ALGE
TIMING

THE SPORTS TIMING EXPERTS

Snowboard & Freestyle

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SNOWBOARD & FREESTYLE

A wide range of timing devices and accessories are available from ALGE-TIMING for Snowboard and Freestyle. Important is mainly the reliability and rugged design for difficult conditions like freezing temperatures and snow. Most of ALGE-TIMING's devices are homologated by the FIS (International Ski Federation).

ALGE-TIMING has a long history in timing for winter sports. The market share of more than 40 % of ALGE-TIMING equipment used in FIS races clearly shows the leading role.

Snowboard and Freestyle has many different disciplines and requires depending on the discipline different equipment to make the results. Some Disciplines are timing oriented and some are judged disciplines.

On the following pages we will show you some solutions that are ideal for the disciplines that need timing or speed measurement.

COSC

CONTROLE OFFICIEL SUISSE DES CHRONOMETRES

BUREAUX OFFICIELS DE CONTROLE (BO) de Bienne, Le Locle, Saint-Imier	Edition :	1
	Edited by :	PSO
Homologation Report FEI	Date :	20.10.2014
	Page :	1 of 4

Homologation Report of
Timing Device ALGE-TIMING TIMY3 WP
Photocell ALGE-TIMING PR1aW
and integrated Wireless Transmission

based on FEI Procedure for approval of timing devices (30.04.2013)

Report Number	FEI-TPW-ALG_2014001	
Requested by	**ALGE-TIMING GmbH** Mr. Albert Vetter Rotkreuzstrasse 39 A-6890 Lustenau	
Description of equipment	Multi sports timing device, internal printer with battery Photocell (Wireless Transmission available)	
Type	Timer: TIMY3 WP	Photocell: PR1aW
Manufacturer	**ALGE-TIMING GmbH**	
Serial Number	Timer: 140123009	Photocell: 131016071
Production Year	Timer: 2014	Photocell: 2013
Date(s) of measures	25.08.2014 – 03.09.2014	
Date of report	20.10.2014	
Location(s) of measures	Bureau Officiel de Saint-Imier	
Rules	FEI Procedure for approval of timing devices (30.04.2013)	
Results	**Passed**	
Signatures	Tests and report by Pascal Soltermann	Controlled by Andreas Wyss
Comments	The reference triggering is within +/- 1µs GPS time-scale absol time, uncertainty and propagation delays are included. DUT Time-of-Day is synchronized electronically through discrete c0 input with 60s reference pulse. Low resolution inputs (c6, c7 and c8) were not tested.	
Content: Report: 4 pages Appendices: none	Abbreviations: P = Pass F = Fail N/A = Not Applicable	N/C = Not Conducted DUT = Device Under Test GPS = Global Positioning System

Certificate of Homologation

F I S

Company: **ALGE-TIMING**
Timer Name: **Timy3 WP**
Codex Timing: **ALG.090.14**
Date: **October 2014**

FIS Timing Working Group

SNOWBOARD & FREESTYLE

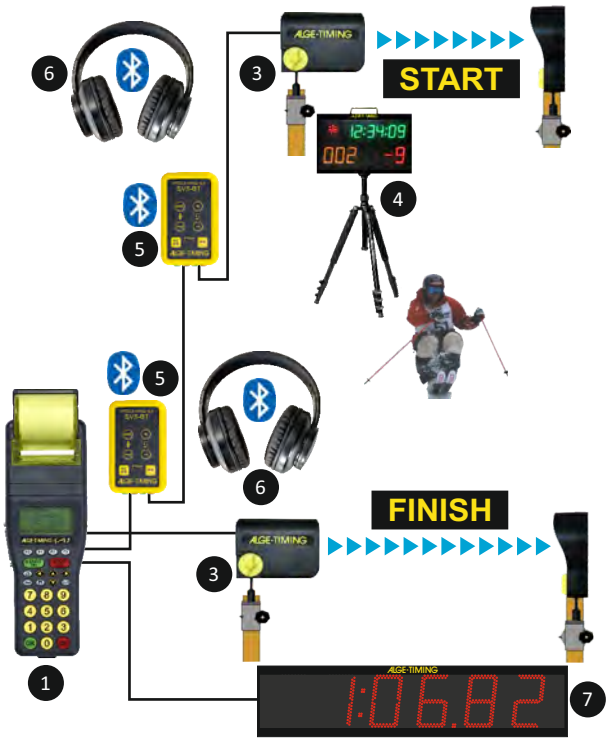
Moguls and Cross Qualification

Moguls and Cross Qualification

This timing system can be used for Moguls and cross-qualification FIS-level 2 or higher. This system is also ideal for the timing at local races.

The timing device Timy3 WP is connected to a photocell at the start and finish. The speech amplifiers are integrated in the start cable. The starter and time keeper can communicate with the headset.

The Startclock ASC3 or the Startbeep STB1 ensure a regular starting interval. A display board D-LINE connected to the timing device shows the audience the run times of the athletes.



1 Timy3 WP - System A	4 Startclock ASC3	7 Display Board D-LINE
2 Timy3 WP- System B	5 Speach Amplfier SV5-BT	8 Timy3 WP - Manual Timing
3 Photocell PR1a-R	6 Headset HS-BT1	9 Push Button 023-02

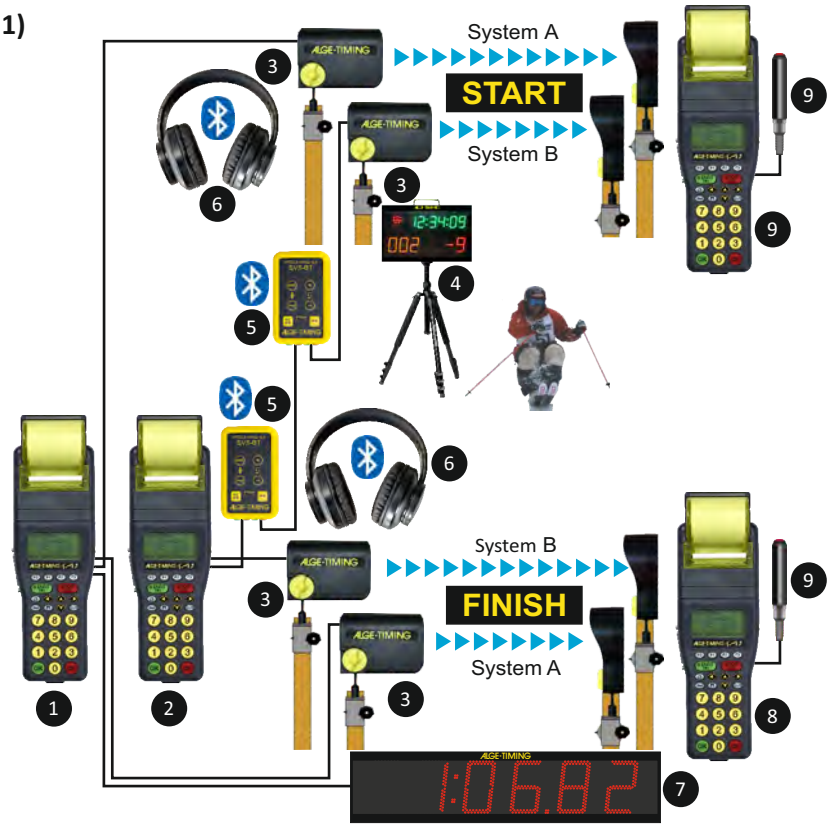
Moguls and Cross Qualification (FIS-Level 1)

For the mogul and the cross qualification of FIS races of the highest level (1), two independent but identical timing systems are used, systems A and system B.

The timing devices Timy3 WP are connected to the photocells at the start and finish. At the start cable are the speech amplifiers conceded, alternative separate cable for the speech communication for communication between starter and timekeeper can be used.

The start clock ASC3 ensures a regular start sequence.

The display board D-LINE connected to the timing system shows the times of the athletes to the audience. A second D-LINE can be used additional to show the bib and rank. If a video wall is used, the start list and ranking list can also be displayed.



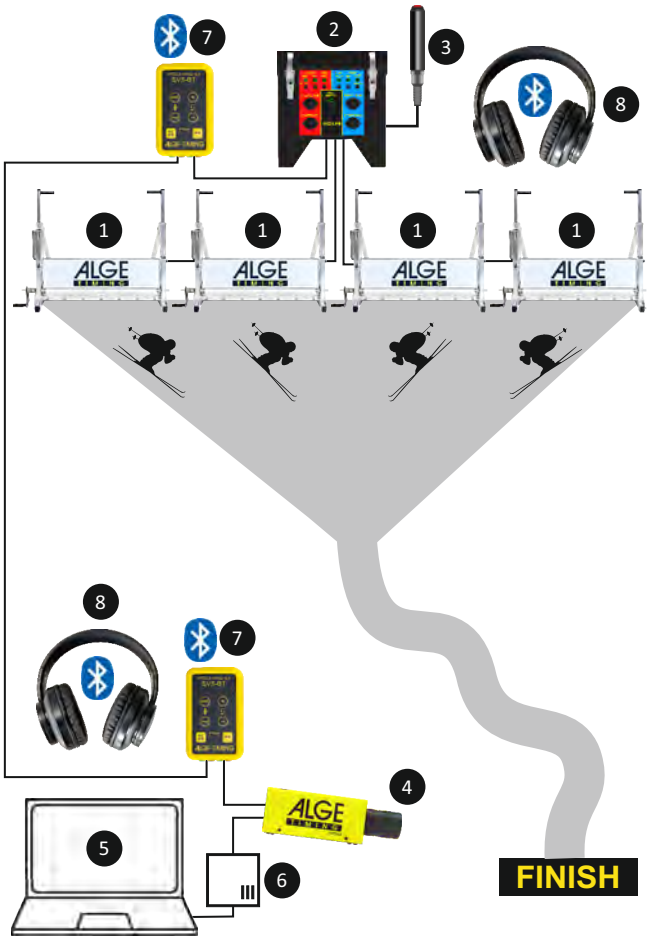
Cross Event (FIS-Level 3 and Higher)

The timing system for Cross events shown below is suitable for FIS-level 3 and higher, as well as for local events. Each competitor has a start door SSD1 which open parallel (random delay is adjustable).

For the communication between starter and timing operator a headset with speech amplifier is used. The speech system uses the same cable as the start impulse.

When the start door opens the photo finish camera OPTIc3 is triggered and the timing starts. The camera recording is triggered by motion detection, with push button, or with photocells.

Alterative it is possible to connect a display board D-LINE to the photo finish system to show the run time.

