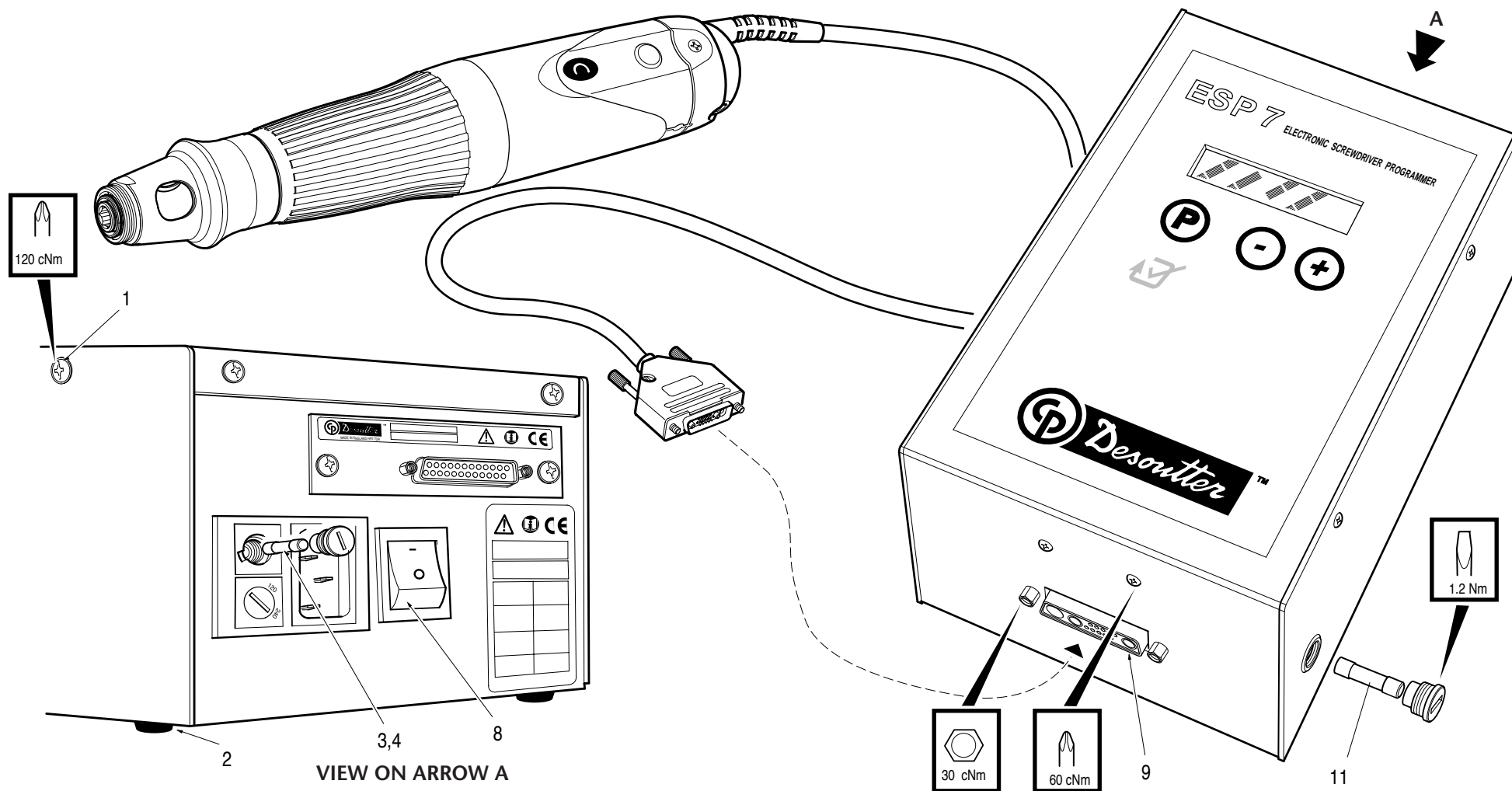


# ESP 7 - Option 1



Desoutter Limited Eaton Road Hemel Hempstead Hertfordshire HP2 7DR England



**GB** SERVICING AND OPERATING INSTRUCTIONS  
**D** WARTUNGSANLEITUNG / BEDIENUNGSANLEITUNG

**F** MANUEL D'ENTRETIEN / MANUEL D'UTILISATION  
**E** INSTRUCCIONES DE SERVICIO / INSTRUCCIONES DE OPERACIÓN

**P** INSTRUÇÕES DE MANUTENÇÃO / INSTRUÇÕES DE FUNCIONAMENTO  
**I** ISTRUZIONI PER L'INSTALLAZIONE E L'USO

**NL** SERVICEHANDLEIDING EN BEDIENINGSVOORSCHRIFTEN  
**GR** Οδηγίες Συντήρησης / Οδηγίες Λειτουργίας

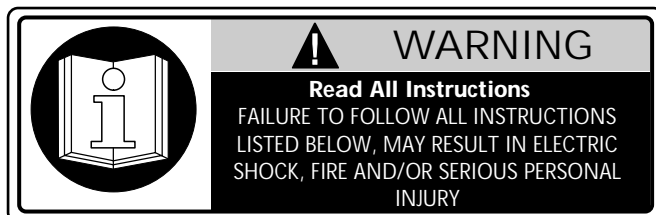
**DK** SERVICEVEJLEDNING / BETJENINGSVEJLEDNING  
**N** SERVICEINSTRUKSJONER / DRIFTSINSTRUKSJONER

**S** SERVICEINSTRUKTIONER / BRUKSANVISNING  
**FIN** HUOLTO-OHJEET / KÄYTTÖOHJEET

# ESP 7 - Save these Instructions



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## WORK AREA

Keep your work area clean and well lit. Cluttered benches and dark areas invite accidents.

Do not operate power tools in explosive atmospheres, such as in the presence of flammable liquids, gases or dust. Power tools create sparks which may ignite the dust or fumes.

Keep bystanders, children and visitors away while operating a power tool. Distractions can cause you to lose control.

## ELECTRICAL SAFETY

Grounded Tools must be plugged into an outlet properly installed and grounded in accordance with all codes and ordinances. Never remove the grounding prong or modify the plug in any way. Do not use any adaptor plugs. Check with a qualified electrician if you are in doubt as to whether the outlet is properly grounded. If the tools should electrically malfunction or break down, grounding provides a low resistance path to carry electricity away from the user. Avoid body contact with grounded surfaces such as pipes, radiators, ranges and refrigerators. There is an increased risk of electric shock if your body is grounded.

