

SWIMMING



# ODB10-SW

User's Manual

**3494.501.02**

Version 1.7

Edition December 2018

---

## 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 possible 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

<b>1</b>	<b>INTRODUCTION.....</b>	<b>1</b>
1.1	Concept.....	1
1.2	General view.....	2
1.3	Connections view.....	2
<b>2</b>	<b>MECHANICAL INSTALLATION.....</b>	<b>3</b>
2.1	Fixing the distribution box .....	3
2.2	Wall sockets .....	4
2.3	Deck plate.....	5
2.3.1	General view .....	5
2.3.2	Dimensions .....	5
2.3.3	Deck plate installation .....	6
<b>3</b>	<b>CONFIGURATIONS .....</b>	<b>7</b>
3.1	ODB10-SW configurations.....	7
3.1.1	ODB10-SW Primary .....	7
3.1.2	ODB10-SW Primary & Secondary .....	7
3.2	Harness circuits 3494.600 .....	8
<b>4</b>	<b>CONNECTIONS.....</b>	<b>9</b>
4.1	ONE POOL END : FINISH.....	9
4.1.1	ODB10-SW (FINISH PRY) .....	9
4.1.2	ODB10-SW (FINISH PRY & SDY).....	9
4.2	TWO POOL END : FINISH – 25/50 M.....	10
4.2.1	2x ODB10-SW (FINISH PRY / INTER PRY).....	10
4.2.2	2x ODB10-SW (FINISH PRY & SDY / INTER PRY) .....	10
4.2.3	2x ODB10-SW (FINISH PRY & SDY / INTER PRY & SDY).....	11
<b>5</b>	<b>ON SITE CABLING .....</b>	<b>12</b>
5.1	Installing the cables .....	12
5.2	Water lane / Swimming pool (Deck plate) .....	13
5.2.1	Deck plate protection.....	13
5.2.2	Deck plate signals .....	14

---

5.2.3	Start signal .....	15
5.2.4	Loudspeaker signal .....	16
5.3	ODB10-SW / TIMING ROOM.....	18
5.3.1	Connection with Quantum PRY .....	18
5.3.2	Connection with Quantum PRY & SDY .....	18
<b>6</b>	<b>ELECTRICAL PROPERTIES .....</b>	<b>19</b>
6.1	ODB10-SW Connectors pinning .....	19
6.2	START cable 1865.010.....	19
6.3	HA Cable 1892.010 .....	19
<b>7</b>	<b>PROPERTIES.....</b>	<b>20</b>
7.1	Dimensions and weight.....	20
7.2	Maintenance .....	20
7.3	Storage.....	20
7.4	Deck plate protection (reminder).....	20
<b>8</b>	<b>APPENDIX.....</b>	<b>21</b>
8.1	Index of figures .....	21
8.2	Version history .....	21

# 1 INTRODUCTION

## 1.1 Concept

The ODB10-SW is a distribution box between the control room and the swimming pool for processing information from the starting blocks, the touch pads and the hand contacts, coming from the A1 primary finish (**HA1 PRY**), from its secondary (**HA1 SDY**), from the 50 meters (**HA2 PRY**) and from its secondary (**HA2 SDY**).

It is designed for connecting directly the timing devices installed in the control room.

**Note:** The manual **3480.508.02 "QUANTUM CONCEPT"** is a complement to this manual.

## 1.2 General view

Material delivered:      1x ODB10-SW  
                                  1x Special tool for WAGO terminals n° 9071.3003  
                                  4x fixing screws with 4 buffers  
                                  4x washer M4

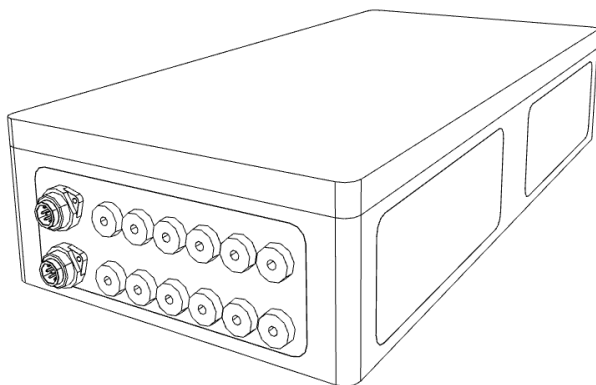


Figure 1 – ODB10-SW material delivered

## 1.3 Connections view

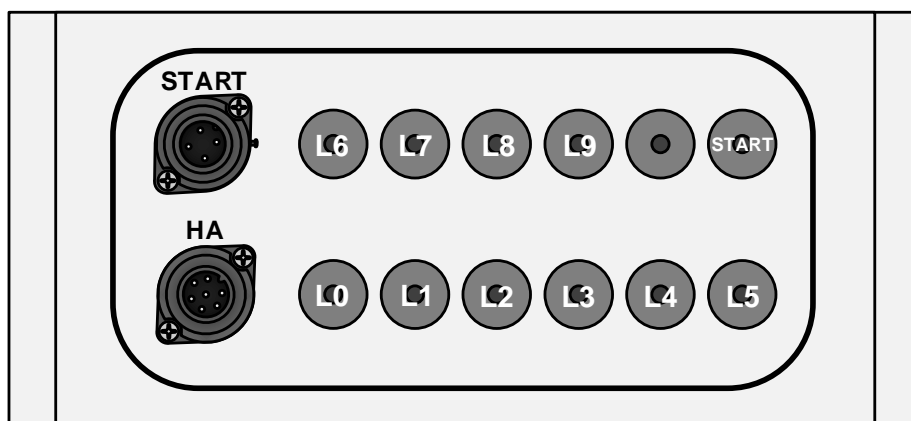


Figure 2 – Connections view

## 2 MECHANICAL INSTALLATION

### 2.1 Fixing the distribution box

- 1) Unscrew the six cover's screws and remove the cover.
- 2) Fix the ODB10-SW to the wall according to dimensions in *Figure 3*.

