

SCANNED

HITACHI

*Impact Driver Cordless Hex
Plant No: 06358001*

Cordless Impact Driver

Akku-Schlagschrauber

Visseuse à percussion à batterie

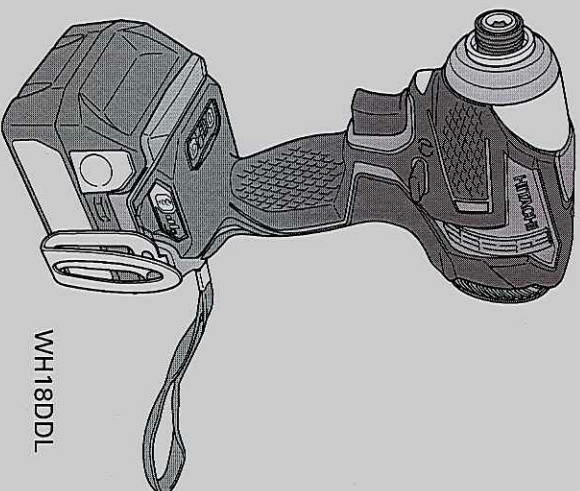
Avvitatore ad impulso a batteria

Snoerloze slagschroevendraaier

Atornillador de impacto a batería

Aparafusadora com percussão à bateria

WH 14DDL • WH 18DDL



WH18DDL

Read through carefully and understand these instructions before use.

Diese Anleitung vor Benutzung des Werkzeugs sorgfältig durchlesen und verstehen.

Lire soigneusement et bien assimiler ces instructions avant usage.

Prima dell'uso leggere attentamente e comprendere queste istruzioni.

Deze gebruiksaanwijzing s.v.p. voor gebruik zorgvuldig doorlezen.

Leer cuidadosamente y comprender estas instrucciones antes del uso.

Antes de usar, leia com cuidado para assimilar estas instruções.

Handling instructions

Bedienungsanleitung

Mode d'emploi

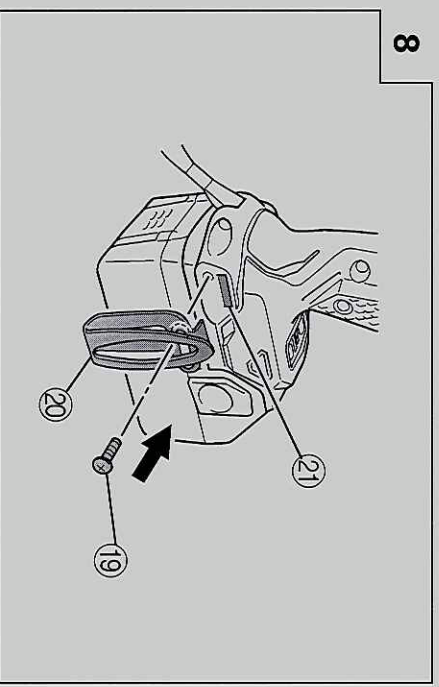
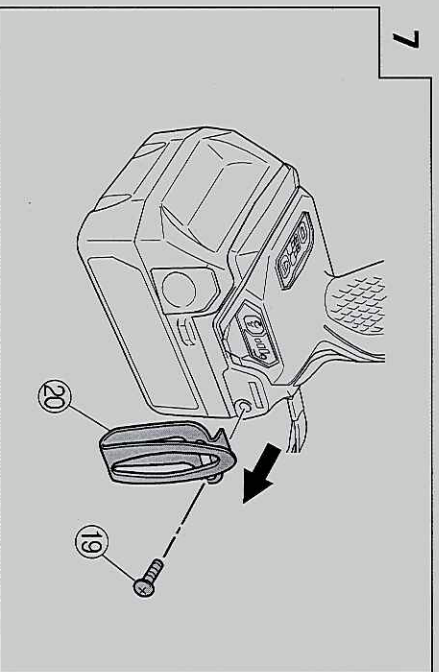
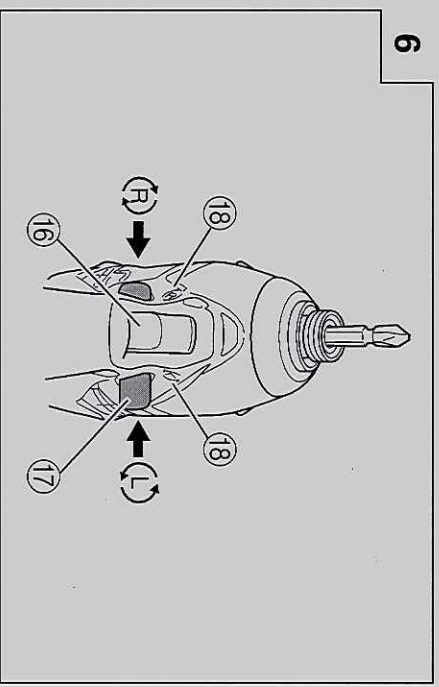
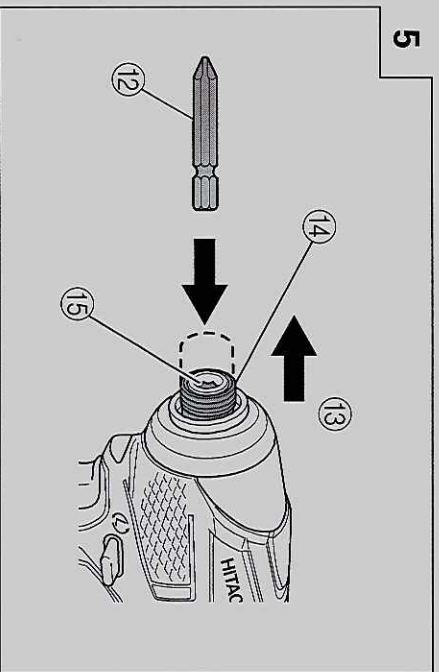
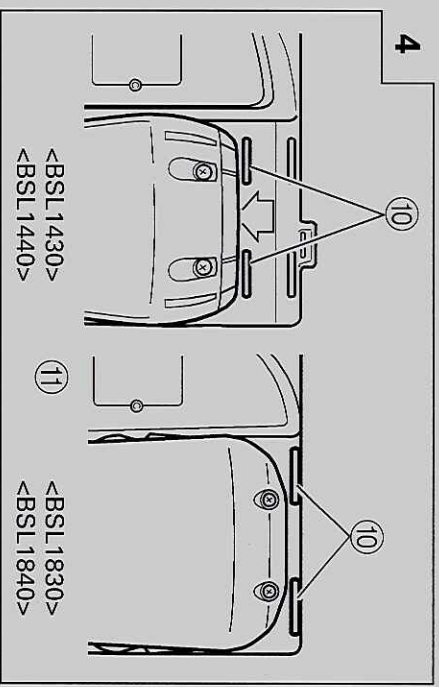
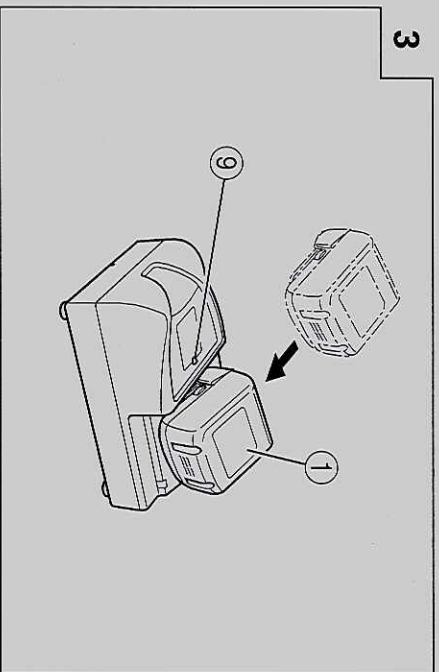
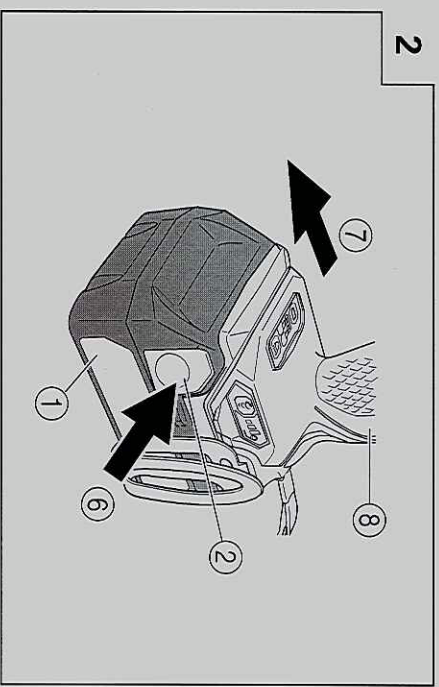
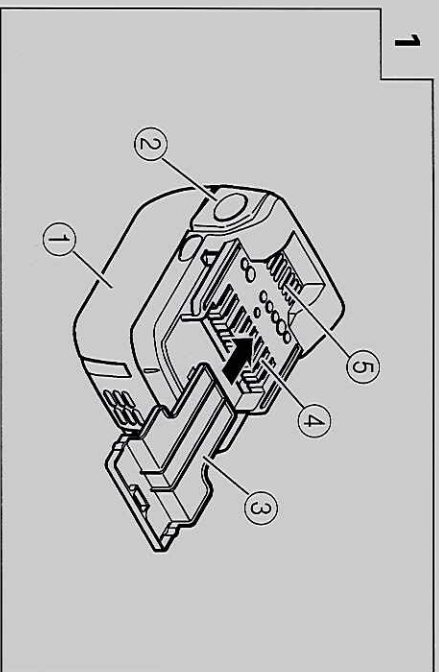
Istruzioni per l'uso

