



trak | charger HF premium

HF Chargers
Efficient and interactive



Power is our passion...

You are looking at the results of 90 years' work. 90 years of passion for innovative solutions for mobile power supplies – 90 years of German engineering skill and the aim of never being satisfied with what we have already achieved.

This is only possible thanks to the employees, who continuously support us along this path. Together with our business partners, we have continued to push the limits forwards and ensure that the impossibilities of yesterday have now become a jointly achieved reality.

Only through our partnership with you, we are able to create the perfect symbiosis of economically optimised solutions and state-of-the-art technological products.

With our structure of nearly 2000 employees at more than 20 locations around the world, we are always close to you and keep our finger on the pulse of pioneering innovations.

Flexibility in the design of your projects and extremely reliable products are our every day aims. With highly available local service we have ensured a thorough understanding of your special challenges for decades.

If you expect more than just a product but a competent partner who is always at your side, HOPPECKE is the right choice for you.



trak | charger HF premium

Efficient and interactive

Modern logistics solutions make continually increasing demands on every component in the process chain. The response to fluctuating energy requirements must be increasingly flexible, and of course with particular consideration of the highest possible efficiency.

With the new trak | charger HF premium HOPPECKE provides a future-proof solution, which in many details has decisive advantages over other chargers. Automatic recharging of all forklift trucks can be implemented regardless of the state of discharge. trak | charger HF premium charges your batteries gently and efficiently, and can be easily integrated into battery monitoring systems to collect, evaluate and visualise all of the data from the network.

Whether for electrically powered goods and warehouse logistics in industry or in commercial environments, optimal networking ensures the greatest possible efficiency and sustainably protects the environment.

By individual adjustment of the charging specification depending on the state of the battery, an optimum charging strategy can be developed.

Automatic compensation charges at the optimum time ensure a longer service life. With the HOPPECKE monitoring systems, the state of usage (SOU) and state of readiness (SOR) are always in view, to ensure the optimum use of the batteries in your business.

With HOPPECKE state-of-the-art products and intelligent networking, potential savings of up to 30% can be achieved. Therefore the trak | charger HF premium is a secure investment in reliability and efficiency



Your benefit

with HOPPECKE high frequency technology

First class overall efficiency

In a system with our batteries and controlled by our monitoring systems, you can achieve energy savings of up to 30% in comparison with conventional solutions.

Precise and plannable charging times through power conversion independent of the mains voltage

Thanks to the automatic mains compensation of the high frequency technology, your batteries have a controlled charging curve, which enables precise charging times.

A secure investment for the future

With the trak | charger HF premium you have a charger for gentle and optimum charging of all industrially relevant battery technologies: lead-acid, alkali and lithium-ion batteries.

Lower operating costs

The high quality reactive current compensation as standard and the high efficiency of the trak | charger HF premium of over 90% ensure a considerable reduction of your energy consumption. Energy savings for each charging cycle of approx. 14% in comparison with conventional 50 Hz chargers can be achieved. This reduces your carbon footprint and makes a positive contribution to the achievement of climate protection targets.

Easy and economical integration

Quick and easy commissioning avoids large and cost-intensive electrical installations.

Higher vehicle availability

Using the quick charge capability, your batteries can be charged to 95% of their original state of charge within 2.5 hours to ensure greater availability of your vehicles.

Greater reliability

Due to the parallel power output stages, vehicles can still be charged, even if a module fails.

Great versatility

Accessory components and options can be retrofitted or enabled at any time. Therefore the system can grow with your requirements, without interrupting operations.

Greater transparency thanks to lifetime documentation

Thanks to the large data memory, the entire service life of the battery charging system can be fully tracked – for simple and paperless evaluation.

The most important new features at a glance

- ▶ Improved operating reliability and productivity
- ▶ Extremely versatile
- ▶ Increase of system efficiency and effectiveness by up to 30%
- ▶ Improved vehicle availability (even in shift plus operation)
- ▶ Longer battery life
- ▶ Reduced maintenance costs
- ▶ Greater productivity





