

Mobile energy systems

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Home comfort away from home

With professional electronic accessories

From mobile power supply to voltage converters

Enjoy the same home comforts on the road. The Dometic WAECO “Mobile Energy Systems” range includes everything you need for perfect power supply on the road.

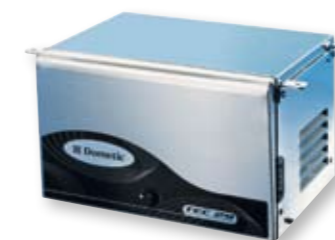
Six powerful generators which supply the air conditioner with continuous power in stationary mode let you enjoy complete independence from the mains or on-board power supply. Battery care products prolong the service life of your on-board battery or batteries.

Charging converters and IUOU battery chargers ensure they are fully and gently charged. You don't have to go without the convenience of a 230-volt power socket when you are travelling – a wide range of inverters lets you use all the equipment you usually use at home. Voltage converters turn 12-volts into 24-volts (or vice versa), helping you to make more flexible use of your mobile equipment.

Generators

Mobile power generators by Dometic provide energy where mains power is unavailable.

Dometic Generators Pages 118 – 125



Dometic TEC 29

Mobile energy supply

High-quality, multi-functional device for camping and leisure. Power source for many commonly used appliances and high-performance battery jump starter.

WAECO PowerPack Pages 126 – 127



PowerPack MPS 500

Battery care

WAECO PerfectBattery accessories keep batteries in ship-shape condition, even after long periods of standstill. By recharging and float charging, they prevent premature battery ageing.

WAECO PerfectBattery Pages 128 – 129



PerfectBattery BR 12

Charging converters

WAECO PerfectCharge IU charging converters – ideal for voltage stabilisation and for charging the leisure battery while driving.

WAECO PerfectCharge Pages 130 – 131



PerfectCharge DC 08

Battery chargers

This comprehensive range covers a wide scope of applications. WAECO PerfectCharge automatic chargers with IUOU or IU characteristics have been designed for fast and gentle charging of gel, AGM and wet batteries.

WAECO PerfectCharge



Pages 132 – 139

PerfectCharge IU152A

Inverters

230 volts on board – for laptops, espresso machines and more. Depending on the type of appliance, you can choose a WAECO inverter with modified sine voltage, or opt for a pure sine wave inverter.

WAECO SinePower
WAECO PerfectPower
WAECO PocketPower



Pages 140 – 151

SinePower MSP352

Voltage converters

They combine what was never intended to be combined: 12-volt appliances and 24-volt board batteries – and vice versa. The converters can also be used for battery charging.

WAECO PerfectPower



Pages 152 – 153

PerfectPower DCDC10



Dometic generators

Mobile power generators for universal use

Dometic generators ensure reliable power supply wherever mains power is unavailable. This makes them a must-have accessory for outdoor enthusiasts seeking maximum freedom and independence.

High performance, modest fuel consumption and excellent product quality are the hallmarks of the entire series. Driven by petrol, diesel or gas engines, the tried and tested generators provide 230-volt power for use on the road or at the campsite. Ideal for

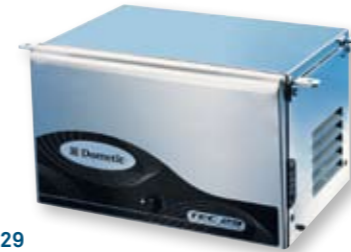
operating your air conditioner when there's no mains hook-up around, they will also supply your kitchen gadgets, office equipment or power tools.

The compact units can be fitted under the flooring or in an outside storage compartment. Operation is via the multi-information display included with each generator.

Dometic TEC 29

The top seller in the range! Super-compact dimensions, light weight of just 44 kg and, with its 2600-watt capacity, just as powerful as conventional predecessor models. Petrol-fuelled engine, modest energy consumption, very quiet running. Suitable as a power source for all Dometic air conditioners.

Pages 120 – 121



Dometic TEC 29

Dometic TEC 29LPG

The tried and tested TEC 29 is now also available as a gas model. The same benefits, same performance, minimal noise and odour emissions, extremely high efficiency.

Pages 120 – 121



Dometic TEC 29LPG

Dometic TEC 30EV

Environment-friendly with diesel fuel, and the most economical generator in the range with a fuel consumption of 0.7 litres per hour. Purpose-designed for use in larger motorhomes and utility vehicles. Low-noise operation thanks to excellent sound insulation. Suitable as a power source for all Dometic air conditioners.

Pages 122 – 123



Dometic TEC 30EV

Dometic TEC 40D

This low-noise diesel generator is new in the camping/caravan range and has already proved itself to be highly reliable in tough everyday use. It can get something going with 3500 watt continuous output using very little fuel. That is also enough to run two Dometic motorhome air conditioners at the same time.

Pages 122 – 123



Dometic TEC 40D

Dometic T 2500H

Favourably priced, reliable appliance. Compact design, light weight. Low-noise, high-performance petrol engine [5.5 HP], economical consumption. 2000 watts continuous output – enough to supply several electrical appliances at the same time, or Dometic air conditioners of matching power rating.

Pages 124 – 125



Dometic T 2500H

Dometic T 4000H

A genuine mobile power station! Generous 3500-watt continuous output – plenty of power for two Dometic motorhome air conditioners. Tried and tested unit with high-performance petrol engine [9.0 HP].

Pages 124 – 125



Dometic T 4000H



For normal unleaded petrol and liquid gas

TEC 29 / TEC 29LPG - full power in the smallest of space

It is the most compact and the lightest unit in the range with only 44 kg. So it is easily accommodated in or on the vehicle. Providing 2600 watts of continuous output, it is as powerful as the conventional predecessor models, yet far quieter to run. High efficiency even at low revs or after a cold start. Hardly surprising that this economical TEC 29 petrol generator has become an absolute top seller. But it now has to compete with the new TEC 29LPG gas model. This achieves the same output with a modest fuel consumption, minimal noise and odour emissions. It offers campers even more flexibility because gas is always available on board.

- High continuous output ratings of 2.6 kW
- Low fuel consumption by adjusting the generator rpm according to the load applied
- Innovative inverter technology allows for parallel use of two units
- 12-volt output for battery charging with integrated charging regulator [10 amps max.]
- Robust design in stainless steel cabinet
- Easy to operate with illuminated multi-information display showing all the essential operating parameters
- High operating safety with integrated alarm functions
- Suitable as a power source for all Dometic air conditioners

Dometic TEC 29

2.6 kW generator for 230 volts alternating current, fuelled by unleaded petrol

3.39



Output voltage	230 volts AC ± 1% [continuous]/ pure sine wave
Total distortion factor	1%
Frequency	50 Hz ± 1%
Max. starting current	33 A
Continuous output	2600 watts
Peak output	2900 watts
Engine output	4.0 kW [5.5 PS]
Fuel	Normal unleaded RON 91 petrol
Consumption	max. 1.2 l/h
Sound level at 7 m	54/59 dBA
Guaranteed sound level	86 dBA
Dimensions [W x H x D]	480 x 290 x 385 mm
Width with suspension	580 mm
Net weight	44.0 kg
Quality features	Remote control, 12-volt output for battery charging, automatic low-oil cut-off, electrical starter, protected against overload and short circuit, sound absorbing housing
Test marks	CE, E13

Product	Ref. No.
Dometic TEC 29	910290007
Optional extras	
15-litre plastic tank, AG 101	910290009
20-litres stainless steel tank, AG 100	910290011
Hose set for AG 100/101, AG 150	910290003
Flexible metal hose 25 mm, AG 125	910290020

- High continuous power output
- Suitable as a power source for all Dometic air conditioners
- Low consumption
- Parallel operation of 2 x TEC 29 to double the output
- Remote control for operating and displaying all the essential operating parameters
- Fuelled by unleaded petrol

Dometic TEC 29LPG

2.6 kW gas generator for 230-volts alternating current

3.39



Output voltage / curve	230 volts AC ± 1% [continuous]/ pure sine wave
Total distortion factor	1%
Frequency	50 Hz ± 1%
Max. starting current	33 A
Continuous output	2600 watts
Peak output	2900 watts
Engine output	4.0 kW [5.5 PS]
Fuel	LPG with min. 60% propane
Consumption	max. 1.0 kg/h
Sound level at 7 m	54 – 59 dBA
Guaranteed sound level	86 dBA
Dimensions [W x H x D]	480 x 290 x 385 mm
Width with suspension	580 mm
Weight	44.0 kg
Quality features	Remote control, 12-volt output for battery charging, automatic low-oil cut-off, electric ignition, electrical starter, protected against overload and short circuit, sound absorbing housing
Test marks	CE, E13

Product	Ref. No.
Dometic TEC 29LPG	9102900179
Optional extra	
Flexible metal hose 25 mm, AG 125	910290020

- NEW**
- High continuous output
- Suitable as a power source for all Dometic air conditioners
- Low consumption
- Parallel operation of 2 x TEC 29LPG to double the output
- Remote control for operating and displaying all the essential operating parameters
- Gas operation



Power pack with diesel engines

TEC 30EV - extremely economical and low-noise

Specially designed for use in larger motorhomes and utility vehicles, the TEC 30EV provides powerful performance at minimal fuel consumption [0.7 litres diesel/h]. Excellent sound insulation makes for low-noise operation. State-of-the-art inverter technology prevents over- and under-supply of connected electrical appliances.

TEC 40D - powerful professional appliances

3500 watts continuous output with perfect sine wave voltage: Advanced inverter technology protects the connected appliances from voltage peaks and the generator from short circuiting. The TEC 40D has been tried and tested many times in tough everyday use due to its high reliability at low levels of power consumption. For a diesel generator of its class, it is extremely quiet [only 64 dBA at 7 metres].