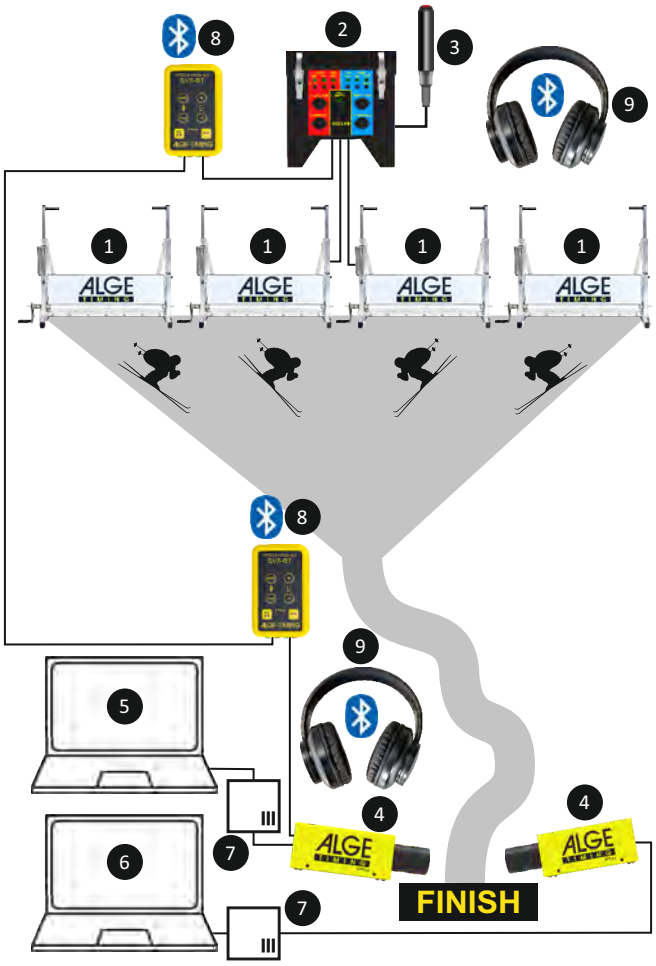


1 Start Door SSD1
2 Controller SSD1-PS
3 Push Button 023-01
4 Photo Finish OPTIc3
5 PC for OPTIc3
6 Ethernet PoE+
7 Speech Amplfier SV5-BT
8 Headset HS-BT1

Cross Event (FIS-Level 1 and 2)

The timing system for Cross events shown below is suitable for FIS-level 1 and 2.

The setup is identical as the system for level 3 and higher, but a additional photo finish system is needed that records the finish arrival form the opposite side.



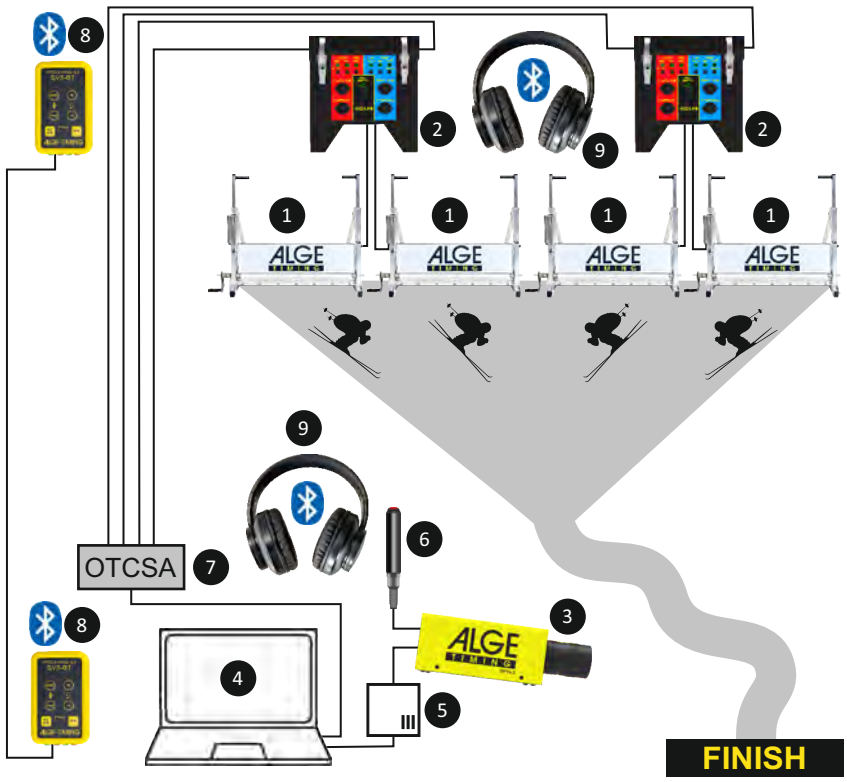
1 Start Door SSD1
2 Controller SSD1-PS
3 Push Button 023-01
4 Photo Finish OPTIc3
5 PC for OPTIc3 (System A)
6 PC for OPTIc3 (System B)
7 Ethernet PoE+
8 Speech Amplfier SV5-BT
9 Headset HS-BT1

Team Cross Events

Team Cross events are different to individual Cross events in terms of the starting procedure. The first start is parallel, i.e. all start gates open at the same time. However, the start gate for the following runners opens when the previous runner of the team crosses the finish line, or if one does not reach the finish line it opens after a specified penalty time has elapsed.

A Photo Finish OPTIc3 records the finish of each athlete. Recording at the finish is done by motion detection, by push button or with a photocell.

Alternatively, it is possible to connect a display board D-LINE display to the photo finish system to display the running time.



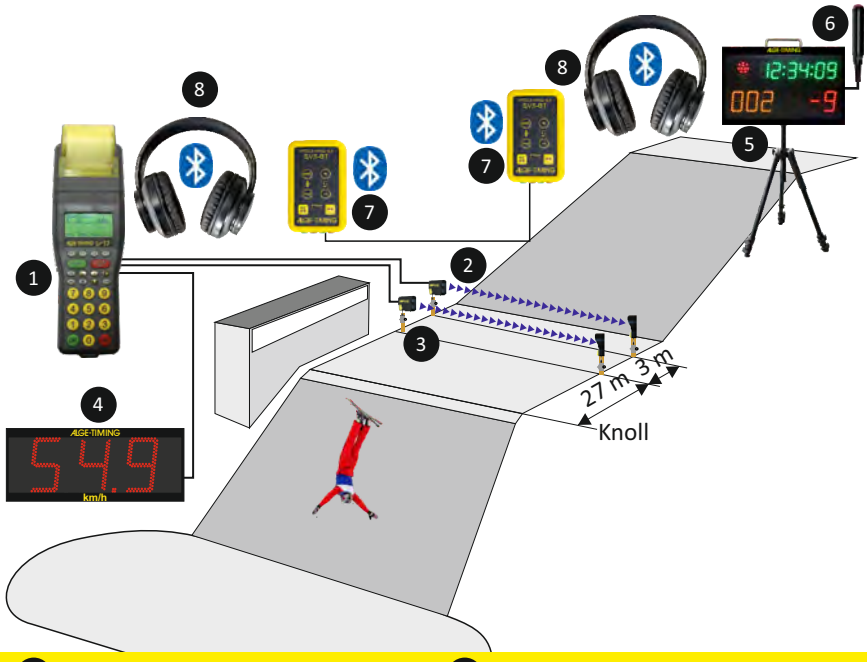
1 Start Door SSD1	4 PC for OPTIc3	7 Impulse Distributor OTCSA
2 Controller SSD1-PS	5 Ethernet PoE+	8 Speech Amplifier SV5-BT
3 Photo Finish OPTIc3	6 Push Button 023-01	9 Headset HS-BT1

Freestyle Ariels

With Ariels, the Startclock ASC3 ensures a regulated start sequence.

The speed is measured with Timy3 and two photocells and displayed on the display board D-LINE.

The intercom system with HS-BT1 headset and SV5-BT speech amplifier is used to communicate between the start and the control tower.



1 Messgerät Timy3 WP	5 Startclock ASC3
2 Photocell PR1a-R (speed start)	6 Push Button 023-02
3 Photocell PR1a-R (speed stop)	7 Speech Amplifier SV5-BT
4 Display Board D-LINE	8 Headset HS-BT1

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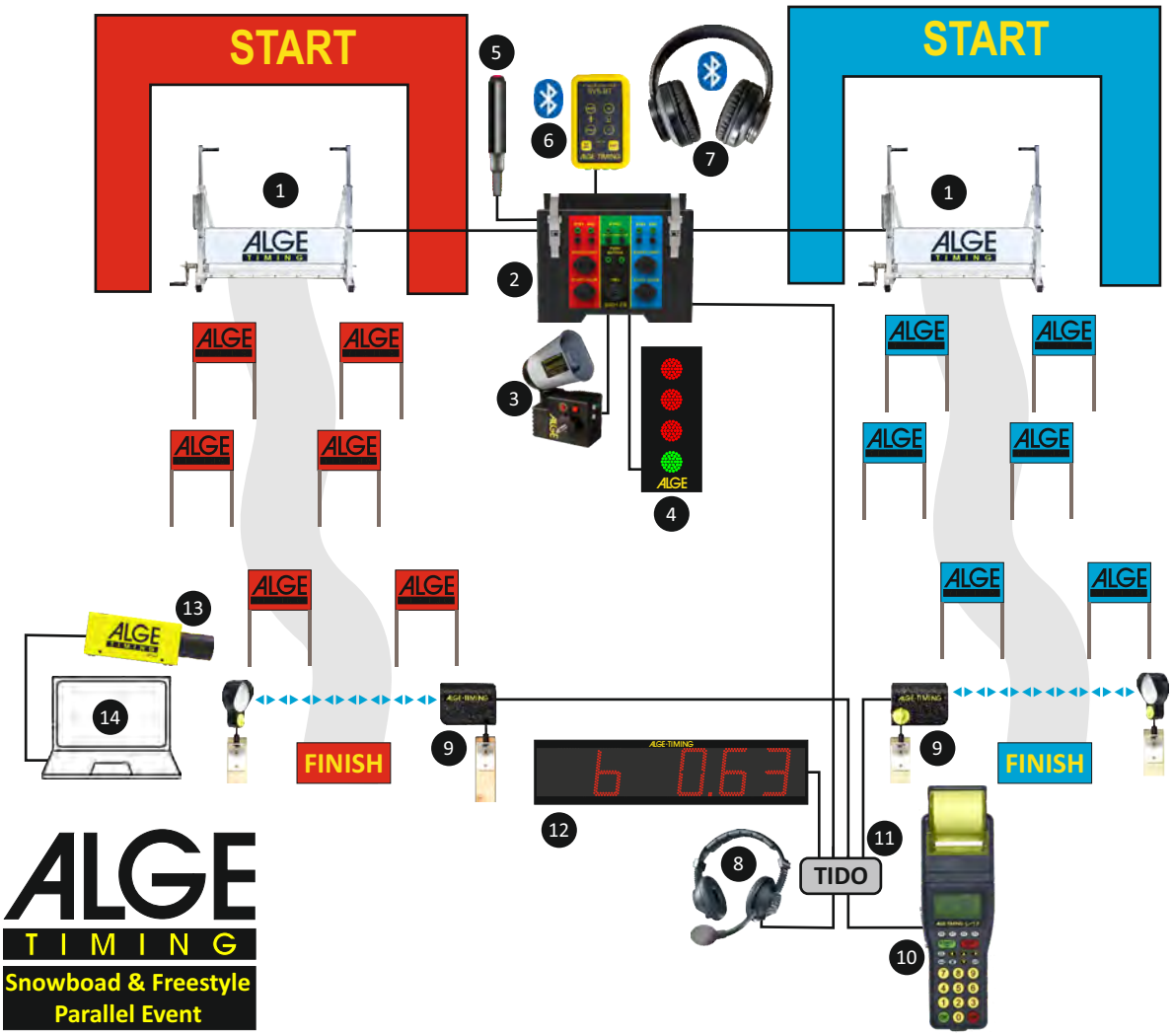
Parallel Events

In parallel races, two runners start together from the two start doors, which open automatically after an acoustic and visual countdown of 3 seconds. The acoustic countdown comes from the Startbeep STB1. The Start Light D-SL105-3xR-G has three red and one green lights for the countdown. A premature start by a runner is prevented by the Start Door SSD1 is prevented.

Each runner has to complete their own but identical course. One course is marked with blue flags, the other with red flags

A photocell for each course stops the time at the finish. The time difference between the two runners is indicated including the course that has won (b = blue, r = red).