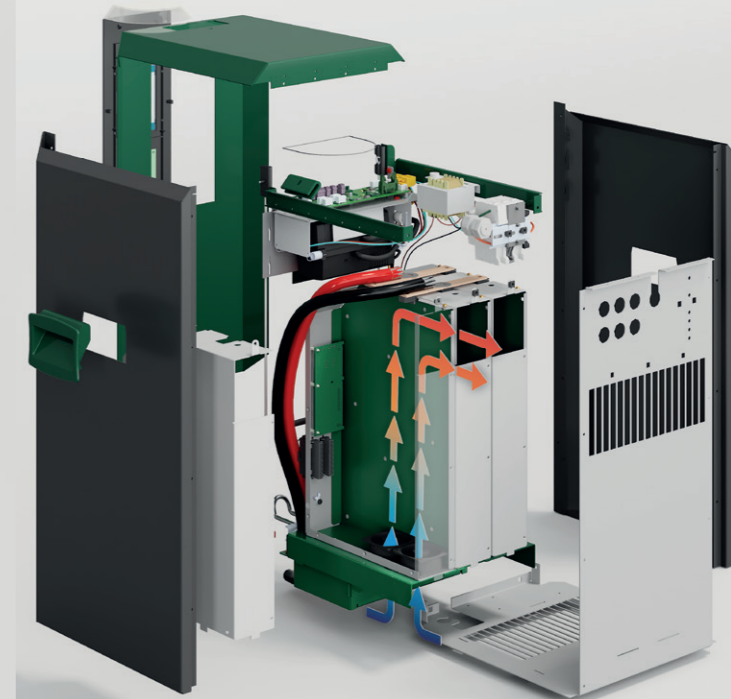
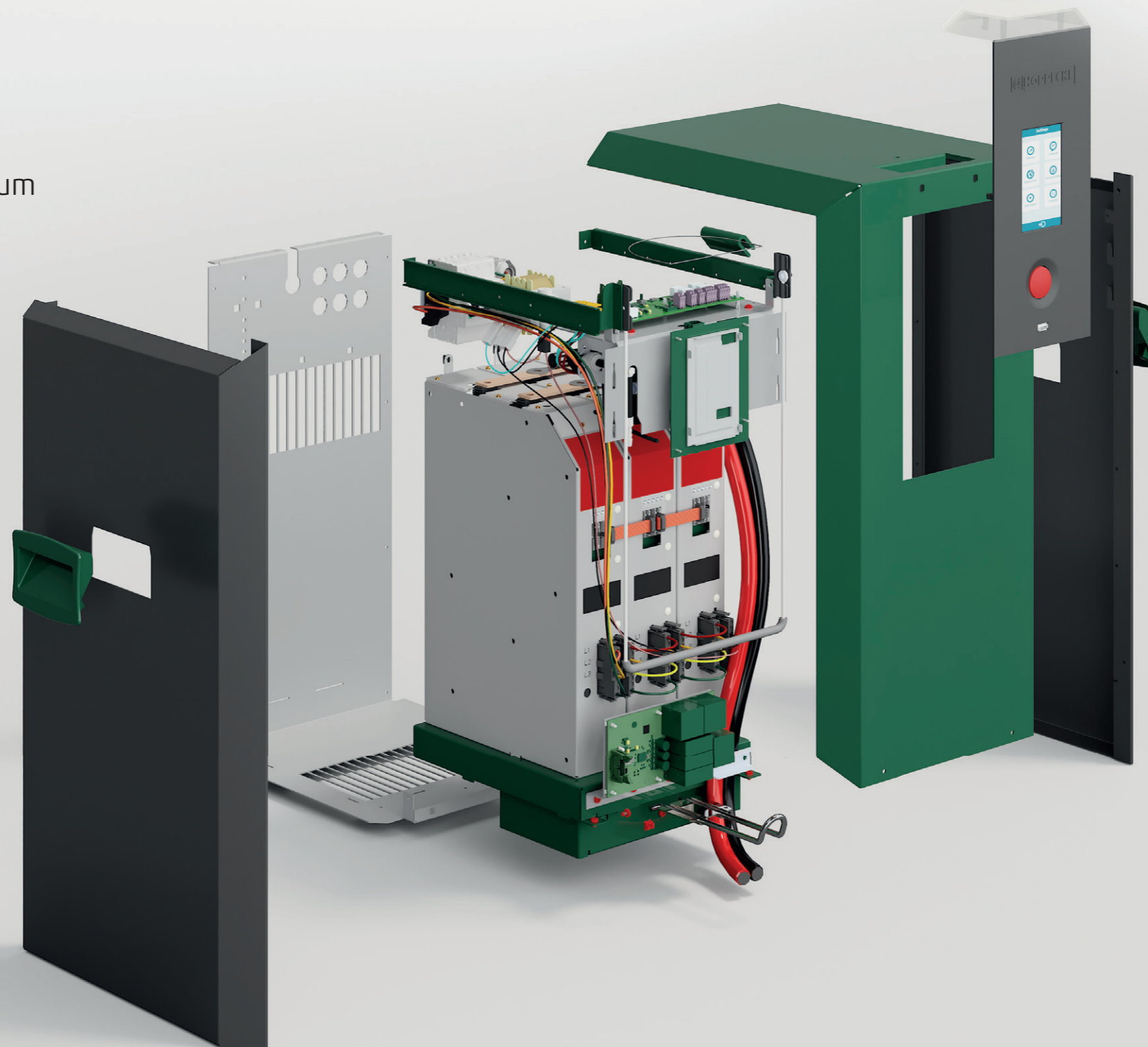
trak | charger HF premium

Perfect in every detail

Innovative charging

With the trak | charger HF premium all battery technologies in all possible applications can be charged thanks to adaptable charging processes. In addition, all chargers have a very wide range of battery charging voltages (24 V to 80 V) and capacities (64 Ah to 1550 Ah). Information about all battery charging cycles and their energy consumption is saved over the entire lifetime. This enables evaluation of the performance and consumption data, as well as planning of maintenance cycles.

The stored data can be read out via the USB port which is installed on the front of the charger, and are then available for further processing. These data can also be transmitted to higher level system components via a HOPPECKE trak | monitor system.

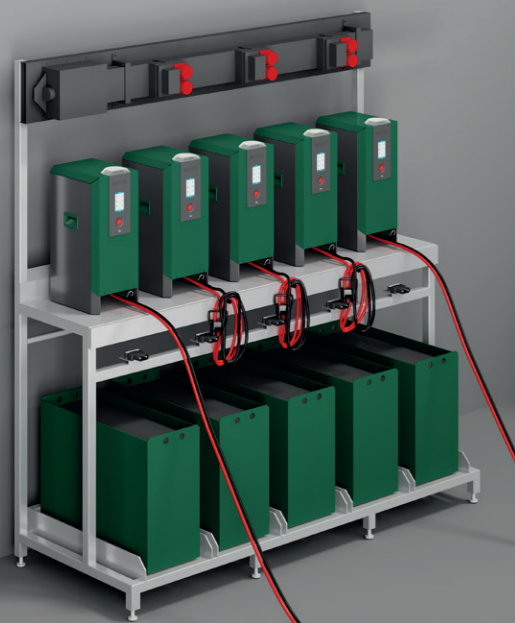


Clever and Cooler

The new twin-chamber cooling system with additional encapsulation of the electronic components ensures more efficient cooling of the trak | charger HF premium in a very small space. In addition, this achieves better protection of sensitive components against aerosols and commonly occurring conductive dust, for example due to tyre wear.