- High continuous output ratings of 2.5 kW [TEC 30EV] or 3.5 kW [TEC 40EV]
- Low fuel consumption by adjusting the generator rpm according to the load applied
- Innovative inverter technology allows for parallel use of two TEC 30 or two TEC 40D units
- 12-volt output for battery charging with integrated charging regulator [10 amps max.]
- Robust design in stainless steel cabinet
- Easy to operate with illuminated multi-information display showing all the essential operating parameters
- High operational safety thanks to the integrated alarm function
- Suitable as a power source for all Dometic air conditioners

Dometic TEC 30EV

2.5 kW generator for 230 volts alternating current, fuelled by diesel

3.39



Output voltage/curve	230 volts AC ± 1% [continuous]/ pure sine wave \sim
Total distortion factor	1%
Frequency	50 Hz ± 1%
Max. starting current	33 A
Continuous power	2500 watts
Peak output	2900 watts
Engine output	3.3 kW [4.5 PS]
Fuel	Diesel
Consumption	max. 0.7 l/h
Sound level at 7 m	60 dBA
Guaranteed sound level	84 dBA
Dimensions [W x H x D]	465 x 465 x 466 mm
Width with suspension	572 mm
Net weight	70.0 kg
Quality features	Remote control, 12-volt output for battery charging, automatic low-oil cut-off, electrical starter, protected against overload and short circuit, sound absorbing housing
Test marks	CE, E13

High continuous power output

Suitable as a power source for all Dometic air conditioners

Very low consumption

Parallel operation of 2 x TEC 30EV [for continuous output of approx. 4800 watts]

Remote control for operating and displaying all the essential operating parameters

Fuelled by diesel

Product	Ref. No.
Dometic TEC 30EV	9102900033
Optional extras	
15-litre plastic tank, AG 101	9102900009
20-litres stainless steel tank, AG 100	9102900011
Hose set for AG 100/101, AG 150	9102900003
Flexible metal hose 25 mm, AG 125	9102900020

Dometic TEC 40D

3.5 kW generator for 230 volts alternating current, fuelled by diesel

3.39



Output voltage/curve	230 volts AC ± 1% [continuous]/ pure sine wave \sim
Total distortion factor	1%
Frequency	50 Hz ± 1%
Max. starting current	45 A
Continuous power	3500 watts
Peak output	3900 watts
Engine output	4.7 kW [6.4 PS]
Fuel	Diesel
Consumption	max. 1.4 l/h
Sound level at 7 m	64 dBA
Guaranteed sound level	64 dBA
Dimensions [W x H x D]	765 x 457 x 467 mm
Width with suspension	765 mm
Weight	96.5 kg
Quality features	Remote control, 12-volt output for battery charging, automatic low-oil cut-off, electrical starter, protected against overload and short circuit, sound absorbing housing
Test marks	CE, E24

NEW

High continuous output

Suitable as a power source for all Dometic air conditioners

Very low power consumption

Parallel operation of 2 x TEC 40D [for continuous output of approx. 7000 watts]

Remote control for operating and displaying all the essential operating parameters

Fuelled by diesel

Product	Ref. No.
Dometic TEC 40D	9102900036
Optional extras	
15-litre plastic tank, AG 101	9102900009
20-litres stainless steel tank, AG 100	9102900011
Hose set for AG 100/101, AG 150	9102900003
Flexible metal hose 25 mm, AG 125	9102900020



Enough “juice” for two Dometic air conditioners

T 2500H - cost-efficient and reliable

Tried and tested petrol generator with compact design and relatively low weight. Reliable, economical and ideal for supplying several appliances at the same time with 2000 watt continuous output. It is also suitable for operating the Dometic B 1100S, B 1500S, B 1600PLUS and B 2200 air conditioners.

T 4000H - power for two air conditioners

A mobile “power station” with a continuous output of 3500 watts – enough for two air conditioners [for example, Dometic B 1500S, B 1600PLUS, B 2600 or B 3200]. Or for other powerful appliances which require 230-volts alternating current. Powerful petrol engine [9.0 PS].

- High continuous output ratings of 2.0 kW [T 2500H] or 3.5 kW [T 4000H]
- 12-volt output for battery charging with optional charging regulator [10 amps max.]
- Robust design in stainless steel cabinet
- Remote control panel in the passenger compartment
- Innovative technology with electric ignition, electrical starter and automatic low-oil cut-off
- Wide choice of accessories including petrol tanks, exhaust extensions and silencers
- T 2500H: suitable for running selected Dometic air conditioners
- T 4000H: sufficient power for running two Dometic air conditioners

Dometic T 2500H

2.0 kW generator for 230 volts alternating current, fuelled by unleaded petrol

3.39



Output voltage/curve	230 volt AC ± 10% / pure sine wave voltage \sim
Total distortion factor	5%
Frequency	50 Hz ± 5%
Max. starting current	24 A
Continuous power	2000 watts
Peak output	2200 watts
Engine output	4.0 kW [5.5 PS]
Fuel	Normal unleaded RON 91 petrol
Consumption	max. 1.2 l/h
Sound level at 7 m	60 dBA
Guaranteed sound level	86 dBA
Dimensions [W x H x D]	530 x 290 x 385 mm
Width with suspension	640 mm
Net weight	50.0 kg
Quality features	Remote control, 12-volt output for battery charging, automatic low-oil cut-off, electric ignition, electrical starter, protected against overload and short circuit, sound absorbing housing
Test marks	CE, E3

Product	Ref. No.
Dometic T 2500H	9102900005
Optional extras	
15-litre plastic tank, AG 101	9102900009
20-litres stainless steel tank, AG 100	9102900011
Hose set for AG 100/101, AG 150	9102900003
Flexible metal hose 25 mm, AG 125	9102900020
Battery charging regulator, AG 111	9102900014
Generator exhaust extension, AG 106	9102900023

- High continuous output
- Low consumption
- Remote control for operating and displaying all the essential operating parameters
- Fuelled by normal unleaded petrol

Dometic T 4000H

3.5 kW generator for 230 volts alternating current, fuelled by unleaded petrol

3.39



Output voltage/curve	230 volt AC ± 10% / pure sine wave voltage \sim
Total distortion factor	5%
Frequency	50 Hz ± 5%
Max. starting current	41 A
Continuous output	3500 watts
Peak output	3800 watts
Engine output	6.6 kW [9.0 PS]
Fuel	Normal unleaded RON 91 petrol
Consumption	max. 2.3 l/h
Sound level at 7 m	62 dBA
Guaranteed sound level	89 dBA
Dimensions [W x H x D]	660 x 355 x 480 mm
Width with suspension	775 mm
Net weight	102.0 kg
Quality features	see T 2500H
Test marks	CE, E3

Product	Ref. No.
Dometic T 4000H	9102900006
Optional extras	
15-litre plastic tank, AG 101	9102900009
20-litres stainless steel tank, AG 100	9102900011
Hose set for AG 100/101, AG 150	9102900003
Flexible metal hose 25 mm, AG 125	9102900020
Battery charging regulator, AG 111	9102900014

- High continuous output
- For instance, suitable for operating two Dometic B 2200 air conditioners
- Powerful engine
- Remote control for operating and displaying all the essential operating parameters
- Fuelled by normal unleaded petrol



A “power station” that makes your holiday

Multi-functional device for camping and leisure

When the PowerPack MPS500 is on-board then everything runs smoothly on your holiday. Campers are always impressed with this “mobile power station” that provides you with indispensable functions when you're away from home. You can use the built-in 12-volt socket to run portable coolers or compressors for pumping up bike tyres or rubber rings. There's a second output for CD players and radios etc. Plus

a USB port for recharging mobile phones, iPods®, digital cameras, navigation systems. There's even a work lamp which you can use to illuminate awnings, storage compartments or the boot of your car at night. And if the vehicle battery ever goes flat, the MPS500 functions as a jump starter. At a short-time starting current of 400 amps, it has enough power to jump-start even large-capacity diesel engines.

WAECO PowerPack MPS 500

Multifunctional unit, can be used for supplying power to the most diverse appliances and as a jump starter

3.20



Features & functions

- › Starting aid function (400 A short-time)
- › Practical stowage compartment for accessories such as mains adapter, jump starter cable, etc.
- › Energy supply with 4.5 volts, 6 volts, 9 volts, 12 volts output
- › Parking position for battery clamps in the carrying handle
- › USB port for charging mobile phones, PDAs, etc.
- › High-quality design in aluminium / plastic
- › Can also be used on damp ground, e.g. on lawns (base section water-proof up to 7 cm height)

Max. starting current	400 A short-time
Output voltages	4.5 volts, 6 volts, 9 volts, 12 volts 5 volts (USB)

Max. continuous current	10 A at 12 volts 1 A at 4.5 volts, 6 volts, 9 volts 0.5 A (USB)
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Lead gel battery 12 volts / 18 Ah, maintenance-free

Dimensions (W x H x D) 252 x 295 x 243 mm

Weight 10.5 kg

Connections for 12 volts, as well as 4.5 volts, 6 volts and 9 volts

USB port

High-performance PowerPack with 18 Ah battery

Integrated work lamp

Storage compartment for accessories

Compact, functional and handy

Scope of delivery:

PowerPack MPS 500, 230 V mains adapter, DC cable, jump starter cable operating instructions

Product	Ref. No.
PowerPack MPS 500	PS-500-12





Battery refresher

A refreshing cure for your battery

All drivers dream of owning an “eternal battery”, one that will never let them down. Their dream is reality now, thanks to the battery refresher. The super-compact appliance reduces sulphate build-up, which is so often the cause of premature failure in lead cell batteries. Even apparently useless batteries can be given a new lease of life. The refresher can be permanently connected to the vehicle battery. It treats the battery to an invigorating training programme – fully automatically, while you are driving.

When you switch the ignition off, the integrated voltage monitor deactivates the appliance.

The battery refresher is suitable for all types of 12-volt lead batteries. Ideal for passenger cars, it can also be used on motorhomes and boats. Given the long periods of standstill, the batteries in those vehicles are particularly susceptible to sulphate build-up.

WAECO PerfectBattery BR 12

Battery refresher 12 volts
Extends the service life of batteries

3.28



Features & functions

- › Simply connected to the battery's minus and plus poles
- › Extends the battery's service life by reducing sulphate build-up
- › Reactivates apparently useless batteries by eliminating sulphate crystal build-ups
- › Prevents cold start problems
- › Maintains the full charging capacity for several years
- › Reduces hazardous waste and saves the environment
- › Suitable for batteries up to 300 Ah
- › Ideal for cars, motorhomes, boats

Battery voltage	12 volts DC
Cut-in voltage	> 12.6 volts ± 0.2 volts
Stand-by current	< 0.2 mA
Dimensions (W x H x D)	100 x 67 x 25 mm
Weight	0.12 kg
Test mark	e-approved to Automotive EMC Directive

Product	Ref. No.
PerfectBattery BR 12, 12 volts	MBR-100-12

A long life for lead acid batteries (wet, gel and AGM)

Battery conditioner

Training for the battery

Three functions: conditioning – charging – back-up

PerfectBattery BC100 is an inexpensive **battery conditioner that maintains lead batteries** from 10 to 150 Ah by gently simulating driving. As a result, the full capacity can be maintained even after months of standstill. Battery conditioners are ideal for summer vehicles such as soft-tops, motor cycles and motorhomes.