External dimensions (mm): Hx269/Wx540/Dx130

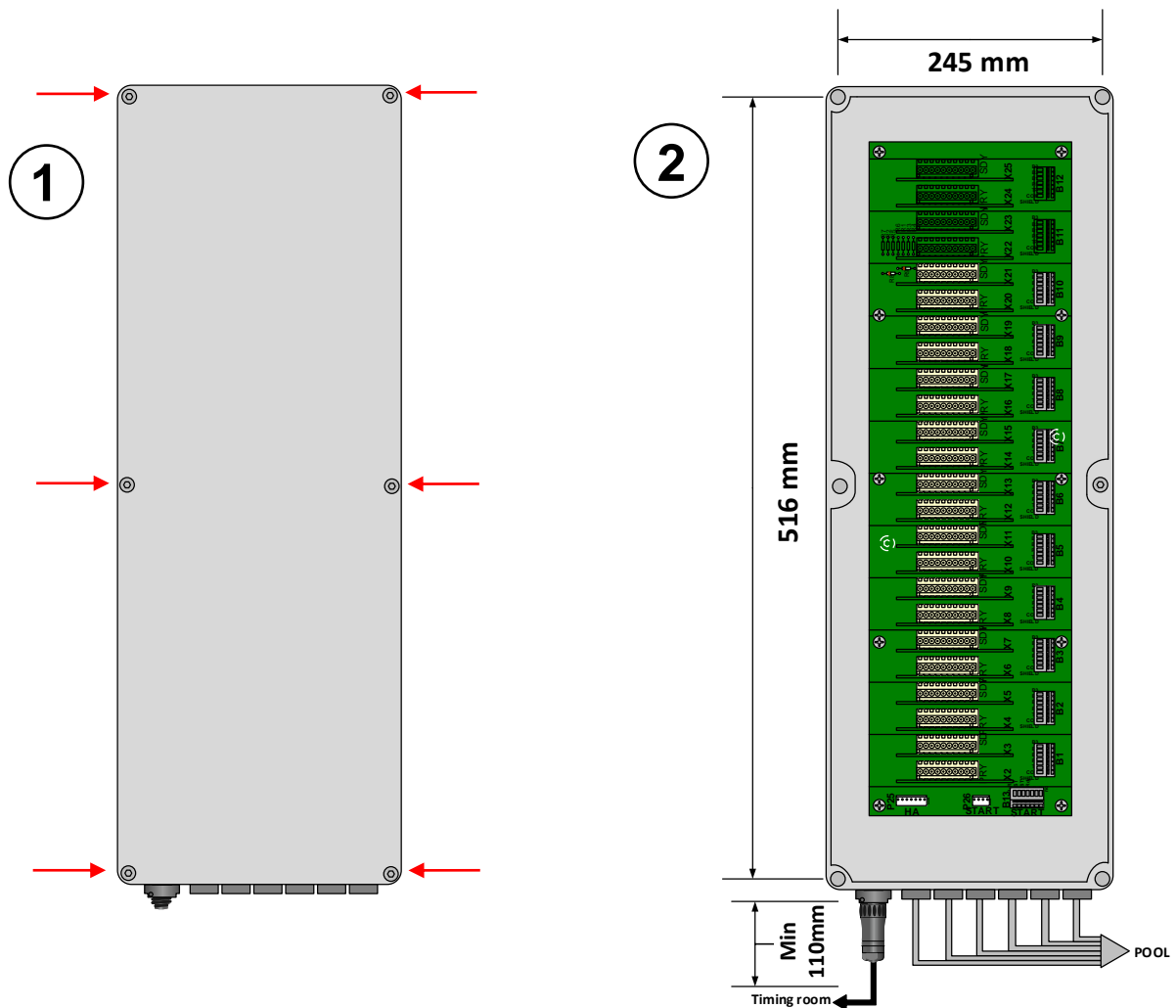


Figure 3 – ODB10-SW without cover

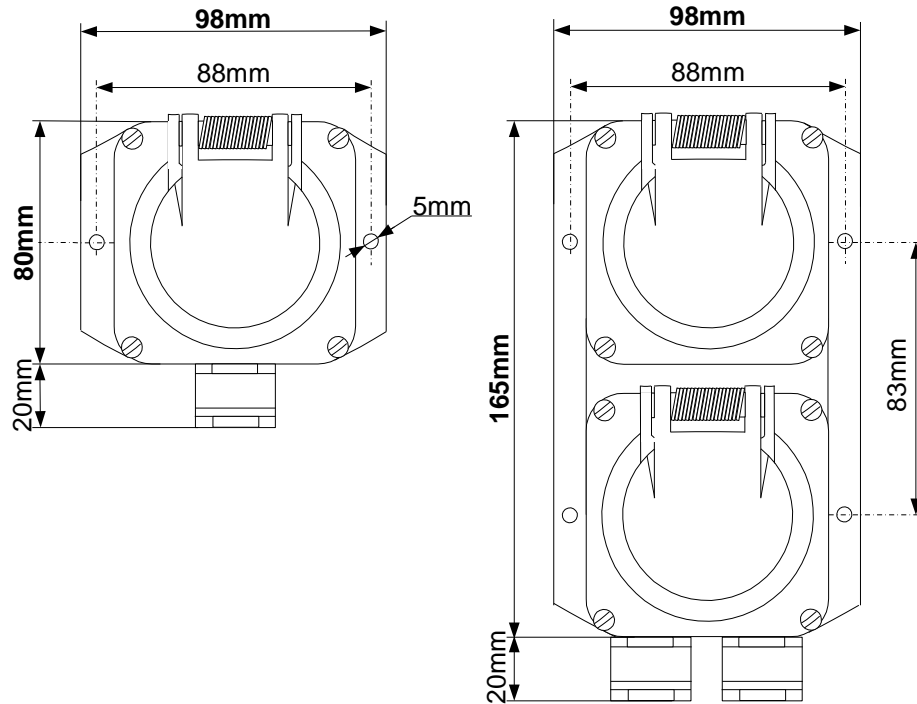





**DON'T FORGET TO LEAVE AT LEAST 110MM SPACE UNDER THE ODB10-SW**




## 2.2 Wall sockets

For the distribution of certain signals to the pools, it is possible to use the apparent wall sockets made in aluminium melting.

There are two different models: one model with one plug (on the left) and another model with two plugs (on the right):



1 plug		
2650.619	7pFT	
2650.749	4pFT	
2650.750	4pMT	

2 plugs		
2650.646	4pMT	
	7pFT	
2650.648	4pFT	
	7pFT	
2650.651	7pFT	
	7pFT	

4pMT Wall plug 4 pole **M**ale  
 4pFT Wall plug 4 pole **F**emale  
 7pFT Wall plug 7 pole **F**emale



## 2.3 Deck plate

### 2.3.1 General view

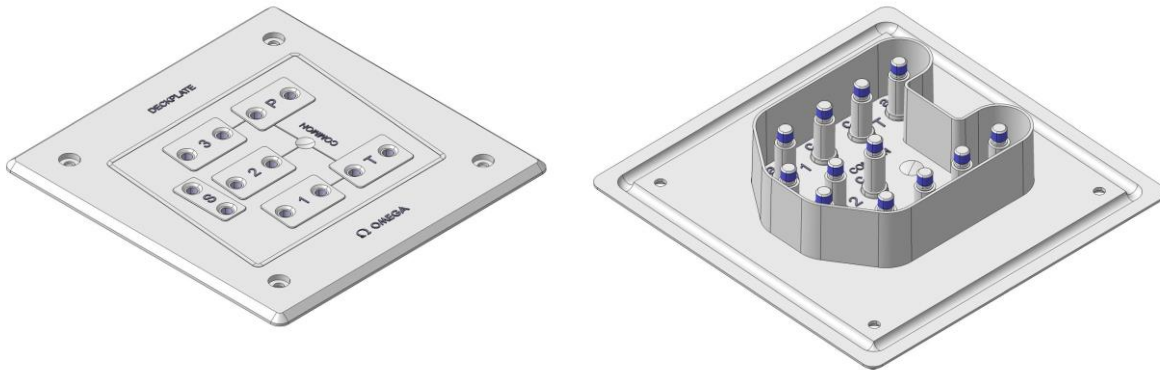


Figure 4 – Deck plate

### 2.3.2 Dimensions

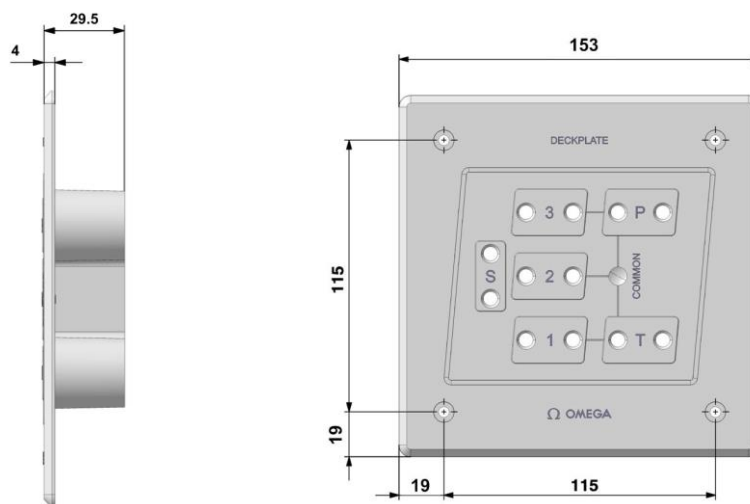


Figure 5 – Deck plate side & top view

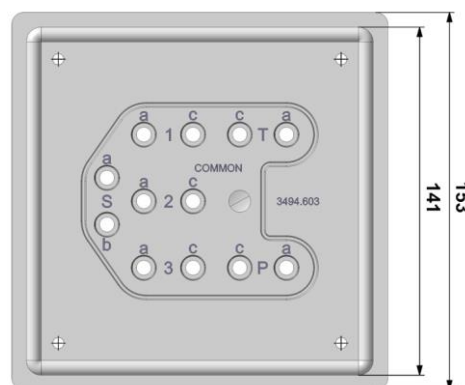


Figure 6 – Deck plate bottom view

### 2.3.3 Deck plate installation

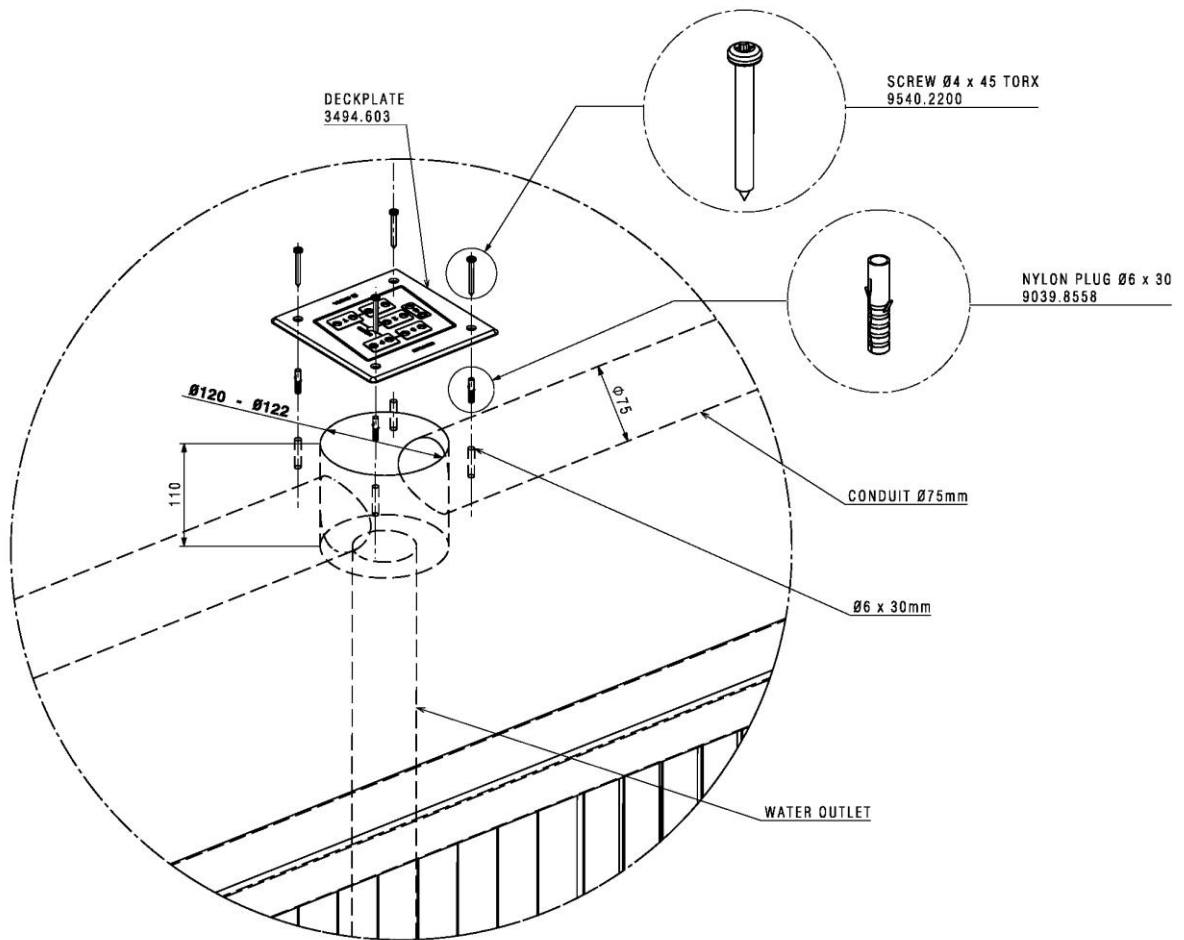


Figure 7 – Deck plate installation

### 3 CONFIGURATIONS

#### 3.1 ODB10-SW configurations

There are 2 standard models which are **Primary** and **Primary & Secondary** configured as follows:

##### 3.1.1 ODB10-SW Primary

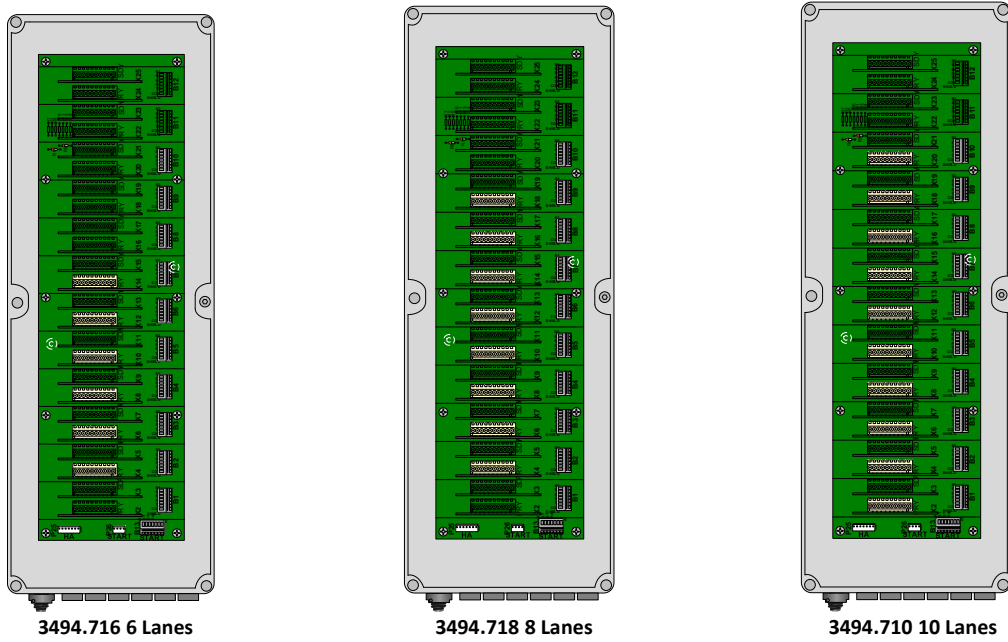


Figure 8 – ODB10-SW Primary configurations

##### 3.1.2 ODB10-SW Primary & Secondary

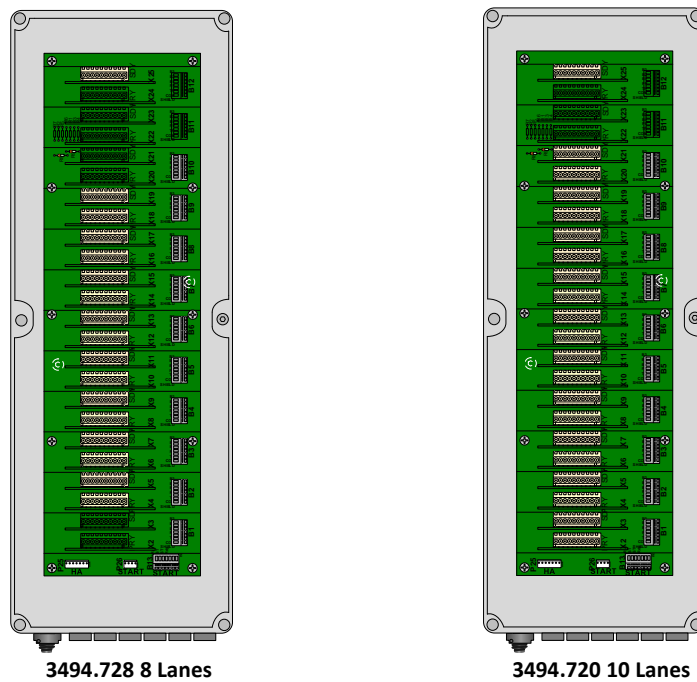


Figure 9 – ODB10-SW Primary & Secondary configurations

### 3.2 Harness circuits 3494.600

The signals coming from the pool are distributed to timing room (Quantum) through harness circuits.

Harness circuits fitted in the ODB10-SW are already programmed and done according to the water lanes at Swiss Timing.

It is not necessary to re-programmed them, unless some cards need to be replaced (see *Manual 3494.502.02*).

If you want to program these circuits on site, you can order a programmer **3494.901** and is delivered with a harness spare part.

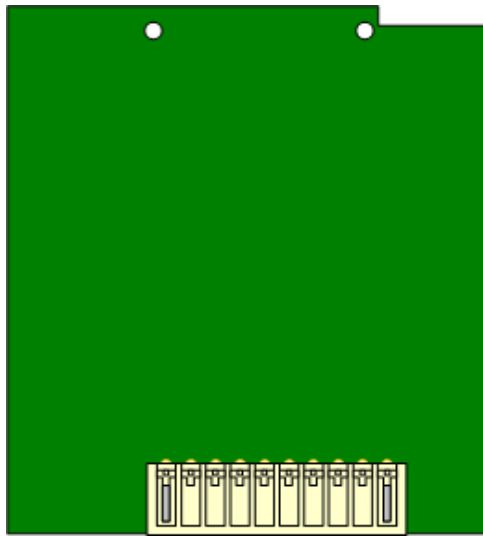


Figure 10 – Harness circuit's view

A spare part is provided on the ODB10-SW PRY & SDY fitted in slot **11/RES** as shown below.

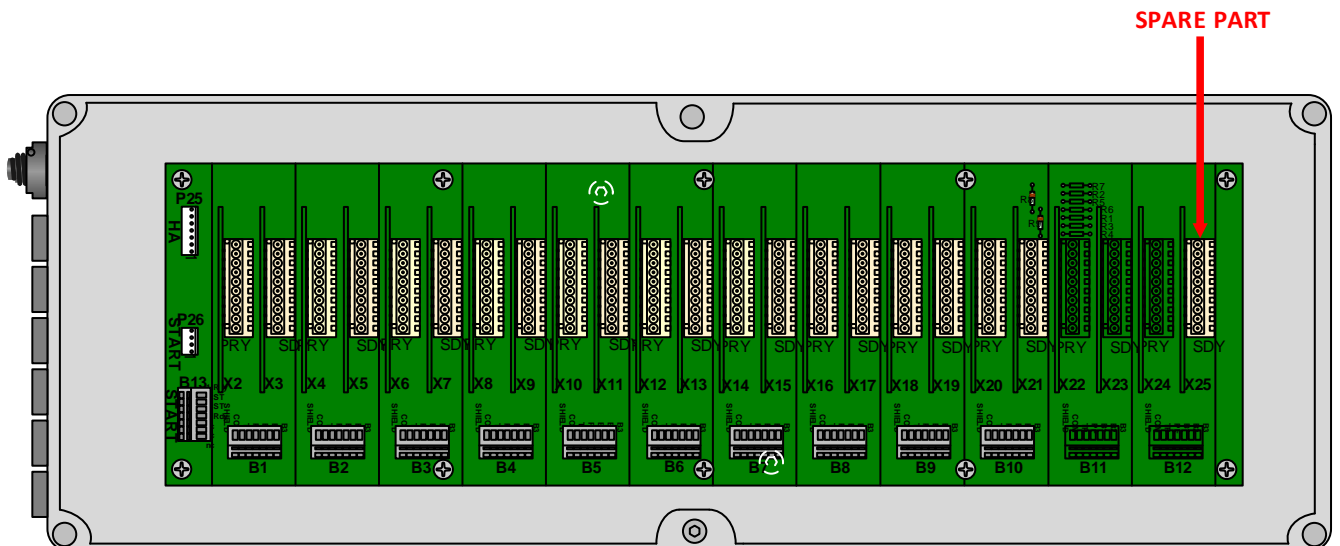


Figure 11 – Spare part in ODB10-SW PRY & SDY

## 4 CONNECTIONS

The ODB10-SW is normally installed in the timing room and is the heart of the cabling. All the peripherals cables (Quantum, deck plates) are connected to the ODB10-SW. There are different standard ODB10-SW connections:

### 4.1 ONE POOL END: FINISH

#### 4.1.1 ODB10-SW (FINISH PRY)

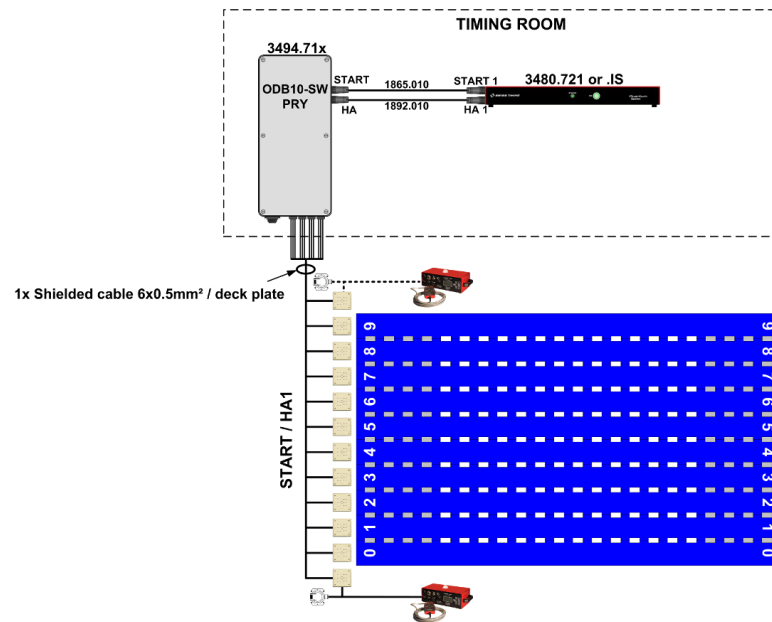


Figure 12 – 1x ODB10 PRY

#### 4.1.2 ODB10-SW (FINISH PRY & SDY)

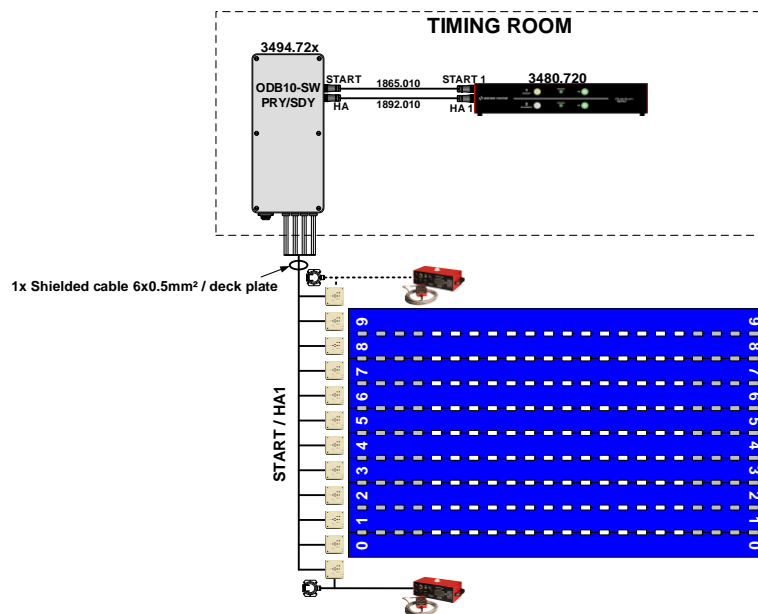


Figure 13 – 1x ODB10 PRY & SDY

## 4.2 TWO POOL END: FINISH – 25/50 M

### 4.2.1 2x ODB10-SW (FINISH PRY / INTER PRY)

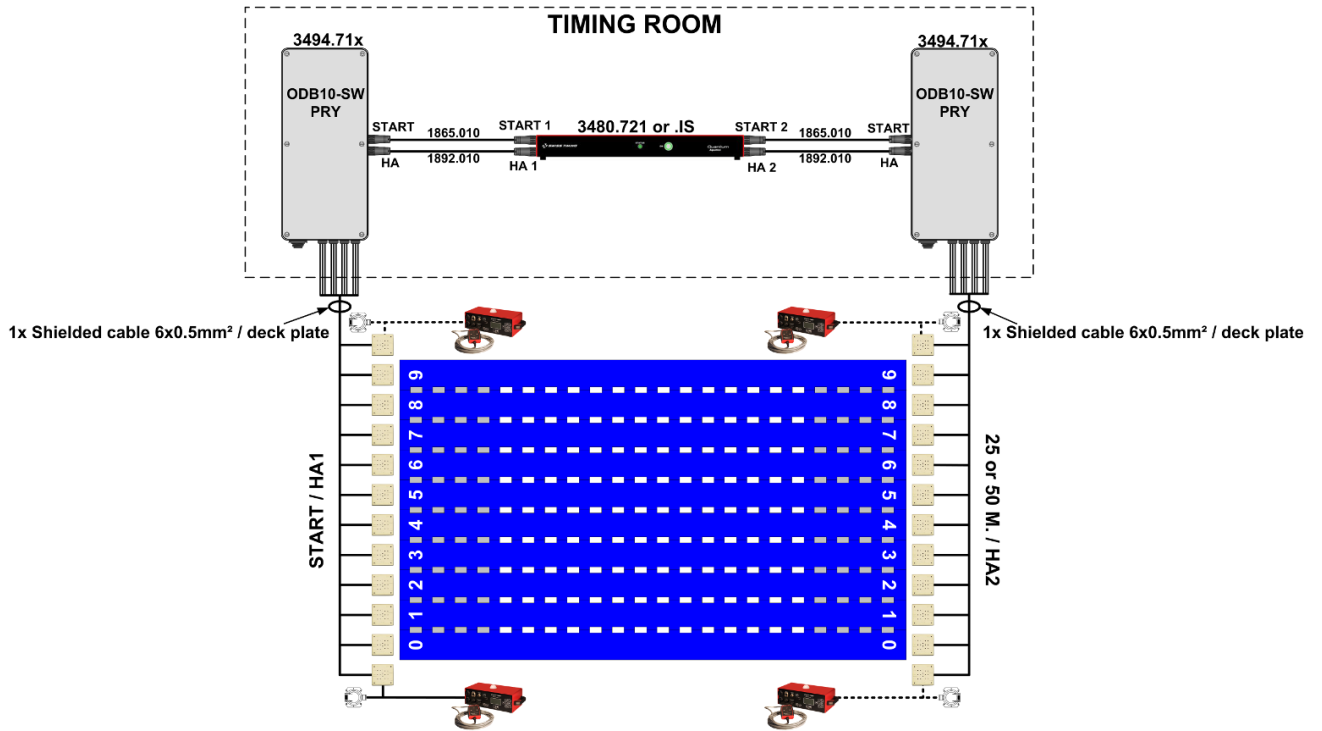


Figure 14 – 2x ODB10 PRY

### 4.2.2 2x ODB10-SW (FINISH PRY & SDY / INTER PRY)

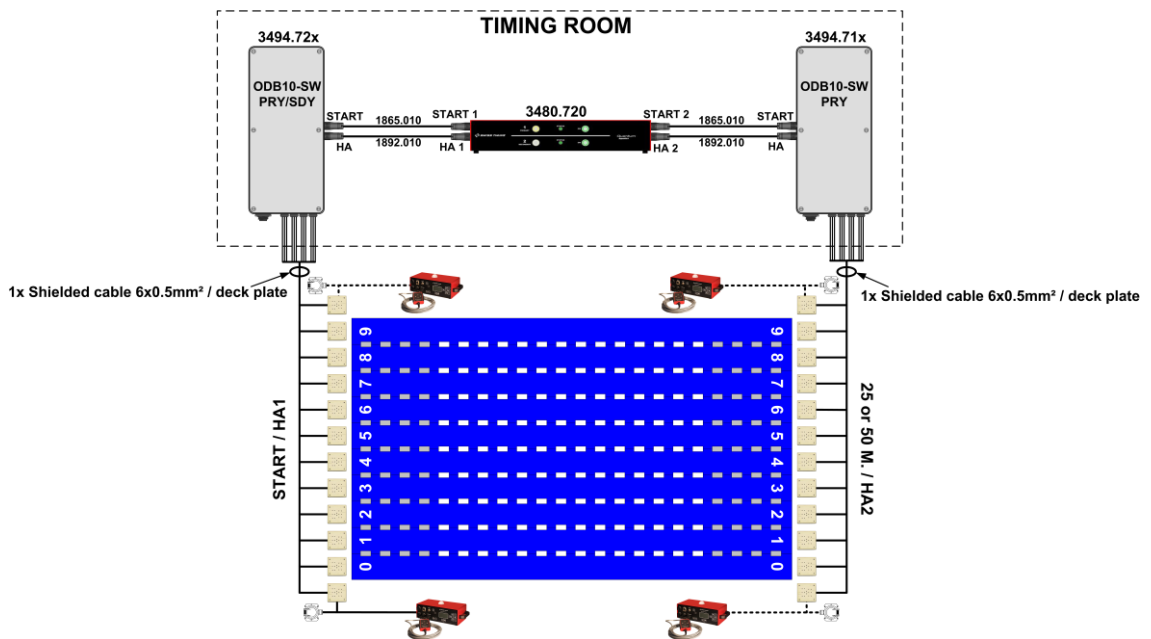


Figure 15 – 2x ODB10 PRY & SDY + PRY

4.2.3 2x ODB10-SW (FINISH PRY & SDY / INTER PRY & SDY)

