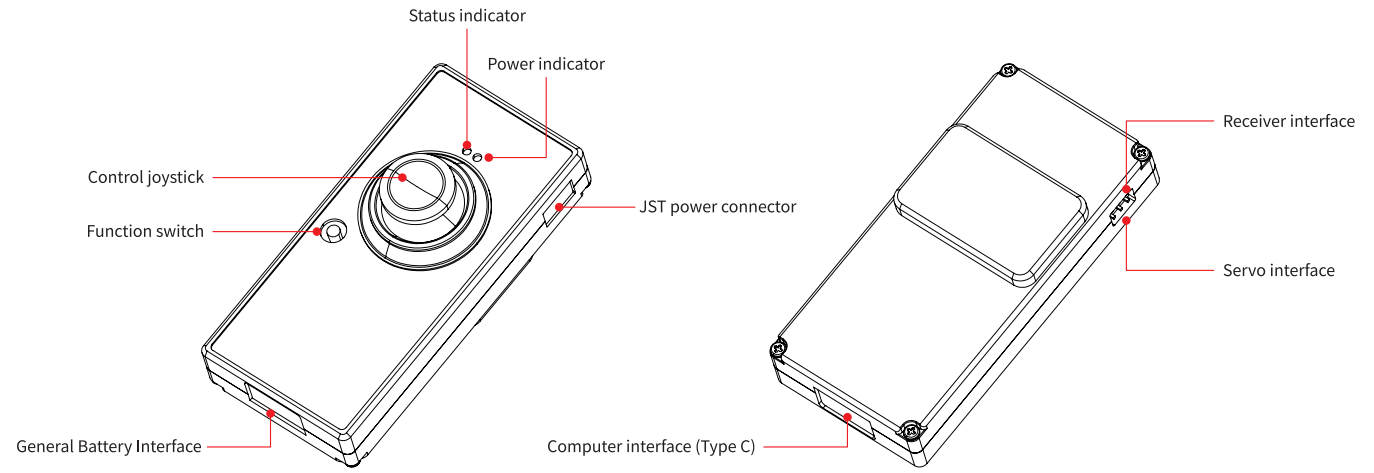


USER MANUAL FOR USBLINK PRO

The USBLINK PRO programmer is an innovative servo debugging device developed by RADIOSISTEMI. Compared to the traditional programmer, it offers significantly improved ease of use, functional integration, and interactive experience, making it ideal for efficient debugging and precise optimization of servo systems. The accompanying new programming software provides real-time adjustment and testing of servo/receiver signals, current, and voltage, adapting to diverse application scenarios.



PROGRAMMER OVERVIEW

- Compared to others programmer, the USBLINK PRO programmer features additional function buttons, indicator lights, more connection ports, and unique "joystick" control.
- Customize servo names.
- Test servos via a PC, joystick (offline operation possible), or remote control.
- Adjust servo rotation angle and center point in real time.
- Quickly and conveniently detect servo current, voltage, and signal levels.
- Perform receiver signal testing.

Note: Only newer servos support parameter adjustment/testing with the USBLINK PRO programmer! (The servo is marked with a "RS" symbol.)

FUNCTION PARAMETER DESCRIPTION

- **Read:** Reads servo parameters;
- **Write:** Writes current parameters to the servo;
- **Open:** Opens the local servo firmware;
- **Save:** Saves the servo parameters;
- **Default:** Restores the servo parameters to factory settings;
- **UPF:** Updates the servo firmware;
- **Exit:** Exits and closes the programming software;
- **Servo Information:** Servo name, firmware release date, and firmware version;
Servo Name: user-editable, supports 12-character English, uppercase, and numeric characters ;
Manufacture: Servo version date and time;
Firmware: Servo firmware program name;
- **L:** Sets the maximum left-turn angle range of the servo, adjustable from 10 to 255;
- **Neutral:** Sets the center position of the servo;
- **R:** Sets the maximum right-turn angle range of the servo, adjustable from 10 to 255;

- **RX:** Remote control button (click this button when connected to a receiver to switch to remote control mode);
Parameter Adjustment Instructions:
L, Neutral, R. To adjust parameters, click the + and - buttons (no confirmation is required; the adjustment takes effect immediately). You can also left-click the value box and then scroll the mouse wheel to adjust. After making the adjustment, left-click the value box again for the adjustment to take effect.

