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> TEKCOPLUS 5-in-1 WiFi Water Quality Monitor (Model PLK00397_EU_R3) Instruction Manual

TEKCOPLUS PLK00397_EU_R3

TEKCOPLUS 5-in-1 WiFi Water Quality Monitor Instruction Manual

Model: PLK00397_EU_R3

1. INTRODUCTION

The TEKCOPLUS 5-in-1 WiFi Water Quality Monitor is designed for continuous, real-time monitoring of various water parameters. This device measures pH, Total Dissolved Solids (TDS), Salinity, Specific Gravity (S.G), and Temperature, providing comprehensive data for maintaining optimal water conditions in diverse environments such as hydroponic systems, aquariums, fish ponds, and saltwater pools. Its WiFi connectivity allows for remote monitoring and data logging via a dedicated mobile application.



Figure 1: The TEKCOPLUS 5-in-1 WiFi Water Quality Monitor is suitable for a wide range of applications.

2. PRODUCT OVERVIEW

This monitor integrates five essential water quality measurements into a single device, offering convenience and precision. The main unit features an LCD screen for direct readings and control buttons for mode selection and calibration. It connects to two probes: a pH electrode and an EC (Electrical Conductivity) electrode, which measures TDS, Salinity, and S.G. Temperature is also measured by the device.

- **pH Measurement:** Range 0.00pH to 14.00pH, with 0.01pH resolution.
- **TDS Analysis:** Range 0 to 19900ppm (0 to 199.0ppt), with 1ppm resolution.
- **Salinity Monitoring:** Range 0 to 199.0ppt, with 1ppm resolution.
- **Specific Gravity (S.G):** Range 0.990 to 1.400, with 0.001 resolution.
- **Temperature Measurement:** Range 0-50°C (32-122°F), with 0.1°C resolution.
- **WiFi Connectivity:** Enables remote monitoring, data logging, and alarm functions via the Tuya Smart app.



Figure 2: Main components of the Water Quality Monitor.



5-IN-1 WATER QUALITY TESTER

pH

0.00pH ~ 14.00pH

TDS

0 ~ 19900ppm
(0~199.0 ppt)

SALT

0 ~ 199.0 ppt

S.G

0.990 ~ 1.400

TEMP

0~50°C
(32~122°F)

Figure 3: The monitor displays current readings for pH and temperature.

3. WHAT'S IN THE BOX

Upon unpacking, ensure all items are present:

- 5-in-1 Water Quality Tester (Main Unit)
- Charger
- Instruction Manual
- pH Electrode
- EC Electrode (for TDS, Salinity, S.G)
- Pack of Accessories (e.g., pH buffer powders, suction cups for mounting)



Figure 4: Package contents of the water quality monitor.

4. SETUP

4.1 Physical Setup

1. **Connect Electrodes:** Carefully connect the pH electrode and the EC electrode to their respective BNC connectors on the main unit. Ensure a secure connection.
2. **Power On:** Connect the charger to the device and a power outlet. The device can operate continuously when powered.
3. **Mounting:** Use the provided suction cups to mount the main unit and electrodes in the desired location. Ensure the electrodes are fully submerged in the water to be monitored.

EASY TO MOUNT

With dorsal suction for mounting



Figure 5: Mounting the monitor on an aquarium.

4.2 App Installation and WiFi Connection

1. **Download App:** Download the "Tuya Smart" app from your smartphone's app store (iOS or Android).
2. **Register/Login:** Open the app and register a new account or log in if you already have one.
3. **Add Device:** Follow the in-app instructions to add a new device. Typically, this involves selecting "Add Device" or the "+" icon, then choosing the appropriate device category (e.g., "Sensors" or "Water Quality Monitor").
4. **WiFi Pairing:** Put the monitor into pairing mode (refer to the device's specific instructions for button presses, usually holding the WiFi button). The app will guide you through connecting the device to your 2.4GHz WiFi network.
5. **Configuration:** Once connected, you can name your device and configure settings within the app.



Figure 6: Mobile application monitoring via Tuya Smart app.

5. OPERATING INSTRUCTIONS

5.1 Basic Operation

1. **Power On/Off:** Press the Power/WiFi button to turn the device on or off.
2. **Mode Selection:** Press the "MODE" button to cycle through the different measurement parameters (pH, TDS, Salinity, S.G). The current reading will be displayed on the LCD screen.
3. **Temperature Unit:** Press the "TEMP/CAL" button briefly to switch between Celsius (°C) and Fahrenheit (°F) temperature units.



Figure 7: Displaying various water quality parameters.

5.2 Remote Monitoring and Alarms

Once connected to the Tuya Smart app, you can:

- **View Real-time Data:** Access current readings for all parameters from your smartphone.
- **Data Logging:** The app automatically logs historical data, allowing you to track trends and changes over time.
- **Set Alarms:** Configure custom high and low alarm thresholds for each parameter. The app will send notifications if readings fall outside your specified ranges, enabling proactive water quality management.

6. CALIBRATION

Regular calibration is crucial for maintaining the accuracy of your water quality monitor. Calibration should be performed periodically or if you suspect inaccurate readings.

