



WarmUp

Product Catalogue 2015



**THIS CATALOGUE
PRESENTS OUR
WIDE RANGE OF
PRODUCTS FOR:**



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Assistance

Welcome to our new catalogue for DEFA preheating systems and related products. It covers both new and existing products and contains photos, order numbers and descriptions of our different packages and products.

We recommend using our website to find the correct engine heater for a specific car. On **www.defa.com** you can also stay up-to-date regarding our products, news and campaigns.

You can also log into our portals there:

- Link installation portal *
- Security installation portal *
- Tracking installation portal *

If you buy your DEFA products directly from us you can also log into our order portal there.

For further information, read below.

* Need approval by DEFA

ORDERS

If you, as a car dealer, have an agreement with your car importer to order directly from DEFA, we advise you to order your goods through our online order portal.

We also accept orders by:

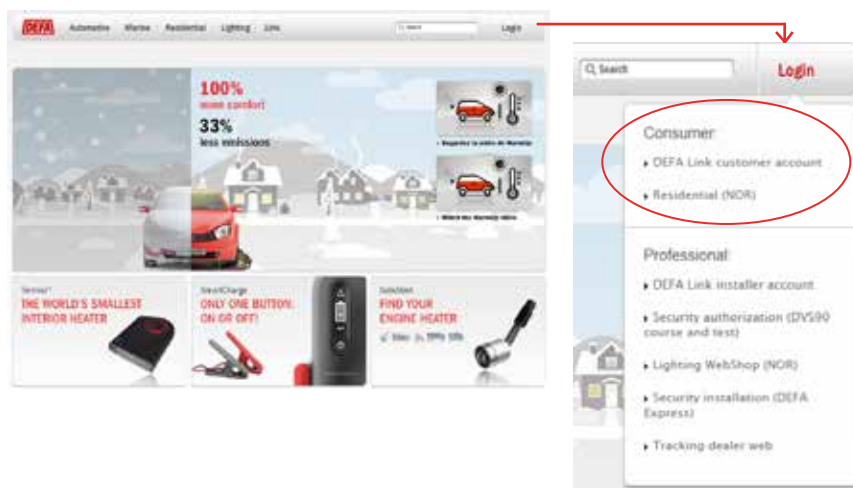
E-mail: orders@defa.com or

Tel: +47 32 06 77 00 - extension 1 for orders.

You can log into the order portal at

“LogIn” at www.defa.com.

Dealers who belong to a chain can order DEFA products through them.



Assistance

FIND THE RIGHT ENGINE HEATER

Our search engine for matching the correct engine heater to the specific car, is now even better, allowing you to search not only by make, model and engine code but also by registration number for the specific car. (Only available in Norway, Sweden and Finland)

A registration number search may not find a new model immediately after it is launched - this takes a little while.


If the registration number search does not find an engine heater for the car, try searching by make, model or engine code.

A product number in the installation kit column indicates that an installation kit is needed to install the engine heater in this car.

Clicking on the engine heater product number also brings up the installation instructions.



The installation instructions are constantly being updated. To make sure the latest version is being used, it should be printed out before installation starts.

You will also find the recommended time needed for installation in the column marked . This gives the time as A, B or C. Click on the "Key to symbols" link for further information.

A screenshot of a web form titled 'Find engine heater'. At the top, there is a red arrow pointing to a 'Choose vehicle' dropdown menu. Below this are three input fields labeled 'Engine heater:', 'Mounting kit:', and 'Engine code:'. A red button labeled 'Search engine heater' is positioned below the 'Engine code' field. At the bottom of the form, there is a link that says 'Symbol support'.

SUPPORT

If you have questions about how DEFA products work, should be installed or have other questions about our products, please contact our support service. Phone number is: + 47 32 06 77 00 – extension 2 for support – and we will be happy to help you.

We also provide support by email. Email us on: defa.automotive@defa.com.

MARKETING

If you have any questions about our marketing or sales material, please email us at marketing@defa.com.

DEFA strives to make it as easy as possible for you to sell and install our products. For this reason we put great emphasis on developing first class tools for this purpose. We update our webpages continuously, provide marketing material and product catalogues and make brochures and sales material available so that our dealers and distributors are in the best possible position to sell and install DEFA products for all our customers to enjoy.

We hope you like the 2015 WarmUp catalogue.

DEFA Link*

Control your car preheating system with your mobile and receive alerts if the car is moved or started. Link is a user-friendly system which will revolutionise the way you communicate with your DEFA preheating products.

Easily accessible on your mobile, WarmUp Link will give you full control of your car preheating system - wherever you are. Alerts can be sent if the battery voltage is low and/or when the 230V is not connected. Additionally, GPS Link will give access to the functionalities Finder and Security.

WARMUP

With WarmUp Link it is easy to control the WarmUp system using your mobile wherever you are. WarmUp Link makes it possible to pre-set times and days when you want your car to be at room temperature with ice-free windows.

You can monitor the outside and the inside temperature of the car, check the battery status and receive an alert if the voltage gets low. It is good to be in control of the battery on cold winter mornings to avoid being surprised by a car which doesn't start. All the DEFA WarmUp kits include a battery charger, so you don't need to worry about flat batteries any more.

WarmUp functionality:

- Set pick-up times
- Set pre-heating time (auto, 1, 2, 3 or 4 hours)
- Turn ON/OFF directly
- Monitor the battery status of the car
- Monitor both inside and outside temperature of the car
- Receive alerts if 230V is not connected
- Receive alerts on low battery voltage

GPS LINK

With GPS Link you always know where your car is. A GPS module installed in the car shows its location on a map on your smartphone, and sends an alert when the car is moved or the door is unlocked - even with the original key.

Security

The Security function will send a theft alert to your phone if the vehicle is started or moved.

You can also set a maximum speed limit, and receive warnings if the limit is exceeded.

Finder

- Vehicle tracking
- Locate and track the car on a map on your mobile
- Share the car's location with the police or others

The Link system operates over the mobile network (GPRS) and communicates with your smartphone via a server. For more information about which phones can be used, subscription terms and prices, see: www.defa.com

WarmUp Link is suitable for all vehicles, 12 or 24V. Vehicles already equipped with DEFA pre-heating systems can be upgraded with DEFA Link. *) Available in Norway, Sweden, Denmark and Finland.



Insert pick-up times for when you want a preheated car.



Receive theft alert if the car is started or moved.



Locate and follow the car's position on a map on your Smartphone

DEFA Bluetooth®

DEFA Bluetooth® controls the WarmUp system by use of Bluetooth® Smart technology on your smartphone. Bluetooth in the DEFA-App has a shorter range than Link, working in and around the car when Bluetooth is activated. You need to download the DEFA-App to get started, and your phone must support Bluetooth® Smart*. Bluetooth is free of charge, and Bluetooth Hub must be installed in your car.

WARMUP

With WarmUp Bluetooth® you can operate WarmUp using Bluetooth on your mobile when you are in range of the car. You can pre-define preheating times, or turn WarmUp ON/OFF directly.

You can monitor the temperature outside the car and check the battery status on your car. It is good to be in control of the battery on cold winter mornings to avoid being surprised by a car which doesn't start. All the DEFA WarmUp kits include a battery charger, so you don't need to worry about flat batteries any more. You even receive alerts if you start the engine when the power cable is connected.

WarmUp functionality::

- Set pick-up times
- Set pre-heating times
- Turn ON/OFF directly
- Monitor battery status
- Monitor outside temperature of the car
- Receive alerts if 230V is not connected
- Receive alerts if power cable is connected when car is started.

