

**THE FIRST
ORIGINAL
TRUCK AGM**



UNLOCK YOUR TRUCK'S FULL POTENTIAL.

Your essential guide to VARTA® Heavy Commercial Vehicles Batteries.



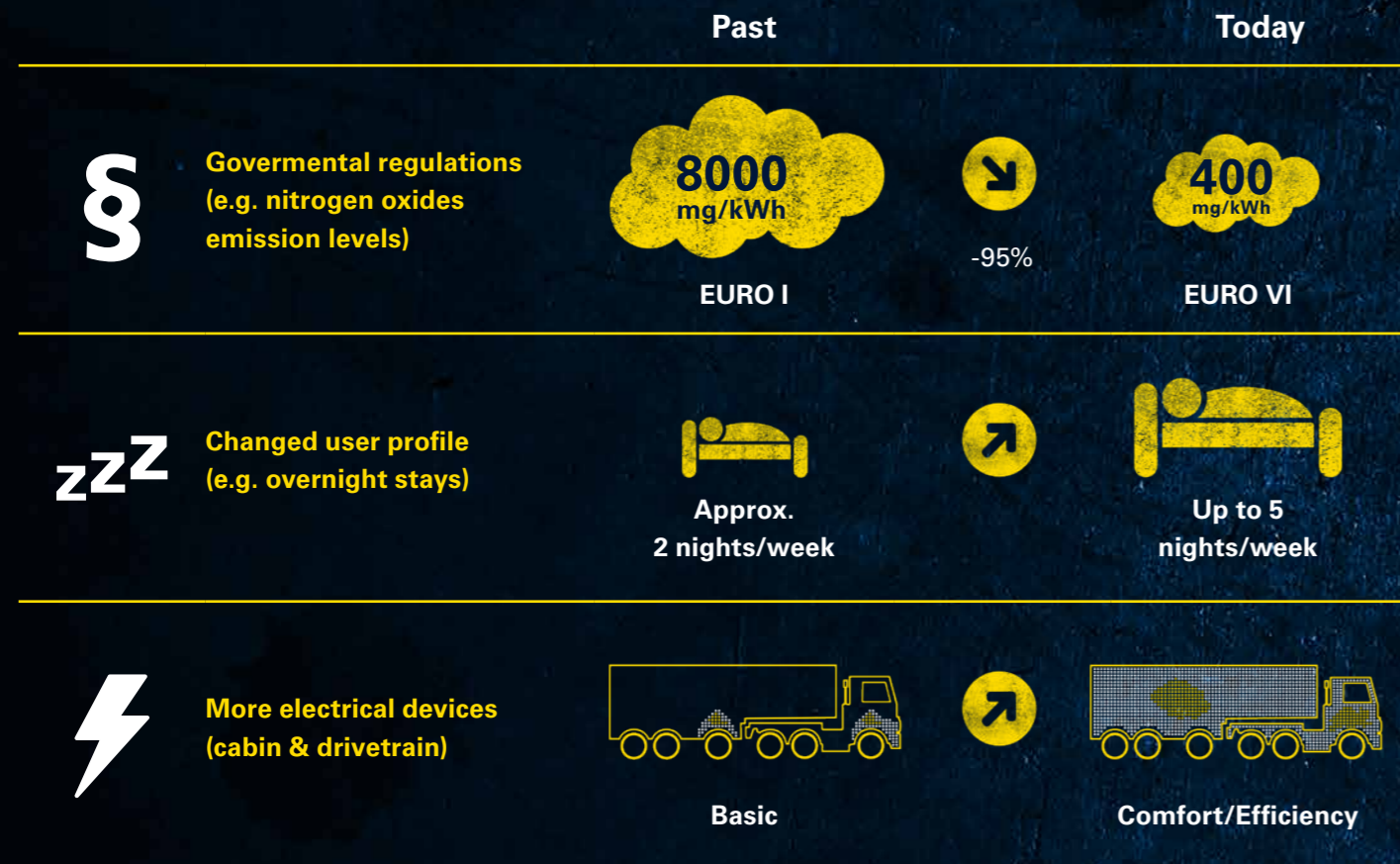
Visit our portal varta-automotive.com/fleet and get an appointment with our experts to optimize your fleet's TCO.