We recommend the OPTIc3 photo finish as a backup. This records every finish as a picture and it is possible to check the finish arrivals at any time.

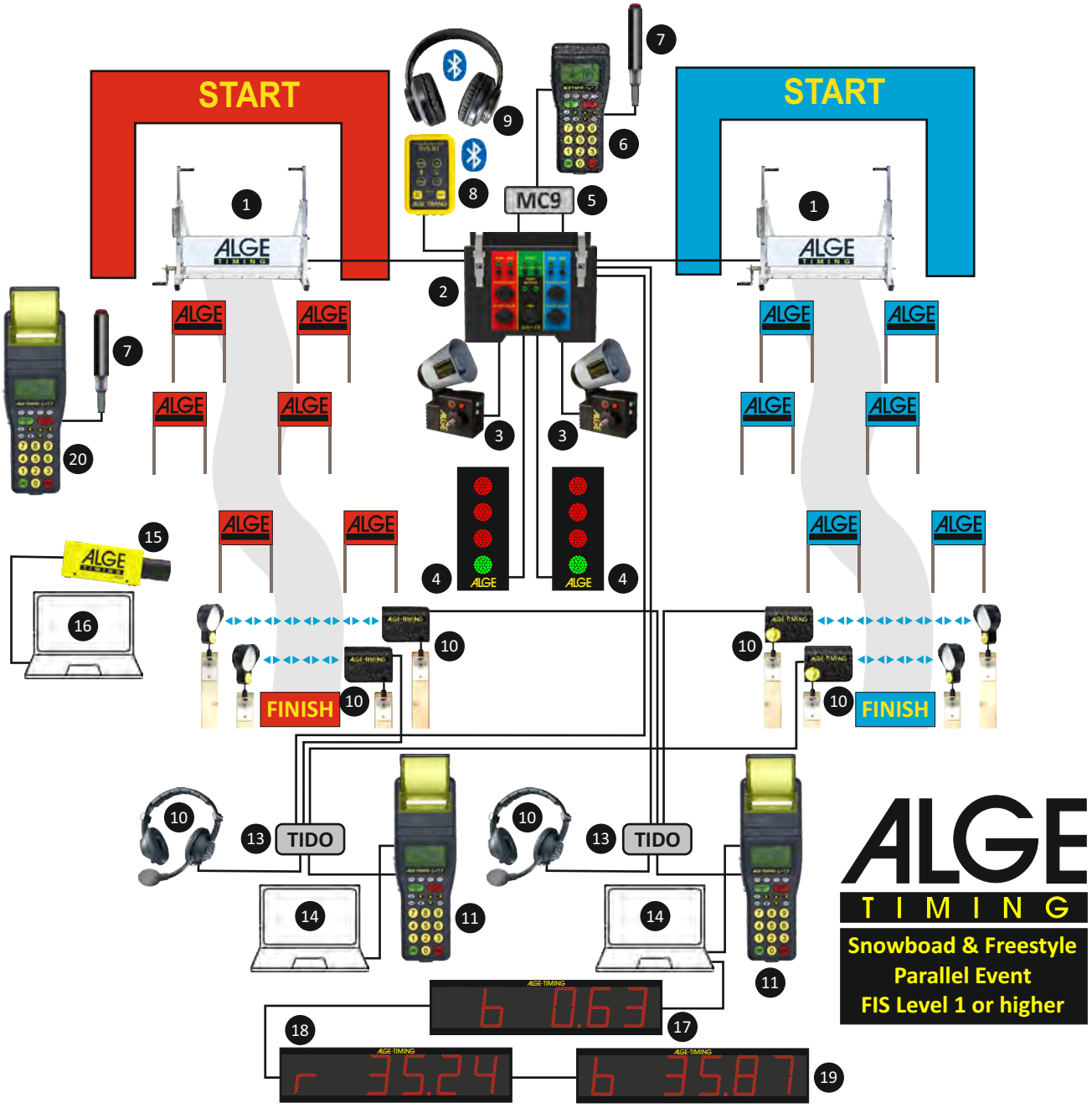


1 Start Door SSD1
2 Start Controller SSD1-PS
3 Startbeep STB1
4 Start Light D-SL105-3xR-G
5 Push Button 023-02
6 Speech Amplifier SV5-BT
7 Headset HS-BT1
8 Headset HS4-2
9 Photocell PR1a-R
10 Timing Device Timy3 WP
11 Timing Docking Station TIDO
12 Display Board D-LINE (diff. time)
13 Photo Finish OPTIc3 (optional)
14 PC for Photo Finish (optional)

SNOWBOARD & FREESTYLE

Parallel Events (Level 1 or Higher)

In parallel races, there are always direct duels between two runners. To ensure that the competition is fair, there are two runs, with the sides being switched on the second run. If the second run is to be started separately the loser of the first run starts later by the difference in time from the first run. Some additional material is required for this timing variant compared to the system shown on the page before. At the finish you will receive the difference time as well as the run times of both participants.



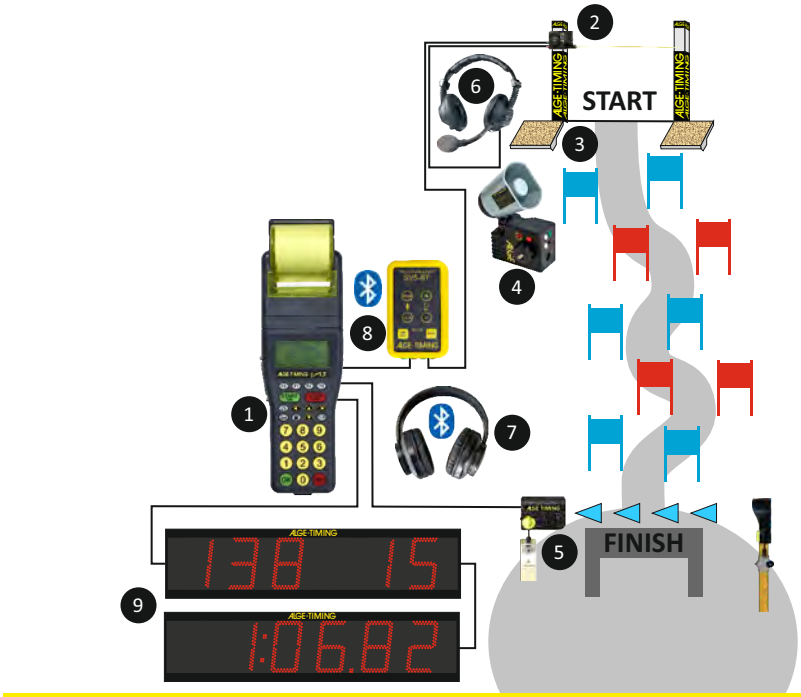
1 Start Door SSD1
2 Start Controller SSD1-PS
3 Startbeep STB1
4 Start Light D-SL105-3xR-G
5 Multichannel MC9
6 Startdevice Timy3 W
7 Push Button 023-02
8 Speech Amplifier SV5-BT
9 Headset HS-BT1
10 Headset HS4-2
11 Photocell PR1a-R
12 Timing Device Timy3 WP
13 Timing Docking Station TIDO
14 PC for Timing and Evaluation
15 Photo Finish OPTIc3
16 PC for Photo Finish
17 Display Board D-LINE (diff. time)
18 Display Board D-LINE (time red)
19 Display Board D-LINE (time blue)
20 Manual Timing Timy3 WP

Local Alpine Races

A simple timing system as shown here is usually sufficient for local races. A start beep STB1 with an acoustic countdown can ensure a regulated start sequence. The start barrier at the start triggers the runner's time on the Timy3 WP timing device. A light barrier stops the time when the runner passes the finish line.

The two-wire start line can also be used for voice communication so that the starter can talk to the timekeeper.

A display board at the finish line shows the runner's time. If desired, a second display board can be fitted to show the start number and rank.



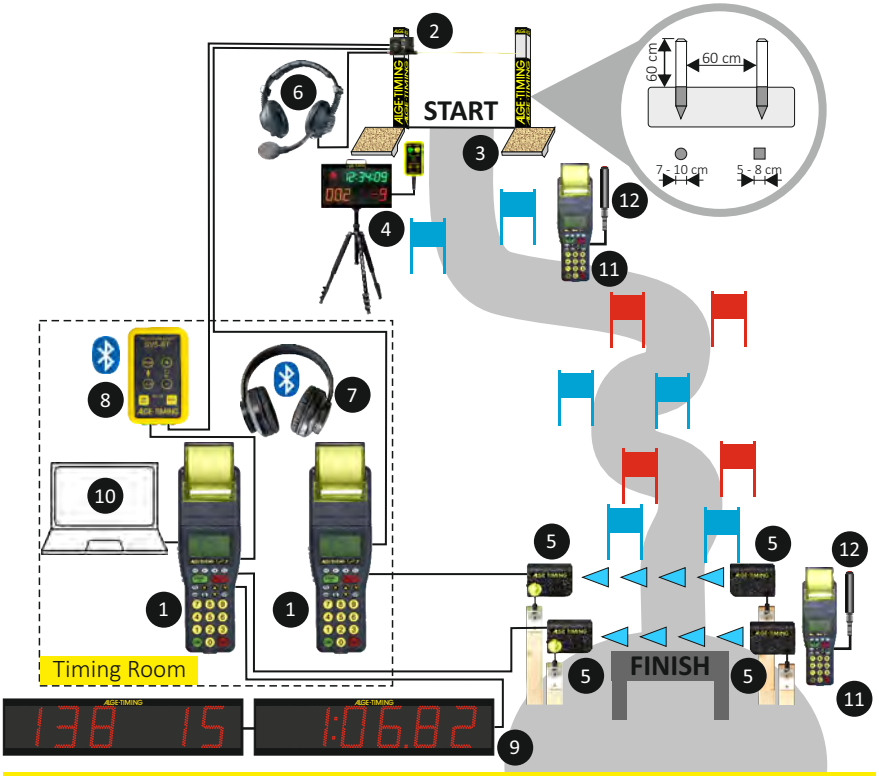
1 Timing Device Timy3 WP
2 Startgate STSn M1S
3 Starting Pols SSP
4 Startbeep STB1
5 Photocell PR1a-R
6 Headset HS4-2
7 Headset HS-BT1
8 Speech Amplifier SV5-BT
9 Display Board D-LINE

Alpine FIS-Races

FIS races always require two independent timing systems (system A and B). Two 2-core cables run from the FIS-homologated Startgate STSn M1S to the 2 timing devices Timy 3 WP at the finish. When the startgate is triggered, the time for the skier starts.

A voice communication from the starter to the timing operator can also be established via one of the two 2 core cables. An ASC3 start clock ensures regular start intervals.

A photocell at the finish stops the time for timing system A and one for system B. The running time can be displayed on a display board D-LINE. The bib and rank can be presented to the audience and racers on a second display board.



1 Timy3 WP
2 Startgate STSnM2S
3 Starting Pols SSP
4 Start Clock ASC3
5 Photocell PR1a-d
6 Headset HS4-2
7 Headset HS-BT1
8 Speech Amplifier SV5-BT
9 Display Board D-LINE
10 PC for Results
11 Timy3 WP (Manual)
12 Push Button 023-02

Photo Finish

OPTIc3

The photo finish system OPTIc3 takes over the technical market leadership. It has a recording rate of up to 30,000 frames per second (fps) and up to 2,016 vertical pixels. This makes it the perfect timing device for any sport that relies on good photo finish images and accurate results.

