ALGE TIMING
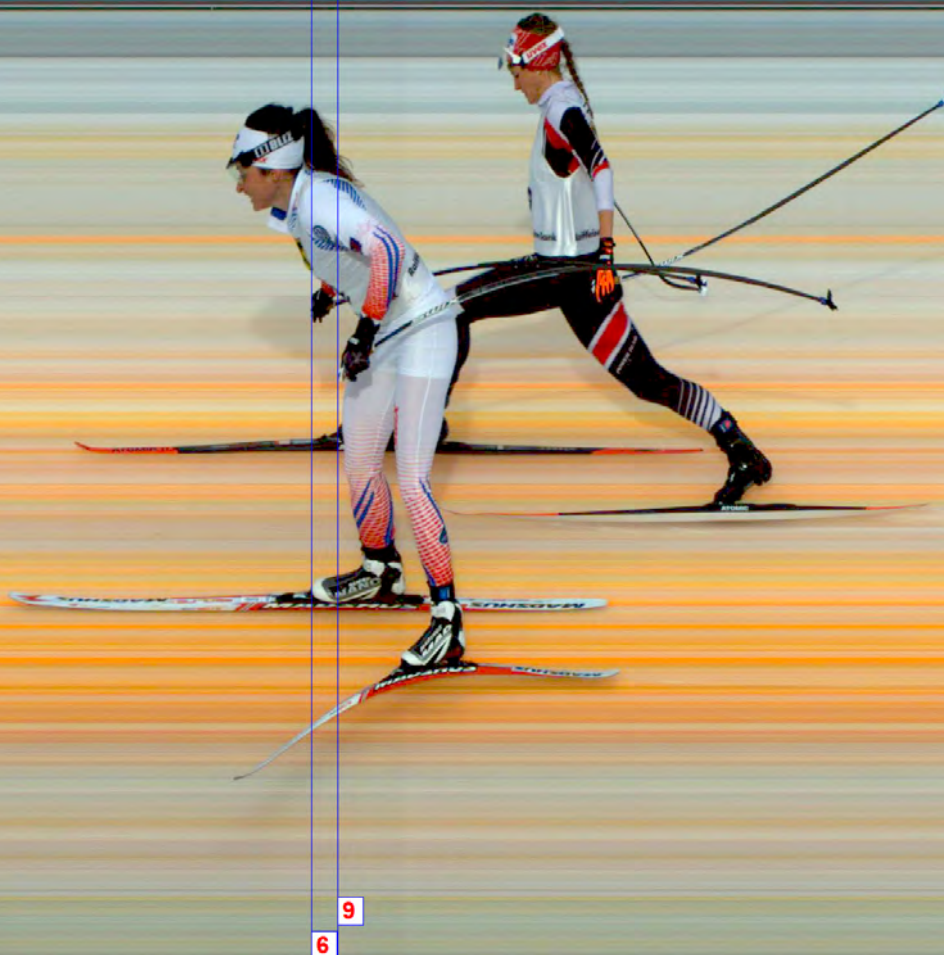
THE SPORTS
TIMING EXPERTS

Cross-Country Skiing

A wide range of timing devices and accessories are available from ALGE-TIMING for cross-country. 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 cross-country. Although timing devices have been produced for many years, most of the older models are still compatible with the current ones.

The various disciplines in cross-country require different timing systems, which meet the special conditions of single start, mass start, pursuit or relay competitions.

For some disciplines a traditional timing system with startgate and photocell is sufficient, photo finish is manly needed for events with mass arrival. The photo finish produces a photo finish pictures of each competitor and allows to check the times, bib numbers or even correct times or arrival order.

Timing for cross-country with individual start is very challenging. The competitors have single starts with a fix interval time. It can happen that during the race people start and finish at the same time. Often it will happen as well that two or more competitors pass the finish line at the same time.

The Startclock ASC3 automatically outputs the start interval visually (start light) and acoustically (speaker system) for an easy and regular start procedure. The start is affected by the competitor by triggering the startgate. The start operator and a finish arrival announcer are in contact with the timing operator using headsets. A separate timing device Timy3 WP is used for start and finish. They are coneced by cable (alternative by radio WTN).

The timing device in the finish is triggered by a photocell and can be connected to a display board, so the spectators and athletes can see the run time immediately.