The BC100 conditioner offers two useful extra functions. It serves as a **battery charger** for lead batteries (motor cycles, vintage cars) and can also be used as a **back-up power supply** unit. When a vehicle's starter battery has to be removed, the conditioner temporarily takes over the power supply to the appliances. In this way, stored data – e. g. in car radios – can be retained.

WAECO PerfectBattery BC 100

Battery conditioner, 12 volts
Three functions in one unit: conditioning, charging, back-up

3.28



Features & functions

- › For service and maintenance of all 12-volts lead batteries
- › Simple connection to the cigarette lighter socket, or with battery clamps included in the delivery kit
- › For cars, motorhomes and boats
- › Short-circuit and reverse pole protection
- › Conditions batteries with a capacity from 10 Ah to 150 Ah
- › Charges batteries with a capacity from 10 to 30 Ah

Battery connections	1
Input voltage	230 volts AC
Input voltage range	180 to 253 volts AC / 50 to 60 Hz
End-of charging voltage	13.8 volts DC
Float charging voltage	13.0 volts DC
Charging indicator	3 LEDs
Maximum charging current	1.0 A
Operating temperature	0°C to +50°C
Dimensions (W x H x D)	70 x 100 x 60 mm
Weight	0.45 kg
Quality features	Overload and short circuit protection
Test mark	CE

Product	Ref. No.
PerfectBattery BC 100, 12 volts	MBCC-100

Fitness training for 12-volt batteries

Bridges long periods of standstill

Can also be used as battery charger and back-up power supply





IU-charging converters

Full leisure battery recharge on the move

Many vehicle owners expect the electric generator to completely recharge leisure batteries during the drive. When the battery is beginning to fail, however, they quickly realise it often doesn't work that way. The reason is insufficient cabling (supply cables too long, cross

section too small), as frequently encountered in caravans. Electronics specialist WAECO has developed a neat solution for this problem: the **PerfectCharge IU charging converter**, available in **three performance categories**.

The IU charging converter is simply integrated into the wiring of the starter and leisure batteries. Raising the charging voltage to 14.2 volts, it ensures optimal charging during the drive.

The converter can be **switched on or off** by an external control signal, e.g. the D+ from the generator. You can also use a 12-volt switch.

Moreover, the charging converter **stabilises the voltage supply**. This makes it ideal for sensitive 12-volt appliances (e.g. navigation systems, LCD monitors), which require a **constant and stable voltage**.

To benefit from the stabilising effect, the IU charging converter is integrated into the supply cord of the appliance. The unit **compensates for over- and under-voltage** in a range between 8 and 16 volts, thus preventing failure of or damage to the appliance.



WAECO PerfectCharge DC 08 / DC 20 / DC 40

Charging converters and battery chargers in three performance categories, 8 A, 20 A and 40 A
Ideal for charging the leisure battery while driving

3.16



Features & functions

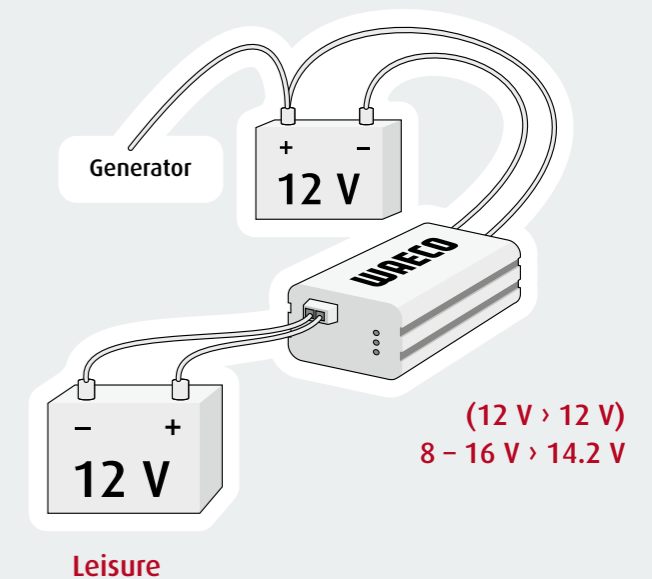
- › High energy efficiency
- › Electrically isolated output voltage
- › Clean output voltage
- › Parallel operation possible
- › IU battery charging curve
- › Additional ON / OFF input
- › Stabilises the battery / generator voltage
- › Stabilises the on-board power supply during engine start
- › EMC optimised for the automotive industry

Gives the battery a full charge while driving

Stable voltage supply for sensitive 12-volt devices

	DC 08	DC 20	DC 40
Input voltage	12 volts DC		
Input voltage range	8 – 16 volts DC		
Output current	8 A	20 A	40 A
Output voltage	14.2 volts DC ± 0.1 volts		
Energy efficiency	Up to 87%		
Ripple & Noise	20 mA		
Dimensions (W x H x D)	115 x 70 x 100 mm	115 x 70 x 160 mm	115 x 70 x 270 mm
Weight	0.75 kg	1.2 kg	2.1 kg
Quality features	Electrically isolated output voltage, wide input voltage range, high accuracy of the output voltage		
Test mark	e-approved to Automotive EMC Directive		

Product	Ref. No.
PerfectCharge DC08, 8 A, 12 volts » 12 volts	DC1212-08
PerfectCharge DC20, 20 A, 12 volts » 12 volts	DC1212-20
PerfectCharge DC40, 40 A, 12 volts » 12 volts	DC1212-40



IU0U automatic chargers in premium quality



PerfectCharge IU 152A to IU 802A
Pages 134 – 137

IU0U automatic chargers



PerfectCharge IU 812
Page 138

IU / IU0U automatic chargers



PerfectCharge IU 6
Page 139

IU0U chargers by WAECO

... give your batteries a longer life!

Starter batteries and supply batteries are designed for different tasks. To start the engine, starter batteries must initially supply a high current level and will then serve as an energy buffer with smaller partial cycles. Supply or on-board batteries, in contrast, are discharged at lower current levels over longer periods of time and then charged again. This means they are subjected to considerably higher loads. **Optimum charging technology is therefore the key to success.**

IU0U battery chargers from WAECO ensure your batteries have a longer life, and prevent battery damage. They provide optimum charging for all types of leisure batteries (gel, AGM and wet), because they charge quickly and gently at the same time.

Our comprehensive product range covers everything from inexpensive compact chargers to professional units for simultaneous charging of several batteries.

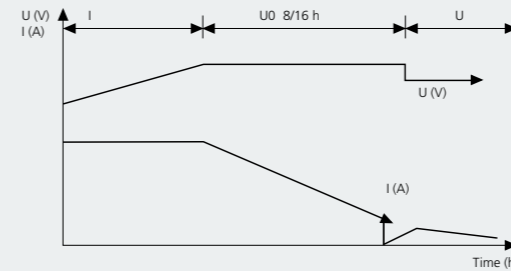
IU0U battery chargers – the benefits at a glance

- › **Fast and gentle charging** with IU0U charging technology
- › **Suitable for all types of lead batteries** (gel, AGM and wet batteries)
- › **High energy efficiency** with switch-mode technology
- › **Stable voltage supply** without power fluctuations
- › **Safe to use** with overload and short-circuit protection
- › **Compact design**, low weight
- › **Easy to fit**

Why fully charging the battery regularly is important

You expect a battery to have full capacity and high starting currents. However, it can only supply these when it is properly cared for. This includes regular recharging. This occurs during the journey, allowing the battery to serve its purpose for a number of days. A 100% full charge, as battery manufacturers stipulate, usually can't be attained this way. However it is still imperative to prevent sulphation and premature ageing of the battery. Using a WAECO battery charger with IU0U charging characteristics solves the problem, charging the battery gently and to 100% capacity. We recommend fully charging your battery at least once a month, which will maintain its condition at the same time. If you are not planning to use your leisure vehicle for a while, you should fully charge the battery beforehand.

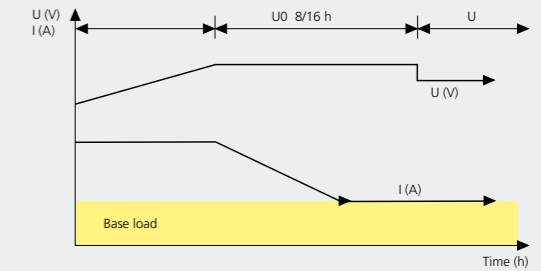
IU0U charging characteristics



This fast and gentle charging technology represents an extension of the well-proven IU charging curve.

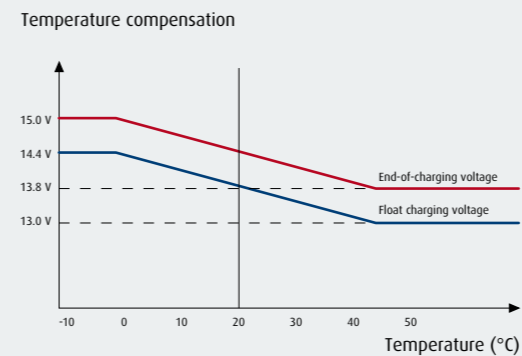
It includes the additional time constant 0 and a further constant voltage U for compensation charging. Like with IU charging characteristics charging is initially performed with a constant current. When the gas development voltage has been reached, the voltage is maintained at the same level until the charging current has fallen to a minimum. At that point the charging voltage is reduced to the float charging level – the charging process is completed.

