



# **OPERATION AND MAINTENANCE MANUAL**

## **■ BSP-C32HL**

**(In: AC 100~240V Out: DC 24V / 32V)**

**KILEWS INDUSTRIAL CO., LTD.**

<http://www.kilews.com>



## General Safety Rules

**WARNING!** Read all instructions Failure to follow all instructions listed below may result in electric shock fire and/or serious injure. The term “power tool” in all of the warning listed below refer to your mains operated (corded) power tool or battery operated (cordless) power tool.

SAVE THESE INSTRUCTIONS

### 1) Electrical Safety

- a) **Keep work area clean and well lit.** Cluttered and dark areas invite accidents.
- b) **Do not operate power tools in explosive atmosphere, such as in the presence of flammable liquids, gases or dust.** Power tools creat sparks which may ignite the dust of fumes..
- c) **Keep children, and bystanders away while operating a power tool.** Distractions can cause you to lose control.

### 2) Electrical Safety

- a) **Power tool plugs must match the outlet. Never modify the plug in any way. Do not use any adapter plugs with earthed (grounded) power tools.** Unmodified plugs and matching outlets will reduce risk of electric shock.
- b) **Avoid body contact with earthed or grounded surfaces such as pipes, radiators, ranges and refrigerators.** There is an increased risk of electric shock if your body is earthed or grounded.
- c) **Don't expose power tools to rain or wet conditions.** Water entering a power tool will increase the risk of electric shock.
- d) **Do not abuse the cord. Never use the cord to carrying, pulling or unplugging the power tool. Keep cord away from heat, oil, sharp edges or moving parts.** Damaged or entangled cords increase the risk of electric shock.
- e) **When operating a power tool outdoors, use an extension cord suitable for outdoor use.**   
Use of cord suitable for outdoor use reduces the risk of electric shock .

### 3) Personal Safety

- a) **Stay alert, watch what you are doing and use common sense when operating a power tool. Do not use power tool while you are tired or under the influence of drugs, alcohol, or medication.** A moment of inattention while operating power tools may result in serious personal injury.
- b) **Use safety equipment. Always wear eye protection.** Safety equipment such as dust mask, non-skid safety shoes, hard hat, or hearing protection used for appropriate conditions will reduce personal injuries.
- c) **Avoid accidental starting. Ensure the switch is in the off position before plugging in.** Carrying power tools with your finger on the switch or plugging in power tools that have the switch on invites accidents.
- d) **Remove any adjusting keys or wrench before turning the power tool on.** A wrench or a key that is left attached to a rotating part of the power tool may result in personal injury.
- e) **Do not overreach. Keep proper footing and balance at all times.** This enables better control of the power tool in unexpected situations.
- f) **Dress properly. Do not wear loose clothing or jewellery. Keep your hair, clothing, and gloves away from moving parts.** Loose clothes, jewellery, or long hair can be caught in moving parts
- g) **If devices are provided for the connection of dust extraction and collection facilities, ensure these are connected and properly used.** Use of these devices can reduce dust related hazards.

### 4) Power tool Use and Care

- a) **Do not force the power tool. Use the correct power tool for your application.** The correct power tool will do the job better and safer at the rate for which it was designed.
- b) **Do not use power tool if switch does not turn it on or off.** Any power tool that cannot be controlled with the switch is dangerous and must be repaired.
- c) **Disconnect the plug from the power source before making any adjustments, changing accessories, or storing the power tools.** Such preventive safety measures reduce the risk of starting the power tool accidentally.
- d) **Store idle power tools out of reach of children and do not allow persons unfamiliar with the power tool or these instructions to operate the power tool.** Power tools are dangerous in the hands of untrained users.
- e) **Maintain power tools. Check for misalignment or binding of moving parts, breakage of parts and any other condition that may affect the power tools operation. If damaged, have the power tool repaired before use.** Many accidents are cause by poorly maintained power tools.
- f) **Keep cutting tools sharp and clean,** Properly maintained cutting tools with sharp cutting edges are less likely to bind and are easier to control.

- g) **Use the power tools, accessories and tool bits ect., in accordance with these instructions and in the manner intended for the particular type of power tool, taking into account the working conditions and the work to be performed.** Use of the power tool for operations different from intended could result in a hazardous situation.

