PHOTOCELL HL 2-34 "athletics"

Description

Double infra-red photocell for timekeeping in athletics with built-in power source. This photocell offers exceptional quality for the price, satisfying the most exacting requirements of sports timing.

Principle

The photocell HL2-34 is composed of 2 infra-red transmitters/receivers and of 2 reflectors on common supports. This product allows to set two infra-red beams (distance of 20cm) on the finish line.
Only the simultaneous blocking of both beams gives an impulse (of a duration of the blocking).
In normal conditions the photocell HL2-34 works perfectly with a distance between photocells and reflectors of up to 12m (40 ft.).

Operating Instructions

Switch on the photocells with 1

a) Battery check

When you switch on the photocell, the LED 2 "BATT" alights briefly and goes out

I	New Batteries	2 does not illuminate
II	Used batteries at	2 flashes slowly (once every 2 sec.). The batteries insure at least 30 hours of functioning 20° C.
III	Flat batteries the hours of	2 flashes rapidly (once every sec.). The batteries must be replaced. If this arises during timekeeping the batteries will insure at least 6 functioning at 20° C.

Attention **:** Battery (hours of utilisation) is very much reduced under 0° C and depends on their quality. We strongly recommend to use new batteries as soon as LED 2 flashes.

b) Lining up the photocell

When you switch on the system, the LEDs "SIGNAL" 3 illuminate and stay so as long as the photocells are not lined up with the reflectors.

- First set up the reflectors, perpendicular in relation to the cells.

- Then aim the cells at the reflectors by using the sighting groove 6 . You are in alignment when LED 3 are switched off and stay so even if you move slightly the system.

- The system must not produce any impulse if you place the hand in front of one or the other photocell or in front of one or the other reflector.

- Photocells and reflectors must be steadily fixed on supports ref. HL4 or on tripods.

- The LEDs "SIGNAL" 3 will come on and an impulse is given at the output connections 5 when both beams between photocells and reflectors are simultaneously cut.

c) Impulse outlets (5)

Open collector outlet - working contact
Green terminal : Impulse
Black terminal : Ground

d) Changing the batteries

Remove the screw underneath the case. Slide the electronic unit out of the case. Change the 3 batteries observing the polarities marked on the bottom. Be sure to use good quality Alkaline type 1.5 volt batteries (UCAR Energizer E-91 e.g.). Put the electronic unit back in the case and replace the screw carefully.

Important :

If timing is interrupted for a long period or when it is finished :

TURN BUTTON 1 TO OFF
This will switch off the photocell and preserve the batteries

e) Connections between photocells

A 3-pin cable connects both photocells . If the upper photocell is switched off or not connected, the lower photocell works normally.

1 **ON/OFF Switches**

2 **Battery indicators**

3 **Alignment indicators**

4 **Synchronisation plugs**

5 **Output jacks**

6 **Sighting grooves**

Technical specifications

Photocell ref. HL 2-34

Principle	High frequency infra-red (50 KHz) Piloting by quartz Detection of signal by frequency comparison Synchronization of the transmitters
Distance for use	12 Meters at 20° C
Output impulse	By optocouplers and working contact.
Working temperature	- 20°C to + 50°C
Power	2x3 batteries 1.5 V "Alkaline" Type AA or UM - 3
Power reserve	100 hours at 20°C
LED Checks	- State of batteries - Alignment
Precision of repetitive impulsions	+/- 0.02 ms
Dimensions	150x280x40 mm (6 x 11 x 1,5 inches)
Weight (incl. batteries and reflector)	1300 gr (47 ounces)
Mounting	with supports ref. HL4 or tripods (1/4 " camera thread)

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