Limited time of the U0 phase



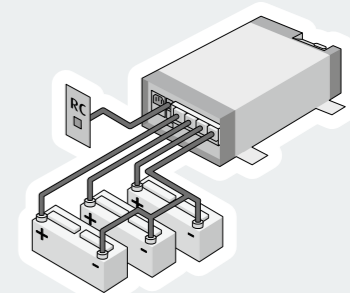
To prevent overcharging when power is drawn from the battery while charging, the duration of the U0 phase is limited. Ideally, the system should switch from the main charging voltage U0 to the float charging voltage U when the battery is 100% charged. A good indication for a fully charged battery is a low current intake. If an electrical appliance exerts a current load on the battery during the charging phase (e.g. when a light is on), the charging current will never reach the low current value required by the system to switch over to the U phase. As the U0 phase is limited to a finite time, the switch-over to the U phase occurs regardless of the charging voltage level. This makes it impossible to overcharge the battery.

The advantages of a temperature sensor



A temperature sensor is recommended when battery charging takes place in varying or extreme ambient temperatures. This is because the optimal charging voltage for a battery largely depends on the temperature conditions. In cold batteries, for instance, the gas development voltage is higher than in warm batteries. The sensor is fitted on the battery or close to it and measures the temperature. Depending on the result, the battery charger adjusts the main charging and float charging voltage. At high temperatures the voltage is reduced to prevent battery gassing. At low temperatures the voltage is increased to improve the battery charge. The diagram shows how the temperature sensor adjusts the charging voltage to the temperature of the battery. The TF-500 temperature sensor (p. 137) is available as an optional accessory for all PerfectCharge IU0U charger models of series IU 152A to IU 802A.

Simultaneous charging of several batteries



When two or more batteries are used independently of one another, the load on them will be different and so will the required extent of recharging. This is taken into account by our double and triple charger models (series IU 152A to IU 802A, p. 136 – 137). These units feature two or three battery outputs, and an additional one for charging the starter battery. The chargers incorporate diodes to divide the charging current and prevent charge compensation between the batteries. While charging the weaker battery is initially brought to the charge of the stronger one. Both (or all three) batteries are then charged at the same voltage level until the full charge is reached. Naturally, it is also possible to connect just one or two batteries to a double or triple charger.

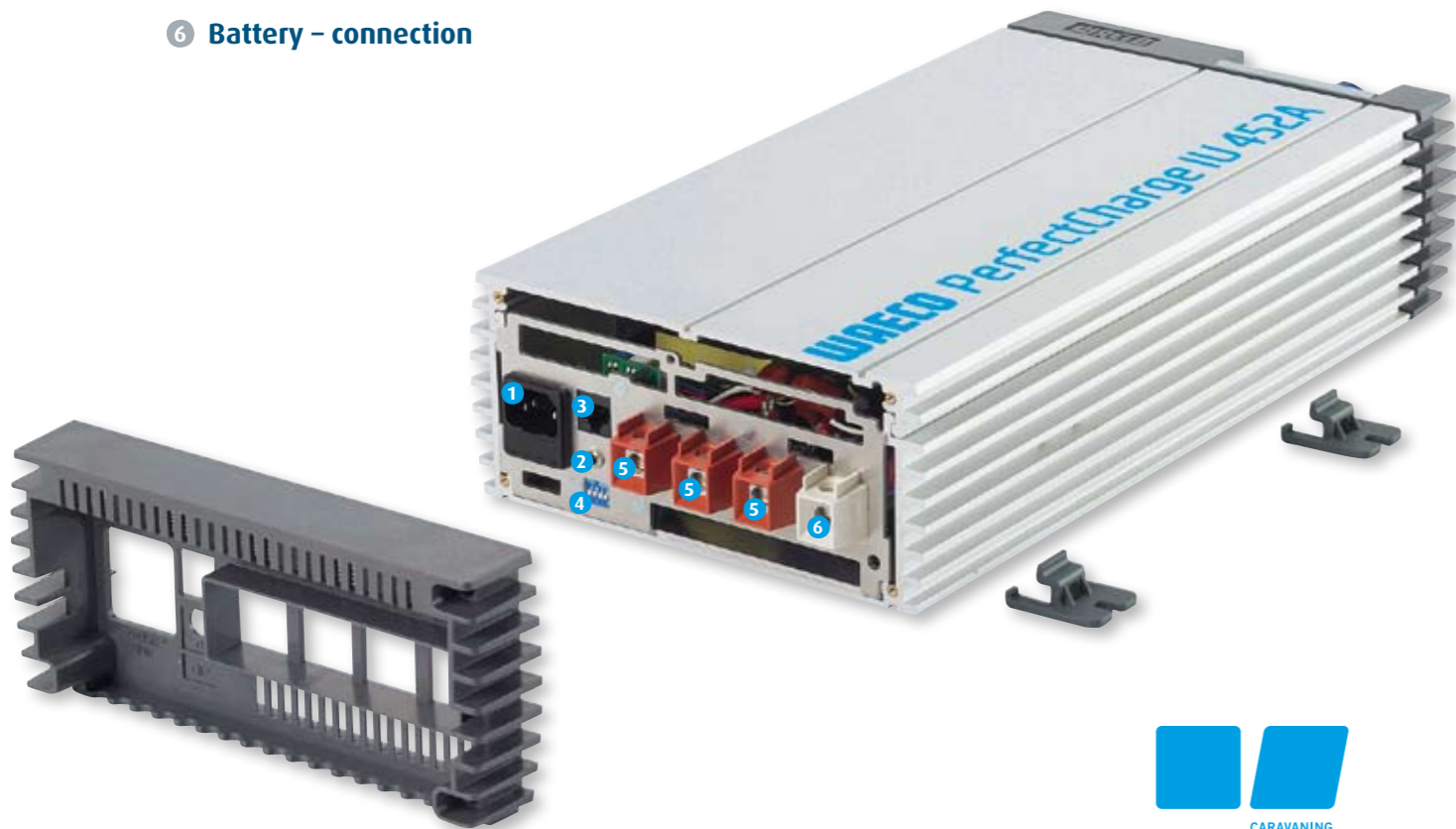
Charging technology in a class of its own

Perfection in every detail

Premium quality, long service life and an award-winning design ... nothing has been left to chance when it comes to the current generation of PerfectCharge battery chargers. They leave nothing to be desired – any on-board situation is easily mastered. Whether multi-stage charging characteristics, adjustable charging capacity, overcharge

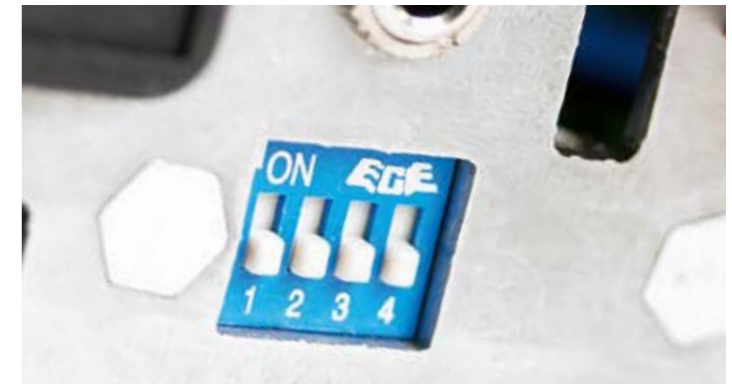
protection, battery conditioning/refreshing function, sleep mode function, IEC power point and ease of installation – these and many other details contribute to the high quality of the WAECO automatic chargers.

- 1 IEC socket
- 2 Output for temperature sensor
- 3 Output for remote control
- 4 DIP switches for configuring the charging characteristics
- 5 Battery + connections for simultaneous charging of up to 3 batteries
- 6 Battery – connection



Display

A particularly well-designed detail including the main switch (ON/OFF/sleep mode) and three status LEDs to indicate the current charging level. The display is integrated in the unit at a 45° angle so that it can easily be checked from various positions.



DIP switches

Four DIP switches to select the optimum charging characteristics – this is where charging voltages and times can be configured for wet, gel and AGM batteries according to the manufacturer's specifications. Conditioning/refreshing of "low" batteries is possible, too.



Cable organiser

With cable guides ready at hand and all connections on one side, everything can be kept nice and neat.



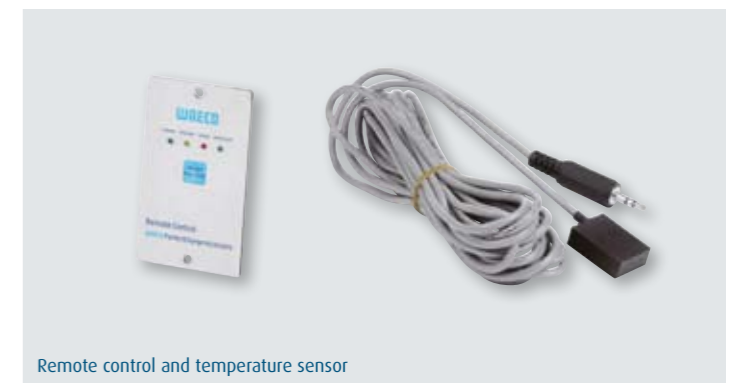
Sleep mode

In sleep mode the charging capacity is cut by half and the ventilator is switched off. This allows for noiseless charging. The reduced power consumption ensures hassle-free operation at campsites with low circuit protection.



Clip-on mounts

Individually adjustable clip-on mounts permit adaptation to special installation requirements with perfect results. Additionally, each unit is supplied with a mounting plate, especially helpful for (vertical-) mounting the heavier units.



Remote control and temperature sensor

Accessories

Two extras to make the assets of the PerfectCharge automatic battery charger complete: the remote control enhances operating comfort. The temperature sensor is recommended when charging operations have to be carried out in widely varying or extremely high or low ambient temperatures. See further details on page 137.