Don't expose power tools to rain or wet conditions. Water entering a power tool will increase the risk of electric shock.

Do not abuse the cord. Never use the cord to carry the tools or pull the plug from an outlet. Keep cord away from heat, oil, sharp edges or moving parts. Replace damaged cords immediately. Damaged cords increase the risk of electric shock.

When operating a power tool outside, use an outdoor extension cord marked "W-A" or "W". These cords are rated for outdoor use and reduce the risk of electric shock.

## PERSONAL SAFETY

Stay alert, watch what you are doing and use common sense when operating a power tool. Do not use tool while tired or under the influence of drugs, alcohol or medication. A moment of

inattention while operating power tools may result in serious personal injury.

Dress properly. Do not wear loose clothing or jewellery. Contain long hair. Keep your hair, clothing and gloves away from moving parts. Loose clothes, jewellery or long hair can be caught in moving parts.

Avoid accidental starting. Be sure switch is off before plugging in. Carrying tools with your finger on the switch or plugging in tools that have the switch on invites accidents.

Remove adjusting keys or switches before turning the tool on. A wrench or key that is left attached to a rotating part of the tool may result in personal injury.

Do not overreach. Keep proper footing and balance at all times. Proper footing and balance enables better control of the tool in unexpected situations.

Use safety equipment. Always wear eye protection. Dust mask, non-skid safety shoes, hard hat or hearing protection must be used for appropriate conditions.

Hold tool by insulated gripping surfaces when performing an operation where the cutting tool may contact hidden wiring or its own cord. Contact with a "live" wire will make exposed metal parts of the tool "live" and shock the operator.

Store idle tools in dry and high or locked-up place. Out of reach of children.

