



Cordless

Working

Impressive technology – lithium-ion batteries

► **No memory effect:**

Convenient charging – regardless of whether the battery is $\frac{3}{4}$ or $\frac{1}{2}$ empty

► **Low self-discharge:**

After 30 days the lithium-ion battery still has 96% of the specified rated capacity, whereas a NiCd/NiMH battery loses approx. 25% of the rated capacity

► **ECP (Electronic Cell Protection) in the cordless tools:**

The cells in the battery are monitored electronically. The power output of the tool is automatically reduced in the following situations:

- Overload
- Deep discharge
- Overheating

All three situations can damage the cell and significantly affect the lifetime of the battery

► **HCH (Heat Conductive Housing) and cooling fins:**

Allow for optimum heat emission from the inside of the battery. The Bosch Li-Ion battery cools down 45% faster than conventional battery models

► **Protective ribs and rubber caps fitted on the side:**

Protect the battery against external impacts

► **Charge level indicator:**

Tells the user how much more energy is available



When the “on” button is pressed, the LEDs display the charging state of the battery for 5 seconds.

Red LED: If the red LED lights up, the battery is too hot or too cold to be charged.

Green LED: Displays the charging state.

Permanently lit LEDs indicate the following:

- 3 LEDs: Charging state between 100-66%
- 2 LEDs: Charging state between 66-33%
- 1 LED: Charging state between 33-5%
- 1 LED flashing: Charging state below 5%

No LED lit: Battery is defective

During charging: 3 LEDs flashing

Charging completed: All LEDs light up for 15 minutes



Differences in the handling of battery technologies

Comparison	NiCd	NiMH	Li-Ion
Self-discharge per month	20%	25%	3 to 5%
Classic memory effect	Yes	No	No
Lazy battery effect	Yes	Yes	No
Ability to function at frost temperatures	At -18°C, still 40% capacity = still functional	At -15°C, 0% capacity = no longer functional	At -20°C, still 50% capacity = functional
Storage at frost temperatures	To -20°C without damage	To -20°C without damage	To -20°C without damage
Storage time without recharging, used battery	Up to 6 months	Up to 6 months	Up to 24 months
Optimum storage temperature	5 to 15°C	5 to 15°C	5 to 15°C
Battery protection ECP	No	No	Yes

Lifetime can be influenced by the end user

Lifetime cannot be influenced by the end user

	Use	Lifetime of battery pack		Effect
Selection of power tool and battery	Suitable for the application	●	Ageing	Every battery ages with time, regardless of whether or not it is in use. This results in a loss of voltage and capacity.
	Too weak	○		
Load on the battery as a result of the various applications (applies only to NiCd and NiMH)	Screwdriving/ drilling small diameters	●	Chemical process	All materials suffer corrosion with time and use. This results in a loss of voltage and capacity.
	Sawing/ hammer drilling large diameters	○		
Charging process (memory effect) (applies to NiCd and NiMH)	Complete discharging/charging	●	Electrolyte drying out	The electrolyte loses moisture with time and use. This results in a loss of voltage and capacity.
	Partial discharging/charging	○		
Mechanical load	Normal treatment	●		
	Rough treatment	○		

● high ○ low



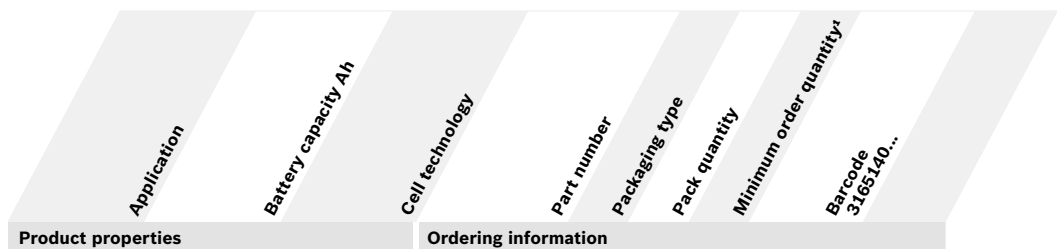
Batteries

for Bosch cordless tools

The right solution for every user

Three levels of battery quality from Bosch	
▶ DIY = Do It Yourself	▶ For occasional work around the house
▶ SD = Standard Duty	▶ For light screwdriving and drilling work by professionals
▶ HD = Heavy Duty	▶ For regular, professional work that requires power and capacity

