

Professional

GDS 18V-780



Safety Instructions

General Power Tool Safety Warnings

⚠ WARNING Read all safety warnings, instructions, illustrations and specifications provided with this power tool. Failure to follow all instructions listed below 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.

Work area safety

- ▶ **Keep work area clean and well lit.** Cluttered or 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 children and bystanders away while operating a power tool.** Distractions can cause you to lose control.

Electrical safety

- ▶ **Do not expose power tools to rain or wet conditions.** Water entering a power tool will increase 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 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.
- ▶ **Use personal protective equipment. Always wear eye protection.** Protective equipment such as a dust mask, non-skid safety shoes, hard hat or hearing protection used for appropriate conditions will reduce personal injuries.
- ▶ **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.
- ▶ **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.
- ▶ **Do not overreach. Keep proper footing and balance at all times.** This enables better control of the power tool in unexpected situations.
- ▶ **Dress properly. Do not wear loose clothing or jewellery. Keep your hair and clothing away from moving**

parts. Loose clothes, jewellery or long hair can be caught in moving parts.

- ▶ **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.
- ▶ **Do not let familiarity gained from frequent use of tools allow you to become complacent and ignore tool safety principles.** A careless action can cause severe injury within a fraction of a second.

Power tool use and care

- ▶ **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.
- ▶ **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.
- ▶ **Disconnect the plug from the power source and/or remove the battery pack, if detachable, 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.
- ▶ **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.
- ▶ **Maintain power tools and accessories. Check for misalignment or binding of moving parts, breakage of parts and any other condition that may affect the power tool's operation. If damaged, have the power tool repaired before use.** Many accidents are caused by poorly maintained power tools.
- ▶ **Keep cutting tools sharp and clean.** Properly maintained cutting tools with sharp cutting edges are less likely to bind and are easier to control.
- ▶ **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.
- ▶ **Keep handles and grasping surfaces dry, clean and free from oil and grease.** Slippery handles and grasping surfaces do not allow for safe handling and control of the tool in unexpected situations.

Battery tool use and care

- ▶ **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.

- **Use power tools only with specifically designated battery packs.** Use of any other battery packs may create a risk of injury and fire.
- **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.
- **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.
- **Do not use a battery pack or tool that is damaged or modified.** Damaged or modified batteries may exhibit unpredictable behaviour resulting in fire, explosion or risk of injury.
- **Do not expose a battery pack or tool to fire or excessive temperature.** Exposure to fire or temperature above 130 °C may cause explosion.
- **Follow all charging instructions and do not charge the battery pack or tool outside the temperature range specified in the instructions.** Charging improperly or at temperatures outside the specified range may damage the battery and increase the risk of fire.

Service

- **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.
- **Never service damaged battery packs.** Service of battery packs should only be performed by the manufacturer or authorized service providers.

Safety Warnings for Impact Wrenches

- **Hold the 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.
- **Use suitable detectors to determine if there are hidden supply lines or contact the local utility company for assistance.** Contact with electric cables can cause fire and electric shock. Damaging gas lines can lead to explosion. Breaking water pipes causes property damage.
- **Only use impact-resistant bits and sockets as application tools.** Only these application tools are suitable for impact screwdrivers.
- **Hold the power tool securely.** When tightening and loosening screws be prepared for temporarily high torque reactions.

- **Secure the workpiece.** A workpiece clamped with clamping devices or in a vice is held more secure than by hand.
- **Always wait until the power tool has come to a complete stop before placing it down.** The application tool can jam and cause you to lose control of the power tool.
- **In case of damage and improper use of the battery, vapours may be emitted. The battery can set alight or explode.** Ensure the area is well ventilated and seek medical attention should you experience any adverse effects. The vapours may irritate the respiratory system.
- **Do not modify or open the battery.** There is a risk of short-circuiting.
- **The battery can be damaged by pointed objects such as nails or screwdrivers or by force applied externally.** An internal short circuit may occur, causing the battery to burn, smoke, explode or overheat.
- **Only use the battery in the manufacturer's products.** This is the only way in which you can protect the battery against dangerous overload.



Protect the rechargeable battery against heat, e.g. including prolonged sun exposure, fire, water, and moisture. There is a

risk of explosion and short circuit.

Symbols

The following symbols may be important for the operation of your power tool. Please take note of these symbols and their meaning. Correctly interpreting the symbols will help you to operate the power tool more effectively and safely.

Symbols and their meaning



Tool data logging is enabled in this tool.

