

# READY TO GO WITH CALIX

Battery charger range



# CONTENTS

Who needs a battery charger? .....	3
Cars .....	4
Buses & trucks .....	5
Agricultural machinery .....	6
Construction machinery .....	7
Industrial .....	8
Emergency vehicles .....	9
Offroad .....	10
Battery chargers for every need .....	11
Calix battery charger range .....	12
Calix battery charger kits .....	15
System schematics, cars .....	16

# WHO NEEDS A BATTERY CHARGER?

**The broad range of Calix battery chargers is designed for simple installation and easy connection.**

Today's vehicles contain a great deal of electronic equipment that constantly uses small quantities of electricity even when the vehicle is switched off. This means a battery remains active and is always working, thus making battery charging necessary.

If a power source is disrupted because the battery is completely discharged, important vehicle settings may disappear, often leading to expensive, unplanned workshop visits.

It's important to charge the battery as often as possible to avoid oxidation, extend battery life and remain confident that the vehicle will always start.

The broad range of Calix battery chargers, together with the Calix plug and play cable system, is approved for permanent installation. With a modern, fully automatic battery charger from Calix, the battery is always fully charged.

Calix intelligent battery chargers manage parallel loads. This means that if a consumer (lighting, radio, etc.) is active during charging, the charger takes this into account and provides the consumer with power while also charging the battery.

Calix battery chargers can handle tough conditions and climates and they perform superbly in temperatures from -40°C till +60°C. All of our chargers are designed for both flooded (wet cell) and valve regulated (dry cell) lead acid batteries such as AGM and Gel.

A permanently installed Calix battery charger makes things quick and easy for the user – just plug the system into a wall socket and let the charger do the rest, fully automatically.

