERY HEAVY

Selection

Validation

■ Switch on the remote control
■ Direct it to the window display symbol (((●)))

■ Select the density of the traffic with the + and - (select) user-defined keys.
(please refer to the time table page 3)

■ **Validate.**

STEP 3
Roadwork length programming

```
FIXED CYCLE       ▲
LENGHT:100m       ▼
```

▲ 100m
  200m
  300m
  400m
  500m
▼ 600m

Selection

Validation

■ Select the length between the two traffic light with the + and - (select) user-defined keys.
(Se référer au tableau des temps page3)

■ **Validate.**
You must hear a double BEEP.

Traffic light1
```
FIXED CYCLE 12.0V
100m LOW        m
```

STEP 4
Validation of the cycle on the 2nd traffic light

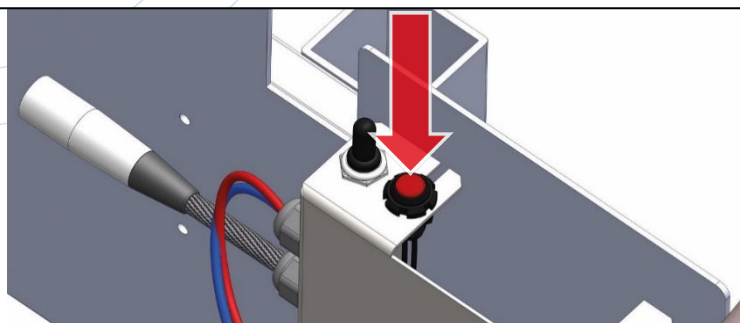Traffic light2
```
FIXED CYCLE 12.0V
100m LOW        a
```

Validation

■ Go to the 2nd traffic light
■ Direct the remote control to the window display symbol (((●)))

■ **Validate.**
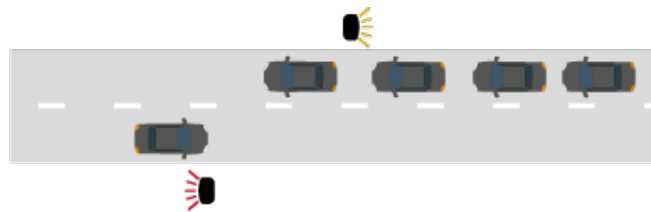**You must hear a double BEEP.**

SWITCH OFF

■ By the switch and maintain pression on the button during 5 seconds until the LCD screen goes off.

Traffic is more important on a traffic axis.

Mode selection

```
LIGHT:      12.0V
FLASHING      M
```

```
CYCLE:
UNEVEN      ◄ ►
```

Selection

Validation

- Switch on the remote control
- Direct it to the window display symbol (((●)))

- Select « Uneven » mode with the + and - (mode) user-defined keys.

- **Validate.**

One side heavy traffic programming

The traffic load setting is done on the 1st light:
LOAD + : Light 1- for more dense traffic.
LOAD - : Light 1 - for less dense traffic.

```
DIRECTION        ▲
TRAFFIC:LOAD     ▼
```

▲ LOAD +

▼ LOAD -

Selection

Validation

- Select if the traffic is more or less heavy on this side with + and - (select) user-defined keys.
- **Validate.**

Traffic programming

```
UNEVEN           ▲
TRAFFIC:HEAVY    ▼
```

▲ HEAVY
   VERY HEAVY
▼ LIMIT

Selection

Validation

- Select the uneven density of the traffic with the + and - (select) user-defined keys.

(please refer to the time table page 3)

- **Validate.**

Roadwork length programming

```
UNEVEN           ▲
LENGHT:100m      ▼
```

▲ 100m
   200m
▼ 300m

Selection

Validation

- Select the length between the two traffic light with the + and - (select) user-defined keys.

- **Validate.**
You must hear a double BEEP.

Validation of the cycle on the 2nd traffic light

Traffic light 1
```
UNEVEN +    12.0V
100m HEAVY      m
```

Traffic light 2
```
UNEVEN -    12.0V
100m HEAVY      a
```

Validation

- Go to the 2nd traffic light
- Direct the remote control to the window display symbol (((●)))
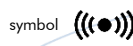
- **Validate.**

You must hear a double BEEP.

The passage time for each light is configurable.
The length of the site is adjustable up to 2000m.