6.1 pH Calibration

1. **Prepare Solutions:** Use fresh pH buffer solutions (e.g., pH 4.00, pH 6.86/7.00, pH 9.18/10.00). Ensure the

temperature of the buffer solutions matches the ambient temperature.

2. **Clean Electrode:** Rinse the pH electrode with distilled water and gently blot dry.
3. **Enter Calibration Mode:** Press and hold the "TEMP/CAL" button until "CAL" appears on the display.
4. **Calibrate pH 6.86/7.00:** Immerse the pH electrode into the pH 6.86 or 7.00 buffer solution. Wait for the reading to stabilize, then press "TEMP/CAL" to confirm.
5. **Calibrate pH 4.00:** Rinse the electrode, then immerse it into the pH 4.00 buffer solution. Wait for stabilization, then press "TEMP/CAL" to confirm.
6. **Calibrate pH 9.18/10.00 (Optional):** For higher accuracy, especially in alkaline ranges, rinse the electrode and immerse it into the pH 9.18 or 10.00 buffer solution. Wait for stabilization, then press "TEMP/CAL" to confirm.
7. **Exit Calibration:** The device will automatically exit calibration mode after successful completion or if no button is pressed for a period.

6.2 TDS/Salinity/S.G Calibration

Calibration for TDS, Salinity, and S.G typically uses a standard conductivity solution. Refer to the specific instructions provided with your calibration solutions for precise values.

1. **Prepare Solution:** Use a known standard conductivity solution (e.g., 12.88 mS/cm or 1413 μ S/cm).
2. **Clean Electrode:** Rinse the EC electrode with distilled water and gently blot dry.
3. **Enter Calibration Mode:** Switch the monitor to TDS/Salinity/S.G mode. Press and hold the "TEMP/CAL" button until "CAL" appears.
4. **Calibrate:** Immerse the EC electrode into the standard solution. Use the "MODE" and "TEMP/CAL" buttons to adjust the displayed value to match the standard solution's value. Press "TEMP/CAL" to confirm.
5. **Exit Calibration:** The device will exit calibration mode.

7. MAINTENANCE

Proper maintenance ensures the longevity and accuracy of your monitor.

- **Electrode Cleaning:** Regularly clean the electrodes with distilled water to remove any buildup or contaminants. For stubborn deposits, use a soft brush or a mild cleaning solution specifically designed for pH/EC electrodes.
- **Electrode Storage:** When not in use for extended periods, store the pH electrode in a storage solution (or pH 4.00 buffer solution) to prevent it from drying out. The EC electrode can typically be stored dry after rinsing.
- **Device Cleaning:** Wipe the main unit with a soft, damp cloth. Do not use abrasive cleaners or immerse the main unit in water.
- **Battery/Power:** Ensure the device is connected to a stable power source for continuous operation.

8. TROUBLESHOOTING

Problem	Possible Cause	Solution
Inaccurate readings	Electrodes are dirty or dry; Calibration is needed or incorrect; Electrode is faulty.	Clean electrodes thoroughly. Perform a full calibration. If issues persist, consider replacing the electrode.
Device won't power on	No power supply; Faulty charger.	Check power connection. Ensure charger is working.
Cannot connect to WiFi/App	Incorrect WiFi password; Device not in pairing mode; Router is 5GHz only; Weak signal.	Verify WiFi password. Ensure device is in pairing mode. Confirm your router supports 2.4GHz. Move device closer to router.

Problem	Possible Cause	Solution
Readings fluctuate excessively	Air bubbles around electrode; Electrical interference; Unstable water conditions.	Gently tap the electrode to dislodge bubbles. Ensure no other electrical devices are too close. Allow water to stabilize.

9. SPECIFICATIONS



Figure 8: Detailed product specifications.

Parameter	Measuring Range	Resolution	Accuracy
pH	0-14pH	0.01pH	±0.1pH
TDS	0-19900ppm (0-199.0ppt)	1ppm (<1999ppm); 10ppm (>1999ppm)	±2% F.S
Salinity	0-199.0ppt	1ppm (<1999ppm); 10ppm (>1999ppm)	±2% F.S
S.G	0.990-1.400	0.001	±2% F.S
Temperature	0-50°C (32-122°F)	0.1°C (0.2°F)	±1.0°C

- **Temperature Compensation:** 0-50°C
- **Operating Temperature:** 0-50°C
- **Dimensions:** 100 x 75 x 22mm
- **Weight:** approx. 120gms

10. PRODUCT VIDEO

Your browser does not support the video tag.

Video: An overview of the TEKCOPLUS 5-in-1 WiFi Water Quality Monitor, demonstrating its features and applications for pH, TDS, Salt, and Temperature measurement.

11. WARRANTY AND SUPPORT

This TEKCOPLUS product is covered by a 1-year limited warranty from the date of purchase, covering manufacturing defects. The warranty does not cover consumables such as electrodes, or damage caused by misuse, improper maintenance, or unauthorized modifications.

For technical support, warranty claims, or inquiries regarding replacement parts, please contact TEKCOPLUS customer

service through the retailer's platform or the official TEKCOPLUS website. Please have your model number (PLK00397_EU_R3) and purchase information ready when contacting support.