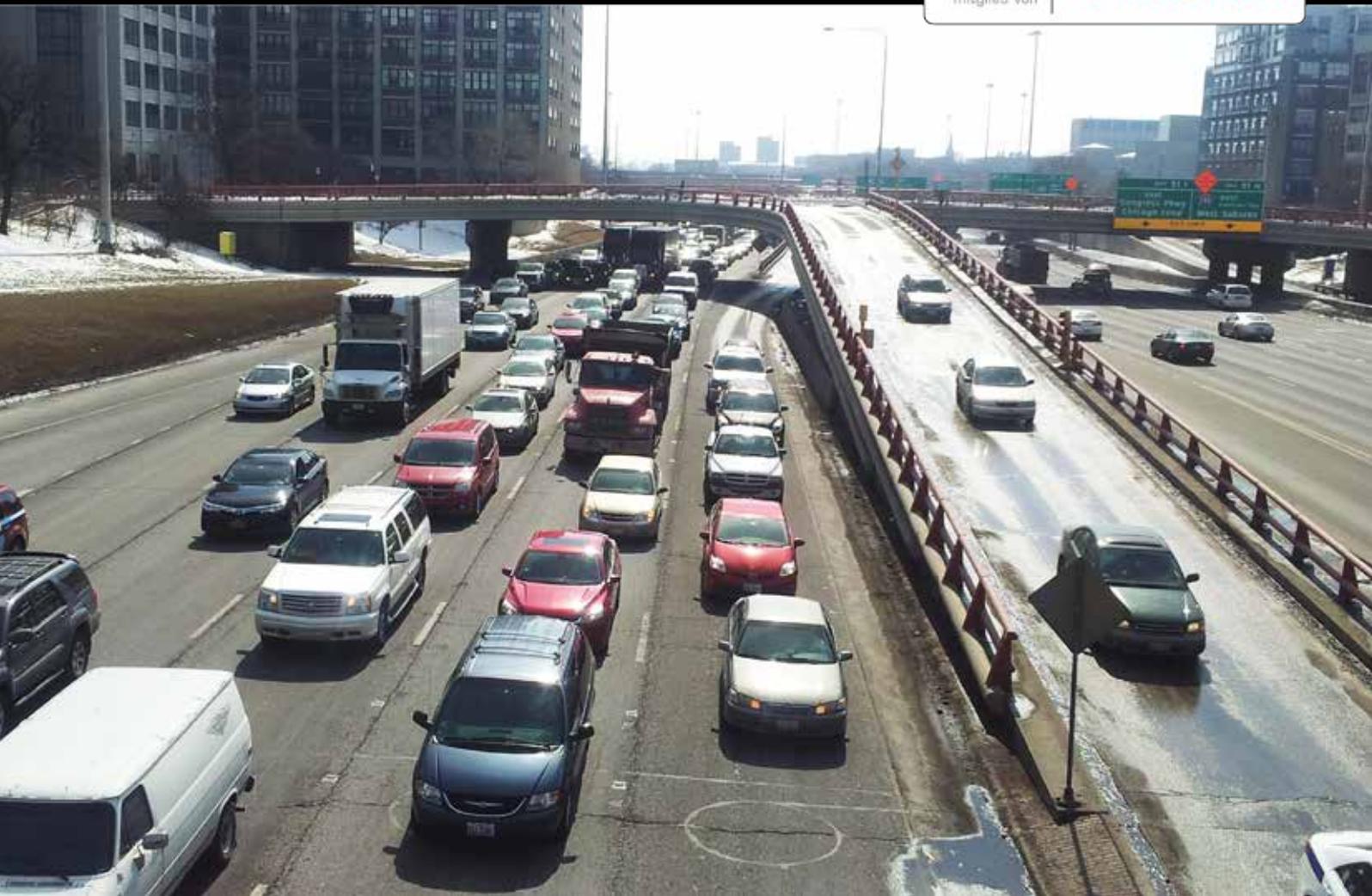


Photo: Calix

## CARS

A discharged battery is often the reason why a car will not start or why an owner contacts the workshop. It can be avoided if the battery is charged as often as possible.

Batteries often discharge because many cars only make short trips, which means the car's own charger – the alternator – does not have time to charge the battery. More and more cars also have a start/stop function, which is good for the environment, but bad for batteries.

Modern cars also have a great deal of electronics and energy consuming equipment, which means high battery load. Fuel-fired cab heaters also have a negative impact on the battery, especially in combination with short trips.

Some automotive manufacturers have also begun to disconnect the alternator as early as possible to reduce environmental impact, which is good for the environment but not good for batteries.

A permanently installed Calix battery charger makes it easy for the user to avoid a flat battery – just plug the system into a wall socket and let the charger do the rest, fully automatically.

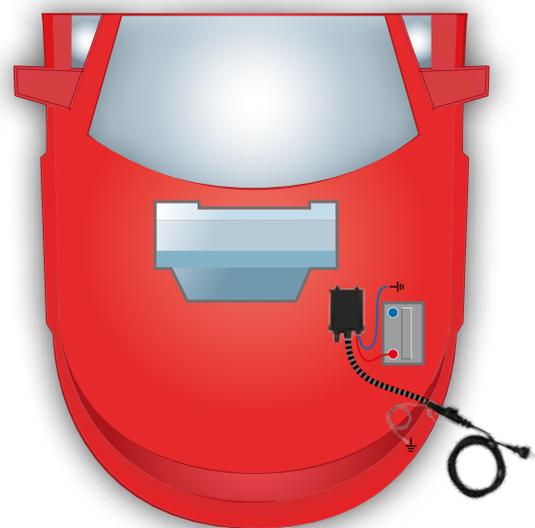




Photo: Calix



Photo: © Copyright Scania

## BUSES & TRUCKS

Parked or running buses and trucks use a lot of power. In the case of trucks – especially for distribution – the rear platform lift is often the major consumer, while in the case of buses it is usually lighting, heating, ventilation and advertising signs that place the greatest load on the battery.

Because buses and distribution trucks usually make short trips and frequent stops, the alternator has a difficult job keeping the vehicle's battery charged. What's more, engine idling is also prohibited in many urban areas and this also means the alternator is unable to charge the battery. As a result, good vehicle battery charging procedures have become a necessity to ensure the battery is always fully charged and in good condition.

