

SWIMMING



LED FLASH / FLASH A LED

For / Pour StartTime II/III/IV and / et V

User's Manual / Mode d'emploi

3481.502

Version 1.1

Edition July 2015 / Juillet 2015

Caution and safety precautions

- Never use any other charger than the supplied or a type approved by Swiss Timing. This could destroy the battery, cause damage to unit, and possibly cause personal injury due to fire or/and electrical shock.
- Never bypass a power cord ground lead by breaking off the ground pin, or by using inappropriate extension cords or adapters.
- Never plug a power cord into the AC power source until you have made sure that all installation, cabling and power levels, are proper, and that the applicable procedures in this manual have been followed.
- Protect the equipment against splashing, rain and excessive sun rays.
- Never use the device if it is damaged or insecure.
- Verify the selection of the power distribution.
- Verify that the voltage quoted on the rating plate is the same as your voltage. Connect the appliance only to power sockets with protective earth. The use of incorrect connection voids warranty.
- This program may be modified at any time without prior notification.
- Do not open the case; there is nothing that needs servicing inside it. Nevertheless, if the case must be opened, you must call for some qualified personnel. The power supply cable must be disconnected before opening the case.
- During the transport of all Swiss Timing equipment delivered with a reusable carry case, the said case should be used at all times. This is imperative to limit the damage, such as shocks or vibration that can be caused to the units during transport.
- The same cases should also be used when returning equipment to Swiss Timing for repair. Swiss Timing reserves the right to refuse all guarantees if this condition is not fulfilled.
- If the installation includes a horn, be sure to maintain a sufficient security distance from the public.

Documentation Updates

Swiss Timing Ltd. reserves the right to make improvements in the products described in this documentation at any time without prior notice. Furthermore, Swiss Timing Ltd. reserves the right to revise this documentation in its content at any time and without any obligation to notify any person or organization of such revision.

Disclaimer

The information provided in this documentation has been obtained from sources believed to be reliable, accurate and current. However, Swiss Timing Ltd. makes no representation or warranty, express or implied, with respect, but not limited to, the completeness, accuracy, correctness and actuality of the content of this documentation. Swiss Timing Ltd. specifically disclaims any implied warranty of merchantability, quality and/or fitness for any particular purpose. Swiss Timing Ltd. shall not be liable for errors contained in this documentation or for incidental or consequential damages in connection with the supply, performance or use of this documentation.

Environment



This symbol indicates that this product should not be disposed with household waste. It has to be returned to a local authorized collection system. By following this procedure you will contribute to the protection of the environment and human health. The recycling of the materials will help to conserve natural resources.

Copyright

© Swiss Timing Ltd.

All rights reserved.

This documentation may not, as a whole or in part, be copied, translated, reproduced, transmitted or reduced and/or stored to any electronic medium or machine-readable form without the prior written consent of Swiss Timing Ltd.

TABLE OF CONTENTS / TABLE DES MATIERES

1	INTRODUCTION.....	1
2	FIRST USE (VERY IMPORTANT) / PREMIÈRE UTILISATION (TRÈS IMPORTANT).....	2
3	TIMING WITH FLASH / CRONOMETRAGE AVEC LE FLASH.....	3
3.1	Positioning / Positionnement.....	3
3.2	Power supply / Alimentation.....	4
3.3	Connection with the StartTime / Branchement avec le StartTime.....	4
4	MAINTENANCE.....	5
5	TROUBLESHOOTING / DÉPANNAGE.....	6
6	TECHNICAL SPECIFICATIONS / CARACTÉRISTIQUES TECHNIQUES	7
7	APPENDIX.....	8
7.1	Version history	8

1 INTRODUCTION

The **Flash** for electronic sports timing serves to visualize the precise instant of the start by means of an optical signal. It is a fact that starting-pistols also produce optical signals (flame and smoke) but they cannot be considered as reliable. In swimming competition, the problem is made worse by the fact that the starter is not in a convenient view of the swimmers. The great advantage of an optical signal is to be visible by all competitors and viewers simultaneously as the propagation time delay is negligible. Furthermore, an optical start signal is indispensable for competitors who are deaf or hard-of-hearing.

The **Flash** also enables the spectators to know the precise instant of the start in case of high ambient noise level covering the sound starting signal. In spite of its advantages, the **Flash** is not foreseen to replace the sound starting systems, but it serves as a valuable complementary device.