- **Current Indication:**
Output: The connected power supply voltage. Click the value box to turn the output voltage on or off.
Note: The output voltage indicator is solid green when normal; it flashes red when the voltage is too high.
Peak Power: Peak voltage;
Peak Current: Peak current.
Note: Clicking the peak current/peak voltage value resets the peak value to zero.

- **Signal Output:** Signal output switch;
Note: Click "●" "○" to turn the signal output on/off.
Pulse: Pulse width. The slider below allows you to adjust the servo angle in real time.
 - **USB:** Adjust via computer software.
 - **Joystick:** Adjust via the programmer's joystick.
 - **Ext:** Adjust via the remote control.
 - **None:** No connection.

- **Type:** Select the output signal type;
- **Mode:** Select manual or automatic mode;
Note: The signal output must be turned off to modify this option.

- **Signal Range Setting:**
Set the signal range;

- **Refresh Rate:**
Set the refresh rate (3.0-25ms);
Note: The signal output must be turned off and in Normal mode to set the refresh rate.

- **Stepping:**
Set the stepping (range: 1uS-10uS);

- **Slow Return:**
Click the switch on the back to turn the slow return test on/off;

- **Frequency:** Displays the signal frequency of the connected servo;

- **Soft Start:** When soft start is enabled, 11 gears are available;
- **Lose PPM Protection:** Select between Continue, Protect, or Return to Midpoint;

- Sanwa SR
- FUTABA SR
- Inversion
- FUTABA UR

Note: Click the button to select the corresponding transmitter signal.

- **Basic Parameters:** Basic parameter settings;
 - **PWM Power:** Adjusts the servo's output power. A higher power yields greater torque and faster speed, but also consumes more current.
 - **Damping Factor:** Sets the servo's damping. A higher value results in a stronger damping effect.
 - **ProPTL:** The servo stall protection timer. When the servo stalls for the set time, the servo will stop and activate the protection function.
Note: ProPTL is a feature of winch servos and is not adjustable for standard servos.

- **Sensitivity:**
Sets the sensitivity, adjustable in four levels.
- **Over Load Protection:**
Enables hierarchical stall protection.
 - **Level 1:** Sets the start time and power level for the first level of protection.
 - **Level 2:** Sets the start time and power level for the second level of protection.
 - **Level 3:** Sets the start time and power level for the third level of protection.
Note: The left side shows the time to set the protection to start, and the right side shows the servo output power value after the protection is set.

- **Signal Test:**
This switches the receiver's signal test on and off.
Note: This is off by default and automatically turns on when the receiver is connected.
 - **Pulse:** This only tests the receiver's signal and is not adjustable.
 - **Cycle:** Cycle (2.6mS-25mS);
 - **Jitter Tate:** Servo jitter rate (displayed in real time);
 - **Frequency:** Frequency (40-384Hz).

PROGRAMMING SOFTWARE SYSTEM REQUIREMENTS

- **Operating Voltage:** DC: 4.5-8.4V
- **Operating System:** Windows Vista/Windows 7/Windows 8/ windows10 (32/64bit)
- **Compatible Servo:** With the "RS" symbol

