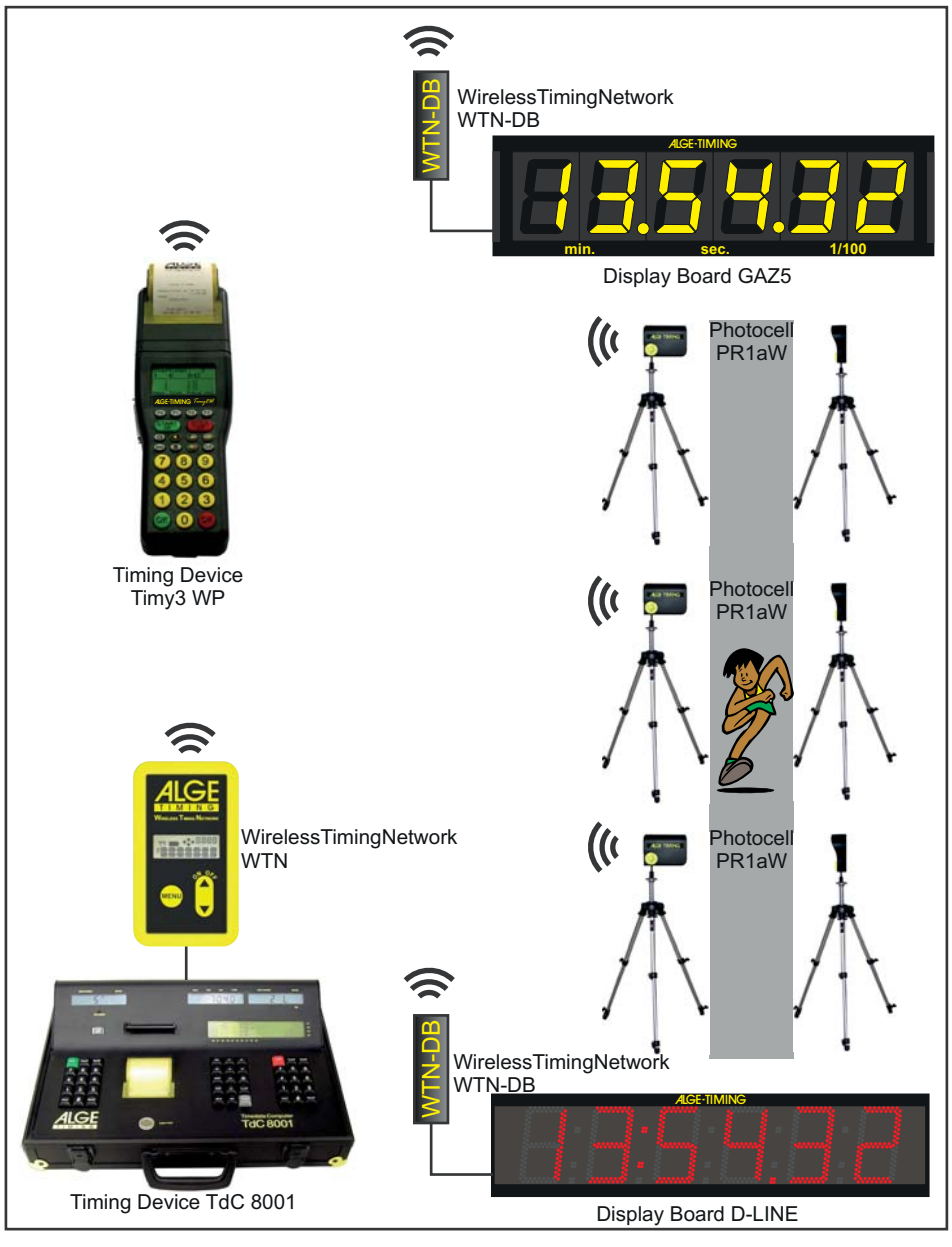
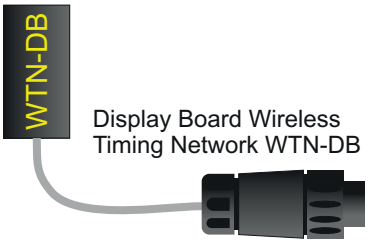
WIRELESS TIMING NETWORK
WTN

The „Wireless Timing Network WTN“ is a complete unique radio network system for timing. This system allows several different timing devices communicating with each other in a wireless network. Due to the internal communication, the system recognizes devices that disappear inside the network and can report it.

