

[Manuals.plus](#) /

› [TEKCOPLUS](#) /

› TEKCOPLUS pH Controller with Temperature Compensation, Dual Relay Digital pH Monitor (Model 9040200)

TEKCOPLUS 9040200

TEKCOPLUS pH Controller with Temperature Compensation

MODEL: 9040200

Brand: TEKCOPLUS

1. Product Overview

1.1 What's in the Box

- pH Controller (main unit with power plug)
- pH Sensor Probe

The package includes the main pH controller unit, equipped with a power plug for immediate use, and a dedicated pH sensor probe for accurate measurements.



Image 1.1: Complete package contents of the TEKCOPLUS pH Controller, including the main unit, pH probe, dosing pumps, tubing, and mounting accessories.

1.2 Key Features

- **Digital pH Controller:** Provides precise and reliable pH measurement and control for various aqueous solutions. Monitors and adjusts pH levels to optimize plant growth and nutrient uptake.
- **Temperature Compensation:** Features a high-precision pH sensor with automatic temperature compensation. The unit offers switchable temperature display (°C/°F) for convenience, ensuring stable pH management despite temperature fluctuations.
- **Data Display Function:** Digital hydroponic tester with automatic Max/Min/Avg data display upon power-on. Includes a graphical display to track pH value and temperature over the last 3 days. The LCD screen provides comprehensive data visualization.
- **Dual Relay Output:** Equipped with dual relay outputs for easy automatic switching between pH UP and pH DOWN modes. Offers plug-and-play operation for hassle-free use.
- **Automatic pH Monitor:** Professional pH meter for accurate pH measurement with automatic addition of pH-adjusting substances to achieve the desired pH value. The monitor manages complete nutrient monitoring in water.

2. Safety Information

Please read all safety instructions carefully before operating the device. Failure to follow these instructions may result in electric shock, fire, or damage to the product.

- Ensure the device is connected to a grounded power outlet.
- Do not immerse the main controller unit in water or expose it to excessive moisture.
- Handle the pH probe with care. It contains a delicate glass bulb.
- Keep the device out of reach of children and pets.
- Disconnect power before performing any maintenance or cleaning.
- Only use the provided power adapter and accessories.



Image 2.1: Diagram illustrating the connection of the pH controller and pumps to a hydroponic reservoir. **Important Note:** Do not fully immerse the pH probe in the liquid; ensure the liquid level does not exceed the fixed support point.

3. Setup Guide

3.1 Mounting the Controller

The controller unit can be mounted using the integrated brackets on its back. Choose a dry, stable location away from direct sunlight and excessive vibrations.



Image 3.1: Rear view of the pH controller showing the integrated mounting brackets for secure installation.

3.2 Connecting the pH Probe

1. Carefully remove the protective cap from the pH probe.
2. Connect the pH probe cable to the designated BNC connector on the controller unit. Ensure a secure connection.

3. Immerse the pH probe into the solution to be monitored. Ensure the probe tip is fully submerged but avoid submerging the entire probe past the fixed support point, as indicated in the safety diagram.

HIGH-PRECISION pH SENSOR

that ensures consistent pH readings

**With
Automatic
Temperature
Compensation
Function**



Image 3.2: The high-precision pH sensor, featuring automatic temperature compensation for accurate readings.



Image 3.3: Detailed view of the pH probe, showing its dimensions (180mm or 7.08 inches) and the long connecting cable.

3.3 Connecting Dosing Pumps (Optional)

If using automatic dosing, connect your pH UP and pH DOWN dosing pumps to the respective relay outlets on the controller. Refer to the diagram for correct connections.

CONTRÔLEUR NUMÉRIQUE DE PH À DOUBLE RELAIS

Conçu pour une mesure et un contrôle précis et fiable du pH dans diverses solutions, y compris les nutriments hydroponiques et les aquariums de poissons.



Image 3.4: Overview of the TEKCOPLUS Dual Relay Digital pH Controller, illustrating its connections to the pH probe and external dosing pumps.