Features such as 2-D images, autofocus, automatic iris adjustment, etc. make the system easy to use. The VoIP allows communication with the starter, and the timekeeper communicates without headset via microphone and speaker of the PC.

Technical Facts:

vertical resolution:	up to 2,016 pixels
scan rate (fps):	up to 30,000 frames per second
recording time:	unlimited, depends on PC hardware
timing:	temperature compensated quartz oscillator TCXO, +/-0.06 ppm at 25 °C (0.0002 s/h)
power supply:	PoE+ or 9- 13.4 VDC
temperature range:	-20 °C to +50 °C

Standard network
It is a simple way to connect almost every PC via Ethernet or WLAN.

Automatic Iris Adjustment
With the motor zoom of ALGE-TIMING you can access functions such as autofocus and automatic iris adjustment.

Live View
The camera image can be viewed via WiFi on a mobile phone or tablet. This allows to adjust the lens of an OPTIc3 camera, that is placed far away from a PC and has no motor zoom, in an easy, fast and precise way.

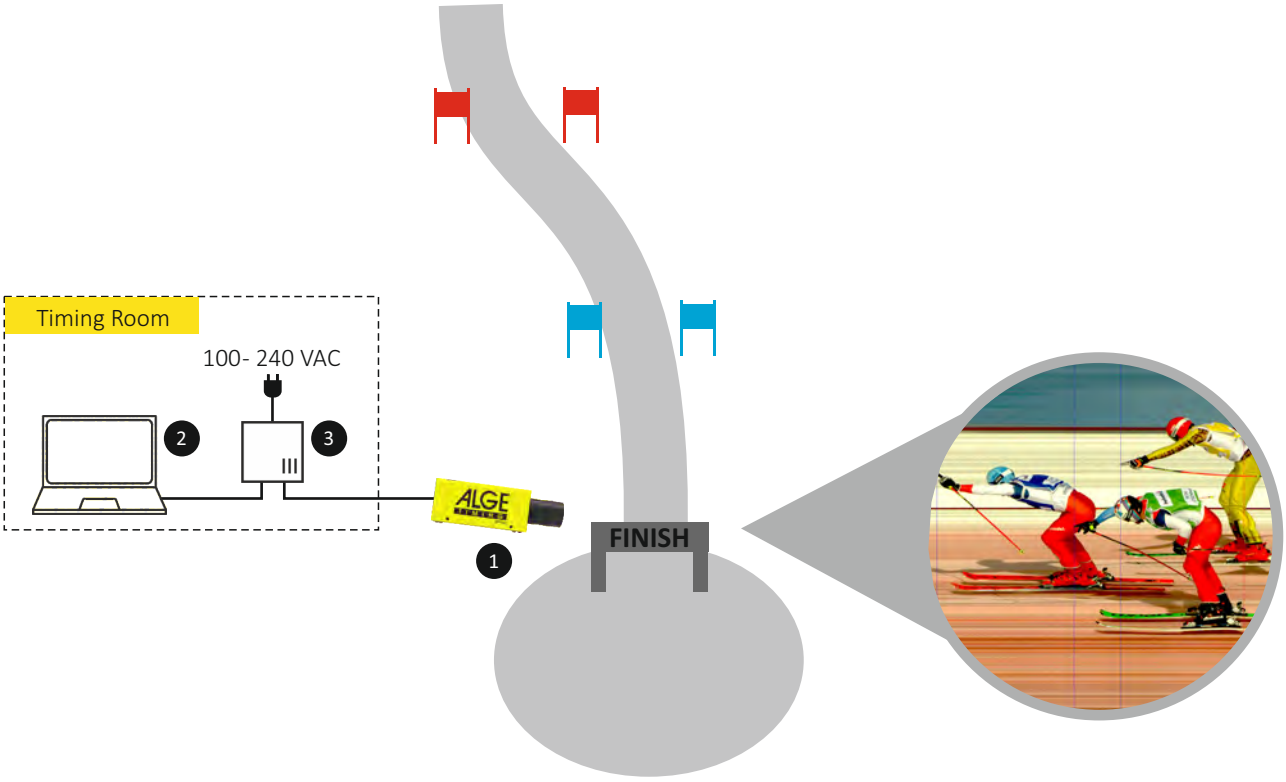
2-D Image Adjustment
With the new 2-D image adjustment (maximum 2,016 x 360 pixels), you can accurately align the camera on the finish line in a very short time.

High-Speed Camera with 2-D Images
With 2-D mode with 100 Hz (100 fps) and full-screen mode, the OPTIc3-PRO is ideal for sports such as swimming and rowing. Since the OPTIc3 has a built-in timing device, exactly synchronized 100 frames per second can be guaranteed.

PC Software
The modern, powerful evaluation software for the OPTIc3 enables quick and easy results. It is also possible to record on one PC and execute the evaluation on another. Following operating systems are supported: Windows 7, Windows 8.x, Windows 10, Windows 11 (x86 or x64)

Photo Finish

OPTIc3



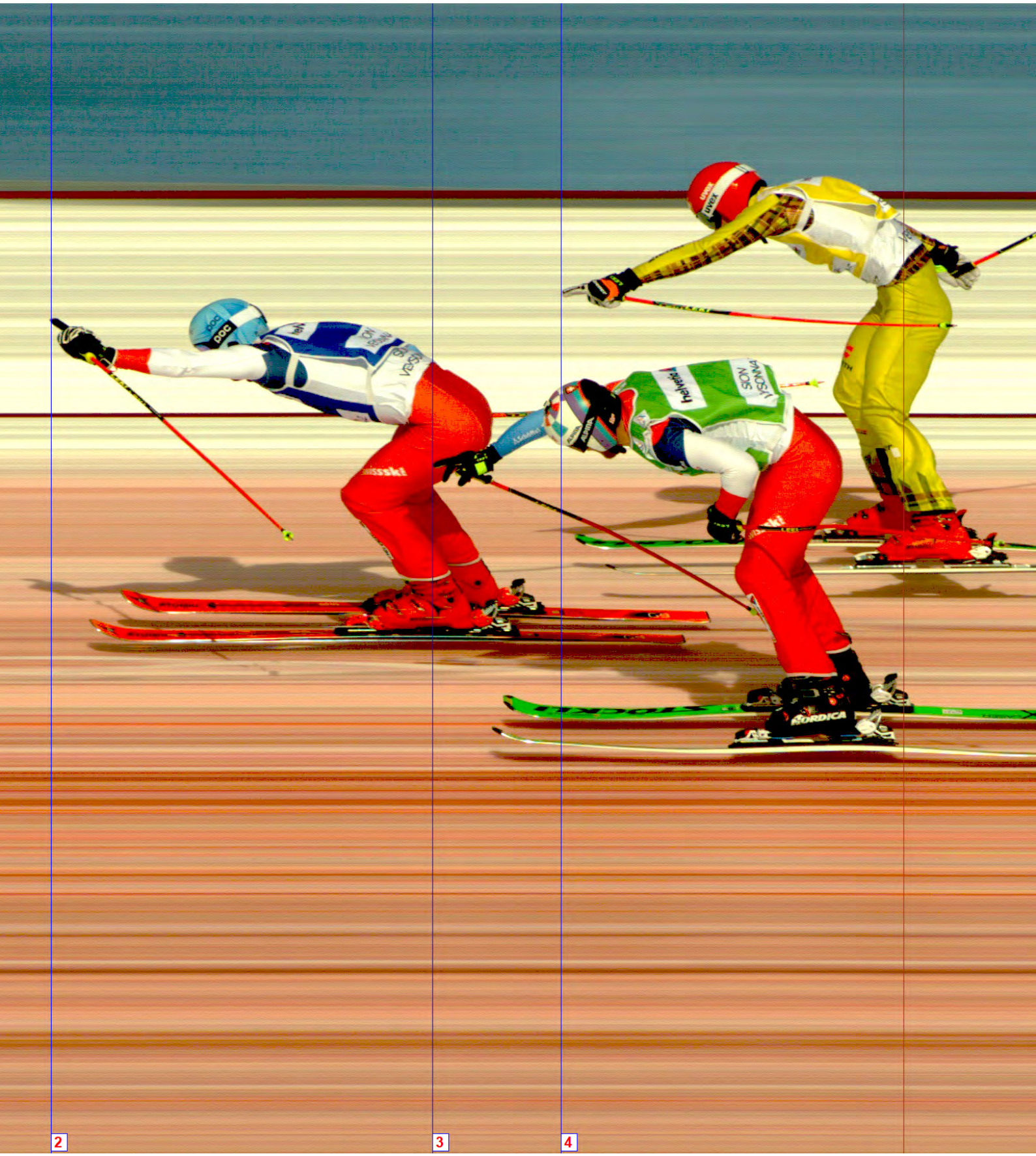
1 Photo Finish OPTIc3

2 PC for Photo Finish

3 PoE (Power over Ethernet)

Photo Finish

OPTIc3



TIMING DEVICES

Timy3

The ALGE-TIMING Timy3 is a compact timing device with unique high-quality technology. The Timy3 impresses with an ergonomic design and absolute reliability, thanks to its robust design.

Despite its handy dimensions, the Timy3 has a large and easy-to-use silicone keypad, which can be used in any weather conditions, even with gloves on. The printer is integrated into the Timy3 WP and logs times of the entire competition.

The Timy3 has an internal wireless modem of the WTN Wireless Timing Network series. So it can be connected via radio to all devices of the WTN series, and, for example, can receive start impulses, intermediate times and finish impulses, control a display board and send data to a PC with result soft ware.

The low power consumption allows it to be used even in cold weather with internal batteries .

The Timy3 is equipped with all necessary interfaces for communication with external devices, a USB interface, an interface fora display board, an RS232 and an RS485 interface.

Display
The Timy3 has a monochrome LCD graphic display with 128 x 64 pixels and backlight. With this, displaying up to 8 lines of text is possible. Different character sizes, and also graphic symbols for easier operation, can be displayed. The display has an extended temperature range for use in extreme weather conditions (up to-20°C).

Keypad
Despite its compact dimensions, the Timy3 has a large and easy-to-use silicone keypad, with 26 keys. Even with gloves on, an easy use is ensured.

Accuracy
The Timy3 works on a time of day basis and records it with an accuracy of 1/10,000 seconds. That means that calculated net times of a precision of 1/1,000 seconds are exactly calculated. Highest accuracy at any temperature is guaranteed by a temperature-compensated quartz.

Printer
The Timy3 WP has an integrated thermal printer. This quiet and extremely fast printer allows easy and simple paper change. The transport roller is connected to the paper cover and saves the tedious threading of the paper.

Memory
Approximately 30,000 times can be stored with the corresponding bib and timing channels. The soft ware is stored in a flash memory. Updates of the software are available free of charge, via the Internet.

Casing
Particular emphasis was placed on ergonomics and stability. The aim of the development was to bring a timer with all the advantages of modern technology into a handy and shockproof casing. The Timy3 is suitable both as a handheld timing device and as a table device.

Connections
Regarding the wide range of possible connections with external devices, the Timy3 offers unequalled opportunities in its class and size. For example it is possible to connect several devices by the RS485 interface to work as a network and it offers 9 independent timing channels.

Radio Network - Wireless Timing Network WTN
An integrated WTN module allows to communicate with all devices of the WTN series (WTN wireless radio, WTN-PB wireless push button, PR1aW photocell, WTN-DB and Windspeed WTN-WS scoreboard).

Software
There is a great number of programs for the Timy3. The device is able to cover the entire spectrum for time measurement starting from a hand timer up to the main timer at major events.

