

AQUATICS



TOUCHPAD OCP5

150x60 / 190x90 / 200x60 / 240x90 FINA

User's Manual

2924.510.02

Version 3.1

Edition February 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 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

| | | |
|----------|--|-----------|
| 1 | INTRODUCTION..... | 1 |
| 2 | DESCRIPTION OF THE OCP5 TOUCHPAD | 2 |
| 3 | MOUNTING THE OCP5 TOUCHPAD | 3 |
| 3.1 | Suspension of gutter wall (60cm Touchpad) | 3 |
| 3.2 | Angle bracket mounting (2924.629 for 90cm Touchpad)..... | 3 |
| 3.3 | Direct mounting (90cm Touchpad)..... | 3 |
| 4 | HANDLING THE OCP5 TOUCHPAD | 8 |
| 4.1 | Test, preparation and timing | 8 |
| 4.1.1 | Check without pressure applied | 8 |
| 4.1.2 | Sensitivity test with pressure applied..... | 9 |
| 4.1.3 | Operational test with timing installation | 10 |
| 5 | MAINTENANCE..... | 11 |
| 5.1 | Handling | 11 |
| 5.1.1 | Drying | 11 |
| 5.1.2 | Storage | 11 |
| 5.1.3 | Cleaning of the contact system | 12 |
| 5.2 | Repair..... | 12 |
| 5.2.1 | Test before repair work | 12 |
| 5.2.2 | Replacement of the top contact strip | 13 |
| 5.2.3 | Replacement of the bottom contact strip | 14 |
| 5.2.4 | Replacement of a PVC profile (4)..... | 16 |
| 5.2.5 | Stick contact strips | 17 |
| 6 | APPENDIX..... | 18 |
| 6.1 | Index of tables and figures | 19 |
| 6.2 | Abbreviations and symbols | 20 |
| 6.3 | Version history | 20 |

1 INTRODUCTION

The OCP5 touchpad consists of a high-grade stainless steel frame, supporting interlinked individual PVC slats. The slats are hard-wearing, nonabrasive and provide an excellent non-slip surface.

Any pressure applied by a swimmer reaching the arrival wall causes the closure of tape switch contacts which is instantaneously recorded by the timing system.

The touchpad is designed for sustained heavy use. Reliability and durability are unaffected by hard water or chemical corrosion. The contact strips within the pad will close and thus give a timing signal, when 2 to 3 kg of localized pressure is applied to any point on the surface of the pad. The clever design of the touchpad is such that whilst it is highly sensitive to localized impact, it will not react to an overall change in surface pressure, thus eliminating false impulses from waves and wash.

The integration of carefully selected high quality materials and leading edge technology guarantee long life and make the OCP5 the reference for swimming timing equipment. Repairs may be carried out by the client, on site, meaning that no pads need be returned for repair.

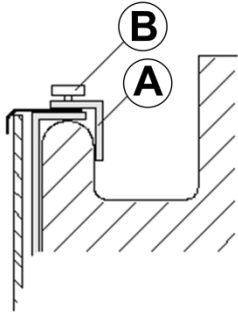
2 DESCRIPTION OF THE OCP5 TOUCHPAD

| Pos. | Description | Article number | | | |
|------|--|------------------------|----------|-----------|-------------|
| | | 60cm | | 90cm | |
| | | 150x60 | 200x60 | 190x90 | 240x90 |
| | | 2924.000 | 2924.001 | 2924.005 | 2924.003 |
| | | | | | FINA |
| (2) | Cap | 9039.8517 | | | |
| (3) | Cable | 2924.667 | | | |
| (4) | Yellow PVC slat | 2924.155 | | 2924.154 | |
| | Black PVC slat | 2924.157 | | 2924.156 | |
| | Yellow/black PVC slat | | | 2924.158 | |
| | Yellow PVC slats with black "Swiss Timing" inscription (Set of 12 slats) | | | 2924.638 | |
| (8) | Black PVC ribbon | 2924.650 | 2924.651 | 2924.649 | 2924.648 |
| (9) | Snap-in-fastener | 9039.8110 | | | |
| (10) | Upper plastic sheath - 235cm | 2924.108 | | | |
| (11) | Contact strip | 2924.051 | 2924.086 | 2924.086 | 2924.068 |
| (12) | Protection envelope 51mm (Length to be announced) | | | 2924.071 | |
| (13) | Tape switch guiding channel | 2924.039 | 2924.088 | 2924.059 | 2924.065 |
| (14) | Buzzer | 2924.631 | | | |
| (15) | Dynamometer | 2924.632 | | | |
| (16) | Perforated contact strip holder 38mm (Length to be announced) | 2924.153 | | | |
| (17) | Fixing clip | 2924.161 | | | |
| | | Direct mounting | | | |
| (18) | Con. M6x40 mm screw | | | 9039.8590 | |
| (19) | ∅ 6x40 mm peg | | | 9039.8590 | |
| (20) | Washer M6 Ext. 18 mm | | | 9582.1504 | |
| | Maintenance material | 2924.621 | | 2924.622 | |
| | | Angle bracket mounting | | | |
| (23) | Con. M8x60 mm screw | | | 9039.8591 | |
| (24) | ∅ 8x60 mm peg | | | 9039.8591 | |
| (25) | Washer M8 Ext. 24 mm | | | 9580.1614 | |
| (26) | ∅ 6mm rock drill | | | 9051.9804 | |
| (27) | ∅ 8mm rock drill | | | 9051.9806 | |
| (A) | Complete fixing angle brackets | 2924.626 | | | |
| (B) | Special nut | 2924.098 | | | |

See APPENDIX (page 18)

3 MOUNTING THE OCP5 TOUCHPAD

3.1 Suspension of gutter wall (60cm Touchpad)



Adjust angle brackets **(A)** according to thickness of gutter wall and tighten special nut **(B)**.

Figure 1 - Touchpad 60cm / Gutter mounting

3.2 Angle bracket mounting (90cm Touchpad)

Install angle brackets and pull them so that the touchpad lies **flat against the wall of the pool**. Drill a hole with the Ø6mm rock drill **(26)** and then with the Ø8mm rock drill **(27)**. Fit the Ø8mm pegs inside **(24)** the hole then fix the angle brackets with the screw **(23)** and the washer **(25)**.

Holes dimensions: Ø8mm x 65mm

See pages 4 and 6.

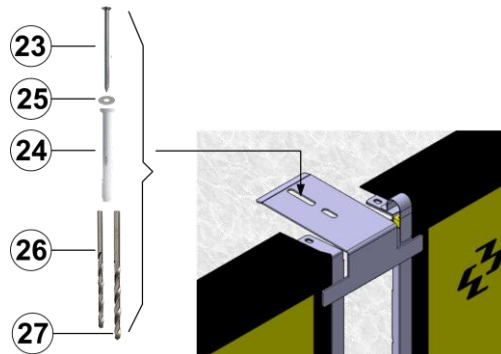


Figure 2 - Touchpad 90cm / Angle bracket mounting

3.3 Direct mounting (90cm Touchpad)

The touchpad must be screwed on so that the touchpad lies **flat against the wall of the pool**. Holes dimensions: Ø6mm x 45mm

See pages 5 and 7.