#### **5) SERVICE**

- a) **Have your power tool serviced by qualified repair person using only identical replacement parts,** This will ensure that the safety of the power tool is maintained.

#### **Additional information shall be provide**

- a) Instruction for putting into use
1. Setting-up or fixing power tool in a stable position as appropriate for power tools which can be mounted on a support.
  2. Assembly
  3. Connection to power supply, cabling, fusing, socket type and earthing requirements.
  4. Illustrated description of functions.
  5. Limitations on ambient conditions.
  6. List of contents.
- b) Operating Instructions.
1. Setting and testing.
  2. Tool changing.
  3. Clamping of work.
  4. Limits on size of work piece.
  5. General instructions for use.
- c) Maintenance and servicing.
1. Regular cleaning, maintenance, and lubrication.
  2. Servicing by manufacture or agent, list of addresses.
  3. List of user-replaceable parts.
  4. Special tools which may be required.

## Operations Cautions

1. Please read the operating manual thoroughly and comply with safety regulation to operate this Multi-Function Controller.
2. Please grasp the plug of power cord while plugging in or out the plugs of connecting cord of Electric Screwdriver and power cord.
3. Please fix the power controller to avoid any danger of pulling and dragging the power cord.
4. Do not near oil, chemical materials or heated objects, also please be alert not to scratch the power cord by sharp object.
5. This type of Controller can only be applied to Kilews Electric Screwdriver with Counter. Do not use Electric Screwdriver Controller on other types of machinery.
6. In case of the Controller is overheated or overloaded with maximum current rating of fuse, the high-speed fuse will be melt down and cut off the power. If the Controller continues to jump off or has an abnormal switching reaction, please stop the operation immediately and send back the Controller for repair.
7. When Electric Screwdriver is running, if slides Forward/Reverse Switch instantly, device will generate the protection program to force Electric Screwdriver stop.
8. Please do not disassemble Electric Screwdriver casually and try to repair it by self.
9. When Controller is not in use, please turn the main power switch OFF and unplug the power.
10. Installation shall be installed and protected in accordance with national wiring rules.
11. The electric frequency will be lower when the voltage is adjusted as Lo or below 32V,so the torque of the electric screwdrivers can't be worked out except below scale of 4.

### CAUTION

- \* Please arrange to use the whole set of Electric Screwdriver BSD-C series with the Multi-Function Controller.
- \* Please arrange to use together with Kilews BSD-C series Electric Screwdriver. If operator uses different brand of Electric Screwdriver and repair tools with parts or accessories not from Kilews manufacturer, it may cause the Controller malfunction or poor quality. As a result, all of product guarantees will be void and no obligation to the manufacturer.
- \* When Electric Screwdriver is running, if operator slide Forward/Reverse switch instantly, device will turn on the protection program to force the Electric Screwdriver stop running.

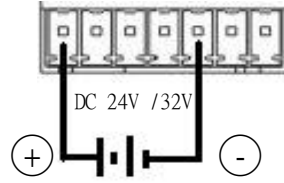
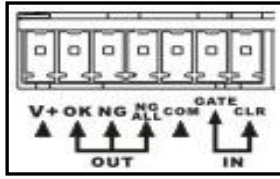








### I/O Inserting Hole description :



No	Name	In/Out	Content	wave pattern of signals	Remark
CN1	V+		+32V/24V		DC32V/DC24V Device built-in output voltage DC32V/DC24V
CN2	OK	Output	Output one signal after finishing one screwing job.		Auto start If operator needs to input voltage, please do not exceed 24V/10mA
CN3	NG	Output	Output one signal when having an erroneous operation		Auto start If operator needs to input voltage, please do not exceed 24V/10mA
CN4	OK ALL	Output	Output one signal after finishing the setting value of screw number count.		Auto start If operator needs to input voltage, please do not exceed 24V/10mA
CN5	COM		—		
CN6	GATE	Input	confirm switch for external connection	OFF : ON :	Input one confirming signal which allows device to judge if the fastener is an effective value. Sensing switch: External connection switch for operation, allows to connect one or two switches. To connect any switch, it must be connected or linked with COM (CN5)
CN7	CLR	Input	CLEAR Switch for external connection		Clear remaining screws count number, available for the external connection of confirming switch. To connect any switch, it must be connected or linked with COM (CN5)

CN1(V+) and CN5(COM) can provide DC 32V/DC 24V Power.

