



# TAG Heuer

PROFESSIONAL TIMING

**100mW PHOTOCELL  
WIRELESS HL3-1x**

## User Manual

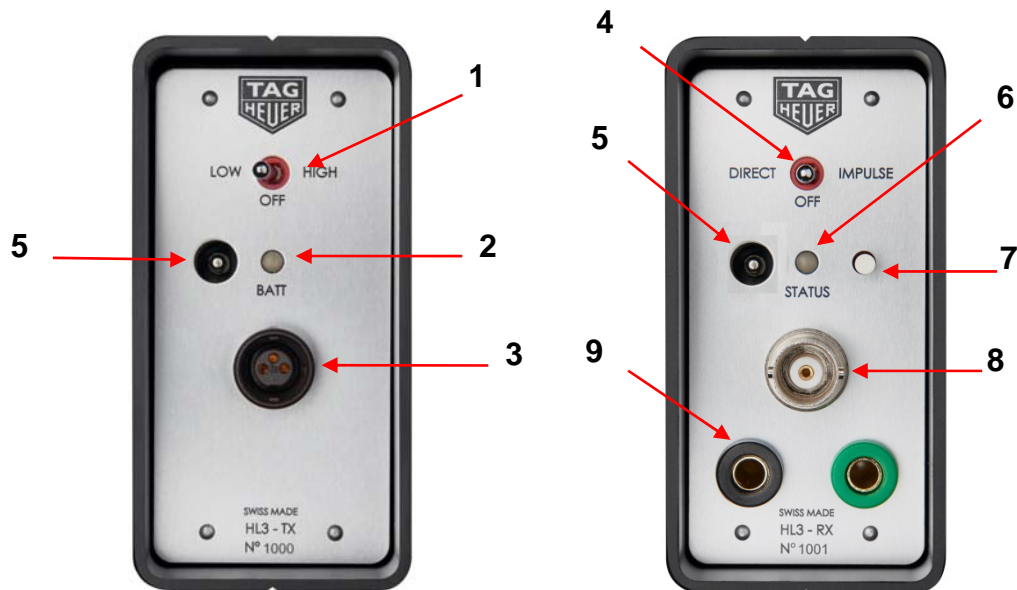
Version 03/2016



# 1. Description

Two modules combine to form the HL3-X photocell

- **Infra-red transmitter HL 3-000** : with **High / Low** positions to adjust the intensity of the transmitter
- **Wireless Photocell HL 3-100** : with 100mW wireless impulse transmission and two modes.
  - **IMPULSE** mode : calibrated impulse length at each interruption (standard mode)
  - **DIRECT** mode : with timing impulses which correspond to the interruption of the Infra-Red transmitter. This mode enables remote monitoring of the photocell alignment



**HL3-000 – Infra-Red Transmitter**

1. High / Low Power selector
2. Battery level LED
3. Connector Synchro (HL3-132)

**HL3-100 – Wireless Photocell**

4. Direct / Impulse selector
5. Power Supply
6. Function LED
7. Select Button
8. BNC antenna Connector
9. Banana impulse connector

## 2. Configurations

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The new HL3-X photocell generation allows multiple photocell configurations.

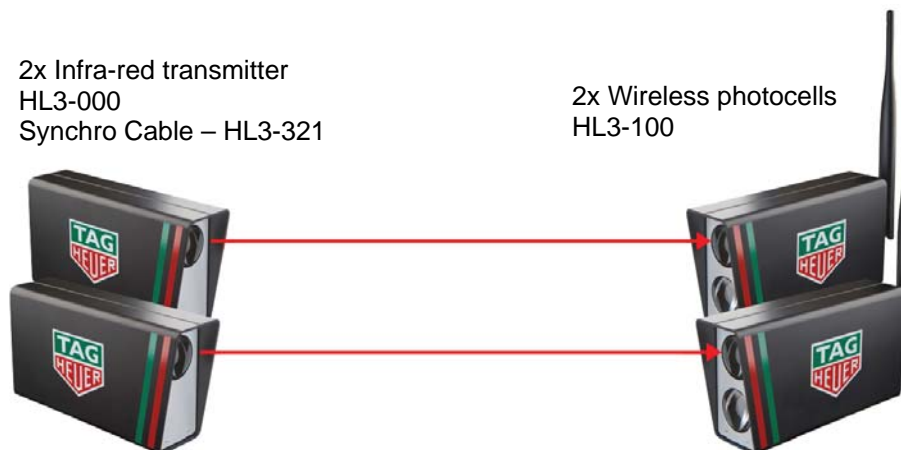
### HL2-131 – Wireless Kit photocell with reflector (HL3-100 + HL2-112)

In regular use and conditions, functioning distance up to : 20m (65 ft)



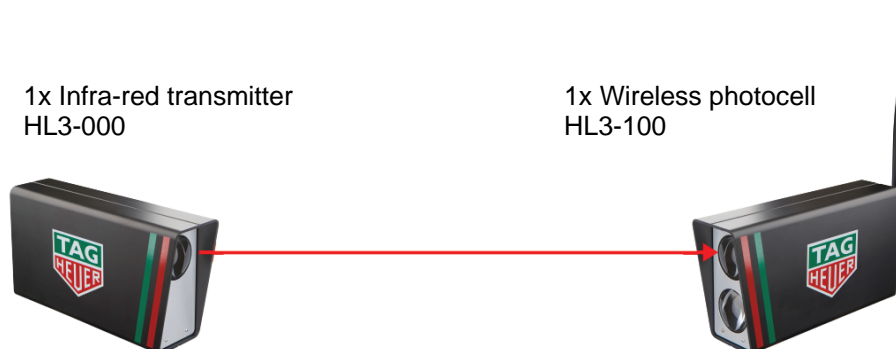
### HL2-132 – Dual Wireless Photocell with Infra-red transmitter (2x HL3-100 + 2x HL3-000)