The communicating timing network means that you do not need cables any more. The system allows communication between the different devices that you use in your timing system. The photocell sends the impulses wirelessly to the timing device which forwards the data for the display board and results wirelessly to the receiving devices.

Different ALGE timing devices make the wireless timing network possible. From the universal Wireless Timing Network WTN, the Timy3 WP or Timy3 W with built in wireless timing network, the photocell PR1aW with built in Wireless Timing Network, or the display board Wireless Timing Network WTN-DB, all these devices can communicate within the timing network.





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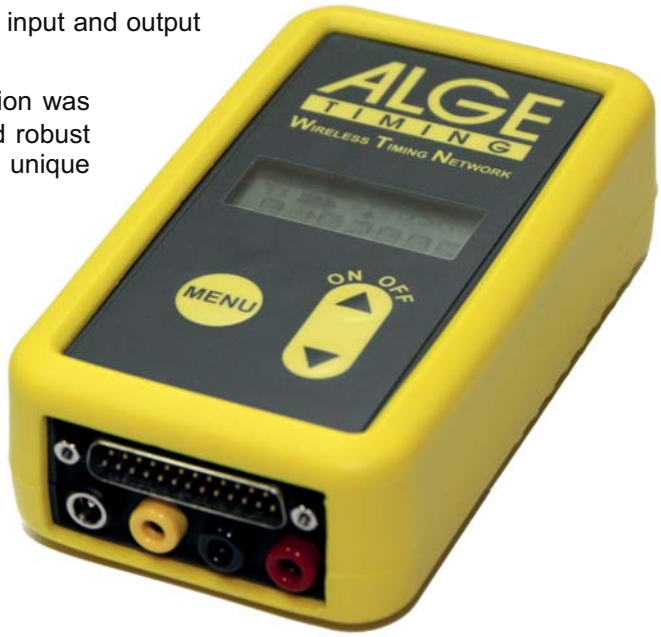
The WTN is a bidirectional radio network that replaces the cables within the timing system. It has an adjustable frequency in the 2.4 GHz band. All devices in the same network communicate with each other. It is possible to transmit impulses and data at the same time. It is designed for outdoor use.

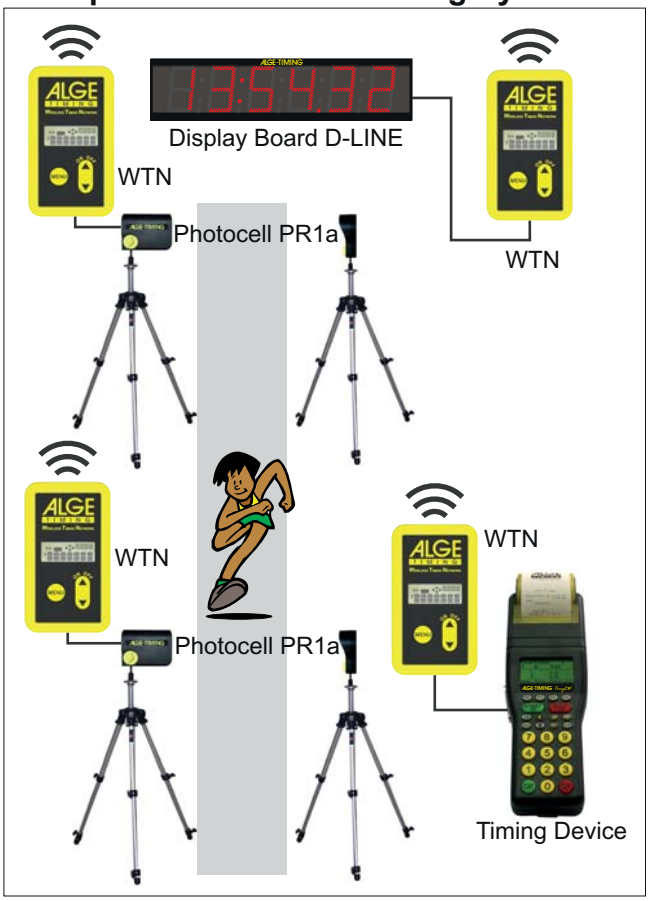
The universal genius WTN of this radio network series can be connected to almost every ALGE device. It does not matter if you take a timing device, impulse device or a display board. Even data transmission to a PC is possible.

This diversity of applications is supported by a display, a keypad, input and output ports (timing channels, RS232, RS485) and internal batteries.

In developing this unique wireless timing network, special attention was paid to the ALGE principles: ease of operation, high reliability and robust design. Latest technology, integrated into a solid case guarantee unique application possibilities.