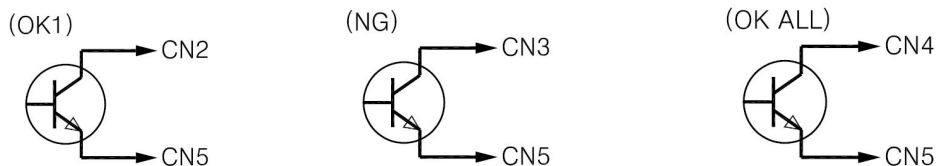
BSP-C32HL: System selects HI and CN1, CN5 provide with DC32V power

BSP-C32HL: System selects LO and CN1, CN5 provide with DC24V

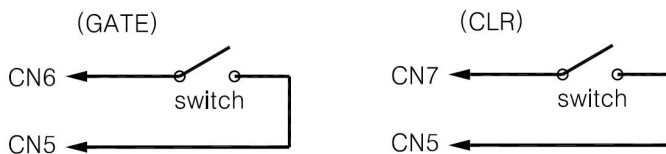
If users need different DC voltage, then they must use their own step-down circuit to decrease voltage.

Terminal Connecting Diagram :

Input : \*If user need to input voltage to drive the alert instrument, do not use over DC24V/10mA voltage.

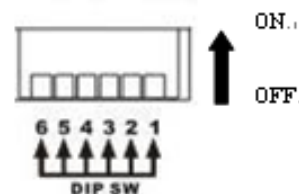


Output :



### Dip Switch Functional Instruction :

SW	Name	OFF	ON
1	Counting Mode	Count Down	Count Forward
2	Sensor Switch	Stop	Work
3	Manual Confirm Mold	Auto Zero	Start the Manual Confirmation
4	Switching Mode	Confirm by One Switch	Confirm by Two Switches
5	Auto Calculating Mode	Stop	Work
6	Units arrangement Mode	Stop	Work



#### Instruction:

**SW1:** Selects ON, counts screws number forward as 1----2----3----4----5----1....  
 Selects Off, count down the screws number as 5----4----3----2----1----5...

**SW2:** Sensing Switch, select ON means Counter needs external sensing switch, BSP-C32HL must be in accordance with the sensing switch mode to determine if electric screwdriver will work. Select OFF means unnecessary for external switch, count number don't have to consider external switch to determine if it works.

**SW3:** The Count number Reset Mode, when counting screws number reach to the setting value, counter must be reset to default value, if select ON which stands for manual reset, user must press "SELECT/CONFIRM" Key on the panel back the setting count number, otherwise Electric Screwdriver is unable to start under no confirming situation on the device. Select OFF makes system automatically to recover from the setting count number.

**SW4:** Switching Mode: Select ON means the external SENSOR need to have two signals been sent to BSP-C32HL which stands for the fastener on operational process need to go through the sensor on machine table to identify the fastener has been removed from working table, and new fastener goes through another SENSOR for confirming the new fastener that has reached the working table. Therefore two confirming signals allow BSP-C32HL to start the Electric Screwdriver running. Select OFF means only need one SENSOR to confirm the fastener that has been removed from this working table, this allows Electric Screwdriver starts to work.