*Bluetooth® Smart is available in Bluetooth 4.0

for the following phones:

- iPhone 4s and newer
- Android 4.4 and newer**
- Windows Phone 8.1 and newer**

**differences might occur, use the DEFA-app on the relevant phone and verify Bluetooth Smart compability.



New! DEFA App for Windows

The DEFA App for Link and Bluetooth® control of WarmUp is available for Windows, iOS and Android phones. The DEFA App can be downloaded free of charge from the various App stores:

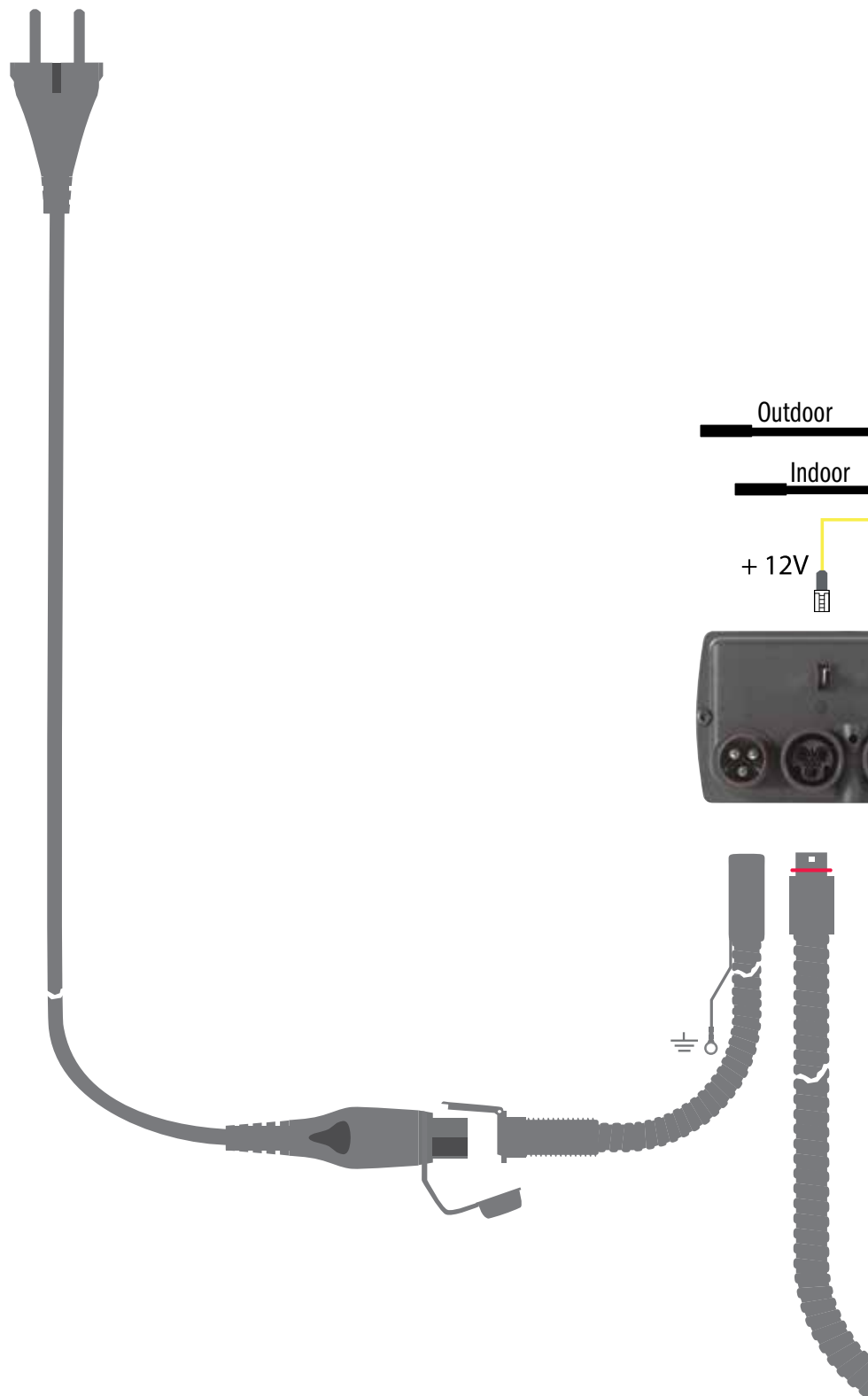


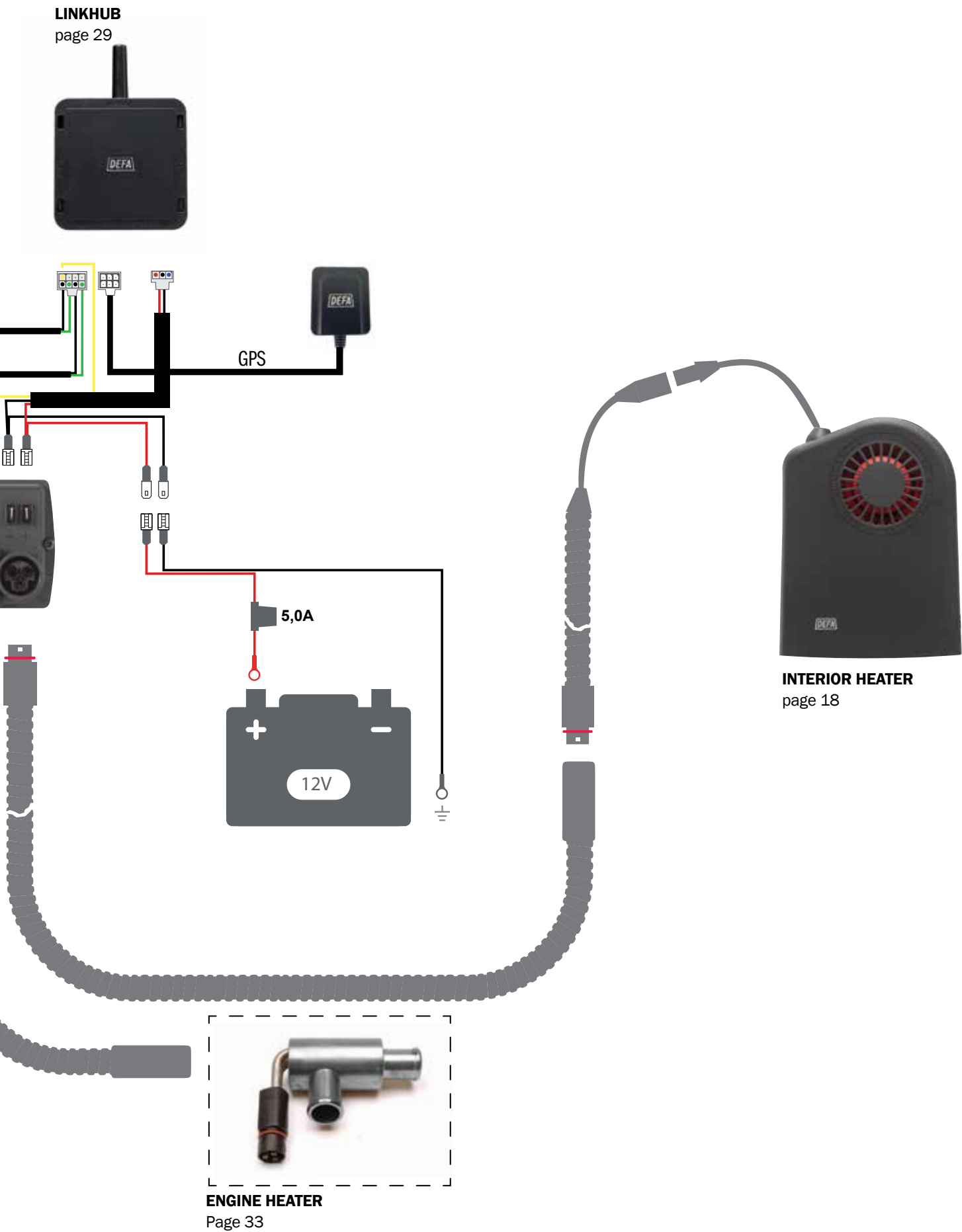
"The Bluetooth® word mark and logos are registered trademarks owned by Bluetooth SIG, Inc. and any use of such marks by DEFA is under license."

System overview

The circuit diagram shows temperature/time control of engine- and interior heater by using DEFA Link.

The battery charger will charge independent of the heating settings.





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WarmUp

WarmUp is the complete preheating kits from DEFA, that can be operated by a wide range of different control units, including the DEFA-App. The kits consist of a interior heater (with different effect), a battery charger, a control unit and all necessary cables. The only addition to be made is a car model specific engine heater.

With DEFA WarmUp installed, you always have a fully charged battery, a preheated engine that starts, and a preheated and comfortable cabin with windows free of ice. WarmUp also reduces emissions and fuel consumption, since pollution and consumption is at its very worst when starting a cold car. It does not matter if the temperature outside is -15 or +4 °C. The engine is cold anyway, and cold engines consume a lot more fuel to get started.

START THE CAR WITH A PREHEATED ENGINE

Additionally, the emissions are much higher during this cycle. The catalyst, which cleans the emissions from the engine, does not work properly before the temperature exceeds 600°C. Electrical car heating is the most environmentally friendly way to preheat your car. If you start driving with a preheated engine, both emissions and fuel consumption will be reduced the first 4-5 kilometers.

CONSIDER THE ENVIRONMENT

If all cars had engine heaters, the environment would benefit in several ways. Today the authorities throughout Europe are taking dramatic measures to restrict the use of cars. Introduction of car free zones and times, increased car taxes and environmental taxes during rush-hour are a result of the environmental threat. At the same time the society depends on efficient solutions for collective transportation.

Every car owner is able to give the environment a helping hand by starting their car every day with a preheated engine.

One single car owner will not be able to make such a big difference one winter morning – but the entire European car fleet will absolutely make a big difference within a year.