Battery packs 3.6 V



3.6 V straight-shape battery pack
Appropriate for PSR 3,6 V as of 6/02

Application	Battery capacity Ah	Cell technology	Part number	Packaging type	Pack quantity	Minimum order quantity ¹	Barcode 3163140...
DIY	1.2	NiCd	2 607 335 484	C1a	1	1	292832



3.6 V straight-shape battery pack
Appropriate for PSR 3,6 V before 6/02

Application	Battery capacity Ah	Cell technology	Part number	Packaging type	Pack quantity	Minimum order quantity ¹	Barcode 3163140...
DIY	1.2	NiCd	2 607 335 062	C1a	1	1	076593

Battery packs 7.2 V



7.2 V flat-shape battery pack
 Second generation of tools
Appropriate for GBM 7,2 V; GDR 7,2 V; GSR 7,2 V Professional; PSR 7,2 V

Application	Battery capacity Ah	Cell technology	Part number	Packaging type	Pack quantity	Minimum order quantity ¹	Barcode 3163140...
SD	1.5	NiCd	2 607 335 033	C1a	1	1	058100



7.2 V bulb-shape battery pack
 First generation of tools
Appropriate for GBM 7,2 V; GSR 7,2 V; GWS 7,2 V Professional; PSR 7,2 V

Application	Battery capacity Ah	Cell technology	Part number	Packaging type	Pack quantity	Minimum order quantity ¹	Barcode 3163140...
SD	1.5	NiCd	2 607 300 001	C1a	1	1	006675

Pack quantity (Pieces per pack)

¹ Minimum order quantity. The minimum order quantity is a fixed quantity of packs. Orders are carried out only in multiples of the minimum order quantity.

Battery packs 9.6 V



Application	Battery capacity Ah	Cell technology	Part number	Packaging type	Pack quantity	Minimum order quantity ¹	Barcode 31 651 40...
Product properties			Ordering information				

9.6 V pod-style battery pack

SD	1.5	NiCd	2 607 335 540	C1a	1	1	309363
----	-----	------	---------------	-----	---	---	--------



9.6 V flat-shape battery pack

Appropriate for GBM 9,6 V; GDR 9,6 V; GSB 9,6 V; GSR 9,6 V Professional; PDR 9,6 V; PSR 9,6 V; PSB 9,6 V

SD	1.5	NiCd	2 607 335 037	C1a	1	1	074131
SD	2.0	NiCd	2 607 335 152	C1a	1	1	113380



9.6 V bulb-shape battery pack

First generation of tools

Appropriate for GBM 9,6 V; GSB 9,6 V; GSC 9,6 V; GSR 9,6 V; GUS 9,6 V Professional; PSR 9,6 V; PSB 9,6 V

SD	1.5	NiCd	2 607 300 002	C1a	1	1	018975
----	-----	------	---------------	-----	---	---	--------

Battery packs 10.8 V



10.8 V straight-shape battery pack with ECP (Electronic Cell Protection)

DIY	1.3	Li-Ion	2 607 336 864	C1a	1	1	601962
SD	1.3	Li-Ion	2 607 336 014	C1a	1	1	379441

Battery packs 12 V



12 V pod-style battery pack

SD	1.5	NiCd	2 607 335 542	C1a	1	1	309370
----	-----	------	---------------	-----	---	---	--------



12 V pod-style battery pack

SD	2.0	NiCd	2 607 335 262	C1a	1	1	206624
----	-----	------	---------------	-----	---	---	--------



12 V flat-shape battery pack

Appropriate for GBM 12 V; GDR 12 V; GSR 12 V Professional; PDR 12 V; PSR 12 V

SD	1.5	NiCd	2 607 335 055	C1a	1	1	080248
SD	2.0	NiCd	2 607 335 151	C1a	1	1	113373



12 V bulb-shape battery pack

First generation of tools

Appropriate for GBM 12 V; GSR 12 V Professional

SD	1.5	NiCd	2 607 335 021	C1a	1	1	041768
----	-----	------	---------------	-----	---	---	--------

• Pack quantity (Pieces per pack)

• Minimum order quantity. The minimum order quantity is a fixed quantity of packs. Orders are carried out only in multiples of the minimum order quantity.