## TOOL USE AND CARE

Use clamps or other practical way to secure and support the workpiece to a stable platform. Holding the work by hand or against the body is unstable and may lead to loss of control.

Do not force tool. Use the correct tool for your application. The correct tool will do the job better and safer at the rate for which it is designed.

Do not use the tool if switch does not turn it on or off. Any tool that cannot be controlled with the switch is dangerous and must be repaired.

Disconnect the plug from the power source before making any adjustments, changing accessories or storing the tool. Such preventive safety measures reduce the risk of starting the tool accidentally.

Store idle tools out of reach of children and other untrained persons. Tools are dangerous in the hands of untrained users.

Maintain tools with care. Keep cutting tools sharp and clean. Properly maintained tools, with sharp cutting edges are less likely to bind and are easier to control.

Check for misalignment or binding of moving parts, breakage of

parts, and any other condition that may affect the tools operation. If damaged, have the tool serviced before using. Many accidents are caused by poorly maintained tools.

Use only accessories that are recommended by the manufacturer for your model. Accessories that may be suitable for one tool, may become hazardous when used on another tool.

Don't use tool for purpose not intended. For example don't use circular saw for cutting tree limbs or logs.

## SERVICE

Tool service must be performed only by qualified personnel. Service or maintenance performed by unqualified personnel could result in a risk of injury.

When servicing a tool use only identical replacement parts. Follow instructions in the maintenance section of this manual. Use of unauthorised parts or failure to follow Maintenance Instructions may create a risk of electric shock or injury.

