ALGE
TIMING

THE SPORTS TIMING EXPERTS

Photo Finish OPTIc3

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 (x64)

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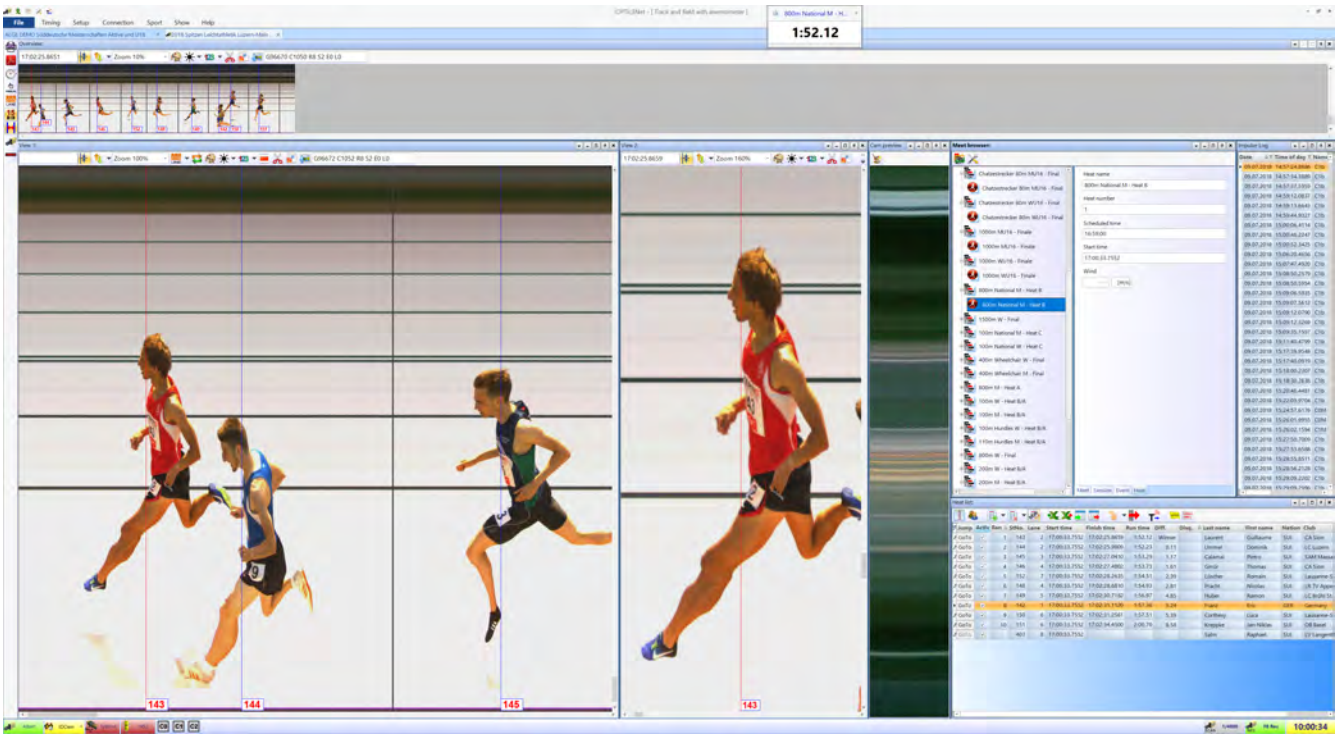

The photo finish system OPTIc3 is available in two versions

OPTIc3 Basic System

photo finish system for the small budget

- recording: up to 3,000 fps
- resolution: 1,360 pixel vertical resolution
- 2-D image preview to set and adjust the camera
- free updates of the OPTIc3NET software
- an upgrade with all features des OPTIc3-PRO is possible

OPTIc3-PRO

The professional photo finish system that leaves nothing to be desired. The following features are integrated:

- high-speed recording: up to 30,000 fps
- high resolution: 2,016 pixels vertical resolution (48 % more than OPTIc2)
- 2-D image preview to set and adjust the camera
- eXtremLuX: various technologies for image improvement under bad light conditions
- motion detection: automatic recording with motion detection
- integrated WTN: wireless impulse and data transmission
- high-speed camera: It is possible to record 100 frames per second in the 2-D mode with a resolution of 1,024 x 768 or 360 x 2,016 pixels. The proven IDCam software is available for this function.
- VoIP: voice over IP enables communication with the starter without the PC operator having to use a headset
- recording on a PC, evaluation or photo finish control by judges possible on a second PC
- free updates of the OPTIc3NET software