The timing system shown below for cross-country with individual start is a basic system. For event like FIS-races a backup timing system and a manual timing system is additional needed.
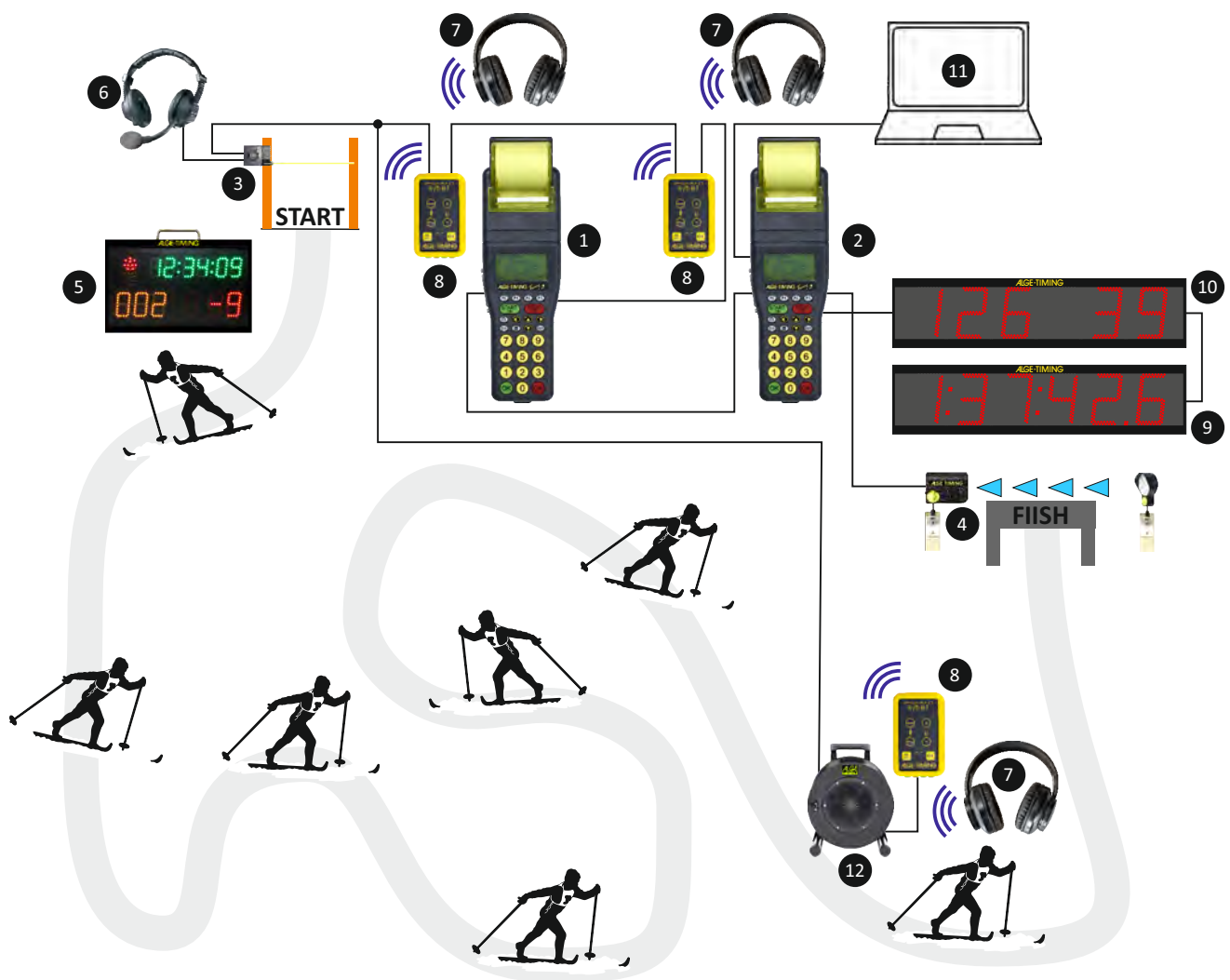
1	Timy3 WP for start	5	Startclock ASC3	9	Display Board D-LINE (time)
2	Timy3 WP for finish	6	Headset HS4-2	10	Display Board D-LINE (bib + rank)
3	Startgate STSnM2S	7	Headset HS-BT1	11	PC for Results Software
4	Photocell PR1a-R	8	Speech Amplifier SV5-BT	12	Cable Reel KT300

For pursuit races and races with Gundersen starts the time of day is displayed at a display board at the start. This is needed by the racers and the start judge to know, when it is their turn to start. Alternative a start clock ASC1 can be used.

The finish arrival announcer is in contact with the timing operator using headsets.

At the timing device Timy3 the start times are input before the pursuit race starts. It can control a display boards, so the spectators and athletes can see the run time immediately.