A permanently installed Calix battery charger makes sure the battery is always charged – just plug the system into a wall socket and let the charger do the rest, fully automatically.

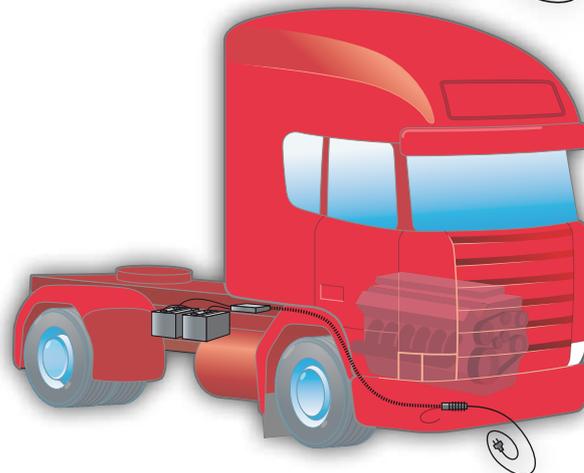
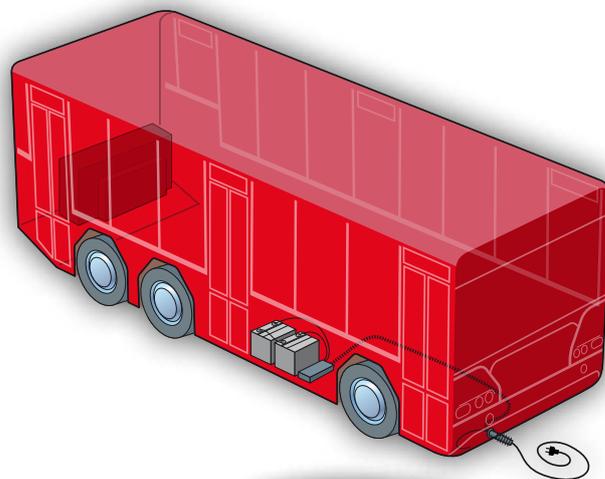




Photo: © Copyright Valtra Inc.

## AGRICULTURAL MACHINERY

Modern agricultural machinery contains a lot of electronics that constantly draw power from the battery, even when the machinery is switched off.

Most of today's farm machinery uses batteries that are almost half discharged, which increases the risk that tractors, combine harvesters and other types of agricultural machinery fail to start when needed. Furthermore, if a battery is fully discharged, important settings and various configurations can be lost, which often results in expensive workshop visits. Here we see a real need to charge the battery with a battery charger from Calix.

A permanently installed Calix battery charger makes things quick and easy for the user – just plug the system into a wall socket and let the charger do the rest, fully automatically.





Photo: © Copyright Volvo CE

## CONSTRUCTION MACHINERY

Today's modern construction machinery, which is also used in agriculture and for snow clearance, contains a lot of electronics that constantly draw power from the battery, even when the equipment is switched off.

Most construction machinery is idle at night and at weekends, which means the alternator cannot charge the battery. Accordingly, there is a need for trickle charging to make sure vehicles start immediately whenever needed.

Adding a professional battery charger from Calix to construction machinery makes sure the machinery is always ready to go with a fully charged battery.

A permanently installed Calix battery charger makes things quick and easy for the user – just plug the system into a wall socket and let the charger do the rest, fully automatically.