STEP 1
Starting mode

```
FEUX:        12.0V
FLASHING         M

CYCLE:
FREE          ◄ ►
```

Selection   Validation

- Switch on the remote control
- Direct it to the window display   symbol $(((\bullet)))$
- Select « Free »   mode with the + and - (mode) user-defined keys.
- **Validate.**

STEP 2
Traffic lenght programming

```
FREE            ▲
LENGHT:100m     ▼
```

▲ 100m
   200m
   300m
   …
▼ 2000m

Selection   Validation

- Select the lenght of the roadwork using the + and - (select) user-defined keys.
- **Validate.**

STEP 3
Traffic light 1 time programming

```
FREE            ▲
YELLOW 1:  45s  ▼
```

▲ 5s
   10s
   15s
   …
▼ 120s

Selection   Validation

- Select the flashing time of the 1st light on the 1st traffic light using the + and - (select) user-defined keys.
- **Validate.**

STEP 4
Traffic light 2 time programming

```
FREE            ▲
YELLOW 2:  20s  ▼
```

▲ 5s
   10s
   15s
   …
▼ 120s

Selection   Validation

- Select the flashing time of the 2nd light on the 1st traffic light using the + and - (select) user-defined keys.
- **Validate.**
- **You must hear a double BEEP.**

STEP 5
Validation of the cycle on traffic light 2

Traffic light 1
```
FREE        12.0V
100m  45s   20s   m
```

Traffic light 2
```
FREE        12.0V
100m  45s   20s   a
```

Validation

- Go to the 2nd traffic light
- Direct the remote control to the window display symbol $(((\bullet)))$
- **Validate.**
- **You must hear a double BEEP.**

tempo — 3 LIGHTS ALTERNATE CROSSROAD PROGRAMMING

➡ Each light turns green one after the other

Traffic light 3
Axe 1
Traffic light 1
Traffic light 2
Axe 2

STEP 1
Mode selection

```
LIGHT:        12.0V
FLASHING       M
```
```
CYCLE:
CROSSROAD 3T  ◀ ▶
```
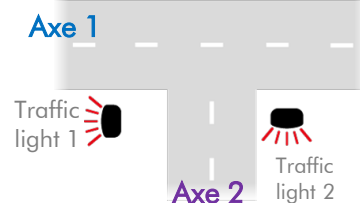
Selection — Validation
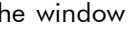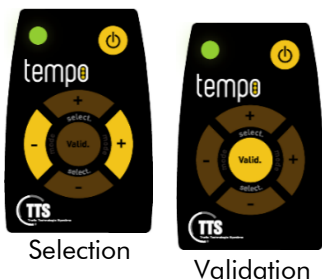
- Switch on the remote control
- Direct it to the window display symbol ((●))
- Select « Crossroad 3T » mode with the **+** and **-** (mode) user-defined keys.
- **Validate.**
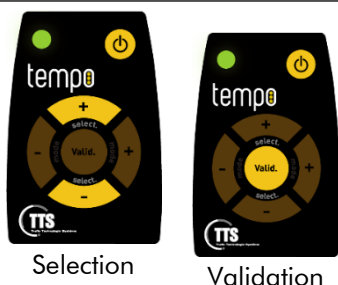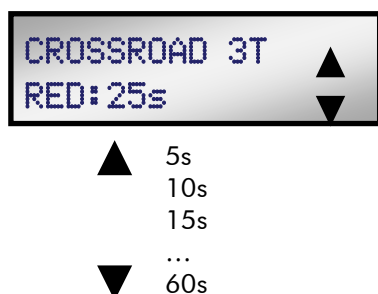
STEP 2
Red light programming

```
CROSSROAD 3T   ▲
RED:25s        ▼
```

▲ 5s
10s
15s
…
▼ 60s

Selection — Validation

- Select the redlight timing with the **+** and **-** (select) user-defined keys.
- **Validate.**

STEP 3
Traffic light 1 green light programming
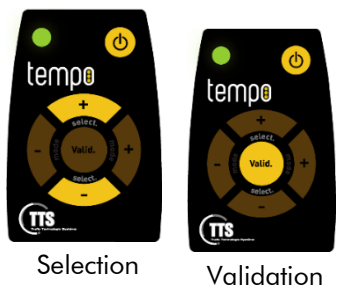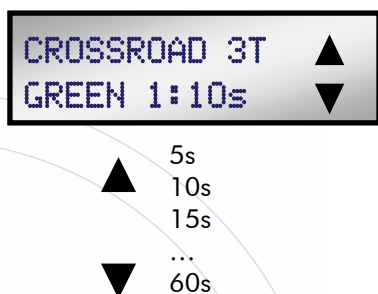
```
CROSSROAD 3T   ▲
GREEN 1:10s    ▼
```