#### CONFIRM :

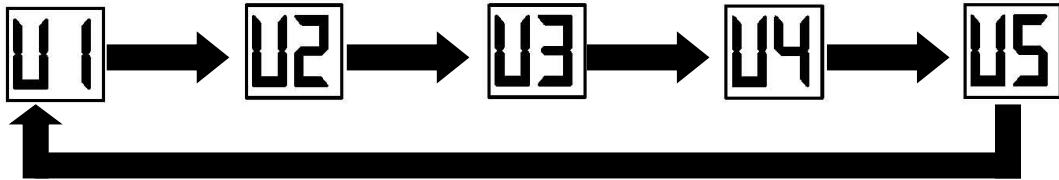
Code	Instruction	Notations
	A switch to confirm SENSOR. SW2 (ON)+SW3(OFF)+SW4(OFF)	Output
	Two switches to confirm SENSOR. SW2 (ON)+SW3(OFF)+SW4(ON)	Output
	Confirm on the panel . SW3 (ON)+SW2(OFF)+SW4(OFF)	Panel CONFIRM
	A switch SENSOR confirm + manual CONFIRM on the Panel SW2(ON)+SW3(ON)+SW4(OFF)	Output + Panel CONFIRM
	SW2(ON)+SW3(ON)+SW4(ON) Two switch SENSOR confirm + manual CONFIRM Panel SW2(ON)+SW3(ON)+SW4(ON)	Output + Panel CONFIRM
	Information back to initial.	CLEAR

※ Making mistake in the middle of CONFIRM mode, when system detect abnormal, it will show Error and buzzer sound. It must be reconfirmed SENSOR, push CONFIRM again.

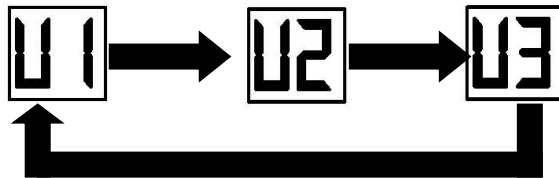


**SW5:** Auto-Learning Mode: The Counter counts screws number with the judging value OK & NG which is set up by Ht and Lt, this Auto-Learning Mode is completely using Electric Screwdriver to fasten screws practically, memorize the screwing time from beginning to complete fastening automatically, user can only change this switch to ON, then system will ask how many screws (SC) of the fastening position been required? If need auto response time setting (At) or if need to use the Slow-Start setting (Rc).

**SW6 :** Arrangement form: The memory can save five units number, user can push switch ON, the system will automatically arrange five units, easy for user to make arrangement at work.



※If using three units of data only and let three units in cycles. It can set up “00” in counting number on U4, when SW6 switch ON, the system will automatically move in circle from U1~U3.



# System setting

※Push three seconds to enter the selection SL====SC====At====RC====Ht====Lt====LL <Confirm>

Function Name	Set up Time and Value	Description	Buzz Time/ Light	Manufacturer Set-Up Value
SL	0-5	Screw List	---	---
SC	1-99	Counting number / count-down only	---	05
At	0.0-9.9	Automatic zero time / Signal output time	---	1.0
RC	01-9.9	Slow start time	---	0.0
Ht	0.1-9.9	Ht time Stop time ( Show wrong as screwdriver can't stop at set time after starting, can be used to test stripped screws	Five buzz and LED red flash	2.0
Lt	0.01-9.99	Lt time will show wrong as screwdriver stops before Lt after starting, can test screw is not properly fastened at its position. .	Two buzz and LED red flash	0.02
LL	0.01-9.99	Reconfirm time after fastening.	---	0.02
Backward to Count-Up )	1 COUNT	When screwdriver is backward, the number will be back one	---	---
Ln	---	Automatic learning.	LED keeps flash of light	---
Buzzer	En Wrong Set-Up	---	Wrong Set-Up, such as Lt > Ht	Three buzz and LED red flash. Automatically show En
	dt Standby Time	Seconds	To stop fastening as set-number screws are not completed)	Lasting buzz s and LED red flash

### PROCESS TO SET UP SYSTEM:

1、Please connect the cord, turn on the power switch until LED shows number.

2、Please press SELECT key over three seconds till buzzer making sound, the panel will show to push UP/DOWN to decrease or increase the number, it can set up five units of number.

3、To press SELECT key, buzzer will sound, the panel will show to push UP/DOWN to decrease or increase number, the maximum can set up 99.  
SC: To set up counting number.

4、To press SELECT, the screen will show push UP/DOWN to increase or decrease number, the maximum can set up 9.9.  
At: Automatic set up CLEAR time.

5、To press SELECT, the screen will show push UP/DOWN to increase or decrease number, the maximum can set up 9.9.  
Rc: To set up slow-start time.