In regular use and conditions, functioning distance up to : 40m/130ft. LOW & 80m/260ft. HIGH position



### HL2-135 – Single Wireless Photocell with Infra-red transmitter (1x HL3-100 + 1x HL3-000)

In regular use and conditions, functioning distance up to :40m/130ft. LOW & 80m/260ft. HIGH position



## 3. Operation

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### HL3-000 : Infra-red Transmitter

Switch ON the transmitter with the selector **LOW / HIGH** – selector (1)

The Power LED will flash to give the state of the battery level

4 flashes green: 80-100 %

3 flashes green: 60-80 %

2 flashes green: 40-60 %

1 flashes green: 20-40 %

1 flash red: < 20%

#### **WARNING**

The battery capacity (hours of operation) is greatly reduced by freezing temperatures.

The **LOW / HIGH** selector will change the intensity for transmission and allow to change the distance in-between Transmitter and Wireless photocell

**LOW** position : up to 40m (130 ft.)

**HIGH** position : up to 80m (260 ft.)

## HL3-100 : Wireless Photocell

Switch on the Wireless photocell with the selector (4) in position **DIRECT** or **IMPULSE**

The Status Led will flash to indicate the status of the setting

**LED in green** : inform you of the **TEAM** (1 to 4) number

**LED in red** : inform you of the **CHANNEL** (1 to 4) number

### WARNING

If the LED flashes red every second, the battery level is beyond the level for good operation. It is imperative that the internal battery is recharged fully prior to further use.

### IMPORTANT

The Wireless photocell also includes an infra-red transmitter (for the kit HL3-131)  
When the Wireless photocell is switched ON, the infra-red transmitter is automatically enabled.

By pressing button (7), it is possible to switch OFF/ON the internal infra-red transmitter.  
When Switching ON, the Infra-red transmitter **is always Enable**

### Wireless configuration setting

#### TEAM Setting

- Press the **set** button (7) and switch ON - position **DIRECT**
- LED will flash 2 times in red-green, indicating that it is in setting mode
- LED will then flash in green to indicate the **TEAM** number (1 to 4)
- Each additional button press, will increment the **TEAM** number 1 – 2 – 3- 4 – 1 etc.
- The LED will flash after each change
- Switch OFF to quit the setting mode

#### CHANNEL Setting

- Press the **set** button (7) and switch ON - position **IMPULSE**
- LED will flash 2 times in red-green, indicating that it is in setting mode
- LED will then flash in red to indicate the **CHANNEL** number (1 to 4)
- Each additional button press, will increment the **CHANNEL** number 1 – 2 – 3- 4 – 1 etc.
- The LED will flash after each change
- Switch OFF to quit the setting mode

### RECOMMENDATION

It is recommended to refer to the HL615 Radio Impulse user's manual for further details on specific radio operations and configurations.

## 4. Photocell alignment

- The Infra-Red transmitter and the Wireless Photocell should be suitably fitted to a support HL 4, HL 4-3 or on a tripod HL 5
- On the Wireless Photocell (HL3-100), alignment is confirmed when the LED is Off. When you interrupt the beam between transmitter and photocell, the LED of the photocell switches ON and an impulse is supplied to the output (banana output and radio).
- On the Infra-red transmitter (HL3-000), a light indicated (bottom lens) will switch ON when the photocell is misaligned or interrupted and OFF when it is aligned.

<p><b>Infra-red transmitter HL 3-000</b></p> <p style="text-align: center;"><b>Aligned</b></p>	<p style="text-align: center;"><b>Misaligned</b></p>
	
<p><b>Wireless Photocell HL 3-100</b></p>	
	

## 5. Maintenance

The HL3-X photocell range are designed for use in harsh conditions but we do recommend that the external cover is removed frequently to check for condensation especially in humid or extreme cold conditions.

## 6. Technical specification

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<b>Principe</b>	High frequency infra-red (32.768kHz) Detection of signal by frequency interruption
<b>Infra-Red Distance possible</b>	up to 20 meters (65 ft.) with reflector (HL3-131) up to 40 meters (130 ft.) in LOW power position up to 80 meters (260 ft.) in HIGH power position
<b>Output impulse</b>	Via opto couplers and working contact / open collector
<b>Working temperature</b>	- 20°C to + 50°C
<b>Internal battery</b>	Li-Pol 3.7V 4000mAh (+ power supply 7.5V 650mA HL3-1)
<b>Autonomy - Wireless Photocell</b>	Approx. 330 hours at 20°C
<b>Autonomy - Infra-Red Transmitter</b>	LOW position: 210 hours HIGH position: 100 hours
<b>Precision</b>	Fixed delay 200ms, +/- 0.5/10'000 sec (+/- 0.02 ms)
<b>Dimensions</b>	150 x 80 x 40 mm
<b>Weight</b>	800 gr
<b>Frequency :</b>	ISM Band– 868 MHz
<b>Power :</b>	100 mW
<b>Range</b>	1 km under optimal conditions, direct line of sight



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