▲ 5s
10s
15s
…
▼ 60s

Selection — Validation

- Select the green light timing (flashing orange) of the 1st traffic light with the **+** and **-** (select) user-defined keys.
- **Validate.**

STEP 4
Traffic light 2 green light programming
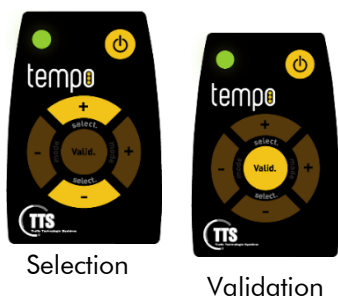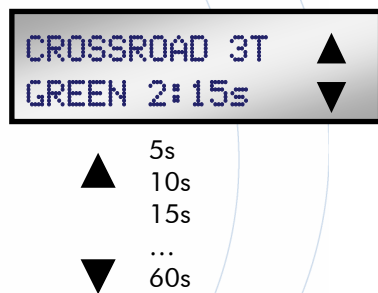
```
CROSSROAD 3T   ▲
GREEN 2:15s    ▼
```

▲ 5s
10s
15s
…
▼ 60s

Selection — Validation

- Select the green light timing (flashing orange) of the 2nd traffic light with the **+** and **-** (select) user-defined keys.
- **Validate.**

Repeat this step for the light n°3.
You must hear a double BEEP.

STEP 5
Validation of the cycle on traffic lights 2 and 3

```
CROSSROAD  12.0V
3T GREEN:25s P1m
```
Traffic light 1
```
CROSSROAD  12.0V
3T GREEN:25s P2a
```
Traffic light 2
```
CROSSROAD  12.0V
3T GREEN:25s P3a
```
Traffic light 3

Validation

- Go to the 2nd traffic light
- Direct the remote control to the window display symbol ((●))
- **Validate.**

You must hear a double BEEP.

Repeat this operation for the third light.

Lights 1 and 3 have the same color (axis 1).
Light 2 (axis2) is opposite axis 1.

Traffic light 3

Axe 1

Traffic light 1

Axe 2 — Traffic light 2

STEP 1
Mode selection

```
LIGHT:      12.0V
FLASHING     M

CYCLE:
CROSSROAD 3X  ◀ ▶
```

Selection   Validation

- Switch on the remote control
- Direct it to the window display symbol (((●)))
- Select « Crossroad 3X » mode with the + and - (mode) user-defined keys.
- **Validate.**

STEP 2
Red light programming

```
CROSSROAD 3X   ▲
RED:25s        ▼
```

▲ 5s
  10s
  15s
  …
▼ 60s

Selection   Validation

- Select the red light timing with the + and - (select) user-defined keys.
- **Validate.**

STEP 3
Axis 1 green light programming

```
CROSSROAD 3X   ▲
AXE 1:10s      ▼
```

▲ 5s
  10s
  15s
  …
▼ 60s

Selection   Validation

- Select the green light timing (flashing orange) of the 1st axis with the + and - (select) user-defined keys.
- **Validate.**

STEP 4
Axis 2 green light programming

```
CROSSROAD 3X   ▲
AXE 2:10s      ▼
```

▲ 5s
  10s
  15s
  …
▼ 60s

Selection   Validation

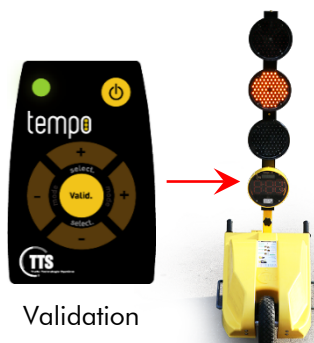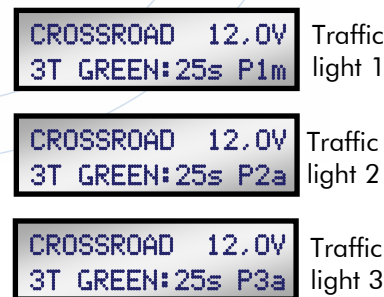- Select the green light timing (flashing orange) of the 2nd axis with the + and - (select) user-defined keys.
- **Validate.**

You must hear a double BEEP.