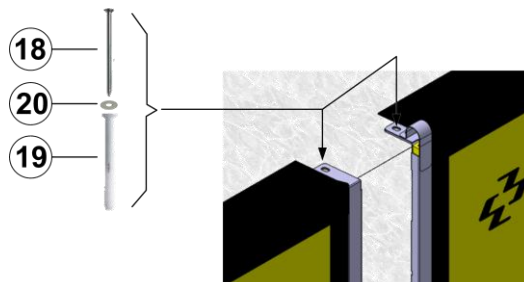


Figure 3 - Touchpad 90cm / Direct mounting

ANGLE BRACKET MOUNTING
Touchpad 240x90

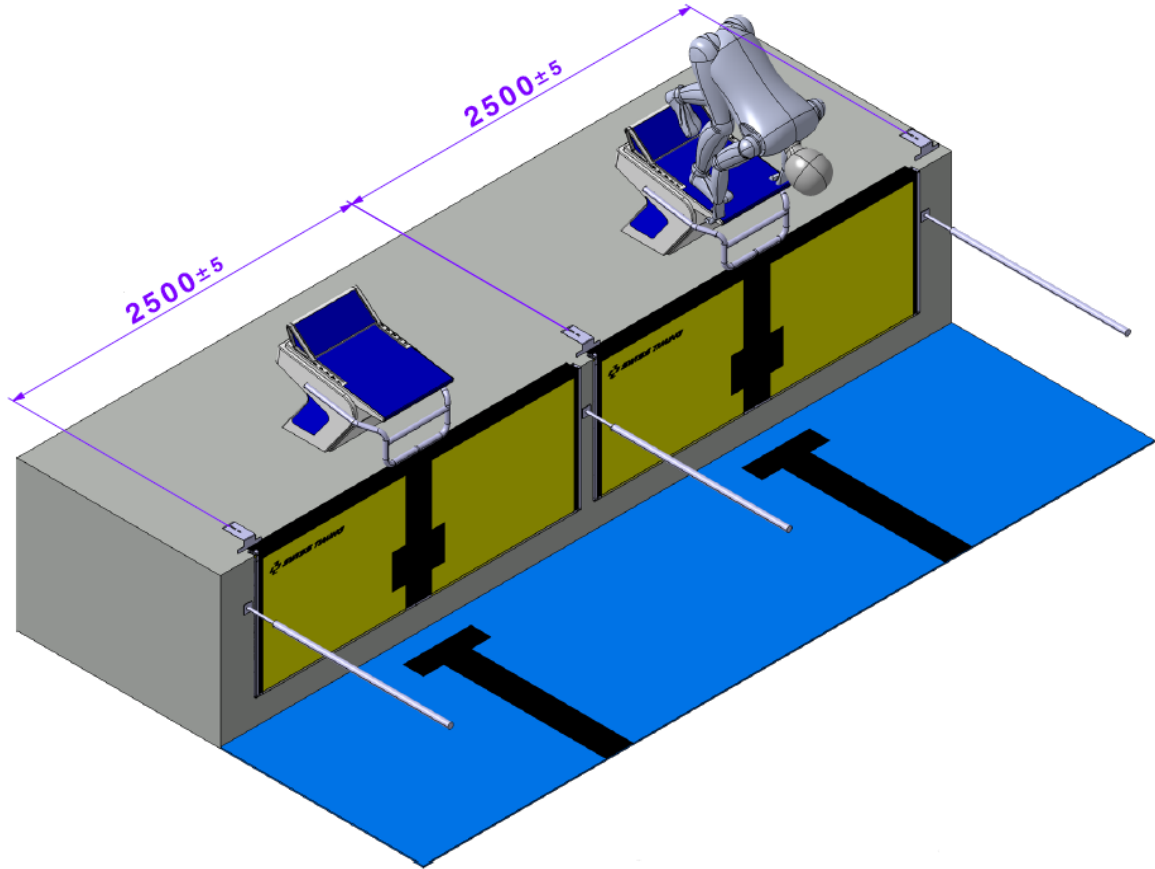
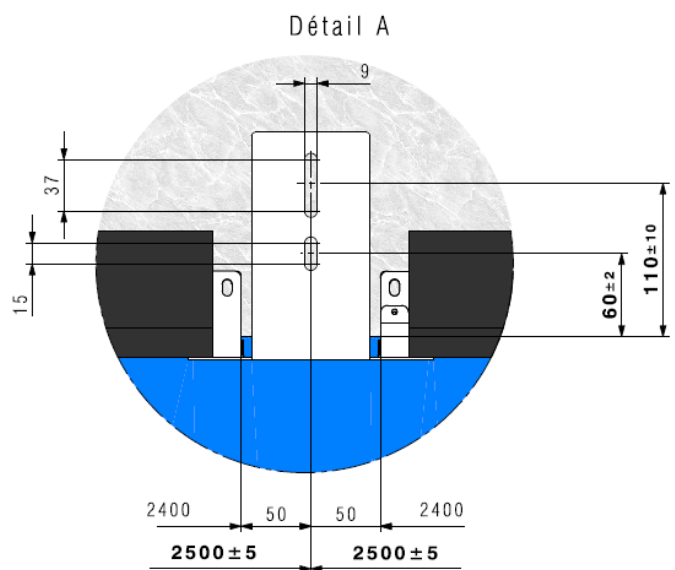
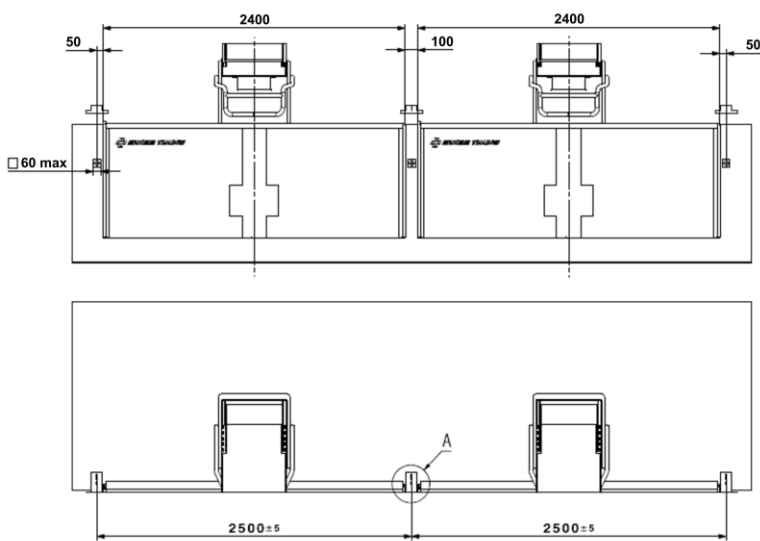