Highly effective lacquer coating of the circuit boards for increased reliability is standard with HOPPECKE chargers.

In addition, the modern control electronics and new power output stages ensure especially energy-saving operation.



Compact and lightweight design

Thanks to its clean design and high power density, the trak | charger HF premium is especially space saving and compact to install.

Therefore it is the ideal solution for achieving large energy and space savings when planning new buildings.

The new models are suitable for both – wall and rack mounting. The two housing sizes cover the majority of battery technologies, voltages and capacities which are available on the market.



Modular

With its modular structure, the trak | charger HF premium can be directly adapted to changing conditions, e.g. faster and more flexible charging, greater safety requirements due to redundancy.

Configuration and identification of the parallel power output stages is performed automatically without additional software and can be directly enabled on the Multi Colour Touch Screen.



trak | charger HF premium

Perfect in every detail

Robust industrial design

Together with experienced industrial designers, the new trak | charger HF premium has succeeded in perfectly combining our past experience with pioneering and innovative features. Our aim has always been to combine the best possible ergonomomy with an optimum service life.

The new design features a special edge profile, ergonomic recessed grips, protected recessed plastic components and clean routing of the power and communication cables, as well as the new plug-in wall mounting system.

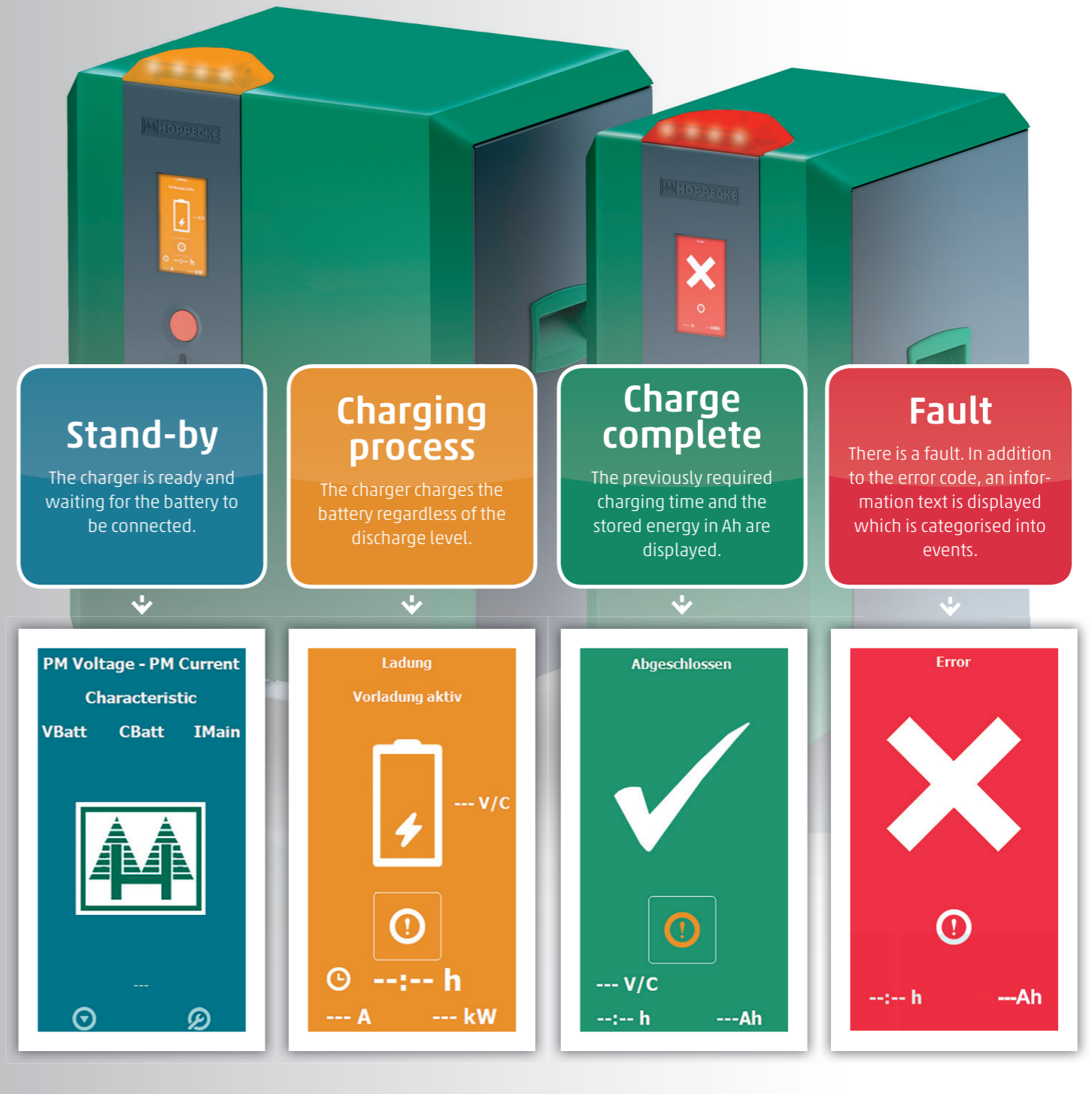
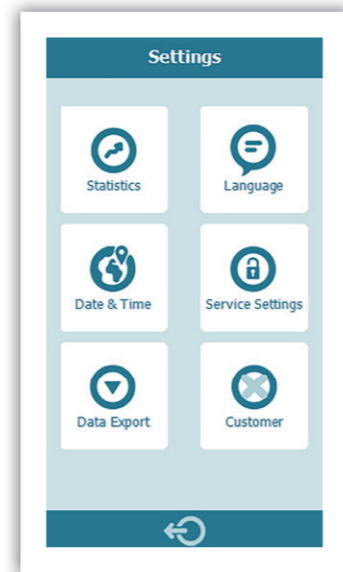
Intuitive touch screen operation