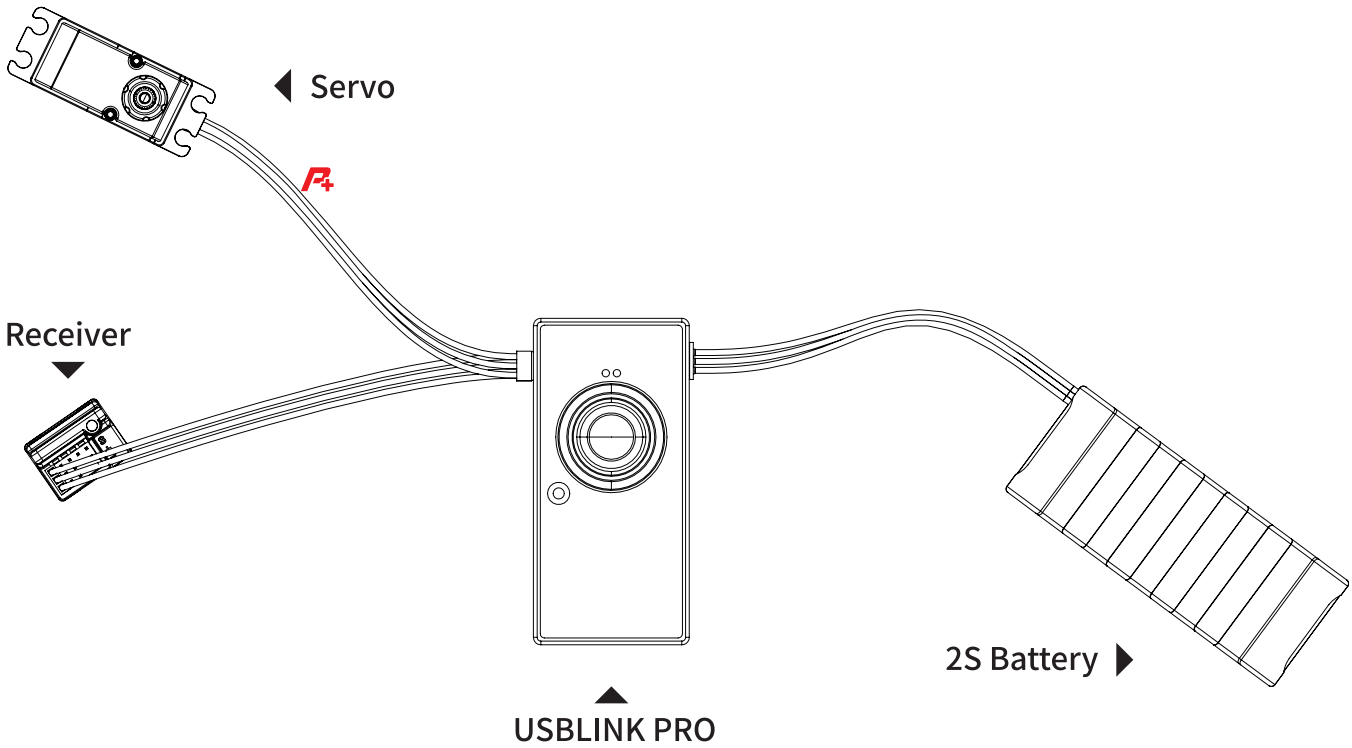
INDICATOR LIGHT EXPLANATION

Status	Status indicator light	Power indicator light
Only connected to the power supply, but not connected to the servo or the programming software		 (Red light slowly flickered)
Battery connection successful (Normal)		
Insufficient battery voltage (Functional testing may encounter anomalies)		
Excessive battery voltage (The programmer emitted an alarm sound)	 (Light went out)	 (Flash of the red light)
Standard signal		
Fixed-point signal		
Slow response test		
Stepwise testing		
Midpoint setting		
Test is underway	 Red light is constantly on (reverts to normal after testing)	
USB mode		
Joysrick Model		
EXT mode		
" "When no special instructions are given, the indicator light is in a constantly illuminated state.		

