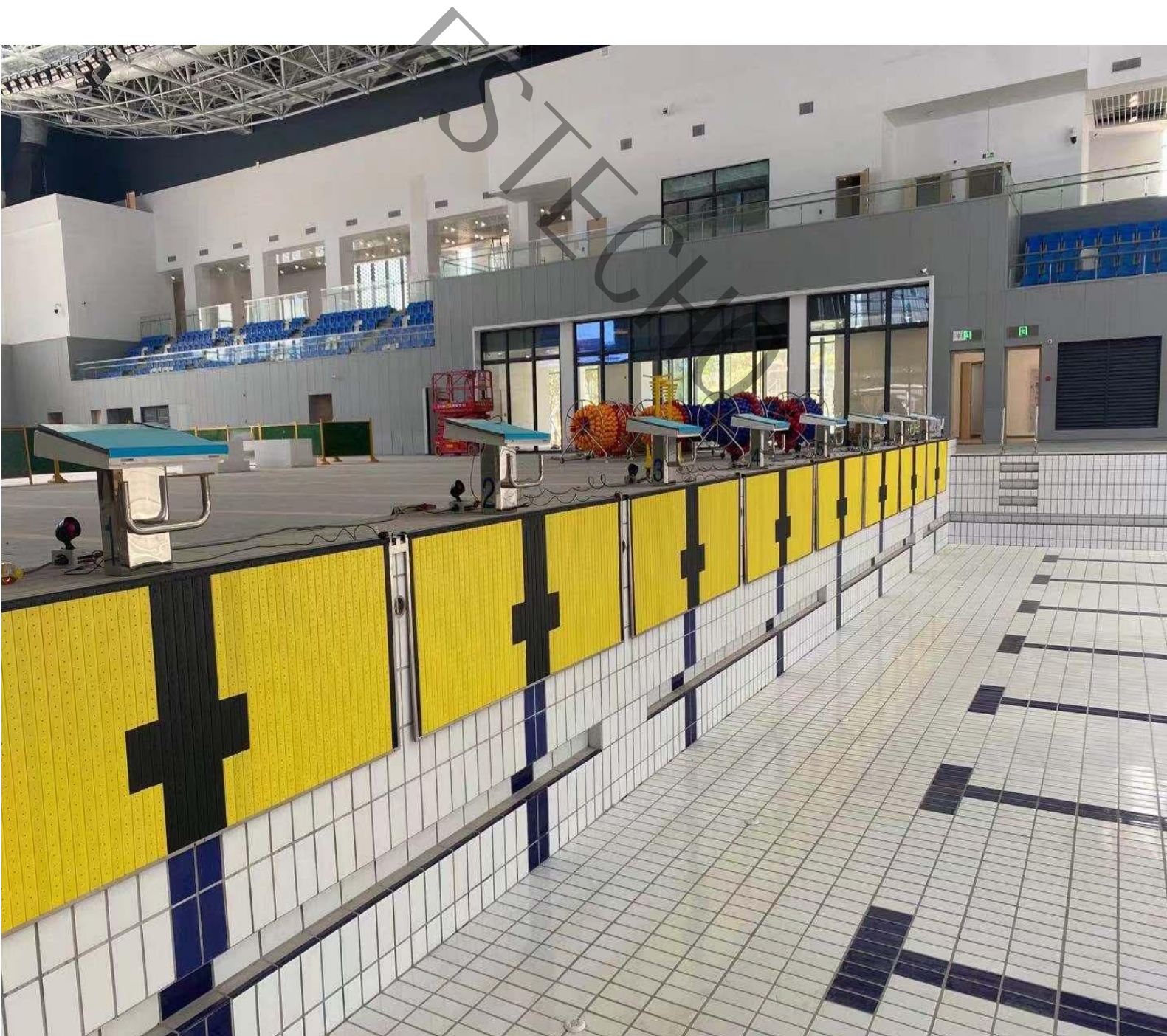


FINA Swimming Touchpads Instruction Manual



1 Product Description

Timer Function: The main function of the touch pad is to record the time when the athlete reaches the finish line. When the athlete touches the wall, the touch pad will trigger the timer and record the time when the athlete finishes the race.

Determine the ranking: In swimming competitions, the touch pad helps the referee to determine the order of arrival of the athletes, especially in the case of multiple athletes arriving at the finish line at almost the same time, the touch pad can be accurate to one hundredth of a second, thus helping the referee to determine the ranking.

Improved Accuracy: The design of the touch pad ensures the accuracy of the timing and avoids the errors that may be brought about by human timing.

Electronic connection: The touch panel is connected to the electronic timing system, which can transmit the athlete's touch wall signal to the timing system in real time, realizing automated timing.

Safety: The design of the touch panel takes into account the safety of the athlete to ensure that it will not cause injury to the athlete when touching the wall.

Training Aid: During training, the touchpad can also be used to help coaches and athletes measure swim speed and time for analysis and technique improvement.

Data Recording: The touch pad can also record the athlete's touch wall data, which can be used for technical analysis and evaluation of the athlete's performance.