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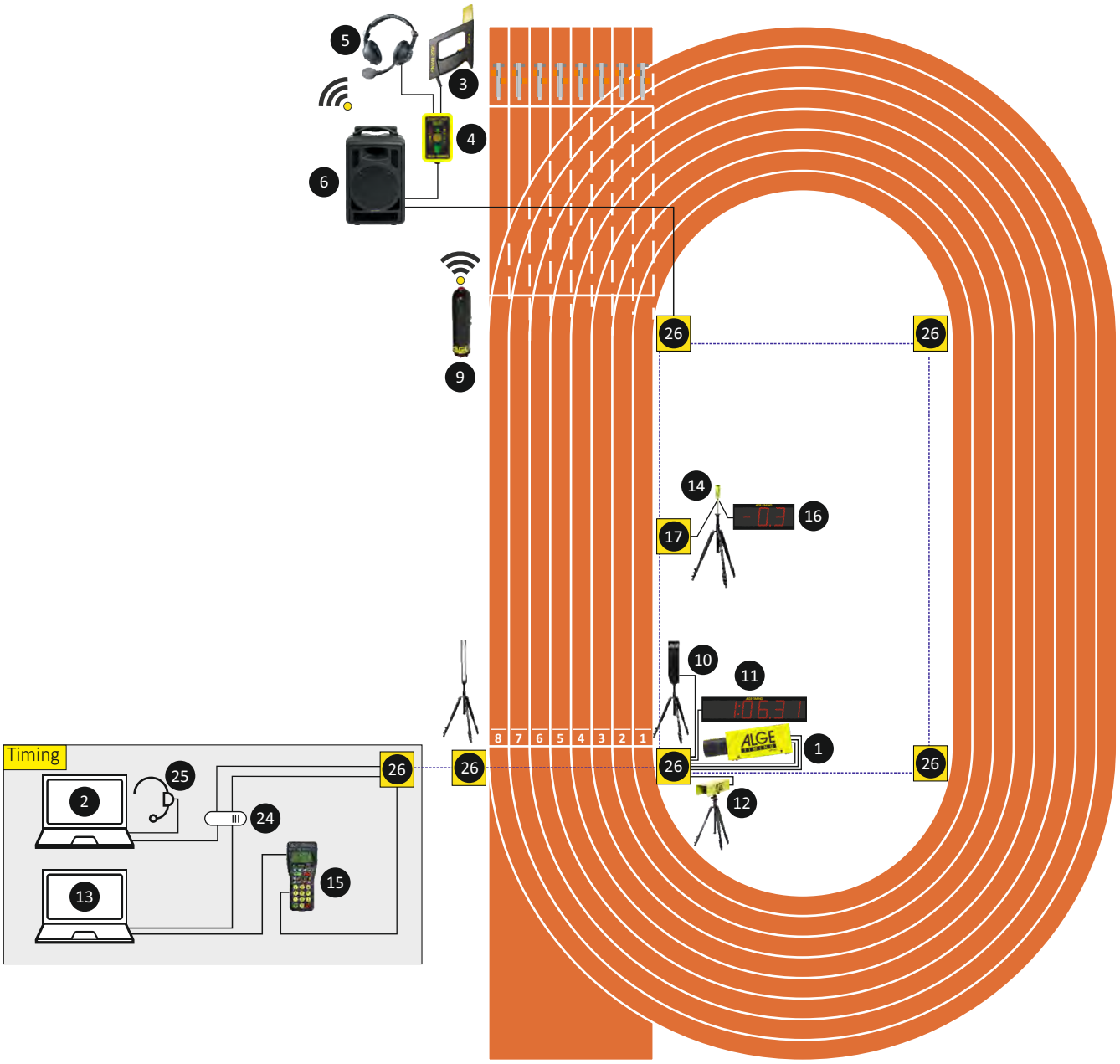
OPTIc3 - Example for Athletics

No matt er what size an athletics competition has, ALGE-TIMING can provide the complete equipment for its execution. The system shown below is the basic system for a track competitions in the stadium. It contains a photo finish camera OPTIc3 and a photocell for the finish. The start is executed by an electronic start gun and a loudspeaker.

The starter can communicate with the timing operator through the headset. The wind gauge is positioned at the 50-meter mark next to the sprint track. The wind gauge terminal Timy3 W is connected to the photo finish PC so that measuring the wind is controlled automatically by the photo finish. The unofficial winning time is shown on the display board at the finish.