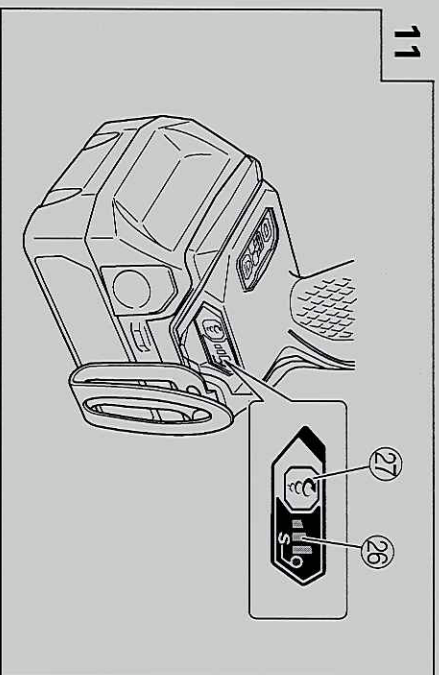
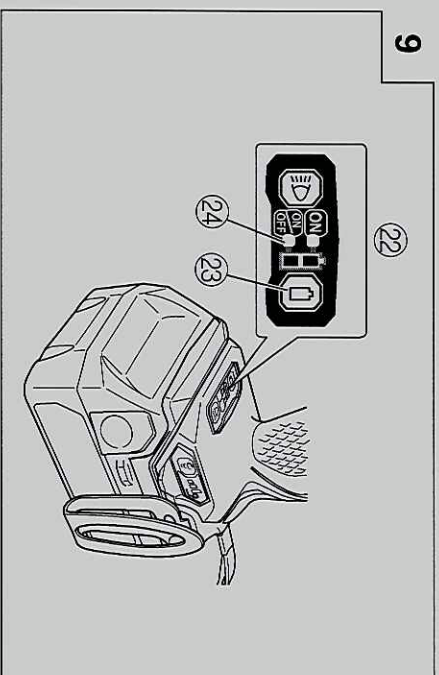
Gebruiksaanwijzing

Instrucciones de manejo

Instruções de uso







Hitachi Koki





	English	Deutsch	Français	Italiano
①	Rechargeable battery	Akkumulator	Batterie rechargeable	Batteria ricaricabile
②	Latch	Schnapper	Loquet	Fermo
③	Battery cover	Batterieabdeckung	Couvercle de batterie	Coperchio per la batteria
④	Terminals	Anschlüsse	Bornes	Terminali
⑤	Ventilation holes	Belüftungslöcher	Orifices de ventilation	Fori di ventilazione
⑥	Push	Drücken	Pousser	Spingere
⑦	Pull out	Herausziehen	Tirer	Estrarre
⑧	Handle	Griff	Poignée	Impugnatura
⑨	Pilot lamp	Kontrolllampe	Lampe témoin	Spia
⑩	Line	Leitung	Ligne	Linea
⑪	After insert	Nach dem Einsetzen	Après insertion	Dopo l'inserimento
⑫	Driver bit	Dreherspitze	Mèche	Testa avvitatrice
⑬	Movement	Bewegung	Mouvement	Movimento
⑭	Guide sleeve	Führungsmanschette	Manchon-guide	Manicotto guida
⑮	Hexagonal hole in the anvil	Sechskantloch in der Schabotte	Orifice hexagonal de la chabotte	Foro esagonale nel basamento
⑯	Trigger switch	Trigger	Déclencheur	Interruttore
⑰	Selector button	Wählhebel	Sélecteur	Selettore
⑱	(R) and (L) marks	(R) und (L) Zeichen	Indices (R) et (L)	Segno (R), (L)
⑲	Screw	Schraube	Vis	Vite
⑳	Hook	Haken	Crochet	Gancio
㉑	Groove	Nut	Gorge	Scanalatura
㉒	Switch panel	Schalttafel	Tableau de commande	Pannello dell'interruttore
㉓	Remaining battery indicator switch	Ladezustand-Anzeigeschalter	Commutateur de puissance batterie résiduelle	Interruttore indicatore batteria restante
㉔	Indicator lamp	Anzeigeleuchte	Voyant indicateur	Spia luminosa
㉕	Light selector switch	Lichtwählschalter	Sélecteur lumineux	Interruttore selettore luce
㉖	Tightening mode indicator lamp	Anzeigeleuchte für Festziehmodus	Voyant indicateur du mode de serrage	Spia luminosa modalità di serraggio
㉗	Tightening mode selector switch	Wählschalter für Festziehmodus	Sélecteur du mode de serrage	Interruttore selettore della modalità di serraggio