La raison d'être du **Flash** est de rendre visible l'instant précis où le "START" est donné lors d'une compétition chronométrée électroniquement. Même si la flamme ou la fumée d'un pistolet sont visibles, ces indications ne peuvent pas être considérées comme fiables. En natation, le problème s'aggrave encore par le fait que le "Starter" se trouve à un endroit peu visible pour les nageurs. Le signal optique de départ a l'avantage incontestable d'être perçu simultanément par tous les concurrents, et par les spectateurs, son temps de propagation étant insignifiant. Le signal optique devient même indispensable pour les concurrents sourds ou mal entendant.

Le **Flash** permet également aux spectateurs de connaître le moment précis du "Start" quand le signal acoustique est couvert par le bruit ambiant. Malgré ses avantages, le **Flash** n'a pas pour but de remplacer les systèmes acoustiques, mais uniquement de les compléter.

2 FIRST USE (VERY IMPORTANT) / PREMIÈRE UTILISATION (TRÈS IMPORTANT)



The **Flash** can be driven only by **Swiss Timing StartTime device** configured with a flash output in **N.O mode (normally open)**. The pulse generated by the flash output of StartTime cannot exceed **100ms**.

Failure to respect these conditions could damage permanently **Flash** device.



Le **Flash** peut être utilisé uniquement avec un système de départ **StartTime Swiss Timing** avec une sortie Flash configurée en mode **N.O (normally open)**. La pulse générée par la sortie Flash du StartTime ne doit pas excéder **100ms**.

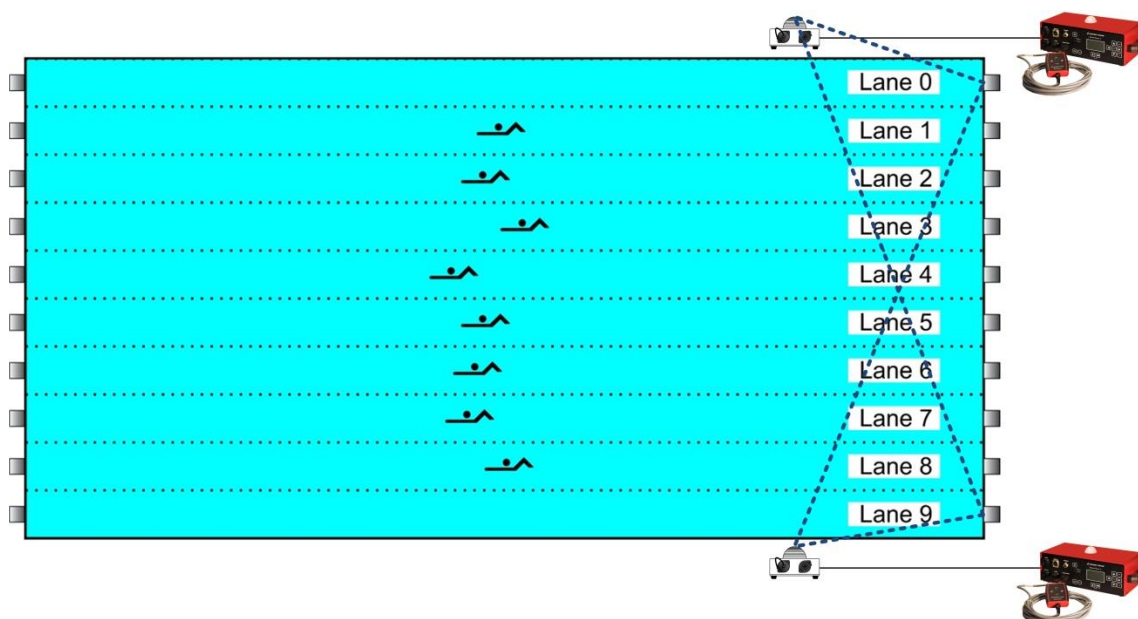
Le non-respect de ces conditions peut endommager définitivement le **Flash**.

