

Tilta WLC-T05-CH

Tilta Nucleus Nano II Control Handle Instruction Manual

Model: WLC-T05-CH

INTRODUCTION

The Tilta Nucleus Nano II Control Handle is a versatile accessory designed to enhance your camera and gimbal control. It offers comprehensive support for Nucleus Nano II, Nucleus M, and Nucleus Nano systems, providing dual motor control via a focus dial and motor-compatible joystick. This handle expands power capabilities for the Nano II Hand Wheel through NATO mount contact pins and features multiple mounting points for integration with shoulder rigs or external monitors. It is also gimbal-ready, compatible with DJI RS2 and RS3 Pro via an optional wireless receiver module.

WHAT'S IN THE BOX

- 1 x Nucleus Nano II Control Handle
- 1 x USB-C Power Cable (30cm)
- 1 x Allen Key

PRODUCT FEATURES AND COMPONENTS

Familiarize yourself with the various parts of your Nucleus Nano II Control Handle.



Detailed view of the Tilta Nucleus Nano II Control Handle with key components labeled. Visible features include the Cold Shoe receiver, Display, Joystick, Record Button, Menu Button, Rotation Limit Switch, NATO Module, Power Button, Trigger, Side Cover, Front Dial, USB-C Port, and Battery Cover.

SETUP AND ASSEMBLY

Motor Mounting

Attach the motor to your camera rig using the 15mm rod and rod holder. Ensure the motor's gearing aligns with your lens's gearing. Secure it in place with the tie-down knob.



A hand is shown attaching the Nucleus Nano II motor to a camera rig's 15mm rods, aligning the motor's gear with the lens's focus ring.

Powering the Motor

The motor can be powered via the included USB-C to USB-C cable. Connect one end to either Type-C port 1 or 2 on the motor. Port 1 also functions as an output for daisy-chaining power to additional motors. Power can be supplied from a universal power bank holder mounted to your camera cage or a compatible F970/F570 battery plate with a USB-C output. Ensure the motor is powered on; a blinking red and white light indicates it needs calibration.





A close-up view of the Tilta Nucleus Nano II Control Handle, highlighting the USB-C ports for power input and output.

Pairing the Handwheel to the Motor

To pair the handwheel with the motor, swipe up on the handwheel's main screen, select 'Connect', then '2.4G', and 'Channels'. You can choose 'Auto' to find the cleanest channel or manually select a channel. Press 'Search'. On the motor, double-tap the pairing button. The handwheel display will show a device list. Select the desired motor and press 'Confirm'.





A side view of the Tilta Nucleus Nano II Control Handle, showing the power button and the DF/TF switch.

Motor Calibration

Once paired, the motor needs calibration. Press the pairing button on the motor once to cycle through functions: Green for Iris, Blue for Zoom, Yellow for Other/Unassigned, and Purple for Focus. To calibrate from the handwheel, hold down the Function button for 3 seconds for auto-calibration. For manual calibration (e.g., for lenses without hard stops), swipe up from the home screen, select 'Motor', then 'Focus', and 'Manual Cal'. Follow the on-screen prompts to rotate the lens to minimum and infinity focus points, confirming each step.



A close-up of the Tilta Nucleus Nano II Control Handle's NATO module and the DF/TF switch, indicating mounting and control options.

OPERATING INSTRUCTIONS

Handwheel User Interface

The 1.6-inch touchscreen display shows wireless channel, Wi-Fi status, battery information, Bluetooth status, record/standby indicator, and motor parameters for Focus, Zoom, and Iris. Swipe left/right to access additional settings like camera settings (F-stop, Shutter Speed, ISO, White Balance, Resolution, Data Rate, Frames Per Second, Protocol Information) and lens profile (Focal Distance, Lens Brand, Lens Model, F-stop, Focal Length).



A user holding the Tilta Nucleus Nano II Control Handle, demonstrating its ergonomic design and the visible touchscreen display.

Setting Marks

To set focus marks, rotate the handwheel to the desired focal distance and single-press the Function button. A mark will appear on the UI, and you'll receive haptic feedback. Double-press the Function button to delete marks. To set an A/B range, hold the A/B button, rotate to select the range, and single-tap to confirm. Hold the A/B button again to delete the range.

Menu: Settings

Access the settings menu by swiping up from the main screen and selecting 'Settings'. Here you can 'Calibrate Knob' (for physical wheel limits), adjust 'Brightness' (manual or auto), and configure 'Knob' settings (assign motor control to the dial, reset to default). Other options include 'Rocker' settings (assign motor control to the joystick), 'Vibration' (enable/disable and adjust strength), and 'Standby' mode (set inactivity timeout).