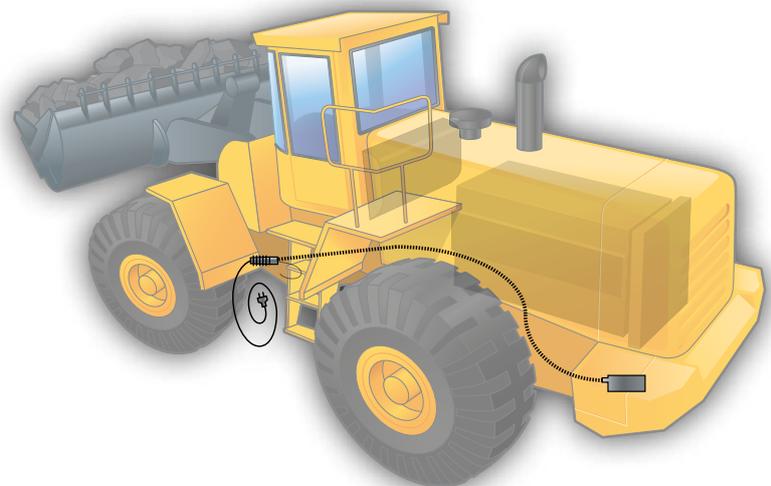




Photo: © Copyright Scania

## INDUSTRIAL

Industrial engines are commonly used for power supply e.g. as backup generators in hospitals or mobile stations where it is extremely important for the engine to start and generate power immediately. A discharged, unserviceable battery can have devastating consequences and lead to major costs.

Industrial engines are also found in machinery such as crushers that often stand idle overnight and at weekends. Because this may result in a discharged battery, there is a need for trickle charging.

Calix battery chargers make sure engines that are on stand-by always have fully charged batteries. A permanently installed Calix battery charger makes things quick and easy for the user – just plug the system into a wall socket and let the charger do the rest, fully automatically.

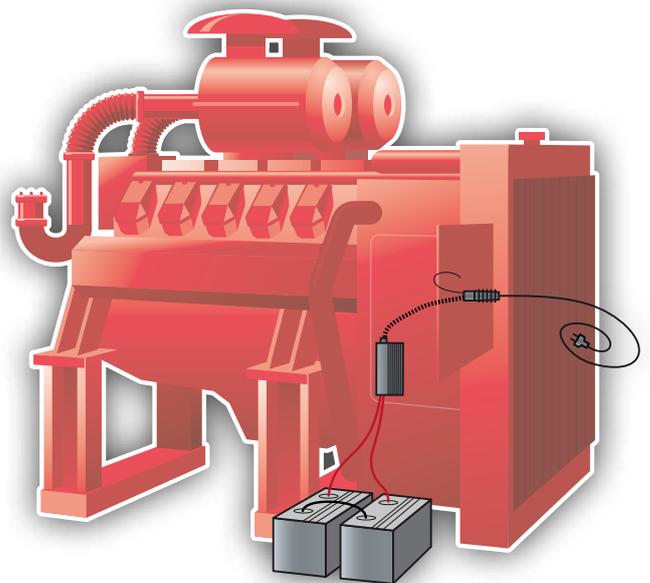




Photo: Calix

## EMERGENCY VEHICLES

Today's ambulances, fire trucks and police vehicles are equipped with a lot of power-consuming technology and equipment. Because turnouts cannot be planned in advance and vehicles are subjected to heavy loads, a vehicle's power supply faces major challenges. This high energy consumption demands reliable, versatile systems that always work when things get urgent.

An integrated, permanently installed professional Calix battery charger makes things quick and easy for the user – just plug the system into a wall socket and let the charger do the rest, fully automatically.



Photo: Calix



Photo: © Copyright BRP Finland Oy

## OFFROAD

Snow scooters are typical of vehicles that are used for part of the year and stand idle for the remainder. There is a risk that the battery will discharge during the idle period. To prevent flat batteries and unnecessary costs as a result, Calix offers a solution in the form of a battery charger for permanent installation.

Snow scooters are often used in rental scenarios and are expected to be ready to go immediately with a fully charged battery – yet another reason to add a professional Calix battery charger.

Four-wheelers (ATVs) are often used in forestry or snow clearance contexts and are expected to be warmed through, ready to go and fully functional with a fully charged battery. Yet another requirement for trickle charging here, too.

An integrated, permanently installed professional Calix battery charger makes things quick and easy for the user – just plug the system into a wall socket and let the charger do the rest, fully automatically.



# BATTERY CHARGERS RANGE

BC 60

Part no. 1753925

BC 60 is a fully automatic, 12 volt charger recommended for 5-75Ah batteries. The charger is very light and easy to install. While best suited for small-to-medium sized vehicles, it also works on larger vehicles. The charger's primary purpose is to charge the battery, but it is also ideally suited as a trickle charger.