Close finish arrivals of competitors can be evaluated on the photo finish picture.
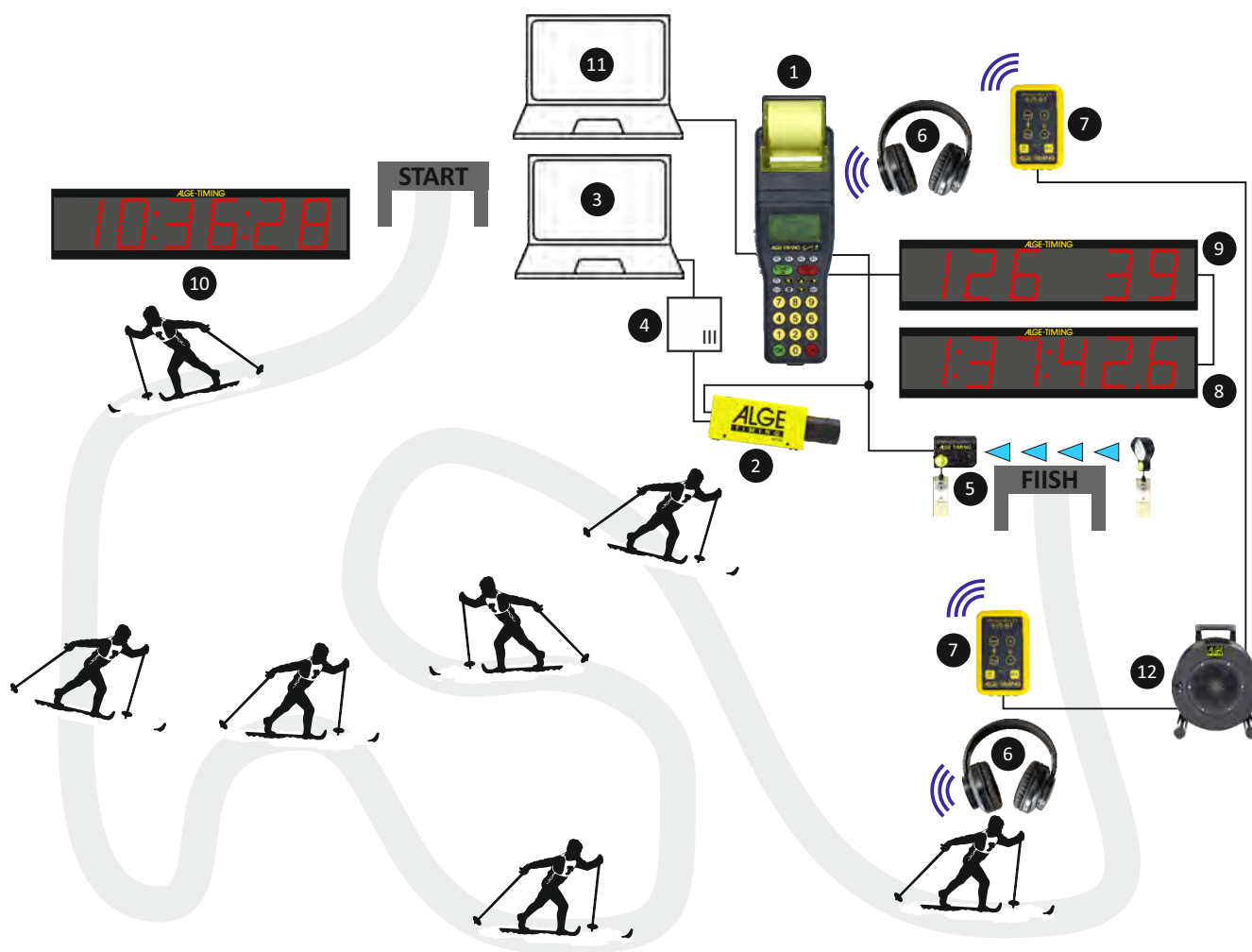
1	Timy3 WP	**5**	Photocell PR1a-R	**9**	Display Board D-LINE (bib + rank)
2	Photo Finish OPTIc3	**6**	Headset HS-BT1	**10**	Display Board D-LINE (time of day)
3	PC for Photo Finish	**7**	Speech Amplifier SV5-BT	**11**	PC for Results Software
4	Power over Ethernet PoE	**8**	Display Board D-LINE (time)	**12**	Cable Reel KT300

CROSS-COUNTRY SKIING
Relay and Mass Start Competitions

When having relay- or mass start races, an electronic or traditional start gun is used to start the complete competitor field. The start operator and a finish arrival announcer are in contact with the timing operator using headsets. When the photocell PR1a is triggered at the finish line, the arrival at the finish line is simultaneously recorded with the photo finish system.