	Nederlands	Español	Português
①	Oplaadbare batterij	Batería recargable	Bateria de recarregável
②	Vergrendeling	Enganche	Lingüeta
③	Batterijdeksel	Tapa de batería	Tampa da bateria
④	Aansluitpunten	Terminales	Terminais
⑤	Ventilatieopeningen	Orificios de ventilación	Orificios de ventilação
⑥	Drukken	Presionar	Apertar
⑦	Uittrekken	Sacar	Retirar
⑧	Handgreep	Mango	Cabo
⑨	Controlelampje	Lâmpara piloto	Lâmpada piloto
⑩	Lijn	Línea	Linha
⑪	Na insteken	Tras la introducción	Depois de inserir
⑫	Schroefstuk	Punta de destornillador	Chave de fenda
⑬	Beweging	Movimiento	Movimento
⑭	Geleide ring	Manguito guía	Manga-guia
⑮	Zeshoekige opening in het draatstuk	Orificio hexagonal en el yunque	Orificio sextavado na bigorna
⑯	Trekkerschakelaar	Commutador de gatillo	Interruptor de comando
⑰	Omzetschakelaar	Botón selector	Botão seletor
⑱	(R) en (L) merktkens	Marcas (R) y (L)	Marcas (R) e (L)
⑲	Schroef	Tornillo	Parafuso
⑳	Haak	Gancho	Gancho
㉑	Groef	Ranura	Ranhura
㉒	Schakelaarpaneel	Panel de interruptores	Painel de interruptores
㉓	Indicatieschakelaar resterende acculading	Interruptor de indicador de batería restante	Interruptor de indicação da autonomia da pilha
㉔	Indicatorlampje	Lâmpara indicadora	Luz indicadora
㉕	Lichtkeuzeschakelaar	Interruptor de selector de luz	Interruptor selector de luz
㉖	Vastdraaimodus-indicatorlampje	Lâmpara indicadora de modo de apriete	Luz indicadora do modo de aperto
㉗	Vastdraaimodus-keuzeschakelaar	Interruptor selector de modo de apriete	Interruptor do selector do mofo de aperto

 Symbols ⚠ WARNING The following show symbols used for the machine. Be sure that you understand their meaning before use.	Simbolo ⚠ WARNING Die folgenden Symbole werden für diese Maschine verwendet. Achten Sie darauf, diese vor der Verwendung zu verstehen.	Símbolos ⚠ AVERTISSEMENT Les symboles suivants sont utilisés pour l'outil. Bien se familiariser avec leur signification avant d'utiliser l'outil.	Simboli ⚠ AVERTENZA Di seguito mostriamo i simboli usati per la macchina. Assicurarasi di comprenderne il significato prima dell'uso.
 Read all safety warnings and all instructions. Failure to follow the warnings and instructions may result in electric shock, fire and/or serious injury.	Lesen Sie sämtliche Sicherheitshinweise und Anweisungen durch. Wenn die Warnungen und Anweisungen nicht befolgt werden, kann es zu Stromschlag, Brand und/oder ernsthaften Verletzungen kommen.	Lire tous les avertissements de sécurité et toutes les instructions. Tout manquement à observer ces avertissements et instructions peut engendrer des chocs électriques, des incendies et/ou des blessures graves.	Leggere tutti gli avvertimenti di sicurezza e tutte le istruzioni. La mancata osservanza degli avvertimenti e delle istruzioni potrebbe essere causa di scosse elettriche, incendi e/o gravi lesioni.
 Only for EU countries Do not dispose of electric tools together with household waste material! In observance of European Directive 2002/96/EC on waste electrical and electronic equipment and its implementation in accordance with national law, electric tools that have reached the end of their life must be collected separately and returned to an environmentally compatible recycling facility.	Nur für EU-Länder Werfen Sie Elektrowerkzeuge nicht in den Hausmüll! Gemäss Europäischer Richtlinie 2002/96/EG über Elektro- und Elektronik-Altgeräte und Umsetzung in nationales Recht müssen verbrauchte Elektrowerkzeuge getrennt gesammelt und einer Umweltgerechten Wiederverwertung zugeführt werden.	Pour les pays européens uniquement Ne pas jeter les appareils électriques dans les ordures ménagères! Conformément à la directive européenne 2002/96/CE relative aux déchets d'équipements électriques ou électroniques (DEEE), et à sa transposition dans la législation nationale, les appareils électriques doivent être collectés à part et être soumis à un recyclage respectueux de l'environnement.	Solo per Paesi UE Non gettare le apparecchiature elettriche tra i rifiuti domestici. Secondo la Direttiva Europea 2002/96/CE sui rifiuti di apparecchiature elettriche ed elettroniche e la sua attuazione in conformità alle norme nazionali, le apparecchiature elettriche esauste devono essere raccolte separatamente, al fine di essere reimpiegate in modo eco-compatibile.
 Símbolos ⚠ WAARSCHUWING Hieronder staan symbolen afgebeeld die van toepassing zijn op deze machine. U moet de betekenis hiervan begrijpen voor gebruik.	Simbolos ⚠ ADVERTENCIA A continuación se muestran los símbolos usados para la máquina. Asegúrese de comprender su significado antes del uso.	Símbolos ⚠ AVISO A seguir aparecem os símbolos utilizados pela máquina. Assimile bem seus significados antes do uso.	
 Lees alle waarschuwingen en instructies aandachtig door. Nalating om de waarschuwingen en instructies op te volgen kan in een elektrische schok, brand en/of ernstig letsel resulteren.	Lea todas las instrucciones y advertencias de seguridad. Si no se siguen las advertencias e instrucciones, podría producirse una descarga eléctrica, un incendio y/o daños graves.	Leia todas as instruções e avisos de segurança. Se não seguir todas as instruções e os avisos, pode provocar um choque eléctrico, incêndio e/ou ferimentos graves.	
 Alleen voor EU-landen Geef elektrisch gereedschap niet met het huisvuil mee! Volgens de Europese richtlijn 2002/96/EC inzake oude elektrische en elektronische apparaten en de toepassing daarvan binnen de nationale wetgeving, dient gebruikt elektrisch gereedschap gescheiden te worden ingezameld en te worden afgevoerd naar een recycle bedrijf dat voldoet aan de geldende milieueisen.	Sólo para países de la Unión Europea ¡No deseché los aparatos eléctricos junto con los residuos domésticos! De conformidad con la Directiva Europea 2002/96/CE sobre residuos de aparatos eléctricos y electrónicos y su aplicación de acuerdo con la legislación nacional, las herramientas eléctricas cuya vida útil haya llegado a su fin se deberán recoger por separado y trasladar a una planta de reciclaje que cumpla con las exigencias ecológicas.	Apenas para países da UE Não deite ferramentas eléctricas no lixo doméstico! De acordo com a directiva europeia 2002/96/CE sobre ferramentas eléctricas e electrónicas usadas e a transposição para as leis nacionais, as ferramentas eléctricas usadas devem ser recolhidas em separado e encaminhadas a uma instalação de reciclagem dos materiais ecológica.	