It all starts with  **VARTA®**

Johnson
Controls 

TRUCKS AND BATTERY REQUIREMENTS HAVE CHANGED ENORMOUSLY.

During the past years, commercial vehicles have changed a lot. Not only because of governmental regulations implementing higher emission standards, but also because of more overnight stays, more comfort devices in the cabin and drivetrain, and an increasing tendency to retro-fit additional energy consumers like parking coolers/heaters.



How does this impact the battery?

- ▶ Increased vibration resistance required to cope with end-of-frame installation
- ▶ Demand for enhanced charge acceptance to recharge faster during shorter driving times
- ▶ Larger numbers of cycles required to cope with increased amount of overnight stays
- ▶ Increased depth of discharge to support comfort functions like parking the parking cooler/heater

These higher demands on the batteries mean: fitting a conventional battery to these well-equipped long-haul trucks will lead to a shorter battery lifetime, an increased risk of potential breakdowns and an unnecessary TCO increase as these batteries are not suitable for most modern applications.

The market will continue to develop quickly. Modern trucks will come with start-stop, boosting functions, sailing/coasting and eco-rolling functions. Alongside the trend to increased electrification, the main change will be the further reduction of the engine-on driving time available to recharge the vehicle's battery.

HOW DO THESE CHANGES AFFECT FLEETS?

These changes will challenge fleets in three very important aspects of their business:



1. TOTAL COST OF OWNERSHIP

Conventional batteries fitted in the latest generation of commercial vehicles will lead to a larger number of battery failures, increasing the battery-related TCO. Choosing the correct battery technology for specific applications is an important lever when trying to reduce TCO.