The new series impresses with its intuitive operation and menus. The multi-colour touch screen is the communication centre for the new generation of chargers. With this, all relevant data regarding the state of the charger, parameterisation, run-time analyses and customer data can be accessed and many functions can be controlled in a very user-friendly manner.

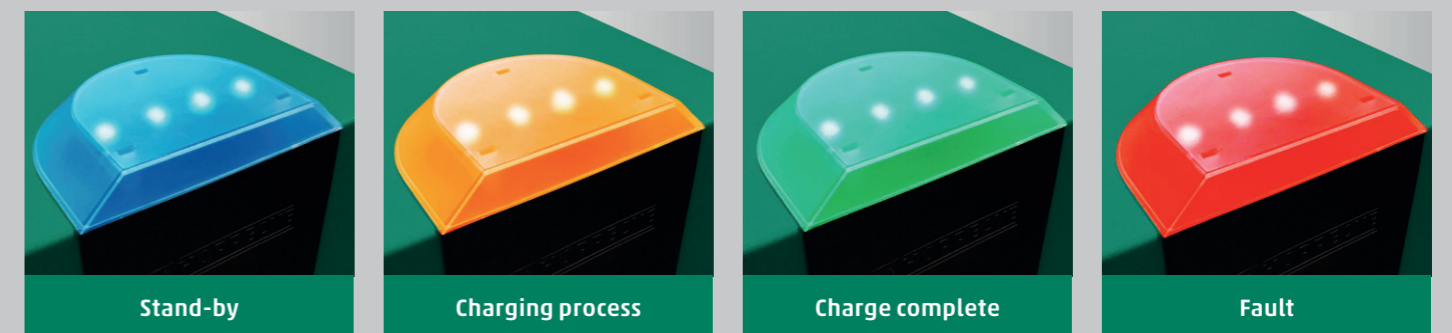
Furthermore, national and metric settings can be made and all data can be easily saved on external storage media at any time with the download function.

The 360°-display enables a rapid overview of the readiness and availability of your charging station – even from a long distance.

Settings
Individual settings can be made here.



The 360°status board





Accessories and options at a glance

trak | collect

trak | collect is currently the most intelligent battery controller for lead-acid traction batteries in all industrial applications. All relevant battery data are measured, evaluated and provided in the network.

During operation, trak | collect records the battery voltage, the average voltage of the battery, the charging and discharge current, the battery temperature and the electrolyte level. On the basis of this, the state of charge, the state of usage, the state of readiness, current profiles as well as the charged and discharged Ampere-hours and Watt-hours are determined in real time. This enables detailed analysis as well as early rectification of faults.

trak | monitor

Networked chargers

With trak | monitor you have all power and consumption data in view: Information about all chargers and batteries in the company are provided on a central computer and can be easily evaluated. This provides the greatest possible transparency and decisions can be made on the basis of real-time data. You also have access to the control of ventilation, access and water, and can monitor the production of hydrogen.

Battery replacements in your fleet can also be optimally controlled with the trak | monitor system. This ensures equal use and a long service life for your batteries. In addition, you also avoid unnecessary charging.

- ▶ Support for battery changes – quick and safe
- ▶ Always the right battery – fully charged battery in good condition
- ▶ Equal use – no under-use or over-use
- ▶ The battery can cool down sufficiently after charging
- ▶ "Best Charged" function option

trak | remote

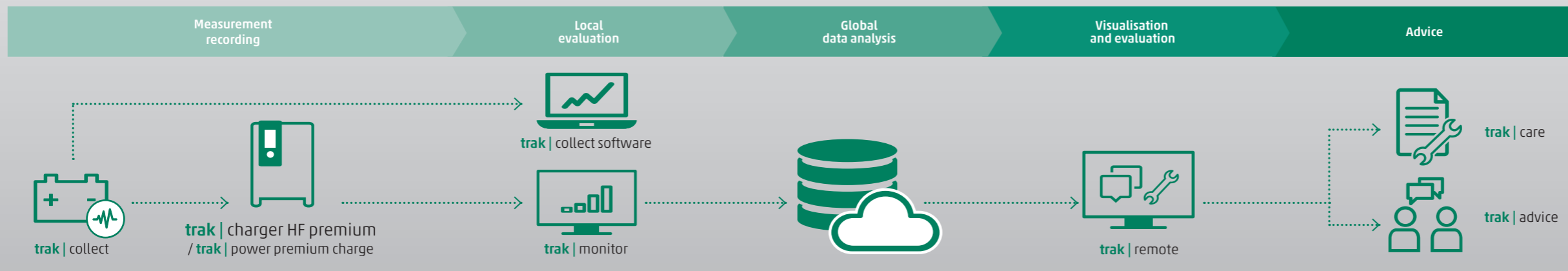
The measurement data which are recorded by the trak | charger HF premium can then be transmitted to the new, central trak | remote system.