Tight arrivals or missing bib numbers can be determined with the photo finish picture. The timing device Timy3 can control a display board, so the spectators and athletes can see the run time immediately.
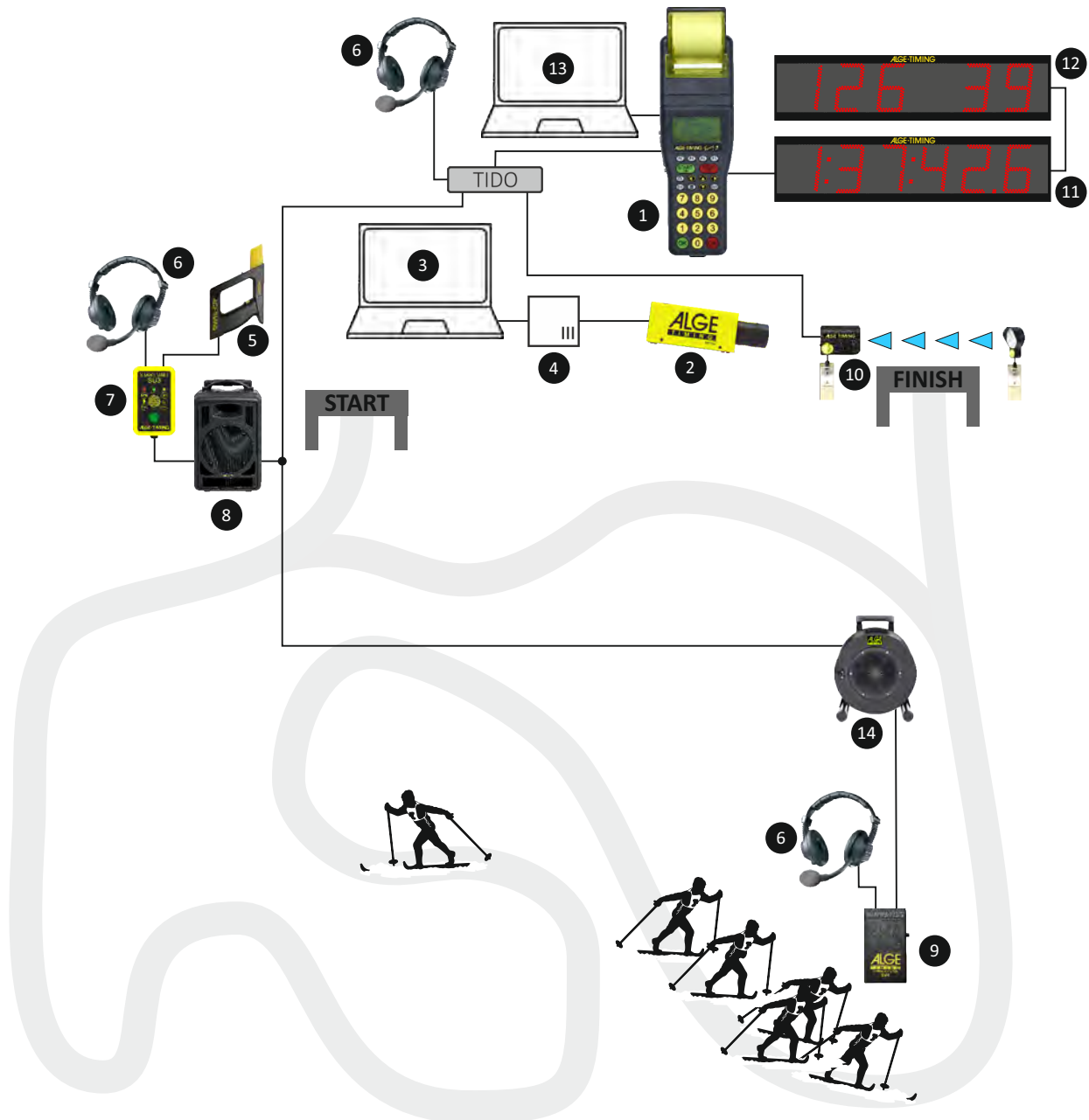
1 Timy3 WP	**6** Headset HS4-2	**11** Display Board D-LINE (time)
2 Photo Finish OPTIc3	**7** Start Unit SU3	**12** Display Board D-LINE (bib + rank)
3 PC for Photo Finish	**8** Speakersystem BANG2	**13** PC for Results
4 Power over Ethernet PoE	**9** Speech Amplifier SV4-S	**14** Cable Reel KT300
5 electronic Startgun e-Start	**10** Photocell PR1a-R	

For cross-country sprint final races, an electronic or traditional startgun can be used to start the racers. The starter must be very careful, that no competitor starts before the start tone.

A false start system is mandatory for FIS level 0 sprint races. This measures the time of the starting gun compared to the starting time of each runner. This means that the start can be checked at any time and runners that started too early can be disqualified (see next page).

The starter and finish announcer can communicate per headsets with the timing operator. The finish announcer is positioned short before the finish and announces for the timekeeper the bibs of the arriving runners.