Figure 4 - Touchpad 240x90 / Angle bracket mounting



DIRECT MOUNTING
Touchpad 240x90

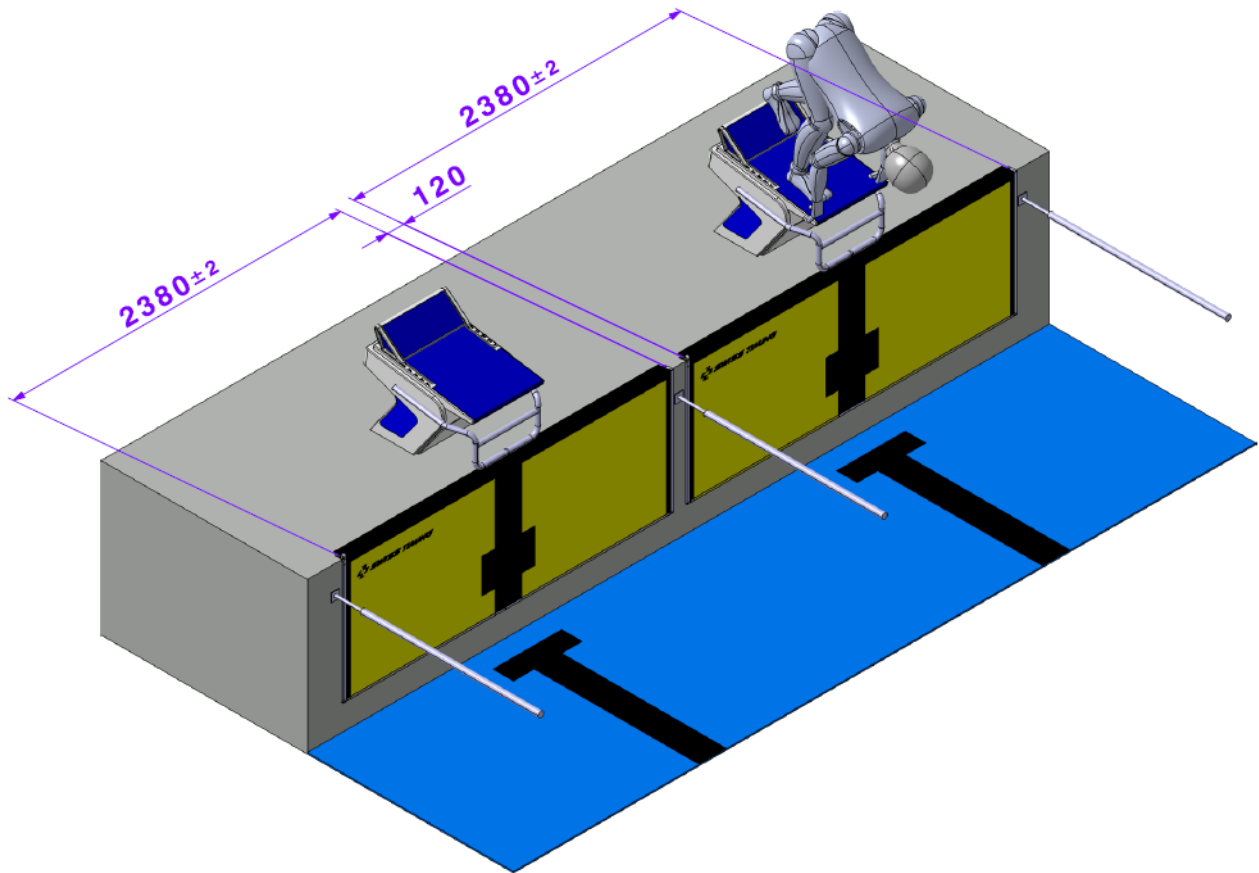
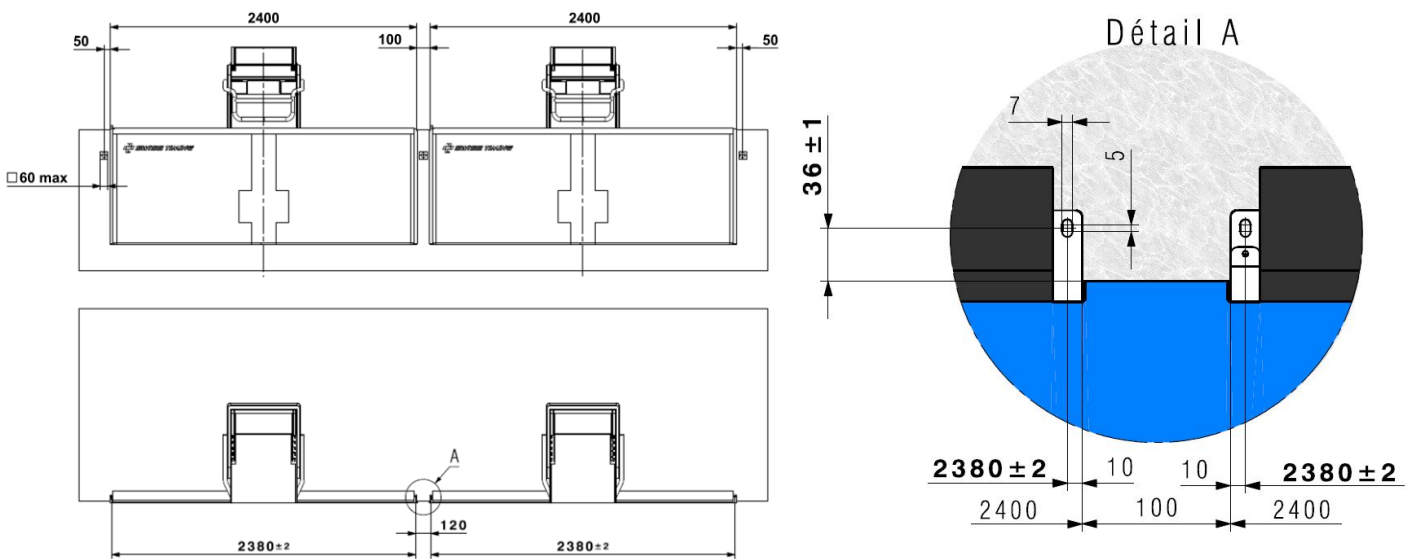