WAECO PerfectCharge IU 152A

3.16

IU0U automatic charger 15 A/12 volts for mobile use

Ideal for motorhomes, motor and sailing yachts, ambulance and emergency service vehicles



Battery outputs	One plus 1 A output for starter battery
Input voltage range	207 – 253 volts AC/50 – 60 Hz
End-of-charging voltage	14.4/14.8 volts DC
Float charging voltage	13.8 volts DC
Maximum battery capacity	150 Ah
U0 phase limited at	8 h or 16 h
Maximum charging current	15 A
Operating temperature	0°C to +50°C
Dimensions (W x H x D)	175 x 91 x 310 mm
Weight	approx. 3.1 kg
Quality features	Overload and short circuit protection, sleep mode, individually adjustable clip-on mounts, mounting aid with cable organiser, exhaust air adapter
Test mark	CE
Type of protection	Equivalent to IP 21

Multi-stage IU0U curve, optimised for charging wet, gel and AGM batteries

Prevent battery overcharging due to limited time of the U0 phase (8/16 h)

Quick charging without power fluctuations

Sleep mode

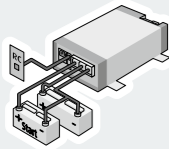
Individually adjustable clip-on mounts

Mounting aid with cable organiser

Exhaust air adapter

Remote control and temperature sensor as accessories

230 V > 12 V



Product	Ref. No.	Ref. No. UK
PerfectCharge IU 152A, 15 A, 12 volts	2222500001	9102500006
Optional extras		
Remote control	901-RC	
Temperature sensor	TF-500	

For simultaneous charging of 1 battery + starter battery

WAECO PerfectCharge IU 252A / IU 154A

IU0U automatic chargers 25 A/12 volts or 15 A/24 volts for mobile use

Ideal for motorhomes, motor and sailing yachts, ambulance and emergency service vehicles



IU 252A



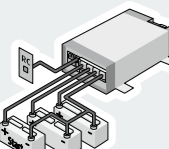
IU 154A

	IU 252A	IU 154A
Battery outputs	Two plus one 1 A output for starter battery	
Input voltage range	207 – 253 volts AC/50 – 60 Hz	
End-of-charging voltage	14.4/14.8 volts DC	28.8/29.6 volts DC
Float charging voltage	13.8 volts DC	27.6 volts DC
Maximum battery capacity	300 Ah	200 Ah
U0 phase limited at	8 h or 16 h	
Maximum charging current	25 A	15 A
Operating temperature	0°C to +50°C	
Dimensions (W x H x D)	208 x 96 x 332 mm	
Weight	approx. 3.8 kg	
Quality features	as for IU 152A	
Test mark	CE	
Type of protection	Equivalent to IP 21	



230 V > 12 V

230 V > 24 V



Product	Ref. No.	Ref. No. UK
PerfectCharge IU 252A, 25 A, 12 volts	2222500002	9102500007
PerfectCharge IU 154A, 15 A, 24 volts	2222500003	9102500008
Optional extras		
Remote control	901-RC	
Temperature sensor	TF-500	

For simultaneous charging of 2 batteries + starter battery

WAECO PerfectCharge IU 452A / IU 254A / IU 802A / IU 404A

3.16

IU0U automatic charger, 45 A/12 volts or 25 A/24 volts and 80 A/12 volts or 40 A/24 volts for mobile use

Ideal for motorhomes, motor and sailing yachts, ambulance and emergency service vehicles



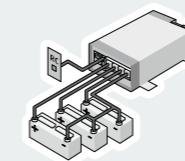
IU 452A



IU 802A

230 V > 12 V

230 V > 24 V



	IU 452A	IU 254A
Battery outputs	Three	
Input voltage range	207 – 253 volts AC/50 – 60 Hz	
End-of-charging voltage	14.4/14.8 volts DC	28.8/29.6 volts DC
Float charging voltage	13.8 volts DC	27.6 volts DC
Max. battery capacity	500 Ah	300 Ah
U0 phase limited at	8 h or 16 h	
Max. charging current	45 A	25 A
Operating temperature	0°C to +50°C	
Dimensions (W x H x D)	208 x 96 x 418 mm	
Weight	approx. 5.5 kg	
Quality features	Overload and short circuit protection, sleep mode, individually adjustable clip-on mounts, mounting aid with cable organiser, exhaust air adapter	
Test marks	CE	
Type of protection	Equivalent to IP 21	

Multi-stage IU0U curve, optimised for charging wet, gel and AGM batteries

Prevent battery overcharging due to limited time of the U0 phase (8/16 h)

Quick charging without power fluctuations

Sleep mode

Individually adjustable clip-on mounts

Mounting aid with cable organiser

Exhaust air adapter

Remote control and temperature sensor as accessories

	IU 802A	IU 404A
Battery outputs	Three	
Input voltage range	207 – 253 volts AC/50 – 60 Hz	
End-of-charging voltage	14.4/14.8 volts DC	28.8/29.6 volts DC
Float charging voltage	13.8 volts DC	27.6 volts DC
Max. battery capacity	800 Ah	400 Ah
U0 phase limited at	8 h or 16 h	
Max. charging current	80 A	40 A
Operating temperature	0°C to +50°C	
Dimensions (W x H x D)	208 x 96 x 453 mm	
Weight	approx. 6.5 kg	
Quality features	see above	
Test marks	CE	
Type of protection	Equivalent to IP 21	

Product	Ref. No.	Ref. No. UK
PerfectCharge IU 452A, 45 A, 12 volts	2222500004	9102500009
PerfectCharge IU 254A, 25 A, 24 volts	2222500005	9102500010
PerfectCharge IU 802A, 25 A, 12 volts	2222500006	9102500016
PerfectCharge IU 404A, 45 A, 24 volts	2222500007	9102500017
Optional extras		
Remote control	901-RC	
Temperature sensor	TF-500	

For simultaneous charging of 3 batteries



WAECO PerfectCharge Accessories

3.16

Remote control for IU0U automatic chargers of series IU152A to IU802A



Dimensions (W x D x H)	65 x 110 x 25 mm (22 mm built-in depth)
Quality features	LED for status indication, ON/OFF switch for sleep mode
Scope of delivery	Connection cable, approx. 5 m
Product	Ref. No.
Remote control	901-RC

Temperature sensor with 5 m supply cable



The IU0U chargers of series IU 152A to IU802A can be equipped with a temperature sensor available as optional extra. The temperature sensor adjusts the charging voltage to the current battery temperature. This ensures a better charge at cold temperatures and prevents battery gassing at high temperatures.

Product	Ref. No.
Temperature sensor	TF-500

IU0U charging technology at entry-level prices

Compact units for fast and gentle charging

Great performance, great price. The PerfectCharge "Compact class" offers all the benefits of IU0U charging technology. This tried and tested device was designed for charging leisure batteries up to 100 Ah. Ideal, for example, for motor batteries. With its large input voltage range, the charger compensates for power fluctuations. Advanced switch-mode design ensures high energy efficiency.

WAECO IU0U automatic chargers: perfect technology for charging leisure batteries up to 100 Ah



WAECO PerfectCharge IU 812

IU0U automatic charger, 12 volts
Optimal charging technology for 12-volt wet, gel and AGM batteries

3.16



Input voltage	230 volts AC
Input voltage range	180 to 253 volts AC / 50 to 60 Hz
Nominal battery voltage	12 volts DC
End-of-charging voltage	14.4 volts DC
Float charging voltage	13.6 volts DC
Maximum battery capacity	100 Ah
Charging curve	IU0U with limited IU0 phase
Maximum charging current	8 A
Operating temperature	0°C to +50°C
Dimensions (W x H x D)	120 x 70 x 200 mm
Weight	approx. 0.9 kg
Quality features	Overload and short-circuit protection
Test mark	CE

Modified IU0U curve, optimised for charging gel, wet and AGM batteries

Prevents battery overcharging due to limited time of the IU0 phase

Quick charging without power fluctuations

Can also be used as mains adapter

Product	Ref. No.
PerfectCharge IU 812, 8 A, 12 volts	808-012/1

Chargers for starter batteries

"Portable" power technology from WAECO – light, compact and functional

Here is professional help for the starter battery of your motorhome or towing vehicle. WAECO PerfectCharge battery chargers offer a decisive advantage over conventional chargers: the IU charging characteristics. The battery is initially charged at a constant current and subsequently at a constant voltage. The IU 8 and IU 12 models give your battery an additional float charge, which qualifies them as IU0U

chargers. This charging process is ideal for commonly used wet lead batteries as well as for gel and AGM batteries.

The highly functional portable chargers come in a high-quality aluminium / plastic cabinet. Available in three nominal charging current ratings, 6 A, 8 A and 12 A. Indispensable on the move and a must-have in every garage.



A firm hold on charging technology: WAECO PerfectCharge automatic chargers feature an ergonomically shaped carrying handle and are light weight for convenient handling.

Advanced WAECO design, highly functional down to the last detail: neat cable management instead of tangled cables, and a "garage" for battery clamps.

WAECO PerfectCharge IU 6, IU 8, IU 12

IU or IU0U automatic chargers

3.16



Features & functions

- Realistic charging current specifications
- High efficiency (up to 85%) with advanced switch-mode technology
- Float charging after charge stop (IU6: automatic charge stop)
- IU charging characteristics, 3-step (IU 6) or 4-step (IU 8, IU 12)**
 - Steps: 1. Battery check
 - 2. I-phase
 - 3. U-phase
 - 4. Float charging (IU 8 and IU 12)
- Safety circuits (protection against overload, overheat, short circuit, reverse poling)
- Automatic battery check (full or deep-discharged batteries won't be charged)
- Advanced, functional WAECO design with cable management
- High-grade finish in aluminium / plastic
- Especially handy and lightweight

	IU 6	IU 8	IU 12
Input voltage range	207 to 253 volts AC	207 to 253 volts AC	207 to 253 volts AC
Max. input current	1 A	1.5 A	2 A
Efficiency	up to 80%	up to 85%	up to 85%
No-load power consumption	6 watts	10 watts	10 watts
Nominal battery voltage	12 volts DC	12 volts DC	12 volts DC
Nominal charging current	6 A	8 A	12 A
Charging characteristics	IU-autom., 3-steps	IU0U-autom., 4-steps	IU0U-autom., 4-steps
Ambient temperature	0°C to +40°C	0°C to +40°C	0°C to +40°C
Dimensions (W x H x D) mm	155 x 148 x 198	155 x 148 x 228	155 x 148 x 228
Weight	1.53 kg	1.92 kg	1.92 kg

Product	Ref. No.
PerfectCharge IU 6, 6 A	MBC-IU6
PerfectCharge IU 8, 8 A	MBC-IU8
PerfectCharge IU 12, 12 A	MBC-IU12

Suitable for wet, gel and AGM batteries

Advanced, lightweight and efficient technology

Ergonomically shaped carrying handle

Neat cable management, no tangled cables

Inverters with pure sine wave voltage



SinePower MSP 2012
Pages 142 – 147

Inverters with modified sine wave voltage



PerfectPower PP 402
Pages 148 – 149

Inverter in pocket-size format



PocketPower TSI 102
Pages 150 – 151

Inverters from XS to XXL

Mobile power sockets

Whether it's for a car, motorhome or a boat – it makes sense to have 230 volts on board your leisure vehicle.