The BC 60 is approved for permanent installation in the engine compartment. Because an internal electronic circuit provides polarity and overcurrent protection, no external fuse is needed. The charger is also equipped with a temperature sensor integrated into the negative cable (black). The sensor optimizes charging according to outdoor temperature.

The charger has an in/out connector (230V) that makes linking to existing Calix system easy, and is ideally suited for use with a Calix timer, part no. 1756600 (see system schematics on page 16).

BC 60 can be connected to 115V and 230V main supply.



BC 1205

Part no. 1753980

The BC 1205 charges at 5 amps and is intended for vehicles with 12 volt electrical systems and for 24Ah batteries and above. The charger, which is fully automatic, is suitable for small and medium-sized vehicles and is approved for permanent installation in engine compartments.

The BC 1205 has an in/out connector (230V) that makes linking to an existing Calix system easy, and is ideally suited for use with the Calix timer, part no. 1756600 (see system schematics on page 16).

BC 1205 can be connected to 115V and 230V main supply.



BC 1207

Part no. 1753910

BC 1207 S

Part no. 1753911

The BC 1207 is a professional charger for users who need an especially robust, high performance charger. The charger, which is fully automatic, is suitable for large cars and is also commonly installed in working vehicles, police vehicles, ambulances and tractors.

The BC 1207 is moulded in a single piece, which prevents water, dust and chemicals from entering.

Like many other Calix chargers, the BC 1207 is EMC approved and can handle wide temperature differences during charging.

The BC 1207 S has the same features as BC 1207 but is also supplied with a 2-metre single conductor that provides a 12V signal; it is intended for connection to an immobilizer via a relay. The immobilizer function prevents vehicle start while the Calix power supply cable is connected to the outlet.

The BC 1207 S charger with immobilizer are specially adapted for use on rescue and emergency vehicles, where immobilizers are in common use.



BC 1207

BC 1217	Part no. 1753930
BC 1217 XC	Part no. 2400289
BC 1217 S	Part no. 1753936



BC 1217 S

With its high and low charging phases, the BC 1217 is a fully automatic charger that fits in well with other professional chargers from Calix. It is approved for permanent installation, and with an efficiency of over 95 per cent, it is suitable for vehicles, machinery and boats that require a lot of charging. The charger is moulded in a single piece, which prevents water, dust and chemicals from entering.

The BC 1217 is equipped with a temperature sensor integrated into the negative cable (black). Battery charging is temperature dependent and the sensor optimizes charging according to outdoor temperature.

The BC 1217 XC has the same features as BC 1217 but is also fitted with an in/out connector (230V) that makes linking to an existing Calix system or to additional battery chargers easy.

The BC 1217 S has the same features as BC 1217 but is also supplied with a 2-metre single conductor that provides a 12V signal; it is intended for connection to an immobilizer via a relay. The immobilizer function prevents vehicle start while the Calix power supply cable is connected to the outlet. This ensures the vehicle cannot be driven away with the cable connected.

The BC 1217 S charger with immobilizer is specially adapted for use on rescue and emergency services vehicles, where immobilizers are in common use.

BC 1230	Part no. 1753931
BC 1230 XC	Part no. 1753932
BC 1230 S	Part no. 1753933

The BC 1230 is ideally suited for use in ambulances, forklifts, leisure boats or other vehicles that consume a lot of power and need constant charging. The high-performance charger is easy to install and intended for all types of lead-acid batteries.

The BC 1230 is moulded in a single piece, which prevents water, dust and chemicals from entering. Because an internal electronic circuit provides polarity and overcurrent protection, no external fuse is needed. The battery charger is also able to handle parallel loads, which means it can supply consumers such as lights and radios with power and use the remainder to charge the battery.

The charger, which is approved for permanent installation, is also equipped with a temperature sensor integrated into the negative cable (black). The sensor optimizes charging at different outdoor temperatures. The charger also has in-built overheating protection that automatically limits charging should the surface of the charger's aluminium casing exceed 65°C.