When the photocell PR1a is triggered at the finish, the timing device is stopped and the photo finish makes a picture of each racer. Tide finish arrivals or missing bibs can be evaluated at the photo finish picture.
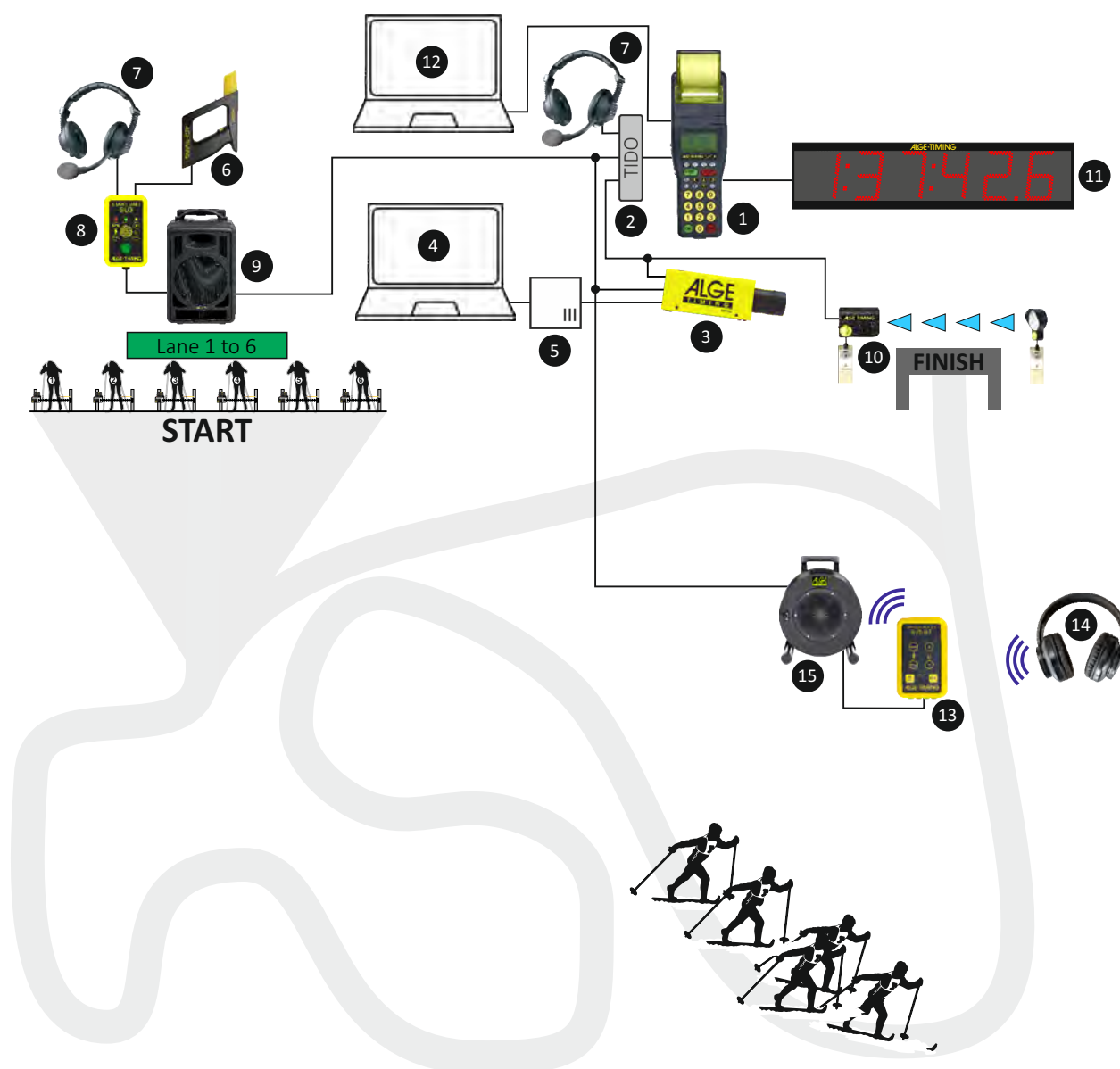
1	Timy3 WP	**6**	electronic Startgun e-Start
2	Timy Docking Station TIDO	**7**	Headset HS4-2
3	Photo Finish OPTIc3	**8**	Start Unit SU3
4	PC for Photo Finish	**9**	Speaker System BANG2
5	Power over Etherneth PoE	**10**	Photocell PR1a-R
11	Display Board D-LINE (Time)		
12	PC for Results		
13	Speech Amplifier SV5-BT		
14	Headset HS-BT1		
15	Cable Reel KT300		

False start system "CC-False Start"

The false start system can control up to 8 start lanes. The actual start time (start sound) is compared with the start time of each runner. If the start time of a runner is negative (started before the start sound), then he made a false start and can be disqualified.

The measurement of the start time of each runner takes place via a photocell which is set up at the start pols. In addition to the photocell a startgate is set up so the racers have a defined starting line.

The system includes one or more speaker systems BANG2. The starter can it to give start commands to the runners. When the starter triggers the electronic startgun e-Start the speaker system makes a start sound.

All start times are saved in the memory of the timing device Timy3 WP and recorded on an internal printer.