After all, enjoying your holiday means being able to use the electrical gadgets you are used to. The problem is they work on 230 volt sockets. Here the vehicle battery or leisure battery can be the power source for the on board system.

How do you turn 12 or 24 volts direct current into 230 volt alternating current? Quite simply: **by using a WAECO**

Inverter or sine wave inverter?

The right inverter for you depends on the type and power rating of the appliance to be connected. The low-priced inverters from the **WAECO PerfectPower** product range provide modified output voltage. This is perfectly adequate for all appliances with a wide input voltage range (hairdryers, vacuum cleaners).

Sensitive high-tech appliances with special start-up characteristics, e.g. audio/video devices, require a perfectly stable voltage supply. Fluctuations may cause failure or even damage them. You'll always be on the safe side with the sine wave inverters from the **WAECO SinePower** product range, as they supply stable 230 volt input voltage just like from a home power socket.

inverter. The comprehensive range of inverters has been tailored to suit a variety of applications. It accounts for all your needs – if you just want a reasonably priced compact unit to run your laptop or if you are often on the road and would like to run your microwave or espresso machine using an inverter. All units feature outstanding quality and a contemporary, user-friendly design.

Modified or pure sine wave voltage supply is also provided by the small **PocketPower smart inverters**, designed for mobile use of laptops and the like.

Basically, the most demanding electrical appliance determines the choice of inverter. A single appliance on board requiring a pure sine wave inverter. You should also consider the starting current of the devices. Compressor refrigerators, for example, can consume up to ten times more than their nominal power consumption.



Most frequent applications include: charging mobile phone batteries, cameras, torch lights, power tools, satellite aerials, DVD players, TV sets ...

Minimal power requirements for some electrical appliances

Device	Power rating	Quality of the output voltage
Coffee maker (filter)	800 – 1500 watts	modified sine wave voltage
Coffee maker (pads)	1200 – 1600 watts	pure sine wave voltage
Espresso machine	1200 – 1600 watts	pure sine wave voltage
Microwave oven	1000 – 1600 watts	modified sine wave voltage
Toaster	1000 – 1500 watts	modified sine wave voltage
Electric kettle	1000 – 1500 watts	modified sine wave voltage
Reading lamp	50 – 100 watts	modified sine wave voltage
Energy-saving bulb	10 – 20 watts	pure sine wave voltage
Fluorescent tube	50 – 100 watts	pure sine wave voltage
Audio/video device	100 – 200 watts	pure sine wave voltage
Laptop computer	100 – 200 watts	modified sine wave voltage
Power drill/circular saw	500 – 1500 watts	modified sine wave voltage
Vacuum cleaner	1000 – 1600 watts	modified sine wave voltage
Electrical toothbrush	50 watts	pure sine wave voltage

Example:

- > Largest appliance on board is a toaster with 1400 watts
- > The technically most demanding appliance is an electric toothbrush with 50 watt output

Our recommendation:

A sine wave inverter with at least 1400 watts:
WAECO SinePower MSP 1512

Alternatively:

WAECO PerfectPower PP 2002 for the toaster and an additional sine wave inverter **SinePower MSP 162** for the toothbrush

Pure or modified sine wave voltage?

Pure sine wave voltage

The voltage is precisely controlled by a microprocessor. The result: a clean sine wave voltage, like that from a home power socket

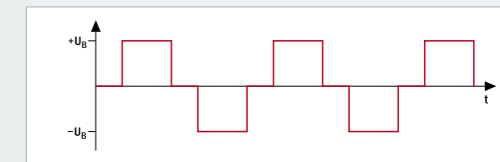
> **WAECO SinePower sine wave inverters (p. 142 – 147)**



Modified sine wave voltage

The voltage produces a stepped curve simulating a sine wave. The result: an output voltage of stable amplitude and frequency

> **WAECO PerfectPower inverters (p. 148 – 149)**



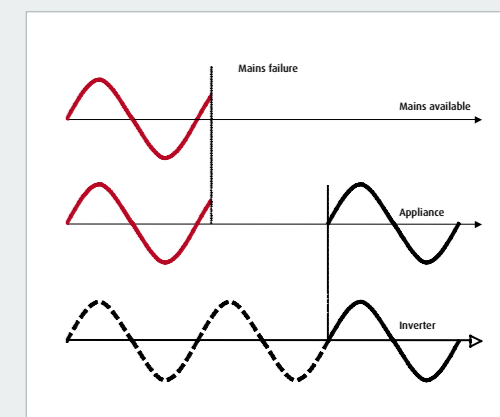
What are the advantages of a mains priority circuit with voltage synchronisation?

All larger inverters in the PerfectPower and SinePower series feature an integrated mains priority circuit. This automatically gives priority to mains power as soon as it is available. Consequently, the inverter is switched off and the battery saved as soon as your boat or motorhome has access to an external mains supply.

Mains priority circuit with voltage synchronisation

All high-performance inverters of the WAECO SinePower series have been equipped with this technical highlight. Here's why it makes sense. Many 230-volt appliances depend on an uninterrupted power supply. Moreover, it is vital to ensure a "smooth" voltage switch-over, which is exactly what the **MSP 702 to 2524 sine wave inverters** provide. In these units the inverter voltage is synchronised to match the mains voltage, and the switchover takes place in a fraction of a second.

Only this integrated solution – the combination of inverter and mains priority circuit – permits a smooth switch-over and provides optimum protection for electrical appliances.



Sine wave inverters, 700 watts and above

High-performance inverters with pure sine wave voltage

Prize-winning prior to market launch, it hardly comes as a surprise that the SinePower inverter series has been able to convince the most demanding jurors. The units with continuous power ratings of 700 watts and more clearly come up to **professional standards**. Delivering pure sine wave voltage, they are the best possible choice for highly sensitive and powerful electrical appliances. They meet industry standards and combine ultimate user comfort with

invaluable technical features. The **mains supply priority circuit with voltage synchronisation**, for example, switches to the mains power as soon as it is available and ensures uninterrupted voltage supply to the connected appliances with a smooth switch-over. Or the automatic activation of the "sleep mode" when no 230 volt appliances are being operated – saving energy and reducing the strain on the on-board battery!

- 1 Battery – connection
- 2 Battery + connection
- 3 Switch for configuration
- 4 Mains input fuse
- 5 Output for remote control 1
- 6 Output for remote control 2 (RS232)
- 7 Mains input socket
- 8 Inverter output socket
- 9 Earth connection
- 10 Exhaust air adapter



Integrated mains priority circuit with voltage synchronisation



Display

A particularly well-designed detail including the main switch (ON/OFF/remote) and three LEDs to indicate the charging level, power output and input voltage range. The display is integrated in the unit at a 45° angle so that it can easily be checked from various positions.



Sleep mode

When no 230 volt appliance is operated the sine wave inverter automatically turns to sleep mode to reduce the strain on the vehicle battery.



Cable organiser

With cable guides ready at hand and all connections on one side, everything can be kept nice and neat.



DIP switches

Using the DIP switches you can activate the power-save mode and set the desired output rating. When a connected appliance requires an output higher than the set value, the inverter will run in normal mode. When the output is lower than the one set it will run in the power-save mode.



Clip-on mounts

Individually adjustable clip-on mounts permit adaptation to special installation requirements with perfect results. Additionally, each unit is supplied with a mounting plate, especially helpful for (vertical-) mounting the heavier units.



Accessories

Two remote control models make the assets of the SinePower sine wave inverters complete. You can choose the inexpensive standard model or opt for the high-end version, either is suitable for switchboard mounting.

WAECO SinePower MSP 702 / MSP 704 / MSP 1012 / MSP 1024 / MSP 1512 / MSP 1524

3.30

Sine wave inverters 700 / 1000 / 1500 watts
Turn 12 or 24 volts battery voltage into pure 230 volts AC



	MSP 702 / MSP 704	MSP 1012 / MSP 1024	MSP 1512 / MSP 1524
Input voltage	12 volts DC (10.5 – 15 volts) or 24 volts DC (21 – 30 volts)		
Output voltage / curve	230 volts AC / pure sine wave		
Output frequency	50 Hz		
Sleep mode current input	0.25 / 0.15 A	0.25 / 0.15 A	0.28 / 0.15 A
No-load current input	1.2 / 0.6 A	1.25 / 0.65 A	1.4 / 0.7 A
Continuous power	700 watts	1000 watts	1500 watts
Peak power	1400 watts	2000 watts	3000 watts
Efficiency up to	90% / 92%	90% / 93%	90% / 93%
Dimensions (W x H x D mm)	190 x 90 x 380	225 x 117 x 435	225 x 117 x 465
Weight	approx. 5.5 kg	7.6 kg	8.4 kg
Quality features	Integrated mains priority circuit with voltage synchronisation, over-voltage and low-voltage cut-off, overload and short circuit protection, outputs for remote control and external ON / OFF switch, adapter for heat dissipation hose, IEC socket / plug, individually adjustable clip-on mounts, cable organiser and mounting plate, three-colour LED for status indication, microprocessor-controlled output voltage, sleep-mode function, AC connection cable with earthed safety plug, AC connection cable with earthed safety socket		
Test marks	Certified to ECE-R10, CE		
Type of protection	Equivalent to IP 21		

Microprocessor-controlled electronics for pure sine wave voltage

Integrated mains priority circuit with voltage synchronisation

Overload and short circuit protection

RS232 output for remote control or computer and output for connection of an external switch

Individually adjustable clip-on mounts

Product	Ref. No.	Ref. No. UK
SinePower MSP 702, 700 watts, 12 volts	MSP700-012	9102600020
SinePower MSP 704, 700 watts, 24 volts	MSP700-024	9102600021
SinePower MSP 1012, 1000 watts, 12 volts	MSP1000-012	9102600008
SinePower MSP 1024, 1000 watts, 24 volts	MSP1000-024	9102600009
SinePower MSP 1512, 1500 watts, 12 volts	MSP1500-012	9102600010
SinePower MSP 1524, 1500 watts, 24 volts	MSP1500-024	9102600011
Optional extras		
DC connection cable for MSP 702 / 704, 25 mm ² , 1.5 m	9102700001	
DC connection cable for MSP 1012 / 1024 and MSP 1512 / 1524, 35 mm ² , 1.5 m	9102700002	