HOW TO CONNECT THE PROGRAMMER

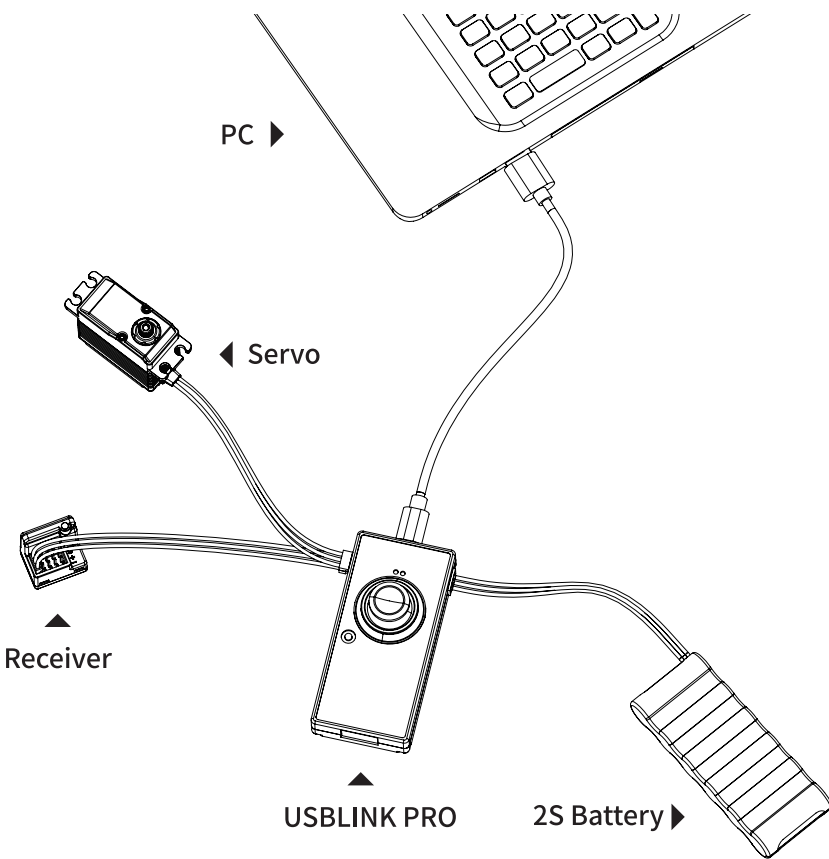
In the case of not connecting the programming software:

- 1
- Insert the battery (status light - green light stays on constantly; power light - red light flashes slowly);
Note: Before inserting the battery, check if the battery is fully charged. It is not recommended to use it when the battery is low, as it may damage the battery!
- 2
- Connect the servo (pay attention to the wiring sequence, do not reverse the plug);
- 3
- Press the switch for 4 seconds to turn on the power supply, successfully connect the product.
At this time, you can control the output signal of the joystick;
(Status light - green light stays on constantly; power light - red light stays on constantly)
- 4
- Press the switch briefly to switch between functions:
 - Standard signal (status light - green light stays on constantly)
At this time, pushing the joystick causes the servo to move linearly;
 - Fixed-point signal (status light - white light stays on constantly)
At this time, pushing the joystick causes the servo to perform fixed-point movement;
 - Slow return test (status light - blue light stays on constantly)
At this time, pushing the joystick causes the servo to perform a slow return test;
 - Stepping test (status light - yellow light stays on constantly)
At this time, each time you push the joystick, an output signal of 1ms is generated;
- 5
- Press the joystick down for 4 seconds to enter the midpoint setting mode (status light - purple light stays on constantly), At this time, pushing the joystick allows you to set the midpoint of the servo in real time.



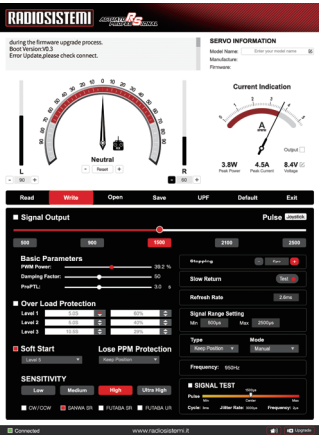
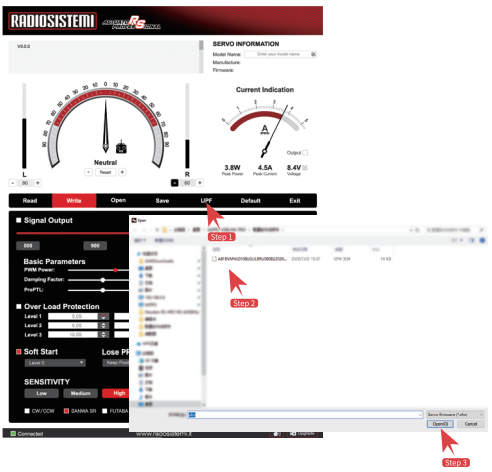
In the case of not connecting the programming software:

- 1
- Go to the official website (<https://www.agfrc.com/index.php?id=DOWNLOAD>) or contact the official customer service to download the software;
- 2
- Open the ALLIN software, connect the programming card to the computer, and the programming card will automatically connect to the software (the status indicator light is constantly on green; the power indicator light is constantly on red);
- 3
- Insert the battery (the output voltage of the software's ammeter can be used to check the voltage of the connected battery);
Note: It is necessary to use the battery suitable for the servo; too low voltage will cause the test function to be abnormal; too high voltage will burn out the servo circuit board!
- 4
- Connect the servo, the software will automatically read the servo parameters. At this time, you can control the joystick to output signals;
Note: If no parameters are read when connecting the servo, it may be that the servo wiring sequence is reversed. You can try reversing the servo plug!
- 5
- Press the switch briefly to switch between function cycles:
 - Standard signal (the status indicator light is constantly on green)
At this time, pushing the joystick causes the servo to move linearly;
 - Fixed-point signal (the status indicator light is constantly on white)
At this time, pushing the joystick causes the servo to perform fixed-point movement;
 - Slow return test (the status indicator light is constantly on cyan)
At this time, pushing the joystick causes the servo to perform slow return test;
 - Stepping test (the status indicator light is constantly on yellow)
At this time, each time you push the joystick, an output signal of 1us is generated;
- 6
- Click "Joystick" / "USB" to switch between joystick / PC control;
Note: The status indicator light is constantly on blue in the "USB" control mode.
- 7
- Connect the receiver (the receiver is connected to the remote control), after clicking the RX "  " button, you can switch the control of the remote control;
Note: Click "Joystick" / "USB" / "EXT" to switch the control modes of joystick / PC / remote control.



STANDARD SERVO FIRMWARE UPDATE INSTRUCTIONS

- 1
- On the rs-servo.it official website <https://www.rs-servo.it=DOWNLOAD;>
Download the USBLINK PRO programming software and the updated servo firmware (make sure your computer has decompression software such as WinRZR, 7-Zip, Winzip);
- 2
- After connecting the servo, click the "UPF" function at the top of the software, select the firmware to be upgraded from the popped-up folder, and click Open;
- 3
- After opening the firmware, the software will automatically write the new firmware. The software information window will display the upgrade progress. Wait for the upgrade to be successful.



NOTES

- 1
- When connecting the battery, please select the battery suitable for the servo. Overvoltage will damage the servo!
Note: When you connect a 3S battery, the status light of the programmer - flashing red appears, and the programmer emits an alarm sound. The red light at the output voltage position in the software remains on constantly. If you need to exit the operation, simply unplug the power supply.
- 2
- It is not recommended to continue using the battery when it is low on power. This can easily cause damage to the battery !

COMMON PROBLEMS AND SOLUTIONS

- 1
- Why does the power indicator and status indicator on the programming card not light up even though the programming card and the servo have been connected?
 - Please confirm if the correct connection cables (USB / Type-C) are used.
- 2
- Why can't the default parameters of the servo be read on the programming software after inserting the servo into the programming card?
 - Please check if the connection ports of the servo and the programming card are inserted correctly.
- 3
- Why can't the parameters be read even though the servo and the programming card are connected and the connection cables are inserted in the correct direction?
 - Please confirm if the servo has an "  " mark. **(Note: Only servo with the mark can be programmed using the new programming software.)**
- 4
- After adjusting the parameters, how can the default factory settings be restored?
 - Please try pressing the "Default" button to restore the factory settings.
- 5
- When encountering upgrade failure or update failure?
 - Please try to exit the USBLINK PRO programming software, remove all power sources, and then reconnect the operation.
- 6
- For other problems, please contact infoinf@radiosistemi.it for assistance.