Product Description and Specifications



Read all the safety and general instructions. Failure to observe the safety and general instructions may result in electric shock, fire and/or serious injury.

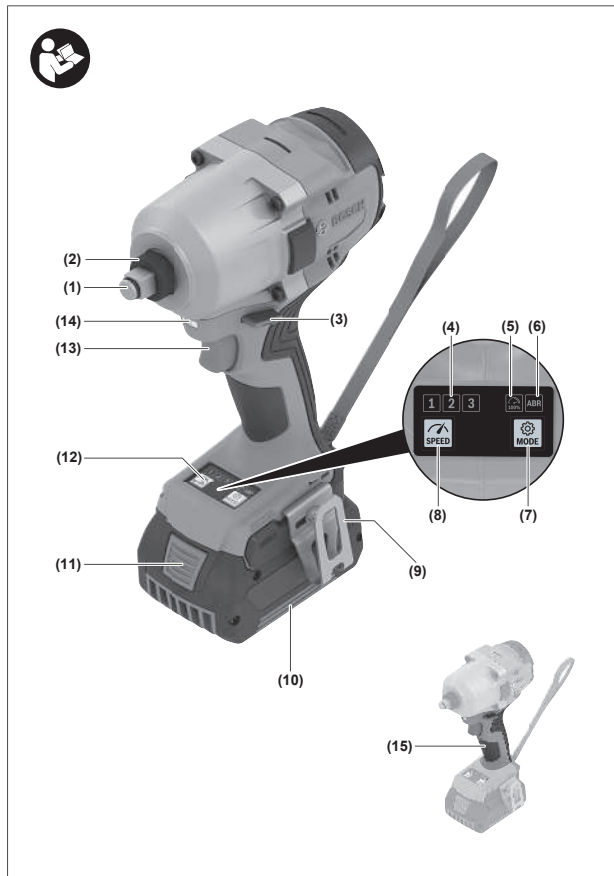
Intended Use

Impact Wrench

The machine is intended for driving in and loosening screws and bolts as well as for tightening and loosening nuts within the respective range of dimension.

Product Features

The numbering of the product features refers to the representation of the power tool in the images.



- (1) Tool holder
- (2) Rubber ring (tool holder)
- (3) Rotational direction switch
- (4) Speed preselection indicator
- (5) Turbo mode indicator
- (6) Automatic shutdown (ABR) indicator
- (7) **MODE** button
- (8) **SPEED** button for speed preselection
- (9) Belt clip^{A)}
- (10) Rechargeable battery
- (11) Battery release button
- (12) User interface
- (13) On/off switch
- (14) Worklight
- (15) Handle (insulated gripping surface)
- (16) Application tool^{A)}

A) This accessory is not part of the standard scope of delivery.

Technical data

GDS 18V-780	
Article number	3 601 JP4 0..

GDS 18V-780

Rated voltage	V=	18
No-load speed ^{A)}		
– Setting 1	min ⁻¹	0–1300
– Setting 2	min ⁻¹	0–1500
– Setting 3	min ⁻¹	0–2000
Impact rate ^{A)}		
– Setting 1	min ⁻¹	0–1900
– Setting 2	min ⁻¹	0–2100
– Setting 3	min ⁻¹	0–2400
Max. tightening torque ^{A)}		
– Setting 1	Nm	300
– Setting 2	Nm	550
– Setting 3	Nm	780
Machine screw diameter	mm	M12–M24
Tool holder		½" external square
Weight ^{B)}	kg	2.1

A) Measured at 20–25 °C with rechargeable battery **ProCORE18V 12.0Ah**

B) Without rechargeable battery (you can find the battery weight at www.bosch-professional.com)

Values can vary depending on the product, scope of application and environmental conditions. To find out more, visit www.bosch-professional.com/wac.

Noise/vibration information

Noise emission values determined according to **EN 62841-2-2**.

Typically, the A-weighted noise level of the power tool is:
Sound pressure level **100 dB(A)**; sound power level **108 dB(A)**. Uncertainty K = **3 dB**.

Wear hearing protection!

Vibration values a_h (continuous vibrations), p_F (repeated shock vibrations) and uncertainty K determined according to **EN 62841-2-2**:

Tightening screws and nuts of the maximum permitted size:
 $a_h = 14.9 \text{ m/s}^2$ ($K = 1.5 \text{ m/s}^2$), $p_F = 2198 \text{ m/s}^2$ ($K = 981 \text{ m/s}^2$)

The vibration level and noise emission value given in these instructions have been measured in accordance with a standardised measuring procedure and can be used to compare power tools. They can also be used for a preliminary estimation of vibration and noise emissions.