GENERAL POWER TOOL SAFETY WARNINGS**⚠ WARNING**

Read all safety warnings and all instructions.

Failure to follow the warnings and instructions may result in electric shock, fire and/or serious injury.

Save all warnings and instructions for future reference.

The term "power tool" in the warnings refers to your mains-operated (corded) power tool or battery-operated (cordless) power tool.

1) Work area safety

- a) **Keep work area clean and well lit.**
Cluttered or dark areas invite accidents.
- b) **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.
- 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) **Do not 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 for 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 a cord suitable for outdoor use reduces the risk of electric shock.
- f) **If operating a power tool in a damp location is unavoidable, use a residual current device (RCD) protected supply.**
Use of an RCD 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 a 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 personal protective equipment. Always wear eye protection.**
Protective equipment such as dust mask, non-skid safety shoes, hard hat, or hearing protection used for appropriate conditions will reduce personal injuries.

- c) **Prevent unintentional starting. Ensure the switch is in the off position before connecting to power source and/or battery pack, picking up or carrying the tool.**
Carrying power tools with your finger on the switch or energising power tools that have the switch on invites accidents.

- d) **Remove any adjusting key or wrench before turning the power tool on.**
A wrench or a key 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 dust collection 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 the power tool if the switch does not turn it on and 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 and/or the battery pack from the power tool before making any adjustments, changing accessories, or storing power tools.**
Such preventive safety measures reduce the risk of starting the power tool accidentally.

- d) **Store idle power tools out of the 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 caused 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 tool, accessories and tool bits etc. in accordance with these instructions, taking into account the working conditions and the work to be performed.**

Use of the power tool for operations different from those intended could result in a hazardous situation.

5) Battery tool use and care

- a) **Recharge only with the charger specified by the manufacturer.**

A charger that is suitable for one type of battery pack may create a risk of fire when used with another battery pack.

b) Use power tools only with specifically designated battery packs.

Use of any other battery packs may create a risk of injury and fire.

c) When battery pack is not in use, keep it away from other metal objects like paper clips, coins, keys, nails, screws, or other small metal objects that can make a connection from one terminal to another.

Shorting the battery terminals together may cause burns or a fire.

d) Under abusive conditions, liquid may be ejected from the battery; avoid contact. If contact accidentally occurs, flush with water. If liquid contacts eyes, additionally seek medical help. Liquid ejected from the battery may cause irritation or burns.

6) Service

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

PRECAUTION

Keep children and infirm persons away.

When not in use, tools should be stored out of reach of children and infirm persons.

PRECAUTIONS FOR CORDLESS IMPACT DRIVER

1. **Hold power tool by insulated gripping surfaces, when performing an operation where the fastener may contact hidden wiring.** Fasteners contacting a "live" wire may make exposed metal parts of the power tool "live" and could give the operator an electric shock.
 2. This is portable tool for tightening and loosening screws. Use it only for these operation.
 3. Use the earplugs if using for a long time.
 4. One-hand operation is extremely dangerous; hold the unit firmly with both hands when operating.
 5. After installing the driver bit, pull lightly out the bit to make sure that it does not come loose. If the bit is not installed properly, it can come loose during use, which can be dangerous.
 6. Use the bit that matches the screw.
 7. Tightening a screw with the impact driver at an angle to that screw can damage the head of the screw and the proper force will not be transmitted to the screw. Tighten with this impact driver lined up straight with the screw.
 8. Always charge the battery at a temperature of 0 – 40°C.
 9. A temperature of less than 0°C will result in over charging which is dangerous. The battery cannot be charged at a temperature greater than 40°C. The most suitable temperature for charging is that of 20 – 25°C.
 9. Do not use the charger continuously.
- When one charging is completed, leave the charger for about 15 minutes before the next charging of battery.

10. Do not allow foreign matter to enter the hole for connecting the rechargeable battery.
11. Never disassemble the rechargeable battery and charger.
12. Never short-circuit the rechargeable battery.
13. Short-circuiting the battery will cause a great electric current and overheat. It results in burn or damage to the battery.
14. Do not dispose of the battery in fire.
15. If the battery burnt, it may explode.
16. Do not insert object into the air ventilation slots of the charger.
17. Inserting metal objects or inflammables into the charger air ventilation slots will result in electrical shock hazard or damaged charger.
18. Bring the battery to the shop from which it was purchased as soon as the post-charging battery life becomes too short for practical use. Do not dispose of the exhausted battery.
19. Using an exhausted battery will damage the charger.

CAUTION ON LITHIUM-ION BATTERY

To extend the lifetime, the lithium-ion battery equips with the protection function to stop the output.

In the cases of 1 to 3 described below, when using this product, even if you are pulling the switch, the motor may stop. This is not the trouble but the result of protection function.

1. When the battery power remaining runs out, the motor stops.
 2. In such case, charge it up immediately.
 3. If the tool is overloaded, the motor may stop. In this case, release the switch of tool and eliminate causes of overloading. After that, you can use it again.
 4. If the battery is overheated under overload work, the battery power may stop.
 5. In this case, stop using the battery and let the battery cool. After that, you can use it again.
- Furthermore, please heed the following warning and caution.

WARNING

In order to prevent any battery leakage, heat generation, smoke emission, explosion and ignition beforehand, please be sure to heed the following precautions.