Figure 5 - Touchpad 240x90 / Direct mounting



ANGLE BRACKET MOUNTING
Touchpad 190x90

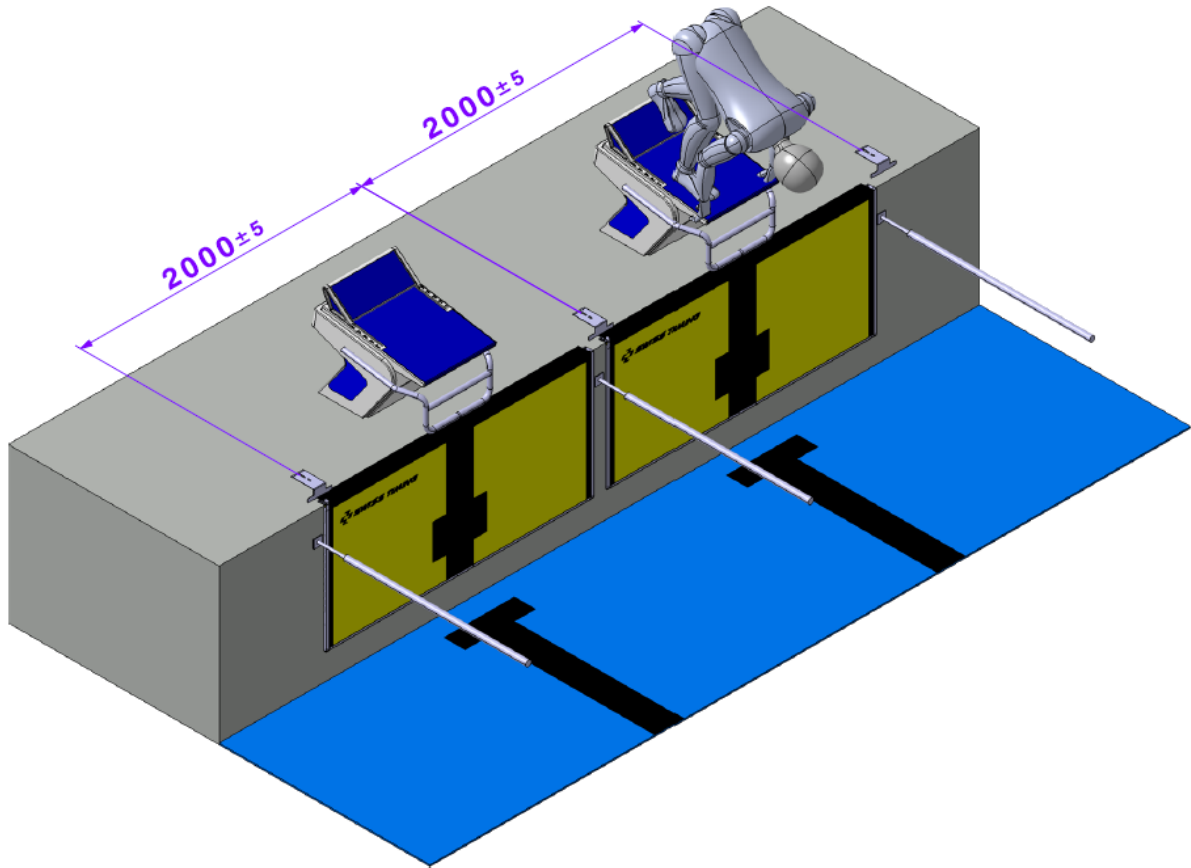
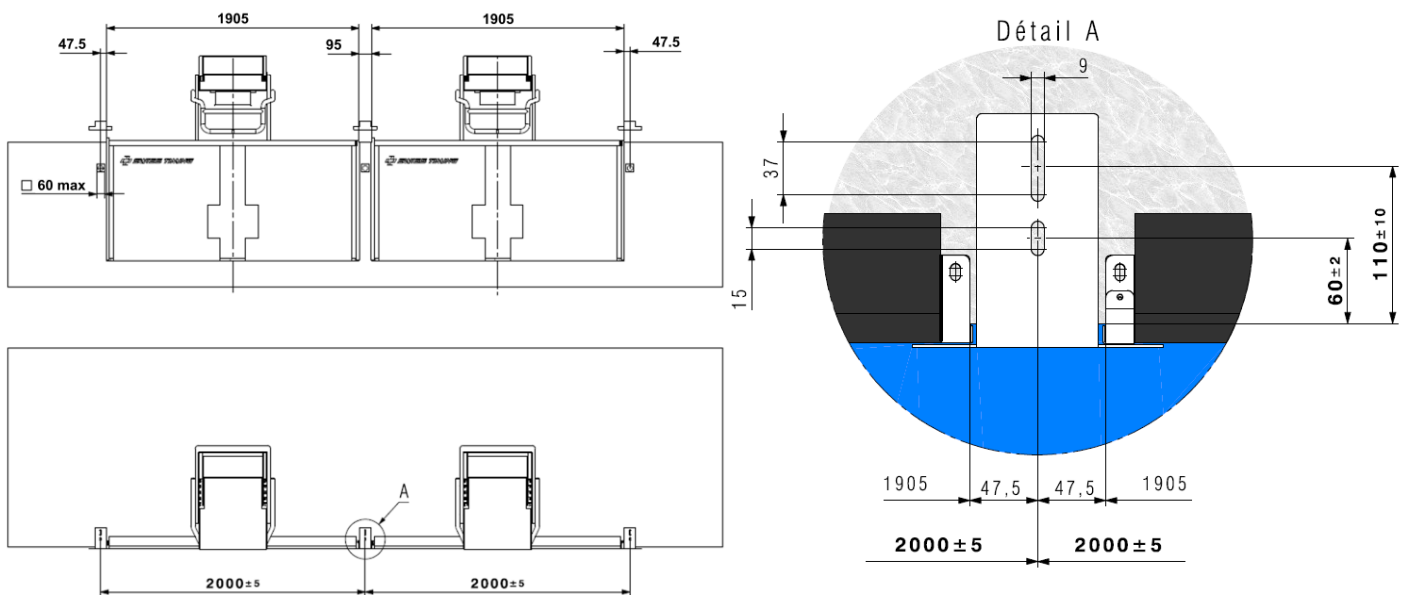


Figure 6 - Touchpad 190x90 / Angle bracket mounting



DIRECT MOUNTING
Touchpad 190x90

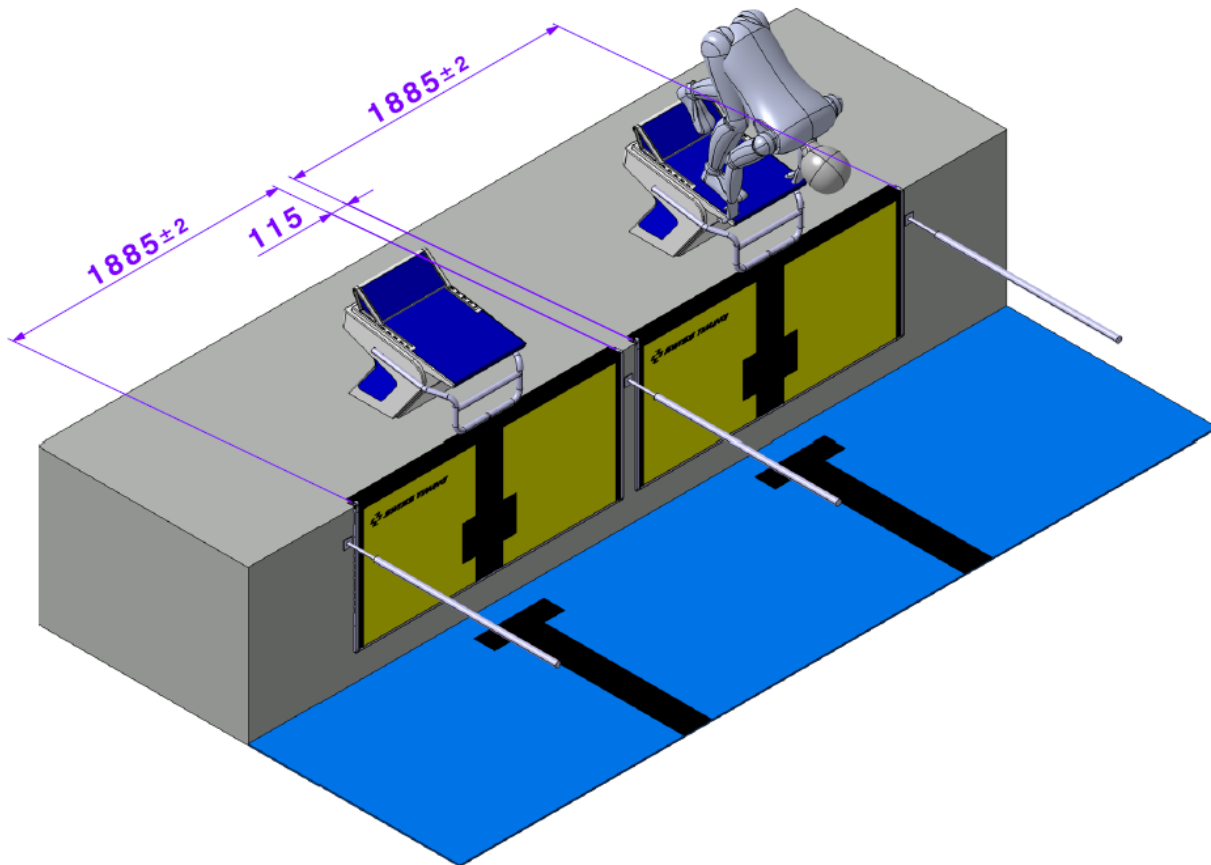
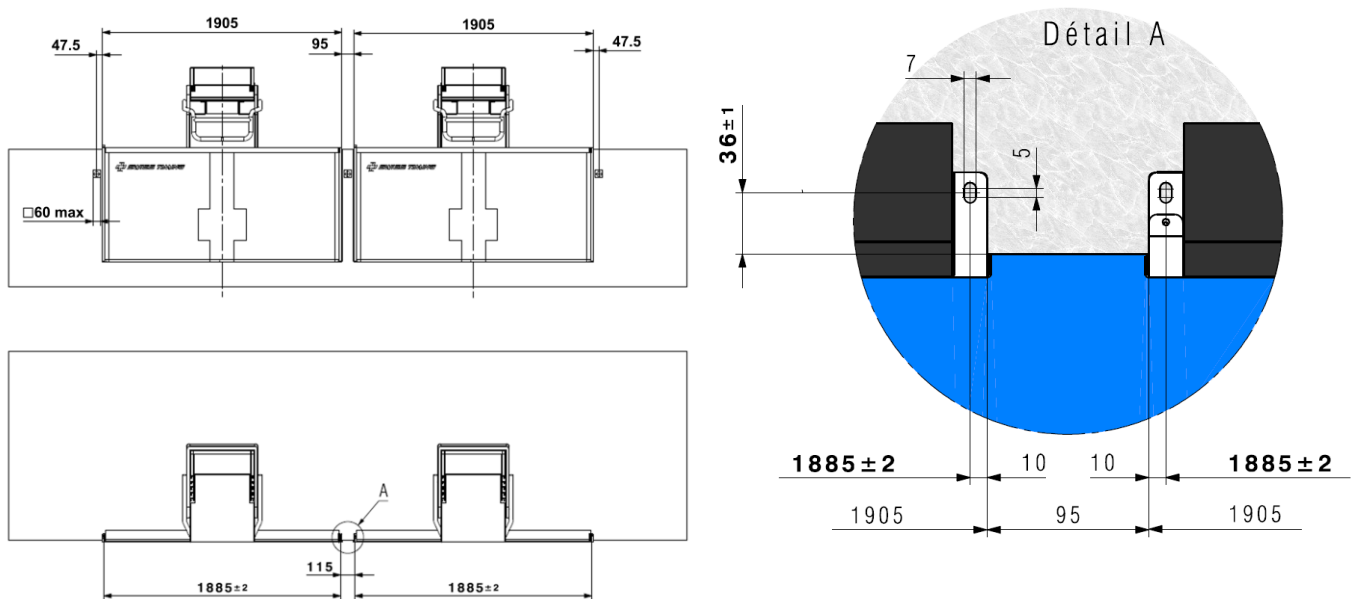