STEP 5
Validation of the cycle on traffic lights 2 and 3

```
CROSSROAD   12.0V
3X GREEN:25s P1m
```
Traffic light 1

```
CROSSROAD   12.0V
3X GREEN:25s P2a
```
Traffic light 2

```
CROSSROAD   12.0V
3X GREEN:25s P3a
```
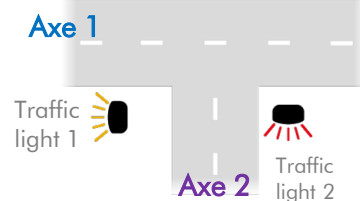Traffic light 3

Validation

- Go to the 2nd traffic light
- Direct the remote control to the window display symbol (((●)))
- **Validate.**

You must hear a double BEEP.

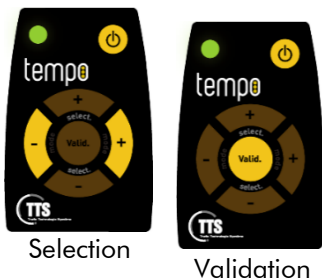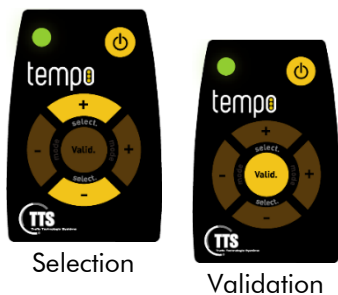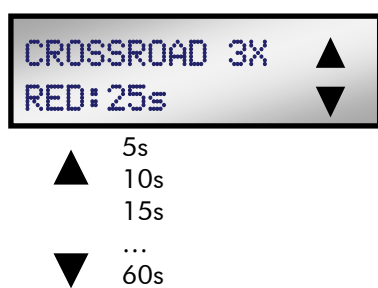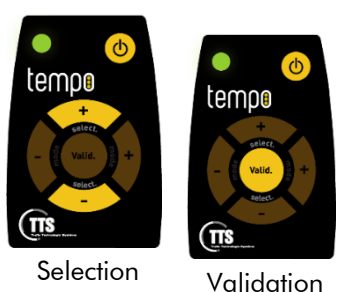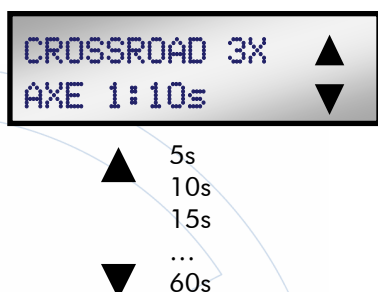Repeat this operation for the third light.

Each light turns green one after the other

Traffic light 4
Traffic light 3
Axe 1
Traffic light 1
Traffic light 2
Axe 2

```
LIGHT:        12.0V
FLASHING       M

CYCLE:
CROSSROAD 4T
```

Selection — Validation

- Switch on the remote control
- Direct it to the window display symbol $(((\bullet)))$
- Select « Crossroad 4T » mode with the **+** and **-** (mode) user-defined keys.
- **Validate.**

```
CROSSROAD 4T    ▲
RED:25s         ▼
```

▲ 5s
10s
15s
…
▼ 60s

Selection — Validation

- Select the red light timing with the **+** and **-** (select) user-defined keys.
- **Validate.**

```
CROSSROAD 4T    ▲
GREEN 1:10s     ▼
```
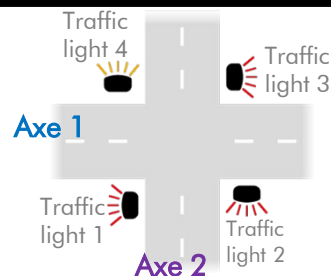
▲ 5s
10s
15s
…
▼ 60s

Selection — Validation

- Select the green light timing (flashing orange) of the 1st traffic light with the **+** and **-** (select) user-defined keys.
- **Validate.**

```
CROSSROAD 4T    ▲
GREEN 2:15s     ▼
```

5s
▲ 10s
15s
…
▼ 60s

Selection — Validation

- Select the green light timing (flashing orange) of the 2nd traffic light with the **+** and **-** (select) user-defined keys.
- **Validate.**

Repeat this step for the light n°3 and n°4.

You must hear a double BEEP.

```
CROSSROAD   12.0V   Traffic light 1
4T GREEN:25s P1m

CROSSROAD   12.0V   Traffic light 2
4T GREEN:25s P2a

CROSSROAD   12.0V   Traffic light 3
4T GREEN:25s P3a

CARREFOUR   12.0V   Traffic light 4
4T GREEN:25s P4a
```

Validation

- Go to the 2nd traffic light
- Direct the remote control to the window display symbol $(((\bullet)))$
- **Validate.**

You must hear a double BEEP.