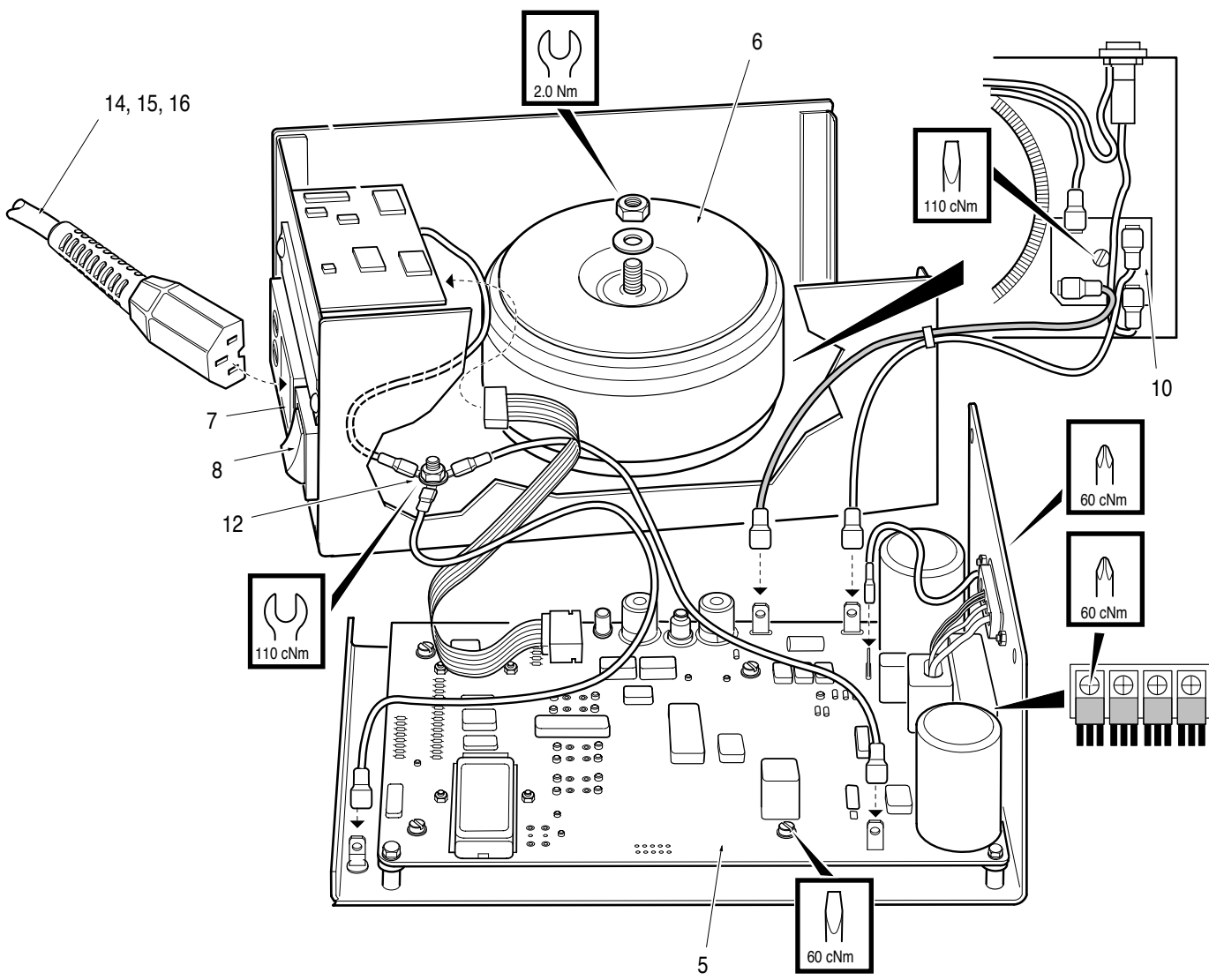
## SAVE THESE INSTRUCTIONS

This device complies with part 15 of the FCC Rules. Any changes or modifications not expressly approved by the manufacturer could void the user's authority to operate this device.

# ESP 7 - Option 1 Programming Description



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Item	Kit Part No.	Part No.	Description	Qty
1	2050111932	2050296843	Screws self tapping	10
2	2050111942	2050472223	Feet	4
3	2050111952	2050472363	Fuse T4.0A 250Vac	1
		2050472283	Fuse Kit Europe/UK	1
4	2050111962	2050472273	Fuse T12.5A 440Vac	1
		2050472283	Fuse Kit USA	1
5	2050111972	2050468073	Fuse T12.5A 440Vac	1
		2050472343	PCB	1
		2050472343	Heat Insulation material (For Heat Sink)	6
		2050237073	Washer Fibre (M3 x 0.8)	4
		2050472333	To secure pcb:	4
		2050233143	Washer Plastic M3	4
6	2050467953	2050467953	M3 x 10 Pan Head Screw	4
		2050467953	Transformer (Includes bolt and washers)	1
7	2050111982	2050467993	IEC Inlet Filter / Voltage Selector & Fuse Holder	1
		2050468013	Ferrite (IEC connector)	1
		2050468033	Resistor 1.2M Ohm high voltage	1
		2050468023	Capacitor 0.1uF X rated	1
		2050472383	Heat Shrink Tubing (25.4 - 12.7)	1
8	2050468003	2050468003	Mains Switch 2 Pole	1
9	2050111992	2050468053	Tool connector	1
		2050468063	Tool connector female power crimp pins	2
		2050472213	Ferrite (Tool connector)	1
10	2050472253	2050472253	Bridge Rectifier	1
11	2050472263	2050472263	Fuse Holder (Secondary)	1
12	2050112002	2050237083	Washer M4 Bridge Rectifier/ Earth Stud Screw Kit	3
		2050186283	Washer spring	1
		2050236993	Nut M4	3
		2050205993	Screw M4 Pan Head	1
13	2050472433	2050472433	Wall Bracket	1
14	396853	396853	Mains Cable (Europe)	1
15	396843	396843	Mains Cable (UK)	1
16	459323	459323	Mains Cable (US)	1

# ESP 7 - Option 1 Programming Description



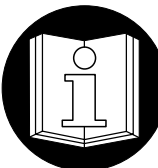
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**WARNING**  
To reduce risk of injury, everyone using, installing, repairing, maintaining, changing accessories on, or working near this tool must read and understand these instructions before performing any such task.