TERMINA AND TERMINI™

With DEFA interior heaters you do not have to get into a cold and uncomfortable car. DEFA's interior heaters preheat the compartment in a fast and effective way. You can forget about ice scraping and avoid unpleasant dew which blocks the view. DEFA's interior heaters are available in two series, Termina and Termini™.

ADVANTAGES WITH ELECTRICAL CAR HEATING

Electrical car heating has only environmental advantages. In contrast to solutions based on fuel, DEFA car heating ensures less emissions and fuel consumption. A preheated engine during the cold winter season will also ensure less engine wear and tear.



WarmUp GPS Link

WarmUp GPS Link is the complete preheating system which can be operated by your smartphone using Link in the DEFA-App. In addition to controlling the WarmUp system, the kit also includes the GPS functionalities, Security and Finder.

Take full control of your car. Anywhere. Any time. WarmUp GPS Link gives you full access to all the DEFA Link functionalities. Easily accessible on your mobile giving you full control of your car preheating system. Furthermore, you will receive an alert when the car is started or moved and will be able to find the car's location on a map. You can also set up "Speed Alert" to warn you if a specified speed is exceeded.

- WarmUp GPS Link is available in two different versions depending on the required power of the Termini™ interior heater.
- WarmUp GPS Link includes everything besides the engine heater, which must be ordered separately.



WarmUp 1400 GPS Link - 471272

Termini™ II 1400	430055
MultiCharger 1203	450009
MiniPlug inlet cable - 1,5m	460915
PlugIn extension cable - 1,0m	460803
PlugIn extension cable - 0,5m	460802
Termini™ extension cable - 1,75m	460860
MiniPlug Xtreme connection cable - 2,5m	460955
MiniPlug inlet cable - fitting equipment	418801
LinkHub	440030
LinkHub mounting kit	440036
GPS antenna	440037
Assembly equipment	

WarmUp 1900 GPS Link - 471273

Termini™ II 1900	430065
MultiCharger 1203	450009
MiniPlug inlet cable - 1,5m	460915
PlugIn extension cable - 1,0m	460803
PlugIn extension cable - 0,5m	460802
Termini™ extension cable - 1,75m	460860
MiniPlug Xtreme connection cable - 2,5m	460955
MiniPlug inlet cable - fitting equipment	418801
LinkHub	440030
LinkHub mounting kit	440036
GPS antenna	440037
Assembly equipment	

**Available in Norway, Sweden, Denmark and Finland.*

WarmUp Bluetooth®

WarmUp Bluetooth® is the complete preheating system which can be operated by the DEFA-App using Bluetooth Smart technology on newer versions of smartphones. Bluetooth can be used in and near the car.

Take full control of the WarmUp system when you are in and around your car.

- WarmUp Bluetooth® is available in two different versions depending on the required power of the Termini™ interior heater.
- WarmUp Bluetooth® includes everything besides the engine heater, which must be ordered separately.

	WarmUp 1400 Bluetooth - 471280 NEW!	
	Termini™ II 1400	430055
	MultiCharger 1203	450009
	MiniPlug inlet cable - 1,5m	460915
	PlugIn extension cable - 1,0m	460803
	PlugIn extension cable - 0,5m	460802
	Termini™ extension cable - 1,75 m	460860
	MiniPlug Xtreme connection cable - 2,5m	460955
	MiniPlug inlet cable - fitting equipment	418801
	Bluetooth Hub	440051
	WarmUp 1900 Bluetooth - 471281 NEW!	
	Termini™ II 1900	430065
	MultiCharger 1203	450009
	MiniPlug inlet cable - 1,5m	460915
	PlugIn extension cable - 1,0m	460803
	PlugIn extension cable - 0,5m	460802
	Termini™ extension cable - 1,75 m	460860
	MiniPlug Xtreme connection cable - 2,5m	460955
	MiniPlug inlet cable - fitting equipment	418801
	Bluetooth Hub	440051
	Assembly equipment	

WarmUp SmartStart™

WarmUp SmartStart™ is the complete preheating system operated with a wireless two-way control unit. With DEFA WarmUp SmartStart installed you will always have a warm and comfortable car ready to start with a fully charged battery.

DEFA WarmUp reduces fuel expenses and harmful emissions.

- WarmUp SmartStart™ is a two-way wireless Control Unit to control your car heating system.
- WarmUp SmartStart™ is delivered in two versions, the effect on the DEFA Termini™ cabin heater differs. Engine heater is ordered separately



WarmUp 1400 SmartStart™ - 471268

Termini™ 1400	430055
MultiCharger 1203	450009
MiniPlug Inlet Cable - 1,5m	460915
PlugIn Extension Cable- 0,5m	460802
PlugIn Extension Cable - 1,0m	460803
SmartStart™ wireless Control Unit	440020
Termini™ Extension Cable - 1,75m	460860
MiniPlug Inlet Cable - fitting equipment	418801
MiniPlug Xtreme Connection Cable - 2,5m	460955

Assembly Equipment

WarmUp 1900 SmartStart™ - 471271

Termini™ 1900	430065
MultiCharger 1203	450009
MiniPlug Inlet Cable- 1,5m	460915
PlugIn Extension Cable- 0,5m	460802
PlugIn Extension Cable - 1,0m	460803
SmartStart™ wireless Control Unit	440020
Termini™ Extension Cable - 1,75m	460860
MiniPlug Inlet Cable- fitting equipment	418801
MiniPlug Xtreme Connection Cable- 2,5m	460955

Assembly Equipment

WarmUp Futura

WarmUp Futura is the complete preheating system operated by an in-car timer. With DEFA WarmUp Futura installed you will always have a warm and comfortable car ready to start with a fully charged battery. DEFA WarmUp reduces fuel expenses and harmful emissions.

- WarmUp Futura includes a control unit that has a simple, easy-to-read display for permanent installation inside the car.
- WarmUp Futura is available in two different versions depending on the required power of the DEFA Termini™ interior heater and includes everything needed for a WarmUp Futura car preheating system. Engine heater must be ordered separately.



WarmUp 1400 Futura - 471267

Termini™ 1400	430055
MultiCharger 1203	450009
MiniPlug Inlet Cable - 1,5m	460915
PlugIn Extension Cable - 0,5m	460802
PlugIn Extension Cable - 1,0m	460803
Futura Control Unit	440010
Termini™ Extension Cable- 1,75m	460860
MiniPlug Inlet Cable - fitting equipment	418801
MiniPlug Xtreme Connection Cable- 2,5m	460955
Assembly Equipment	

WarmUp 1900 Futura - 471270

Termini™ 1900	430065
MultiCharger 1203	450009
MiniPlug Inlet Cable - 1,5m	460915
PlugIn Extension Cable - 0,5m	460802
PlugIn Extension Cable- 1,0m	460803
Futura Control Unit	440010
Termini™ Extension Cable- 1,75m	460860
MiniPlug Inlet Cable - fitting equipment	418801
MiniPlug Xtreme Connection Cable - 2,5m	460955
Assembly Equipment	

ComfortKit Plus

An easy way to a preheated engine and compartment. All you need in addition to a DEFA ComfortKit is an engine heater element. The sets are different due to different output on Termini™ interior heater 1400 or 1900W. The difference between ComfortKit and ComfortKit Plus is that the ComfortKit Plus contains 4A MultiCharger and necessary connection equipment.

DEFA ComfortKit does NOT include Futura/SmartStart™/Bluetooth/Link or engine heater.



ComfortKit 1400 Plus - 470068

Termini™ II 1400	430055
MiniPlug inlet cable - 1,5m	460915
PlugIn extension cable - 1,0m	460803
PlugIn Y-connector	460853
PlugIn extension cable - 0,5m	460802
Termini™ extension cable - 1,75m	460860
MiniPlug inlet cable - fitting equipment	418801
MiniPlug Xtreme connection cable - 2,5m	460955
MultiCharger 1204	450020

Assembly equipment

ComfortKit 1900 Plus - 470069

Termini™ II 1900	430065
MiniPlug inlet cable - 1,5m	460915
PlugIn extension cable - 1,0m	460803
PlugIn Y-connector	460853
PlugIn extension cable - 0,5m	460802
Termini™ extension cable - 1,75m	460860
MiniPlug inlet cable - fitting equipment	418801
MiniPlug Xtreme connection cable - 2,5m	460955
MultiCharger 1204	450020

Assembly equipment

ComfortKit

An easy way to a preheated engine and compartment. All you need in addition to a DEFA ComfortKit is an engine heater element. The sets are different because of different output on Termini™ interior heater 1400, 1900 eller 2100W.

DEFA ComfortKit does NOT include a battery charger, Futura/SmartStart™/Bluetooth/Link or engine heater.