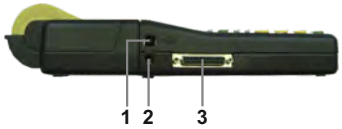
TIMING DEVICES

Timy3

Timy3 Software

Backup:	timing device to measure time of day (e.g. backup or reference timer for PC)
Stopwatch:	universal timing program which is able to time more than one run (net time/total time)
TrackTimer:	timing for events which have multiple lanes (e.g. athletics and swimming)
LapTimer:	timing program with split and sequential time
PC-Timer:	professional timer (time of day) to work with a PC
Timeout:	timing program with timeout function (e.g. show jumping)
Dual Timer:	timing program for two courses, either with simultaneous or separate start
Parallel-Diff:	timing program for parallel slalom
TV Timer:	simple timing program to control a display board or TV time insert
Speed Climbing:	timing program for speed climbing
Training Light:	universal training software with intermediate times and one racer on course
Training REF:	training software with intermediate times and more than one racer on course
Swim Trainer:	training program for swimming
Speed:	speed measurement in km/h, m/s or mph
Commander:	terminal to control ALGE-TIMING display boards
Terminal:	terminals for judges (e.g. ski jumping, figure skating, high diving, artistic swimming)
CycleStart:	start control, lap counting and backup timing for pursuit cycling
Track & Field:	to measure the windspeed for athletics with a connected anemometer WS2 and to control a concentration clock
Jumping:	training program for jumping exercises
Start-Liner:	to control the ASC3 for cross country and Nordic combination
Voting:	judge terminal for artistic swimming and high diving

Timy3 W timing device without printer



Connections:

1- 1 x USB
2- 1 x power supply 8- 22 VDC
3- 1 x D-Sub 25-pin
4- 1 x pair of banana sockets- scoreboard
- 9 time measuring channels
- RS232 (PC connection)
- display board
- RS485 (network)
- power supply (8- 24 VDC in/out)

5- 1 x pair of banana sockets- start input
6- 1 x pair of banana sockets- finish input
7- 1 x DIN socket for photocell

Technical Data

Crystal frequency:	TCXO, +/-1 ppm (+/-0.00036 s/h)	Power supply:	internal: NiMH power pack 7.2 V/2 Ah or 6 x AA alkaline (only for Timy3 W)
Time resolution:	1/10,000 s		external: power supply PS12A, 12 V battery or 8- 22 VDC
Timing:	9 timing channels	Power consumption:	without printer about 100 hours
Program memory:	flash memory with 16 Mbit		with printer about 47 hours
Data memory:	RAM with 4 Mbit (about 30,000 times)	Charging time:	approx. 14 hours
Display:	monochrome LCD graphic display with backlight, 128 x 64 pixels, extended temperature range	Printer:	graphic thermal printer, max. 5 lines per second
Keypad:	silicone keypad, 26 keys	Temperature range:	-20°C to +60°C
Radio module WTN:	built-in 2.4 GHz radio, 15 adjustable frequencies and transmits timing impulses (5 channels), display data and timing data	Measurements:	Timy3 W: 204 x 91 x 50 mm Timy3 WP: 307 x 91 x 65 mm
		Weight (no battery):	Timy3 W: 450 g* Timy3 WP: 650 g*
Power Output:	from 10 to 100 mW, for distances up to 350 m		

*without battery & paper)

TIMING DEVICES

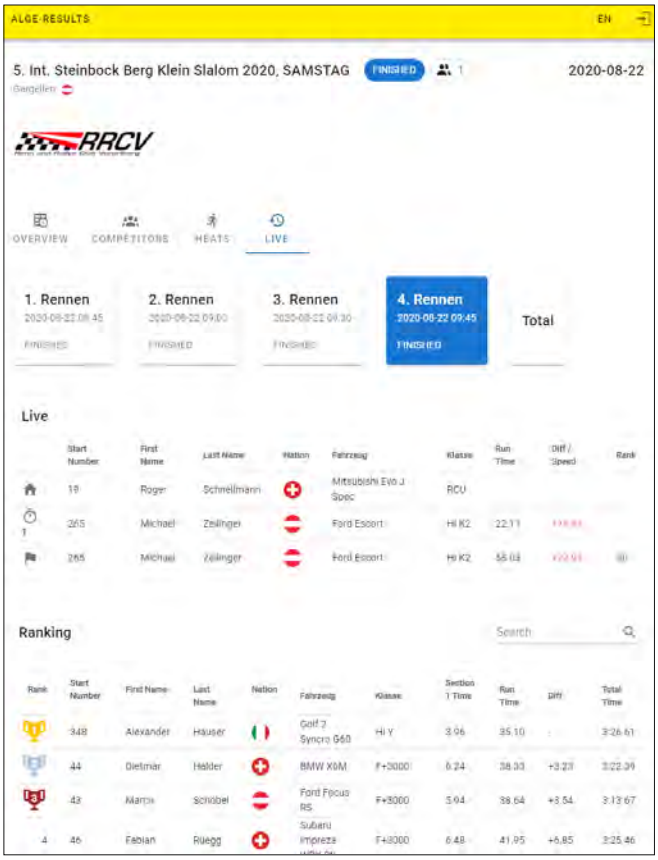
Mobile Timing MT1

The future of timekeeping has begun with the Mobile Time MT1 timing device. Forget kilometre-long cables and problems with the range of the radio system. With the MT1, the measuring points can be as far apart as you want. The accuracy of the GPS synchronization enables multiple MT1 timing devices to be used for timing at different locations (e.g. one MT1 for the start and one MT1 for the finish). That means a time measurement without annoying cable connections.

The MT1 has an internal cellular data modem with a built in SIM card. It supports practically every provider around the world. A server provided by ALGE-TIMING collects the data transmitted from all MT1. The time keeper configures before the race or training the server. The results are displayed live on the Internet. Anyone with internet access can follow the race or training on his mobile phone, tablet or PC. The Mt1 can also be used offline. Then the times can be transmitted to the PC via the USB interface.

Advantages of the Mobile Timing MT1

- highly accurate, temperature-compensated crystal oscillator with additional constant recalibration via GPS
- integrated GPS receiver for high-precision synchronization
- Integrated cellular data modem with built in SIM card
- data transfer with worldwide roaming
- no commitment to a specific cellular provider.
- two timing channels (e.g. for speed measurement)
- USB socket (Type C) for data transfer to a PC and charging
- keyboard to enter the bib
- memo function to enter bib after finish arrival
- storage space for up to 7000 times
- built-in Li-Ion battery for operation up to 24 hours
- light, small and handy
- high-precision impulse output for other timing devices



The MT1 timing system

Register as a timekeeper for free on the alge-results.com platform and create competitions, manage participants and your MT1 devices. Timekeeping is also managed on this platform. When creating a competition, you decide whether the participants register online on alge-results.com or by yourself.

Timing Points

Timing Points (TP) are necessary for data transfer and server use. 2000 timing points are included when purchasing a MT1 device.

Timing Points Package Bronze:	5,000 TP
Timing Points Package Silver:	10,000 TP
Timing Points Package Gold:	20,000 TP

alge-results.com Platform:

The timing data are transferred from the MT1 to the alge-results.com server. The spectators can follow the results live at a mobile phone, tablet or PC (internet connection is necessary). The data is stored in a European data center in accordance with GDPR.

TIMING DEVICES

Mobile Timing MT1

The MT1 has a high-contrast display with which the most important functions are always in view.

- GPS satellite reception
- Cellular reception
- USB Connection
- Battery charge level
- Charging process
- GPS synchronization

One device - many functions

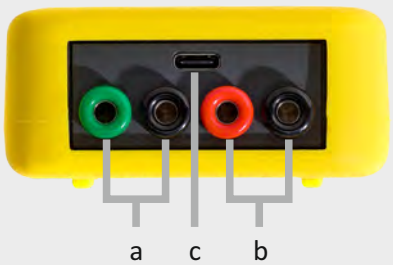
- Standard mode with an extra large display for the start number
- Scroll mode: all times at a glance
- Memo mode: Subsequent entry of the start number after crossing the finish line
- Synchronization output: With the high-precision pulse output, you can synchronize other devices to an exact time.
- USB mode: The times can also be transferred to the evaluation via the USB interface.

Scope of delivery for one MT1 device

1	Mobile Timing MT1
1	charging device
1	USB-C cable
2.000	Timing Points

Technical data

Measuring range:	23 hours 59 minutes, 59,9999 seconds
Time reference:	self-calibrating TCXO crystal
Measurement accuracy:	1/100.000 seconds
operating temperature:	-20°C to +65°C.
Electronics:	integrated GPS receiver and integrated cellular modem without external antennas
Memory:	7,000 times with start numbers, times are permanently saved.
Display:	OLED, 37 x 20 mm, resolution 128 x 64 Pixel
Synchronization:	external, GPS or GSM
Operation:	splash-proof membrane keyboard with 12 keys
Timing channels:	2 channels with banana sockets
Power supply:	internal: Li-Ion battery, external via USB-C connection
Operation time (battery):	24 hours at + 25°C with one Impulse per minute 14 hours at - 20°C with one Impulse per minute
Charging time:	app. 2,5 hours at + 25°C.
Roaming:	world wide, not Provider depended
Housing:	splash-proof plastic housing with removable, shock-absorbing silicone cover
Dimensions:	74 x 34 x 22 mm
Weight:	235 g



a ..... Banana socket channel C0
b ..... Banana socket channel C0
c ..... USB port

Cable and Adapter

ALGE-TIMING devices can be equipped with a wide range of suitable accessories, which are used to support the functions and considerably extend the range of applications.

Bluetooth Headset HS-BT1

Wireless headset with Bluetooth, headphones on both sides and microphone. Suitable for use at high surrounding sound level. Usable with the speech amplifier SV4-BT .

Headset HS4-2

Headset with double-sided earphones and one microphone; recommended for outdoor and/or for high surrounding sound level

Headset HS4-1

Headset with single-sided earphones and one microphone; recommended for outdoor and/or for high surrounding sound level

Speech Amplifier SV5-BT

Speech amplifier with integrated Bluetooth for pairing with Bluetooth headphones. Two connections for two-wire connection cables (banana plugs). Volume control and switch or button for microphone.

Speech Amplifier SV4-S

With two connections for two-core con-nection wire (banana plugs), connection for headset, volume control and switch and/or push button for microphone

GPS Receiver GPS-A

GPS receiver for precise synchronization of the timing devices (e.g. for the Timy3 or the ASC3 Startclock)

Multichannel MC9

Channel expansion for the Timy3 with 9 pairs of banana jacks (impulse channel 0, 1, 2, 3, 4, 5, 6, 7 and 8) and RS232/RS485 socket

Timy Docking Station TIDO

Extension for the Timy3 with integrated speech amplifier and the following connections:

- 4 x DIN sockets for photocells
- 1 x multi-port socket
- 2 x DIN socket for Rs232
- 1 x DIN socket for the headset
- 9 x pairs of banana sockets (impulse channel 0, 1, 2, 3, 4, 5, 6, 7 and 8)

Adapter USB RS232I

The USB-RS232I is a adapter which takes care of optimal isolation between the timing device and the PC. It is used when disturbing noise is heard in the speech connection, when a PC is connected. In addition, the adapter allows a timing device with RS232 interface to connect to a USB interface of the PC.

Printer P6

The P6 is a fast and quiet thermal printer with a wide temperature range (-20 °C to +50 °C). It is available with different plugs, e.g. for TimeManager, Timy3 W, Startclock ASC3, Mobile Timing MT1 or Teledata TED2. The power is supplied by the connected device, power supply PS12A or through USB-C.