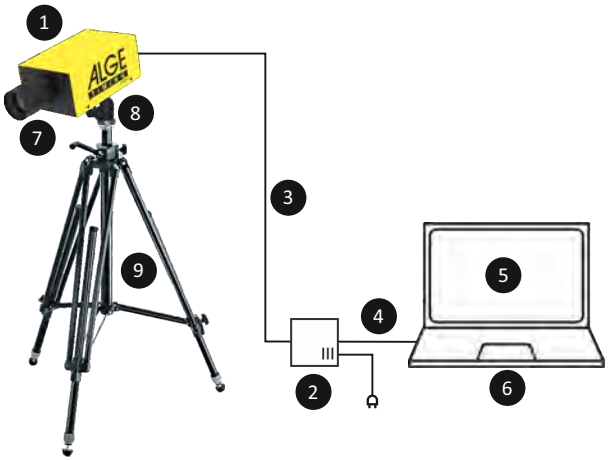


1	Photo Finish OPTIc3	9	False Start Trigger WTN-PB	15	Controller Timy3 W
2	Notebook OPTIc3	10	Photocell RLS3c	16	Display Board D-LINE (Wind)
3	Start Device e-Start	11	Display Board D-LINE (Time)	24	Switch (with PoE for Timing)
4	Start Unit SU3	12	IDCam	25	PC-Headset
5	Headset HS4-2	13	Notebook IDCam	26	Stadium Cabling
6	Speaker BANG2	14	Anemometer WS2		

PHOTO FINISH

OPTIc3

Setup of the Photo Finish OPTIc3



1. Photo Finish Camera OPTIc3*
2. Power over Ethernet PoE*
3. Ethernet Cable with 10 m (K-RJ45G10)*
4. Ethernet Cable with 3 m (K-RJ45G3)*
5. OPTIc3NET-Software for Windows (7, 8, 10)*
6. PC to operate the OPTIc3**
7. Lens for OPTIc3***
8. Gearhead 410 or 410-E3**
9. Tripod for OPTIc3-Camera***

* included in basic package
** make sure that the PC is according to the specifications of ALGE-TIMING
*** accessory for the photo finish OPTIc3