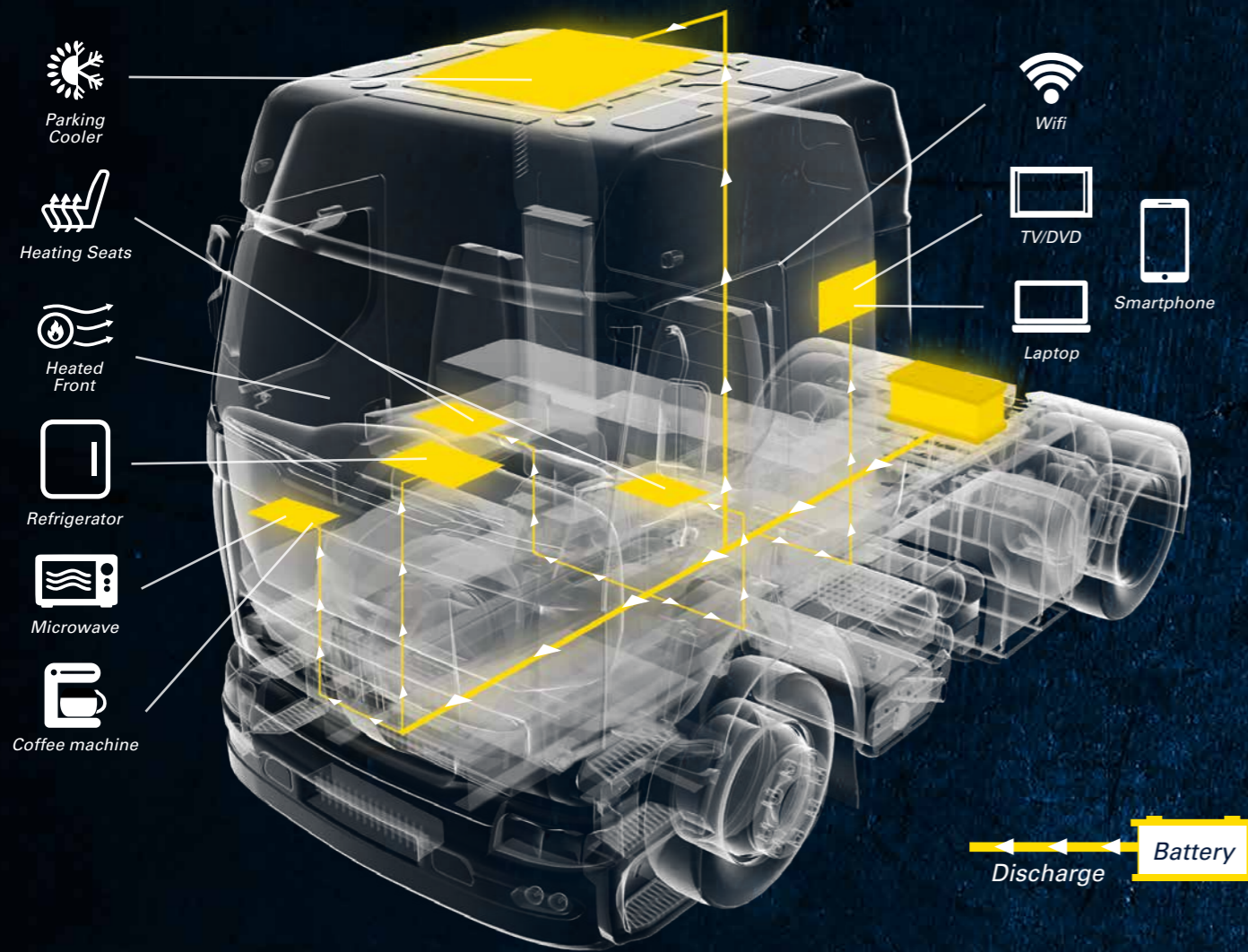
2. RELIABILITY

Only choosing the right battery technology for the various different applications of your fleet can ensure maximum reliability of your fleet's timing commitments. Using the wrong technology increases the risk of breakdowns, resulting in lost delivery slots.

3. EMPLOYEE SATISFACTION

With the rising numbers of overnight stays, truck drivers wish to have a highly equipped vehicle with all fittings and comfort like hoteling functions and parking coolers/heaters. Installing the right battery to handle these power demands goes a long way to ensure employee satisfaction.

VARTA® ProMotive batteries always offer suitable solutions. Like cogwheels, they work together to ensure successful business in the commercial vehicle market: with a reduced TCO, perfect fit, reliable battery technologies for each area of application and satisfied employees.



Many electrical devices put a drain on the battery.

In recent years many comfort features such as hoteling functions (sleeping, entertainment, cooking) and parking coolers/heaters have been added. Also, fuel-saving

measures like passive-boost and sailing/coasting need to be powered. These changes put higher drains on the batteries resulting in extensive discharging. To cope with these

changes, battery technology needed to evolve. Therefore VARTA®, the technology market leader and main OE supplier, has developed a new truck battery technology.

VARTA ProMotive AGM.

THE BEST SOLUTION TO OPTIMISE YOUR TCO.

To answer these innovative changes in the commercial vehicle segment, VARTA launches the VARTA ProMotive AGM truck battery: the first original Truck AGM battery which has been developed in collaboration with leading commercial vehicle manufacturers.

Features include: absorbent glass mats ruling out the possibility of battery failures due to acid stratification, the highest vibration resistance, modern fuel-saving functions like start-stop and an ability to deliver reliable performance at even low state of charges.

VARTA PROMOTIVE AGM.



MADE IN GERMANY

VARTA ProMotive AGM:

- ▶ 6 times the cycle life compared to conventional batteries
- ▶ For advanced hoteling functions with parking cooler/heater
- ▶ Designed for end-of-frame installation (EURO 5/6) due to highest vibration resistance

Unlock your trucks' full potential.

VARTA ProMotive AGM is designed for heavy commercial vehicles. It is the only battery for unlocking the highest demanding applications and power consuming functions including the parking cooler/heater without the battery wearing out and causing downtime.

The new VARTA Promotive AGM truck battery is not only ready to cope with the challenges of today's technology. It has been designed in collaboration with leading commercial vehicle manufacturers to be ready once today's innovations have become standard features.



Patented PowerFrame® grid for reliable starting power, fast recharge and corrosion resistance.



Meets all **original criteria of the commercial vehicle manufacturer.**



For advanced hoteling functions with parking cooler / heater.



Highest **vibration resistance.**



Fulfils all of the requirements of governmental regulations on higher emission standards.



Suitable for **end-of-frame installation.**

VARTA PROMOTIVE EFB.



MADE IN GERMANY

VARTA ProMotive EFB:

- ▶ 3 times the cycle life compared to conventional batteries
- ▶ For hoteling functions
- ▶ Designed for end-of-frame installation (EURO 5/6) due to highest vibration resistance

Unlock your trucks' full potential.