**WARNING**  
**THIS UNIT MUST BE EARTHED**  
**THIS UNIT MUST NOT BE USED IN EXPLOSIVE ATMOSPHERES.**  
**DO NOT OPERATE WITH COVERS REMOVED.**  
**THE TOOL SETTING OR OPERATIONAL TECHNIQUE MUST NOT ALLOW A MOTOR STALL CONDITION TO OCCUR.**



**CAUTION**  
**UNIT DAMAGE- BEFORE APPLYING POWER TO THE UNIT, MAKE SURE THAT THE VOLTAGE SELECTOR AND FUSE ARE SET TO THE CORRECT INPUT VOLTAGE. DAMAGE TO THE UNIT CAN OCCUR IF THE LINE VOLTAGE IS NOT SET CORRECTLY.**  
To change the line voltage selection.  
1. Disconnect the unit from the power supply.  
2. Carefully adjust the voltage selector by inserting a screwdriver into the slot and turn clockwise for 230V or anti-clockwise for 120V until the arrow aligns with the correct voltage.  
3. Carefully turn the fuse holder slot anti-clockwise.  
4. Remove fuse and check amperage rating 250Vac -T4A, 120/250Vac -T6.3A.  
5. Insert correct fuse for supply voltage, re-fit fuse holder and turn slot clockwise to lock into position.

## STATEMENT OF USE

Controller to be used with electric screwdriver models SLE only. No other use permitted. For professional use only.

Note: When Controller Option Boards are used with the ESP 7, the appropriate ESP 7 Programming Description for "Option 2, 3&4, or 5 must be used in conjunction with this description.

## OPERATION DATA

Rated Voltage	230/120Vac
Rated Input	350VA
Rated Current:	
Mains Input:	
120Vac Operation:	6.3A (Fuse rating: T6.3A 120/250Vac Delayed Fuse)
230Vac Operation:	4A (Fuse rating: T4A 250Vac Delayed Fuse)
Transformer Output	12.5A (Fuse Rating: T12.5A (120 or 230Vac Input): 500Vac Delayed Fuse)
Construction Class	1
Weight	5.1Kg

## MAINTENANCE INSTRUCTIONS

All servicing of the unit to be carried out by Desoutter Authorised Representatives.

## ESP 7 PROGRAMMING DESCRIPTION - OPTION '1'

To be used in conjunction with SLE tools.

## USER INTERFACE

There are 3 different operating routines on the ESP 7.

- SET-UP ROUTINE - allows definition of language version, thread direction, password enable and Factory Default Parameters to be reloaded.
- OPERATIONAL ROUTINE - allows for fastening applications.
- PARAMETER CHANGE ROUTINE - enables the user to adapt the unit to his specific requirements. The choice of parameters that can be accessed depends on the installed option module and are described in the relevant Programming Description for Options 2, 3&4 and 5. If required, parameters can be protected using a factory set password enables in the SET-UP ROUTINE. (Password number is 115).

The user interface consists of a one line 16 character display and 3 keys.  
In the following description the 3 keys are referred to as mode (P), down (-) and up (+) key.

## FUNCTION - SET-UP ROUTINE

To enter the Set - Up - Routine, the mode key (P) must be pressed and held before and during turning power on.  
Release the Mode key **after** the following is displayed.

**ESP7 SETUP-MODE**

The message disappears as soon as the mode key (P) is released:

**LANGUAGE GB**

The 1<sup>st</sup> parameter allows the operator to select the language used for the messages in the display. Languages held in the memory are English (GB), German (D), French (F), Italian (I), Spanish (E), Dutch (NL), Portuguese (P), Danish (DK), Norwegian (N), Swedish (S), and Finnish (FIN). Select the required language by using the + - keys. To store the language selection, depress and release mode key (P). This will also allow the next parameter to be displayed.

**THREADTYP RHR**

The 2<sup>nd</sup> parameter allows the operator to prepare the system for the use with right hand thread screws (RHR) or left hand thread screws (LHR).  
Select the required thread direction by using the + - keys.  
To store the thread selection, depress and release mode key (P). This will also allow the next parameter to be displayed.

**PASSWORD 0**

The 3<sup>rd</sup> display allows the operator to enter the factory set password (Password number is 115) by depressing (-) and (+) keys.  
**Note: The password must be entered if password protection is to be Enabled or Disabled.**



# ESP 7 - Option 1 Programming Description



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To store password, depress and release mode key (P). If the incorrect password was entered, the ESP will continue to the next parameter. "Factory Default".  
If the correct password has been entered, the following will be displayed (YES if already enabled, NO if not currently enabled):

**PASSWORD YES**

Select YES or NO by depressing (-) or (+) keys. If YES selected, every time the parameter change mode is selected to change parameters, the password will be asked for. To store selection, depress and release mode key (P).

