

Electronic Start Device

# e-Start W



ALGE-TIMING

Manual

## Important Information

### General

Before using your **ALGE-TIMING** device read the complete manual carefully. It is part of the device and contains important information about installation, safety and its intended use. This manual cannot cover all conceivable applications. For further information or in case of problems that are mentioned not at all or not sufficiently detailed, please contact your **ALGE-TIMING** representative. You can find contact details on our homepage [www.alge-timing.com](http://www.alge-timing.com)

### Safety

Apart from the information of this manual all general safety and accident prevention regulations of the legislator must be taken into account.

The device must only be used by trained persons. The setting-up and installation must only be executed according to the manufacturer's data.

### Intended Use

The device must only be used for its intended applications. Technical modifications and any misuse are prohibited because of the risks involved! **ALGE-TIMING** is not liable for damages that are caused by improper use or incorrect operation.

### Power supply

The stated voltage on the type plate must correspond to voltage of the power source. Check all connections and plugs before usage. Damaged connection wires must be replaced immediately by an authorized electrician. The device must only be connected to an electric supply that has been installed by an electrician according to IEC 60364-1. Never touch the mains plug with wet hands! Never touch live parts!

### Cleaning

Please clean the outside of the device only with a smooth cloth. Detergents can cause damage. Never submerge in water, never open or clean with wet cloth. The cleaning must not be carried out by hose or high-pressure (risk of short circuits or other damage).

### Liability Limitations

All technical information, data and information for installation and operation correspond to the latest status at time of printing and are made in all conscience considering our past experience and knowledge. Information, pictures and description do not entitle to base any claims. The manufacturer is not liable for damage due to failure to observe the manual, improper use, incorrect repairs, technical modifications, use of unauthorized spare parts. Translations are made in all conscience. We assume no liability for translation mistakes, even if the translation is carried out by us or on our behalf.

### Disposal

If a label is placed on the device showing a crossed out dustbin on wheels (see drawing), the European directive 2002/96/EG applies for this device.

Please get informed about the applicable regulations for separate collection of electrical and electronical waste in your country and do not dispose of the old devices as household waste. Correct disposal of old equipment protects the environment and humans against negative consequences!



### Operating ranges and interferences

The **ALGE** WTN operates in 4.2 GHz frequency band, the same as WLAN. This is also used by other services. The operating range as well as the operation may be disturbed by devices working at the same or neighboring frequencies.

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## Declaration of Conformity

We hereby declare that the following product complies with the below stated standards. All components used by us are CE certified by their producer and are not modified by ALGE-TIMING GmbH.

We, **ALGE-TIMING GmbH**  
**Rotkreuzstrasse 39**  
**A-6890 Lustenau**

declare in sole responsibility that the electronic start device

### e-Start W

complies with the following standards/normative documents and in case of intended use complies with the basic requirements of R&TTE 1999/5/EC:

Telecommunication (TC)terminal device  
**Short Range Device**

Applied harmonized standards...

EN 60950-1:2006+A11:2009+A1:2010+A12:2011  
EN 61000-3-2+A1+A2  
EN 61000-6-4:2007  
EN 61000-3-3:2013  
EN 61000-6-3:2007/A1:2011/AC:2012

EN 61000-6-1:2007  
EN 61000-6-2:2005  
EN 55024:2010  
EN 301 489-17 v2.1.1. (2009-05)  
EN 300 328 v1.7.1 (2006-10)  
EN 55022 : 2010 / AC : 2011

**Additional information:**

The product complies with the low voltage directive 73/23/EEC and EMC directive 2004/108EG and carries the CE sign.

Lustenau, 2014-07-12

ALGE-TIMING GmbH



Albert Vetter  
(CIO)

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## 1 General

ALGE-TIMING offers two different models of the electronic start devices:

- e-Start..... start device with flash and cable connection
- e-Start W..... start device with flash and radio communication

In this manual only the model **e-Start W** is described.



The e-Start W sends the timing impulse by radio to an **ALGE** timing device or speaker system BANG W. An internal rechargeable battery supplies the e-Start W.

## 1.1 Integrated Radio System (Wireless Timing Network WTN)

The e-Start W has an integrated radio network system **ALGE**-WTN. This radio system can be used as a radio network. A system can include two or more devices of the **ALGE** WTN-series.

