

# What drives you, drives us.

Technology from Bosch is used in practically every vehicle in the world. For us, the focus is on people and helping them to stay mobile.

We have been dedicated to people for more than 125 years with our pioneering spirit, research, production and expertise.

Our dedication is an unwavering commitment to providing them with a unique combination of parts, diagnostics, workshop equipment and services:

- ▶ state-of-the-art solutions for efficient vehicle repairs
- ▶ innovative workshop equipment and software – also available on favorable lease terms
- ▶ the world’s largest range of new and remanufactured spare parts
- ▶ fast, reliable delivery service
- ▶ expert customer care via our hotline
- ▶ extensive range of training courses
- ▶ specific sales and marketing support
- ▶ plus many other services



### Bosch products and services

- ▶ Diagnostics
- ▶ Diesel systems
- ▶ Gasoline systems
- ▶ Brake systems
- ▶ Spark plugs
- ▶ Energy systems
- ▶ Batteries
- ▶ Filters
- ▶ Wiper systems
- ▶ Light technology
- ▶ Comfort electronics
- ▶ Hybrid/e-mobility
- ▶ Technical hotline
- ▶ Knowledge database
- ▶ Service training
- ▶ Workshop concepts



You can get original Bosch quality here:

For more information visit:  
[www.bosch.com](http://www.bosch.com)

Subject to technical and program changes.

AA / MKE F 026 P03 7.15 / 201504

### The new Bosch packaging design

- ▶ Sales-boosting, appealing design
- ▶ Multi-line concept for different specifications for a targeted customer approach
- ▶ Unmistakable hallmark of premium Bosch quality, worldwide
- ▶ Perfectly aligned with the corporate identity of Bosch

# Full power: Car batteries from Bosch





# The perfect source of power for every car:

## Bosch battery overview

Modern cars use increasing number of components that require electrical power. Bosch batteries provide a power supply that ensures the necessary high performance, safety and correct power for any task.

### S5 A

Peak power for cars with start/stop system and regenerative braking.

► Page 4, 5

### S4 E

Reliable performance for vehicles with start/stop systems and several electrical consumers.

► Page 6, 7

### S5

Suitable for recent car models with several electrical consumers.

► Page 8, 9

### S4

S4 ensures a powerful start for all types of vehicles.

► Page 8, 9

### S3

The economical solution for many older car models.

► Page 8, 9



Line	AGM <sup>(1)</sup>	EFB <sup>(2)</sup>	SLI <sup>(3)</sup>		
Battery	S5 A	S4 E	S5	S4	S3
Technology	AGM (Absorbent Glass Mat) <sup>(1)</sup> PowerFrame® <sup>(4)</sup>	EFB (Enhanced Flooded Battery) <sup>(2)</sup> PowerFrame® <sup>(4)</sup> Labyrinth lid <sup>(5)</sup>	PowerFrame® <sup>(4)</sup> Labyrinth lid <sup>(5)</sup>	PowerFrame® <sup>(4)</sup> Labyrinth lid <sup>(5)</sup>	PowerFrame® <sup>(4)</sup> Labyrinth lid <sup>(5)</sup>
Application characteristics	Recent vehicle models and upmarket models with start/stop systems and regenerative braking 	Recent vehicle models and upmarket models with start/stop systems and several electrical consumers 	Recent vehicle models and upmarket models 	All vehicles, even Asian models 	Older vehicles with fewer electrical consumers 
Maintenance	Absolutely maintenance-free	Absolutely maintenance-free	Absolutely maintenance-free	Absolutely maintenance-free	Absolutely maintenance-free
Installation inside the vehicle	Yes	Yes	Yes	Yes	Yes
Cold start performance	● ● ●	● ●	● ● ●	● ●	●
Number of electronic consumers	● ● ●	● ●	● ●	●	●
Deep-cycle resistance	● ● ●	● ● ●	● ●	● ●	●
Suitability for short distances	● ● ●	● ● ●	● ●	●	●
Installation angle	up to 90°	0°	0°	0°	0°

(1) AGM (Absorbent Glass Mat): acid absorbed by micro-fiberglass mat allows more energy to pass through  
(2) EFB (Enhanced Flooded Battery): positive plate coated with polyester scrim ensures additional retention of the active material and a high deep-cycle resistance  
(3) SLI: Starting-Lighting-Ignition battery with PowerFrame®  
(4) PowerFrame®: patented stamping process for optimum current flow, reduced corrosion and long service life  
(5) Labyrinth lid: returns condensed water to the battery; integrated central degassing, backfire protection and an additional sealing ring ensure high operational safety









# S4 E with EFB technology: For cars with start/stop systems



## EFB technology

### (Enhanced Flooded Battery)

**Set of plates with particularly robust connection**  
The central arrangement of the connectors between positive and negative plates ensures additional stability.