3 TIMING WITH FLASH / CRONOMETRAGE AVEC LE FLASH

3.1 Positioning / Positionnement

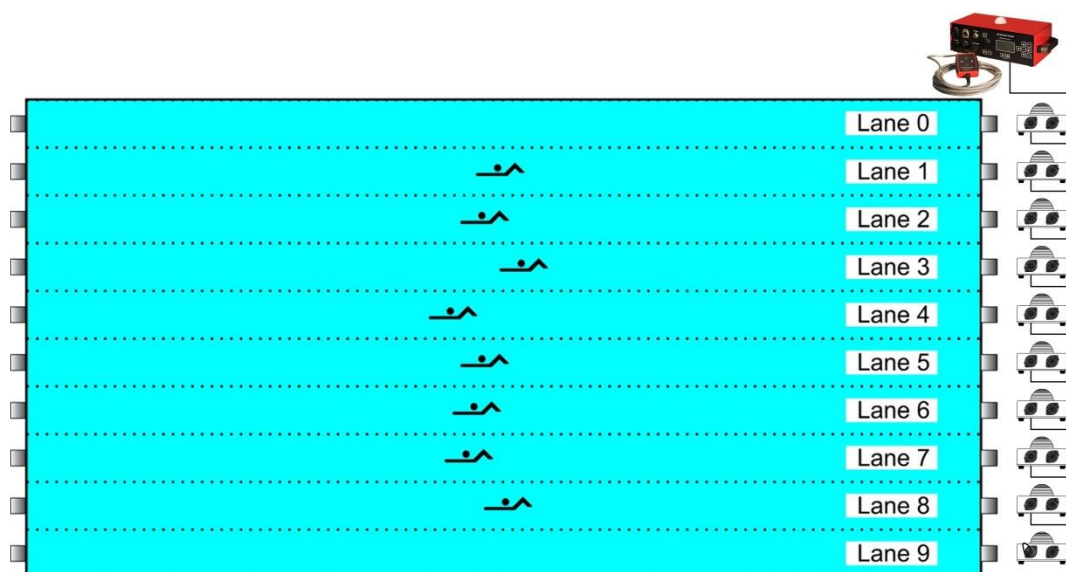
When using a **Flash**, it is possible to position it at various places as indicated below.

Lors de l'utilisation d'un **Flash**, il est possible de le positionner à divers emplacements comme indiqué ci-dessous.



When using a chain of **Flash**, each lane has its own **Flash**.

Lors de l'utilisation d'une chaîne de **Flash**, chaque couloir a son propre **Flash**.



3.2 Power supply / Alimentation

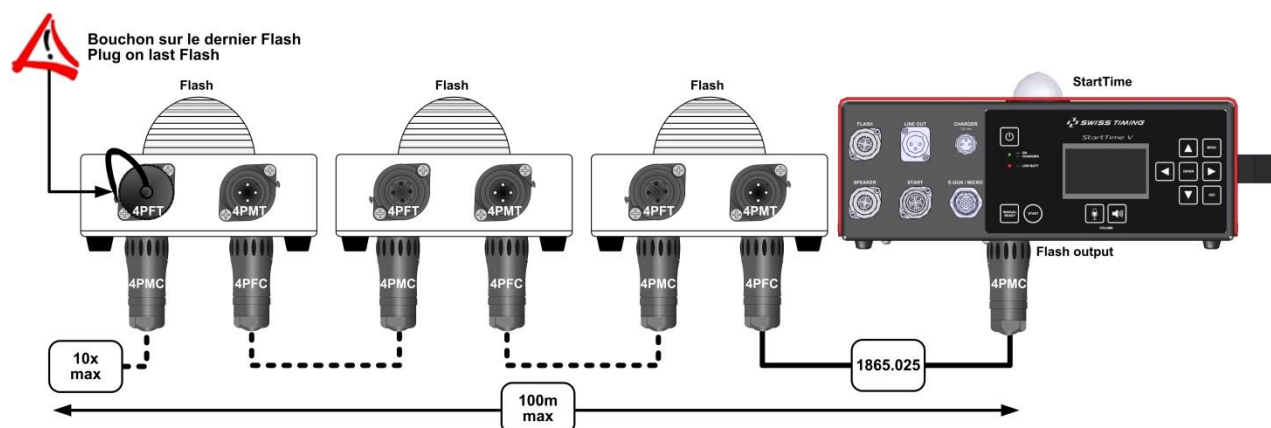
The **Flash** of the 3481 series uses an external power supply 12V= that is provided by the **StartTime**.

Le **Flash** de la série 3481 utilise une alimentation 12V= externe qui est fournie par le **StartTime**.

3.3 Connection with the StartTime / Branchement avec le StartTime

Depending on the type of competition, it is possible to plug from 1 to 10 **Flash** in series.

Suivant le type de compétition, il est possible de brancher de 1 à 10 **Flash** en série.



4 MAINTENANCE

Protect the equipment during and between the competitions against splashing of water, rain, and do not place it right in the sun.

Dry the equipment if wet.

Do not forget to disconnect the **Flash** off after the sporting event and before storing the device.