3.4 Power Connection

Plug the controller's power cord into a standard electrical outlet.

4. Operating Instructions

4.1 Powering On and Initial Display

Once powered on, the LCD screen will display the current pH reading, temperature, and may show Max/Min/Avg data automatically.

LCD SCREEN

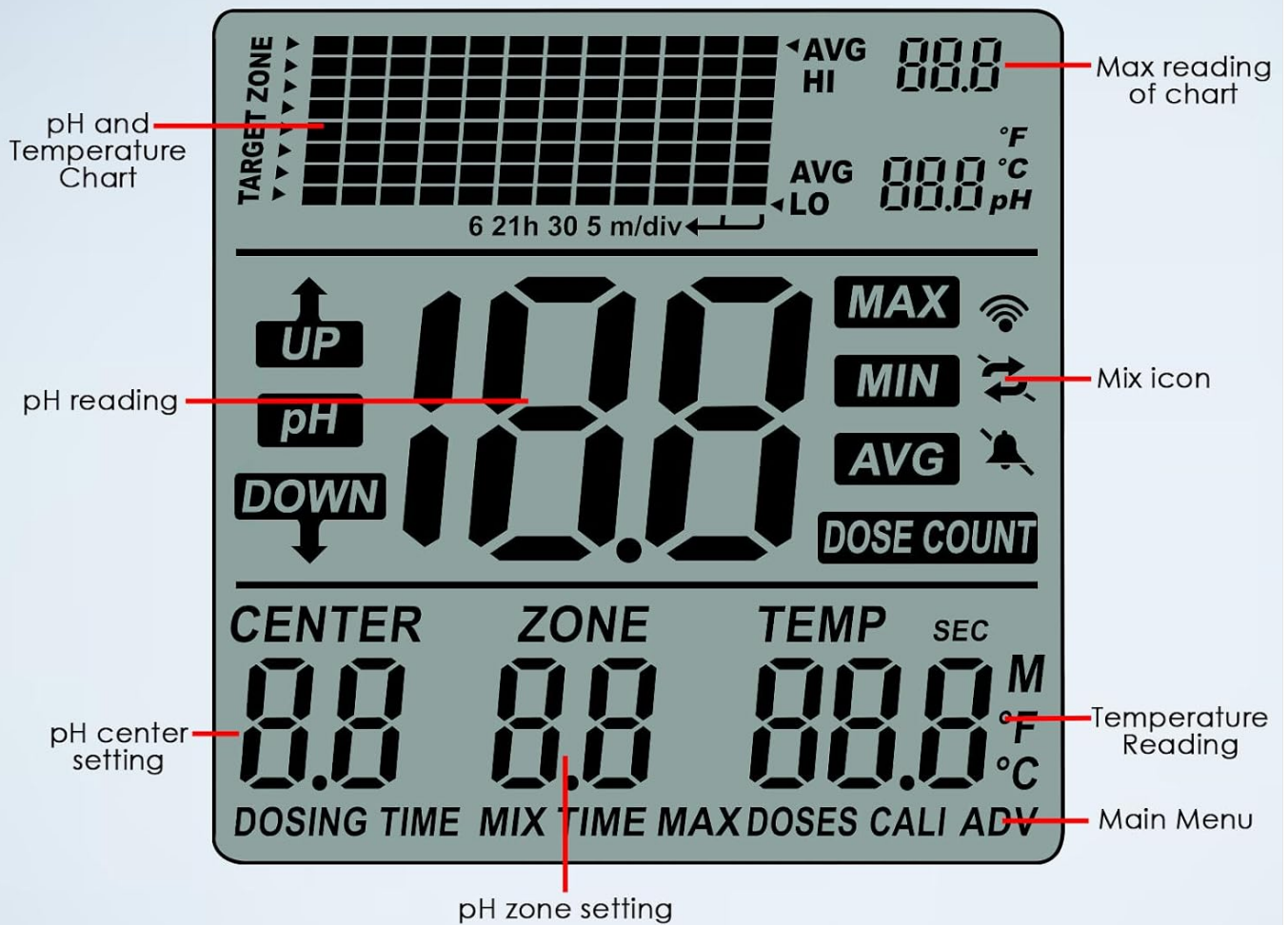


Image 4.1: Detailed view of the LCD screen, highlighting pH reading, temperature, pH center and zone settings, and main menu indicators.