The 4<sup>th</sup> display allows the operator to restore the factory Default Parameters for the ESP 7 Hardware Option conditions existing. (i.e. No Option Board, Option Board A, B or C.).

**Important:** When fitting or removing a new option board the Factory Default values must be reloaded and parameters changed as required afterward.

**FACTORY DEFAULT**

To restore the factory parameters press and hold either the (-) or (+) keys and then press and hold the mode (P) key for approximately 3 seconds. After 3 seconds the display will change to:

**EEPROM INIT . . . . .**

Release the keys and approximately 2 seconds later the following is displayed:

**EEPROM INIT OK!**

At this point the Set up menu can be repeated or be exited.  
**This completes the Set-up Mode function.**

Exit of the Set-up Mode is by pressing the mode key (P) for 3 seconds which will store the changed values and the following is displayed:

**SETUPMODE CLOSED**

If there is no user input for more than 60 seconds, any parameters set will **not be** stored!

## FUNCTION - OPERATIONAL ROUTINE:

Power 'ON' - After switching the unit ON a self-test is executed, during which the software release and installed option is displayed: In this example the number "1" in the right hand position indicates no Option Board is installed. "5" would indicate Option 5.

**ESP7 V.0.7 1**

Then the recognised tool is displayed:

**SL CONNECTED**

If a tool is connected, the following is displayed: G1 = Program Group 1, PUSH = Push Start Mode, \*100% = Programmed Final Speed or Current

**G1 PUSH \*100% - -**

\* S Indicates programmed Final Speed in Non Current Mode, C Indicates Programmed Current in Current Mode.

If no tool is connected, NO TOOL will be displayed until a tool is connected.

**NO TOOL**

**Note:** If tool is connected and NO TOOL continues to be displayed, this indicates a problem in the tool motor circuit, or the Hall Effect signal is not in the correct state (e.g. Tool cable, tool wiring, problem in tool temperature circuit or defective motor). (Also refer to Tool Temperature Sensing. Error 013).

## SPECIAL FUNCTIONS:

Operator Safety - To remove screwdriver bit, first disable the tool by depressing both buttons on the tool for a minimum of 3 seconds and the following is displayed:

**TOOL DISENGAGED**

To re-instate tool operation, depress either button on the tool for a minimum of 2 seconds.

Connection and disconnection of SLE Tools and Options Boards. It is good working practice to only carry out these operations when the ESP 7 power is switched off.

Fault Diagnosis - In the event of an internal hardware fault occurring with the ESP 7, a message similar to the following will be displayed:

**ERROR 010**

Message Indication: ERROR 010 - Over-current, the current drawn by the tool exceeds the maximum value for too long a period eg. no clutch operation/tool jammed. This can also be due to programming too slow a speed for the programmed current.  
ERROR 011 - Short-circuit, excessive current drawn by the tool due to defect within tool or wiring.  
ERROR 012 - EPROM error.

To re-set ESP 7 after any of the above ERROR messages switch it "OFF" for a minimum of 15 seconds. (Note that the ESP 7 display will not extinguish for approximately 10 seconds). Resolve the tool or programming related problems before switching back on.

## TOOL TEMPERATURE SENSING:

The SLE tool has temperature sensing. If the temperature inside the tool exceeds a nominal 50°C, then the ESP 7 Controller will disable the tool and display:

**ERROR 013**

Should this error occur, the reason must be established (e.g. Tool being used too frequently, at too high a torque, at too high an ambient temperature, tool defective etc.). This tool will be useable after its internal temperature has cooled by approx.10°C. Alternatively, use another tool. Note that the ERROR 013 message will only clear after using a tool without an over temperature problem.

# ESP 7 - Option 1 Programming Description



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## Explanation of status of Green "OK" LED on front of ESP 7.

LED illuminates when the following conditions have been detected.

Note: The following also applies to the External I/O "Cycle Completed" (OK) Output.

