ES121 Motion Control Electric Screwdriver (Stainless Steel)

Model: ES-121, 380rpm

Description:

An excellent tool for professionals and amateur users with decent run time on LiPo battery. It is equipped with a 1:64 reduction gear motor and reaches rotation speed up to 380 RPM. Ready to tackle your problem.

Features:

Slim 304 stainless steel body with pen shape and knurling design.
121 Programmable motion control electric screwdriver.
16 x 96 OLED Display, uses images to show the direction of travel and torque settings.
Low Battery reminder.
Low voltage protection mode.
Equipped with SMT32 MCU and 3-axis gyro with motion control enables the user to screw or unscrew easily.
User customized configuration parameters.
If not powered up, it locks to allow use as a regular screwdriver.
Sleep mode after 15 sec.
Open source application layer.

Specification:

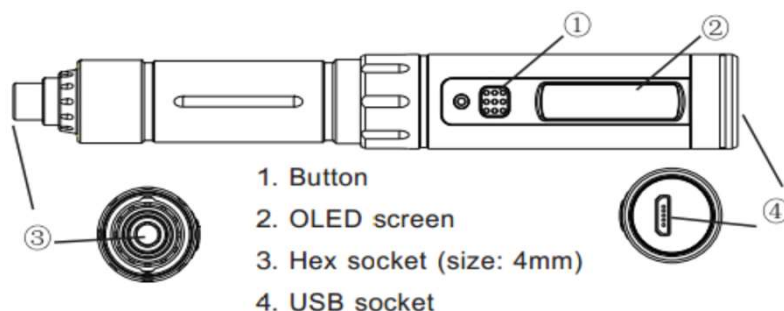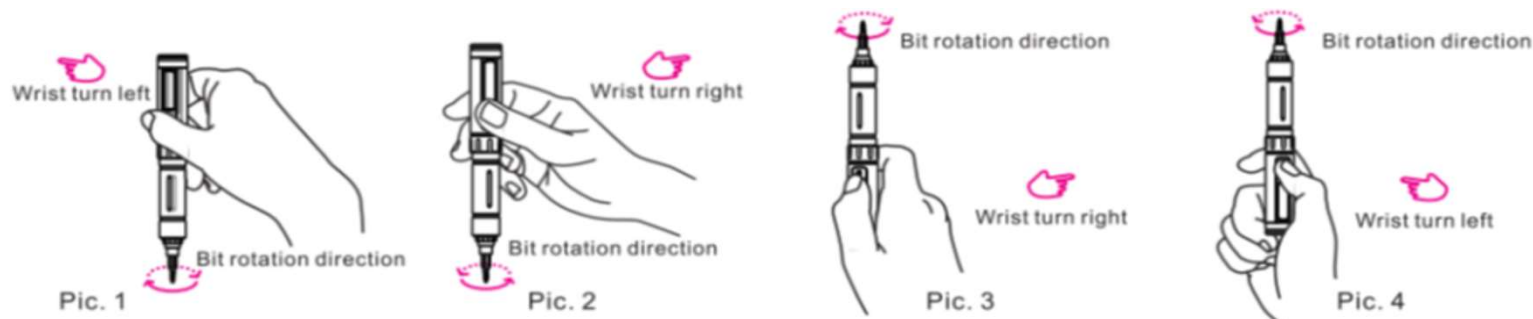|	
Operation Voltage:	3 V - 5 V
No-load Speed:	About 380 rpm
Electronic Torque:	1.5 kgf.cm
Maximum Torque:	30 kgf.cm (manual mode)
Screwdriver Bit:	4 mm hexagon
Charging Time:	45 min
Running Time:	30 min (full power)
Charging Mode:	Micro USB 5 V Input
Body Material:	304 Stainless steel / Copper alloy
Screen:	16 x 96 OLED
Battery:	300 mAh 10440 Lithium-ion battery
Length:	131 mm
Weight:	108 g
Rotor:	Bidirectional overrunning clutch
Gearbox:	1:64 Integrated planetary gearbox
Motor:	25,000 rpm brush motor
Main Chip :	STM32
Sensor:	Angular velocity sensor

28mm
4mm
131mm
18mm

Instructions:

1. When the screwdriver is power off, press once for display, hold to activate rotation mode.
2. Way of use : In Standby mode, hold ES121's button, and :
♦ 1) When your wrist turns Right (see Pic.1 and Pic.3), the bit of ES121 will turn clockwise (CW);
♦ 2) On the contrary, when your wrist turns Left (see Pic.2 and Pic.4), the bit of ES121 will turn counter-clockwise (CCW).
3. Press quick 3x to enter torque settings: 1 = strong, 4 = week
   A = RPM controlled by angle of rotation in the wrist.

①
②

1. Button
2. OLED screen
3. Hex socket (size: 4mm)
4. USB socket

See Review by Steve Jordan, Link: **https://www.youtube.com/watch?time_continue=1&v=K97YMDVulO4**

Pic. 1 Pic. 2 Pic. 3 Pic. 4

3. Keep the screwdriver still on stand-by interface and hold the key for 0.5 sec. the screwdriver will rotate in the same direction as that of previous use.

4. ES121 will automatically turn off if kept still for 15 seconds.

Parameter Setting:

1. **Manual setting**

Press the key 3x in the stand-by interface to enter setting mode, and long press the button or wait for 1.5 seconds to quit the setting mode.

There are five torque shifts in setting mode

♦ A adopts an automatic mode, in which the rotation speed of the screwdriver increases with the increase of rotation angle.

♦ Shift 1 to 4 corresponds to four torques levels, which decrease gradually. 1 being higher\stronger than 4.

Configuration file setting:

When the screwdriver is power off, connect it to PC with USB data cable, quick press the on key to activate the flash disk; open config.txt file in the disk, and the contents are:

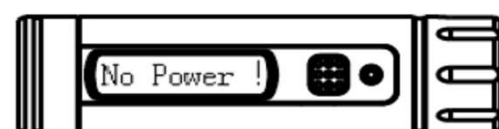| Parameters	Paraphrase	Description
StartAngle=2	#(2~10)	Set the angular of degree range to start rotation, Range = 2° to 10°
Gear=4	#(0~5)	Set the default torque, A = Strongest and 4 Weakest.
MotoTimeCont=0	#ReadOnly	Read only: Length of time in operation.
Ver=1.9	#ReadOnly	Read only: Current Version

Firmware Upgrade:

1. When the screwdriver is power off , connect it to PC with USB data cable, and at the same time hold the key until " DFU3. 44" displays on screen to enter DFU mode, and a virtual disk will appear on PC.

2. Copy the hex firmware to root directory of the disk, and when the suffix of firmware changes to .rdy, disconnect USB data cable or press the key 3 times to quit DFU mode and this would complete the firmware upgrade. See **Firmware updates** below.

NOTES:

1. Torque shift: when the torque reaches the highest torque shift, the screwdriver will stop for 3 seconds before working again, as to protect the screw and motor.

2. DFU & flash disk mode: it may enter the mode only if you start the machine when the screwdriver is power off and connected with USB data cable.

3. Charging icon: Fully charged icon:

Low battery, a warning will appear on screen and the screwdriver will be automatically powered off:

4. It is a normal phenomenon if a little oil stain exists on surface of hexagon wrench socket.

Firmware updates:

http://www.minidso.com/forum.php?mod=viewthread&tid=1733

Package includes:

1 x ES121 Screwdriver
16 x Bit Sets
1 x Screwdriver pouch

SL1.5 SL2.0 SL3.0 SL4.0 PH000 PH00 PH0 PH2

H1.5 H2.0 P2 P5 T4 T6 T8 T10