1. Make sure that swarf and dust do not collect on the battery.
2. During work make sure that swarf and dust do not fall on the battery.
3. Make sure that any swarf and dust falling on the power tool during work do not collect on the battery.
4. Do not store an unused battery in a location exposed to swarf and dust.
5. Before storing a battery, remove any swarf and dust that may adhere to it and do not store it together with metal parts (screws, nails, etc.).
6. Do not pierce battery with a sharp object such as a nail, strike with a hammer, step on, throw or subject the battery to severe physical shock.
7. Do not use an apparently damaged or deformed battery.
8. Do not use the battery in reverse polarity.
9. Do not connect directly to an electrical outlets or car cigarette lighter sockets.

6. Do not use the battery for a purpose other than those specified.
7. If the battery charging fails to complete even when a specified recharging time has elapsed, immediately stop further recharging.
8. Do not put or subject the battery to high temperatures or high pressure such as into a microwave oven, dryer, or high pressure container.
9. Keep away from fire immediately when leakage or foul odor are detected.
10. Do not use in a location where strong static electricity generates.
11. If there is battery leakage, foul odor, heat generated, discolored or deformed, or in any way appears abnormal during use, recharging or storage, immediately remove it from the equipment or battery charger, and stop use.

CAUTION

1. If liquid leaking from the battery gets into your eyes, do not rub your eyes and wash them well with fresh clean water such as tap water and contact a doctor immediately.
2. If left untreated, the liquid may cause eye-problems. If liquid leaks onto your skin or clothes, wash well with clean water such as tap water immediately. There is a possibility that this can cause skin irritation.
3. If you find rust, foul odor, overheating, discolor, deformation, and/or other irregularities when using the battery for the first time, do not use and return it to your supplier or vendor.

WARNING

If an electrically conductive foreign object enters the terminals of the lithium ion battery, a short-circuit may occur resulting in the risk of fire. Please observe the following matters when storing the battery.

- Do not place electrically conductive cuttings, nails, steel wire, copper wire or other wire in the storage case.
- Either install the battery in the power tool or store by securely pressing into the battery cover until the ventilation holes are concealed to prevent short-circuits (See Fig. 1).

PRECAUTIONS REGARDING THE DUST-RESISTANCE AND WATER-PROOFING FUNCTIONS

This product conforms to IP56 protection class ratings (dust-resistance and water-proofing) for electrical equipment as stipulated by the international IEC regulations. (Only the main unit conforms to the IP56 protection class ratings when equipped with a battery.)

Descriptions of IP Codes

IP56

Protection rating for water penetration

Must be no adverse effects on the equipment when sprayed with powerful jets of water from all directions (water-proofed).
(100L of water per minute sprayed for approximately three minutes from a distance of approximately three meters with the use of a spray nozzle with a diameter of 12.5mm.)

Protection rating for external assault by solid objects

Dust that may cause adverse effects on the equipment must not be able to enter (dust-resistance).
(The equipment to be left non-operable in a test chamber in which particles of talcum powder with a diameter of less than 75 µm are floating in the air with the use of an agitation pump at a rate of 2kg per cubic meter for eight hours.)

The equipment has been designed to withstand the effects of dust and water, but there is no guarantee that it will not malfunction. Do not use or leave the equipment in locations where it is subject to excessive amounts of dust, or in locations where it is submerged in water or subject to rainwater.

SPECIFICATIONS

POWER TOOL

Model	WH14DDL		WH18DDL
Voltage	14.4 V		18 V
No-load speed	High mode	0 – 3000 min ⁻¹	0 – 3100 min ⁻¹
	Medium mode	0 – 2200 min ⁻¹	0 – 2200 min ⁻¹
	Low mode	0 – 900 min ⁻¹	0 – 900 min ⁻¹
Capacity	S mode	0 – 3000 min ⁻¹	
	Ordinary bolt	M5 – M16	
	High tension bolt	M5 – M12	
Capacity	Machine screw	M4 – M8	
	Self drilling screw	∅ 3.5 – ∅ 6	
Tightening torque (Maximum)	167 N·m		172 N·m
Rechargeable battery	BSL 1430: Li-ion	BSL 1440: Li-ion	BSL 1830: Li-ion
	14.4 V (3.0 Ah 8 cells)	14.4 V (4.0 Ah 8 cells)	18 V (3.0 Ah 10 cells)
Weight	1.3 kg		1.5 kg

CHARGER

Model	UC18YRSL
Charging voltage	14.4 V – 18 V
Weight	0.6 kg

STANDARD ACCESSORIES

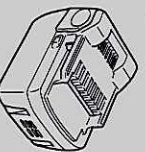
In addition to the main unit (1), the package contains the accessories listed in the table below.

WH14DDL WH18DDL	① Charger	1
	② Battery	2
	③ Plastic case	1
	④ Battery cover	1

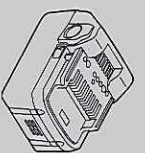
Standard accessories are subject to change without notice.

**OPTIONAL ACCESSORIES
(Sold separately)**

- Battery



(BSL 1430, BSL 1440)



(BSL 1830, BSL 1840)

Optional accessories are subject to change without notice.

APPLICATION

- Driving and removing of machine screws, wood screws, tapping screws, self drilling screws, etc

BATTERY REMOVAL/INSTALLATION

1. Battery removal

Hold the handle tightly and push the battery latch to remove the battery (see Fig. 2).

CAUTION

Never short-circuit the battery.

2. Battery installation

Insert the battery while observing its polarities (see Fig. 2).

CHARGING

Before using the power tool, charge the battery as follows.

1. **Connect the charger's power cord to a receptacle.**
When the power cord is connected, the charger's pilot lamp will blink in red. (At 1-second intervals)
2. **Insert the battery into the charger.**
Firmly insert the battery into the charger until the line is visible, as shown in Fig. 3, 4.

3. Charging

When inserting a battery in the charger, charging will commence and the pilot lamp will light continuously in red.

When the battery becomes fully recharged, the pilot lamp will blink in red. (At 1-second intervals) (See Table 1)

- (1) Pilot lamp indication

The indications of the pilot lamp will be as shown in Table 1, according to the condition of the charger or the rechargeable battery.

Table 1

Indications of the pilot lamp			
The pilot lamp blinks in red.	Before charging	Blinks	Lights for 0.5 seconds. Does not light for 0.5 seconds. (off for 0.5 seconds)
	While charging	Lights	Lights continuously
	Charging complete	Blinks	Lights for 0.5 seconds. Does not light for 0.5 seconds. (off for 0.5 seconds)
The pilot lamp lights in green.	Charging impossible	Flickers	Lights for 0.1 seconds. Does not light for 0.1 seconds. (off for 0.1 seconds)
	Overheat standby	Lights	Lights continuously
			Malfunction in the battery or the charger
			Battery overheated. Unable to charge (Charging will commence when battery cools).

