HL 7-1
START GATE

This is an exceptionally rugged product, conceived and used in the Alpine World Cup

▷ In accordance with FIS requirements, the HL 7-1 Start Gate features two isolated timing contacts.

▷ While closed, the start gate is prevented from accidental opening caused by minor knocks and bumps through the use of a blocking feature.

▷ Braking action built into the wand mechanism camshaft is very effective at eliminating unwanted rebound action after opening.

▷ The new wand is a very rigid and thus highly accurate but durable product. It is installed by inserting it through the rear of the shaft holder and is held in place by a spring-mounted ball bearing.

HL 7-3
AUTOMATIC RETURN START GATE

▷ Similar to the HL 7-1, the HL 7-3 automatic return start gate uses an internal spring to bring the start gate wand back into the start position after each opening.

▷ Useful in training sessions or for automated racecourses, it is not allowed for FIS race use.

HL 551
VOICE COMMUNICATION SYSTEM

▷ Used in conjunction with the same pair of wires that carries timing impulses, this system provides voice communication over long distances.

▷ High quality headsets are connected to adaptors and offer excellent two-way communications signal quality.

▷ Three types of headsets are available:
• Heavy-duty headset for external use (standard product)
• Economical lightweight headset with on/off switch for the microphone.
• One-ear headset.

Recommended use
• To ensure the best possible communications signal quality, it may sometimes be necessary to isolate your timing and communications lines from sources of electrical noise and disturbance that can be caused by electric motors or bad effects from power supplies.
• Most of these problems can be remedied through the use of our HL 553 Impulse Distributor and Optocoupler.

HL 553
IMPULSE DISTRIBUTOR & OPTOCOUPLER

▷ **Input Triggering**
 • 100 impulses/sec max.
 • working contact

▷ **Output Signal**
 • 10 ms impulses (working contact)

▷ **Triggering delay**
 • 2 ms

▷ **Power Supply**
 • 2 x 9V Batteries (6LR61)

▷ **Autonomy**
 • More than 60 Hours

▷ **Battery Condition Indicator**
 • Flashing LED

▷ **Triggering Indicator**
 • LED with short-circuit detection

▷ **Dimensions**
 • 110 x 33 x 110 mm

▷ **Weight**
 • 400 gr.

HL 7-1
START GATE

▷ The design and construction of this product is of the highest possible standard, ensuring accurate and dependable operation under extreme conditions

HL 920
START CLOCK

▷ **General**
 • The HL 920 is a multi-function start clock that is very precise and reliable
 • 3 separate stepping motors make up this sophisticated movement to control the hours, minutes and seconds hands.
 • In addition to the analogue movement, two seven-segment numeric indicators countdown the remaining seconds to each start interval
 • Further, another indicator comprised of a rotating red, green and yellow disk provides information on start validity
 • An acoustic signal rounds out the battery of indicators that serve this start clock

▷ **Start Intervals**
 • From 10 seconds to 11 min 55 sec in 5 second increments

▷ **Time Setting**
 • From internal RTC clock or manually

▷ **Time Base**
 • 16 MHz Thermocompensated Quartz Crystal
 • +/– 0,5 ppm at 20° C
 • +/– 2,5 ppm from –30° to 75° C

▷ **Inputs**
 • Timing Impulses
 • Synchronization
 • Remote Control

▷ **Outputs**
 • 1 RS 232 Data output for computer or printer at 9'600 bds
 • 25 Pin Connector with multiple outputs of timing signals for lights, additional audio systems or other visual indicators

▷ **Temperature Range**
 • –25° C to +75° C (without heating)

▷ **Power Supply**
 • Internal : 12V DC rechargeable battery
 • External : 12-18V DC source

▷ **Autonomy**
 • 18 hours at 20° C
 • 8 hours at –20° C

▷ **Housing**
 • Hot lacquered black aluminum case

▷ **Dimensions/Weight**
 • 7,3 kg
 • 320 x 500 x 115 mm
 • Clock face diameter : 270 mm
 • digit height : 100 mm

HL 960/990
DISPLAY

▷ **General**
 • HL 960 & 990 digital display boards respond to many application demands. They are compact and solid units that are easily transportable. They can be used as a stand-alone unit or chained together in configurations of up to 10 boards

▷ **Compatibility**
 • With all TAG Heuer timing devices and accessories
 • Via our timing softwares
 • Via PC or RS 232

▷ **Configuration**
 • Different operating programs are user selectable with a button

▷ **Time Base**
 • Quartz oscillator for use as a stand-alone clock

▷ **Data Communication**
 • RS 232 at 9'600 bds for all types of data to be displayed

▷ **Inputs**
 • START and STOP for timing impulses
 • SYNCHRONIZATION
 • Remote Control (optional)

▷ **Outputs**
 • RS 232 connection to other displays

▷ **Models**
 • All with 15 cm high digits
 • HL 960   6 digits
 • HL 990   9 digits
 • Models with 25 cm high digits are available on request

▷ **Temperature Range**
 • –25° C to +70° C

▷ **Power Supply**
 • External 12V DC
 • Internal battery available as an option

▷ **Construction**
 • Hot lacquered black aluminum case

▷ **Dimensions/Weight**
 • 6 digits : ~ 9,5 kg / 100 x 230 x 120 mm
 • 9 digits : ~ 15 kg / 1'500 x 230 x 120 mm