The following devices are offered from the WTN-family by **ALGE-TIMING**:

- WTN ..... universal radio network device
- Timy3 W ..... timing device with built in radio network
- Timy3 WP ..... timing device with built in radio network
- PR1aW ..... photocell with built in radio network
- WTN-DB ..... radio network for display boards
- WTN-WS ..... radio network for anemometer (Track and Field)
- WTN-PB ..... push button with built in radio network
- Bang W ..... start speaker system with built in radio network
- E-Start W ..... start device with flash and built in radio network

The network is designed in such a way that you can transmit data to a display board (e.g. **ALGE** GAZ or D-LINE), serial RS232 data (e.g. to a PC) and timing impulses at the same time.

When designing the Wireless Timing Network the **ALGE** development team concentrated on features that make **ALGE** devices unique, but also on features that stand for **ALGE** products: easy operation, highest reliability, rugged casing. Up-to-date technology, integrated in a solid case, results in exceptional features.

**Attention:** Before using the device make sure that you are allowed to operate it in your country. The radio power output must be adjusted so that it is legal to use it in the country you operate it in.

- EU: max. 10 mW are allowed
- USA: max. 100 mW are allowed

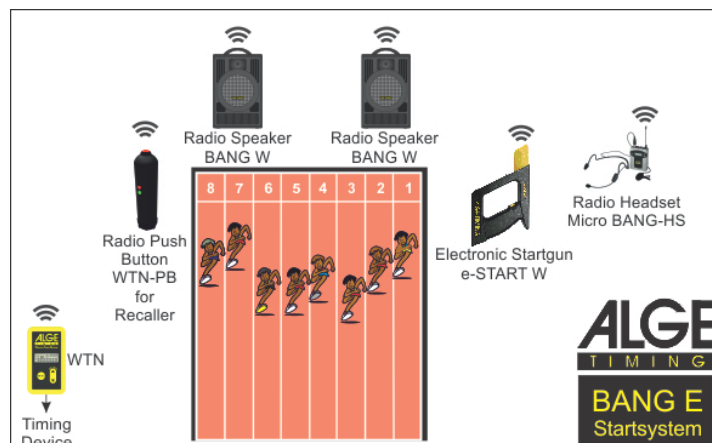
It is only possible to adjust the radio output of the e-Start W through a WTN or Timy3. The factory setup is 10 mW.

## 2 Commissioning

The e-Start W has an internal battery. Before operating the device make sure that the rechargeable battery is charged. For charging the e-Start W use the power supply PS12A.

Before using the e-Start W with other devices make sure that all radio devices of the WTN-family (e.g. BANG W, WTN, Timy3 WP) are adjusted to the same team. It can be adjusted at the team switch (5) with a small screw drive (see 2.3 Team Adjustment (Radio Frequency)).

Make sure the e-Start W has channel 0 (start channel C0) adjusted. This channel is the factory setting, but it is possible to adjust another timing channel (see 2.4 Timing Channel Adjustment).



## 2.1 Switching ON

- Press push button (4) until the Status LED (2) shows green (the LED shows first red, than changes to green).
- Release the push button (4). The e-Start is ready.

## 2.2 Switching OFF

- Press push button (4) for ca. 5 sec. until the Status LED (2) shows permanently red.

## 2.3 Team Adjustment (Radio Frequency)

This function is to select the team number. You can select between 15 team numbers using a small screw driver. There are 9 single teams (single mode = different radio channels) and 6 joint teams (all = same radio channels). Position 0 is an internal factory test mode and has no function for the user.



### Separate Teams <S> = SINGLE

is used for completely independent networks. If you operate two networks next to each other both networks operate in this mode on different frequencies and do not communicate with each other.

Separate Teams: position 1 to 9

### Joint Teams <A> = ALL

is used for networks that work independently next to each other. If different A teams with the same radio channel are operated, the other A teams can be used for data transmission. The data of the other team, however, is not used (e.g. for two show jumping grounds that are next to each other).

