



Servo Tool #5

Programming card for KST servos
Instruction manual



Read the entire manual before use. The input voltage is passed directly to the servo - always verify its supply voltage range.

Importer: Rotorama, s.r.o. · www.rotorama.cz

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1. Safety instructions

Read this entire manual carefully before first use and keep it for future reference. If you pass the product on to another person, hand over this manual as well.

1.1 Intended use

The KST Servo Tool #5 (hereinafter “Tool #5”) is a programming card used for programming KST servos **without the need for a computer** – midpoint, both endpoints, rotation direction and the soft start function (Soft Start). The product is intended for modellers aged 14 and over and is not a toy.

1.2 Power supply

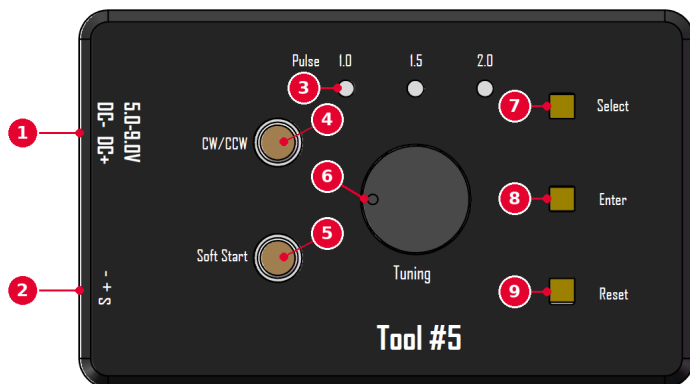
- Tool #5 has no power source of its own. It is powered from an external DC power source in the range of **DC 5.0-9.0 V**. The power source and power cable are not included.
- **The input voltage is passed directly to the servo.** Before connecting, always verify the supply voltage range of the servo being programmed and choose a power source that does not exceed it.
- Never connect a power source with a voltage higher than 9.0 V. For example, a fully charged 3S LiPo battery (12.6 V, i.e. 4.20 V/cell) exceeds this range.
- If you use a LiPo battery as the power source, follow its manufacturer's instructions. Do not use a damaged, swollen or overheated battery.
- Observe the correct power polarity and the orientation of the servo connector.

1.3 General principles

- Once connected, the servo moves to its midpoint position on its own. A servo installed in a model may move linkages and control surfaces – keep your hands out of their path and make sure nothing blocks the movement.
- Protect the device from moisture, dust, direct sunlight and mechanical damage. Do not use it if it is visibly damaged.
- Do not disassemble or modify the device. Tampering with the device is not a product defect.
- When you have finished, disconnect the servo and the power source.
- Keep the product out of the reach of children.

2. Device description

2.1 Controls



Tool #5 front panel

No.	Element	Function
①	Power input 5.0-9.0V DC- DC+	built-in XT60PW connector for a DC 5.0–9.0 V power source
②	Servo output - + S	connection of a KST servo
③	Pulse LEDs 1.0 / 1.5 / 2.0	indicate the position being set: 1000 μ s / 1500 μ s (midpoint) / 2000 μ s
④	CW/CCW button	changes the servo direction; the button LED shows the selected direction
⑤	Soft Start button	switches the servo soft start on and off; the button LED shows the state
⑥	Tuning rotary encoder	adjusts the servo position (midpoint and endpoints)
⑦	Select button	saves the midpoint; in endpoint mode switches between 1000 μ s and 2000 μ s
⑧	Enter button	saves the setting, skips a step
⑨	Reset button	restarts Tool #5 itself

Successful steps and the device status are additionally signalled by the built-in buzzer.

2.2 Compatibility

- Tool #5 is used for programming KST servos.
- It only supports standard-band **1520 μ s** servos. For programming narrow-band (760 μ s) servos, use the KST Tool Card #2 or #3.

- Verify the compatibility of your servo before use.

2.3 Specifications and package contents

Input voltage	DC 5.0-9.0 V (passed directly to the servo)
Power connector	XT60PW (built-in)
Output	servo connector - + S, PWM signal
Midpoint / endpoints	1500 μ s / 1000 μ s and 2000 μ s
Package contents	1x KST Servo Tool #5 programming card

2.4 Manufacturer

KST DIGITAL TECHNOLOGY COMPANY LIMITED

KST Industry Park, No.3 Luole East Road, Meizhou Economic Development Zone, Meijiang District, Meizhou, Guangdong, 514000, China

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3. Power input

Built-in **XT60PW** connector ①, suitable for connection to power sources via XT60 connectors.

- Tool #5 input voltage range: **DC 5.0-9.0 V**.

CAUTION! Choose your input voltage based on the specifications of the KST servo being programmed. Your input voltage will be passed directly to the servo - do NOT input high voltage without verifying the servo's voltage for compatibility. Example: the X10 Pro has a voltage range of 4.8-8.4 V, so the voltage supplied to Tool #5 when programming this servo must not exceed 8.4 V.

4. Servo output

Used for connecting KST servos to output ②. When connecting the servo, make note of the symbols - + S and ensure the servo is plugged in in the correct orientation. Typically, the servo wire for 'S' will be orange or white.

Pin	Meaning	Description
-	DC-	DC negative
+	DC+	DC positive
S	Signal	PWM signal

5. Powering up and settings operations

5.1 Power-up and self-test

Once power is connected, Tool #5 will enter self-testing mode. Once the self-test is completed, the buzzer will sound twice and the midpoint LED (1.5) will flash red. You may now connect your servo to Tool #5.