The VARTA ProMotive EFB is designed for heavy commercial vehicles. It is made for high energy demands while coping with overnight stays in vehicles with standard hoteling functions. This makes it the right choice for TCO savings.



Patented PowerFrame® grid for reliable starting power, fast recharge and corrosion resistance.



Meets all original criteria of the commercial vehicle manufacturer.



Highest vibration resistance.



Fulfils all of the requirements of governmental regulations on higher emission standards.



Suitable for end-of-frame installation.

VARTA PROMOTIVE SUPER HEAVY DUTY.

VARTA ProMotive Super Heavy Duty:

- ▶ Continuous multi-start
- ▶ Cranking and standard electric demands
- ▶ Ideal vibration resistance for urban distribution applications

Unlock your fleet's full potential.

The VARTA ProMotive Super Heavy Duty is made for commercial vehicles with reliable starting power demands. Our VARTA ProMotive Super Heavy Duty comes in OE quality and helps your fleet do its job.

ENGINEERED IN GERMANY



Patented PowerFrame® grid for reliable starting power, fast recharge and corrosion resistance.



Meets all original criteria of the commercial vehicle manufacturer.



Vibration resistant.

VARTA PROMOTIVE HEAVY DUTY.

VARTA ProMotive Heavy Duty:

- ▶ Continuous multi-start
- ▶ Cranking and standard electric demands
- ▶ Ideal vibration resistance for agricultural and construction vehicles

Unlock your equipment's full potential.

The VARTA ProMotive Heavy Duty delivers reliable power that can handle a high amount of dust and fertiliser while minimising downtime. The perfect choice for TCO savings.

























ENGINEERED IN GERMANY



THE PERFECT BATTERY TECHNOLOGY FOR EVERY VEHICLE AND APPLICATION.

VARTA ProMotive batteries are the first choice for fleet managers, offering a specific solution for every energy demand level. VARTA ProMotive batteries are specifically designed for modern trucks and highly equipped commercial vehicles to meet increasing

requirements of electrical loads, end-of-frame installation and more overnight stays. Our VARTA Truck Portal can assist in identifying the ideal battery technology for your application.

	Demand level	Vibration resistance	Charge acceptance	Cycle life	Depth of discharge
 <p>VARTA ProMotive AGM (Absorbent Glass Mat)</p> <ul style="list-style-type: none"> ▶ 5 or more overnight stays per week ▶ parking cooler/heater ▶ start-stop 	<p>Highest</p> 				
 <p>VARTA ProMotive EFB (Enhanced Flooded Battery)</p> <ul style="list-style-type: none"> ▶ up to 5 overnight stays per week ▶ no parking cooler/heater ▶ no start-stop 	<p>High</p> 				
 <p>VARTA ProMotive SHD (Super Heavy Duty)</p>	<p>Basic</p> 				
 <p>VARTA ProMotive HD (Heavy Duty)</p>	<p>Low</p> 				



THE VARTA TRUCK PORTAL.

The VARTA Truck Portal is a new service, training and information platform especially for fleet managers of heavy commercial vehicles.

The most important features:

1. Battery Finder

Based on your input the Battery Finder will explain and recommend the best available option for maximum performance and TCO savings.

2. TCO calculator

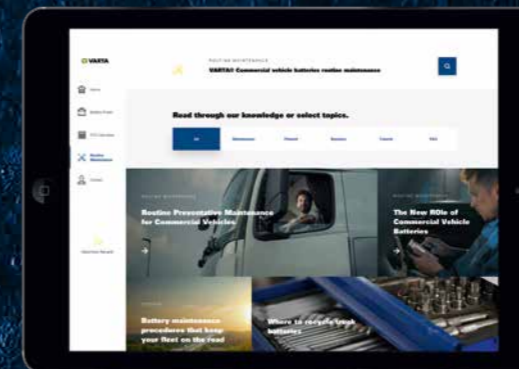
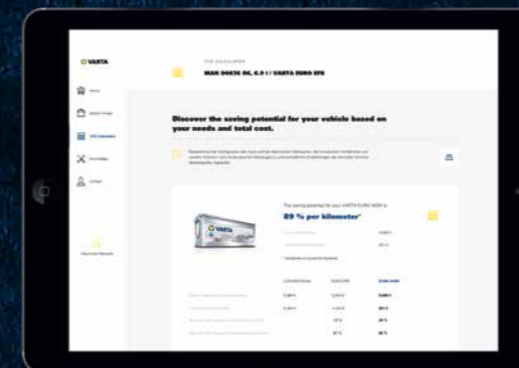
The TCO calculator will help you to understand the TCO saving potential of choosing the right battery technology.