### Labyrinth lid for high operational safety

The double lid with labyrinth design ensures that evaporated liquid remains inside the battery. This makes the S4 E battery absolutely maintenance-free and leak-proof.

**Terminal-post covers**  
Provide protection against short circuits.

**Ergonomic handles**  
For easy transport and installation.

**Ion-permeable pocket separator**  
Prevents contact between positive and negative plate – for longer service life and higher starting power.

► **EFB – with positive plate coated with polyester scrim**  
In EFB technology, the positive plate is coated with a so-called polyester scrim providing additional retention of the active material on the plate. The S4 E battery therefore features an improved deep-cycle resistance compared to conventional batteries and remains operational even if there are strong vibrations.

**Patented PowerFrame® (grid) for optimum current flow and reduced corrosion**  
The flow-optimized grid design of the PowerFrame® guarantees consistently high starting power and a long service life. In addition, a special alloy ensures a high corrosion resistance and significantly lower self-discharge.

**Universal adapter bottom rail with high degree of vehicle compatibility**  
For safe, precisely fitting installation. Reduced type variations simplify stockkeeping.

The Bosch S4 E battery with EFB technology is customized to meet the requirements of cars with start/stop systems. It ensures safe starting – even if the vehicle operates several electrical consumers.

In **EFB (Enhanced Flooded Battery) technology**, the positive plate is coated with polyester scrim. This provides additional retention of the active material on the plate. It features an improved deep-cycle resistance compared to conventional batteries and the battery remains operational even if there are strong vibrations.

### EFB batteries should only be replaced with EFB or AGM batteries!

For cars originally equipped with EFB batteries, EFB or AGM batteries must also be used as a replacement when changing the battery. Conventional batteries are not able to cope with the demanding requirements of vehicles with start/stop systems.

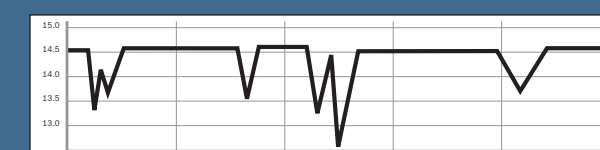


## Advantages of the Bosch S4 E battery with EFB technology

- Longer service life and doubled deep-cycle resistance compared to conventional starter batteries
- Reliable starting even under extreme temperatures and with several electrical consumers

- Excellent charge acceptance and short-distance stability
- Absolutely maintenance-free and leak-proof
- First-class Bosch quality

## Battery load diagram for start/stop



Characteristics: Many starting operations lead to a high strain on the battery





# S5/S4/S3 with PowerFrame® technology: Optimum starting power for every car



## PowerFrame® technology

**Set of plates with particularly robust connection**  
The central arrangement of the connectors between positive and negative plates ensures additional stability.

## Labyrinth lid for high operational safety

The double lid with labyrinth design ensures that evaporated liquid remains inside the battery. This makes the S5 battery absolutely maintenance-free and leak-proof.

**Terminal-post covers**  
Provide protection against short circuits.

**Ergonomic handles**  
For easy transport and installation.

**Ion-permeable pocket separator**  
Prevents contact between positive and negative plate – for longer service life and higher starting power.

► **Patented PowerFrame® (grid) for optimum current flow and reduced corrosion**  
The flow-optimized grid design of the PowerFrame® guarantees consistently high starting power and a long service life. In addition, a special alloy ensures a high corrosion resistance and significantly lower self-discharge.

**Universal adapter bottom rail with high degree of vehicle compatibility**  
For safe, precisely fitting installation. Reduced type variations simplify stockkeeping.

Bosch S5, S4 and S3 batteries offer first-class Bosch quality for a wide range of requirements and vehicle types. The patented grid with special PowerFrame® technology is crucial for performance and reliability.

**PowerFrame® technology: more power right from the start**  
The grid is crucial for the performance and reliability of a battery. The patented PowerFrame® from Bosch offers significant advantages compared to conventional grids and is responsible for the optimum flow of current and reduced corrosion. Bosch S5/S4/S3 batteries therefore stand out for their excellent starting power and a longer service life.

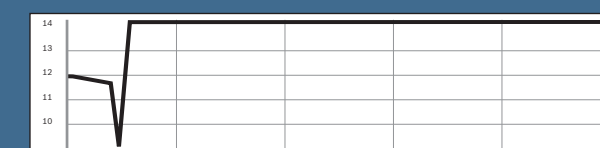
## Advantages of Bosch S5/S4/S3 batteries with PowerFrame® technology

- Optimum starting power and long service life
- 100 % maintenance-free
- Maximum protection provided by double backfire protection (also protects battery from sparks during transport and when tilted)

- No leakage of the acid thanks to the sealed design of the battery lid
- Ergonomic handles for simple installation and easy transport
- First-class Bosch quality