The BC 1230 XC has the same features as BC 1230 but is also fitted with an in/out connector (230V) that makes linking to an existing Calix system or additional battery chargers easy.

The BC 1230 S has the same features as BC 1230 but is also supplied with a 2-metre single conductor that provides a 12V signal; it is intended for connection to an immobilizer. The immobilizer function prevents vehicle start while the Calix power supply cable is connected to the outlet. This ensures the vehicle cannot be driven away with the cable connected.

The BC 1230 S charger with immobilizer is specially adapted for use on rescue and emergency vehicles, where immobilizers are in common use.



BC 1230 XC

BC 2405	Part no. 1753286
BC 2412	Part no. 1753280
BC 2420	Part no. 1753281

The BC 2405, BC 2412 and BC 2420 are approved for permanent installation and are suitable for all chargeable lead-acid batteries with capacities greater than 24Ah. The chargers are moulded in single pieces, which prevents water, dust and chemicals from entering. Because internal electronic circuits provide the chargers with polarity and overcurrent protection, no external fuse is needed.

The BC 2405 is a modern, fully automatic battery charger with a high IP class suitable for vehicles and applications that remain idle for extended periods such as forestry machines, combine harvesters, trucks or stand-by generators commonly found in hospitals. The BC 2405 is a versatile charger easily installed in the vehicle/generator by the user together with a suitable cable and installation kit (MKMS).

The BC 2412 and BC 2420 are ideally suited for vehicles and applications that consume a lot of power and require constant charging, such as city buses, inter-city buses and distribution vehicles. The chargers are able to handle parallel loads, which means they can supply consumers such as lights and radios with power and use the remainder to charge the battery.

The BC 2420 is also equipped with a temperature sensor integrated into the negative cable (black). The sensor optimizes charging at different outdoor temperatures. The charger also has in-built overheating protection that automatically limits charging should the surface of the charger's aluminium casing exceed 65°C.



BC 2405



BC 2412

Description	Max Amp	System voltage	Weight	Dimensions (LxWxH)	Protection class – IP	Part no.
BC 60	2A	12V	0.2 kg	185x35x40 mm	IP44	1753925
BC 1205	5A	12V	0.4 kg	155x90x40 mm	IP44	1753980
BC 1207	7A	12V	0.8 kg	155x80x43 mm	IP65	1753910
BC 1207 S	7A	12V	0.8 kg	155x80x43 mm	IP65	1753911
BC 1217	17A	12V	1.5 kg	192x96x47 mm	IP65	1753930
BC 1217 S	17A	12V	1.5 kg	192x96x47 mm	IP65	1753936
BC 1217 XC	17A	12V	1.5 kg	192x96x47 mm	IP65	2400289
BC 1230	30A	12V	1.7 kg	192x98x47 mm	IP65	1753931
BC 1230 S	30A	12V	1.7 kg	192x98x47 mm	IP65	1753933
BC 1230 XC	30A	12V	1.7 kg	192x98x47 mm	IP65	1753932
BC 2405	5A	24V	0.8 kg	155x80x43 mm	IP65	1753286
BC 2412	12A	24V	1.7 kg	192x96x47 mm	IP65	1753280
BC 2420	20A	24V	1.7 kg	192x98x47 mm	IP65	1753281

Key to BC 1207 S: B = Battery, C = Charger, 12 = 12 volt, 07 = 7 amp, S = Immobilizer

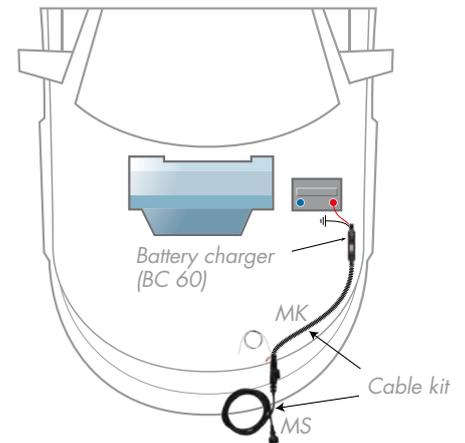
Key to BC 1207 XC B = Battery, C = Charger, 12 = 12 volt, 07 = 7 amp, S = Immobilizer, XC = Cross Connection (in/out 230V)

## Battery charger kit for cars

Calix offers complete battery charger kits for permanent installation in cars. The kits are suitable for cars that make short trips, do not have an engine heater fitted or use a fuel-fired cab heater in combination with short trips. The kits include everything you need - a battery charger (12V) and a cable and installation kit (MKMS).