Example for a Wireless Timing System:

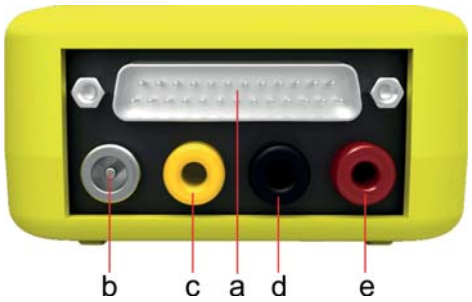


Examples for the use of the WTN

- impulse transmission
- timing for equestrian (show jumping)
- training in a stadium or arena
- controlling a display board e.g. D-LINE or GAZ
- data transmission to a PC

Accessories:

- Bracket with Velco SPB1 (see picture to the right)
- Cable 280-03: Cable to Timy or TdC8000/8001 (25-pin D-Sub)
- Cable 283-02: Cable to PC (25 pin to 9 pin - D-Sub)
- Cable 284-02: Cable to Display Board (25 pin D-Sub to Amphenol-4pin)



Technical Data of the WTN:

Frequency:	2,4 GHz band (16 adjustable frequencies)
Power Output:	10 mW or 10 to100 mW (adjustable)
Timing Channels:	5 different timing channels Adjustable c0 (start), c1 (finish), c2, c3, c4
Maximum Distance:	about 350 m at free sight
Display Board Interface:	RS232 interface- 2400 to19200 Baud yellow/black banana sockets
RS232 Interface:	RS232 interface- 2400 to115200 Baud with Multiport-socket
Batterie:	3 x AA-batteries (alkaline or NiMh rechargeable)
Case:	Plastic case with yellow elastic rubber jacket, so that the device is protected in any weather condition.

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WIRELESS TIMING NETWORK

WTN

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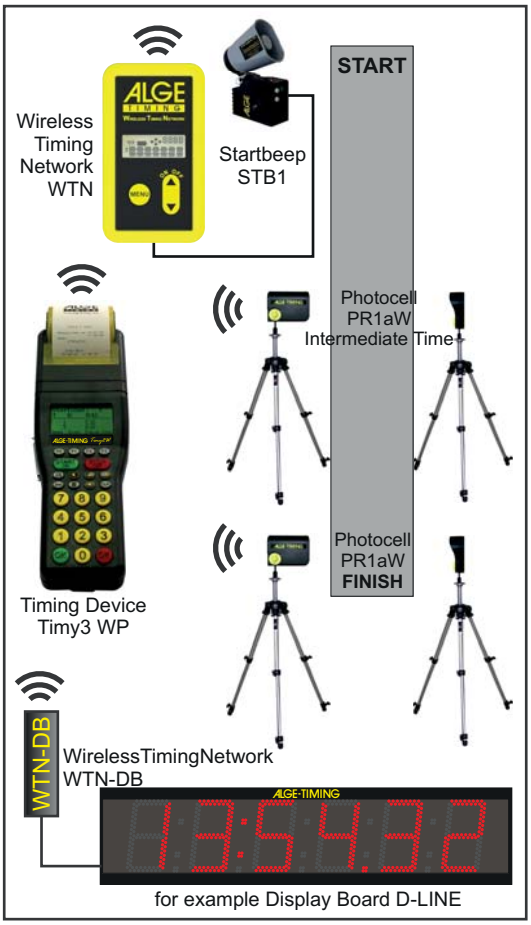
Timy3 with integrated Wireless Timing Network WTN

Timy3 W:
timing device
without printer

Timy3 WP:
timing device
with printer



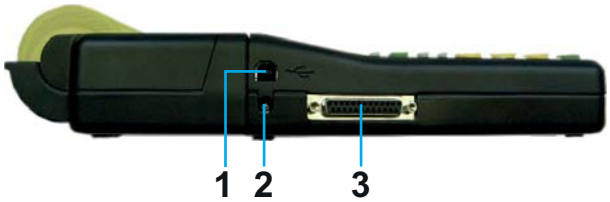
Compact timing device with 9 timing channels. Large and easy to operate silicone keypad. Well visible LCD-matrix display with backlight. Many different interfaces for the connection with other devices (USB, RS232, RS485 and display board).

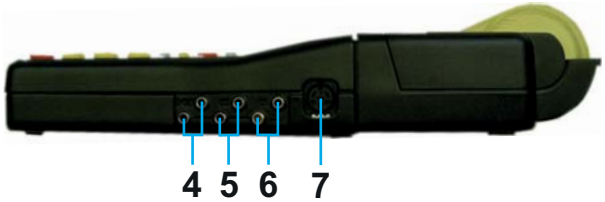
The built in radio module allows wireless communication in a network with other devices of the WTN series. It can receive start, intermediate or finish impulses, control a display board and send data to the result PC.