Figure 7 - Touchpad 190x90 / Direct mounting



4 HANDLING THE OCP5 TOUCHPAD

4.1 Test, preparation and timing

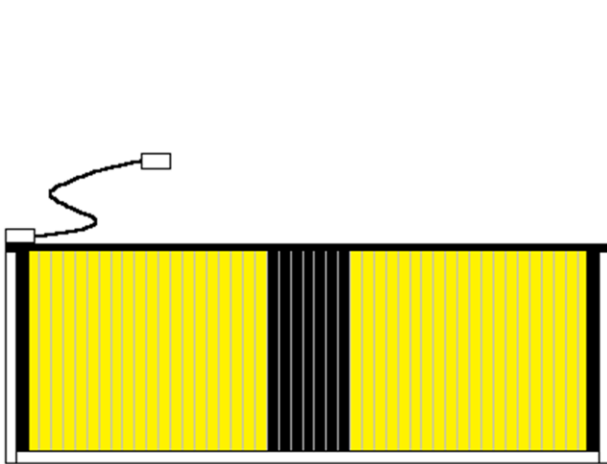


Figure 8 - Touchpad 60cm / Test

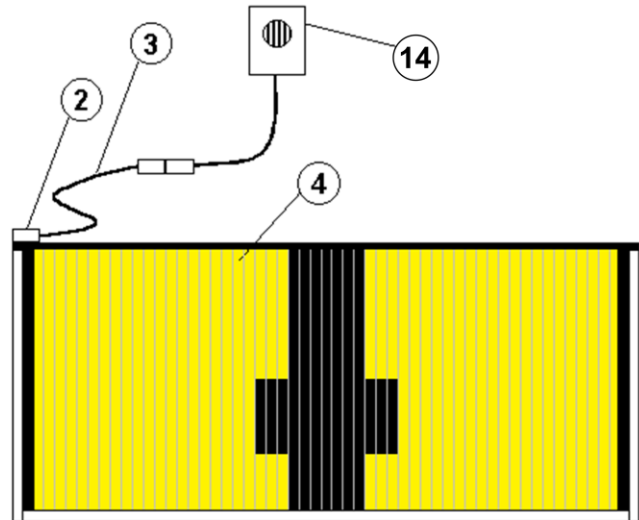


Figure 9 - Touchpad 90cm / Test

4.1.1 Check without pressure applied

- Connect the buzzer (14) to cable (3).
- The buzzer should produce no sound if no pressure is applied upon the touchpad.

A continuous sounding of the buzzer can have one of the following causes:

- Compression of a contact strip due to a convex pool wall.
- Tape switch guiding channel (13) or contact strip (12) bent.
- Top angle bar (21) bent.
- Foreign body between PVC profile (4) and contact strip assembly (10) (11) or (13) (11).
- PVC profiles (4) disjoined.
- If an external cause cannot be found, repair the touchpad as explained in section 5.2.

4.1.2 Sensitivity test with pressure applied

- Connect buzzer (14) to cable (3) as per 4.1.
- Measure the power required to produce a buzzing sound when applying pressure with the dynamometer (15) at water level and underneath (the dynamometer must be placed in the middle of a profile (4)).

➤ Sensibility range: 1,5 to 3,5 kp.

- There can be different reasons for the insensibility of a touchpad:
 - The contact strip does not make any contact because its electric cable (3) is broken or the soldered joint is damaged.
 - The contact strip (11) or the tape switch guiding channel (13) or the top angle bar (21) is bent.
 - The contact strip is internal damaged.

Roughness between two contact strips (11) and the PVC profile (4) cannot close the contact(s) anymore.

- In this case:
 - Remove roughness...
 - Or move the touchpad horizontally or vertically (if possible).

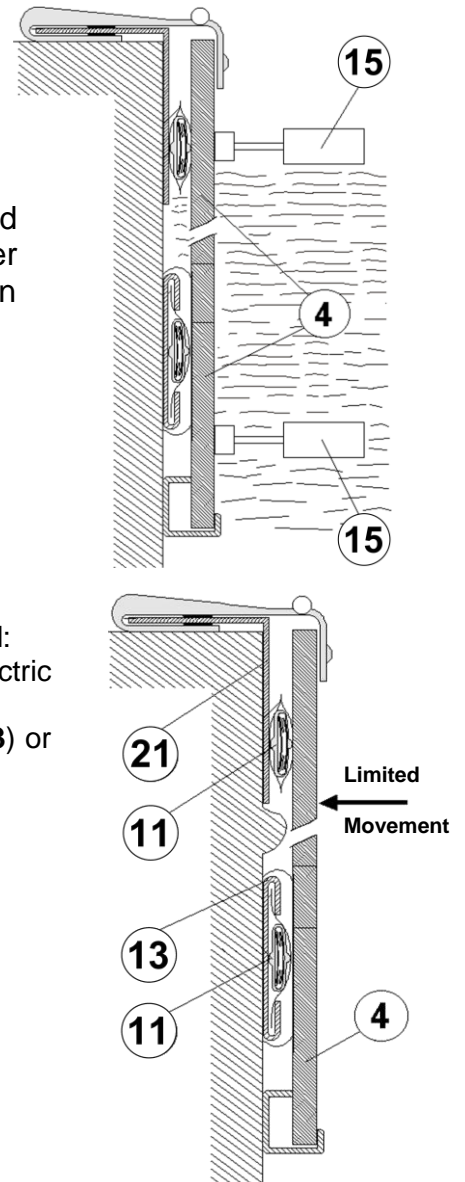
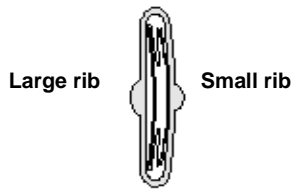


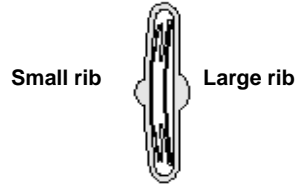
Figure 10 - Contact / Sensibility

If you cannot find any external causes, repair touchpad as per paragraph 5.2.