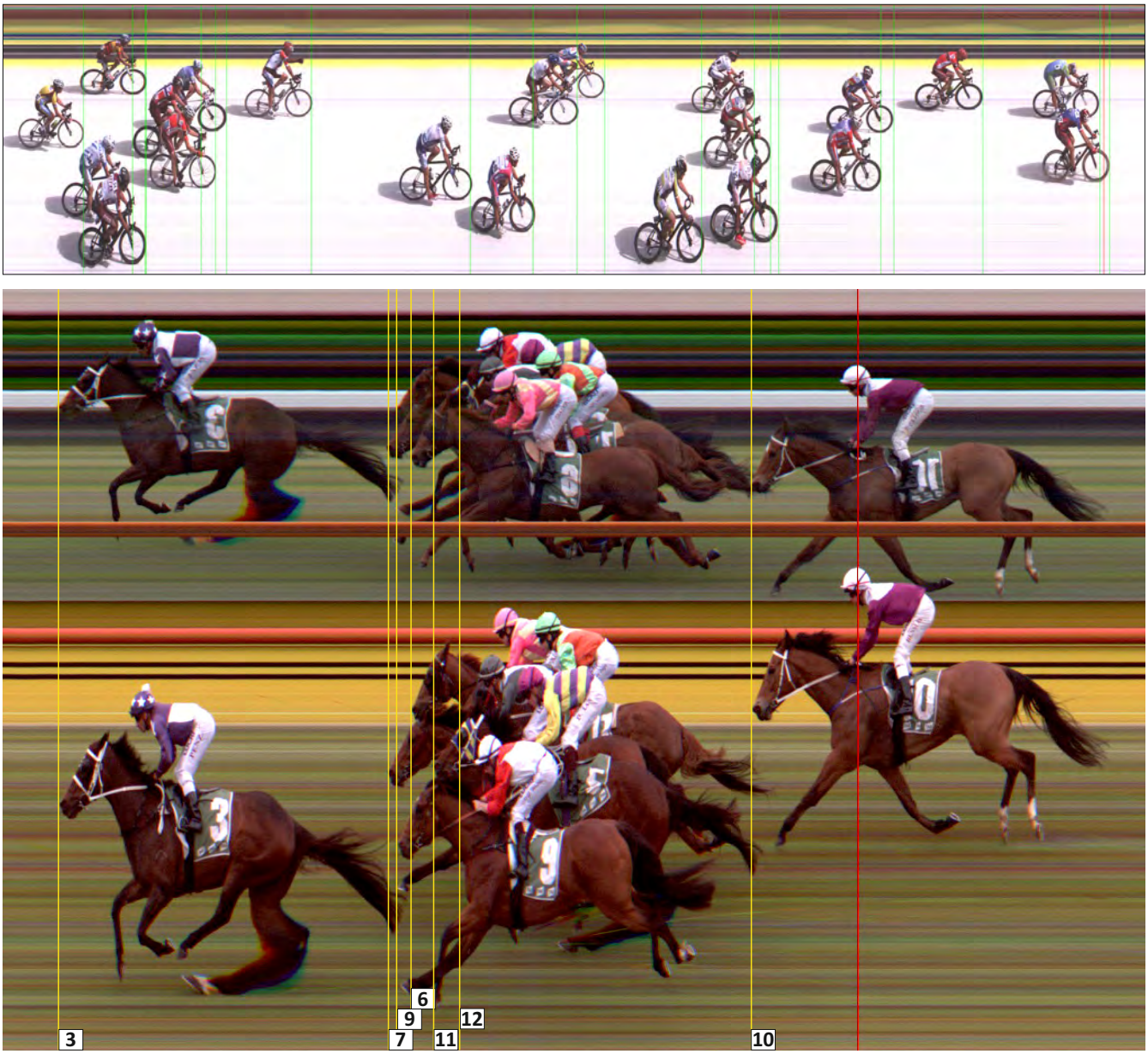


PHOTO FINISH

OPTIc3

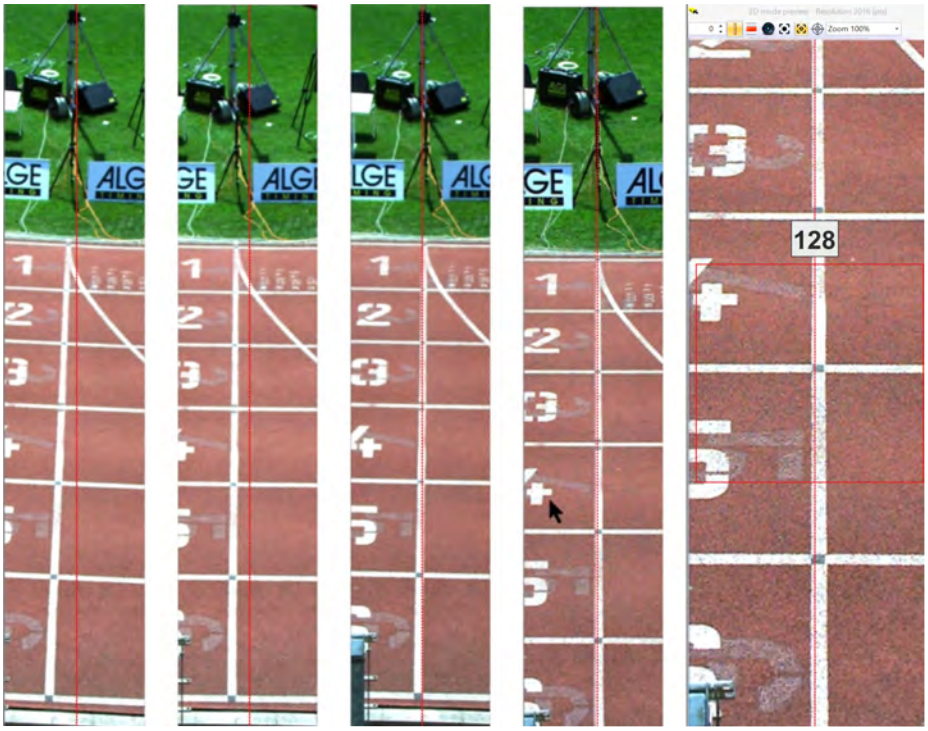
The OPTIc3 is used for sports where several participants reach the finish at the same time. In addition, the OPTIc3 is the ideal device to monitor the finish arrival. When discussing a result, the picture of the OPTIc3 shows the proof. Here the saying is true:

“a picture is worth a thousand words”.

Easy camera setting in 2D mode

The OPTIc3 camera is switchable to a 2D preview video image mode. This video preview displays a live 2D image of the camera on the PC monitor. A vertical red line overlays the 2D preview image.

This line represents the recording line in the line scan mode (competition mode). It allows an easy alignment and setup of the photo finish camera to the finish line. With the autofocus function, the focus can also be adjusted in the 2-D image.