Menu: System

In the 'System' menu, you can view 'Information' (firmware version, run time), change 'Language' (English/Chinese), perform 'Firmware Update', import 'Lens' information, adjust 'Screen Rotation', and perform a 'Factory Reset'.

Menu: Motor

The 'Motor' menu allows you to configure settings for Focus, Iris, and Zoom motors. Options include 'Auto Cal' or 'Manual Cal', 'Torque' adjustment, 'Sync' (view motor number and color), 'Direction' (clockwise/counter-clockwise), and 'Sensitivity'.

Menu: Connect

The 'Connect' menu provides options for '2.4G' (channels, power), 'Bluetooth' (settings, device search), and 'Wi-Fi' (settings, network search) to connect to various devices and networks for firmware updates.

Pairing Nano II Handwheel with (2) Nano II Motors

To pair multiple Nano II motors with the handwheel, power on both motors. On the handwheel, swipe up, select 'Connect', '2.4G', and 'Channels'. Choose a manual channel (e.g., CH1) and press 'Search'. Double-tap the function button on each motor to make them discoverable. Select the motors from the device list on the handwheel and press 'Confirm'. Assign each motor to a function (Iris, Zoom, Focus) by single-pressing the function button on the motor to cycle through colors (Green for Iris, Blue for Zoom, Yellow for Other, Purple for Focus).

Your browser does not support the video tag.

Official Tilta video demonstrating the setup and overview of the Nucleus Nano II system, including pairing multiple motors.

Pairing Nano II Control Handle with DJI RS3 Pro

To pair the Nano II Control Handle with a DJI RS3 Pro gimbal, open the menu on the control handle by triple-pressing the power button. Navigate to 'Wireless', then 'EZ Mode'. Double-tap the function button on the Nano II motor to make it discoverable. Select the motor from the device list and press 'Confirm'. Ensure the control handle's mode is set to 'Gimbal Mode' for joystick control of the gimbal.

Nano II Camera Control BMPCC 6K Pro

To control a Blackmagic Pocket Cinema Camera 6K Pro, connect the Nano II motor to the camera via USB-C. On the handwheel, swipe to the camera control page. You can adjust settings like Iris, ISO, and other camera parameters directly from the handwheel.

Nano II Camera Control Sony FX3 / FX30

For Sony FX3/FX30 camera control, ensure the camera's USB connection mode is set to 'PC Remote' and USB power supply is 'On' in the camera's network settings. Connect the Nano II motor to the camera via USB-C. The handwheel will display camera settings, allowing adjustment of F-stop, ISO, and other parameters.

Nano II Camera Control Canon R8

To control a Canon R8, ensure the camera's USB connection application is set to 'Photo Import/Remote Control'. Connect the Nano II motor to the camera via USB-C. The handwheel will allow control over camera settings like F-stop and ISO.

Pairing Nano II with Advanced Ring Grip Handles

To pair the Nano II with Advanced Ring Grip Handles, ensure both devices are on the same 2.4G channel. The handwheel will control the focus motor, and the joystick on the ring grip will control the zoom motor. You can adjust the multiplier settings for both the rocker and range to fine-tune control sensitivity.

Pairing Nano II Handwheel with Mirage Motor

To pair the Nano II Handwheel with the Mirage Motor, ensure both devices are on the same 2.4G channel. The handwheel will control the focus motor, and the joystick will control the variable ND filter on the Mirage motor.

SPECIFICATIONS

Product Dimensions	7.5 x 5.5 x 3.5 inches
Item Weight	4.6 ounces (130 Grams)
Item Model Number	WLC-T05-CH
Brand	Tilta

Color	Black
Compatible Devices	Tilta Nucleus Nano II, Nucleus M, Nucleus Nano, DJI RS2, DJI RS3 Pro
UPC	810076278513

TROUBLESHOOTING

- **Motor not responding:** Ensure the motor is properly powered and paired to the handwheel on the correct channel. Check USB-C cable connections.
- **Calibration issues:** Re-run auto-calibration. For lenses without hard stops, perform manual calibration by setting minimum and infinity focus points.
- **Handwheel display not working:** Check battery level. Ensure the handwheel is powered on.
- **Difficulty with menu navigation:** Ensure the knob is calibrated. Adjust screen brightness for better visibility.
- **Firmware update failure:** Ensure a stable Wi-Fi connection. Follow the manual update procedure via USB-C if Wi-Fi update fails.
- **Joystick drift:** Calibrate the joystick through the menu settings.

WARRANTY AND SUPPORT

Tilta products are covered by a limited warranty against defects in materials and workmanship. For specific warranty details, duration, and terms, please refer to the official Tilta website or contact Tilta customer support directly. Keep your proof of purchase for warranty claims. For technical assistance, troubleshooting, or service inquiries, please visit the Tilta support portal or contact their customer service team.