Description	Weight	Part no.
Battery charger kit BC 60 (2A) & cable kit MKMS1025	1.1 kg	1768087
Battery charger kit BC 60 (2A) & cable kit MKMS1525	1.2 kg	1768091
Battery charger kit BC 60 (2A) & cable kit MKMS2025	1.3 kg	1768092
Battery charger kit BC 1205 (5A) & cable kit MKMS1025	1.2 kg	1768093
Battery charger kit BC 1205 (5A) & cable kit MKMS1525	1.3 kg	1768094
Battery charger kit BC 1205 (5A) & cable kit MKMS2025	1.6 kg	1768095
Battery charger kit BC 1207 (7A) & cable kit MKMS1025	1.9 kg	1768088
Battery charger kit BC 1207 (7A) & cable kit MKMS1525	1.9 kg	1768096
Battery charger kit BC 1207 (7A) & cable kit MKMS2025	2.0 kg	1768097

Key to MKMS1025: consists of one 1.0 m. inlet cable (MK), one 2.5 m. connecting cable (MS) and installation parts.

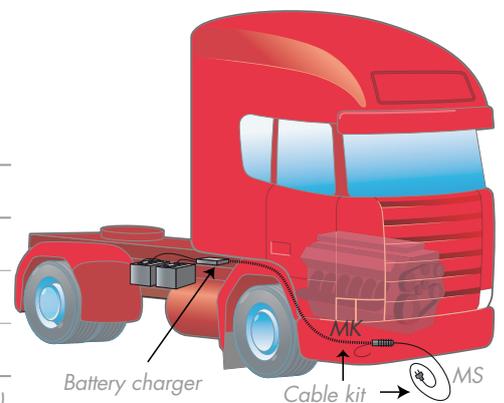


## Battery charger kit for buses & trucks

Calix offers complete battery charger kits for permanent installation in commercial vehicles such as buses and trucks that consume a lot of power. The kits include everything you need - a battery charger (24V) and a cable and installation kit (MKMS).

Description	Weight	Part no.
Battery charger kit BC 2405 (5A) & cable kit MKMS1550	1.9 kg	1753287
Battery charger kit BC 2412 (12A) & cable kit MKMS1550	2.9 kg	1753292
Battery charger kit BC 2420 (20A) & cable kit MKMS1550	3.0 kg	1753293

Key to MKMS1025: consists of one 1.0 m. inlet cable (MK), one 2.5 m. connecting cable (MS) and installation parts.