Sports:

- Track and Field
- Cycling
- Horse Racing
- Motorsport
- Rowing
- Canoe
- Dragonboat
- Inline Skating
- Snowboard
- Ski Cross
- Alpine Skiing
- Cross Country Skiing
- Biathlon
- Short Track
- Speed Skating

Special Solutions:

- Swimming
- Air Race
- Drone Racing
- Crashed Ice
- Timber Sports

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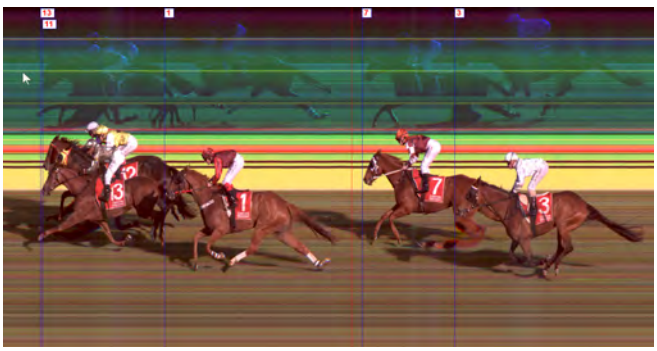
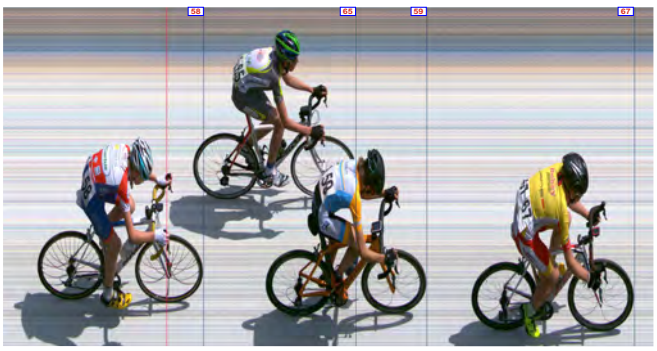
OPTIc3

Technical Data	OPTIc3	OPTIc3-PRO
Pixel (vertical):	1360 pixel	2016 pixel
Recording Speed (fps):	100 - 3,000 fps	100 - 30,000 fps
Voice over IP (VoIP):	optional	yes
Light Amplification eXtremLux:	optional	yes
Line Doubling:	optional	yes
Wireless Timing Network:	optional	yes
High Speed Video (100 pictures per second)	optional	yes
Sensor Type:	CMOS	
Time Base:	temperature compensated quartz oszillator TCXO: +/- 0.006 ppm at 25 °C (0.0002 s/h)	
PC Connection:	Gigabit Ethernet / WLAN	
Lens Mount:	C-Mount / F-Mount with adapter	
Distance Camera to PC:	CAT6 cable: up to 100 m Fibre Optic: up to 2000 m (with converter)	
Connection for Electronic Gear Head:	yes	
Option for ALGE-TIMING Motor Zoom:	yes	
Remote Control for Zoom:	yes (for ALGE-TIMING motor zoom)	
Remote Control for Iris:	yes (for ALGE-TIMING motor zoom)	
Remote Control for Focus:	yes (for ALGE-TIMING motor zoom)	
Autofocus:	yes (for ALGE-TIMING motor zoom)	
Automatic Brightness Adjustment:	yes (for ALGE-TIMING motor zoom)	
White Balance:	automatic and PC software	
Gamma Adjustment:	PC software	
Recording Time:	unlimited, depending on the PC hardware	
Recording Speed Adjustment (fps):	software (adjustable at any time)	
Timing Impulse Inputs:	3 (start, intermediate time, finish)	
Connection for Display Board:	Rs232 / Rs485 / Ethernet	
USB Interface:	2	
Recording and Evaluation:	possible on 2 different PC	
Transponder Integration:	optional	
Power Supply:	Ethernet with PoE+ power supply PS12A (9- 13.4 VDC)	
Tripod Thread:	3/8 inch	
Operating Temperature:	-20 to 50 °C	
Measurements (excluding lens):	180 x 120 x 80 mm (L x W x H)	
Weight (excluding lens):	1.5 kg	

Connections

2 x start input (banana socket)
1 x finish input (banana socket)
2 x DIN socket (3 input channels)
1 x display board RS232 (banana socket)
1 x display board RS485 (banana socket)
1 x motor zoom
1 x gear head
2 x USB (e. g. for WLAN)
1 x RJ45 (Gigabit Ethernet)
1 x power supply (9 – 13.4 VDC)