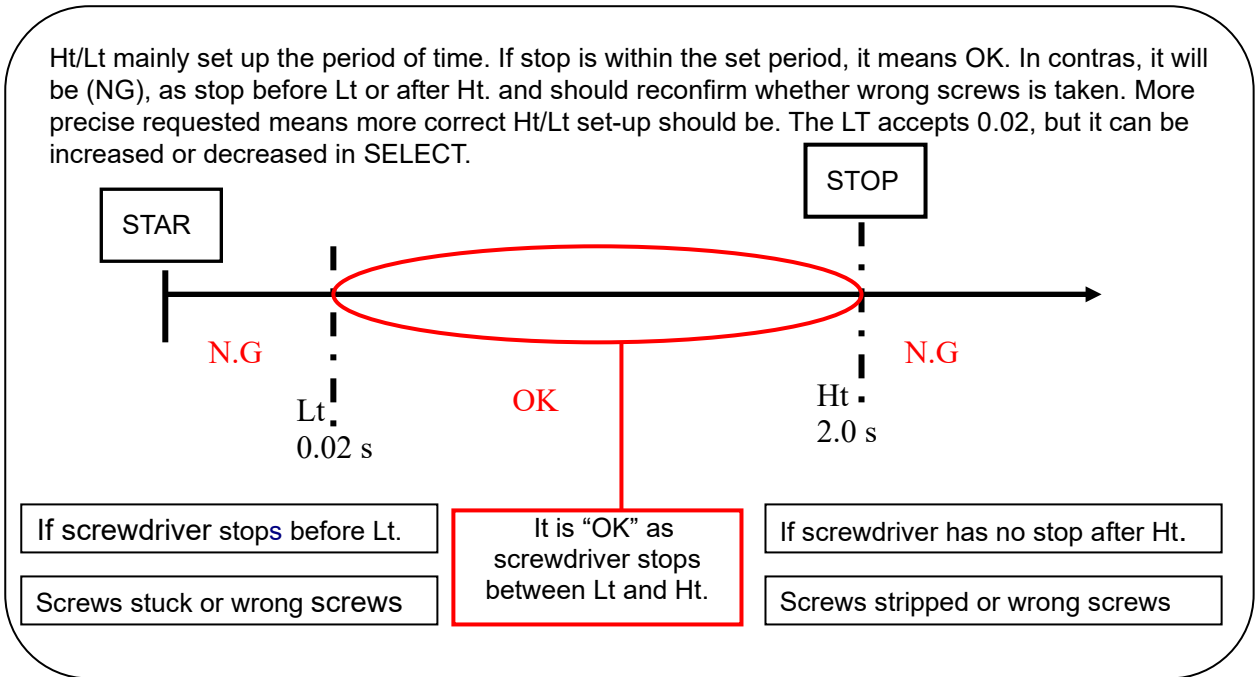
6、To press SELECT, the screen will show push UP/DOWN to increase or decrease number, the maximum can set up 9.9.  
Ht: Stop time.

7、To press SELECT, the screen will show push POWER key , adjust decimals, UP/DOWN to increase or decrease number, the maximum can set up 9.99.  
Lt: Set up Detect Start Time."02" means 0.02.

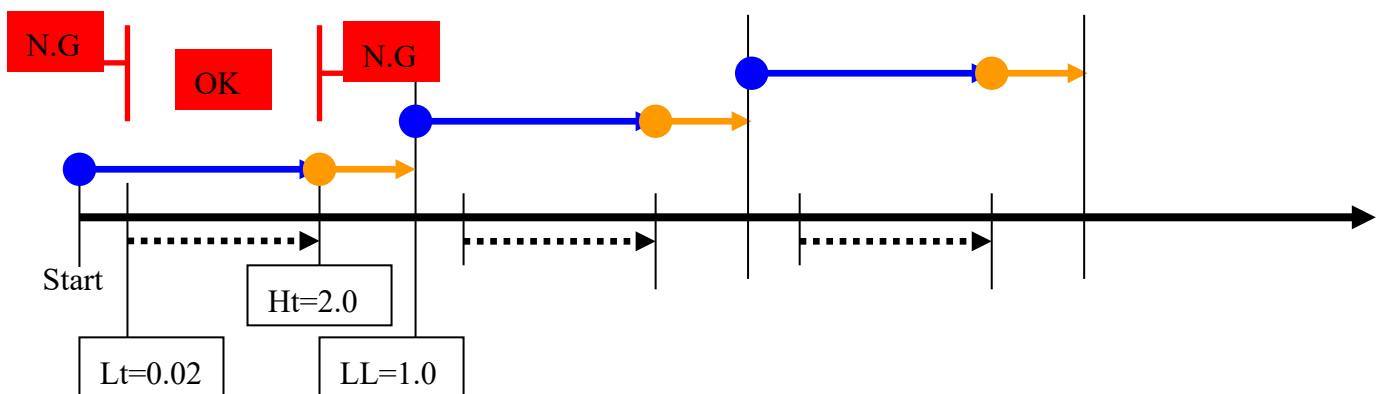
8、To press SELECT, the screen will show push POWER key , adjust decimals 00. push UP/DOWN to increase or decrease number, the maximum can set up 9.99.  
LL: No times confirmed within set-up time after fastening. "02" means 0.02