Protéger le matériel (également entre les compétitions) contre les éclaboussures d'eau, la pluie et l'exposition excessive au soleil.

Sécher le matériel s'il a été mouillé.

Débrancher le **Flash** avant de le stocker.

5 TROUBLESHOOTING / DÉPANNAGE

In case of trouble, check if the installation and the wiring correspond to the installations drawing.

The Flash does not work at all:

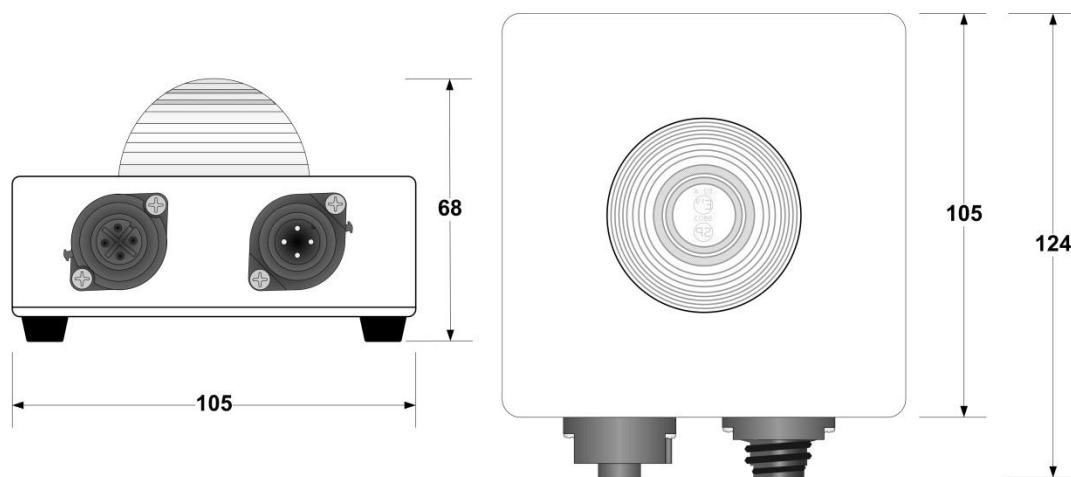
- Is it correctly connected to a **StartTime**?
 - Is the battery level of the **StartTime** high enough ?
-

En cas de mauvais fonctionnement, vérifier si le montage et le câblage sont conformes au dessin d'installation.

Le Flash ne fonctionne pas du tout:

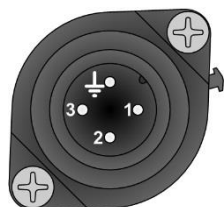
- Est-il correctement branché à un **StartTime** ?
- Le **StartTime** a-t-il suffisamment de niveau de batterie ?

6 TECHNICAL SPECIFICATIONS / CARACTÉRISTIQUES TECHNIQUES



Tichel 4PFT

1	Power supply for / Alimentation pour Flash (+12V)
2	Output signal for / Signal de sortie pour Flash +
3	Output signal for / Signal de sortie pour Flash -
$\perp$	Power supply for / Alimentation pour Flash (0V)



Tichel 4PMT

1	Power supply for / Alimentation pour Flash (+12V)
2	Input signal for / Signal d'entrée pour Flash +
3	Input signal for / Signal d'entrée pour Flash -
$\perp$	Power supply for / Alimentation pour Flash (0V)

Weight / Poids	: 0.51 Kg
Coulour of the housing / Couleur du boîtier	: White / Blanc
Coulour of the cap / Couleur de la calotte	: Milky white / Blanc "lait"
Flash duration / Durée de l'éclair	: 100 ms max.
Delay between start impulse and flash / Retard entre l'impulsion de start et l'éclair	: < 1.0 ms
Minimum duration impulse / Durée minimale de l'impulsion de start	: 50 ms
Polarity of the start impulse / Polarité de l'impulsion de start	: Normally Open (NO) / Contact ouvert (NO)
Power supply / Alimentation	: 10-18V= only driven by StartTime device
Flashing current / courant lors du flash	: 500mA max.
Minimum load current / courant de charge minimum	: 25mA
Operating temperature / Température de fonctionnement	: 0 to / à +50° C
Operating temperature / Température de fonctionnement	: 0 to / à +50° C
Storage temperature / Température de stockage	: -10 to / à +60° C
Protection	: IP65

7 APPENDIX

7.1 Version history

Version	Date	Modifications since last version
1.0	14/02/14	Initial version
1.1	20/07/15	Pictures updated with new StartTime

NOTES