Example of a Result List Printed by the OPTIc3:

Spitzen Leichtathletik LUZERN

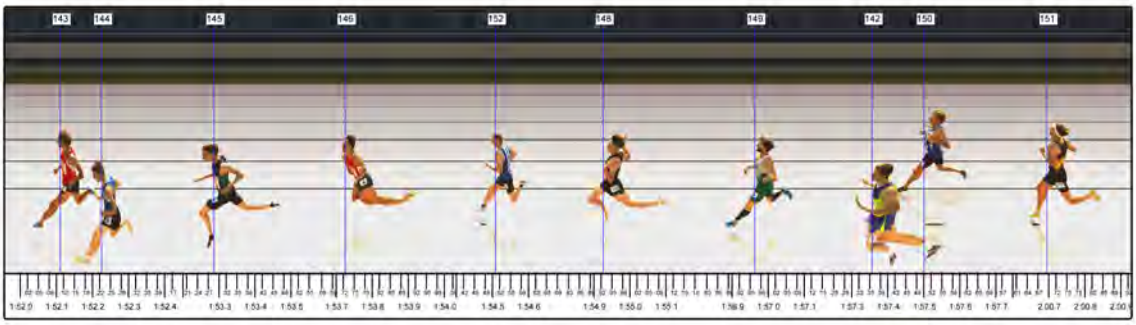
Sportfaszination im Weltformat.

Results List

Spitzenleichtathletik Luzern 2018
Luzern
800m National M - Heat B 800m National M - Heat B

Date: 09.07.2018
Start time: 16:59:00

Location:	Allmend	Distance:	800 m
Organizer:	Spitzenleichtathletik Luzern	Actual start time:	17:00:33
Session name:	2018-07-09		
Number:	1.0.1		



Rank	StNo.	Lane	Name	Nation	Club	Run time	Diff.
1	143	2	LAURENT Guillaume	SUI	CA Sion	1:52.12	Winner
2	144	2	UMMEL Dominik	SUI	LC Luzern	1:52.23	0.11
3	145	3	CALAMAI Pietro	SUI	SAM Massagno	1:53.29	1.17
4	146	4	GMÜR Thomas	SUI	CA Sion	1:53.73	1.61
5	152	7	LÜSCHER Romain	SUI	Lausanne-Sports Athlétisme	1:54.51	2.39
6	148	4	PRACHT Nicolas	SUI	LR TV Appenzell	1:54.93	2.81
7	149	5	HUBER Ramon	SUI	LC Brühl St.Gallen	1:56.97	4.85
8	142	1	FRANZ Eric	GER	Germany	1:57.36	5.24
9	150	6	CORTHÉSY Luca	SUI	Lausanne-Sports Athlétisme	1:57.51	5.39
10	151	6	KREPPKE Jan-Niklas	SUI	OB Basel	2:00.70	8.58

Photofinish: ALGE-TIMING OPTIc3
Software: ALGE-TIMING OPTIc3.NET

2020-11-19 / 10:46

Timing: ALGE-TIMING
http://www.alge-timing.com

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OPTIc3 Accessories

The photo finish system OPTIc3 can be extended as desired with practical accessories or equipped for specific requirements of sport events. In addition to the standard accessories, there are also unique special solutions that can be customized.

Zoom Lens Z75
manual zoom lens
C-Mount ⅔ “, 12.5- 75 mm / F1.2

Motor Zoom MZ75C
control of focus, zoom and brightness from the PC
C-Mount ⅔“, 12.5 – 75 mm / F1.2

Motor Zoom MZ48C
control of focus, zoom and brightness from the PC
C-Mount ½“, 8- 48 mm / F1,2

Wide-Angle Lens L8C
C-Mount ⅔“, 8 mm / F1.4

C-Mount Focal Length Converter Lx1.5
converts the focal length of a lens for 1.5 times

C-Mount Focal Length Converter Lx2
Doubles the focal length of a lens

Gearhead 410
three-dimensional, mechanical gearhead for a precise adjustment of the camera to the finish line

Gearhead 410-E3
three-dimensional, electrical gearhead for a precise three-dimensional adjustment of the camera to the finish line directly from the PC (no further cabling necessary)

Tripod STATIV6
tripod with a maximum height of 3.66 m

Tripod TRIMAN
tripod with a maximum height of 2.4 m

Tripod TRI-PRO
tripod with a maximum height of 2.67 m

Weather Protection Cover WPC3-75
for OPTIc3 camera with the lenses Z75, MZ75C, MZ48C and L8C