3. Maintenance

Receive support in how to maintain the batteries in order to get the maximum performance from your application and prolong the service life for maximum TCO saving potential.

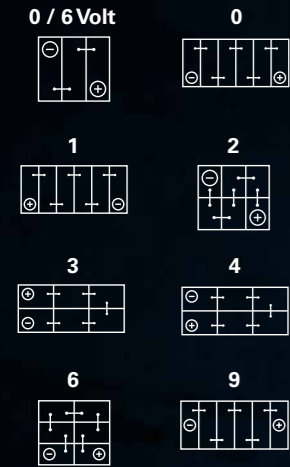
4. Knowledge section

This will help you to better understand the role of the battery in the vehicles as well as give valuable insights into various topics in the field of battery technology and market trends to manage the future.

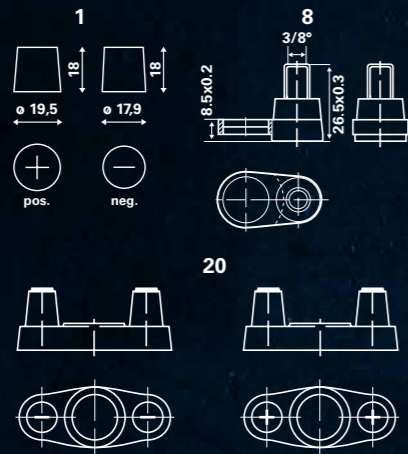


Technical diagrams

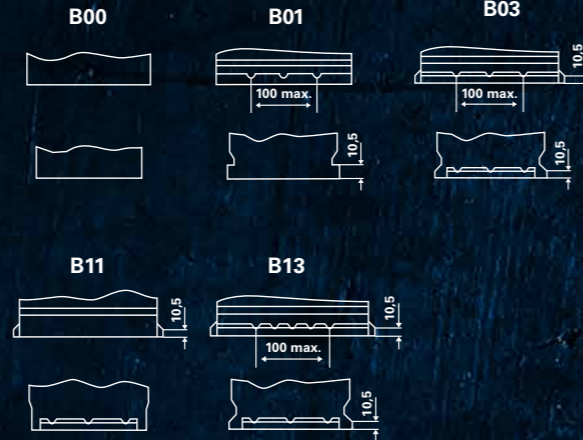
Layout



Terminal types



Base hold-down



VARTA® ProMotive Heavy Duty

VARTA Code	Short Code	Ah (20h)	CCA (EN) [A]	Overall dimensions in mm			Case size	Weight (kg)	Layout	Terminal	Base hold down
				L	W	H					
... A74 2											
070 011 030*	E29	70	300	175	167	220	M1	9.35	0	1	B00
112 025 051*	I11	112	510	260	175	238	M4	16.5	0	1	B01
140 023 072*	K13	140	720	260	175	236	M4	19.5	0	1	B01
150 030 076*	L14	150	760	333	175	235	M5	23.8	0	1	B11
200 023 095*	N12	200	950	403	175	235	M6	31.0	0	20	B11
545 200 030	B39	45	300	210	175	175	T4	10.76	0	1	B13
555 064 042	C20	55	420	246	175	190	H5	13.44	0	1	B13
566 047 051	D33	66	510	278	175	190	H6	15.83	0	1	B03
588 038 068	F10	88	680	350	174	189	H8	20.34	0	1	B13
590 040 054	G1	90	540	347	173	234	LOT 7	25.2	0	1	B00
590 041 054	G2	90	540	347	173	234	LOT 7	25.2	1	1	B00
600 035 060	H4	100	600	413	175	220	D	27.43	1	1	B00
600 047 060	H5	100	600	413	175	220	D	26.7	0	1	B00
600 123 072	H9	100	720	313	175	205	GB28	22.34	0	1	B13
605 102 080	H17	105	800	330	172	240	GR31	23.7	9	1	B01
605 103 080	H16	105	800	330	172	240	GR31	23.7	9	8	B01
610 013 076	I2	110	760	514	175	210	MAC110	32.31	3	1	B03
610 404 068	I18	110	680	347	173	234	LOT7	28.58	0	1	B01
610 048 068	I5	110	680	347	173	234	LOT7	28.58	1	1	B00
610 050 085	I6	110	850	413	175	220	D	29.6	0	1	B03
620 047 078	I9	120	780	347	173	234	LOT7	30.91	0	1	B00
620 045 068	I8	120	680	513	189	223	A	33.64	3	1	B00
620 109 076	I16	120	760	510	175	235	MAC120	35.12	4	1	B03
625 012 072	J1	125	720	345	172	285	WOR7	31.22	0	1	B00
625 014 072	J2	125	720	345	172	285	WOR7	31.22	1	1	B00
625 023 000	J3	125	950	286	269	230	NATO	36.8	2	1	B00
630 014 068	J5	130	680	514	218	208	MAC130	37.83	3	1	B00
635 042 068	J8	135	680	360	253	240	12C135	42.3	6	1	B11