Battery packs 14.4 V

Product properties		Ordering information					
Application	Battery capacity Ah	Cell technology	Part number	Packaging type	Pack quantity	Minimum order quantity ¹	Barcode 3165140...
14.4 V slide-in battery pack with ECP (Electronic Cell Protection)							
DIY	1.3	Li-Ion	2 607 336 038	C1a	1	1	438711



14.4 V slide-in battery pack with ECP (Electronic Cell Protection)							
HD	2.6	Li-Ion	2 607 336 078	C1a	1	1	480888



14.4 V pod-style battery pack							
SD	1.5	NiCd	2 607 335 534	C1a	1	1	308199



14.4 V pod-style battery pack							
SD	2.0	NiCd	2 607 335 264	C1a	1	1	206631
HD	2.6	NiMH	2 607 335 686	C1a	1	1	334679



14.4 V flat-shape battery pack							
Appropriate for GSB 14,4 V; GSR 14,4 V Professional; PSR 14,4 V							
SD	2.0	NiCd	2 607 335 210	C1a	1	1	142700

Battery packs 18 V

18 V slide-in battery pack with ECP (Electronic Cell Protection)							
DIY	1.3	Li-Ion	2 607 336 040	C1a	1	1	438728



18 V slide-in battery pack with ECP (Electronic Cell Protection)							
HD	2.6	Li-Ion	2 607 336 092	C1a	1	1	480895



18 V pod-style battery pack							
SD	1.5	NiCd	2 607 335 536	C1a	1	1	308205



18 V pod-style battery pack							
SD	2.0	NiCd	2 607 335 266	C1a	1	1	198479
HD	2.6	NiMH	2 607 335 688	C1a	1	1	334686

Battery packs 24 V



Application	Battery capacity Ah	Cell technology	Part number	Packaging type	Pack quantity	Minimum order quantity ¹	Barcode 3165140...
Product properties			Ordering information				

24 V pod-style battery pack
Can be used for all pod-style battery pack cordless tools

HD	2.4	NiCd	2 607 335 448	C1a	1	1	281387
HD	2.6	NiMH	2 607 335 562	C1a	1	1	316118



24 V slide-in battery pack
With charge level indicator
Appropriate for GBH 24 VRE Professional

HD	3.0	NiCd	2 607 335 216	C1a	1	1	146555
-----------	-----	------	----------------------	-----	---	---	--------

Battery packs 36 V



36 V slide-in battery pack with ECP (Electronic Cell Protection) and CLI (Charge Level Indicator)

HD	1.3	Li-Ion	2 607 336 002	C1a	1	1	365352
-----------	-----	--------	----------------------	-----	---	---	--------



36 V slide-in battery pack with ECP (Electronic Cell Protection) and CLI (Charge Level Indicator)


HD	2.6	Li-Ion	2 607 336 108	C1a	1	1	451437
-----------	-----	--------	----------------------	-----	---	---	--------


Pack quantity
(Pieces per pack)

¹Minimum order quantity. The minimum order quantity is a fixed quantity of packs.
Orders are carried out only in multiples of the minimum order quantity.



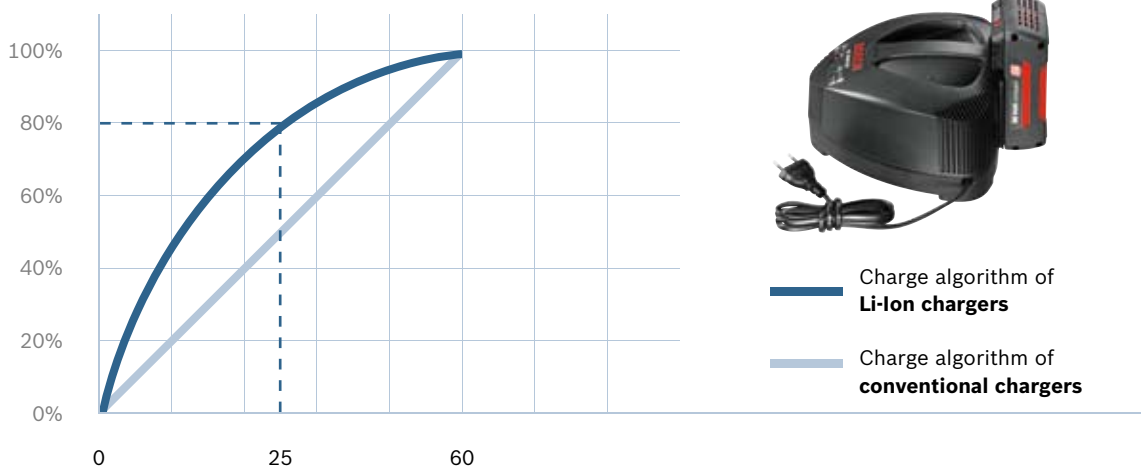


 Pack quantity
(Pieces per pack)

 ¹Minimum order quantity. The minimum order quantity is a fixed quantity of packs.
Orders are carried out only in multiples of the minimum order quantity.