ComfortKit 1400 - 470066

Termini™ II 1400	430055
MiniPlug inlet cable - 1,5m	460915
PlugIn extension cable - 1,0m	460803
PlugIn Y-connector	460853
Termini™ extension cable - 1,75m	460860
MiniPlug inlet cable - fitting equipment	418801
MiniPlug Xtreme connection cable - 2,5m	460955

Assembly equipment

ComfortKit 1900 - 470067

Termini™ II 1900	430065
MiniPlug inlet cable - 1,5m	460915
PlugIn extension cable - 1,0m	460803
PlugIn Y-connector	460853
Termini™ extension cable - 1,75m	460860
MiniPlug inlet cable - fitting equipment	418801
MiniPlug Xtreme connection cable - 2,5m	460955

Assembly equipment

ComfortKit 2100 - 470060

Termini™ 2100	430060
MiniPlug inlet cable - 1,5m	460915
PlugIn extension cable - 1,0m	460803
PlugIn Y-connector	460853
Termini™ extension cable - 1,75m	460860
MiniPlug inlet cable - fitting equipment	418801
MiniPlug Xtreme connection cable - 2,5m	460955

Assembly equipment

PlugIn branch sets

DEFA branch set consists of DEFA PlugIn extension cables in different lengths and DEFA PlugIn Y-connector for connecting interior- and engine heaters.

The sets are also suitable for those who have engine heaters and wish to upgrade to a car heating system combined with an interior heater. If you wish to connect DEFA Termini™ together with Termini™ Mini Contact, you can use branch set 460750 or 460751. If the interior heater has a Schuko plug, use 760/762/766/768/769. The differences are the lengths of the cables. Whatever set that fits depends on the vehicle model. See Code Type List column 8.



Branch set - 460750

PlugIn extension cable - 1,0 m	460803
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PlugIn Y-connector	460853
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Termini™ extension cable - 1,75 m	460860
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Branch set - 460751

PlugIn extension cable - 1,5 m	460843
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PlugIn Y-connector	460853
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Termini™ extension cable - 1,75 m	460860
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Branch set - 460760

PlugIn extension cable - 0,5 m	460802
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PlugIn extension cable - 1,0 m	460803
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PlugIn Y-connector	460853
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PlugIn interior heater socket	460829
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Branch set - 460762

PlugIn extension cable x 2 - 1,0 m	460803
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PlugIn Y-connector	460853
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PlugIn interior heater socket	460829
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Branch set - 460765

PlugIn extension cable - 1,0m	460803
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PlugIn extension cable - 2,0m	460804
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PlugIn Y-connector	460853
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PlugIn interior heater socket	460829
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Branch set - 460766

PlugIn extension cable - 1,0m	460803
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PlugIn extension cable - 1,5m	460843
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PlugIn Y-connector	460853
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PlugIn interior heater socket	460829
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Branch set - 460768

PlugIn extension cable - 0,5m	460802
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PlugIn extension cable - 1,5m	460843
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PlugIn Y-connector	460853
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PlugIn interior heater socket	460829
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Branch set - 460769

PlugIn extension cable - 0,5m	460802
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PlugIn extension cable - 2,0m	460804
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PlugIn Y-connector	460853
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PlugIn interior heater socket	460829
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Termini™

The interior heaters Termini™ II ensures a preheated compartment and ice free windows. The PTC (PTC = Positive Temperature Coefficient) heating element self adjusts the output power according to the inside temperature of the car.

A 20°C temperature increase will result in a 10% power reduction and as the interior temperature increases the power will gradually be reduced accordingly. The interior heater is equipped with an automatic over-temperature protection. All interior heaters are approved by: Safety EN 60335-1 and EN 50408. Termini has IP rate 20.



Termini™ II 1200 **NEW!**

Item No. Schuko	430058
Collection box - pcs	12
Output -25°C - W	0/1200
Height/Width/Depth - mm	32/138/182
Weight - gr	595
Bracket weight - gr	20



Termini™ II 1400

Item No. Mini contact	430055
Collection box - pcs	12
Output -25°C - W	0/1400
Height/Width/Depth - mm	32/138/182
Weight - gr	595
Bracket weight - gr	20



Termini™ II 1700 **NEW!**

Item No. Schuko	430068
Collection box - pcs	10
Output -25°C - W	0/830/1700
Height/Width/Depth - mm	38/138/183
Weight - gr	665
Bracket weight - gr	20



Termini™ II 1900

Item No. Mini contact	430065
Collection box - pcs	10
Output -25°C - W	0/1150/1900
Height/Width/Depth - mm	38/138/183
Weight - gr	665
Bracket weight - gr	20

Termini™

The interior heaters Termini™ II ensures a preheated compartment and ice free windows. The PTC (PTC = Positive Temperature Coefficient) heating element self adjusts the output power according to the inside temperature of the car.

A 20°C temperature increase will result in a 10% power reduction and as the interior temperature increases the power will gradually be reduced accordingly. The interior heater is equipped with an automatic over-temperature protection. All interior heaters are approved by: Safety EN 60335-1 and EN 50408.



Termini™ 2100

Item No. Mini contact	430060
Item No. Schuko	430061
Collection box - pcs	10
Output -25°C - W	0/1350/2100
Height/Width/Depth - mm	47/141/183
Weight - gr	745
Bracket weight - gr	20

Termina

DEFA interior heaters use a PTC (PTC = Positive Temperature Coefficient) heating element which self adjusts the output power according to the inside temperature of the car.

A 20°C temperature increase will result in a 10% power reduction and as the interior temperature increases the power will gradually be reduced accordingly. The interior heater is equipped with an automatic over-temperature protection. All interior heaters are approved by; Safety EN 60335-1 and EN 50408.



Termina 1200

Item No. Schuko	430012
Collection box - pcs	8
Output -250C - W	1200
Height/Width/Depth - mm	75/146/165
Weight - gr	890
Bracket weight - gr	20



Termina 1400 S

Item No. Schuko	430015
Collection box - pcs	8
Output -25°C - W	0/800/1400
Height/Width/Depth - mm	75/146/165
Weight - gr	890
Bracket weight - gr	20

ChargerKit 1204

DEFA MultiCharger 1204 is compact, and still a very efficient charger. Easily connect DEFA ChargerKit by connecting the DEFA MiniPlug inlet discreetly in the front part of the car, with the connection cable to the mains.

Because of the battery's advanced and electronic controlled charging course, the battery is charged when other chargers give up. DEFA MultiCharger 1204 makes sure your battery stays fully charged and ready for the next start.



ChargerKit 1204

Item No.	450030
Collection box - pcs	12
MultiCharger 1204	450020
Cable set 12V	418902
MiniPlug inlet cable 1,5 m	460915
MiniPlug Xtreme connection cable 2,5 m	460955
MiniPlug inlet cable - fitting equipment	418801

QUALITIES

- High efficient switch mode operation advanced charging profiles prevent from damaging the battery.
- The charger can therefore be continuously connected
- Temperature compensated charging voltage ensures that the battery is fully charged whatever battery condition. No risk for excess charging.
- Light indication of charging mode
- The chargers are short circuit and reverse polarity protected
- Does not harm advanced electronics
- Small dimensions
- Protects the battery from breaking down (sulphating) and extends the batteries lifetime.

DEFA's chargers are all approved by; Safety EN 50081-1, EN 50082-1, EN 60335-1, EN 60 335-2-29.

MultiCharger 1204

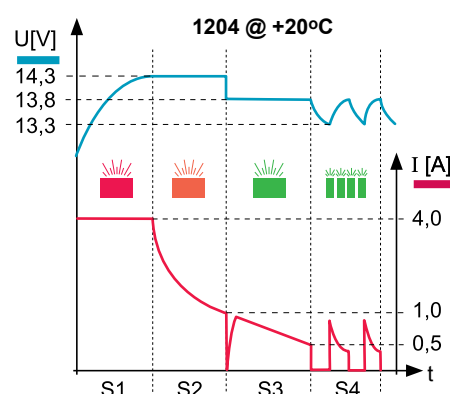
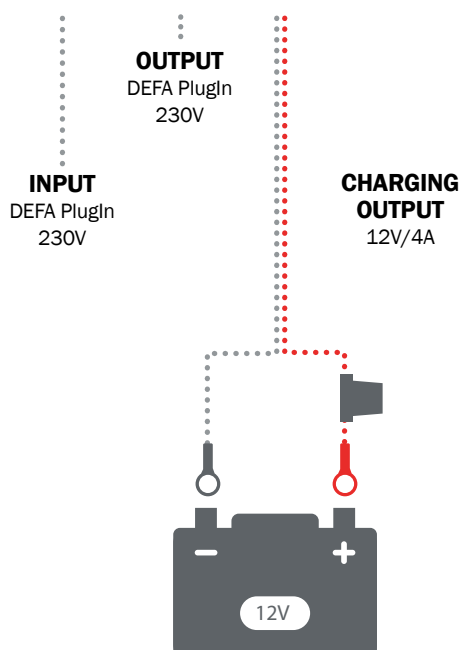
DEFA MultiCharger 1204 is a maintenance charger which is adjusted to modern battery technology, and it extends the lifespan of the battery.