Fair Play: The touch pads ensure fairness in timing for all athletes as the touch pads are independent and equally sensitive for each lane.

1.1 Product Characteristics

- ◆ **Durability and chemical resistance:** the touchpad consists of a high-grade stainless steel frame and interconnected PVC slats that are abrasion-resistant, non-abrasive, and provide an excellent non-slip surface. They are unaffected by hard water or chemical corrosion, ensuring reliability and durability
- ◆ **High sensitivity:** the touchpad is designed to be very sensitive to localized pressure, but does not react to an overall change in surface pressure, thus avoiding false touches caused by waves and water currents. When 2 to 3 kilograms of localized pressure is applied to any point on the touchpad surface, the contact strip inside the pad closes, creating a timing signal
- ◆ **Easy to install and maintain:** touch pads are easy to install, require no tools, and require no hardware or drilling in most pools. They can be secured in place to prevent unwanted vertical and lateral movement
- ◆ **Size Versatility:** A wide range of standard sizes of touch panels are available to accommodate different widths of swim lanes, and widths can be customized to meet the facility's needs, offering flat wall or sink mounting options
- ◆ **Safety Features:** Touch pads are designed to be safe, with no exposed wires to prevent electric shock and no sharp edges.
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- ◆ **Environmental Compliance:** All touch panels are RoHS (Restriction of Hazardous Substances) compliant.
- ◆ **Eco-Friendly:** All touch pads are RoHS compliant.
- ◆ **Accurate Timing:** Touchpads accurately record the lightest touch, providing reliable endpoint determination with no “dead spots”.
- ◆ **Impact Resistance:** Touchpads are ruggedly constructed to withstand the impact of competition and maintain performance even after extended use.
- ◆ **International Recognition:** Colorado Time Systems touch pads have been used in tournaments on every continent, proving their global acceptance and reliability.

1.2 Scope of utilization

Swimming pools

1.3 Safety performance

Impact Resistance: Withstand a force greater than 300kg to ensure its structure can withstand high intensity use.

Anti-slip performance: The surface of the touchpad has good anti-slip performance to prevent athletes from slipping when touching.

Electrical safety: the touch pad's electrics comply with safety standards to prevent the risk of electric shock caused by moisture or other factors

Corrosion resistance: Corrosion resistance to reduce the impact that disinfectants commonly used in swimming pools (e.g. chlorine) may have on the touch pad material.

2 Structural features and working principle

2.1 Technical and features

(1)Materials: PVC with non-slip housing

(2)Installation: Permanent installation

(3)Weight: < 31kg

(4)Colors: yellow & black

(5)Size: 2400mmX900mm;

2.2Working Principle

Signal Detection: As one of the key equipment of the swimming pool touchpads timing system, when the athlete reaches the finish line and touches the touchpads with a certain force, the built-in pressure sensor will record the athlete's performance.

Timing function: the built-in sensor of the touch panel works with high sensitivity, when the athlete arrives at the finish line and touches the touch panel with more than 2 kilograms of force, the sensor will record the athlete's performance.

Data processing: After the signal transmitted by the touch panel is received by the timing system, the system will process the signal and calculate the athlete's results and ranking

3 Installation and testing

3.1 Preparation and inspection before use

Main parts :

High-grade stainless steel frame: constitutes the main structure of the touchpad and supports the connection of various parts

PVC slats: Interconnected individual PVC slats, hard wearing, provide excellent anti-slip surface.

Built-in Pressure Electronic Sensor: Equipped with a full working pressure sensor.

Built-in Pressure Electronic Sensor: Equipped with a full working surface switching system, with a sensitivity of 2~3kg and equal force, ensuring no touch blind spot on the surface of the touch panel.

Accessory :

Cables: Cables that connect the touchpad to other systems

Fasteners: Snap fasteners

Other accessories: screws, pins, washers

3.2 Safe pre-installation instructions

Venue Inspection: Prior to the competition, the competition venue must be thoroughly inspected to ensure that all facilities meet the requirements and are safe and secure.