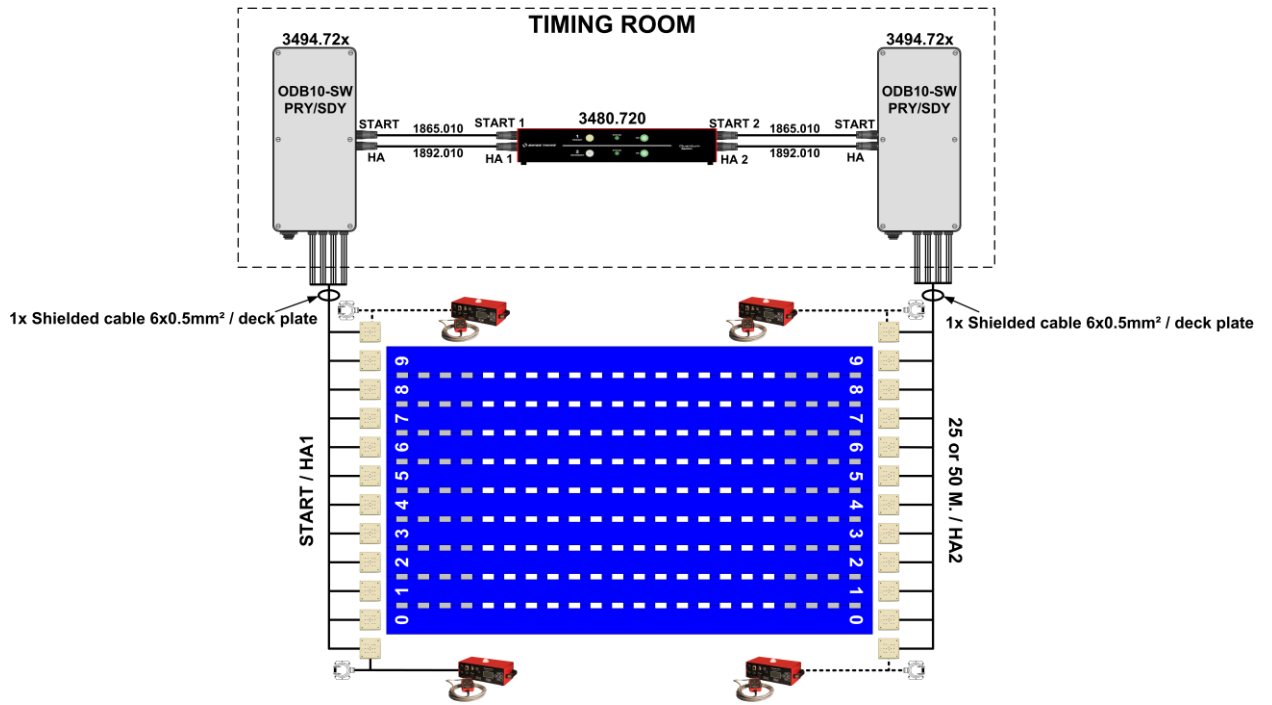


Figure 16 – 2x ODB10 PRY & SDY + PRY & SDY

## 5 ON SITE CABLING

### 5.1 Installing the cables

Remove the side panel of the ODB10-SW for better access to the cables.

Pass the cables coming from the deck plates through the stuffing gland of the ODB10-SW.

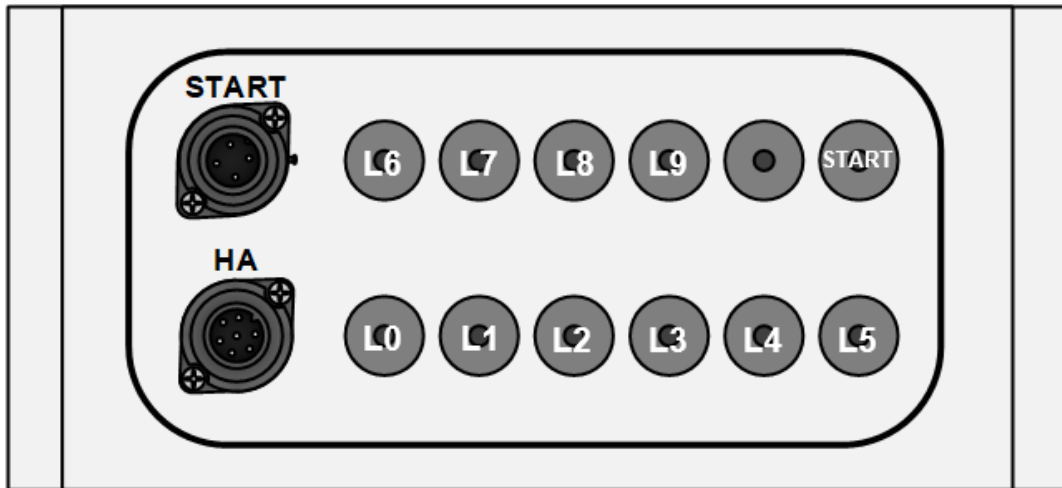
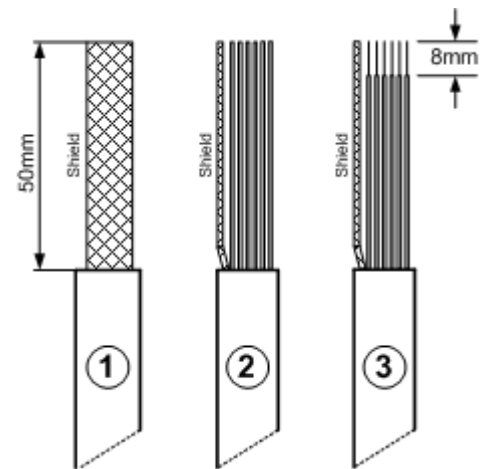


Figure 17 – ODB10-SW Lanes inputs

Preparing the cables as shown on below:

- 1) Remove coating.
- 2) Undo shielding and twist wire threads.
- 3) Remove coating's wires.



- 4) Push the special tool n°9071.3003 (provided with mounting material) in the hole A.
- 5) The hole's metal grip must be completely open and push the wire in the terminal B.
- 6) Pull out the screwdriver.

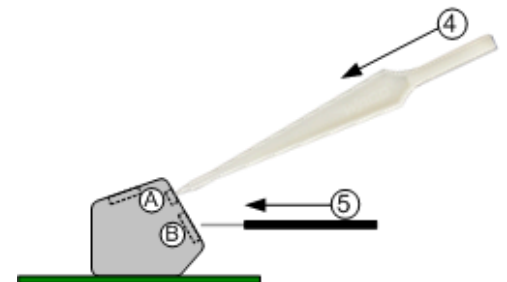


Figure 18 – Fitting the wires in terminal

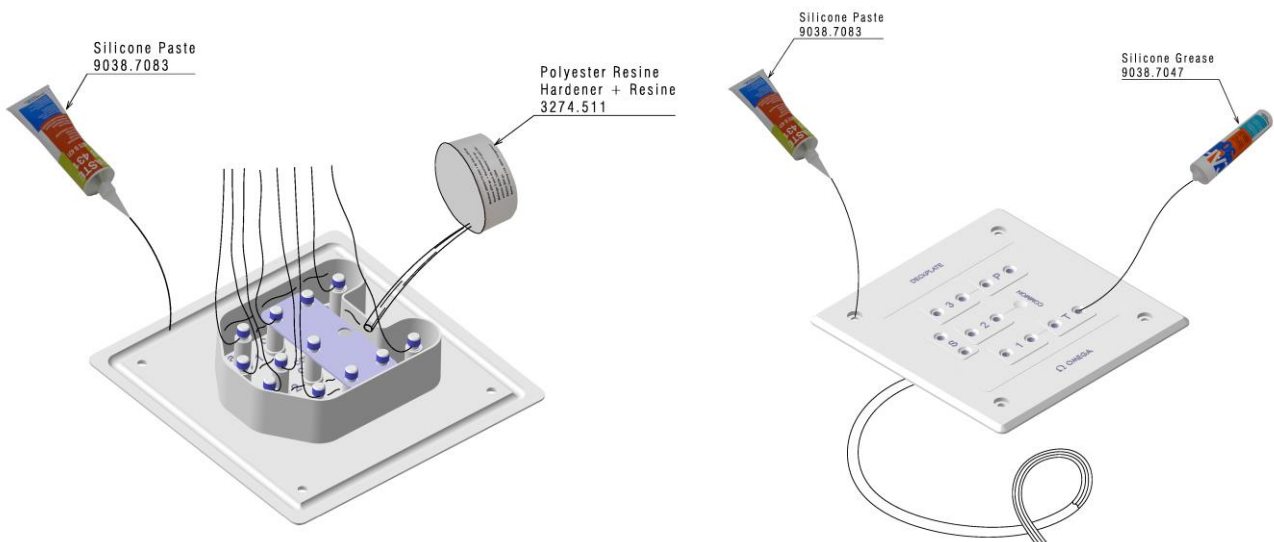


## 5.2 Water lane / Swimming pool (Deck plate)

### 5.2.1 Deck plate protection

To protect contacts and wiring against the corrosive nature of the pool water, the following steps must be taken:

1. The timing system (Quantum) must be **switched off and disconnected** out of meetings.
2. After the meetings, the peripherals banana plugs (OCP, HP, RBD, OIT) must be **disconnected and greased with silicon grease (9038.7047)**.
3. Also the deck plate's terminals must be completely filled with **silicon grease (9038.7047)**.