Standard mounting



Special mounting



Note: it is possible to reduce the sensitivity of the touchpad through a special mounting of the contact strips. Nevertheless we recommend the standard mounting. The sensitivity can be reduced per zone, if only one contact strip is placed with the special mounting.

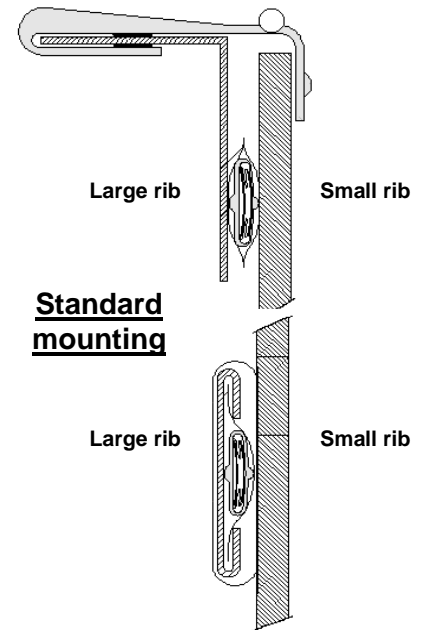


Figure 11 - Contact / Standard mounting

4.1.3 Operational test with timing installation

- Connect the touchpad with cable **(3)** to the timing installation.
- Simulate arrivals by touching the pads.
- If the timing devices do not receive any impulses, follow instruction in paragraph 5.2 or user's manual of timing devices.

5 MAINTENANCE

5.1 Handling

5.1.1 Drying

- Take the touchpad out of the water.
- Rinse with clean water.
- Put it into a standing position and allow to trickle off as per Figure 12.
- Wipe with a cloth.



Do not leave the touchpads unused in the water. The drying time must be longer than the time in the water, so that the absorbed water can trickle off.

5.1.2 Storage

- Provide an arrangement to store the touchpads or get in contact with Swiss Timing Ltd to order a red trolley (Article **No. 2924.903**).
- Trolley should be stored in a dry room and be protected from dust.



Figure 12 - Touchpads on trolley



ABSOLUTELY AVOID STORING THE PADS HORIZONTALLY AND ONE ON TOP OF EACH OTHER. THIS FAULTY STORAGE COULD DAMAGE THE CONTACT STRIPS.

5.1.3 Cleaning of the contact system



Figure 13 - Maintenance / Contact cleaning I

- Pull the ends of bottom switch assembly (13) out of connection angles by lifting up and turn upside down.

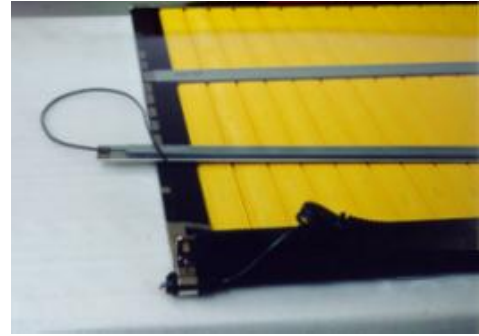


Figure 14 - Maintenance / Contact cleaning II

- Remove plastic sheath (12) and the transparent polyester brace (16). Clean the dirty parts (sensitivity loss). Change the elements if they are ripped up or too hard.

5.2 Repair

5.2.1 Test before repair work

- See also paragraph 4.
- Test the doubtful profile on another swim lane and control with the timing installation. It is possible that the coder or the cable is defect and not the touchpad.
- Does the test above confirm the damage o the touchpad, change the contact strip as follows:



Figure 15 - Maintenance / Contact test I

- Remove cap (2) and cut isolating tube.
- Electronic measurement:



Figure 16 - Maintenance / Contact test II

- Unsolder the wire leads of the two (or three) tape switches.
- Find the defective tape switch by means of the buzzer (14).

| | |
|------------------------------|--|
| <u>Closed</u> contact | If the resistance is higher than 50Ω , the contact strip must be changed, because the electrodes are oxidized. |
| <u>Open</u> contact | If the resistance is in the range of $100\text{ k}\Omega$, the contact strip must be possibly changed, because an important amount of water could have penetrated, this can produce dirtiness between the contacts. |

5.2.2 Replacement of the top contact strip

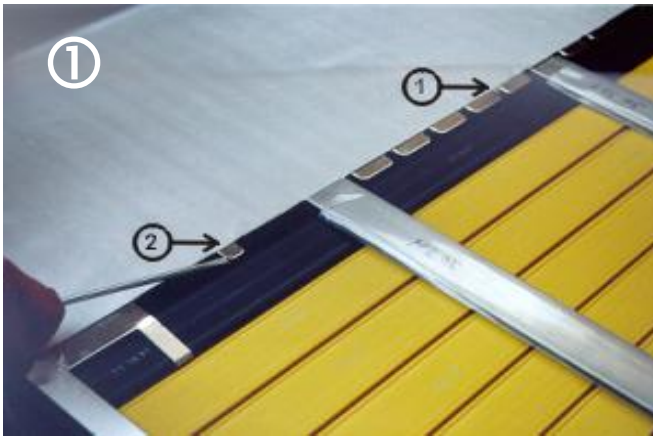


Figure 17 - Maintenance / Contact replacement I

- Remove cap (2) (Figure 15 / page 12) and cut up isolating tube.
- Unsolder the wire leads of the two (or three) tape switches (I Figure 16 / page 12).
- Lift up hook ① and hook ② only by old touchpads, to remove the black PVC profile (4).



Figure 18 - Maintenance / Contact replacement II

- Remove snap-in fasteners (9) from cover, a length of 60cm.

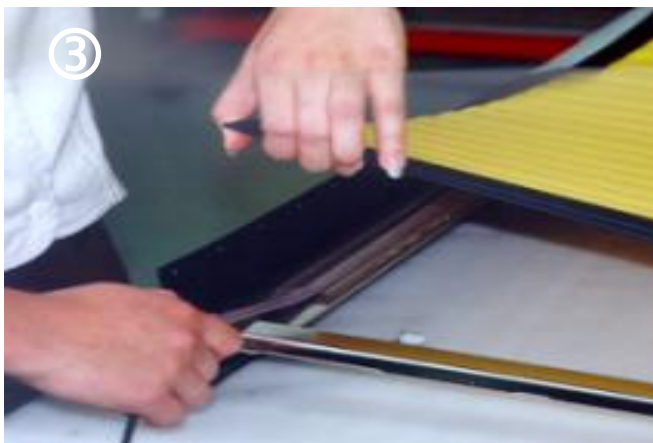


Figure 19 - Maintenance / Contact replacement III

- Lift up PVC profile (4) and pull out damaged contact strip (11) with the cable from the tube (10).
- Introduce new contact strip in the PVC tube and place the contact system correctly. Unsolder the two (or three) tape switches (Figure 17 / page 13).
- Pass shrink tube over soldering point (maintenance material 2924.621 or 2924.622).