(2) Regarding the temperatures of the rechargeable battery
 The temperatures for rechargeable batteries are as shown in **Table 2**, and batteries that have become hot should be cooled for a while before being recharged.

Table 2 Recharging ranges of batteries

Rechargeable batteries	Temperatures at which the battery can be recharged
BSL1430, BSL1830	0°C – 50°C
BSL1440, BSL1840	

(3) Regarding recharging time
 Depending on the combination of the charger and batteries, the charging time will become as shown in **Table 3**.

Table 3 Charging time (At 20°C)

Battery	Charger	UC18YRSL
BSL1430, BSL1830		Approx. 45 min.
BSL1440, BSL1840		Approx. 60 min.

NOTE:

The charging time may vary according to temperature and power source voltage.

4. **Disconnect the charger's power cord from the receptacle.**

5. **Hold the charger firmly and pull out the battery.**

NOTE:

After operation, pull out batteries from the charger first, and then keep the batteries properly.

Regarding electric discharge in case of new batteries, etc.

As the internal chemical substance of new batteries and batteries that have not been used for an extended period is not activated, the electric discharge might be low when using them the first and second time.

This is a temporary phenomenon, and normal time required for recharging will be restored by recharging the batteries 2-3 times.

How to make the batteries perform longer

(1) Recharge the batteries before they become completely exhausted.
 When you feel that the power of the tool becomes weaker, stop using the tool and recharge its battery. If you continue to use the tool and exhaust the electric current, the battery may be damaged and its life will become shorter.

(2) Avoid recharging at high temperatures.
 A rechargeable battery will be hot immediately after use. If such a battery is recharged immediately after use, its internal chemical substance will deteriorate, and the battery life will be shortened. Leave the battery and recharge it after it has cooled for a while.

CAUTION

○ When the battery charger has been continuously used, the battery charger will be heated, thus constituting the cause of the failures. Once the charging has been completed, give 15 minutes rest until the next charging.

○ If the battery is recharged when it is warm due to battery use or exposure to sunlight, the pilot lamp map light in green.

The battery will not be recharged. In such a case, let the battery cool before charging.

○ When the pilot lamp flickers in red (at 0.2-second intervals), check for and take out any foreign objects in the charger's battery installation hole. If there are no foreign objects, it is probable that the battery or charger is malfunctioning. Take it to your authorized Service Center.

PRIOR TO OPERATION

1. **Preparing and checking the work environment**

Make sure that the work site meets all the conditions laid forth in the precautions.

2. **Checking the battery**

Make sure that the battery is installed firmly. If it is at all loose it could come off and cause an accident.

3. Installing the bit

Always follow the following procedure to install driver bit. (Fig. 5)

- (1) Pull the guide sleeve away from front of the tool.
- (2) Insert the bit into the hexagonal hole in the anvil.
- (3) Release the guide sleeve and it returns to its original position.
- (4) If you want to remove the bit, pull the guide sleeve away from front of the tool.

CAUTION

If the guide sleeve does not return to its original position, then the bit is not installed properly.

HOW TO USE

1. Check the rotational direction

The bit rotates clockwise (viewed from the rear side) by pushing the R-side of the push button.

The L-side of the push button is pushed to turn the bit counterclockwise. (See Fig. 6) (The (L) and (R) marks are provided on the body.)

2. Switch operation

When the trigger switch is depressed, the tool rotates. When the trigger is released, the tool stops.

The rotational speed of the drill can be controlled by varying the amount that the trigger switch is pulled. Speed is low when the trigger switch is pulled slightly and increases as the trigger switch is pulled more.

NOTE:

A buzzing noise is produced when the motor is about to rotate. This is only a noise, not a machine failure.

3. Using the hook

The hook is used to hang up the power tool to your waist belt while working.

CAUTION

When using the hook, hang up the power tool firmly not to drop accidentally.

If the power tool is dropped, it may lead to an accident.

When carrying the power tool with hooked to your waist belt, do not fit any bit to the tip of power tool. If the sharp bit such as drill is fitted to the power tool when carrying it with hooked to your waist belt, you will be injured.

Install securely the hook. Unless the hook is securely installed, it may cause an injury while using.

(1) Removing the hook.

Remove the screws fixing the hook with Phillips screw driver. (Fig. 7)

(2) Replacing the hook and tightening the screws.


Install securely the hook in the groove of power tool and tighten the screws to fix the hook firmly. (Fig. 8)

4. About Remaining Battery Indicator

When pressing the remaining battery indicator switch, the red indicator lamp lights and the battery remaining power can be checked. (Fig. 9)

When releasing your finger from the remaining battery indicator switch, the indicator lamp changes indication of LED light mode. The Table 4 shows the state of red indicator lamp and the battery remaining power.

Table 4

State of lamp	Battery Remaining Power
	The battery remaining power is enough.
	The battery remaining power is a half.
	The battery remaining power is nearly empty. Re-charge the battery soonest possible.

As the remaining battery indicator shows somewhat differently depending on ambient temperature and battery characteristics, read it as a reference.

NOTE:


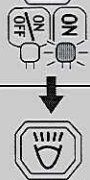

Do not give a strong shock to the switch panel or break it. It may lead to a trouble.

5. How to use the LED light

By press the light selector switch on the switch panel, the LED light mode changes as Table 5. It is indicated by green lamp. (Fig. 10)

To prevent the battery power consumption, turn off the LED light frequently.

Table 5

	Always-ON mode	SW interlocked mode	Always-OFF mode
Panel display			
State	Always ON (turn off after 2 minute)	Light only SW-ON	Always OFF

CAUTION

Do not expose directly your eye to the light by looking into the light.

If your eye is continuously exposed to the light, your eye will be hurt.

NOTE:

To prevent the battery power consumption caused by forgetting to turn off the LED light, the light goes off automatically in about 2 minutes.

6. Tightening mode selector function (Fig. 11)

CAUTION

Do not subject the switch panel to shock or damage.

Select tightening mode while the trigger switch is released. Failure to do so could result in malfunction.





- (1) Tightening mode selector switch
The rotation speed changes in 3 steps (900, 2200, 3000/3100 min⁻¹) and select "S mode" each time the tightening mode selector switch is pressed.
S mode is suitable mode for tightening of self drilling screw, it decrease failure of screw head breaking, screw breaking, and screw idle running from tightening too much screw.



- NOTE:**
- The appropriate mode differs depending on the screw and the material being screwed. Drive in a few test screws and adjust the mode setting accordingly.

- The tightening mode selector switch can only be set after the battery has been installed in the driver and the trigger switch has been pulled once.