Lithium-ion chargers
























































The charger with turbo charge has an asymptotic charge algorithm, which recharges the battery to 80% in 25 minutes. As these lithium-ion batteries have no memory effect, the battery can be recharged at any time and in any charge status.



Since the battery heats up to 70°C in the application, the air cooling system built into the charger blows fresh air through the battery. This significantly reduces the charge time because the battery is only charged at temperatures between 0 and 45°C, in order to guarantee a long lifetime for the battery.














Overview of Bosch battery packs and chargers

Cell technology	Battery voltage	3.6 V	10.8 V	14.4 V	18.0 V	36.0 V		
Li-Ion	Battery capacity	Battery packs (Part number 2 607...)						
	1.3 Ah	 336 242	 336 014	 336 038	 336 040			
				 336 150	 336 170			
						 336 002		
	1.5 Ah			 336 206	 336 208			
	2.6 Ah			 336 078	 336 092			
						 336 108		
	3.0 Ah			 336 224	 336 236			
NiCd	Battery capacity	Battery packs (Part number 2 607...)						
	1.2 Ah	 335 062						
		 335 484						
		 335 790						
				 335 524	 335 526	 335 528		
	1.5 Ah		 ¹ 300 001	 ¹ 300 002	 ¹ 335 021			
			 335 033	 335 037	 335 055	 335 160		
				 335 540	 335 542	 335 534	 335 536	 335 538
	1.7 Ah							 335 082
	2.0 Ah		 ¹ 335 175	 335 152	 335 151	 335 210		
				 335 262	 335 264	 335 266		
2.4 Ah				 335 676	 335 678		 335 448	
3.0 Ah							 335 216	
NiMH	2.6 Ah			 335 230	 335 250	 335 252		
				 335 682	 335 684	 335 686	 335 688	 335 562
	3.0 Ah				 335 692	 335 694		 335 510

¹ Charging only possible with intermediate adapter.



AL 1115 CV		AL 1130 CV		AL 1820 CV		AL 1860 CV		AL 2204 CV		AL 2215 CV		AL 3640 CV		Chargers (Part number 2 607...)	
															
225 514		225 134		225 424		225 322		225 274		225 472		225 100			
Charge times (mins) ²													Battery capacity		
55													1.3 Ah		
55													30		
													180		
													55		
													45		
													24		
													45		
													207		
													63		
													80		
													30		
													68		
													95		
													35		
													3.0 Ah		
224 902		224 790		AL 2404		AL 2422 DC		AL 2425 DV		AL 2450 DV		Chargers (Part number 2 607...)			
															
224 902		224 790		225 184		224 410		224 426		225 028					
Charge times (mins) ²													Battery capacity		
240													1.2 Ah		
													300		
													200		
													38		
													36		
													15		
													250		
													47		
													44		
													19		
													53		
													50		
													22		
													1.7 Ah		
													333		
													62		
													58		
													27		
													400		
													74		
													70		
													30		
													93		
													87		
													38		
													3.0 Ah		
													433		
													80		
													76		
													33		
													2.6 Ah		
													500		
													93		
													90		
													38		
													3.0 Ah		

² The charge times listed in minutes are approximate specifications, measured at a room temperature of 20°C/68°F. The charging state, age and temperature of the battery have a significant effect on charge times.



Chargers for Bosch batteries



The charger AL 2404 charges all 7.2 to 24 V batteries that have an APT insertion end. An LED display indicates the operational state of the charger and the charging state of the battery.



The charger AL 60 DC 2422 is specially designed for use in cars/trucks (12/24 V). With Delta Voltage charge current shutdown. Operates from a source of direct current (cigarette lighter).



The charger AL 2450 DV for all Bosch batteries. Quick charger with Delta Voltage charging control and an audible signal to indicate that the battery is fully charged.