If you are looking for a reliable start of your car and a fully charged battery during the winter season, or maintenance charging of your battery over a longer period of time, then DEFA MultiCharger 1204 is the solution for you.



MultiCharger 1204

Item No.	450020
Collection box - pcs	8
Rated output - W	65
Voltage - V / Charging current - A	12/4
Charging voltage boost mode - V	> 14,3
Float voltage - VDC	13,3 - 13,8
Height/Width/Depth - mm	103/84/42
Weight - gr	260
Fuse - A	7,5
IP rate	65



- S1: Boost Mode - Charges with 4A until voltage reaches 14,3V or for max. 24 hours. LED shows red.
- S2: Top charging - At 14,3V until charging current is below 1,0A or for max. 10 hours. LED shows orange.
- S3: Maintenance charging - At constant voltage 13,8V until charging current is lower than 0,5A or for max. 48 hours. LED shows green.
- S4: Puls maintenance charging - The voltage pulsates between 13,3V and 13,8V with low charging current. LED shows green.

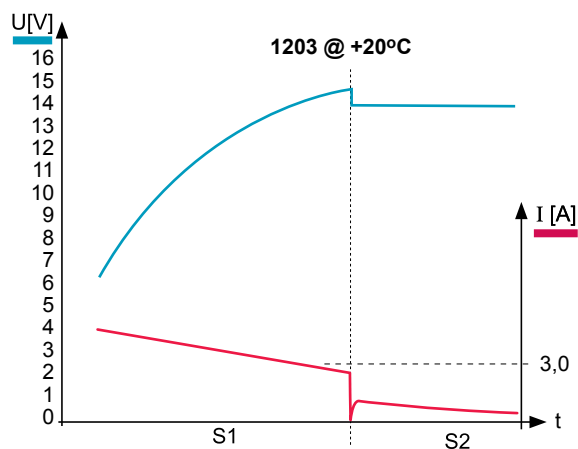
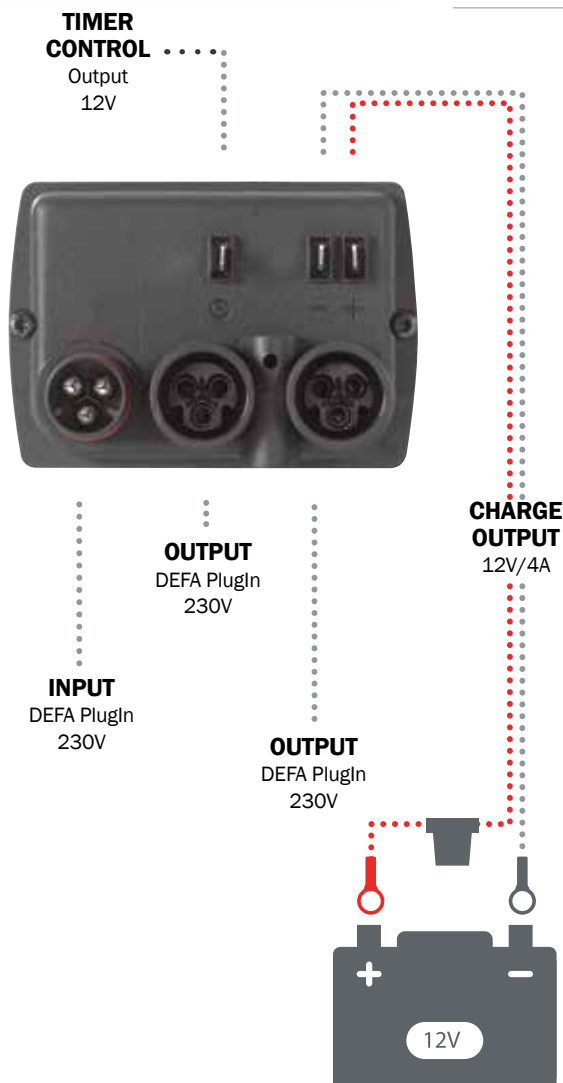
MultiCharger 1203

DEFA MultiCharger 1203 is a maintenance charger which is adjusted to modern battery technology, and it extends the lifespan of the battery. This charger has internal relay function for control of the engine- and interior heater and is primary meant for private cars and light trucks.



MultiCharger 1203 with relay

Item No.	450009
Collection box - pcs.	8
Rated output - W	45
Voltage - V / Charging current - A	12/3
Charging voltage boost mode - V	> 14,7
Float voltage - VDC	13,7
Height/Width/Depth - mm	80/70/45
Weight - gr	252
Fuse - A	5
IP rate	44



S1: Charging - Charges with 3A until voltage reaches 14,7V.
S2: Float voltage 13,7V.

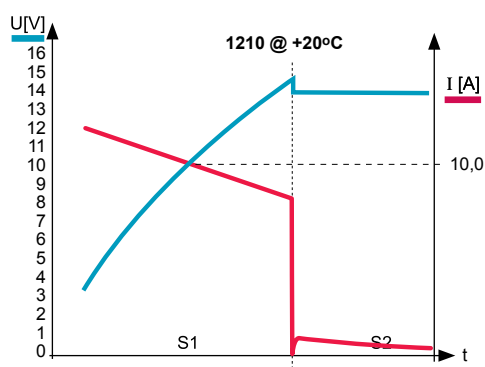
MultiCharger 1210

MultiCharger 1210 is a 12V/10A battery charger which can be used for transportation vehicles, caravans, tractors, construction machines and generators.



MultiCharger 1210

Item No.	450011
Collection box - pcs	8
Rated output - W	125
Voltage - V / Charging current - A	12/10
Charging voltage boost mode - V	> 14,7
Float voltage - VDC	13,7
Height/Width/Depth - mm	205/120/65
Weight - gr	505
Fuse - A	15
IP rate	44

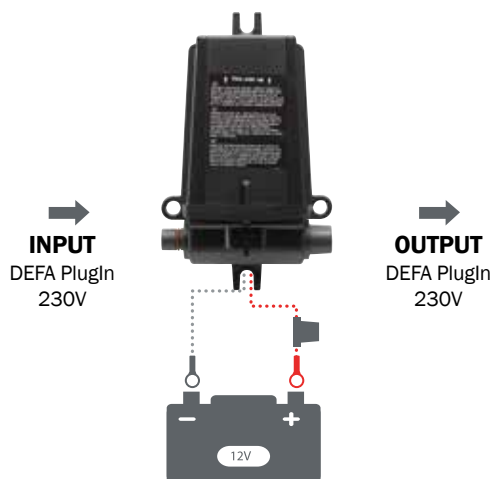


The charging progress shows Voltage (U) over time (t) and current (I) over time (t). The LED indicator, which is placed at the top of the front of the charger, indicates the status of the different charging steps (S1,S2...).

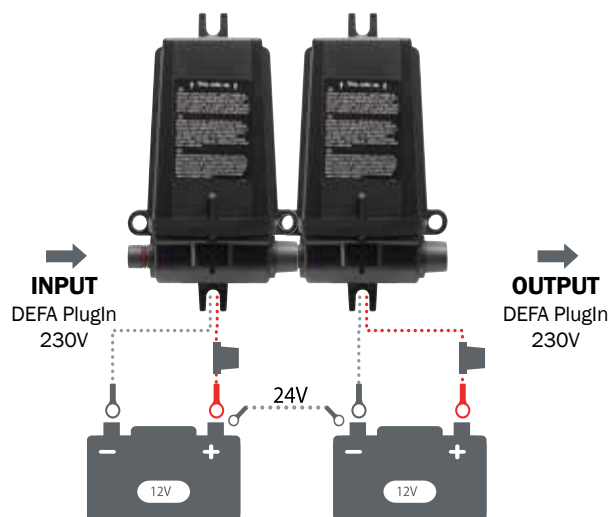
The LED indicates:

S1 - Red: Main charging
S2 - Green: Float voltage

12V SYSTEM



24V SYSTEM



**Winner of the Norwegian Design Council's
'Award for Design Excellence 2013'
and the 'Design for All Prize'!**



AWARD FOR DESIGN EXCELLENCE
NORWEGIAN DESIGN COUNCIL



EASY TO USE

- One-button solution.
- Backlit user friendly interface and display.
- Adapts automatically to the size (Ah) of your battery.
- A meter to easily read the actual power level of your battery.
- Integrated cable storage solution.
- It will never over-charge your battery. Ever.
- Temperature compensated charging cycle.



SmartCharge 4A

SmartCharge 4A is an intelligent charger which makes it easy and safe to charge your batteries. All you have to do is plug the charger to the mains, attach the clips to the battery and push the ON-button. SmartCharge recognizes the type of battery you connect it to, and will charge it accordingly. When you are done, wind it up, click the parts in place and keep it handy.