Vehicle pool and rental fleet operators, service technicians as well as vehicle manufacturers can efficiently plan and control logistics processes involving the deployment of electrically powered forklift trucks, which results in greater economic efficiency. By including HOPPECKE service technicians in your processes, immediate response to messages is possible. By means of secure remote access to the systems via a VPN link, interruptions to production can either be avoided in advance or remedied immediately.

There is no need to wait for a technician, and if necessary, spare parts are more quickly available on-site, which saves valuable time. HOPPECKE offers attractive long-term contracts for trak | remote, which sustainably reduce your costs.

trak | air

Use of HOPPECKE trak | air technology optimises your battery charging. Electrolyte circulation with the introduction of air reduces charging times by up to 2.5 hours and considerably reduces energy and maintenance costs by up to 30%. In addition, vehicle pool availability is increased and water consumption is reduced by 75%. This also achieves a greater service life-expectancy and greater efficiency by avoiding undercharging and overcharging.



Wall mounting system

The HOPPECKE wall mounting system is a space-saving solution which is easy to use and can be easily installed using the supplied drilling template.

Dust filter

The HOPPECKE dust filter is designed for use in dusty environments, for example in the wood and paper processing industries.

Transmission from charging stations

HOPPECKE devices are always designed as part of a system. By transmitting the data, for example from the charging stations, to external devices, energy-optimised control of the chargers is possible.

Cable holders

A tidy workplace not only looks good, it also ensures greater safety and prevents unnecessary damage to components. This is achieved by the cable holder for hanging up the charging cable – so that no one is injured due to plugs and cables lying on the floor.

Remote switch-on and switch-off

Remote switching is used to control the charger with signals from other system components, e.g. from energy management systems. It is therefore ideal for integration into automatic charging procedures, for example with driverless transport systems or automatic contact with charging lines.

Automatic water top-up

Avoid unnecessary maintenance effort through the automatic monitoring and control of water top-up for lead-acid batteries. Through a voltage signal at the right time, the automatic filling process for your traction batteries is implemented without effort.

Convenient remote control

To cater for special applications, the HOPPECKE charger provides the option for integrating a remote control. The control unit is mirrored on the remote control and therefore retains all of the facilities for intuitive operation.

Pre-emptive switch-off

HOPPECKE supplies the fastest pre-emptive switch-off available on the market, and therefore ensures greater occupational safety and trouble-free operation.

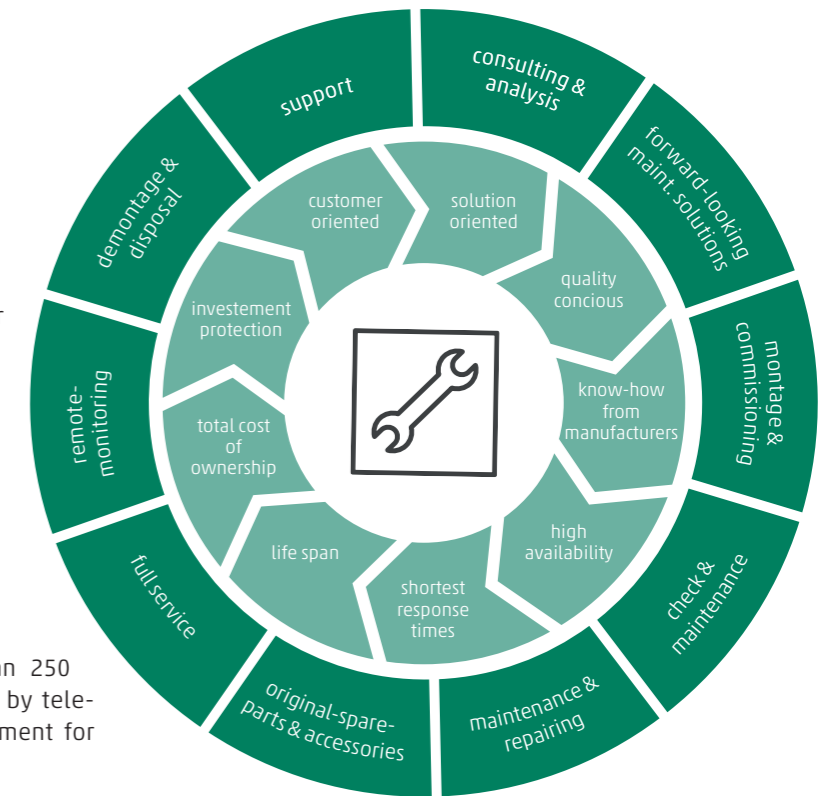
External charge level display

The charging state of the device is also visibly indicated by the use of power LEDs. Therefore, you can see the actual status of the device and the charge at a glance.



Our service makes the difference

Under the heading "Lifecycle Services" we offer you far more than just products. From the initial idea, to consultation, installation and ongoing service up to disassembly and recycling, you have HOPPECKE professionals at your side, who make processes simple and transparent and ensure the smooth operation of your company in every situation.



Hotline and technical support

Extensive European service network with more than 250 experts at 15 locations, who are always available - by telephone or on site. International Key Account Management for internationally operating partners.

Analysis and advice

Technological and application advice on site. Process, optimisation, safety and efficiency analyses by certified HOPPECKE professionals. Target group oriented instruction and training for every application.

Monitoring

By linking your systems to the HOPPECKE Remote Service Portal, you integrate our technicians directly into your system environment. In this way, your systems are optimally monitored; HOPPECKE professionals respond proactively to any abnormalities and remedy these immediately.