WAECO SinePower MSP 2012 / MSP 2024 / MSP 2512 / MSP 2524

3.30

Sine wave inverters 2000 watts / 2500 watts
Turn 12 or 24 volts battery voltage into pure 230 volts AC



	MSP 2012 / MSP 2024	MSP 2512 / MSP 2524
Input voltage	12 volts DC (10.5 to 15 volts) or 24 volts DC (21 to 30 volts)	
Output voltage / curve	230 volts AC / pure sine wave	
Output frequency	50 Hz	
Sleep mode current input	0.6 / 0.3 A	0.6 / 0.35 A
No-load current input	2.3 / 1.1 A	2.4 / 1.5 A
Continuous power	2000 watts	2500 watts
Peak power	4000 watts	5000 watts
Efficiency up to	90% / 93%	90% / 93%
Dimensions (W x H x D mm)	349 x 116 x 516	349 x 116 x 546
Weight	approx. 15.5 kg	16.9 kg
Quality features	Integrated mains priority circuit with voltage synchronisation, over-voltage and low-voltage cut-off, overload and short circuit protection, outputs for remote control and external ON / OFF switch, adapter for heat dissipation hose, IEC socket / plug, individually adjustable clip-on mounts, cable organiser and mounting plate, three-colour LED for status indication, microprocessor-controlled output voltage, sleep-mode function, AC connection cable with earthed safety plug, AC connection cable with earthed safety socket	
Test marks	Certified to ECE-R10, CE	
Type of protection	Equivalent to IP-21	

Microprocessor-controlled electronics for pure sine wave voltage

Integrated mains priority circuit with voltage synchronisation

Overload and short circuit protection

RS232 output for remote control or computer and output for connection of an external switch

Individually adjustable clip-on mounts

Product	Ref. No.	Ref. No. UK
SinePower MSP 2012, 2000 watts, 12 volts	MSP2000-012	9102600014
SinePower MSP 2024, 2000 watts, 24 volts	MSP2000-024	9102600015
SinePower MSP 2512, 2500 watts, 12 volts	MSP2500-012	9102600016
SinePower MSP 2524, 2500 watts, 24 volts	MSP2500-024	9102600017
Optional extras		
DC connection cable for MSP 2012 / 2024, 50 mm ² , 1.0 m	9102700003	
DC connection cable for MSP 2512 / 2524, 70 mm ² , 1.0 m	9102700004	



WAECO SinePower Accessories

3.30

Remote controls for sine wave inverters



	MCR-7 (MSP 702 to MSP 2524)	MCR-9 (MSP 162 to MSP 2524)
Dimensions	130 x 120 x 25 mm (W x H x D)	58 x 72 x 28 mm (W x H x D)
Weight	400 g	40 g
Cable length	7.5 m	7.5 m
Quality features	Low-voltage, over-voltage, overheat and overload indicated by red LEDs, stand-by and power on indicated by green LEDs	Power on indicated by red LED

Product	Ref. No.
Comfort remote control	MCR-7
Standard remote control	MCR-9

Two models to choose from

Both remote controls are suitable for switchboard mounting



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INNOVATIONS FOR NEW MOBILITY

Sine wave inverters up to 350 watts

Pure sine wave voltage for sensitive appliances

Even the “smaller” SinePower sine wave inverters with 150 and 350 watts feature the distinctive design of WAECO electronics. They turn 12- or 24-volt battery power into pure 230 volt AC, just like the power from your domestic source. This makes them ideal for electrical appliances that are sensitive to fluctuations in the on-board power

supply. Convenient details include adjustable mounts, an output for connecting a remote control and an external ON/OFF switch.



A “garage” for 12 or 24 volt plugs (MSP 162 and MSP 164 models)



Back with output for remote control



Display with main switch and LEDs



Individually adjustable clip-on mounts

WAECO SinePower MSP 162 / MSP 164 / MSP 352 / MSP 354

Sine wave inverters 150/350 watts

Turn 12 or 24 volts battery voltage into pure 230 volts AC

3.30



MSP 162



MSP 352

	MSP 162 / MSP 164	MSP 352 / MSP 354
Input voltage	12 volts DC (11 – 15 volts) or 24 volts DC (22 – 30 volts)	
Output voltage / curve	230 volts AC / pure sine wave	
Output frequency	50 Hz	
No-load current input	12 volts: 1.2 A, 24 volts: 0.6 A	
Continuous power	150 watts	350 watts
Peak power	300 watts	700 watts
Efficiency	Up to 90%	
Dimensions (W x H x W)	157 x 64 x 243 mm	
Weight	approx. 2 kg	approx. 2.2 kg
Quality features	Overload and short circuit protection, over-voltage and low-voltage cut-off, reverse pole protection by fuse, can be switched on or off by external switch, output for remote control, MSP162 / MSP164 with 12- or 24-volt cigarette lighter plug	
Test marks	Certified to ECE-R10, CE	
Type of protection	Equivalent to IP 21	

Microprocessor-controlled electronics for pure sine wave voltage

Overload and short circuit protection

Can be switched on or off by external switch

Individually adjustable clip-on mounts

Output for remote control

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Product	Ref. No.	Ref. No. UK
SinePower MSP 162, 150 watts, 12 volts	MSP160-012	9102600012
SinePower MSP 164, 150 watts, 24 volts	MSP160-024	9102600013
SinePower MSP 352, 350 watts, 12 volts	MSP350-012	9102600018
SinePower MSP 354, 350 watts, 24 volts	MSP350-024	9102600019
Optional extras		
Standard remote control	MCR-9	

Inverters with modified sine wave voltage

230 volts for many commonly used appliances

High product quality, a distinctive look, top technology, numerous comfort features: the WAECO PerfectPower series inverters provide everything a premium appliance should. The units up to 550 watts are particularly light and compact. They turn 12 or 24 volt battery voltage into a sine-wave-like 230-volt alternating voltage, which is fully adequate for a multitude of applications. This inverter

generation demonstrates great potential. Take installation for instance, adjustable clip-on mounts allow for perfect adaptation to individual needs. For those looking for extra comfort and prefer activating their inverter from the dashboard, there is an additional outlet for an external switch.



WAECO PerfectPower PP 152 / PP 154 / PP 402 / PP 404 / PP 602 / PP 604

Inverters 150 / 350 / 550 watts

Turn 12 or 24 volts battery voltage into 230 volts AC

3.18



PP 152



PP 402



PP 602

	PP 152 / PP 154	PP 402 / PP 404	PP 602 / PP 604
Input voltage	12 volts DC (11 – 15 volts) or 24 volts DC (22 – 30 volts)		
Output voltage / curve	230 volts AC / modified sine wave		
Output frequency	50 Hz		
No-load current input	0.25 A	0.25 A	0.25 A
Continuous power	150 watts	350 watts	550 watts
Peak power	350 watts	700 watts	1100 watts
Cooling	Built-in fan		
Efficiency	Up to 90%	Up to 90%	Up to 90%
Dimensions (W x H x D)	129 x 71 x 177 mm	129 x 71 x 192 mm	129 x 71 x 237 mm
Weight	approx. 0.84 kg	approx. 0.99 kg	approx. 1.4 kg
Quality features	Overload and short circuit protection, over-voltage and low-voltage cut-off, reverse pole protection by fuse, overheat cut-off, units can be switched on or off by external switch, individually adjustable clip-on mounts, PP 152 / PP 154 with cigarette lighter plug		
Test marks	Certified to ECE-R10, CE		
Type of protection	Equivalent to IP 21		

Also suitable for appliances with PFC control

High peak output

Reverse pole protection by exchangeable fuse

Individually adjustable clip-on mounts

Can be switched on or off by external switch

PP 152/PP 154 with cigarette lighter plug



Back: ON / OFF switch and outlet for an external ON / OFF switch

Front: Earthed safety socket and LEDs for function check

Mounting aid: Individually adjustable clip-on mounts

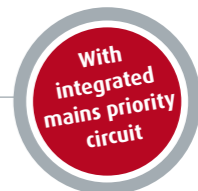
Product	Ref. No.	Ref. No. UK
PerfectPower PP 152, 150 watts, 12 volts	PP152	PP152/UK
PerfectPower PP 154, 150 watts, 24 volts	PP154	PP154/UK
PerfectPower PP 402, 350 watts, 12 volts	PP402	PP402/UK
PerfectPower PP 404, 350 watts, 24 volts	PP404	PP404/UK
PerfectPower PP 602, 550 watts, 12 volts	PP602	PP602/UK
PerfectPower PP 604, 550 watts, 24 volts	PP604	PP604/UK

High-performance inverters

Modified sine wave voltage for powerful 230-volt appliances

Microwave ovens, toasters and vacuum cleaners are real “power burners”, yet convenient to have on board. Operation is no problem either with a high-performance inverter from the new PerfectPower series described above. The 1000- or 2000-watt models generate a sine-wave-like 230-volt alternating voltage for particularly powerful appliances. User benefits add up to an all-round treat including perfect design, premium quality, and a variety of technical extras for enhanced comfort.

Just take the **mains priority circuit**, designed to switch over to mains power as soon as it is available. Or the soft-start function, which ensures gentle starting even for powerful appliances. Cable organisers, exhaust air adapter, outputs for remote control and external ON / OFF switch, adjustable mounts, mounting plate – the PerfectPower high-performance inverters leave nothing to be desired!