Examples of tightening mode selector function settings

	Low	Medium	High	S mode
Rotation speed	900 min ⁻¹ 	2200 min ⁻¹ 	3000 min ⁻¹ / 3100 min ⁻¹ 	3000 min ⁻¹ / 3100 min ⁻¹ 
Use	"Delicate work" Tightening small diameter screws (M6 or similar), etc.	"Light load work" Affixing plasterboard etc.	"Heavy load work" Tightening long screws, coach screws, bolts, etc.	Self drilling screw tightening

7. Tightening and loosening screws

Install the bit that matches the screw, line up the bit in the grooves of the head of the screw, then tighten it. Push the impact driver just enough to keep the bit fitting the head of the screw.

CAUTION

Applying the impact driver for too long tightens the screw too much and can break it.

Tightening a screw with the impact driver at an angle to that screw can damage the head of the screw and the proper force will not be transmitted to the screw. Tighten with this impact driver lined up straight with the screw.

8. Tightening and loosening bolts

A hex. socket matching the bolt or nut must first be selected. Then mount the socket on the anvil, and grip the nut to be tightened with the hex. socket. Holding the tool in line with the bolt, press the power switch to impact the nut for several seconds.

If the nut is only loosely fitted to the bolt, the bolt may turn with the nut, therefore mistaking proper tightening. In this case, stop impact on the nut and hold the bolt head with a wrench before restarting impact, or manually tighten the bolt and nut to prevent them slipping.

OPERATIONAL CAUTIONS

1. Resting the unit after continuous work

After use for continuous bolt-tightening work, rest the unit for 15 minutes or so when replacing the battery. The temperature of the motor, switch, etc., will rise if the work is started again immediately after battery replacement, eventually resulting in burnout.

NOTE:

Do not touch the metal parts, as it gets very hot during continuous work.

2. Cautions on use of the speed control switch

This switch has a built-in, electronic circuit which steplessly varies the rotation speed. Consequently, when the switch trigger is pulled only slightly (low speed rotation) and the motor is stopped while continuously driving in screws, the components of the electronic circuit parts may overheat and be damaged.

3. Use a tightening time suitable for the screw

The appropriate torque for a screw differs according to the material and size of the screw, and the material being screwed etc., so please use a tightening time

suitable for the screw. In particular, if a long tightening time is used in the case of screws smaller than M8, there is a danger of the screw breaking, so please confirm the tightening time and the tightening torque beforehand.

4. Work at a tightening torque suitable for the bolt under impact

The optimum tightening torque for nuts or bolts differs with material and size of the nuts or bolts. An excessively large tightening torque for a small bolt may stretch or break the bolt. The tightening torque increases in proportion to the operator time. Use the correct operating time for the bolt.

5. Holding the tool

Hold the tool firmly with both hands. In this case hold the tool in line with the screw or bolt. It is not necessary to push the tool very hard. Hold the tool with a force just sufficient to counteract the impact force.

6. Confirm the tightening torque

The following factors contribute to a reduction of the tightening torque. So confirm the actual tightening torque needed by screwing up some bolts before the job with a hand torque wrench. Factors affecting the tightening torque are as follows.

- (1) Voltage
When the discharge margin is reached, voltage decreases and tightening torque is lowered.
- (2) Operating time
The tightening torque increases when the operating time increases. But the tightening torque does not increase above a certain value even if the tool is driven for a long time.
- (3) Diameter of bolt
The tightening torque differs with the diameter of the bolt. Generally a larger diameter bolt requires larger tightening torque.
- (4) Tightening conditions
The tightening torque differs according to the torque ratio, class, and length of bolts even when bolts with the same size threads are used. The tightening torque also differs according to the condition of the surface of workpiece through which the bolts are to be tightened. When the bolt and nut turn together, torque is greatly reduced.
- (5) Tightening torque varies, depending on the battery's charge level.

MAINTENANCE AND INSPECTION

1. **Inspecting the driver bit**
Using a broken bit or one with a worn out tip is dangerous because the bit can slip. Replace it.
 2. **Inspecting the mounting screws**
Regularly inspect all mounting screws and ensure that they are properly tightened. Should any of the screws be loose, retighten them immediately. Failure to do so may result in serious hazard.
 3. **Maintenance of the motor**
The motor unit winding is the very "heart" of the power tool.
Exercise due care to ensure the winding does not become damaged and/or wet with oil or water.
 4. **Cleaning of the outside**
When the impact driver is stained, wipe with a soft dry cloth or a cloth moistened with soapy water. Do not use chloric solvents, gasoline or paint thinner, as they melt plastics.
 5. **Storage**
Store the impact driver in a place in which the temperature is less than 40°C, and out of reach of children.
- NOTE:**
Make sure that the battery is fully charged when stored for a long period (3 months or more). The battery with smaller capacity may not be able to be charged when used, if stored for a long period.
 6. **Service parts list**

CAUTION

Repair, modification and inspection of Hitachi Power Tools must be carried out by a Hitachi Authorized Service Center.

This Parts List will be helpful if presented with the tool to the Hitachi Authorized Service Center when requesting repair or other maintenance.

In the operation and maintenance of power tools, the safety regulations and standards prescribed in each country must be observed.

MODIFICATIONS

Hitachi Power Tools are constantly being improved and modified to incorporate the latest technological advancements.

Accordingly, some parts may be changed without prior notice.

Important notice on the batteries for the Hitachi cordless power tools

Please always use one of our designated genuine batteries. We cannot guarantee the safety and performance of our cordless power tool when used with batteries other than these designated by us, or when the battery is disassembled and modified (such as disassembly and replacement of cells or other internal parts).

GUARANTEE

We guarantee Hitachi Power Tools in accordance with statutory/country specific regulation. This guarantee does not cover defects or damage due to misuse, abuse, or normal wear and tear. In case of complaint, please send the Power Tool, undismantled, with the GUARANTEE CERTIFICATE found at the end of this Handling instruction, to a Hitachi Authorized Service Center.

NOTE:

Due to HITACHI's continuing program of research and development, the specifications herein are subject to change without prior notice.

Information concerning airborne noise and vibration

The measured values were determined according to EN60745 and declared in accordance with ISO 4871.

Measured A-weighted sound power level:

WH14DDL: 86 dB (A)
WH18DDL: 87 dB (A)

Measured A-weighted sound pressure level:

WH14DDL: 75 dB (A)
WH18DDL: 76 dB (A)

Uncertainty KpA: 3 dB (A).

Wear hearing protection.

Vibration total values (triax vector sum) determined according to EN60745.

Impact tightening of fasteners of the maximum capacity of the tool:

Vibration emission value a_{h1} = WH14DDL: 13.0 m/s²
WH18DDL: 13.6 m/s²

Uncertainty K = 1.5 m/s²

The declared vibration total value has been measured in accordance with a standard test method and may be used for comparing one tool with another.