Installation and commissioning, disassembly and recycling

Our installation teams are professionals in their field and not only ensure simple installation and maintenance according to schedule, but also provide complete turnkey solutions. I.e. complete installation, acceptance and handover to you.

And of course, when the time comes, proper and legally compliant disassembly, including recycling and documentation (certified according to ISO 9001/2008, ISO 14001 and ISO 50001).

Testing, maintenance and repair

With regular servicing, you extend the service life, reduce down times and ensure permanent functional safety. This ensures smooth operation, compliance with all legal regulations and protects your investment.





Device selection list

Type	Module	Output current	PzS wet batteries charging curve/charging time/battery capacity [Ah] IUIa curve without EUW			PzS wet batteries charging curve/charging time/battery capacity [Ah] IUIa curve with EUW			AC plug connector	Housing dimensions			Weight without packaging (depending on extension)				
			[Ah]	7-8 h	8-10 h	10-12 h	5-6 h	6-8 h		8-10 h	voltage [V]	H [mm]		B [mm]	T [mm]	[kg]	
D400	24 / 30	B-F 14	TCHF - (T)	1	30	120-158	158-240	240-316		130-176	176-261	261-333	CEE 16A 400 V 3~	687	302	362	29 *
D400	24 / 40	B-F 14	TCHF - (T)	1	40	160-211	211-320	320-421		174-235	235-348	348-444	CEE 16A 400 V 3~	687	302	362	29 *
D400	24 / 50	B-F 14	TCHF - (T)	1	50	200-263	263-400	400-526		217-294	294-435	435-556	CEE 16A 400 V 3~	687	302	362	29 *
D400	24 / 60	B-F 14	TCHF - (T)	1	60	240-316	316-480	480-632		261-353	353-522	522-667	CEE 16A 400 V 3~	687	302	362	29 *
D400	24 / 70	B-F 14	TCHF - (T)	2	70	280-368	368-560	560-737		304-412	412-609	609-778	CEE 16A 400 V 3~	687	302	362	34 *
D400	24 / 80	B-F 14	TCHF - (T)	2	80	320-421	421-640	640-842		348-471	471-696	696-889	CEE 16A 400 V 3~	687	302	362	34 *
D400	24 / 90	B-F 14	TCHF - (T)	2	90	360-474	474-720	720-947		391-529	529-783	783-1,000	CEE 16A 400 V 3~	687	302	362	34 *
D400	24 / 100	B-F 14	TCHF - (T)	2	100	400-526	526-800	800-1,053		435-588	588-870	870-1,111	CEE 16A 400 V 3~	687	302	362	34 *
D400	24 / 110	B-F 14	TCHF - (T)	2	110	440-579	579-880	880-1,158		478-647	647-957	957-1,222	CEE 16A 400 V 3~	687	302	362	34 *
D400	24 / 120	B-F 14	TCHF - (T)	2	120	480-632	632-960	960-1,263		522-706	706-1,043	1,043-1,333	CEE 16A 400 V 3~	687	302	362	34 *
D400	24 / 130	B-F 14	TCHF - (T)	2	130	520-684	684-1,040	1,040-1,368		565-765	765-1,130	1,130-1,444	CEE 16A 400 V 3~	687	302	362	40 *
D400	24 / 140	B-F 14	TCHF - (T)	3	140	560-737	737-1,120	1,120-1,474		609-824	824-1,217	1,217-1,556	CEE 16A 400 V 3~	687	302	362	40 *
D400	24 / 150	B-F 14	TCHF - (T)	3	150	600-789	789-1,200	1,200-1,579		652-882	882-1,304	1,304-1,667	CEE 16A 400 V 3~	687	302	362	40 *
D400	24 / 160	B-F 14	TCHF - (T)	3	160	640-842	842-1,280	1,280-1,684		696-941	941-1,391	1,391-1,778	CEE 16A 400 V 3~	687	302	362	40 *
D400	24 / 170	B-F 14	TCHF - (T)	3	170	680-895	895-1,360	1,360-1,789		739-1,000	1,000-1,478	1,478-1,889	CEE 16A 400 V 3~	687	302	362	40 *
D400	24 / 180	B-F 14	TCHF - (T)	3	180	720-947	947-1,440	1,440-1,895		783-1,059	1,059-1,565	1,565-2,000	CEE 16A 400 V 3~	687	302	362	40 *
D400	24 / 190	B-F 14	TCHF - (T)	3	190	760-1,000	1,000-1,520	1,520-2,000		826-1,118	1,118-1,652	1,652-2,111	CEE 16A 400 V 3~	687	302	362	40 *
D400	24 / 200	B-F 14	TCHF - (T)	4	200	800-1,053	1,053-1,600	1,600-2,105		870-1,176	1,176-1,739	1,739-2,222	CEE 32A 400 V 3~	690	471	368	48 **
D400	24 / 210	B-F 14	TCHF - (T)	4	210	840-1,105	1,105-1,680	1,680-2,211		913-1,235	1,235-1,826	1,826-2,333	CEE 32A 400 V 3~	690	471	368	48 **
D400	24 / 220	B-F 14	TCHF - (T)	4	220	880-1,158	1,158-1,760	1,760-2,316		957-1,294	1,294-1,913	1,913-2,444	CEE 32A 400 V 3~	690	471	368	48 **
D400	24 / 230	B-F 14	TCHF - (T)	4	230	920-1,211	1,211-1,840	1,840-2,421		1,000-1,353	1,353-2,000	2,000-2,556	CEE 32A 400 V 3~	690	471	368	48 **
D400	24 / 240	B-F 14	TCHF - (T)	4	240	960-1,263	1,263-1,920	1,920-2,526		1,043-1,412	1,412-2,087	2,087-2,667	CEE 32A 400 V 3~	690	471	368	48 **
D400	24 / 250	B-F 14	TCHF - (T)	4	250	1,000-1,316	1,316-2,000	2,000-2,632		1,087-1,471	1,471-2,174	2,174-2,778	CEE 32A 400 V 3~	690	471	368	48 **
D400	24 / 300	B-F 14	TCHF - (T)	5	300	1,200-1,579	1,579-2,400	2,400-3,158		1,304-1,765	1,765-2,609	2,609-3,333	CEE 32A 400 V 3~	690	471	368	52 **