SmartCharge 4A

Item No.	701515
Height/Width/Depth - mm	210/90/54
Weight - gr	620
IP rate	65

SmartCharge 8A

SmartCharge 8A a larger and lot more powerful charger which is suitable for a more effective charging of larger batteries in for instance a car and a boat.



SmartCharge 8A

Item No.	701785
Height/Width/Depth - mm	235/90/54
Weight - gr	750
IP rate	65

CHARGING BATTERIES WITH LOW VOLTAGE

If your battery is running low then what you need is the SmartCharge 8A! Will charge 12V batteries with voltage as low as 2V.

CHARGES BOTH LARGE AND SMALL BATTERIES

SmartCharge 8A is suitable for batteries from 8 to 225Ah.

POWERSUPPLY

Every so often you need access to continuous current, for instance when changing the car battery. PowerSupply is what you need when you do not want to disconnect power and reset all settings in the car, or if you only want to use a 12V unit such as a cooling box.

SmartCharge 8A has this function which you can easily activate by holding down the ON button for 5 seconds. The charger will automatically produce 13,6V and maximum 8 ampere.



Display combinations:

Item No:

8 stk SmartCharge 4A	703627
8 stk SmartCharge 8A	705187
4x4A and 4x8A	705188

SmartCharge Accessories

There exists a wide range of accessories for DEFA SmartCharge. These products reflect your everyday need for charging - that be for your boat, car or other battery-operated assets. The selection consists of cables, connectors, status displays and outlets which can be adapted to any need. For more information about the different accessories, visit www.defa.com.

CHARGE CONNECTOR AND POWER OUTLET - BOTH COMBINED AT THE SAME CONNECTOR POINT

With an extra DEFA power outlet installed in your vehicle, you can easily charge your mobile phone, connect your cooling box or other equipment which requires power. When the battery needs to be charged you connect SmartCharge directly through the same power outlet and charge the battery when docking and you have access to 230V - it could not be easier!



SmartCharge accessories



12V Battery status indicator

Item No.	701758
Length - mm	48
Cross section - mm ²	28
IP rate	65



12V Charger cable, compact

Item No.	701762
Cable length - m	1,3
Cross section - mm ²	1,3
IP rate	65



12V Charger cable, compact, with clips

Item No.	701764
Cable length - m	1,3
Cross section - mm ²	1,3
IP rate	65



12V Charger connector

Item No.	701759
Cable length - m	2,0
Cross section - mm ²	2,5
IP rate Flush-/Bracket mounted	65/20



12V Charger cable

Item No.	701760
Cable length - mm	0,75
Cross section - mm ²	1,3
IP rate	65



12V Charger cable kit

Item No.	701761
Consist of 701760 and 701759	

Link*

Surveillance and control of DEFA WarmUp in your car. Wherever. Whenever. DEFA Link is a user-friendly system which will revolutionise the way you communicate with your car preheating system.

Easily accessible on your Smartphone you will have full control of your car. Wherever you are. If anything should happen to your car while you are away, you will automatically be notified via the system.

*Available in Norway, Sweden, Finland and Denmark.



LinkHub

Item No.	440030
Height/Width/Depth - mm	78 (114)/78/23
Voltage - V	8 - 32V
Current draw, average - mA	19 *)
Operating temperature - °C	-40 - +85

*) Without GPS module.



Mounting Kit WarmUp Link

Item No.	440036
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GPS Link

Item No.	440037
Height/Width/Depth - mm	44/38/19
Average power consumption - mA	5 *)
Protection class - IP	67

*) with the ignition off.



Link GPS Upgrade - 440038

LinkHub	440030
WarmUp Link mounting kit	440036
GPS Link	440037
PlugIn Relay contact	460854
PlugIn extension cable - 0,5m	460802

Bluetooth®

The control system DEFA Bluetooth®, which is included in the WarmUp Bluetooth sets, operates the preheating system by Bluetooth Smart technology from newer smartphones (see page 7 for details). The system can be used inside and around the car when Bluetooth is activated.

The Bluetooth Hub control unit can be installed in the engine compartment, without any cables into the interior compartment.



THE FOLLOWING PROGRAMS CAN BE USED

- Automatic start controlled by the outside temperature
- 1 hour connection time
- 2 hours connection time
- 3 hours connection time
- 4 hours connection time
- DEFA WarmUp ON
- DEFA WarmUp OFF



Bluetooth® Hub Control Unit

Item No.	440051
Operating temperature	-40 - +80 °C
Voltage - V	8 - 32VDC
Average current consumption - mA	2mA
Height/Width/Depth - mm	112/46/24
IP rate	IP6k9k
Frequency/Radio protocol	2,4GHz /Bluetooth Smart
Range	In and around the car
Weight, Bluetooth® Hub	35g
Weight, cables	150g



Power cable with fuse

Item No.	418105
This power cable with fuse must be ordered separately in case of:	
•	Upgrade of existing pre-heating systems without control unit
•	Installation of Bluetooth® Hub and relay

SmartStart™

The control unit DEFA SmartStart™ 12/24V, which is included in the WarmUp SmartStart™ sets, is a two-way wireless control unit, that makes sure that the car is preheated when you need it.


The unit has two programmable departure times independent of each other. These periods of time repeat themselves every 24 hours, which is very practical for car owners who start their car at the same time every day. The connection time, which is the time the heating system is connected before the car is used, can easily be chosen. The connection time can also be automatically controlled by the system via a temperature sensor recording the outdoor temperature.

THE FOLLOWING PROGRAMS CAN BE USED:

- Automatic start controlled by the outside temperature
- 1 hour connection time
- 2 hours connection time
- 3 hours connection time
- 4 hours connection time (only DEFA SmartStart™)
- Control of fuel heat (analogue control signal)
- DEFA WarmUp ON
- DEFA WarmUp OFF




SmartStart™

Item No. 12V with car unit	440020
Item No. 24V with car unit	440021
Operating temperature remote control (RC) - °C	-10 - +60
Operating temperature car unit (VU) - °C	-40 - +80
Battery RC	6V Lithium 2CR-1/3N
Range - m 	opptil 400
Frequency - MHz	868, 370
Current consumption RC	<5µA
Height/Width/Depth RC - mm	78/34/16
Height/Width/Depth VU - mm	69/54/23
Weight RC - gr	29
Test and approval	EN 301 489-1:2005-04, ETSI EN 300 220-1:2000-09 EN 301489-1



SmartStart™ spare parts

SmartStart™ remote control RC	418100
SmartStart™ VU 12V	418101
SmartStart™ VU 24V	418102
Lithium battery 	418103
Cable harness	418072

Futura

The control unit DEFA Futura, which is part of the WarmUp Futura sets, makes sure the car is preheated when you need it. DEFA Futura is a control unit which is installed inside the compartment.

The unit has two programmable departure times independent of each other. These periods of time repeat themselves every 24 hours, which is very practical for car owners who start their car at the same time every day. The connection time, which is the time the heating system is connected before the car is used, can easily be chosen. The connection time can also be automatically controlled by the system via a temperature sensor recording the outdoor temperature.

THE FOLLOWING PROGRAMS CAN BE USED:

- Automatic start controlled by the outside temperature
- 1 hour connection time
- 2 hours connection time
- 3 hours connection time
- DEFA WarmUp ON
- DEFA WarmUp OFF



Futura control unit

Item No. without relay box	440010
Best.nr. with relay box	440011
Voltage - V	12
Current consumption - mA	3,5
Height/Width/Depth - mm	37/47/13
Weight - gr	19
Test and approval	EN 50081-1, EN 50082-1

Futura spare parts

Wire harness WarmUp with temperature sensor 12V	418007
Wire harness without temperature sensor 12V	418059
Temperature sensor	418071
Control unit	418067

Engine heaters

With an engine heater from DEFA you get an easy-to-start engine, less engine wear, reduced fuel consumption and a more environmentally friendly start of the day.

NEW! DEFA introduces PTC hose heater.

EXTREMELY FLEXIBLE
Configurable for different hose dimensions and installation angles

REDUCED PRESSURE DROP
Design of the aluminum housing

THE LEAKAGE RISK BETWEEN ELEMENT AND COOLANT IS ELIMINATED
The heating element is physically separated from the coolant flow (no gasket)



REDUCED POWER CONSUMPTION
Self-regulating PTC element

«BURN-OFF» RISK FOR THE ELEMENT IS ELIMINATED
PTC element is a ceramic element with no heating wire

LIMITS «OVER TEMPERATURE/PRESSURE»
Build-in thermostat which cut the power

EFFECTIVE WAY OF HEATING THE COOLANT
Heating element placed in the middle of the aluminum housing

DEFA SafeStart

A preheated engine starts easier, is exposed to less wear, gives reduced fuel consumption and up to 71% reduced harmful emissions of exhaust during the first few 20 minutes you drive on cold days (more information on www.defa.com). An electric engine heater is the most environmentally friendly way to preheat the engine. When you start driving with a preheated engine, both emissions and consumption will be reduced the first 4-5 kilometers. If all cars had electric engine heaters, it would save the environment for large amounts of harmful emissions. The purpose with an engine heater is to create and transfer heat to the engine on an effective and best possible way. This can be done directly through heating the antifreeze fluid or oil, or indirectly through heating the engine block or oil pan utilizing a contact heater.