It may also be used in a preliminary assessment of exposure.

WARNING

- The vibration emission during actual use of the power tool can differ from the declared total value depending on the ways in which the tool is used.
- Identify safety measures to protect the operator that are based on an estimation of exposure in the actual conditions of use (taking account of all parts of the operating cycle such as the times when the tool is switched off and when it is running idle in addition to the trigger time).

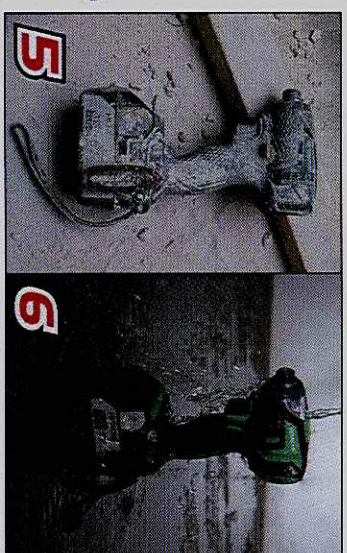
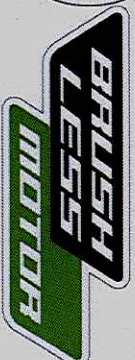
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Product Information

WH18DDL(HJ) – 18V Slide Brushless IP56 Impact Driver



4966376233748



SPECIFICATIONS

Capacity	Bolt	M5-M16
	High tension bolt	M5-M12
Max. torque	Machine screw	M4-M8
		172Nm
No load speed	High mode	0 - 3,100 (min-1)
	Medium mode	0 - 2,200 (min-1)
	Low mode	0 - 900 (min-1)
	S-Mode	0 - 3,100 (min-1)
Impact rate	High mode	0 - 3,400 (min-1)
	Medium mode	0 - 2,600 (min-1)
	Low mode	0 - 800 (min-1)
	S-Mode	0 - 1,600 (min-1)
Weight		1.5kg (with BSL1850 battery)
Length		128mm
Battery type		BSL1850: 18V 5.0Ah Li-ion slide
Standard accessories		2 x BSL1850 batteries, cooling charger, carry case and driver bit



4966376225934

Also available Naked
WH18DD(HJ)



Note: Specifications may change without notice

WH18DDL – 18V Slide Brushless IP56 Impact Driver

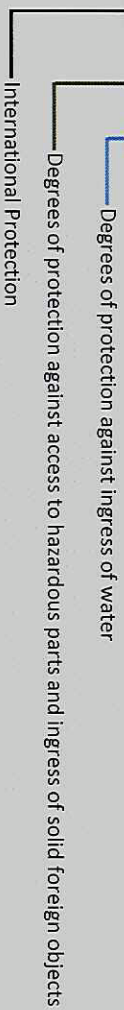
IP56 EXPLAINED



International Protection (IP) is a standard developed by the International Electrotechnical Commission (IEC) to indicate the degrees of protection provided by enclosures of electrical equipment against ingress of hazardous parts, ingress of solid foreign objects and ingress of water.



Arrangement of the IP Code:



IP56 Table

IP 5 x Degrees of protection against ingress of solid foreign objects

0	Non-protected
1	Protected against solid foreign objects of 50 mm ϕ and greater
2	Protected against solid foreign objects of 12.5 mm ϕ and greater
3	Protected against solid foreign objects of 2.5 mm ϕ and greater
4	Protected against solid foreign objects of 1.0 mm ϕ and greater
5	Dust-protected: Ingress of dust is not totally prevented, but dust shall not penetrate in a quantity to interfere with satisfactory operation of the apparatus or to impair safety
6	Dust-tight: No ingress of dust



IP 6 x Degrees of protection against ingress of water

0	Non-protected
1	Protected against vertically falling water drops
2	Protected against vertically falling water drops when enclosure tilted up to 15°
3	Water sprayed at an angle up to 60° on either side of the vertical shall have no harmful effects
4	Water splashed against the enclosure from any direction shall have no harmful effects
5	Water projected in jets against the enclosure from any direction shall have no harmful effects
6	Water projected from powerful jets against the enclosure from any direction shall have no harmful effects
7	Ingress of water in quantities causing harmful effects shall not be possible when the enclosure temporarily immersed in water under standardized conditions of pressure and time
8	Ingress of water in quantities causing harmful effects shall not be possible when the enclosure is continuously immersed in water under conditions which are more severe than numeral 7

- Our products offer an extent of resistance to dust and water, however, the feature does not warrant that no failure caused by dust or water will happen. Do not use or leave these products under water, or in an area with heavy dust or exposed rain.
- Only the forms of the tool bodies equipped with batteries conform with the degrees of protection indicated by IP56. That does not warrant separately dust and water resistance of the rechargeable batteries.
- The cordless impact driver equipped with battery conforms with IP56, but the certification applies only to the main unit. Dust and water resistance of the battery is not

KEY SELLING POINTS

- ❖ **Water and Dust Protection rated to the international standard of IP56** dictates the model is highly resistant to the access of hazardous parts including dust protection to a point where dust will not penetrate in a quantity to interfere with satisfactory operation. Furthermore the model incorporates water protection to the point where powerful jets of water projected onto the model will have no harmful effects
- ❖ **High speed fastening** up to 35% faster than conventional models
- ❖ **Super high rotation speed** offering the highest maximum speed in the class
- ❖ **172Nm High Torque** providing max power for the toughest jobs
- ❖ **Exceptional ergonomics** with a slim grip handle for increased user comfort and significantly reduced weight and size
- ❖ **At only 1.5kg and 128mm in length** to help reduce user fatigue. This is one of the most lightweight and compact impact drivers on the market
- ❖ **Active Control System (ACS)** is an Anti Cam-Out system which reduces driver slippage from screw heads
- ❖ **Increased Anvil precision** optimises the speed and impact timing reducing shaking of the bit
- ❖ **The rotational speed selector** allows 4 speeds to be selected enabling a wider range of applications over conventional models including the Hitachi 5-Mode for the tightening of self drilling screws
- ❖ **Multi function ultra bright LED light** allows the user to select between trigger co-ordinated LED or ON/OFF switch
- ❖ **Remaining battery indicator** allows the user to read the amount of charge within the battery
- ❖ **Brushless motors** are 30% more efficient than conventional models as no energy is wasted through brush friction thus extending battery run time
- ❖ **Electronic switches** are more efficient in transferring energy and only require half the pull force of conventional switches
- ❖ **Cooling charger** maintains constant communication with the battery to monitor the charging process. The charger will cool the battery during the charge cycle to prevent damage and extend longevity.
- ❖ **Super high capacity 5.0Ah Li-ion batteries with multiple protection circuit** provide long run times and protects the battery & tool from overload, over heat, over discharge & over charge