635 052 100	J10	135	1000	514	175	210	MAC110	35.46	3	1	B03
643 033 095	K4	143	950	514	218	210	MAC140	39.85	3	1	B03
643 107 090	K11	143	900	508	174	205	MAC132	36.5	0	1	B01
654 011 115	M11	154	1150	513	189	223	A	39.84	3	1	B00
655 013 090	L2	155	900	513	223	223	B	40.98	3	1	B00
655 104 090	L5	155	900	514	218	230	MAC154	42.88	4	1	B03
670 043 100	M6	170	1000	513	223	223	B	43.93	3	1	B00
680 011 140	M12	180	1400	513	223	223	B	46.42	3	1	B00
680 033 110	M7	180	1100	513	223	223	B	44.99	4	1	B03
690 033 120	M10	190	1200	513	223	223	B	44.99	4	1	B03
690 034 120	L3	190	1200	513	223	223	B	45.73	3	1	B03
700 038 105	N2	200	1050	518	276	242	C	53.61	3	1	B00
720 018 115	N5	220	1150	518	291	242	C	56.79	3	1	B00

* 6 Volt



VARTA® ProMotive AGM

VARTA Code	Short Code	Ah (20h)	CCA (EN) [A]	Overall dimensions in mm			Case size	Weight (kg)	Layout	Terminal	Base hold down
				L	W	H					
... E65 2											
710 901 120	A1	210	1200	518	276	242	C	61.0	3	1	B00



VARTA® ProMotive EFB

VARTA Code	Short Code	Ah (20h)	CCA (EN) [A]	Overall dimensions in mm			Case size	Weight (kg)	Layout	Terminal	Base hold down
				L	W	H					
... E65 2											
690 500 105	B90	190	1050	513	223	223	B	46.99	3	1	B00
740 500 120	C40	240	1200	518	276	242	C	59.47	3	1	B00



VARTA® ProMotive Super Heavy Duty

VARTA Code	Short Code	Ah (20h)	CCA (EN) [A]	Overall dimensions in mm			Case size	Weight (kg)	Layout	Terminal	Base hold down
				L	W	H					
... A72 2											
640 400 080	K8	140	800	513	189	223	A	35.76	3	1	B03
645 400 080	K7	145	800	513	189	223	A	37.12	3	1	B00
670 104 100	M9	170	1000	513	223	223	B	44.2	3	1	B03
680 108 100	M18	180	1000	513	223	223	B	44.14	3	1	B00
725 103 115	N9	225	1150	518	276	242	C	57.5	3	1	B00

As the world's largest manufacturer of automotive batteries, we supply approximately 152 million batteries every year to car manufacturers and aftermarket retailers. When you choose a VARTA® battery, you can rely on the expertise of a global technology leader.



United Kingdom

Johnson Controls Batteries Ltd.
Suite 5, Building 6,
Croxley Park
Watford
Herts WD18 8YH

Tel. +44 (0) 1895 515650
Fax +44 (0) 1923 630899

E-Mail: vb-uk-enquiries@jci.com

Export

Johnson Controls
Autobatterie GmbH & Co. KGaA
Am Leineufer 51
30419 Hannover
Germany

Tel. +49 (0) 511 975-0
Fax +49 (0) 511 975-1680

E-Mail: export@varta-automotive.com