WITH MAX/MIN/AVG FUNCTION

Can track maximum, minimum, and average values during measurements

MAX

MIN

AVG



Image 4.2: The controller's display showing MAX, MIN, and AVG data tracking functions for pH measurements.

4.2 Calibration

Regular calibration ensures accurate pH readings. It is recommended to calibrate the probe periodically using standard pH buffer solutions (e.g., pH 4.0 and pH 7.0).

1. Access the calibration menu (refer to the manual's specific button sequence, usually 'MENU' then 'CALI').
2. Rinse the pH probe with distilled water and immerse it in the pH 7.0 buffer solution. Follow on-screen prompts to calibrate.
3. Rinse the probe again and immerse it in the pH 4.0 buffer solution. Follow on-screen prompts to calibrate.
4. Some systems may also require a third point (e.g., pH 10.0) depending on the desired measurement range.

4.3 Setting pH Parameters

The controller allows you to set various parameters for optimal pH management. Use the 'MENU' and arrow buttons to navigate and adjust settings.

SETTINGS



SETTING	FACTORY DEFAULT	RANGE
CENTER	6.0	4.5 ~ 8.5
ZONE	0.2	0.2 ~ 1.0
DOSING TIME	10 seconds	3 ~ 100 seconds
MIX TIME	4 minutes	1 ~ 20 minutes
Calibrate 7.0	7.0	Fixed at 7.0
Calibrate 4.0	4.0	Fixed at 4.0
High pH limit	7.5	6.0 ~ 9.5pH
Low pH limit	4.5	3.5 ~ 7.0 pH
Temperature	°C	°C or °F

Image 4.3: Table detailing the various settings available on the pH controller, including factory default values and adjustable ranges for parameters like CENTER, ZONE, DOSING TIME, MIX TIME, and pH limits.

- **CENTER:** Sets the target pH value (e.g., 6.0). Range: 4.5 - 8.5 pH.
- **ZONE:** Defines the acceptable deviation from the CENTER pH (e.g., 0.2 pH). Range: 0.2 - 1.0 pH. Dosing will activate when pH falls outside this zone.
- **DOSING TIME:** Sets the duration for each dosing cycle (e.g., 10 seconds). Range: 3 - 100 seconds.
- **MIX TIME:** Sets the time the system waits after dosing for the solution to mix before taking another reading (e.g., 4 minutes). Range: 1 - 20 minutes.
- **High pH Limit:** Upper safety limit for pH (e.g., 7.5 pH). Range: 6.0 - 9.5 pH.
- **Low pH Limit:** Lower safety limit for pH (e.g., 4.5 pH). Range: 3.5 - 7.0 pH.
- **Temperature Unit:** Select between °C or °F.