9、To press SELECT to confirm.

**Data Chart :**



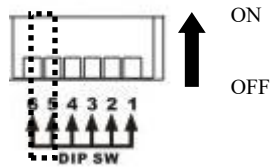
**Execute under general pre-set program :**



- \* If stop is among dots, it is normal fastening. "OK" will be shown.
- \* If stop is before Ht or over Lt, it is "N.G."
- \* User can freely adjust Ht. However, if Ht and Lt is closer, it will request more precise.

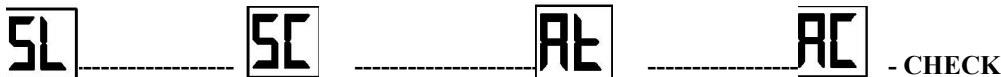
# Simulated Learning

1 · The switch mode SW5 change into ON.



※ When SW5 change to ON, it will force to enter simulated learning procedure, any function will not work.

2 · When it changes to ON, LED will flash to let user know whether or not counting screws, starting slow-start, user must be sure these essential condition then entering simulated learning.



3 · When set up finish, LED will show 0.0, user can test about fastening screws, when screwdriver starts, LED will count. When screwdriver shut-off, that means time to fasten screws. User can proceed many tests until satisfaction. User can change SW5 switch to OFF, the system will set up Lt/Ht time automatically.

4 · If user does not satisfy number, user can change SW5 to OFF, push SELECT over three seconds, entering menu to change.

**System procedure :**



# Grounding

When use Electric Screwdriver Controller, it should be grounded to avoid operator getting electrical shock. This controller is equipped with 3 leading wires and 3 pins of grounding plug to fit for grounding type of outlet. The grounding wire must be connected firmly with power supply equipment for effective grounding result. The leading wire with yellow-green color is a grounding wire. Never attempt to connect this yellow-green color wire on electrified connector, this Controller has built-in grounding wire with electric leakage safety grounding and additionally, the Controller can eliminate ESD static, which is produced by running the electric screwdriver, via grounding wire.

# Servicing

**Maintenance and Inspection :**

1. The controller must be operated in top condition, one day working hour must be not more than eight hours.
2. Please note don't let the controller get over heated, every minute use 10~15 screws to operate.
3. The frequency use of this electric screw driver is over eight hours a day, still it needs periodically testing and treatment. Every 5-6 months.

**CAUTION**

1. The use of other than genuine KILEWS replacement parts may Result in decreased tool performance and increased maintenance, and may invalidate all warranties.
2. All repairs and maintenance of this tool and its word must be performed by an authorized service center.
3. KILEWS is not responsible for customer modification of tools for applications on which KILEWS was not consulted.
4. Repairs should by made only by authorized, trained personnel. Consult your nearest KILEWS authorized service center.
5. It is the responsibility of the employer to place the information in this manual into the hands of the operator.
6. Please refer to Kilews website <http://www.kilews.com> for the detail component list.

**DO NOT ATTEMPT TO REPAIR THIS  
ELECTRIC SCREWDRIVER**

**CAUTION**

**SAVE THESE INSTRUCTIONS  
DO NOT DESTROY**