With the DEFA engine heater connected you will raise the temperature of the engine up to 30-40 °C above the outside temperature, depending on where the heater is placed, type of heater and antifreeze volume. The ideal connection time depends on the outside temperature. After being connected for 3 hours in -15 °C a thermal balance is achieved, which means that supplied energy after this only contributes to maintain the temperature. The rest dissolves into the surroundings. The engine heater can be connected for longer periods without either engine or heater being damaged, and will only result in unnecessary power consumption. This is where it is wise to use the SmartStart remote control, Futura control unit or the completely new DEFA Link in order to reduce electricity expenses.

DEFA offers several engine heater solutions either the car is air- or water-cooled, and for large or small antifreeze volume. We also have smart solutions for tractors, trucks and other engine vehicles and stationary engines.

DEFA strives to find the optimal solution for each and every engine. Regarding engine types that do not have available frost plugs or caps, there are DEFA engine heaters with special flanges, engine heaters for hose mounting or contact heaters. The main goal of all DEFA engine heaters is to preheat the engine optimal, regardless of fitting principals.

NOTICE! IT IS IMPORTANT THAT ONLY RECOMMENDED ENGINE HEATER IS USED ON THE ACTUAL CAR MODEL. INSTALLATION OF ENGINE HEATER, WHICH IS NOT RECOMMENDED BY DEFA OR PLACING WHICH IS NOT ACCORDING TO INSTALLATION GUIDE, CAN RESULT IN THE ENGINE HEATER NOT FUNCTIONING AND THE ELECTRONICS OF THE ENGINE BEING AFFECTED.

In order to find the correct engine heater for the correct car model/engine, go to www.defa.com and 'Find your heater'. When correct car model and engine type has been chosen it will be possible to download the last version of the installation guide.

For more information regarding engine heaters and installation, look up 'Technical Handbook' on www.defa.com under 'Support'.



Connection cables

DEFA Connection cable is adjusted to DEFA MiniPlug and gives a reliable and good connection from electricity outlets to the car. The MiniPlug Xtreme is more durable and is suitable for cold weather and rough treatment. Xtreme has a black cap to distinguish from the MiniPlug.



MiniPlug Xtreme Connection cable 1,5mm² **NEW!**

Item No. - 2,5m	460955
Item No. - 5,0m	460957
Number of pcs in collection box	460955: 22 460957: 12
Voltage - VAC	230
Current, max. - A	16
Weight - gr	460955/309 - 460957/535



MiniPlug Connection cable 1,5mm²

Item No. - 2,5m	460920
Item No. - 2,5m with angle contact	460933
Item No. - 3,5m	460938
Item No. - 3,5m with angle contact	460942
Item No. - 5,0m	460921
Item No. - 10,0m	460924
Item No. - 15,0m	460936
Number of pcs in collection box	920/22 - 921/12 - 924 and 936 indiv.
Voltage - VAC	230
Current, max. - A	16
Weight - gr	920/420 - 921/695 - 924/1180 - 936/1700



MiniPlug Connection cable 2,5mm²

Item No. - 2,5m	460960
Item No. - 5,0m	460961
Item No. - 10,0m	460962
Number of pieces in collection box	960/22 - 961/12 - 962/1
Voltage - VAC	230
Current, max. - A	16
Weight - gr	530/915/1520 (2,5/5,0/10,0m)

DEFA Connection cable 2,5 mm² is used for vehicles with special requirements for connection cables, for instance ambulances and fire engines with special equipment. Even if the cable is available with a 2,5mm² core cross-section, the maximum power consumption is 16A.

Connection cables and sets

DEFA MiniPlug Inlet cable is adjusted to all new cars. It is as functional and easy to install flush mounted as with bracket. During the development of DEFA MiniPlug we have emphasized on correct design, safety, optimal installation and user friendliness.



Connection set 460785

MiniPlug Inlet cable - 1,5 m	460915
MiniPlug Xtreme Connection cable - 2,5 m	460955
MiniPlug Inlet cable - fitting equipment	418801

Connection set 460787

MiniPlug Inlet cable - 1,5 m	460915
MiniPlug Xtreme Connection cable - 5,0 m	460957
MiniPlug Inlet cable - fitting equipment	418801



CEE Connection cable

Item No. 2,5m	460820
Item No. 5,0m	460821
Item No. loose Inlet contact	460824
Number of pcs in collection box	820/22 - 821/12
Voltage - VAC	230
Current, max. - A	16
Weight - gr	465/805 [2,5/5,0m)
Test and approval	EN 50066-1, EN 60309-1

Inlet cables

DEFA MiniPlug Inlet cables are tailormade to all new car models, and is delivered with improved mounting equipment to make the installation easier. The new mounting equipment consist of a set of mounting rings to be used for optimal installation in the car's front, and a bracket to be used behind the license plate.



MiniPlug Inlet cables

Item No. (0,6m)	460902
Item No. (1,0m)	460901
Item No. (1,5m)	460915
Item No. (2,0m)	460939
Voltage - VAC	230
Current - A	16
Weight (Length/Weight) - m/kg	1,5/0,410 - 2,0/0,570

The Inlet cable has a MiniPlug 'female-contact' with a cap in one end and DEFA PlugIn, in the other end. In addition it has an earth connector for earthing the system.



MiniPlug Mounting Rings **NEW!**

Item No.	460997
Diameter rings - mm	55 - 45 - 40

The mounting set consists of two mounting rings and a supporting ring, which gives a more optimal and flexible installation, and allows for a discreet location which eliminates drilling in the car's front. Easy installation provides reduced mounting time.



MiniPlug Mounting Bracket **NEW!**

Item No.	460996
Height/Width/Thickness - mm	160x40x2
Dimension mounting holes - mm	6

The bracket makes it possible to install the inlet behind the license plate - vertical or horizontal, whatever is more suitable for each vehicle.

PlugIn extension cables

The components are easily connected together with DEFA's armoured PlugIn extension cables. The system is guaranteed a reliable and tight connection and eliminates incorrectly connections.



PlugIn extension cables

Length - m	0,5 - 1 - 2 - 3 - 4 - 5 - 8 - 12
Voltage - VAC	230
Current - A	16
IP rate	44

PlugIn extension cables

Item No.	Length - m	Weight - gr	Pcs. in collection box
460802	0,5	145	22
460803	1,0	265	22
460843	1,5	380	22
460804	2,0	497	22
460844	3,0	731	12
460846	4,0	965	12
460809	5,0	1200	1
460847	8,0	1900	1
460850	12,0	2838	1



Termini™ interior heater cable with Mini-contact

Item No.	460860
Length - m	1,75 (soft part 0,6m - armoured part 1,15m)
Number of pcs in collection box	Single box or 22
Voltage - VAC	230
Current, max. - A	16
Weight - gr	250
IP rate	44

PlugIn branches and contacts



LED Indicator Kit

Item No.	460881
Mains voltage - VAC	110-240
Current, max. - A	16
IP rate, PlugIn/LED	44/67



PlugIn relay box

Item No. 12V	460838
Item No. 24V	460863
Range of use °C	-40 / +80
Height/Width/Depth - mm	63/56/70
Mains voltage - VAC	230/12, 230/24
Current, max. - A	16
Weight - gr	101
Insulation class - cl	II
IP rate	44



PlugIn interior heater socket

Item No.	460829
Height/Width/Depth - mm	70/54/41
Voltage - V	250/12
Current, max. - A	10
IP rate	20



Termini™ Adapter cable

Item No.	418069
Length - m	0,25
Voltage- V	250/12
Current, max. - A	16
Weight - gr	54
IP rate	44

PlugIn branches and contacts

DEFA relay contact is adapted to DEFA PlugIn contacts and used for controlling the engine and interior heater together with DEFA control units. Can also be used for separat control of engine and interior heater together with DEFA SmartStart. At branching, use T- or Y- connectors.