Cables

a wide selection of cables for different use in various lengths is available for ALGE-TIMING devices

Cable Reels

Various cable reels with different cable lengths are available for the ALGE-TIMING devices, for example for the start line or data cable for display boards with two-wire steel cable (extra strong military quality).

Case KL

The case KL is used to transport timing devices and accessories. The interior life of the cases can be equipped with many different foam inserts.

Timing Backpack ATBP

The ATBP is a high-quality backpack with special compartments for storing the timing accessories. It is ideal to transport the equipment, for example, on the ski slope. It has a well-padded back section and straps.

START DEVICES

Startgate STSn

The startgate is used mainly at the start for individual start, e.g. alpine skiing, cross country skiing, snowboarding, etc., and is installed at the start between two poles so that the competitor can only leave the start when he moves the startwand of the startgate.

In order to fix the startgate to the post, a chain support is attached, i.e. the chain attached to the startgate is placed around the post and then tightened on a locking screw with a toggle.

Connection of the Startgate STSnM2S

There are different types of startgates

STSnM1S: manual reset, 1 contact, integrated amplifier
STSnM2S: manual reset, 2 contacts, integrated amplifier (FIS homologated Startgate)
STSnA1S: automatic reset, 1 contact, integrated amplifier
STSnA1: automatic reset, 1 contact, without amplifier

Startwand STSn-S
A new startgate is supplied with a screwable startwand plus a spare one.

Startwand STSn-FSTAB
Alternatively, it is possible to acquire a startwand with integrated spring for more protection of the startwand. This startwand is recommended for selftimer startgates.

Contacts
There are models with one or two contacts (banana sockets) to which the start cable can be connected. Each contact has its own microswitch in the startgate. For FIS races, separate lines are required for A and B timing devices, so you need at least two contacts in the startgate.

Integrated Speech Amplifier
There are startgates with integrated amplifier, in which one can connect a headset and talk with the timing operator via the two-wire start line.

Startwand Reset
The startwand can be reset manually or automatically. Automatic startgates are used mainly for training and selftimers. Startgates used for races have a manual reset, i.e., after the start, they remain open until the starter closes them before the next start.

Start Poles with Starting Plates SSP

The start poles are driven into the snow. Afterwards, the startgates are attached to them. The starting plates are placed in front of the poles. They have an antislip surface so each starter has the same kick-off condition.

START DEVICES

Startdoor SSD1

The FIS homologated Start Door SSD1 is made for universal use. It can be used for parallel applications (alpine skiing and snowboard), cross competitions (snowboard and free-style) and team events (alpine or snowboard). The Start Door SSD1 works absolutely reliable at all weather conditions, and is easy to set-up without any screws. For transport, it can be folded up and transported conveniently in a compact form.

A battery built into the SSD1-PS control unit guarantees an independent use from mains. The doors are opened electrically. It is possible to open all start doors together or time-delayed. For cross competitions one can mechanically connect the opening flaps of the individual starting doors.

A wide range of accessories is available.

Accessories

- control unit SSD1-PS
- controller Timy3 W (delayed control)
- push button 023-02
- startbeep STB1
- start light D-SL85-5RG+G (single-sided)
- start light D-SL85-5RG+G-DS (double-sided)
- headset HS3-2
- speech amplifier SV4-S

1 **Start Door SSD1**
FIS homologated start door for parallel events and cross events

2 **Controller SSD1-PS**
controller for start door with built in rechargeable battery

3 **Start Light D-SL85-3xR-G or D-SL85-3xR-G-DS**
single- or double-sided start light for parallel races controlled by the SSD1-PS

4 **Startbeep STB1**
acoustic start countdown device to handle the start

5 **Push Button 023-02**
rugged and water-resistant push button to trigger the start impulse with 2 m cable length connected to the controller SSD1-PS

6 **Headset HS3-2**
for the timing communication

7 **Speech Amplifier SV4-S**
for plugging in at the start-finish line and connecting the headset

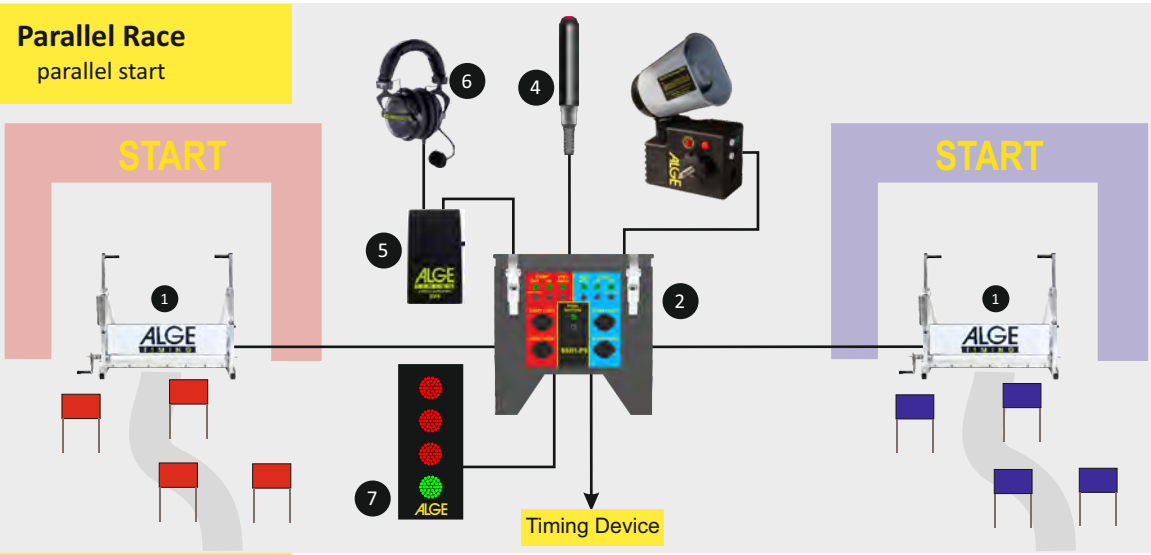
8 **Multi Channel MC9**
docking station with 9 channels for Timy3

9 **Timy3 WP**
FIS-homologated compact timing device with the highest precision, display, keypad, printer and universal timing software. It controls the parallel start if one gate opens with delay.

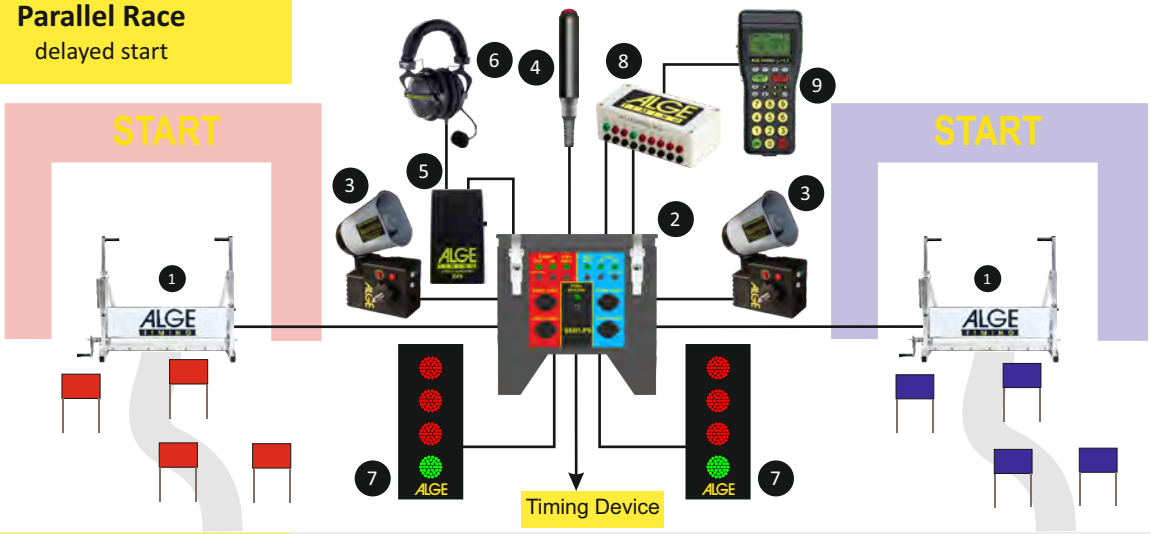
START DEVICES

Startdoor SSD1

Parallel Race
parallel start



Parallel Race
delayed start



Cross Events

1 Start Door SSD1
2 Distribution Box SSD1-PS
3 Startbeep STB1
4 Push Button 023-02
5 Speech Amplfier SV4-S
6 Headset HS3-2
7 Start Light D-SL105-3xR-G
8 Multichannel Mc9
9 Timy3 W

START DEVICES

Startclock ASC3

The Startclock ASC3 is an important device for the professional handling of the start. It is equipped with the latest LED technology and provides accurate start information for the participants and start judge. The ASC3 is optimally readable a daytime or night. The battery-driven Startclock ASC3 is used for various sports like alpine skiing, cross-country skiing, biathlon, rally etc.

Facts about Startclock ASC3

- LED technology
- shows the time of day (hours, min. and sec.), green LEDs
- figure height of time of day digits is 55 mm
- shows the bib (ID-number), yellow LEDs
- figure height for bib digits is 70 mm
- shows the countdown in minutes and seconds, red LEDs
- figure height of countdown digits is 70 mm
- start light with red, yellow and green LED cluster
- integrated speaker with volume regulation
- RS232 interface to connect a PC or printer (parameters of ASC3 can be adjusted by computer)
- two internal push butt ons to set parameters of ASC3
- start input (banana socket)
- sync. input or countdown start (banana socket)
- potential free impulse output (banana socket)
- output for external speaker (4- 8 Ω)
- start list can be loaded to ASC3
- integrated rechargeable lead battery for operation independent from mains supply
- external power supply (12-16 VDC or 85- 264 VAC)
- LED to control battery condition and charging
- flash memory allows update
- remote control ASC3-RC with 10 m cable length to operate the Startclock ASC3
- controlling soft ware for PC

Technical Data

Unit of Measurement:	1/1,000 second
Measuring range:	23 hours, 59 minutes, 59.9999 seconds
Accuracy:	+/- 0.3 ppm (+/- 0.001 s/h)
Time base:	temperature compensated real time clock
Display:	extra bright LEDs for outdoor use, brightness adjustable 8-digit LED display, height 55 mm, for time of day 3-digit LED display, height 70 mm, for bib (ID-number) 3-digit LED display, digit height 70 mm, for countdown Start light with red, yellow and green LED cluster, each 35 mm diameter
Temperature range:	-25 °C to +65 °C
Power supply:	integrated power pack (rechargeable battery (12 VDC, 12 Ah) and charger or external battery (12- 16 VDC) or mains (85- 264 VAC)
Operating time:	about 20 hours from internal battery at 30 seconds intervals and 20 °C (highest LED-brightness and full sound volume)
Case:	anodized aluminum with cover and suspension brackets, 3/8” thread for tripod (tripod not included)
Dimensions:	L x H x D = 445 x 280 x 115 mm (without suspension brackets and handle)

START DEVICES

Startbeep STB1

The Startbeep STB1 is an universal, start acoustic device. Due to its sturdy construction, the STB1 is very simple and user-friendly to operate.