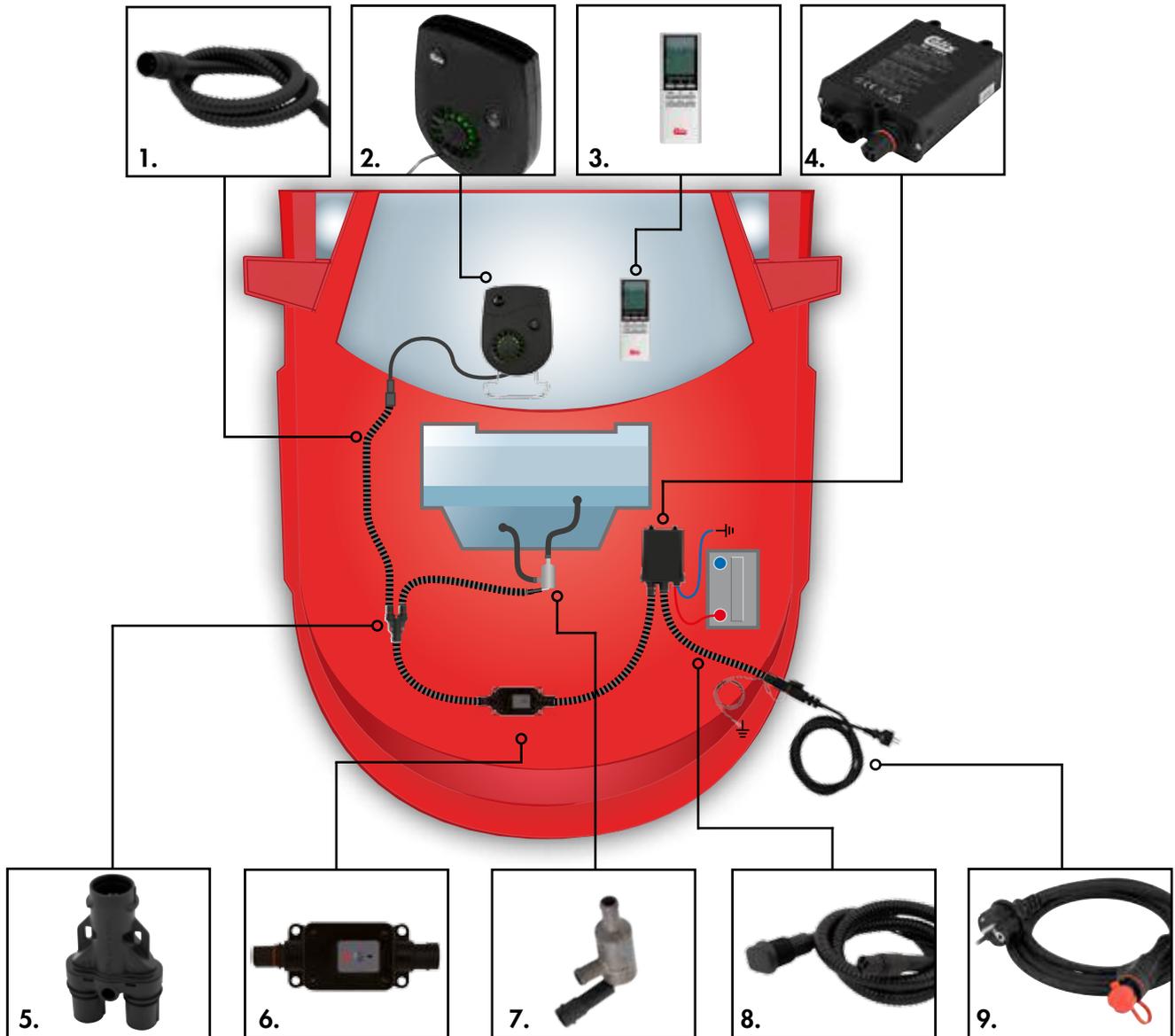
Cable kit MKMS includes an inlet cable (MK), a connecting cable (MS) and installation parts (clamp or expander). For more information regarding installation please visit [www.calix.se](http://www.calix.se).

# BATTERY CHARGERS FOR EVERY NEED

										
BC 60	•	•			•					•
BC 1205	•	•			•					•
BC 1207	•		•	•		•	•	•	•	•
BC 1207 S	•		•	•		•	•	•	•	
BC 1217			•	•		•	•	•	•	•
BC 1217 XC			•	•		•	•	•	•	
BC 1217 S			•	•		•	•	•	•	
BC 1230			•	•		•	•	•	•	•
BC 1230 XC			•			•	•	•	•	
BC 1230 S			•	•		•	•	•	•	•
BC 2405						•	•	•	•	•
BC 2412						•	•	•	•	•
BC 2420						•	•	•	•	•

\*Depending on whether the vehicle has a 12V or 24V electrical system.

# SYSTEM SCHEMATICS – CAR



1. Extension cable
2. Cab heater
3. Remote timer
4. Battery charger
5. Multiple socket

6. Relay for timer
7. Engine heater (with installation kit)
8. Inlet cable
9. Connecting cable