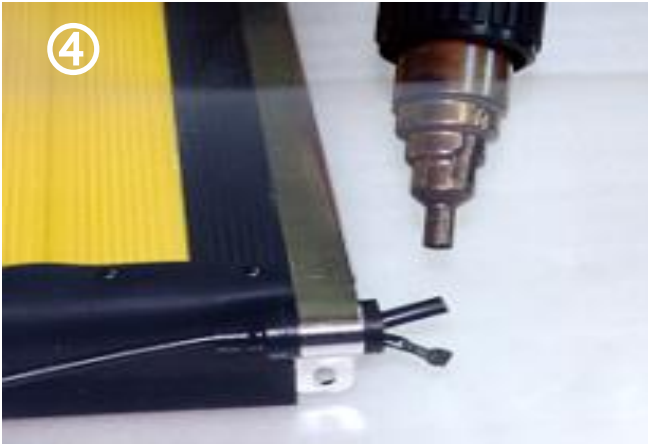


Figure 20 - Maintenance / Contact replacement IV

- Shrink tube with warm air dryer.
- Place cap (2).
- Redress hook ① and hook ② only by old touchpads.
- Test touchpad as per paragraph 4.

5.2.3 Replacement of the bottom contact strip

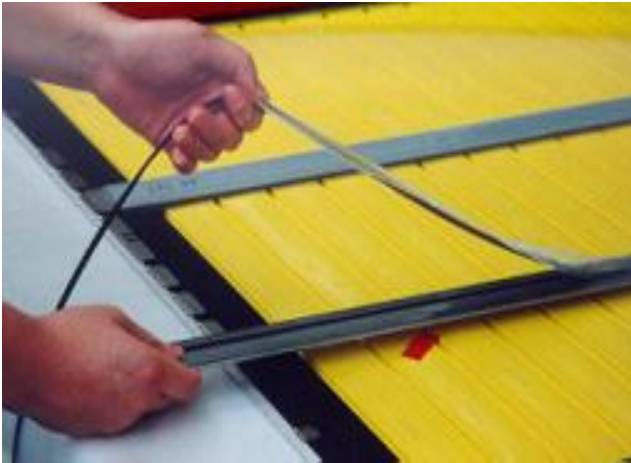


Figure 21 - Maintenance - Contact replacement V

- Remove cap (2) (Figure 15 / page 12) and cut up isolating tube.
- Unsolder the wire leads of the two (or three) tape switches (I Figure 16 / page 12).
- Lift up the profile (13) and extract (Figure 13 / page 12).
- Turn up contact system as per I Figure 14 / page 12).

- Remove electric cable.
- Remove complete plastic sheath (12).
- Remove fixing clip (17).
- Remove transparent polyester (16).
- Take out contact strip (11) as per Figure 21.
 - Old touchpad: unstuck contact strip (11).
- Insert new contact strip (11) on the profile (13).
 - Old touchpad: stick contact strip (11) on the profile (13). Use fresh, double-sided sticker (paragraph 5.2.5).

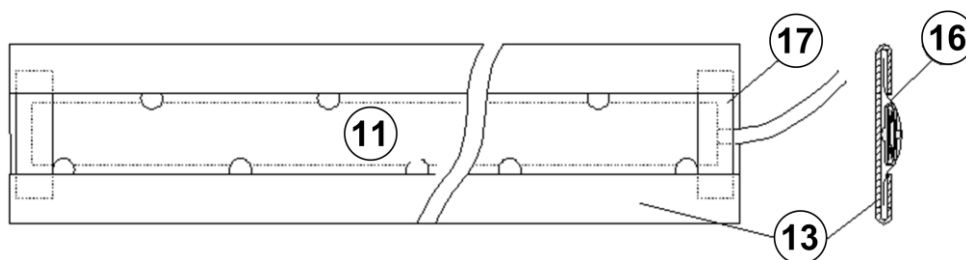


Figure 22 - Maintenance / Contact replacement VI

Introduce first on one side of the tape switch guiding channel (13) the transparent polyester brace (16).

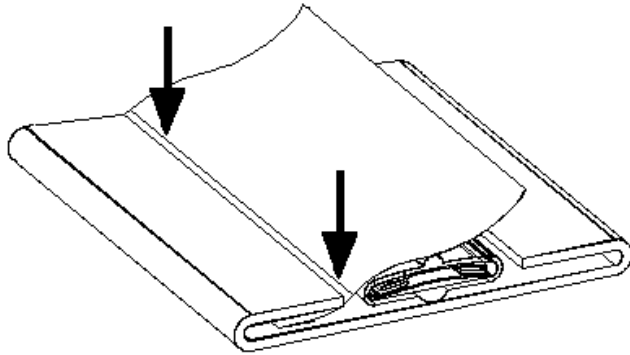


Figure 23 - Maintenance / Contact replacement VII

... and then also on the other side. Set fixing clips (17).

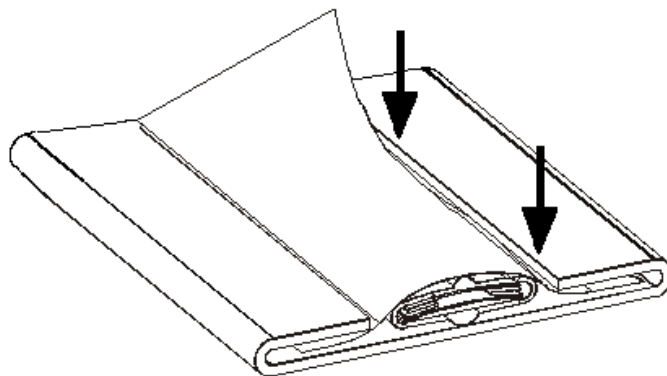


Figure 24 - Maintenance / Contact replacement VIII

- Slide over the plastic sheath (10).
- Turn contact system and introduce it in the lateral guide bars.
- Introduce the cable on the lateral profile of the reserve contact strip in the connection duct then cut it and uncover.
- Solder in parallel to the cables (3) of the two (or three) contact strips (11).
Note: the polarity must not be respected.
- Extract the tube from the duct and shrink it with a dryer as per Figure 20 (maintenance material 2924.621 or 2924.622).
- Replace cap (2).
- Test touchpad as per paragraph 4.

5.2.4 Replacement of a PVC profile (4)

- Remove snap-in fasteners (9) (Figure 18/ page 13).
- Unhook from the frame (22) the bottom of the profile (4) with the help of your thumb or screwdriver and pull it out (Figure 25).
- Introduce the new profile (4) and rebuild the touchpad together.