Startbeep STB1

- Nine fixed programmed start intervals can be selected with a switch: 10, 15, 20, 30, 40, 45, 60, 90,and 150 seconds.
- A freely programmable start interval can be selected between 6 and 99:59 minutes with step switch.
- pecial program for the 3-second countdown in speed climbing
- countdown start by internal or external push button
- countdown with or without standby signal (ten seconds before start)
- In the horn mode, the startbeep can be used as a start gun replacement, triggered by an internal or external push button.
- It can be synchronized with other timing devices.
- start output, potential-free closed contact (e.g. for triggering a timing device)

Technical Data

Electronics:	µP-controlled in CMOS
Working temperature:	-25°C to +45°C
Power supply:	9 V Alkaline battery or external power supply
Connections:	potential-free closing contact for synchronizing or triggering of a timing device · external push button · external power supply · on/off switch · internal push button
Sound converter:	horn loudspeaker, swivelling
Housing:	polyamide, glass fibre reinforced (impact resistant)
Fastening:	chain fastening e.g. for mounting on a post
Weight:	1 kg
Dimensions:	132 x 205 x 88 mm
Operating duration:	up to 80 hours

IMPULSE DEVICES

Photocell PR1a and PR1aW

The photocell PR1a is a masterpiece of precision and can be used universally as a reflection photocell, as a transmitter photocell or a receiver photocell.

The photocell emits a modulated light beam in the infrared range, which is monitored by the receiver for interruptions. If the receiver detects an interrupt, it triggers an impulse. If both, the transmitter and receiver are in the same housing, it is called a reflection photocell. The infrared beam is directed from the transmitter to a reflector. The reflector functions like a mirror and reflects the infrared beam back to the receiver. Should longer distances be necessary, one can use a photocell as transmitter, and another as a receiver photocell.

Photocell PR1a

- impulse accuracy 1/10,000 s
- variety of types:
  - reflection photocell
  - through-beam photocell for long distances
- long photocell range: over 150 m possible
- variable power supply of the photocell:
  - battery operation
  - power supply from the ALGE-TIMING timing device
  - external power supply from 4 to 18 VDC
- battery status indication with LED (green, yellow, red)
- indicates photocell status with LED (green, yellow, red)
- synchronization of two photocells (main and backup), in order to avoid interference
- setting of the delay time (approx. 20 ms to 2 s/factory setting = 20 ms)
- very long operating time

Photocells PR1aW

The PR1aW photocell has an integrated radio module (2.4 GHz), in addition to all characteristics of the PR1a. The impulse transmission can be carried out by radio and is compatible with the WTN series. 15 different radio-teams and 5 different impulse channels can be set. If required, the PR1aW can also be connected to a timing device via cable.

Additional Functions

- integrated radio module for wireless impulse-transmission
- impulse transmission also possible by cable
- up to 38 hours of operating time with battery

IMPULSE DEVICES

Photocell PR1a and PR1aW

Technical Data

Range:	0.5 to over 25 meters (with reflector)
	0 to over 150 meters (transmitter and receiver)
Impulse length:	20 to 2,000 ms can be set
Output:	NPN transistor, open collector, active low
Dimensions:	approx. 118 x 87 x 44mm
Weight:	approx. 0.3 kg
Operating time:	approx. 77 hours (PR1a)
	approx. 38 hours (PR1aW)

Photocell Sets

Reflection Photocell PR1a-R
Reflection photocell with mounting bracket BBG and
10 m photocell cable 001-10
Scope of delivery: 1 x PR1a, 1 x PR1a-REF, 2 x BBG, 1 x 001-10

Radio Reflection Photocell PR1aW-R (as PR1a-R but with radio)
Scope of delivery: 1 x PR1aW, 1 x PR1a-REF, 2 x BBG

Through-Beam Photocell PR1a-d
Consists of separate transmitter and receiver. The photocell beam sends the infrared-beam direct from the transmitter to the receiver (distance over 100 m possible);
Scope of delivery: 2 x PR1a, 2 x BBG, 1 x 001-30 (30 m)

Photocell Accessory:

Mounting Bracket BBG
chain holder for fixing the photocell or reflector to poles

Mounting Bracket B-S1
screw-on mounting bracket for mounting the photocell or the reflector

Mounting Bracket B-P40
Mounting bracket that can be mounted on poles with a diameter of up to 40 mm using screws, in order to mount the photocell or the reflector.

Case KS-PR1
for photocells PR1a and PR1aW

Case KL-PR1a
for the photocell and reflector including tripods TRI128

Reflector PR1a-REF
standard reflector for photocells PR1a and PR1aW

RADIO DEVICES

Teledata TED2

The TED2 is a modern radio with built in high precision timing device. The TCXO-quartz of the TED2 is permanently synchronized via an integrated GPS receiver and the quartz well be permanent re-calibrated. This results is a yet unreached time accuracy.

The radio transmits in the 433 MHz band. The radio frequency and radio power can be set by the operator. This TED2 allows distances of up to 4.5 km to be bridged by radio.

An integrated keyboard in the TED2 allows to enter bibs for at the transmitter and receiver. The timing impulse or the "time stamp" can be transmitted wirelessly from the transmitter TED2-TX to the receiver TED2-RX. The “time stamp” contains the time of day, the timing channel and the bib or alternatively a continuous number.

This means that the Timy3 will accept the transmitted "time stamp" with the bib direct from the TED2. This makes timing easy and stress-free.

The transmitter TED2-TX has two timing channels. If you use more transmitters in one system you can adjust the timing channels so you can receive up to 10 different timing channels. Our technology enables the TED2-RX to receive all 10 timing channels simultaneously.

Since the TED2 can also transmit timing impulses, it is compatible with timing devices from ALGE of previous generations and can also be connected to most timing devices from other manufacturers.

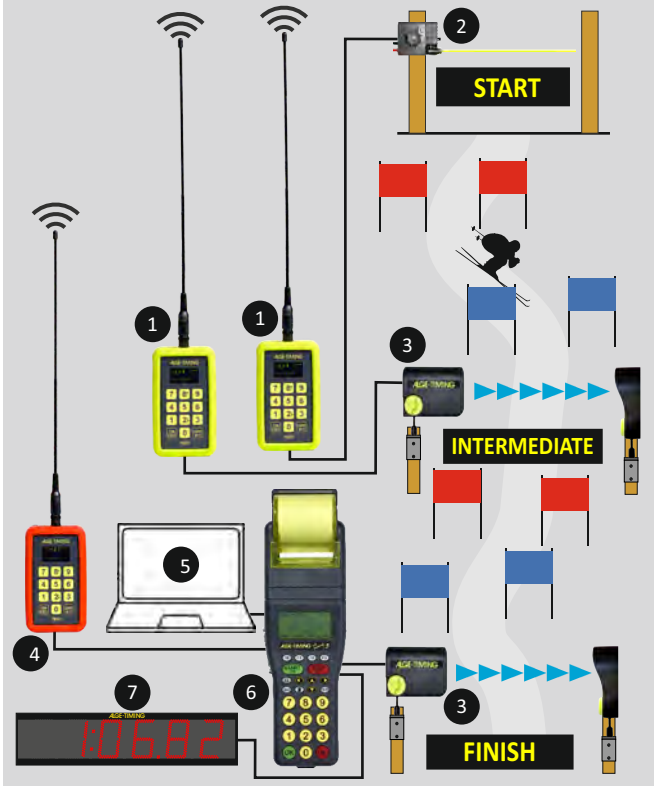
Facts about the TED2

- radio system with integrated accurate timing device
- TED2 stores up to 7000 time stamps
- automatic synchronization via GPS
- transmission of "time stamps" or timing pulses
- display and keyboard for easy operation
- up to 10 different “timing stamps” can be transmitted
- simultaneous reception of up to 10 “time stamps”
- 139 adjustable radio frequencies
- the frequency of 433 MHz guarantees a long range of up to 4.5 km
- integrated Li-Ion battery (charged via USB-type C cable)
- USB-C conectior for printer or other devices connected via a USB-type C cable

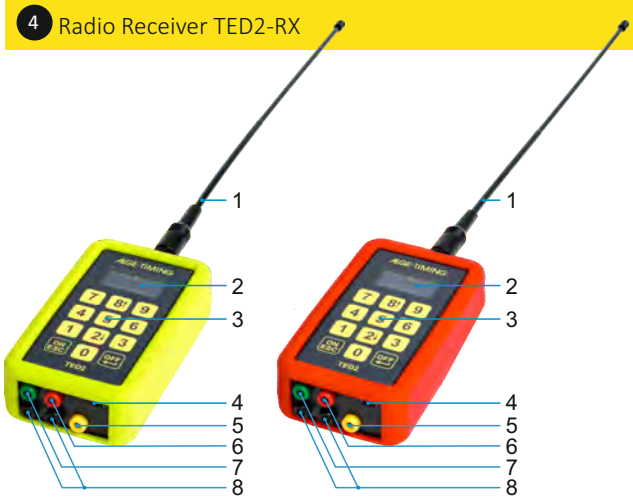
RADIO DEVICES

Teledata TED2

Ski Alpine with Intermediate Time

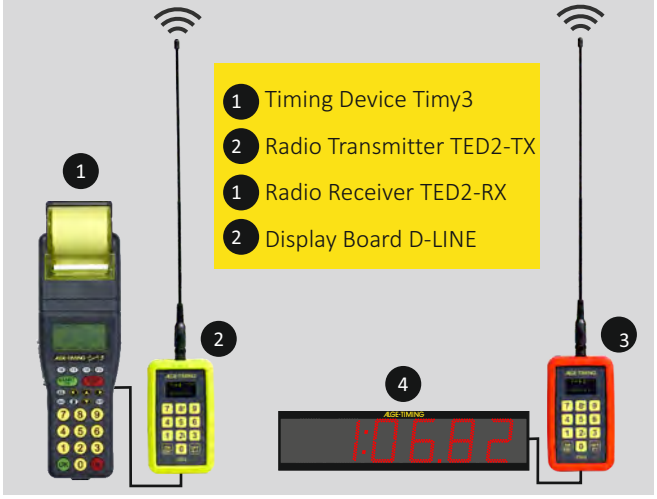


1 Radio Transmitter TED2-TX
2 Startgate STSn1M
3 Photocell PR1a-R
4 Radio Receiver TED2-RX
5 Result-PC
6 Timing Device Timy3 WP
7 Display Board D-LINE



1..... Antenna
2..... Display
3..... Keyboard
4..... USB-C Connector
5..... Banana Socket, RS232 out
6..... Banana Socket, Timing Channel C1 (out/in)
7..... Banana Socket, Timing Channel C0 (out/in)
8..... Banana Sockets, Ground

Data Transmission to Display Boards D-LINE



It is possible to send data with the TED2 from an ALGE-timing device to a display board.