LANE 1   LANE 2   LANE 3   LANE 4   LANE 5   LANE 6

Starter

TIDO

Timing Device

7 Parts of the Start System needed for each lane:

| Photocell PR1a | Startgate STSnA | Holder SSP-CCP | Reflector SSP-CCR | Startframe SSP-CC |
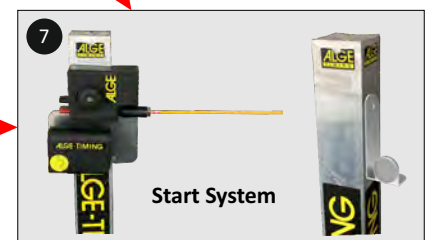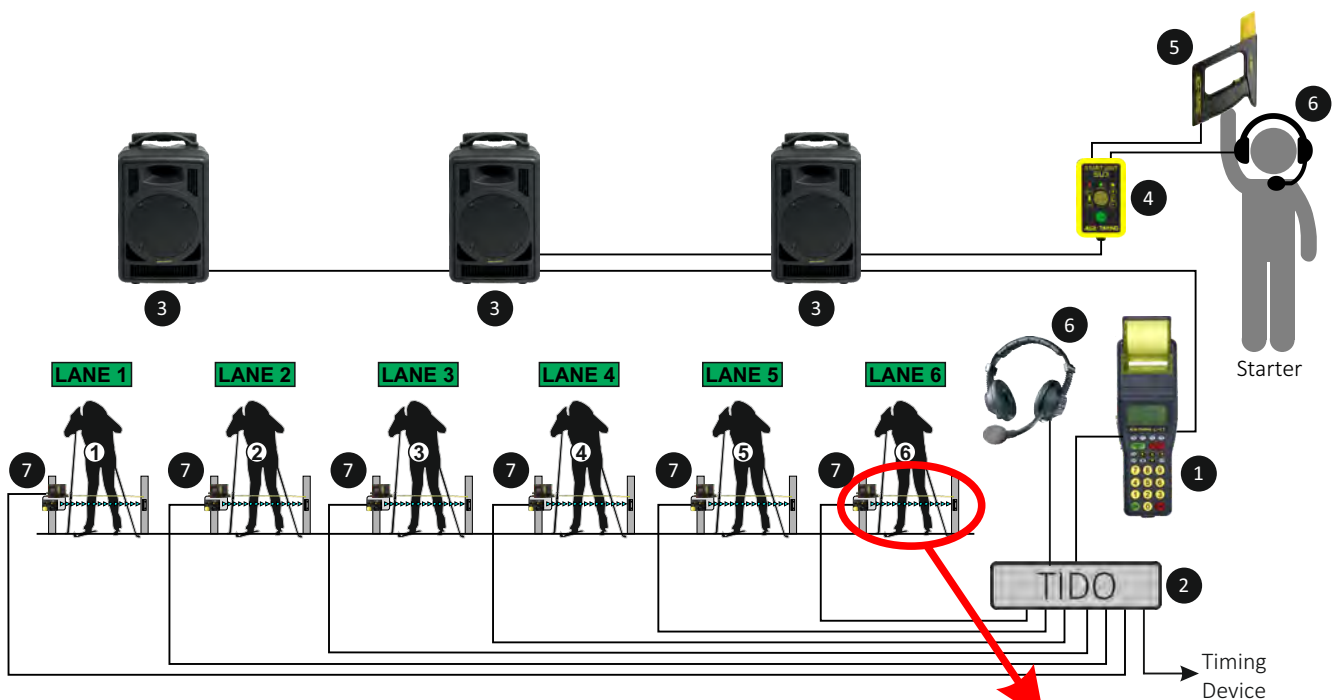
Start System

1	Timy3 WP with Prog. „CC False Start"	4	Start Unit SU3	7	Start System per Lane
2	Timy Docking Station TIDO	5	electronic Startgun e-Start		
3	Speaker System BANG2	6	Headset HS4-2		

The ALGE-TIMING Timy3 is a compact ti ming 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.
The Timy3 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 independent from mains.

The Timy3 is equipped with all necessary interfaces for communicati on 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 tempera- ture range for use in extreme weather conditions (up to-20°C).

Keyad
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-compen- sated 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 con- nected 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 er- gonomics 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.

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 score- board).

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.

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 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 with 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, 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 diving

Timy3 W timing device without printer
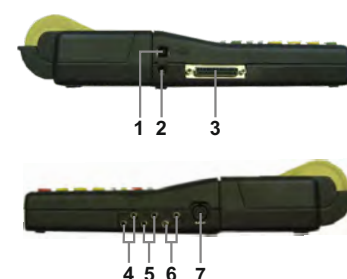
Connections:
1- 1 x USB
2- 1 x power supply 8- 22 VDC
3- 1 x D-Sub 25-pin
4- 1 x pair of banana sockets- scoreboard
 · 9 time measuring channels
 · RS232 (PC connection)
 · display board
 · RS485 (network)
 · power supply (8- 24 VDC in/out)
5- 1 x pair of banana sockets- start input
6- 1 x pair of banana 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		
Timing:	9 timing channels, external extension possible		external: power supply PS12A, 12 V battery or 8- 22 VDC
Program memory:	flash memory with 16 Mbit		
Data memory:	RAM with 4 Mbit (about 30,000 times)	Power consumption:	without printer about 100 hours
Display:	monochrome LCD graphic display with backlight, 128 x 64 pixels, extended temperature range		with printer about 47 hours
		Charging time:	approx. 14 hours
		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 power output from 10 to 100 mW, 5 timing channels, for distances up to 350 m	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 (without battery & paper)