The stated vibration level and noise emission value represent the main applications of the power tool. However, if the power tool is used for other applications, with different accessories or is poorly maintained, the vibration level and noise emission value can differ. This can significantly increase the vibration and noise emissions over the total working period.

To estimate vibration and noise emissions accurately, the times when the tool is switched off or when it is running but not actually being used should also be taken into account. This can significantly reduce vibration and noise emissions over the total working period.

Implement additional safety measures to protect the operator from the effects of vibration, such as servicing the power tool and accessories, keeping their hands warm, and organising workflows correctly.

Rechargeable battery

► **Before carrying out any work on the power tool (e.g. maintenance, tool change etc.), remove the battery from the power tool.** There is risk of injury from unintentionally pressing the on/off switch.

Bosch sells some cordless power tools without a rechargeable battery. You can tell whether a rechargeable battery is included with the power tool by looking at the packaging.

The following rechargeable batteries are compatible with the power tool:

GBA 18V..., ProCORE18V..., CORE18V..., EXBA18V..., EXPERT18V...

The following chargers are recommended for charging the rechargeable batteries:

GAL18..., GAL 18..., GAL 36..., GAL12V/18..., GAL 12V/18..., GAX 18..., EXAL18...

Battery charging

The recommended ambient temperature when charging is 0 °C to 35 °C.

 Lithium-ion rechargeable batteries are supplied partially charged according to international transport regulations. To ensure full rechargeable battery capacity, fully charge the rechargeable battery before using your tool for the first time.

Inserting the Battery

Push the charged battery into the battery holder until it clicks into place.

Removing the Battery

 Only remove the battery when the power tool is switched off.

The rechargeable battery has two locking levels to prevent the battery from falling out if the battery release button is pressed unintentionally. The rechargeable battery is held in place by a spring when fitted in the power tool.

Battery charge indicator

Note: Not all battery types have a battery charge indicator.

The green LEDs on the battery charge indicator indicate the state of charge of the battery. For safety reasons, it is only possible to check the state of charge when the power tool is not in operation.

Press the button for the battery charge indicator  or  to show the state of charge. This is also possible when the battery is removed.

If no LED lights up after pressing the button for the battery charge indicator, then the battery is defective and must be replaced.

Rechargeable battery type GBA 18V... | GBA18V...



LED	Capacity
3 × continuous green light	60–100 %
2 × continuous green light	30–60 %
1 × continuous green light	5–30 %
1 × flashing green light	0–5 %

Battery model ProCORE18V... | EXPERT18V... | EXBA18V... | CORE18V...



LED	Capacity
5 × continuous green light	80–100 %
4 × continuous green light	60–80 %
3 × continuous green light	40–60 %
2 × continuous green light	20–40 %
1 × continuous green light	5–20 %
1 × flashing green light	0–5 %

Battery defect risk detection

EXPERT18V... | EXBA18V...

In addition to the state of charge of the rechargeable battery, the LEDs on the battery charge indicator can also indicate the risk of a battery defect.

To activate the function, press and hold the button for the battery charge indicator  for 3 seconds. The analysis of the battery is signalled by a moving light on the battery charge indicator. The result of is shown on the battery charge indicator.



1 LED: The rechargeable battery has a high defect risk. Performance and

runtime may already be reduced. Replacing the rechargeable battery is recommended.



5 LEDs: The rechargeable battery is in good condition and has a low defect risk.

Please note: The rechargeable battery defect risk assessment works in a binary manner and offers a simplified status assessment, indicating either that the rechargeable battery is in good condition or that the rechargeable battery has an increased defect risk. A percentage of the battery status is not shown.

Recommendations for Optimal Handling of the Battery

Protect the battery against moisture and water.

Only store the battery within a temperature range of -20 to 50 °C. Do not leave the battery in your car in the summer, for example.

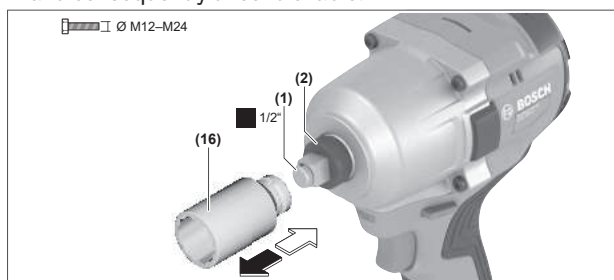
Occasionally clean the ventilation slots on the battery using a soft brush that is clean and dry.