Technical Data

Timing:

Measuring Range:	23 hours, 59 minutes 59.9999 seconds
Timing Precision:	1/10,000 s
Time-Base:	self-calibrating TCXO quartz
Synchronization:	integrated GPS receiver, alterative via timing impulse
Timing Channels:	2 (banana sockets), adjustable C0 to C9
Memory:	7,000 time stamps (permanent stored)
Display:	OLED, 37 x 20 mm, 128 x 64 Pixel
Keyboard:	splash-proof membrane keyboard with12 keys
Power Supply:	external: through USB Type C cable internal: Li-Ion battery, 3.6 V / 10.4 Wh charging time: app. 4 h at +25 °C operation time*: TED2-TX: 24 h at-20 °C TED2-RX: 12 h at-20 °C
Operating Temperature:	-20 to +65°C
Measurements:	152 x 81 x 40 mm without antenna
Weight:	TED2-TX: 320 g (without antenna) TED2-RX: 320 g (without antenna)
Case:	splash-proof plastic housing with shock-absorbing rubber coating

Radio:

Radio Frequency:	433 MHz band (433.0626- 434.7875) 139 adjustable frequencies
Radio Performance:	TED2-TX400: standard 10 mW adjustable 5 – 500 mW
Radio Range:	up to 4.5 km
Antenna:	BNC-antenna

* operation time at-20°C with one impulse per minute

DISPLAY BOARD

D-LINE

The multifunctional LED display board

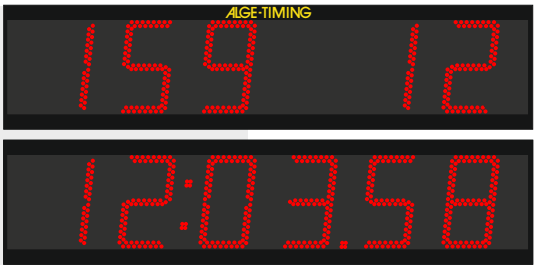
The ALGE-TIMING D-LINE can universally be used. It is a numeric LED display board, directly controlled by ALGE-TIMING timing devices. Via RS232 or RS485 it is possible to send data from other devices to the displayed.

The integrated clock can be used in stopwatch or countdown mode and show the exact time of day. If the D-LINE is equipped with DCF, GPS and/or temperature sensor, the temperature can be displayed in addition to the exact time of day, even if no timing device is connected. The outdoor models differ from the indoor models mainly by much brighter LEDs. This ensures perfect readability even at direct sunlight. The standard display boards is made for outdoor use and has six digits, other configurations are available.

Compared to other display systems (electromagnetic display boards), the D-LINE is more cost-efficient and weighs less. With its brightness, it sets itself apart especially when placed in dark areas.

Possible Extensions:

- DCF radio receiver
- GPS radio receiver
- temperature sensor (max. two sensors)
- humidity sensor
- Ethernet connection (for time synchronization via Ethernet)



Technical Data

- LED seven-segment digits with three dots between digits
- internal clock
- internal push button
- RS232 and RS485 interface
- connections:
  - banana socket for data (Rs232)
  - banana socket for data (Rs485)
  - banana socket for external manual push button
- Amphenol socket (four-pin) for data or power supply (12 VDC)
- integrated power supply (100- 240 VAC, 50- 60 Hz)
- fastening:
  - 4 hangers
  - ¾“ thread for tripod
- black aluminum case with red front plexiglass
- operating temperature: -20°C to +60°C

Possible Digit Heights

Indoor:	57 mm
	100 mm
Outdoor:	80 mm
	150 mm
	250 mm
	450 mm
	600 mm
	800 mm
	1,000 mm
	1,500 mm

DISPLAY BOARD

D-RTNM

The D-RTNM is a universal, one-color scoreboard that is used to show information or advertising during timing. Even animated movies can be played on the D-RTNM. The display board is controlled online or by retrieving the data previously stored in the internal memory.

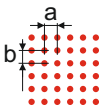
The lightweight, rugged aluminum housing allows easy transportation of the scoreboard. The outdoor version is easily readable even in direct sunlight. If it is used at night or on rainy days in difficult light conditions, the brightness can be adjusted in 100 levels.

The D-RTNM is controlled non-multiplexed. This increases the life of the LED, increases the brightness, and prevents the display from flickering during TV transmission.

- matrix display board with red LEDs
- models with 1, 3, 4 or 7 LEDs per pixel
- models for outdoor and indoor use
- standard models with a resolution of 16 or 24 pixels in height and 96 or 160 pixels in length
- universal with Ethernet, RS485 and RS232 interface
- internal memory of 4 MB for storing images, logos, animations or participant lists; control from internal memory possible
- possibility to control the display board directly from the terminal of the ALGE-TIMING multisport score board
- possibility to control the bib number, time (also running time) and the rank directly from an ALGE-TIMING timing device; additionally, display of competitor data (e.g. name) from internal memory possible
- adjustment of brightness in 100 steps
- the non-multiplexed control of the LEDs ensures a longer service life and better brightness.
- integrated power supply (100 to 240 VAC)
- sturdy aluminum housing with red plexiglass front

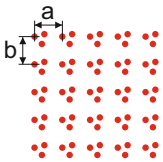
Pixel Arrangements:

P1



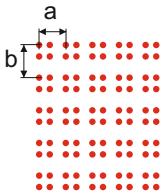
a + b = 10.0 mm
a + b = 15.0 mm
a + b = 20.0 mm

P3



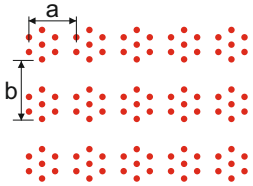
a = 21.6 mm
b = 21.6 mm

P4



a = 20.7 mm
b = 25.4 mm

P7



a = 36.8 mm
b = 46.4 mm

Options

· customer-specific pixel resolutions
· small marginal widths to assemble several D-RTNMs
· special models with 7 LEDs per pixel
· various LED colours (yellow, green, blue or white)
· connection for temperature sensor
· connection for DCF or GPS synchronization (exact time signal)

DISPLAY BOARD

Videowall

Video walls are used for sports events in stadiums, as stage displays at music events, trade fairs, fashion shows or for advertising. The size of video walls varies from one pixel pitch from 1.42 mm to 26.7 mm, and each version can be delivered indivi-dually with video curtains or LED curtains or curved video walls for building facades. Video walls are available as perimeter display with soft top cushion and foot stand.

A video wall consists of individual modules that are assembled in any order. Depending on the model, maintenance is performed on the front or rear.

Due to the quick-release fasteners it is possible to build up the entire video wall in a few minutes.

Model CH-LITE II (Indoor Display Board)

Modular design with SMD LEDs (3 in 1 SMD LEDs) and very light modules (approx. 18 kg). The modules have the dimensions of 768 mm x 768 mm or 576 mm x 384 mm and are very slim with 92 mm. There are models that allow maintenance from the front or rear. A quick-release system allows al quick setup. The power consumption is low. For the small modules, it can be up to 150 W; and for the large ones, up to 300 W. This makes it ideal for mobile use (e.g. for renting it out).
Pixel pitch from 1.33 mm to 16 mm.

Model CH-EIII (Outdoor Display Board)

Modular design with SMD LEDs (3 in 1 SMD LEDs) and very light modules (approx. 20 kg). The module dimensions are 768 mm x 768 mm. The modules have a depth of 120 mm. Maintenance is carried out from the front. A quick-release system allows for rapid assembly. This makes it ideal for mobile use (e.g. for renting it out).
The combination of a specially developed mask and a lens plate with ball lens on the top of each pixel greatly reduces the reflection of sunlight and ensures the best contrast ratio. In addition, the lenses protect against being hit, for example, by balls.
The model with 120 x 120 pixels and a pixel pitch of 6,4 mm is suitable for 3 modules as a flexible display board, in combination with a timing device. We optionally offer a flight case for safe trans-port as well as stand and rubber protection for LED advertising boards.
Pixel pitch from 6.4 mm to 16 mm.

Model CH-EII (Outdoor Display Board)

Modular design with separate LEDs for each colour of a pixel (red, green, blue). A standard module has the dimensions of 1,280 mm (H) x 640 mm (L) x 122 mm (T). There are models for which main-tenance is possible on the front or rear. A quick-lock system ensures a quick setup. Larger blocks can also be supplied for fixed installations.
Pixel pitch from 10 mm to 26.7 mm.

RESULT SOFTWARE

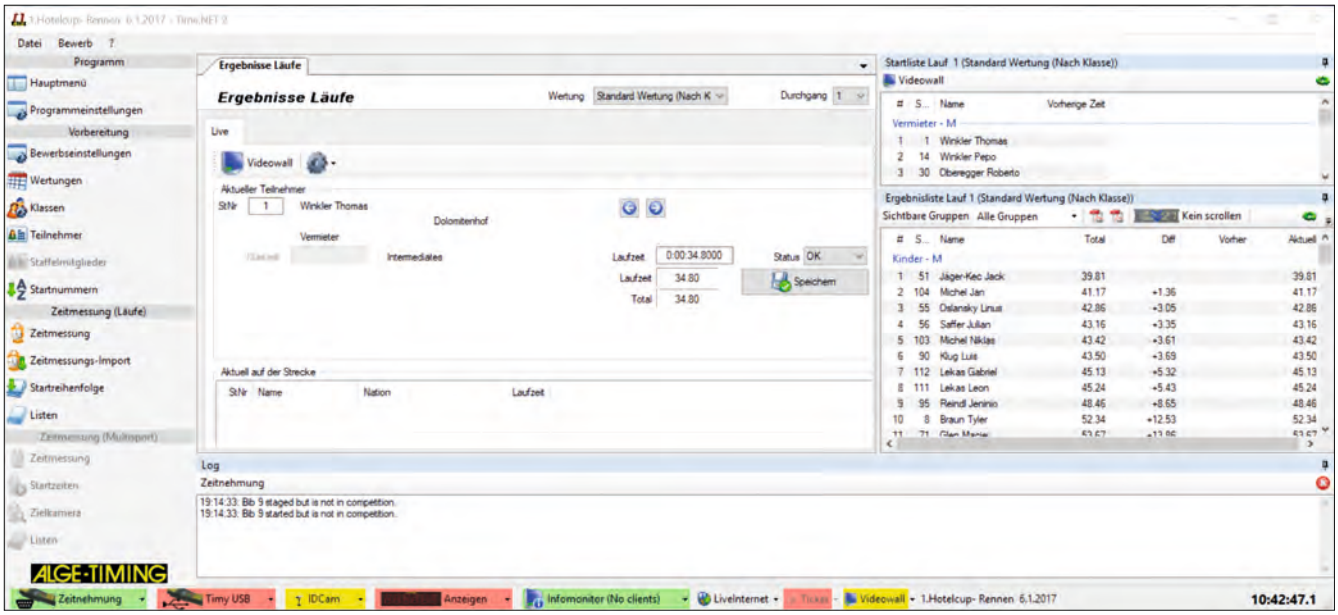
PC-Software

Matching our timing devices, we have a variety of free PC software to evaluate our timing devices. All programs run on Windows 7 up to Windows 11 (32 and 64 bit); available in several languages.

Time.NET2

Universal result software for many different sports and competitions.

- several heats possible
- starting lists, result lists that you can configure, team result lists, result analysis, etc.
- Excel import of competitor lists, export to Excel and pdf
- live- and off-line-mode for timing
- output for ALGE-TIMING display boards
- CIS (commentator info system): Time.NET 2 Infomonitor
- live timing for internet on request



ALGE-Training

Training analysis software for the Timy programs “Training Light”, “Training Ref”, “Stop-watch”, “Speed” and “Jumping”. Several runs or participants can be compared to each other.

ExcelWriter

Software to read the data from the ALGE-TIMING timing devices into Microsoft Excel and match it with the bibs time and competitor data. In Excel it is possible to evaluate the data as you need it (special results).

ALGE StartClock

Software to control and adjust the Startclock ASC3. With this program settings can be changed and individual start times can be programmed.

Further PC Software

ALGE-Skitest: off-line evaluation for (ski) tests and training. Starts must match according to specified start list.

ComToFile: Universal program to control and/or save data from a USB interface or RS233 interface on the PC.

All ALGE-TIMING result software is available on our website www.alge-timing.com.

Software developers who integrate our timing devices into their software are welcome. We support them with software examples and interface descriptions.

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