**Figure 19 – Deck plate protection**



**PLEASE USE THE PROVIDED SILICON GREASE BLUESTAR PASTE B 431**

### 5.2.2 Deck plate signals

Pass the cable coming from the Lane deck plates through the stuffing gland of the ODB10-SW. Cut the cables to the correct length as shown in chapter 5.1.

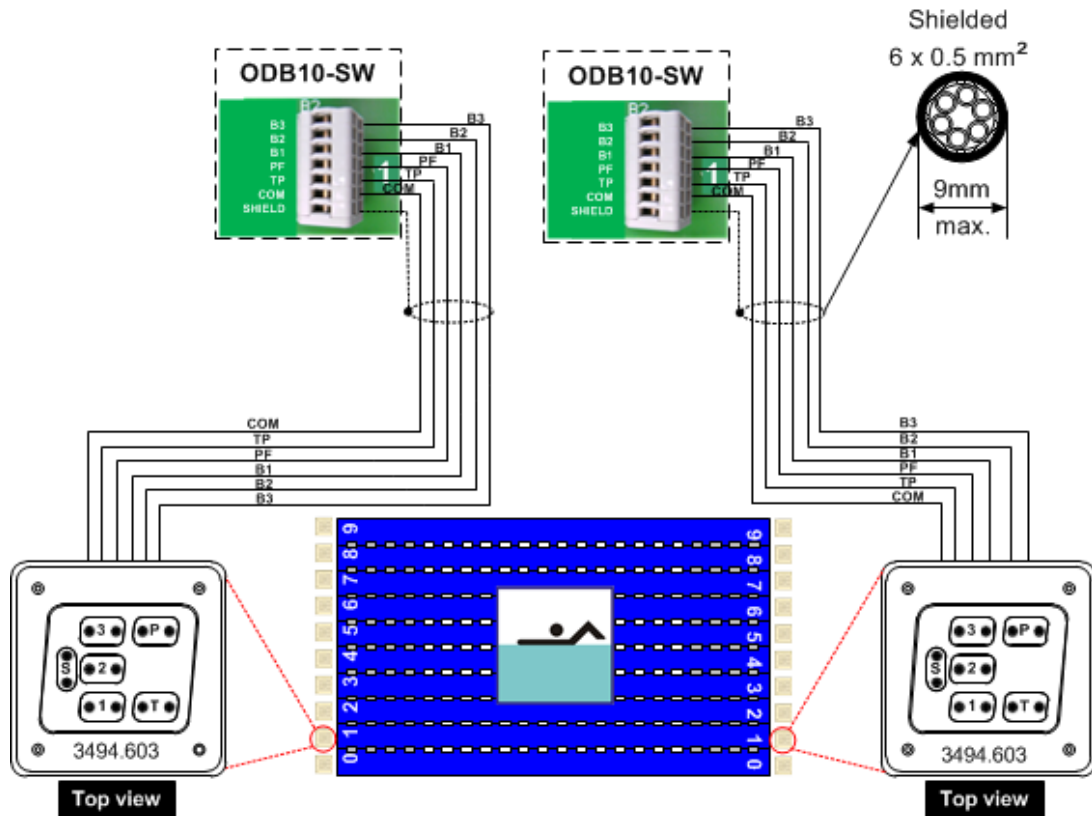
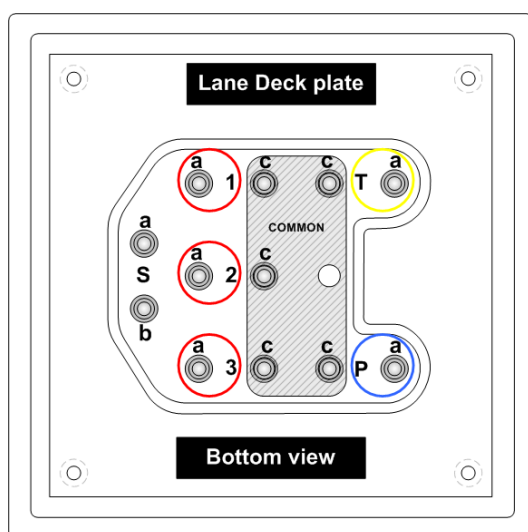


Figure 20 – Deck plate's top's view connected with ODB10-SW



Description	Deck plate	ODB10-SW
Button 3	3a	B3
Button 2	2a	B2
Button 1	1a	B1
Platform	Pa	PF
Touchpad	Ta	TP
Common	c	COM
Cable shield	-	SHIELD



THE MAXIMUM DISTANCE BETWEEN THE DECKPLATE AND THE ODB10 IS 100M.

### 5.2.3 Start signal

Pass the cable coming from the Start deck plates through the stuffing gland of the ODB10-SW. Cut the cables to the correct length as shown in chapter 5.1.

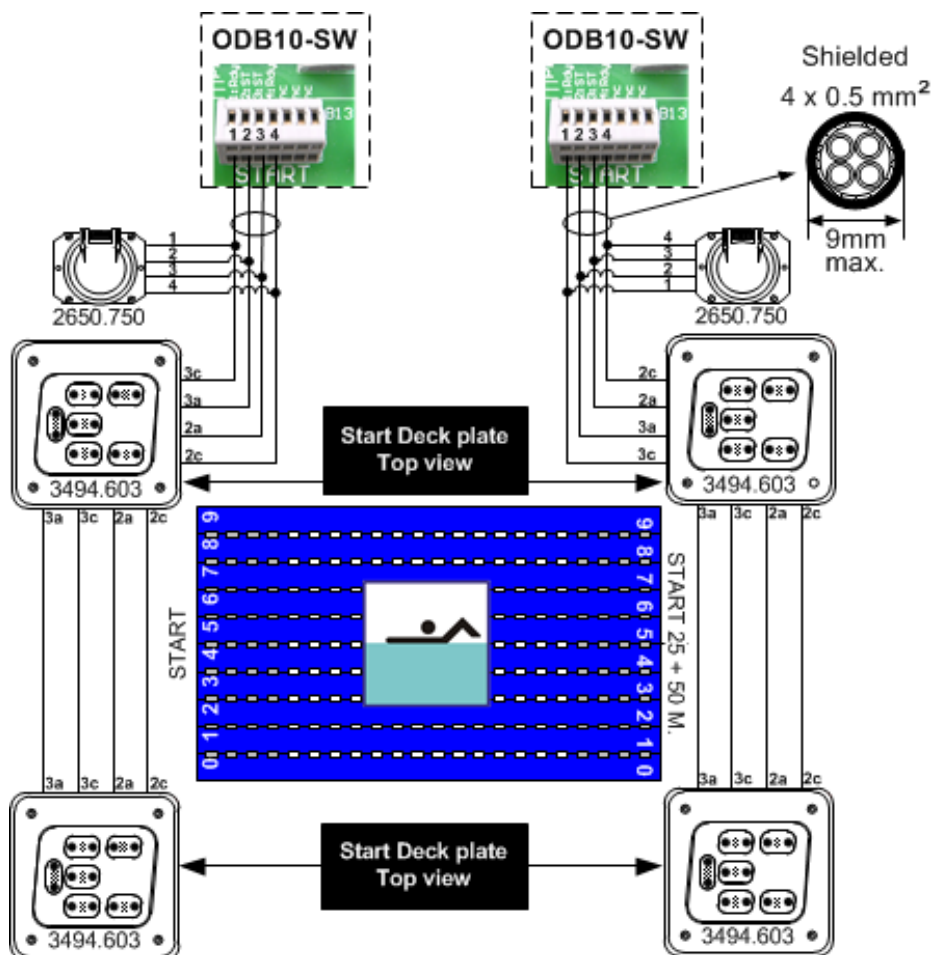
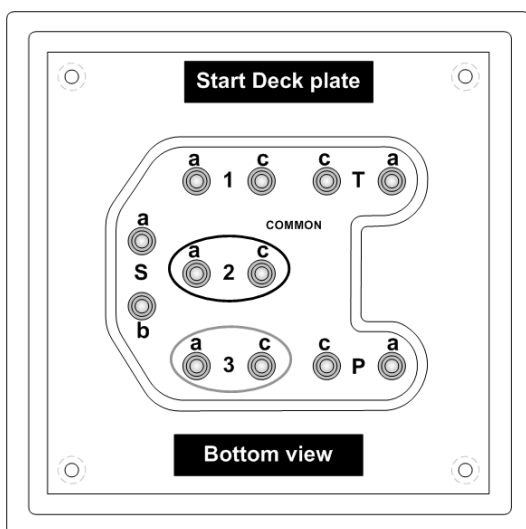


Figure 21 – Start deck plate's top view connected with ODB10-SW



Description	Deck plate	ODB10-SW	Wall socket
Ready -	3c	1	1
Contact Start	3a	2	2
Contact Start	2a	3	3
Ready +	2c	4	4

**5.2.4 Loudspeaker signal**

Cut the cables to the correct length as shown in chapter 5.1.