## Battery load diagram for conventional vehicles



Characteristics: single start operation followed by subsequent recharging



**Comparison of conventional grid and PowerFrame® after SAE J240 durability test at 75 °C**  
Conventional grid (top): severe corrosion, weak conductivity  
PowerFrame® (bottom): minimum corrosion, maximum conductivity



# Parts, bytes and services from Bosch:

## Top performance from a single source

### Complete support for your battery business

Benefit from Bosch parts, bytes and services:

- Complete range of batteries
- Efficient diagnostic equipment
- Reliable services



- Complete range of batteries for cars, commercial vehicles and two-wheelers, as well as leisure and off-highway applications
- Groundbreaking cutting-edge technologies
- First-class quality and reliability
- Extensive system expertise and wide range of products for start/stop systems

### Services

- Training sessions and workshops
- Training and product videos

- Bosch Battery Collection System for economical, safe and environmentally friendly battery recycling
- Total Cost of Ownership (TCO) model for CV batteries

### Bytes

- Professional battery chargers
- KTS diagnostic and BAT battery tester for changing batteries
- ESI[tronic] diagnostic software with detailed, vehicle-specific service and repair instructions, system information and spare-part catalogs for all vehicles

# The top-seller from Bosch:

## Technical data and order numbers

### S5 A batteries with AGM technology

Bosch TTN	ETN	Short code	Power		Technical details			Dimensions in mm	
			Ah	A(EN)	Switching	Terminals	Mounting	L x W x H	
0 092 S5A 150	605 901 095	S5 A15	105	950	0	1	B13	393 x 175 x 190	
0 092 S5A 110	580 901 080	S5 A11	80	800	0	1	B13	315 x 175 x 190	
0 092 S5A 050	560 901 068	S5 A05	60	680	0	1	B13	242 x 175 x 190	
0 092 S5A 080	570 901 076	S5 A08	70	760	0	1	B13	278 x 175 x 190	
0 092 S5A 130	595 901 085	S5 A13	95	850	0	1	B13	353 x 175 x 190	

### S4 E batteries with EFB technology

Bosch TTN	ETN	Short code	Power		Technical details			Dimensions in mm	
			Ah	A(EN)	Switching	Terminals	Mounting	L x W x H	
0 092 S4E 100	575 500 073	S4 E10	75	730	0	1	B13	315 x 175 x 175	
0 092 S4E 110	580 500 073	S4 E11	80	730	0	1	B13	315 x 175 x 190	
0 092 S4E 070	565 500 065	S4 E07	65	650	0	1	B13	278 x 175 x 175	
0 092 S4E 080	570 500 065	S4 E08	70	650	0	1	B13	278 x 175 x 190	
0 092 S4E 050	560 500 056	S4 E05	60	560	0	1	B13	242 x 175 x 190	

### S5 batteries with PowerFrame® technology

Bosch TTN	ETN	Short code	Power		Technical details			Dimensions in mm	
			Ah	A(EN)	Switching	Terminals	Mounting	L x W x H	
0 092 S50 040	561 400 060	S5 004	61	600	0	1	B13	242 x 175 x 175	
0 092 S50 080	577 400 078	S5 008	77	780	0	1	B13	278 x 175 x 190	
0 092 S50 050	563 400 061	S5 005	63	610	0	1	B13	242 x 175 x 190	
0 092 S50 070	574 402 075	S5 007	74	750	0	1	B13	278 x 175 x 175	
0 092 S50 130	600 402 083	S5 013	100	830	0	1	B13	353 x 175 x 190	

### S4 batteries with PowerFrame® technology

Bosch TTN	ETNETN	Short code	Power		Technical details			Dimensions in mm	
			Ah	A(EN)	Switching	Terminals	Mounting	L x W x H	
0 092 S40 040	560 409 054	S4 004	60	540	0	1	B13	242 x 175 x 175	
0 092 S40 020	552 400 047	S4 002	52	470	0	1	B13	207 x 175 x 190	
0 092 S40 010	544 402 044	S4 001	44	440	0	1	B13	207 x 175 x 175	
0 092 S40 050	560 408 054	S4 005	60	540	0	1	B13	242 x 175 x 190	
0 092 S40 080	574 012 068	S4 008	74	680	0	1	B13	278 x 175 x 190	

### S3 batteries with PowerFrame® technology

Bosch TTN	ETN	Short code	Power		Technical details			Dimensions in mm	
			Ah	A(EN)	Switching	Terminals	Mounting	L x W x H	
0 092 S30 010	541 400 036	S3001	41	360	0	1	B13	207 x 175 x 175	
0 092 S30 080	570 409 064	S3008	70	640	0	1	B13	278 x 175 x 190	
0 092 S30 070	570 144 064	S3007	70	640	0	1	B13	278 x 175 x 175	
0 092 S30 020	545 412 040	S3002	45	400	0	1	B13	207 x 175 x 190	
0 092 S30 050	556 400 048	S3005	56	480	0	1	B13	242 x 175 x 190	