Figure 25 - Maintenance / PVC profile

5.2.5 Stick contact strips

| Pos. | Type | Article No. |
|------|------------------|-------------|
| (a) | 3M 4930 9x0.6mm | 9038.3553 |
| (b) | 3M 4930 19x0.6mm | 9038.3556 |
| (c) | 3M 927 0.1mm | 9038.3520 |
| (d)* | 3M927 0.1mm | 9038.3520 |

Old touchpad
 (d)* Only stick, if the contact strip is mounted without the transparent polyester (16)

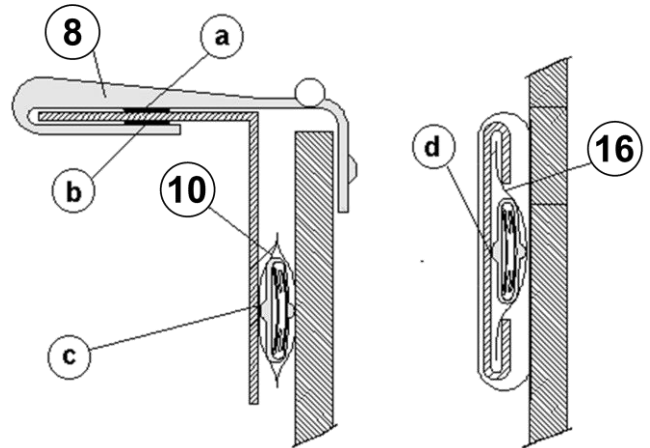
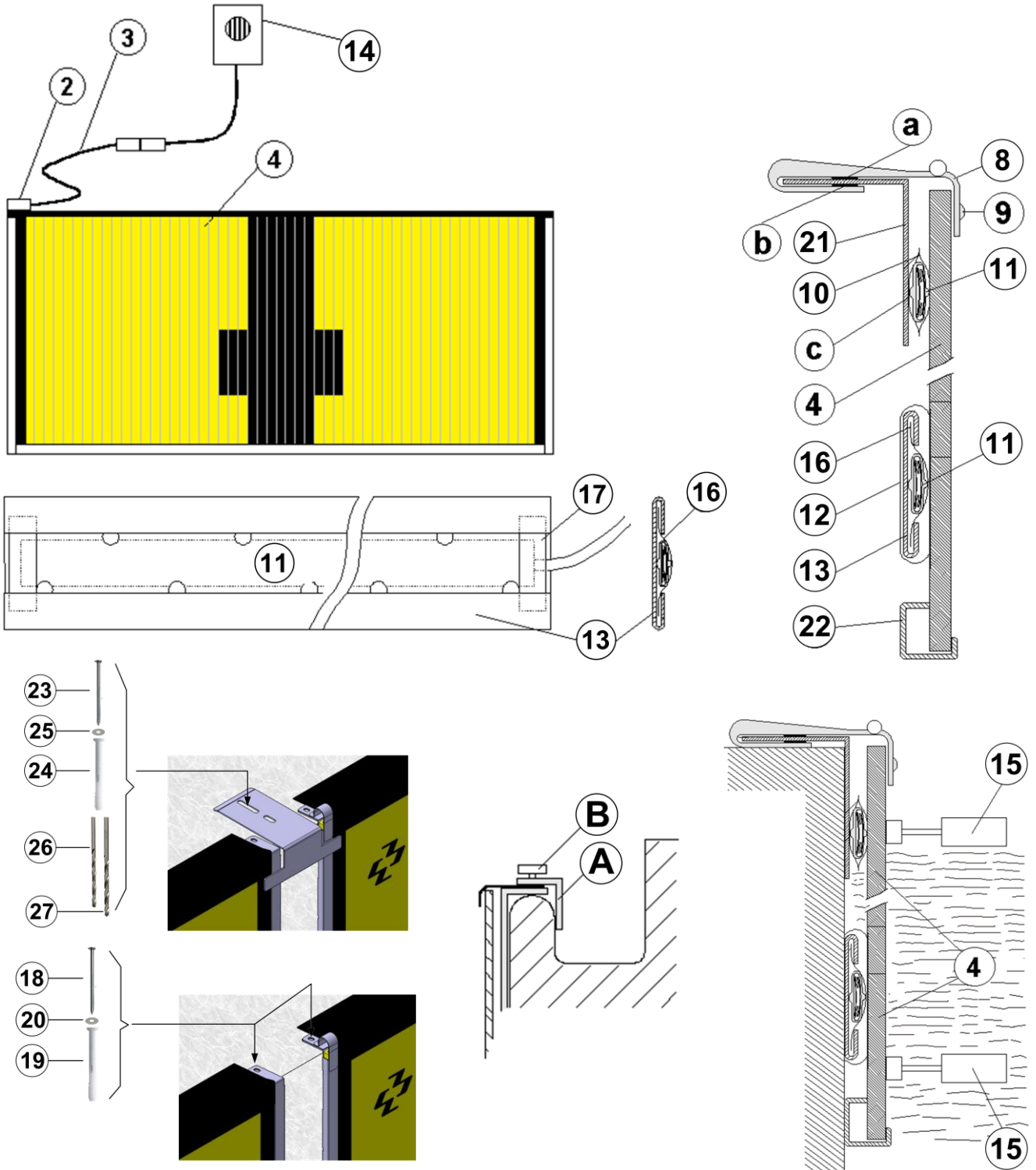


Figure 26 - Maintenance / Double-sided sticker

Note: in process of time, the double-sided sticker could be modified. If the 3M 4930 is not employed anymore, use 3M 4945 (attention: thicker).

6 APPENDIX



6.1 Index of tables and figures

Index of tables

Index of figures

| | |
|---|----|
| Figure 1 - Touchpad 60cm / Gutter mounting..... | 3 |
| Figure 2 - Touchpad 90cm / Angle bracket mounting | 3 |
| Figure 3 - Touchpad 90cm / Direct mounting | 3 |
| Figure 4 - Touchpad 240x90 / Angle bracket mounting | 4 |
| Figure 5 - Touchpad 240x90 / Direct mounting | 5 |
| Figure 6 - Touchpad 190x90 / Angle bracket mounting | 6 |
| Figure 7 - Touchpad 190x90 / Direct mounting | 7 |
| Figure 8 - Touchpad 60cm / Test | 8 |
| Figure 9 - Touchpad 90cm / Test | 8 |
| Figure 10 - Contact / Sensibility | 9 |
| Figure 11 - Contact / Standard mounting | 10 |
| Figure 12 - Touchpads on trolley..... | 11 |
| Figure 13 - Maintenance / Contact cleaning I | 12 |
| Figure 14 - Maintenance / Contact cleaning II | 12 |
| Figure 15 - Maintenance / Contact test I | 12 |
| Figure 16 - Maintenance / Contact test II | 12 |
| Figure 17 - Maintenance / Contact replacement I..... | 13 |
| Figure 18 - Maintenance / Contact replacement II..... | 13 |
| Figure 19 - Maintenance / Contact replacement III..... | 13 |
| Figure 20 - Maintenance / Contact replacement IV | 14 |
| Figure 21 - Maintenance - Contact replacement V | 14 |
| Figure 22 - Maintenance / Contact replacement VI | 14 |
| Figure 23 - Maintenance / Contact replacement VII | 15 |
| Figure 24 - Maintenance / Contact replacement VIII | 15 |
| Figure 25 - Maintenance / PVC profile | 16 |
| Figure 26 - Maintenance / Double-sided sticker | 17 |

6.2 Abbreviations and symbols

| Abbreviations | |
|---------------|--|
| | |

| Symbols | |
|---------|--|
| | |

| Syntax for buttons, labels, menu items etc. in the applications | |
|---|-------------------------|
| Keys, Buttons and labels | [key], [OK], [Result] |
| Menu items | "Menu1" > "Menu2" > ... |
| Tabs | <Tab name> |
| Switches ("switch" box) | 'Active' |
| Program and error messages | "Connection succeeded" |
| Files | test.bmp |
| Folder structure | Folder1 / Folder2 / ... |

6.3 Version history

| Version | Date | Modifications since last version |
|---------|----------|------------------------------------|
| 1.0 | 01/01/10 | Initial version |
| 2.3 | 02/02/11 | Drawings and various modifications |
| 3.0 | 10/10/14 | New pictures and spare parts item |
| 3.1 | 09/02/15 | New installation materials added |

NOTES