ADJUSTABLE PH LEVEL: 4.5 - 8.5PH

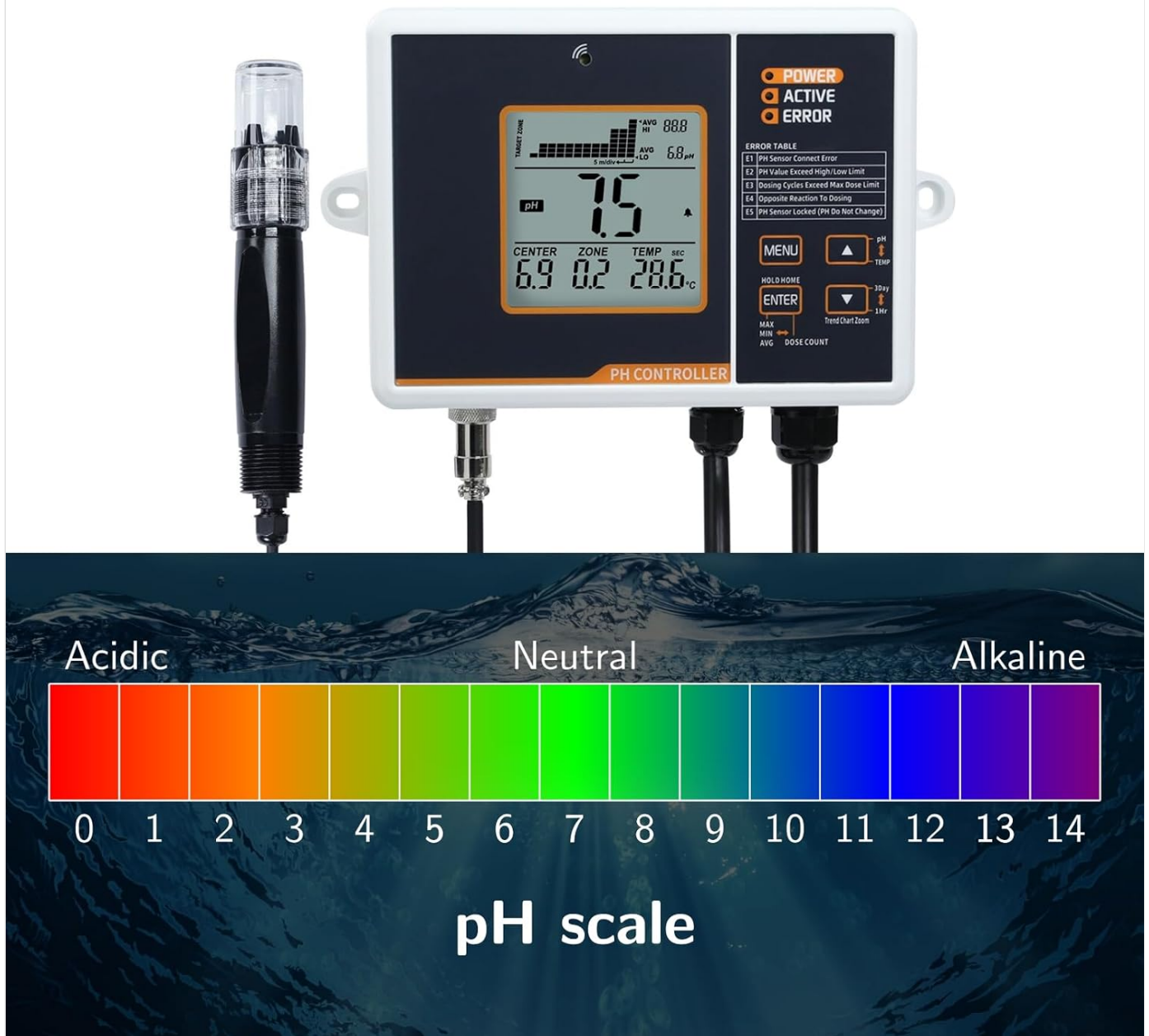


Image 4.4: The pH controller display indicating an adjustable pH level range of 4.5 - 8.5 pH, alongside a visual pH scale from acidic to alkaline.

4.4 Automatic pH Control (Dual Relay Function)

The dual relay outputs allow the controller to automatically activate pH UP or pH DOWN dosing pumps to maintain the desired pH range.

- If the measured pH is below the (CENTER - ZONE) value, the pH UP relay will activate, turning on the pH UP pump.
- If the measured pH is above the (CENTER + ZONE) value, the pH DOWN relay will activate, turning on the pH DOWN pump.
- Dosing will continue for the set DOSING TIME, followed by the MIX TIME, before another reading is taken.