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 per-fect 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 10.6 - 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 and x64).
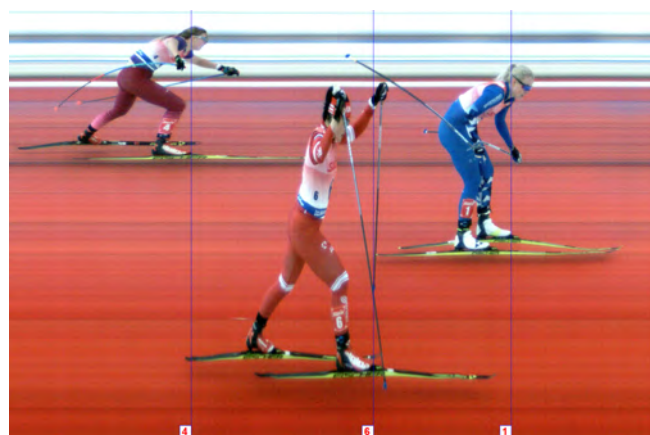
Timing Room

100- 240 VAC
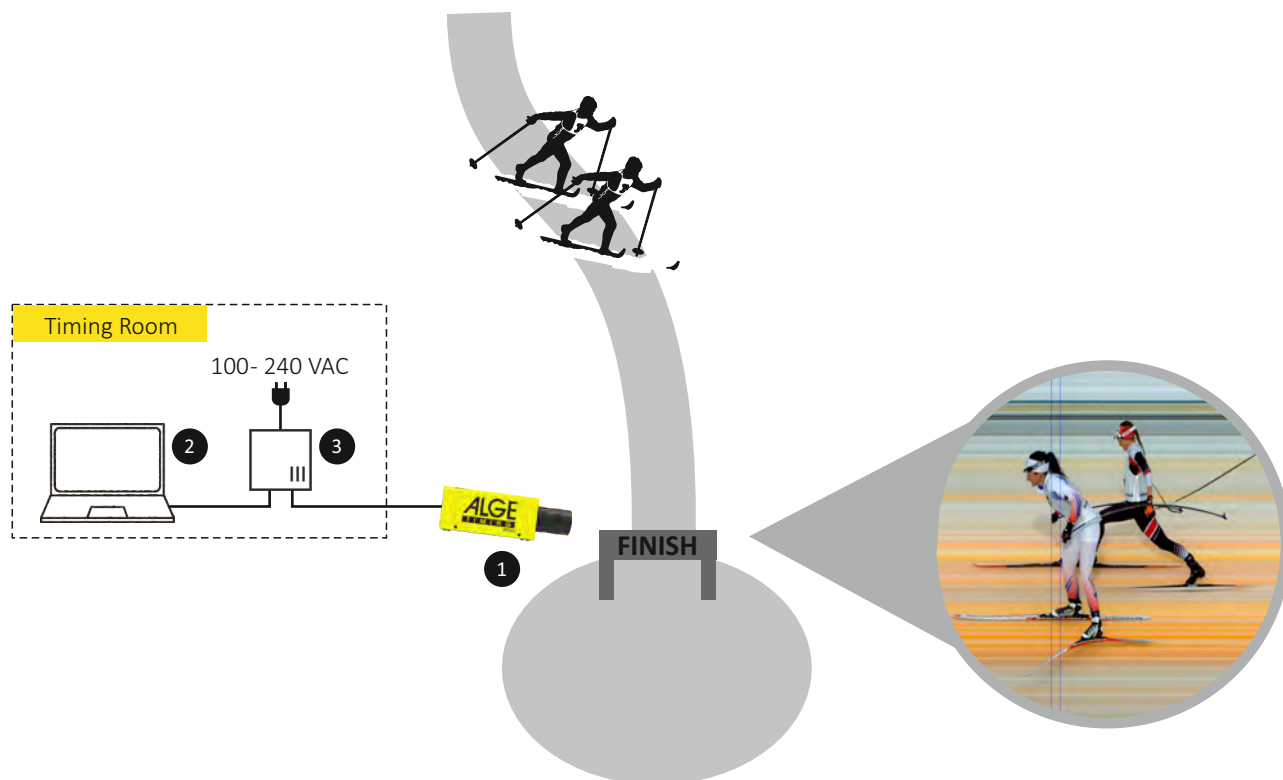
FINISH

1 Photo Finish OPTIc3	**2** PC for Photo Finish	**3** PoE (Power over Ethernet)

The future of timekeeping has begun with the Mobile Time MT1 timing device. The limits are being redefined!

Forget kilometer-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 ab 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 timinkeeper 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 their mobile phone, tablet or PC. The MT1 can also be used offline. The times can then 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 (Typ 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 Plattform:

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

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 fi x the startgate to the post, a chain support is attached, i.e. the chain att ached to the startgate is placed around the post and then ti ghtened 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: STSnM2S)
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.
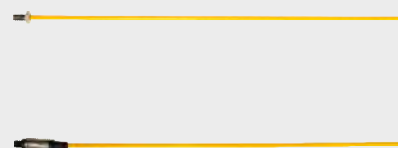
Start Poles with Starting Plates SSP
The start poles are driven into the snow. Afterwards, the startgates are att ached to them. The starting plates are placed in front of the poles. They have an antislip surface so each starter has the same kick-off condition.

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)
integrated rechargeable lead battery for operation independent from mains supply
two internal push buttons 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
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 software 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
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)
Weight:	8.4 kg

A- Interval timer with adjustable start countdown
B- Time of day in hours, minutes and seconds
C- Bib (ID-number)
D- Start light green
E- Start light yellow
F- Start light red

The Startbeep STB1 is a 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.