5.2 Connecting the servo

Verify the operating voltage of your servo, then connect the servo to the - + S output. Once connected, Tool #5 will recognize the servo and return it to the midpoint (**1500 μ s**) position. At this time, the LED under 1500 μ s (1.5) will light up red and the device enters the midpoint-setting mode.

5.3 Midpoint setting

- ① After entering the midpoint-setting mode, use the rotary encoder (**Tuning**) to adjust the midpoint to the desired new position.
- ② Press **Enter** or **Select**.
- ③ Once programmed successfully, the buzzer will sound shortly once and the device enters the endpoint-setting mode.

5.4 Endpoint setting

- ① After entering the endpoint-setting mode, use the rotary encoder (**Tuning**) to adjust the endpoint.
- ② Use the **Select** button to switch between the two endpoints. When the LED corresponding to 1000 μ s (1.0) is on, the angle corresponding to 1000 μ s is being adjusted; when the LED corresponding to 2000 μ s (2.0) is on, the angle corresponding to 2000 μ s is being adjusted.
- ③ Once both endpoints are adjusted to the desired new positions, press **Enter**.
- ④ Once programmed successfully, the buzzer will sound once, the midpoint LED will begin flashing and the device enters standby mode.

5.5 Skipping a step

When entering the midpoint-setting mode or endpoint-setting mode and no adjustments are needed, press **Enter** to skip.

6. Direction settings and soft start

6.1 Definitions

CW (Clockwise); **CCW** (Counter clockwise).

6.2 Changing the servo direction

Enter the midpoint-setting mode or endpoint-setting mode, press **CW/CCW**, then press **Enter**. When the button LED is on, the direction of the servo is **CCW**; when the button LED is off, the direction of the servo is **CW**.

6.3 Soft start (Soft Start)

Enter the midpoint-setting mode or endpoint-setting mode and press **Soft Start**. When the button LED is on, the soft start function of the servo is **active**; when the button LED is off, it is **inactive**.

7. Reset, maintenance and storage

7.1 Reset

The **Reset** button only resets Tool #5 and does **not** reset the servo settings.

7.2 Maintenance and storage

- Clean the device with a dry, soft cloth. Do not use solvents or water.
- Store it in a dry place with no power source or servo connected.
- Keep the connectors clean and undamaged; a damaged connector may cause a short circuit or reverse polarity.

8. Information for the EU and Czech Market

The information in chapters 8 and 9 describes the situation in the Czech Republic, where the product was purchased. EU regulations apply in all member states, but national rules – in particular on the take-back of electrical waste and on consumer protection – differ from country to country. If you use the product in another country, the law of the country in which the product is operated is decisive.

8.1 Importer and responsible person in the EU

The product is placed on the European Union market by the importer stated below, who is at the same time the responsible person within the meaning of Article 16 of Regulation (EU) 2023/988 of the European Parliament and of the Council on general product safety (GPSR).

Importer / responsible person in the EU	Rotorama, s.r.o.
Company ID (IČO)	051 57 692
VAT ID (DIČ)	CZ05157692
Registered office	Okrajová 1351, 674 01 Třebíč, Czech Republic
E-mail	info@rotorاما.cz
Phone	+420 252 252 098
Website	www.rotorاما.cz

8.2 Product conformity



- The product bears the **CE** marking and complies with the requirements of the applicable European Union harmonisation legislation.
- A copy of the **EU Declaration of Conformity** is available from the importer at the address stated above or at the e-mail address info@rotorاما.cz.
- **Product identification:** the type designation (Tool #5) is given on the front panel of the device.

8.3 Disposal of electrical equipment



- The crossed-out wheeled bin symbol on the product, its packaging or in the documentation means that at the end of its service life the product **must not be disposed of together with mixed municipal waste.**
- Hand it over at a take-back point for electrical equipment – at a collection yard, at a take-back point of a collective system, or at the retailer when purchasing a new equivalent product. Take-back is free of charge for the end user.
- The obligations under Act No. 542/2020 Coll., on end-of-life products, are fulfilled by the importer through a collective take-back system.
- Proper disposal helps prevent negative impacts on the environment and human health and contributes to the reuse of secondary raw materials.

Through its contractual partner **ASEKOL a.s.**, the company ensures the take-back of waste electrical equipment from households and the separate collection of waste electrical equipment, batteries and accumulators in accordance with the applicable legislation. The customer is entitled to hand over old electrical equipment or a battery or accumulator at any collection point of the above contractual partner. The addresses of these take-back points are listed at www.asekol.cz, www.ecobat.cz and also <https://visoh2.mzp.cz/RegistrMistZO/RegistrMistZOPublic/MapaMistZpetOdberu>.

9. Warranty and rights arising from defective performance

The rights and obligations of the contracting parties are governed by Czech law, in particular by Act No. 89/2012 Coll., the Civil Code, and Act No. 634/1992 Coll., on consumer protection. Any warranty terms of the manufacturer **do not in any way limit** the buyer's rights arising from these regulations.

- The seller is liable to the buyer for the product being free of defects on receipt. If the buyer is a consumer, a defect may be notified **within two years of receipt** of the product (Section 2165 of the Civil Code).
- If a defect appears within **one year** of receipt, the product is deemed to have been defective already at the time of receipt (Section 2161(5) of the Civil Code).
- When purchasing online, a consumer has the right to **withdraw from the contract within 14 days** of receiving the goods without giving a reason (Section 1829 of the Civil Code).
- Claims should be made with the retailer from whom you purchased the product. The importer's contact details are given in Chapter 8.1.
- The competent body for out-of-court settlement of consumer disputes is the **Czech Trade Inspection Authority**, Štěpánská 796/44, 110 00 Prague 1, www.coi.cz.