	Options 1, 2, 3, 4 and 5 Non FAS Mode	Option 5 FAS Mode Only	Comments
<b>Clutch Tool</b>			
Push Start (Auto Clutch)	<ol style="list-style-type: none"> <li>The clutch has operated.</li> <li>Tool lifted during cycle. BUT SEE WARNING.</li> </ol>	<ol style="list-style-type: none"> <li>The clutch has operated.</li> <li>Tool lifted during programmed FAS T1 and T2 times, BUT SEE WARNING.</li> </ol>	<p>WARNING</p> <p>The LED will illuminate if this type of tool is lifted before the clutch has operated or within the programmed times in FAS Mode. <b>This is NOT an OK condition because the tool should have been kept pressed down.</b></p> <p><b>If this situation occurs, the fastener could be left loose.</b></p> <p>To help overcome this if an SLE Push Start mechanical clutch tool must be used, the following method can be used.</p>
Non Push Start (Manual Clutch)  Lever Start Trigger Start Angle Head	The clutch has operated.	The clutch has operated within the programmed FAS T1 and T2 times.	<p>Introduce a "tool down" / "tool in position" sensor that must be enabled before and throughout the tightening / loosening operation. This signal will be disabled once the tool is moved away from its operating position. This sensor could provide the External I/O "Group Start" signal when operating in FAS Mode.</p>
<b>Current Control Tools</b>  Push Start Lever	The programmed current has been reached.	The programmed current has been reached within the programmed FAS times.	

# ESP 7 - Option 1 Programming Description



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## FUNCTION - PARAMETER CHANGE MODE:

**Note:** When fitting or removing a new option board, the Factory Default values must be reloaded and parameters changed as required afterward.

Note that a tool does not have to be connected to carry out parameter changes.

## Parameter - VALUES:

To set-up specific parameter values, depressing the mode key (P) for 3 seconds enters the parameter change mode where the following is displayed:

**PARAMETER MODE**

If the password feature has been enabled in the "Set-Up, routine" described earlier in this document (i.e. Password "YES"), the following is displayed when the mode key is released:

**PASSWORD      0**

If a password has been enabled, enter it using up key (increased +) or down key (decreased -). To validate the number, depress and release the mode key (P).

If the wrong password is used the unit will return to the pre-set operational mode with no parameter changes.

**Note:** If no password has been selected this operation will be bypassed and the first parameter will be presented to the operator.

When the mode key is next depressed and released the first parameter is presented to the user. The user can step through a list of parameters by pressing the mode key. There is always one parameter presented at one time. This parameter can be changed by the down (decreased -) or up key (increased +). By pressing the mode key (P), a changed value is stored temporarily and the next parameter is presented. If the mode key (P) is pressed for greater than 3 seconds, all parameter changes are saved, the parameter change mode is closed and the unit resumes normal operation. The following is displayed after the 3 second period and disappears when the key is released.

**PARAMETER STORED**

The Set-up and the Parameter Mode will both be exited automatically, if there is no user input for more than 60 seconds. In this case NO changes will be stored, and the programme will operate to the original set values.

## Parameter - TOOL/MODE:

These parameters adapt the system to the tool in use, and are available on all versions.

The SLE tools are available in push start, manual start and angle head versions. (Note that the Current controlled tool can only be used with Options 4 and 5).

The TOOL parameter enables selection of MANU or PUSH, the system will be configured for the equivalent operation. Only in the selection of TOOL = PUSH will the next parameter MODE be shown.

The MODE parameter enables selection of either PUSH (Auto Push start forward or for reverse, first depress reverse button and then push-start), or COMBI-START (Combi-start means first operating the Forward or Reverse button before push starting the tool).

## SUMMARY OF DISPLAY CONTENTS IN PARAMETER MODE:

TOOL	MANU	MANU/PUSH
MODE	COMBI	PUSH/COMBI
1 : FINAL TIME	5.0	OFF, 0.1 . . . 9.9 sec

## Parameter: FINAL TIME:

With no Option Boards installed, the tool operates at 100% Speed until either the clutch shut-off operation occurs or the Final Time, if programmed, has elapsed.

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