Carrying Case KL-OPTIc3
case with foam insert to transport and store an OPTIc3 system safely

Ethernet Cable K-RJ45G03
CAT6 patch cable with 3 m

Ethernet Cable K-RJ45G10
CAT6 patch cable with 10 m

Ethernet Cable K-RJ45G20
CAT6 patch cable with 20 m

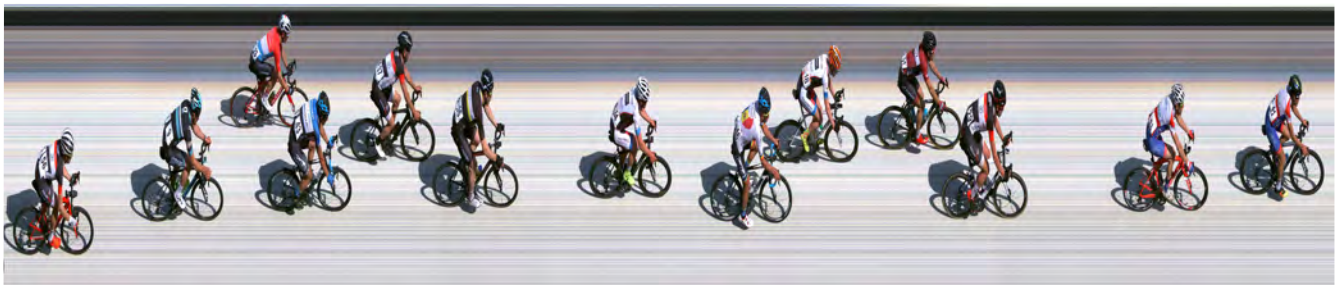
Cable Reel KT-RJ45G90
cable reel with 90 m CAT6 Ethernet cable for the OPTIc3 (with this cable, the POE can also feed the camera)

Power over Ethernet PoE
power supply for the OPTIc3 camera via Ethernet cable (POE is included with the OPTIc3 camera- power supply 90- 240 VDC)

Gigabit-SWITCH PoE+
with 8 RJ45 sockets and integrated Power over Ethernet (PoE+)

Power Bank PS-KP
Universal device that feeds almost all ALGE-products, the lithium battery has a capacity of 18 Ah, and a 12 VDC and 2 USB outputs

Radial Polarizing Filter PF55
(on request) polarization filter to attenuate refection (e.g. from water)



MONITORING OF THE FINISH LINE

IDCam

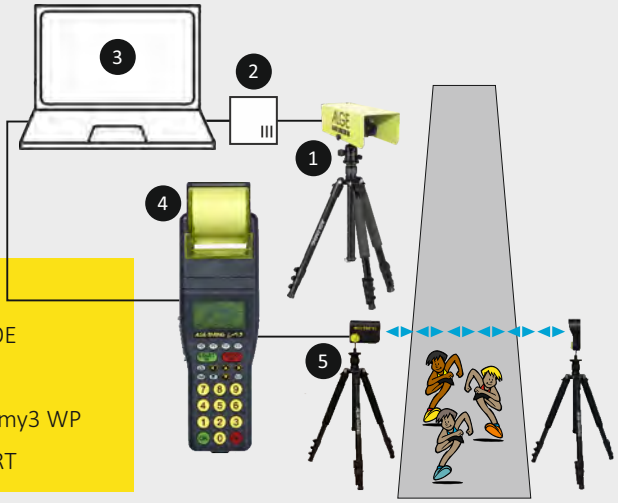
The IDCam is a reliable and simple way to monitor the finish line. When an athlete crosses the finish line a series of high resolution pictures is taken and stored on the PC with the time of the day for each image.

The IDCam can be connected to an ALGE-TIMING timing device. The photocell at the finish line starts the recording of the images by the IDCam. The images are automatically sorted with the correct ID-number if the number is entered in the timing device in advance.

The recorded images help determine the arrival order of the athletes at the finish line, correct the missing finish line arrivals and add the bib numbers, which can be read from the pictures.

Setup Example of the IDCam with a Timy3 WP:

IDCam with 20 m long Ethernet cable (can be up to 100 m long) with power supply POE. Connect the POE to the PC using a 3 m Ethernet cable.
Connect the ALGE-TIMING timing device to the PC via RS232 or USB cable.



1. IDCam
2. Power Supply POE
3. PC for IDCam
4. Timing Device Timy3 WP
5. Photocell PR1a-RT

Setup:
Connect the IDCam by Ethernet cable (included 20 m cable, possible up to 100 m) with power supply POE. From here connect a timing device from ALGE-TIMING by RS 232 or USB.