The charger AL 3640 CV for all Bosch 36 V Li-Ion battery packs. A special charging process enables 80% of the battery capacity to be charged within 25 minutes.

Singlevolt chargers 2.4 V NiCd



Product properties				Ordering information				
Charge current A	Input voltage(s) V	Country version	Part number	Packaging type	Pack quantity	Minimum order quantity ¹	Barcode 3165140...	
Standard charger for PSR 2,4 V, as of 06/2002								
0.2	230	EU	2 607 224 786	C0a	1	1	292795	

Singlevolt chargers 3.6 V NiCd



Standard charger for PSR 3,6 V until 06/2002, for direct charging of the straight screwdriver, with wall holder

0.3	230	EU	2 607 224 902	C0a	1	1	076555
-----	-----	----	---------------	-----	---	---	--------



Standard charger for PSR 3,6 V and PTK 3,6 V, as of 06/2002

0.2	230	EU	2 607 224 790	C0a	1	1	292818
-----	-----	----	---------------	-----	---	---	--------

Pack quantity (Pieces per pack)

¹ Minimum order quantity. The minimum order quantity is a fixed quantity of packs. Orders are carried out only in multiples of the minimum order quantity.

Singlevolt chargers 10.8 V Li-Ion



Product properties		Ordering information					
Charge current A	Input voltage(s) V	Country version	Part number	Packaging type	Pack quantity	Minimum order quantity ¹	Barcode 31 65140...
Li-Ion quick charger AL 1130 CV							
3	230	EU	2 607 225 134	C0a	1	1	379434

Singlevolt chargers 36 V Li-Ion



Li-Ion quick charger AL 3640 CV							
4	230	EU	2 607 225 100	C0a	1	1	365482

Multivolt chargers 7.2 - 24 V NiCd / NiMH



Standard charger AL 2404 (does not charge 2 607 335 082 and 2 607 335 216)							
0.4	230	EU	2 607 225 184	C0a	1	1	425872




Car charger AL 2422 DC							
2.2	12 - 24	EU/UK	2 607 224 410	C1a	1	1	204859




Standard charger AL 2425 DV							
2.5	230	EU	2 607 224 426	C0a	1	1	204651



Quick charger AL 2450 DV							
5.0	230	EU	2 607 225 028	C1a	1	1	357050

 Pack quantity (Pieces per pack)

 ¹Minimum order quantity. The minimum order quantity is a fixed quantity of packs. Orders are carried out only in multiples of the minimum order quantity.



Multivolt chargers 14.4 - 18 V Li-Ion



Product properties		Ordering information					
Charge current A	Input voltage(s) V	Country version	Part number	Packaging type	Pack quantity	Minimum order quantity ¹	Barcode 3165140...



Quick charger AL 1820 CV

2.0	230	EU	2 607 225 424	C0a	1	1	522984
-----	-----	----	----------------------	-----	---	---	--------



Quick charger AL 1860 CV

6.0	230	EU	2 607 225 322	C0a	1	1	480864
-----	-----	----	----------------------	-----	---	---	--------



Standard charger AL 2204 CV

0.4	230	EU	2 607 225 274	C0a	1	1	438735
-----	-----	----	----------------------	-----	---	---	--------

Intermediate adapter for battery chargers

- Used to charge bulb-shape batteries and flat-shape batteries without APT insertion end



Product properties		Ordering information				
		Part number	Packaging type	Pack quantity	Minimum order quantity ¹	Barcode 3165140...

Adapter for chargers AL 60 DV 1411 / 1419 / 2411 / 2422 / 2425, AL 30 DV 1450 / 2450 and AL 2498 FC

		2 607 000 198	C0a	1	1	109239
--	--	----------------------	-----	---	---	--------

Accessories for Bosch Cordless Worklights GLI Professional, PLI



Product properties		Ordering information				
	Voltage(s) V	Part number	Packaging type	Pack quantity	Minimum order quantity ¹	Barcode 3165140...

Bulb



	12.0	2 609 200 306	C1d	1	1	239561
	14.4					
	24.0	2 609 200 308	C1d	1	1	239585

● Pack quantity
(Pieces per pack)



¹ Minimum order quantity. The minimum order quantity is a fixed quantity of packs. Orders are carried out only in multiples of the minimum order quantity.