Technical Data

Crystal Frequency:	12.8 MHz with TCXO, +/- 0.3 ppm
Time Resolution:	1/10,000 s
Timing:	9 timing channels, external extension possible
Program Memory:	FLASH memory with 16 MBit
Data Memory:	RAM with 4 MBit (about 30,000 times)
Display:	monochrome LCD graphic display with backlight, 128 x 64 pixel, extended temperature range
Keypad:	silicone keypad, 26 keys
Connections:	1 x DIN socket for photocell (7) 1 x banana socket pair – start input (5) 1 x banana socket pair - finish input (6) 1 x banana socket pair – display board (4) 1 x D-Sub 25 pin (3) · 9 timing channels · RS232 (PC connection) · display board · RS485 (network) · power supply (8 – 22 VDC in/out) 1 x USB (1) 1 x power supply (8 - 22 VDC in) (2)

Radio Module:	build-in 2.4 GHz radio, 16 adjustable frequencies, adjustable power output from 10 to 100 mW, 5 timing channels, for distances up to 350 m
Power Supply:	**Internal:** NM-Timy2 — rechargeable NiMH battery pack for Timy3 with printer, 2 Ah 6 x AA-Alkaline — 6 x 2 Ah (only for Timy3 W) **External:** Power Supply PS12A, 12 V battery or 8 - 22 VDC
Power Consumption:	data given at 20°C (68 F) Alkaline: without printer about 100 hours NM-Timy2: without printer about 60 hours NM-Timy2: with printer about 47 hours
Charging Duration:	about 14 hours
Printer:	graphic thermal printer, max. 5 lines per sec.
Temperature Range:	-20 to 60°C (-4 to 140 F)
Measurements:	Timy3 W: 204 x 91 x 50 mm Timy3 WP: 307 x 91 x 65 mm
Weight:	Timy3 W: 450 g (no battery) Timy3 WP: 650 g (no battery and paper)





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Photocell PR1aW

The compact photocell PR1aW has a transmitter that sends a modulated infrared beam. The receiver checks the infrared beam and makes an impulse for each interruption.

The photocell has a built in radio module (2.4 GHz) and therefore a wireless impulse transmission is possible. It is compatible with the WTN-family (Wireless Timing Network).

Up to 15 different radio channels and 5 impulse channels are adjustable. Of course you can connect the photocell as well by cable with the timing device.

To use the photocell universally it is possible to switch between 3 different functions: reflection-photocell, photocell transmitter and photocell receiver.

Photocell PR1aW Facts:

- Impulse accuracy up to 1/10,000 seconds
- Different functions with one photocell:
  - Reflection-photocell with reflector
  - Transmitter-unit and receiver-unit for long distance use
- Long distance range
  - Reflection-photocell about 25 m
  - Through-beam-photocell over 150 m (500 feet)
- Variable power supply for the photocell
  - Battery operation
  - Power supply from ALGE timing device
  - External power supply from 4 to 18 VDC
- Built in radio module for wireless impulse transmission
- Impulse transmission by cable is possible
- Battery indication with LED (green, yellow, red)
- Indication of photocell adjustment with LED (green, yellow, red)
- Synchronisation of two photocells (main and backup) to prevent interference
- Adjustment of delay time (20 ms to 2 seconds (factory adjustment = 20 ms))

Wireless Timing Network WTN-DB for Display Boards

The ALGE WTN is a radio system that works as data and impulse network, and it is equipped with most modern technology. The WTN-DB communicates in the 2.4 Ghz band with one or several other WTN-devices.

The WTN-DB is made to receive the data for an ALGE-TIMING display board wirelessly from an ALGE-TIMING timing device.

It is also possible to use the WTN-DB as hub to transmit data or timing impulses over a longer distance.

In developing this unique wireless timing network, special attention was paid to the ALGE principles: ease of operation, high reliability and robust design. Latest technology, integrated into a solid case guarantee unique application possibilities.

Technical Data:

Frequency:	2.4 GHz band (16 adjustable frequencies)
Power Output:	10 mW or 10 to100 mW (adjustable)
Maximum Distance:	about 350 m at free sight
Display Board Interface:	RS232 interface - 2400 to 19200 Baud
Battery:	from display board or external battery with cable 292-05
Case:	weather protected plastic case with clamp to mount it on the display board

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