The IDCam is the ideal addition to any ALGE-TIMING timing devices.

Technical Data:

Number of images:	up to 30 fps (5 MP), or up 180 fps (HDTV 720p)
Picture resolution:	2,592 x 1,944 pixel (5 MP)
Connections:	camera IDCam to PC: Ethernet CAT5 cable up to 100 m length timing device with PC: RS232 or USB
Recording time:	endless, depending on the capacity of the PC's hard disk
PC operating system:	Windows 7, 8, 10, 11
Power supply:	POE: 90- 280 VAC

Supported Timers:

- TdC8001 and TdC8000
- Timy3, Timy2 and Timy
- Timer S4
- Photo Finish OPTIc2 and OPTIc3
- High-Speed Camera OPTIc3 (2D mode)
- manual recording via PC keyboard

Scope of Delivery:

- 5 Megapixel Network Camera
- zoom lens 4- 8 mm for camera
- 3 m CAT5 cable K-RJ45G03
- 20 m CAT5 cable K-RJ45G20
- POE Power supply
- PC Software

Optional Accessories:

- weather Protection WP-IDCam
- tripod TRI128 or TRIMAN
- ball joint 482
- cable reel KT-RJ45G90

MONITORING OF THE FINISH LINE

IDCam

Example of cooperation between IDCam and Photo Finish

The IDCam is the ideal complementary device to the photo finish OPTIc3, because it controls the finish line recording, and helps determine the bib numbers, from the finish line arrivals, in case these were not readable in the photo finish picture.

Cycling - Cooperation Between IDCam and OPTIc3

The example of a cycling finish arrival shows that together with IDCam and ALGE-TIMING photo finish OPTIc3, you have the ideal tool for evaluating the finish quickly and independently of the finish arrival judge.

The IDCam can be controlled via the OPTIc3.NET software running on the same PC as the photo finish software OPTIc3.NET, but it can also be installed on another PC on the same network.

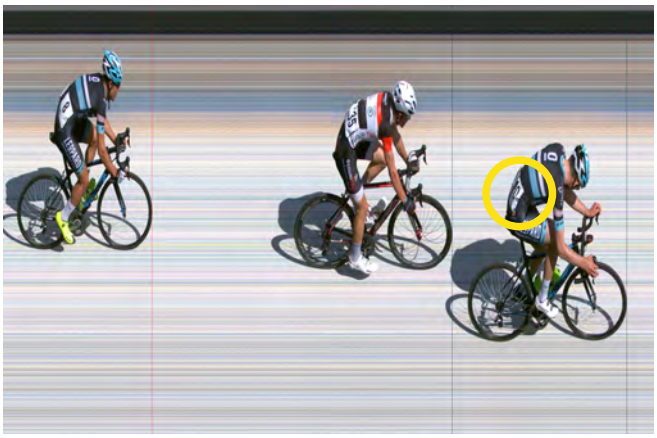


Photo Finish OPTIc3 image

The cyclist with ID-number 10 can not be identified in the photo finish picture. In the picture taken by the IDCam, the ID-number 10 is, however, clearly recognizable (see image below).

IDCam image

Athletics - Cooperation Between IDCam and Photo Finish OPTIc3

The same cooperation between IDCam and OPTIc3, is the ideal tool for evaluating the finish arrival in athletics.

ID-number 180 and side number 6 is not readable on the photo finish picture, but in the picture of the ID-Cam the ID-number 180 and side number 6 is clear visible (see image below).

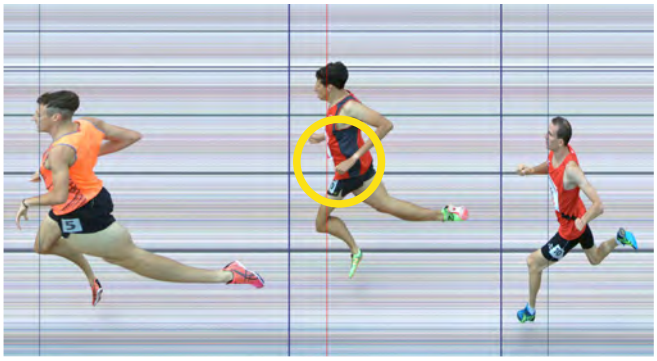


Photo Finish OPTIc3 image

IDCam image

ALGE-TIMING
Rotkreuzstrasse 39
6890 Lustenau, Austria

www.alge-timing.com