PlugIn Relay contact

Item No. 12V	460854
Item No. 24V	460856
Range of use °C	-40 / +80
Height/Width/Depth - mm	61/31/67
Mains voltage- VAC	230/12, 230/24
Current - A	Maks 16
Weight - gr	59
Insulation class - cl	II
IP rate	44



PlugIn Y-connector

Item No.	460853
Height/Width/Depth - mm	53/48/24
Mains voltage - VAC	230
Current, max. - A	16
Weight - gr	23
IP rate	44

DEFA Y-connector is an all-welded connector for connecting engine and interior heater or MultiCharger battery charger.



PlugIn T-connector 90°

Item No.	460831
Height/Width/Depth - mm	42/63/21
Mains voltage - VAC	230
Current, max. - A	16
Weight - kg	0,022
IP rate	44

DEFA T-connector is an all-welded connector for connecting engine and interior heater or MultiCharger battery charger.

Extractor tools

In order to use the tools one needs the main tools, extractor and taper clamping sleeve. Extractor and taper clamping sleeve can be purchased separately in 4 different sizes depending on the inside diameter of the frost plug being dismantled.

The tool is suitable for deep frost plugs and functions like an extractor. It is securely tightened around the side walls of the frost plug by tightening the nut. Next, a suitable adapter sleeve is attached. The frost plug is gradually pulled off by tightening the nut. Follow the instructions which come with the tools! These tools come separately or in a complete set.



Complete extractor tools

Item No. 491012

Consists of main tools (491011), 4 extractor tools (491006) og 4 taper clamping sleeves (491005).



Main tools

Item No. 491011



Extractor

Item No. complete set (4 extractors) 491006

Item No. (Ø20mm) 491001

Item No. (Ø27mm) 491002

Item No. (Ø34mm) 491003

Item No. (Ø41mm) 491004



Taper clampings

Item No. complete set (4 taper clampings) 491005

Item No. (Ø31mm) 491007

Item No. (Ø35mm) 491008

Item No. (Ø39mm) 491009

Item No. (Ø46mm) 491010



Extractor hook

Item No. 30,5mm 460835

Item No. 37,5mm 460836

Item No. 44,5mm 460837

Special tools

Tools for installation of MiniPlug and for installation of cables through the firewall.



Pullwire kit 866

Item No. 460866

No. of pcs. 1 set

Tool for easier installation of PlugIn extension cables with male or female contact through the firewall. Delivered with 2 extensions of 1m.



Pullwire kit 868

Item No. 460868

No. of pcs. 2

Tool for easier installation of PlugIn extension cables with male or female contact through the firewall. Delivered with 2 extensions of 1m.



Installation tool

Item No. 460840

Hole saw Ø24mm For MiniPlug inlet cable

Hole saw Ø20mm For Interior heater cable

File For MiniPlug feed track

Hole saw retainer With pilot hole drill



Tools for feed through bulkhead

Item No. 460862

Put the tools on PlugIn male or female contact for easier installation through the firewall.



Crow foot tool

Item No. 460867

Crow foot 27mm.

Mounting- and dismounting tool for easier installation of the following engine heaters: 241, 277, 292, 299.



Tool for heater 241

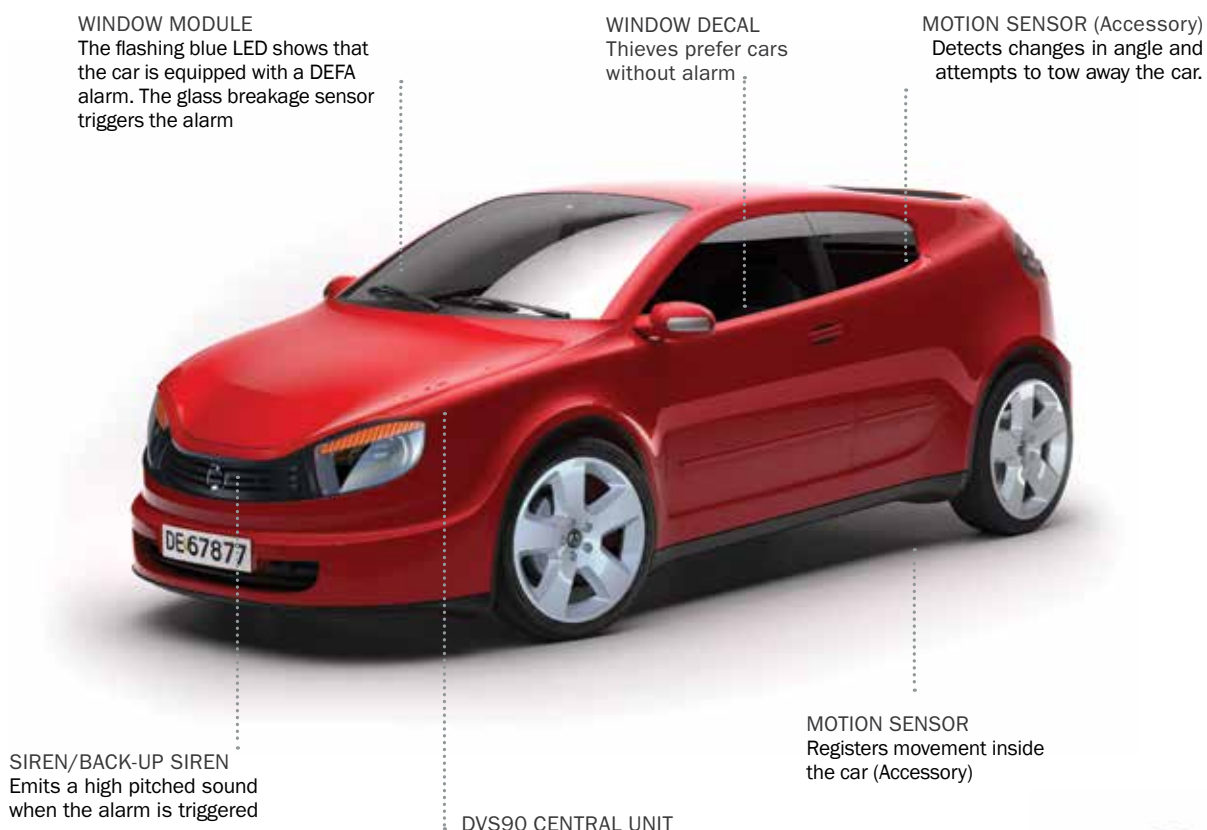
Item No. 460861

Steering tool for Allen wrench.

Security

DVS90 is a modern alarm system designed on a flexible electronic platform that contributes to a very easy set up and installation. The alarm can be installed in all vehicles regardless of type of electric and electronic systems.

The alarm has digital interfaces for all types of CAN buses found in modern cars and also provides interfaces for analog as well as semi-digital inputs with corresponding functionality for support of older vehicles or boats. The alarm can be installed in all vehicles utilizing 12V or 24V battery systems. Assisted by car specific installation drawings and excellent support from www.defa.com the DVS90 will always be number one when it comes to installation time and reliability. To raise the security level further, additional plug and play sensors and Second Authorization remote control are available.







SECOND AUTHORIZATION **NEW!**

Today the original car alarm and original start-up protection without any other authorization functionality can easily be turned off by using the car's keyless system. DEFA DVS90 and Second Authorization functionality prevents this, because the DEFA Alarm complete with immobiliser must be disabled with the DEFA remote control. Second Authorization as an extra remote control protects the vehicle against signal theft, because of the rolling "anti grabbing" code.



Security DVS90 - Car alarm kit	
Item No.	600900

Accessories and tools for Security



Motion sensor

Item No. 2,5 m cable	600914
Item No. 5 m cable	600916



Level sensor

Item No.	600915
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Backup siren

Item No.	600912
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2-circuit immobiliser

Item No.	600890
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Remote control

Item No.	600625
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Second Authorization **NEW!**

Item No.	600676
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Accessories and tools

1. Staking out tools for P2	Item No.	600525
2. Splitter kit	Item No.	600913
3. Hood switch	Item No.	600523
4. Central locking module	Item No.	600295
5. Staking out tools for P4,P5,P6 and P7	Item No.	600930

Notes

Contact

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About DEFA

DEFA is a traditional Norwegian owned group of companies, with production facilities in Norway, Sweden and China, and sales offices in Norway, Sweden, Finland, China and North-America. Several years with an increasing volume has given us a strong position in the market and solid partners among the distributors. Since starting up in 1946 we have focused on new technological developments and building trust in the market.

Today we are the market leader in Europe within electrical car preheating with DEFA WarmUp comfort systems for private cars, delivery trucks, buses, agricultural machines, construction machines and GenSet. The system gives the car owner a preheated compartment, a preheated engine and a fully charged battery. That DEFA WarmUp gives considerable environmental gains when starting a car in cold temperatures is also important these days. WarmUp is easily controlled by the DEFA-App, either Link with GSM/GPS reach, or Bluetooth in range of the car.

DEFA WarmUp is developed for petrol engines, diesel engines and ethanol engines (E85). Our products are usable from 42V and up to 230V.



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