WAECO PerfectPower PP 1002 / PP 1004 / PP 2002 / PP 2004

High-performance inverters with integrated mains priority circuit, 1000 / 2000 watts

Turn 12 or 24 volts battery voltage into 230 volts AC

3.18



PP 1002



PP 2002



	PP 1002 / PP 1004	PP 2002 / PP 2004
Input voltage	12 volts DC (11 – 15 volts) or 24 volts DC (22 – 30 volts)	
Output voltage / curve	230 volts AC / modified sine wave	
Output frequency	50 Hz	
No-load current input	< 0.8 A	< 1.5 A
Continuous power	1000 watts	2000 watts
Peak power	2000 watts	4000 watts
Cooling	Built-in fan	
Efficiency	Up to 85%	Up to 85%
Mains priority	Integrated	
Mains input voltage	230 volts AC / 10 A	230 volts AC / 10 A
Dimensions (W x H x D)	176 x 95 x 338 mm	176 x 95 x 443 mm
Weight	approx. 3.5 kg	approx. 5 kg
Quality features	Mains priority circuit, overload and short circuit protection, outputs for remote control and external ON / OFF switch, individually adjustable clip-on mounts, cable organiser and mounting plate, AC connection cable with earthed safety plug	
Test marks	Certified to ECE-R10, CE	
Type of protection	Equivalent to IP 21	

With integrated mains priority circuit

High peak output for especially powerful appliances

Overload and short circuit protection

Can be switched on or off by external switch

Output for remote control

Individually adjustable clip-on mounts



Front with input and mains input fuse



Nice and neat: all cables on the back

Product	Ref. No.	Ref. No. UK
PerfectPower PP 1002, 1000 watts, 12 volts	PP1002	9102600003
PerfectPower PP 1004, 1000 watts, 24 volts	PP1004	9102600004
PerfectPower PP 2002, 2000 watts, 12 volts	PP2002	9102600005
PerfectPower PP 2004, 2000 watts, 24 volts	PP2004	9102600006
Optional extras		
DC connection cable for PP 1002 / 1004, 35 mm ² , 1.5 m	9102700005	
DC connection cable for PP 2002 / 2004, 50 mm ² , 1.0 m	9102700006	
Standard remote control	MCR-9	



Inverters in pocket-size format

Mobile power for notebooks and more

Sales representatives, craftsmen, technical service crews – more and more business travellers depend on their laptops. Mobile computers work on limited battery power. So they are likely to let you down when you need them most. Connected in the line between the laptop and the cigarette lighter, PocketPower smart inverters put you on the safe side. The compact units take power from the 12-volt car battery to ensure hassle-free operation of your mobile computer by keeping its battery fully

charged all the time. The inexpensive **PocketPower SI 102** generates a sine-wave-like 230-volt alternating voltage, which is perfectly adequate for many applications. The **PocketPower TSI 102** is the best choice to ensure the safe and smooth operation of highly sensitive electrical appliances: its pure sine wave voltage, earthed safety socket and other comfort features place this product in a class of its own.

Handy, convenient, one-of-a-kind!

It's unique in the market: the PocketPower TSI 102 is the first smart inverter that delivers a pure sine wave voltage and features an earthed safety socket. Treating yourself to this kind of "everyday luxury" means providing connected appliances with the best possible choice – and yourself, too ...



WAECO PocketPower SI 102

Smart inverter for mobile use
Turns 12 volts battery voltage into 230 volts AC



Features & functions

- › Lightweight, small, handy
- › For operation of laptops and other low-power appliances
- › Low-voltage and over-voltage cut-off
- › Overload and short-circuit protection
- › With USB charging port
- › Mounting bracket
- › Euro socket

Nominal input voltage	12 volts DC (11 – 15 volts)
Output voltage / curve	230 volts AC / modified sine wave
Output voltage USB	5 volts / 0.5 A
Output frequency	50 Hz
No-load current input	< 0,4 A
Continuous power	100 watts
Peak power	200 watts
Low-voltage cut-off	10.8 volts
Cooling	Built-in fan
Energy efficiency	Up to 90%
Dimensions (W x H x D)	67 x 43 x 125 mm
Weight	282 g
Test mark	Certified to ECE-R10, CE

Attention! Not suitable for use in the UK

Product	Ref. No.
PocketPower SI 102, 100 watts, 12 volts	2222600001

Ideal for mobile operation of laptops

Lightweight and compact

Smart features – small price!

Cigarette lighter connection

USB charging port

LED status indication

3.29

WAECO PocketPower TSI 102

Smart inverter for mobile use
Turns 12 volts battery voltage into 230 volts AC



Features & functions

- › Pure sine wave output voltage
- › For operation of laptops and other low-power appliances
- › Low-voltage and over-voltage cut-off
- › Overload and short-circuit protection
- › With USB charging port
- › Mounting bracket
- › Earthed safety socket

Nominal input voltage	12 volts DC (11 – 15 volts)
Output voltage / curve	230 volts AC / pure sine wave
Output voltage USB	5 volts, 0.5 A
Output frequency	50 Hz
No-load current input	< 0.8 A
Continuous power	120 watts
Peak power	200 watts
Low-voltage cut-off	10.8 volts
Cooling	Built-in fan
Energy efficiency	Up to 90%
Dimensions (W x H x D)	92 x 64 x 180 mm
Weight	650 g
Test mark	Certified to ECE-R10, CE

Attention! Not suitable for use in the UK

Product	Ref. No.
PocketPower TSI 102, 120 watts, 12 volts	2222600002

Ideal for mobile operation of laptop computers

Pure sine wave voltage

Earthed safety socket

Cigarette lighter connection

USB charging port

LED status indication

3.29



Voltage converters for universal use

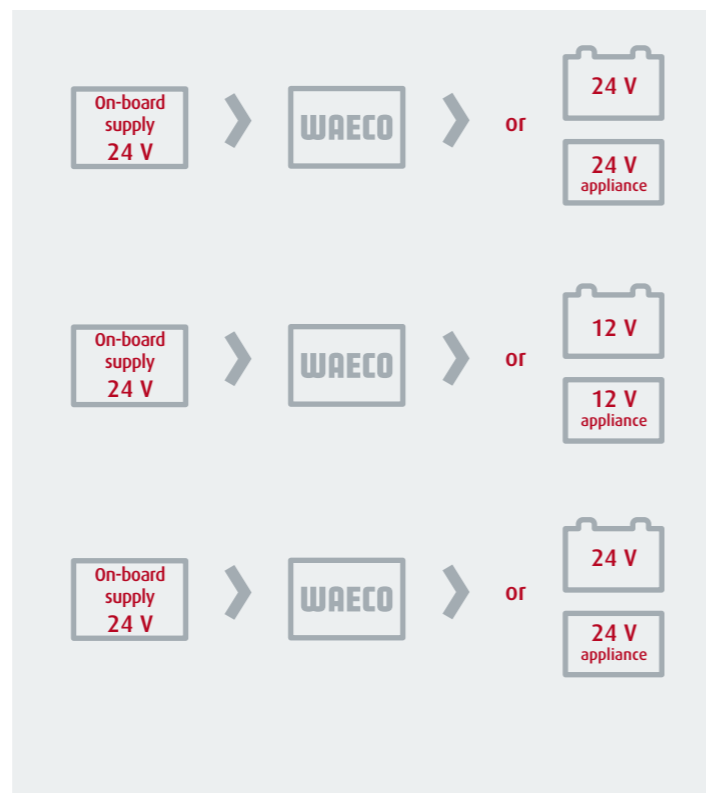
The perfect link between vehicle battery and appliance

They combine what was never intended to be combined. If the 12-volt navigation system is powered by the 24-volt on-board battery and the 24-volt fleet management computer easily copes with a 12-volt supply, there's bound to be a PerfectPower voltage converter somewhere along the line.

In these units, the input voltage is electrically isolated from the output voltage to compensate for under- and over-voltage on the input side.

Due to this feature, the voltage converters meet the highest demands for **voltage stability** and **operating safety**. This makes them ideal for sensitive appliances or use in safety-conscious areas, e.g. hazardous goods transport.

PerfectPower voltage converters have an electronically regulated output voltage, to which they owe their **extra function as a high-quality IU charger**. Moreover, several converters **can be used in parallel**.



WAECO PerfectPower DCDC 10 / DCDC 20 / DCDC 40

Voltage converters 10, 20 or 40 A

3.18



DCDC 10



DCDC 20



DCDC 10



DCDC 20



DCDC 40

Features & functions

- › High energy efficiency
- › Electrically isolated output voltage
- › Clean output voltage
- › Parallel operation possible
- › IU battery charging curve
- › Additional ON / OFF input
- › Stabilises the battery / generator voltage
- › Stabilises the on-board power supply during engine start
- › EMC optimised for the automotive industry

	DCDC 10	DCDC 20
Nominal input voltage	12 volts DC	12 volts DC
Input voltage range	8 to 16 volts DC	8 to 16 volts DC
Output current	10 A	20 A
Output voltage	27.6 ± 0.1 volts	27.6 ± 0.1 volts
Energy efficiency	87%	87%
Ripple & Noise	40 mA	40 mA
Dimensions (W x H x D)	115 x 70 x 155 mm	115 x 70 x 240 mm
Weight	1.2 kg	1.9 kg
Test mark	e-approved to Automotive EMC Directive	

Product	Ref. No.
PerfectPower DCDC 10, 10 A, 12 volts » 24 volts	DC1224-10
PerfectPower DCDC 20, 20 A, 12 volts » 24 volts	DC1224-20

	DCDC 10
Nominal input voltage	24 volts DC
Input voltage range	20 to 32 volts DC
Output current	10 A
Output voltage	27.6 ± 0.1 volts
Energy efficiency	87%
Ripple & Noise	40 mA
Dimensions (W x H x D)	115 x 70 x 140 mm
Weight	1.0 kg
Test mark	e-approved to Automotive EMC Directive

Product	Ref. No.
PerfectPower DCDC 10, 10 A, 24 volts » 24 volts	DC2424-10

	DCDC 20	DCDC 40
Nominal input voltage	24 volts DC	24 volts DC
Input voltage range	20 to 32 volts DC	20 to 32 volts DC
Output current	20 A	40 A
Output voltage	13.8 ± 0.1 volts	13.8 ± 0.1 volts
Energy efficiency	87%	87%
Ripple & Noise	20 mA	20 mA
Dimensions (W x H x D)	115 x 70 x 155 mm	115 x 70 x 240 mm
Weight	1.2 kg	1.9 kg
Test mark	e-approved to Automotive EMC Directive	

Product	Ref. No.
PerfectPower DCDC 20, 20 A, 24 volts » 12 volts	DC2412-20
PerfectPower DCDC 40, 40 A, 24 volts » 12 volts	DC2412-40

Ideal for sensitive appliances

Can also be used as battery chargers

To increase capacity, several converters can be used in parallel

Ideal for larger motorhomes with 12- or 24-volt starter battery and 12- or 24-volt leisure battery