A significantly reduced operating time after charging indicates that the battery has deteriorated and must be replaced.

Follow the instructions on correct disposal.

Changing the Tool

- **Before carrying out any work on the power tool (e.g. maintenance, tool change etc.), remove the battery from the power tool.** There is risk of injury from unintentionally pressing the on/off switch.
- **When fitting an application tool, make sure that it is held securely in the tool holder.** If the application tool is not held securely in the tool holder, it may become loose and consequently uncontrollable.



Inserting

Slide the application tool **(16)** onto the square drive of the tool holder **(1)** as far as it will go on the rubber ring (tool holder) **(2)**.

Note: The rubber ring (tool holder) **(2)** rotates when the power tool is operated with the tool holder **(16)**. Therefore, keep a small distance between the rubber ring (tool holder) **(2)** and the gearbox housing of the power tool.

Pulling

Pull the application tool **(16)** away from the square drive of the tool holder **(1)**.

Belt clip

You can use the belt clip to hang the power tool on a belt, for example. You then have both hands free and the power tool is always at hand.

Operating Principle

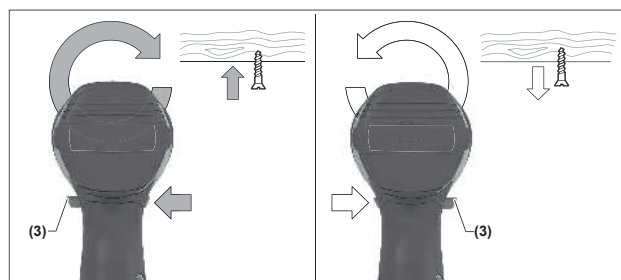
The tool holder **(1)** with the accessory **(16)** is driven by an electric motor via a gear and impact mechanism.

The working procedure is divided into two phases:

Screwing in and tightening (impact mechanism in action).

The impact mechanism is activated as soon as the screwed connection runs tight and load is therefore put on the motor. The impact mechanism then converts the power of the motor to steady rotary impacts. When loosening screws or nuts, the process is reversed.

Setting the Rotational Direction



The rotational direction switch **(3)** is used to change the rotational direction of the power tool. However, this is not possible while the on/off switch **(13)** is being pressed.

Right rotation: To drive in screws and tighten nuts, press the rotational direction switch **(3)** through to the left stop.

Left Rotation: To loosen and unscrew screws and nuts, press the rotational direction switch **(3)** through to the right stop.

Switching on/off

To **start** the power tool, press and hold the on/off switch **(13)**.

The worklight **(14)** lights up when the on/off switch **(13)** is lightly or fully pressed, allowing the work area to be illuminated in poor lighting conditions.

To **switch off** the power tool, release the on/off switch **(13)**.

Adjusting the Speed/Impact Rate

The "Setting the speed/impact rate" function only works if the power tool is set to clockwise and Turbo mode is not engaged.

You can adjust the speed/impact rate of the power tool when it is on by pressing in the on/off switch **(13)** to varying extents.

Applying light pressure to the on/off switch **(13)** results in a low rotational speed/impact rate. Applying increasing pressure to the switch increases the speed/impact rate.

Practical advice

► **Only apply the power tool to the screw/nut when the tool is switched off.** Rotating tool inserts can slip off.

The torque depends on the impact duration. The maximum achieved torque results from the sum of all individual torques achieved through impact. Maximum torque is achieved after an impact duration of 6–10 seconds. After this duration, the tightening torque increases only minimally.

The impact duration is to be determined for each required tightening torque. The tightening torque actually achieved should always be checked with a torque wrench.

Screw applications with hard, spring-loaded or soft seats

When the achieved torques in an impact series are measured

during a test and transferred into a diagram, the result is the curve of a torque characteristic. The height of the curve corresponds to the maximum achievable torque, and the steepness indicates the time in which this is achieved.

A torque characteristic depends on the following factors:

- Strength properties of the screws/nuts
- Type of backing (washer, disc spring, seal)
- Strength properties of the material being screwed/bolted together
- Lubrication conditions at the screw/bolt connection

Consequently, the following applies in each case:

- A **hard seat** is used for metal-to-metal screw applications that use washers. After a relatively short impact duration, the maximum torque is achieved (steep characteristic curve). An unnecessarily long impact duration only causes damage to the machine.
- A **spring-loaded seat** is also a metal-to-metal screw application but uses spring lock washers, disc springs, studs or screws/nuts with conical seats. It is also called a spring-loaded seat when extensions are used.
- A **soft seat** is a screw application of e.g. wood on wood or metal on wood or a screw application that uses soft backing such as lead washers or fibre washers.