Repeat this operation for the third and fourth light.

Lights 1 and 3 have the same color (axis 1)
The light 2 and 4 (axis 2) have the same color
and are opposite the axis 1.

Traffic light 4
Traffic light 3
Axe 1
Traffic light 1
Traffic light 2
Axe 2
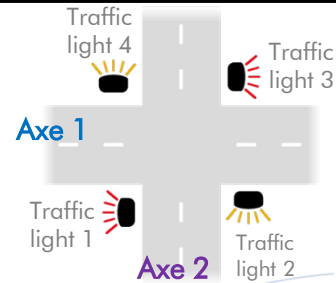
STEP 1
Mode selection

```
LIGHT:       12.0V
FLASHING      M

CYCLE:
CROSSROAD 4X  ◄ ►
```

Selection   Validation

- Switch on the remote control
- Direct it to the window display symbol (((•)))
- Select « Crossroad 4X » mode with the **+** and **-** (mode) user-defined keys.

■ **Validate.**

STEP 2
Red light programming

```
CROSSROAD 4X   ▲
RED:25s        ▼
```

▲ 5s
10s
15s
…
▼ 60s

Selection   Validation

- Select the red light timing with the **+** and **-** (select) user-defined keys.

■ **Validate.**

STEP 3
Axis 1 green light programming

```
CROSSROAD 4X   ▲
AXE 1:10s      ▼
```

▲ 5s
10s
15s
…
▼ 60s

Selection   Validation

- Select the green light timing (flashing orange) of the 1st axis with the **+** and **-** (select) user-defined keys.

■ **Validate.**

STEP 4
Axis 2 green light programming

```
CROSSROAD 4X   ▲
AXE 2:20s      ▼
```

5s
▲ 10s
15s
…
▼ 60s

Selection   Validation

- Select the green light timing (flashing orange) of the 2nd axis with the **+** and **-** (select) user-defined keys.

■ **Validate.**

You must hear a double BEEP.

STEP 5
Validation of the cycle on traffic lights 2, 3 and 4

```
CROSSROAD   12.0V
4X GREEN:25s P1m
```
Traffic light 1

```
CROSSROAD   12.0V
4X GREEN:25s P2a
```
Traffic light 2

```
CROSSROAD   12.0V
4X GREEN:25s P3a
```
Traffic light 3

```
CROSSROAD   12.0V
4X GREEN:25s P4a
```
Traffic light 4

Validation

- Go to the 2nd traffic light
- Direct the remote control to the window display symbol (((•)))

■ **Validate.**

You must hear a double BEEP.

Repeat this operation for the third and fourth light.

Spare parts

tempo

Tempo mobile traffic light & Tempo solar

In-stock products available within 48 h (from factory departure)

3758 Mast cap

3754 Optical support mast

1513 Black dome

1187 Red LED electronics

1171 Ø 210 seal

3755 Upper mast

1509 Red LED light

1186 Yellow LED electronics

886 Polycarbonate lens Ø 210

1510 Yellow LED light

22561 Complete Tempo module

40929 Tempo electronics

42218 Decorated front face

3756 lower mast

1514 Yellow dome

22558 Tempo remote control

22562 Complete Tempo Mast

1120 Serrated roller M10x30 Inox

22377 Battery box

14334 Plastic muff

22383 Battery box cover (w/o adhesive)

13524 Case handle (w/o plastic sleeve)

Electrical components for junction box

460 3-pin XLR female base socket

1521 Spiral cable + 3-pin XLR socket

477 Red battery terminal

478 Green battery terminal

Tempo Solar Specific spare parts

tempo SOLAR

4339 Solar panel 12 V 20 W

31125 Solar housing cover 12 V 20 W

31036 Solar battery holder case 12 V 20 W

1164 Tempo Solar wheel

31119 Charge regulator

Sheet metal options

43753 Vattery carrier box OPTIMO

44429 Box lid partial opening before october2019

49678 Box cover full opening from october 2019

Since 2018 :

44426 Junction box

Before 2018 :

21753 Junction box

27645 Wheel axle

27647 Rubber band with sealing cap

22832 Left lid bracket

22833 Right lid bracket

22385 Tempo puncture proof tyre

27646 Wheel spacer

11

TTS
Trafic Technologie Système

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ROADWORKS **SIGNALING**

VEHICLE **SIGNALING**

ON-BOARD **SIGNALING**

PERMANENT **SIGNALING**

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