Joint Teams: position A to F

## 2.4 Timing Channel

It is possible to set different timing channels. The usual timing channel is C0 (start channel – factory setting). Adjustable is C0 (start), C1 (finish), C2, C3 and C4.

### Setting the Timing Channel:

- Press push button (4) when switching device on for five seconds.
- The Radio LED (3) changes from blinking green to permanent green.
- Release push button (4) and channel C0 is adjusted.
- Other channels can be adjusted by pressing push button (4) shortly: 1 x for C1, 2 x for C2 etc.
- When pressing five times the push button (4), channel C0 is selected once again.
- If the push button (4) is not pressed for 5 seconds, the e-Start W switches to normal operational mode.

The adjusted channel is stored also after switching the e-Start off and on.

### Adjusting Timing Channel C0:

Mostly channel C0 (start) is used with the e-Start W. If you press the push button (4) for 10 seconds when switching the device on, the default channel C0 is activated.

- e-Start W must be switched off.
- Press push button (4) for about 10 seconds until the Radio LED (3) changes from green to red.
- Release push button (4).
- e-Start W executed a reset and channel C0 is set (factory setup of e-Start W).

## 2.5 LED Indication

During the operation the two LED (Status LED (2) and Radio LED (3)) show the following:

### 2.5.1 Status LED (2)

When pressing the push button (4) in operational mode (impulse) the Status LED (2) indicates the following:

- Permanent red ..... Channel is triggered (possible short circuit on channel)
- Permanent orange..... Status of timing device is „not ready“ (only with SU3)
- Permanent green..... Channel is not triggered, after 3 seconds the LED switches to battery indication mode (blinking)

#### Showing the Battery Status:

- Blinking green ..... battery is full
- Blinking orange ..... battery is half full
- Blinking red ..... battery is almost empty

### 2.5.2 Radio LED (3)

The Radio LED (3) is the RSSI indication; this means it shows the signal strength to the closest partner device.

- Permanent red ..... no radio reception
- Permanent orange..... radio reception is not ideal
- Permanent green..... radio reception is optimal

## 3 Function

When the e-Start W is triggered (pressing push button (4)) a start impulse output is effected through the radio. At the same time the electronic flash (1) is triggered.

### 3.1 False Start Signal

If the push button (4) is triggered again within 5 seconds a false start signal is released (again impulse of start channel by radio and three flash strobes (1) within a short time).

Attention: The false start signal works only when you adjust a short delay time at the timing device (e.g. 0.1 seconds).

#### 3.1.1 No False Start Signal

If you do not want to output a false start signal you have to adjust a long delay time in the timing device (5 seconds or higher).

## 4 Rechargeable Battery

The e-Start W has a built-in rechargeable battery.

Rechargeable Battery: Li-Ion battery 3.6 V / 10.4 Wh (fix built-in e-Start W)

Charging Duration: about 4 hours with charger PS12A *Attention:* It charges only at a temperature range from 0 to 45°C (32 to 113 F)

Operation Duration: about 45 hours at 22°C (72F) and one impulse per minute  
about 23 hours at -20°C (-4F) and one impulse per minute

#### Indication of Battery Status with Status LED (2):

- Blinking green ..... battery is full
- Blinking orange ..... battery is half full
- Blinking red ..... battery is almost empty



Charger socket for charger PS12A

## 5 Technical Specifications

Flash:	4 x LED (Ultra Bright Power LED)
Connection:	Charging Socket for charger PS12A
Operating Temperature:	-20 – 45°C (-4 to 113 F)
Measurements:	265 x 150 x 35 mm
Weight:	ca. 0.4 kg (1.1 lb)



### **Radio Modem:**

Frequency:	2.4 GHz Band, 16 adjustable frequencies
Power Output:	10 mW or 10 to 100 mW (adjustable)
Timing Channels:	5 different channels (c0 (start), c1 (finish), c2, c3, c4)
Range:	about 350 m at free sight

### **Battery:**

Battery:	Li-Ion rechargeable battery 3.6 V / 10.4 Wh (integrated)
Charging Duration:	about 4 hours (charging temperature 0 to 45°C (32 to 113 F))
Operating Duration:	about 45 hours at 22°C (72F) and one impulse per minute about 23 hours at -20°C (-4F) and one impulse per minute

Subject to changes

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