For a spring-loaded seat, as well as for a soft seat, the maximum tightening torque is lower than for a hard seat. A much longer impact duration is also required.

Guide values for maximum screw tightening torques

Figures given in Nm, calculated from the tensional cross-section; utilization of the yield point 90 % (with friction coefficient $\mu_{\text{total}} = 0.12$). As a control measure, always check the tightening torque with a torque wrench.

Property classes according to DIN 267	Standard screws										High-strength screws	
	3.6	4.6	5.6	4.8	6.6	5.8	6.8	6.9	8.8	10.9	12.9	
M12	22.6	30.6	37.6	40.6	45.6	50.6	60.6	67.6	80.6	11.3	13.5	
M14	36	48	60	65	72	79	95	107	130	18.0	21.5	
M16	55	73	92	98	110	122	148	165	198	27.5	33.0	
M18	75	101	126	135	155	172	208	227	275	38.0	45.0	
M20	107	143	178	189	215	238	288	312	385	54.0	63.5	
M22	145	193	240	252	285	312	385	415	510	71.5	85.5	
M24	185	245	305	318	360	392	480	515	635	91.0	110.0	

Tips

Before screwing larger, longer screws into hard materials, it is advisable to pre-drill a pilot hole with the core diameter of the thread to approx. 2/3 of the screw length.

Note: Ensure that no metal particles enter the power tool.

After working at a low speed for an extended period, you should operate the power tool at the maximum speed for approximately three minutes without load to cool it down.

User interface

The user interface **(12)** is used to preselect the speed, set the working mode, and to indicate both the speed preselection level and the working mode.

The result may vary depending on the material, material thickness, screws and the amount of force applied by the user. Carry out a test run before any work on the workpiece itself.

Preselecting the Speed

With the **SPEED** button **(8)**, you can preselect the required speed in 3 settings.

- ✓ Make sure that the power tool is set to clockwise.
- » Press the **SPEED** button (8).
 - The speed preselection level is displayed in the indicator (4).
 - The selected setting will be saved.

Selecting the working mode

The power tool has 2 preset working modes.

User Inter- face	Description	Instructions
	Turbo mode working mode In Turbo mode, the power tool is run up to maximum performance. Note: This working mode only works if the power tool is set to clockwise.	✓ Make sure that the power tool is set to clockwise. » Press the MODE button (7) until the Turbo mode indicator (5) lights up.
	ABR (Auto Bolt Release) working mode The ABR working mode is used for releasing bolts or nuts: The power tool automatically shuts down when the bolt or nut is released. The automatic shutdown prevents: – The bolt from falling down when released from the material – The nut from falling down when released from the screw thread Note: This working mode only works if the power tool is set to anticlockwise and the bolt or nut is still securely bolted. If bolts or nuts have already been released, the automatic shutdown (ABR) is not active.	✓ Make sure that the power tool is set to anticlockwise. » Press the MODE button (7) until the automatic shutdown (ABR) indicator (6) lights up.

Maintenance and Cleaning

- **Clean the air vents on your power tool regularly.** The motor's fan will draw the dust inside the housing and excessive accumulation of powdered metal may cause electrical hazards.
- **Before carrying out any work on the power tool (e.g. maintenance, tool change etc.), remove the battery from the power tool.** There is risk of injury from unintentionally pressing the on/off switch.
- **To ensure safe and efficient operation, always keep the power tool and the ventilation slots clean.**

After-Sales Service and Application Service

Great Britain

Tel. Service: **(0344) 7360109**

GB Importer:

Robert Bosch Ltd.
Broadwater Park
North Orbital Road
Uxbridge
UB9 5HJ

Malaysia

Tel.: (03) 79663194

Complete, printed operating instructions can be requested free of charge via this telephone number.

In all correspondence and spare parts orders, please always include the 10-digit article number given on the nameplate of the product.

Disposal

Power tools, rechargeable batteries, accessories and packaging should be sorted for environmental-friendly recycling.



Do not dispose of power tools and batteries/rechargeable batteries into household waste!

Only for EU countries and United Kingdom:

Electrical and electronic equipment or used batteries that are no longer suitable for use must be collected separately and disposed of in an environmentally friendly manner. Use the designated collection systems. Incorrect disposal may cause harmful effects on the environment and human health, due to the potential presence of hazardous substances.