* small housing

** medium housing

All chargers are available in 5-A steps within their product range.





Device selection list

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			[Ah]	7-8 h	8-10 h	10-12 h	5-6 h	6-8 h		8-10 h	voltage [V]	H [mm]		B [mm]	T [mm]	[kg]	
D400	36 / 30	B-F 14	TCHF - (T)	1	30	120-158	158-240	240-316		130-176	176-261	261-333	CEE 16A 400 V 3~	687	302	362	29 *
D400	36 / 40	B-F 14	TCHF - (T)	1	40	160-211	211-320	320-421		174-235	235-348	348-444	CEE 16A 400 V 3~	687	302	362	29 *
D400	36 / 50	B-F 14	TCHF - (T)	1	50	200-263	263-400	400-526		217-294	294-435	435-556	CEE 16A 400 V 3~	687	302	362	29 *
D400	36 / 60	B-F 14	TCHF - (T)	1	60	240-316	316-480	480-632		261-353	353-522	522-667	CEE 16A 400 V 3~	687	302	362	29 *
D400	36 / 70	B-F 14	TCHF - (T)	2	70	280-368	368-560	560-737		304-412	412-609	609-778	CEE 16A 400 V 3~	687	302	362	34 *
D400	36 / 80	B-F 14	TCHF - (T)	2	80	320-421	421-640	640-842		348-471	471-696	696-889	CEE 16A 400 V 3~	687	302	362	34 *
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D400	36 / 100	B-F 14	TCHF - (T)	2	100	400-526	526-800	800-1,053		435-588	588-870	870-1,111	CEE 16A 400 V 3~	687	302	362	34 *
D400	36 / 110	B-F 14	TCHF - (T)	2	110	440-579	579-880	880-1,158		478-647	647-957	957-1,222	CEE 16A 400 V 3~	687	302	362	34 *
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D400	36 / 140	B-F 14	TCHF - (T)	3	140	560-737	737-1,120	1,120-1,474		609-824	824-1,217	1,217-1,556	CEE 16A 400V 3~	687	302	362	40 *
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D400	36 / 220	B-F 14	TCHF - (T)	4	220	880-1,158	1,158-1,760	1,760-2,316		957-1,294	1,294-1,913	1,913-2,444	CEE 32A 400 V 3~	690	471	368	48 **
D400	36 / 230	B-F 14	TCHF - (T)	4	230	920-1,211	1,211-1,840	1,840-2,421		1,000-1,353	1,353-2,000	2,000-2,556	CEE 32A 400 V 3~	690	471	368	48 **
D400	36 / 240	B-F 14	TCHF - (T)	4	240	960-1,263	1,263-1,920	1,920-2,526		1,043-1,412	1,412-2,087	2,087-2,667	CEE 32A 400 V 3~	690	471	368	48 **
D400	36 / 250	B-F 14	TCHF - (T)	4	250	1,000-1,316	1,316-2,000	2,000-2,632		1,087-1,471	1,471-2,174	2,174-2,778	CEE 32A 400 V 3~	690	471	368	48 **
D400	36 / 300	B-F 14	TCHF - (T)	5	300	1,200-1,579	1,579-2,400	2,400-3,158		1,304-1,765	1,765-2,609	2,609-3,333	CEE 32A 400 V 3~	690	471	368	52 **
D400	48 / 30	B-F 14	TCHF - (T)	1	30	120-158	158-240	240-316		130-176	176-261	261-333	CEE 16A 400 V 3~	687	302	362	29 *
D400	48 / 40	B-F 14	TCHF - (T)	1	40	160-211	211-320	320-421		174-235	235-348	348-444	CEE 16A 400 V 3~	687	302	362	29 *
D400	48 / 50	B-F 14	TCHF - (T)	1	50	200-263	263-400	400-526		217-294	294-435	435-556	CEE 16A 400 V 3~	687	302	362	29 *
D400	48 / 65	B-F 14	TCHF - (T)	1	65	240-316	316-480	480-632		261-353	353-522	522-667	CEE 16A 400 V 3~	687	302	362	29 *
D400	48 / 70	B-F 14	TCHF - (T)	2	70	280-368	368-560	560-737		304-412	412-609	609-778	CEE 16A 400 V 3~	687	302	362	34 *
D400	48 / 80	B-F 14	TCHF - (T)	2	80	320-421	421-640	640-842		348-471	471-696	696-889	CEE 16A 400 V 3~	687	302	362	34 *
D400	48 / 90	B-F 14	TCHF - (T)	2	90	360-474	474-720	720-947		391-529	529-783	783-1,000	CEE 16A 400 V 3~	687	302	362	34 *
D400	48 / 100	B-F 14	TCHF - (T)	2	100	400-526	526-800	800-1,053		435-588	588-870	870-1,111	CEE 16A 400 V 3~	687	302	362	34 *
D400	48 / 110	B-F 14	TCHF - (T)	2	110	440-579	579-880	880-1,158		478-647	647-957	957-1,222	CEE 16A 400 V 3~	687	302	362	34 *
D400	48 / 120	B-F 14	TCHF - (T)	2	120	480-632	632-960	960-1,263		522-706	706-1,043	1,043-1,333	CEE 16A 400 V 3~	687	302	362	34 *
D400	48 / 130	B-F 14	TCHF - (T)	2	130	520-684	684-1,040	1,040-1,368		565-765	765-1,130	1,130-1,444	CEE 16A 400 V 3~	687	302	362	40 *