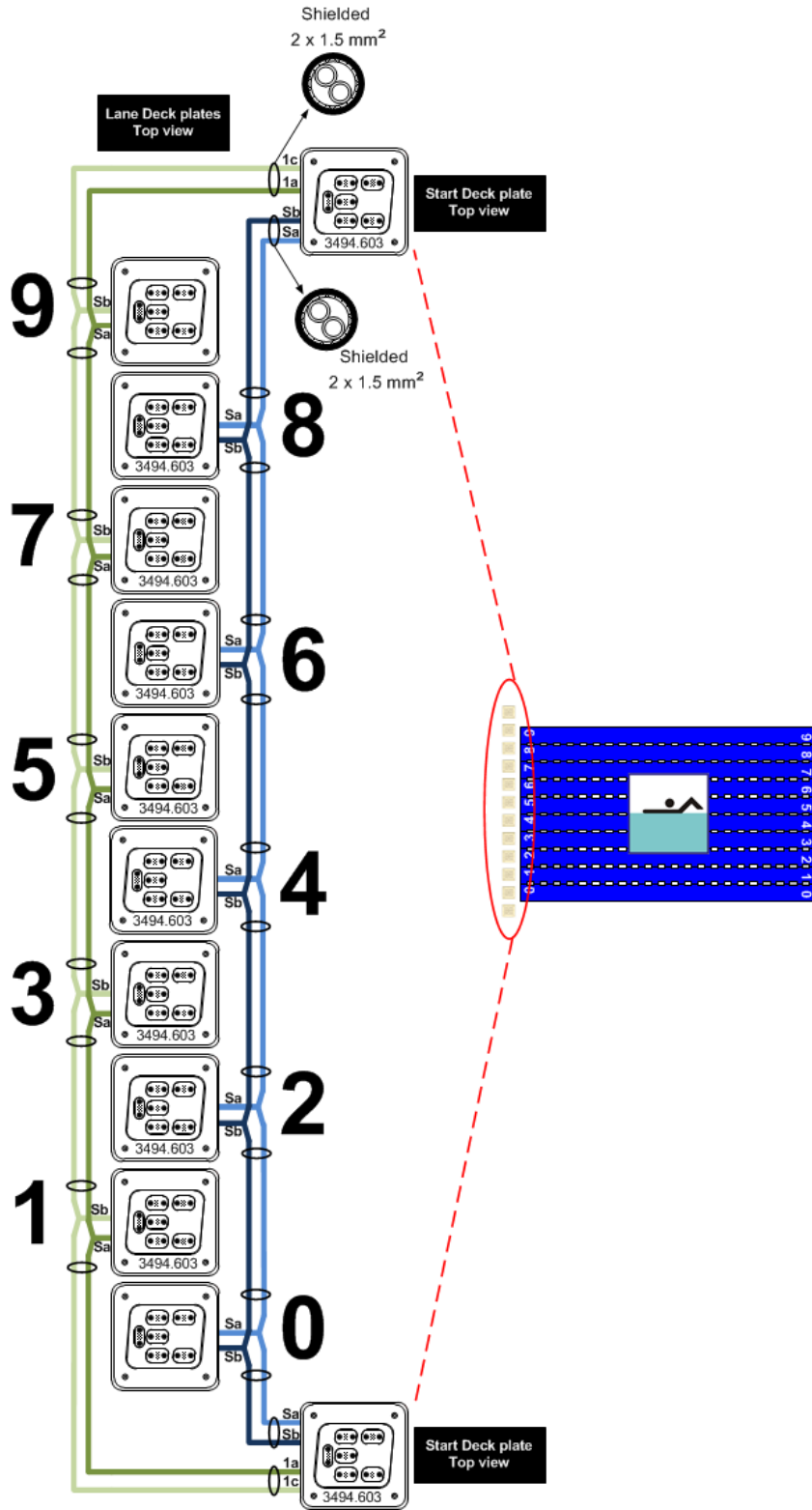


Figure 22 – Loudspeaker's wiring with the deck plates

	AMPLI 1		AMPLI 2		
Start DP	Sa	Sb	1a	1c	Start DP
0	Sa	Sb			
			Sa	Sb	1
2	Sa	Sb			
			Sa	Sb	3
4	Sa	Sb			
			Sa	Sb	5
6	Sa	Sb			
			Sa	Sb	7
8	Sa	Sb			
			Sa	Sb	9
Start DP	Sa	Sb	1a	1c	Start DP

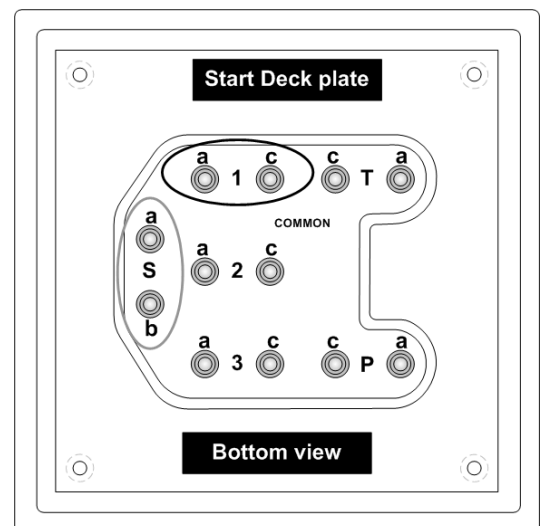
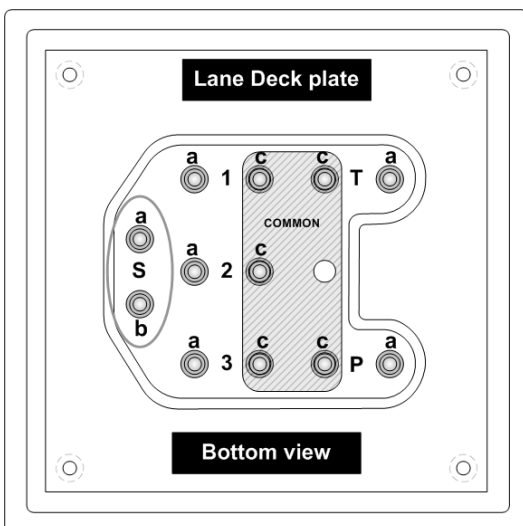


Figure 23 – Loudspeaker's wiring

### 5.3 ODB10-SW / TIMING ROOM

The connection between the timing device and the ODB10-SW is made with standard cables according to the below schematic diagram:

