

HL 2-32

DOUBLE PHOTOCELL FOR A MAXIMUM RELIABILITY



- ▷ This photocell system uses two physically separate but electronically synchronized photocell transmitters and two independent receivers that are placed on opposite sides of the timing line.
- ▷ If necessary, each pair (transmitter/receiver) can be used separately in different timing locations.
- ▷ Timing line width up to 40 meters in "LOW" power position and up to 80 meters in "HIGH" power position.
- ▷ The receivers feature the use of a special additional lens that helps in the precise alignment of the cells from the opposite side of the timing line.

Recommended use

- For all professional timing applications where two independent photocell systems must be installed (primary and back up). These photocells meet all requirements of the International Ski Federation (FIS).
- The photocells must be placed within close vertical proximity to each other when used at the same timing line in order to avoid large differences in triggering times.
- For added timing system dependability, use our HL 553 impulse distributor and optoisolator.



PHOTOCELLS

HL 2-31/32/34/35



- ▷ **General**
 - Infrared type photocell using a coded modulated frequency of 50 kHz. Triggering detection by frequency discrimination
- ▷ **Operating type and Distance limits**
 - HL 2-31 Reflector type, up to 20 meters
 - HL 2-32 Double Photocell, Transmitter/Receiver Type, up to 80 Meters
 - HL 2-34 Double Photocell, Reflector Type, up to 12 Meters
 - HL 2-35 Transmitter/Receiver Type, up to 80 Meters
- ▷ **Output Trigger**
 - Optocoupled normally open working contact. Adjustable Impulse of 0,01 to 2 seconds
 - On the HL 2-34, impulse duration is a function of how long the two infrared elements are simultaneously obscured
- ▷ **Reaction Time**
 - Less than 0,5 ms
- ▷ **Precision**
 - +/- 0,02 ms for repetitive impulses
- ▷ **Internal Power**
 - 3 alkaline batteries type UM3 or AA
- ▷ **External Power**
 - For the HL 2-31 and HL 2-35, 6-12V DC via 4-pole bayonet type jack
- ▷ **Autonomy at 20° C**
 - HL 2-31 and HL 2-34, about 100 hours
 - HL 2-35 and HL 2-32, about 100 hours on "LOW" and 50 hours on "HIGH" position
- ▷ **Operating Temperature**
 - -20° C to +70° C
- ▷ **Indicators**
 - HL 2-31 and HL 2-34
Alignment LED
Battery condition LED
 - HL 2-35 and HL 2-32
Alignment LED and Lens Indicator.
Battery condition LED
- ▷ **Mounting**
 - Fitted for standard photographic 1/4" tripod or TAG Heuer mounting brackets HL 4/HL 4-3

- ▷ **Dimensions**
 - Hot-lacquered black aluminum case 150 x 80 x 40 mm
 - (HL 2-34, 150 x 280 x 40 mm)
- ▷ **Weight**
 - HL 2-31, 500 gr. with reflector
 - HL 2-32, 1'700 gr. complete set
 - HL 2-35, 800 gr. complete set
 - HL 2-34, 1'300 gr. with reflector
- ▷ ALL PHOTOCELL SETS ARE DELIVERED IN THEIR OWN TRANSPORT SHIPPING CASE

HL 620 RADIO TRANSMISSION SYSTEMS



- ▷ **Mean Operating Frequencies**
 - 433,800 MHz (Europe)
 - 469,500 MHz (USA)
- ▷ **Radiated Power Output**
 - 0,5 W
- ▷ **Range**
 - 30 km under optimal conditions (direct view)
- ▷ **Precision**
 - Fixed delay of 100 ms +/- better than 1/100'000th/sec.
- ▷ **Power Supply**
 - Internal: 6 V rechargeable (NI-MH) batteries
 - External: 12-18 V DC
- ▷ **Autonomy**
 - 24 hours with 1 trigger or message transmission every second. More than 12 hours at -20° C
- ▷ **Transmitter**
 - 12 switch selectable transmit codes
 - 1 banana plug input (normally open working contact)
 - 9 pin jack for DATA (RS 232) transmission
 - 1 switch: IMPULSE/OFF/RS 232 (DATA)
 - 1 red LED for battery condition

- 1 audible signal for each triggered impulse
- 1 POWER jack to recharge the batteries or for external power
- 1 BNC antenna jack
- ▷ **Receiver**
 - 12 switch selectable receive codes
 - 6 different opto-isolated outputs, thus 2 outputs with banana connectors (for use with up to 6 different transmitters)
 - 1 RS 232 output for DATA (9 pin jack)
 - 1 ON/OFF switch
 - 1 LED red for battery condition
 - 1 LED green indicator for signal reception strength (NORMAL)
 - 1 LED red indicator for minimal signal reception strength LOW
 - 1 audible signal for each triggered impulse
 - 1 POWER jack to recharge the batteries or for external power
 - 1 BNC antenna jack
- ▷ **Operating Temperature**
 - -20° C to +60° C
- ▷ **Weight**
 - Transmitter: 800 gr.
 - Receiver: 800 gr.
- ▷ **Dimensions**
 - Transmitter: 90 x 62 x 191 mm. Receiver: same
- ▷ **Complete Set Includes**
 - 1 Transmitter
 - 1 Receiver
 - 1 Charger
 - 2 Antennas
 - Plastic Carry Case
- ▷ **Options**
 - Additional transmitters
 - Additional chargers
 - 50 Ohm Coaxial antenna extension cable (2 or 3 m)
- ▷ **Antenna**
 - 1/2 Flexible wave