5. Maintenance

5.1 pH Probe Care

- **Cleaning:** Regularly clean the pH probe to remove any buildup that may affect accuracy. Use a soft brush and a mild cleaning solution specifically designed for pH probes, or distilled water.
- **Storage:** When not in use, store the pH probe with its protective cap filled with a pH probe storage solution (or 3M KCl solution). Do not store in distilled water, as this can damage the probe.
- **Replacement:** pH probes have a limited lifespan and may need replacement after 1-2 years of continuous use, or if calibration becomes difficult.

5.2 Controller Cleaning

Wipe the main controller unit with a soft, damp cloth. Do not use abrasive cleaners or immerse the unit in water.

6. Troubleshooting

If you encounter issues with your pH controller, refer to the following common problems and solutions:

Problem	Possible Cause	Solution
Inaccurate pH readings	Probe needs calibration; dirty probe; probe damage; expired probe.	Calibrate the probe; clean the probe; replace the probe if damaged or expired.
Controller not powering on	No power supply; faulty power adapter.	Check power connection; try a different outlet; contact support if adapter is faulty.
Dosing pumps not activating	pH within set ZONE; pumps not connected; faulty pumps; relay issue.	Adjust ZONE settings; check pump connections; test pumps independently; contact support.
Error message on display	Refer to the controller's internal error table.	Consult the error codes (e.g., E1: pH Sensor Connect Error, E2: pH Value Exceeds High/Low Limit) and follow the recommended actions.

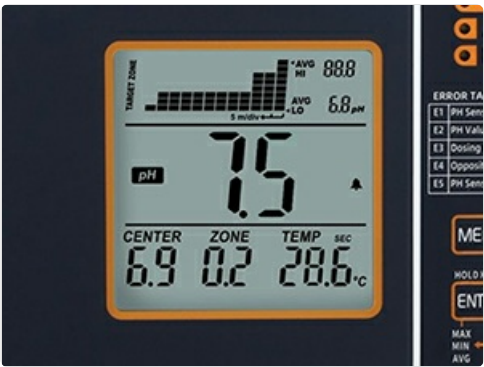


Image 6.1: Close-up of the controller's display, showing an 'ERROR TABLE' with codes and descriptions for common issues such as sensor connection errors or pH limit exceedances.

7. Technical Specifications

Below are the detailed technical specifications for the TEKCOPLUS pH Controller:

Plage de contrôle du pH réglable :	4,5~8,5pH
Résolution du pH :	0.1
Précision du pH :	±0,2pH
Précision de la température :	±1°C (1°F)
Puissance d'entrée :	100~240VAC, 50/60Hz
Ampérage maximum :	Max. 10A, 100~240VAC
Longueur du câble d'alimentation d'entrée :	150cm/5ft
Longueur du câble d'alimentation de sortie :	100cm/3.2ft
Dimensions :	195 x 120 x 43mm (7.7 x 4.7 x 1.7 pouces)

Image 7.1: Comprehensive table of technical specifications for the pH controller, including control range, resolution, accuracy, power, and dimensions.

Specification	Value
Adjustable pH Control Range	4.5 ~ 8.5 pH
pH Resolution	0.1
pH Accuracy	±0.2 pH
Temperature Accuracy	±1°C (1°F)
Input Power	100~240V AC, 50/60Hz
Maximum Amperage	Max. 10A, 100~240V AC
Input Power Cable Length	150cm / 5ft
Output Power Cable Length	100cm / 3.2ft
Dimensions	195 x 120 x 43mm (7.7 x 4.7 x 1.7 inches)
Manufacturer	Tekcoplus Ltd
Model Number	9040200

8. Warranty and Support

Warranty and support information for this product is not available in the provided product data. Please refer to the retailer or manufacturer's official website for details regarding warranty coverage, technical support, and contact information.

ASK A QUESTION ABOUT THIS MANUAL

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

Name

Anonymous

Email

you@example.com

After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. [Privacy details](#).

Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question