Special 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 asa 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 fiber 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

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 direct-ed 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

ide 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

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 PR1a, 1 x PR1a-REF, 2 x BBG

Through-Beam Photocell PR1a-d
Consists of separate transmitter and receiver. The photocell beam is directed from transmitter direct to 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 posts

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 potocell and reflector including tripods TRI128

Reflector PR1a-REF
standard reflector for photocells PR1a and PR1aW

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 interface data from other devices can also be 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 have 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)
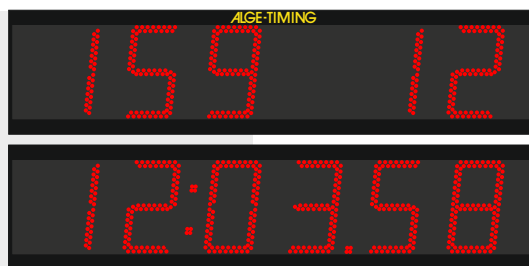
Technical Data

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
Aamphenol 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)
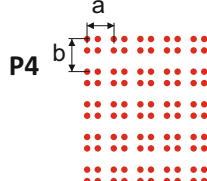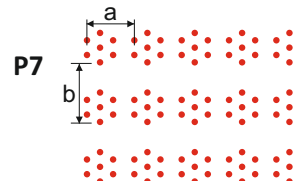sturdy aluminum housing with red plexiglass front

Pixel Arrangements:

P1
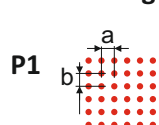
a + b = 10.0 mm
a + b = 15.0 mm
a + b = 20.0 mm

P3

a = 21.6 mm
b = 21.6 mm

P4

a = 20.7 mm
b = 25.4 mm

P7
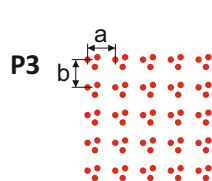
a = 36.8 mm
b = 46.4 mm

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)

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 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 - 10 (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.
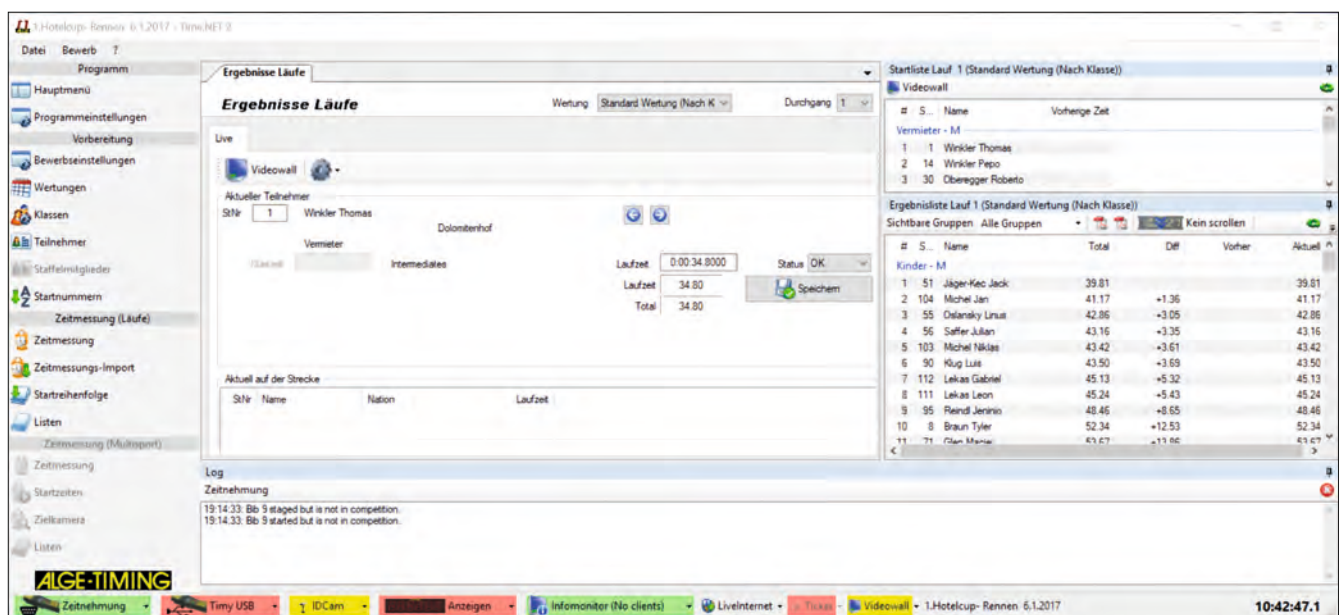Excel import of competitor lists, export to Excel and pdf
live- and off-line-mode for timing
output for ALGE-TIMING display boards
CIS (commentator info system): Time.NET 2 Infomonitor
live timing for internet on request

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 PC software check and to store data in various formats 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.

NOTES

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