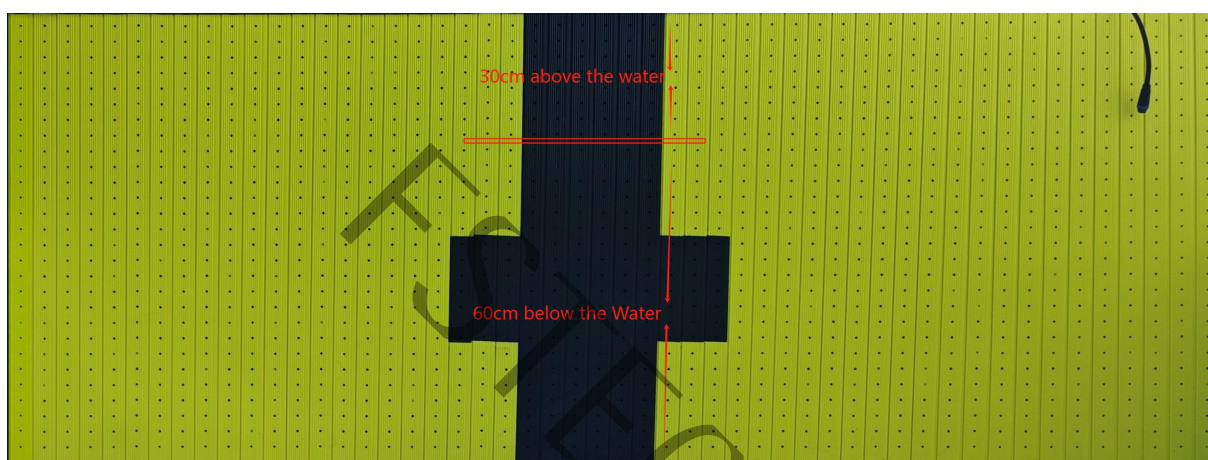
Facility compliance: Touch pads and their associated facilities must comply with FINA safety standards and regulations to ensure safety during use.

Installation environment compliance: lane dimensions must be in strict accordance with international lane standards to ensure that the touchpad is installed in an accurate position.

3.3 Detailed installation steps

3.3.1 Installation environment inspection

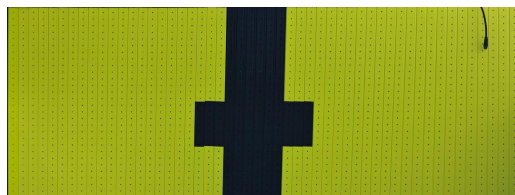
Before starting the installation, make sure that the end wall of the swimming pool meets the requirements for the installation of the touchpad. The touchpad needs to be installed **0.3 meters above the water surface** and **0.6 meters below the water surface**.



Standard-Picture 1

3.3.2 Inspection of facilities and equipment

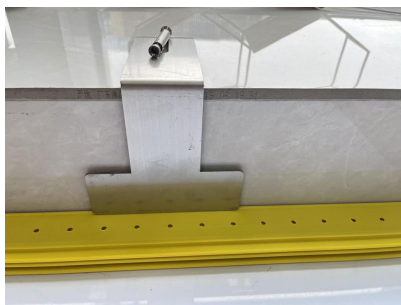
Check the integrity and spares of the touchpad



Panels



connect cables



Fasteners

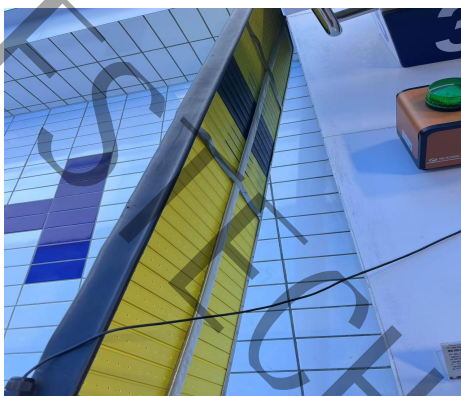


Screw

Notice : Two touch pads with one fastener, two expansion screws

3.3.3 Confirmation of mounting position

1. In order to facilitate the installation, the outer frame is designed with a slot of 0.55cm, please stick the touch panel on the swim lane.



2. There are screw holes on both sides of the touch panel for fixing, use the spare screws to fix the touch panel on the cement board.

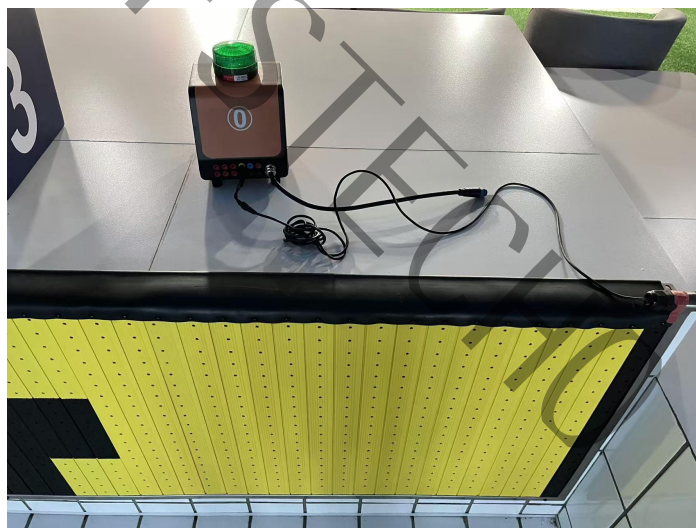


3. In the contact plate interval 0.1M centered position to install T-type fixed parts, the use of impact drills will be special stainless steel expansion bolts, fixed in the center of the position



3.3.4 Cable connection

Cables to other facility equipment



Etc...

3.3.5 Test Touchpads

Connection system and blind meter for contact testing

3.3.6 Safety inspection

Make sure the touchpad has no exposed wires to prevent electrical shock and no sharp edges.

4. Project case