#### 5.3.1 Connection with Quantum PRY

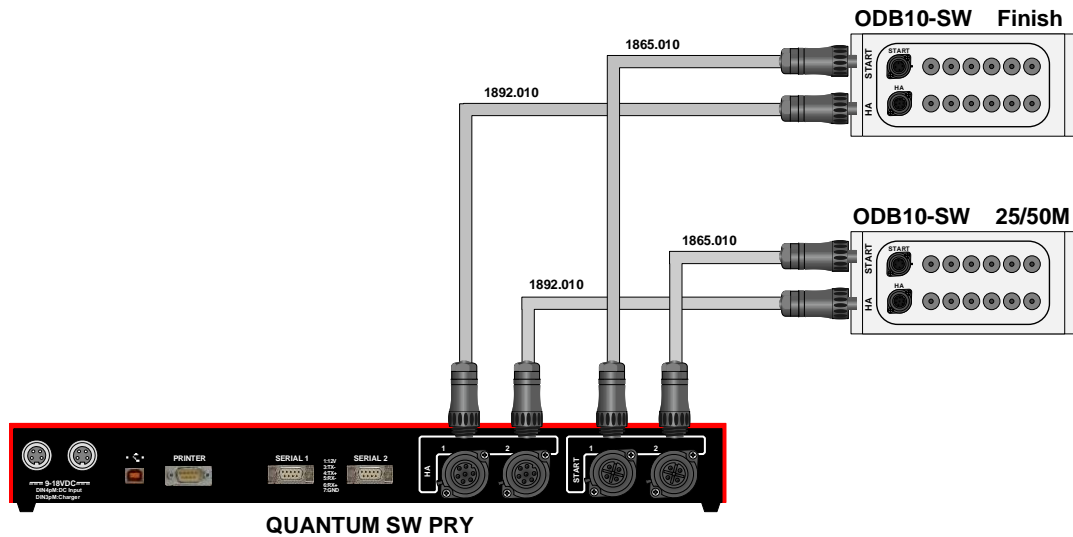


Figure 24 – Connections between Quantum PRY / ODB10-SW

#### 5.3.2 Connection with Quantum PRY & SDY

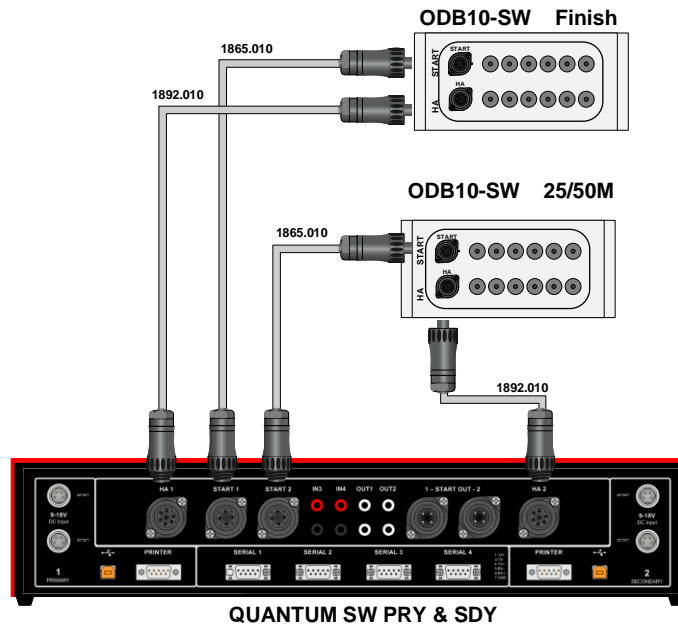




Figure 25 – Connections between Quantum PRY & SDY / ODB10-SW



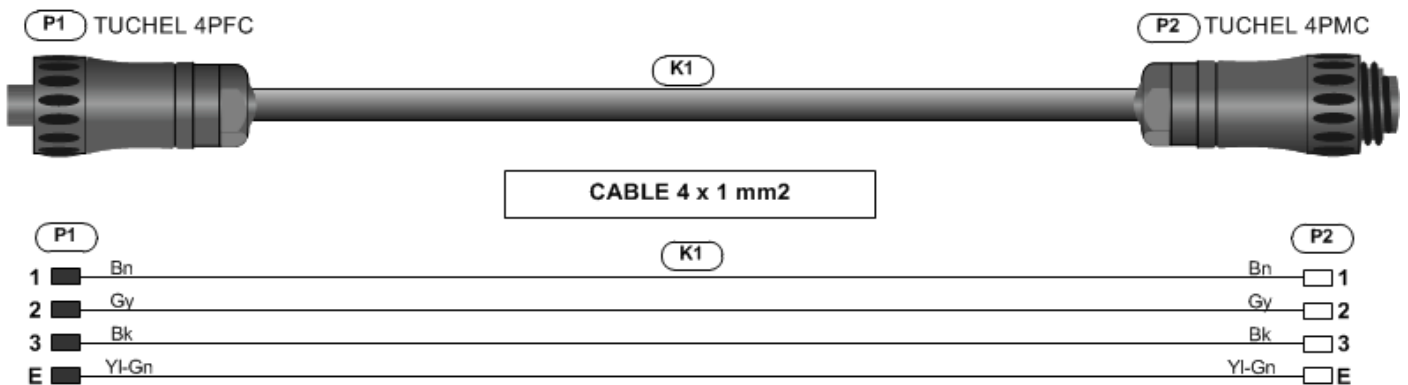
**THE MAXIMUM DISTANCE BETWEEN THE QUANTUM AQ AND THE ODB10 IS 200M.**

## 6 ELECTRICAL PROPERTIES

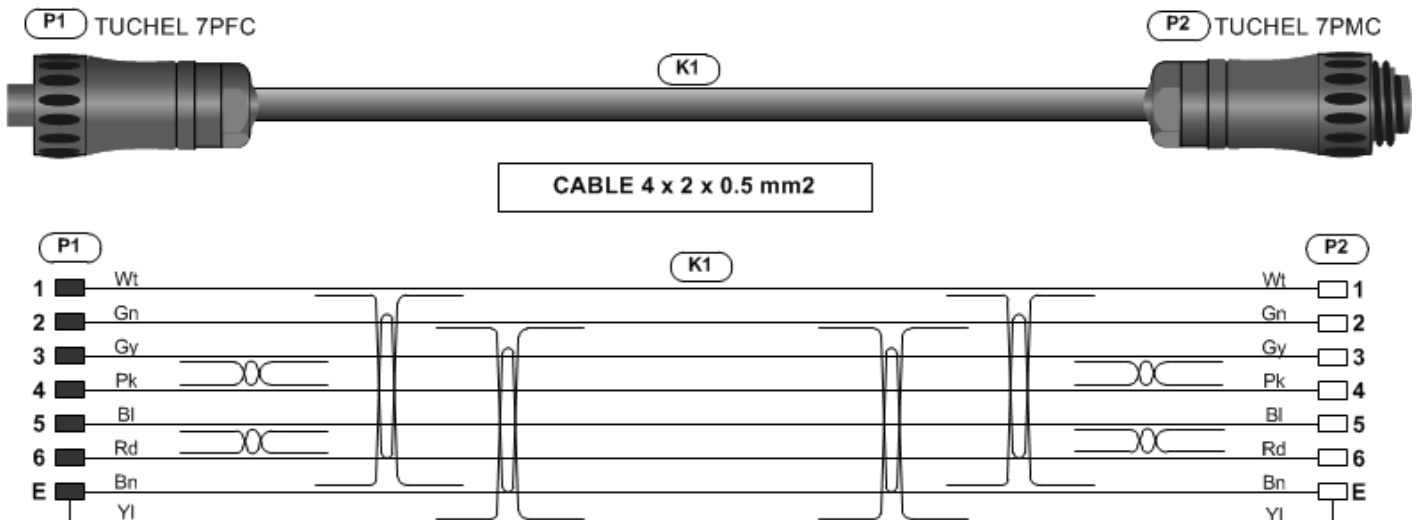
### 6.1 ODB10-SW Connectors pinning

Connector	Pinning	
<b>START</b> 4PMT Tuchel	1 : Ready - 2 : Start + 3 : Start - 4 : Ready +	
<b>HA</b> 7PMT Tuchel	1 : PRY +12V 2 : SDY +12V 3 : PRY Data + 4 : PRY Data - 5 : SDY Data + 6 : SDY Data - 7 : GND	

### 6.2 START cable 1865.010



### 6.3 HA Cable 1892.010



## 7 PROPERTIES

### 7.1 Dimensions and weight

Dimension of ODB10-SW (housing): Hx269/Wx540/Dx130

Case weight:

ODB10-SW PRY 10 Lanes: 3.350 kg

ODB10-SW PRY & SDY 10 Lanes: 3.690 kg

### 7.2 Maintenance

The OSB10-SW distribution box does not require any preventive maintenance.

In case of a defective module **3494.600**, proceed to the card's exchange as described in *chapter 3.2*.

### 7.3 Storage

The ODB10-SW must be kept in a clean and dry place.

The storage temperature is -10°C to +60°C whereas the working temperature is 0°C to +45°C.

### 7.4 Deck plate protection (reminder)

To protect contacts and wiring against the corrosive nature of the pool water, the following steps must be taken:

1. The timing system (Quantum) must be **switched off and disconnected** out of meetings.
2. After the meetings, the peripherals banana plugs (OCP, HP, RBD, OIT) must be **disconnected** and **greased** with **silicon grease (9038.7047)**.
3. Also the deck plate's terminals must be completely filled with **silicon grease (9038.7047)**.



**PLEASE USE THE PROVIDED SILICON GREASE BLUESTAR PASTE B 431**



## 8 APPENDIX

### 8.1 Index of figures

Figure 1 – ODB10-SW material delivered ..... 2

Figure 2 – Connections view ..... 2

Figure 3 – ODB10-SW without cover ..... 3

Figure 4 – Deck plate ..... 5

Figure 5 – Deck plate side & top view ..... 5

Figure 6 – Deck plate bottom view ..... 5

Figure 7 – Deck plate installation ..... 6

Figure 8 – ODB10-SW Primary configurations ..... 7

Figure 9 – ODB10-SW Primary & Secondary configurations ..... 7

Figure 10 – Harness circuit's view ..... 8

Figure 11 – Spare part in OBD10-SW PRY & SDY ..... 8

Figure 12 – 1x ODB10 PRY ..... 9

Figure 13 – 1x ODB10 PRY & SDY ..... 9

Figure 14 – 2x ODB10 PRY ..... 10

Figure 15 – 2x ODB10 PRY & SDY + PRY ..... 10

Figure 16 – 2x ODB10 PRY & SDY + PRY & SDY ..... 11

Figure 17 – ODB10-SW Lanes inputs ..... 12

Figure 18 – Fitting the wires in terminal ..... 12

Figure 19 – Deck plate protection ..... 13

Figure 20 – Deck plate's top's view connected with ODB10-SW ..... 14

Figure 21 – Start deck plate's top view connected with ODB10-SW ..... 15

Figure 22 – Loudspeaker's wiring with the deck plates ..... 16

Figure 23 – Loudspeaker's wiring ..... 17

Figure 24 – Connections between Quantum PRY / ODB10-SW ..... 18

Figure 25 – Connections between Quantum PRY & SDY / ODB10-SW ..... 18

### 8.2 Version history

Version	Date	Modifications since last version
1.0	01/12/11	Initial version
1.1	21/03/12	Various modifications in chapters 2.2 / 3.1 / 5.3
1.2	04/07/12	Chapter 6 added + modifications in chapter 5.2.2
1.3	20/07/12	Chapter <i>Deck plate protection</i> added

---

1.4	29/10/12	- Chapter 2.3 <i>Deck plate</i> added - Max. distance between Deck plate & ODB10 added in chapter 5.2.2 - Chapter 5.2.3 modified (Figure 16 & wiring table)
1.5	22/10/13	Chapter 6.2 & 6.3 added (Start & HA cables wiring)
1.6	20/07/15	Pictures updated with new StartTime
1.7	07/12/18	Pictures updated with new case

## NOTES