* small housing

** medium housing



Device selection list

Type	Module	Output current	PzS wet batteries charging curve/charging time/battery capacity [Ah] IUIa curve without EUW			PzS wet batteries charging curve/charging time/battery capacity [Ah] IUIa curve with EUW			AC plug connector	Housing dimensions			Weight without packaging (depending on extension)				
			[Ah]	7-8 h	8-10 h	10-12 h	5-6 h	6-8 h		8-10 h	voltage [V]	H [mm]		B [mm]	T [mm]	[kg]	
D400	48 / 140	B-F 14	TCHF - (T)	3	140	560-737	737-1,120	1,120-1,474		609-824	824-1,217	1,217-1,556	CEE 16A 400 V 3~	687	302	362	40 *
D400	48 / 150	B-F 14	TCHF - (T)	3	150	600-789	789-1,200	1,200-1,579		652-882	882-1,304	1,304-1,667	CEE 16A 400 V 3~	687	302	362	40 *
D400	48 / 160	B-F 14	TCHF - (T)	3	160	640-842	842-1,280	1,280-1,684		696-941	941-1,391	1,391-1,778	CEE 16A 400 V 3~	687	302	362	40 *
D400	48 / 170	B-F 14	TCHF - (T)	3	170	680-895	895-1,360	1,360-1,789		739-1,000	1,000-1,478	1,478-1,889	CEE 16A 400 V 3~	687	302	362	40 *
D400	48 / 180	B-F 14	TCHF - (T)	3	180	720-947	947-1,440	1,440-1,895		783-1,059	1,059-1,565	1,565-2,000	CEE 16A 400 V 3~	687	302	362	40 *
D400	48 / 190	B-F 14	TCHF - (T)	3	190	760-1,000	1,000-1,520	1,520-2,000		826-1,118	1,118-1,652	1,652-2,111	CEE 16A 400 V 3~	687	302	362	40 *
D400	48 / 200	B-F 14	TCHF - (T)	4	200	800-1,053	1,053-1,600	1,600-2,105		870-1,176	1,176-1,739	1,739-2,222	CEE 32A 400 V 3~	690	471	368	48 **
D400	48 / 210	B-F 14	TCHF - (T)	4	210	840-1,105	1,105-1,680	1,680-2,211		913-1,235	1,235-1,826	1,826-2,333	CEE 32A 400 V 3~	690	471	368	48 **
D400	48 / 220	B-F 14	TCHF - (T)	4	220	880-1,158	1,158-1,760	1,760-2,316		957-1,294	1,294-1,913	1,913-2,444	CEE 32A 400 V 3~	690	471	368	48 **
D400	48 / 230	B-F 14	TCHF - (T)	4	230	920-1,211	1,211-1,840	1,840-2,421		1,000-1,353	1,353-2,000	2,000-2,556	CEE 32A 400 V 3~	690	471	368	48 **
D400	48 / 240	B-F 14	TCHF - (T)	4	240	960-1,263	1,263-1,920	1,920-2,526		1,043-1,412	1,412-2,087	2,087-2,667	CEE 32A 400 V 3~	690	471	368	48 **
D400	48 / 250	B-F 14	TCHF - (T)	4	250	1,000-1,316	1,316-2,000	2,000-2,632		1,087-1,471	1,471-2,174	2,174-2,778	CEE 32A 400 V 3~	690	471	368	48 **
D400	48 / 300	B-F 14	TCHF - (T)	5	300	1,200-1,579	1,579-2,400	2,400-3,158		1,304-1,765	1,765-2,609	2,609-3,333	CEE 32A 400 V 3~	690	471	368	52 **
D400	80 / 20	B-F 14	TCHF - (T)	1	20	80-105	105-160	160-211		87-118	118-174	174-222	CEE 16A 400 V 3~	687	302	362	30 *
D400	80 / 30	B-F 14	TCHF - (T)	1	30	120-158	158-240	240-316		130-176	176-261	261-333	CEE 16A 400 V 3~	687	302	362	30 *
D400	80 / 40	B-F 14	TCHF - (T)	1	40	160-211	211-320	320-421		174-235	235-348	348-444	CEE 16A 400 V 3~	687	302	362	30 *
D400	80 / 50	B-F 14	TCHF - (T)	2	50	200-263	263-400	400-526		217-294	294-435	435-556	CEE 16A 400 V 3~	687	302	362	35 *
D400	80 / 60	B-F 14	TCHF - (T)	2	60	240-316	316-480	480-632		261-353	353-522	522-667	CEE 16A 400 V 3~	687	302	362	35 *
D400	80 / 70	B-F 14	TCHF - (T)	2	70	280-368	368-560	560-737		304-412	412-609	609-778	CEE 16A 400 V 3~	687	302	362	35 *
D400	80 / 80	B-F 14	TCHF - (T)	2	80	320-421	421-640	640-842		348-471	471-696	696-889	CEE 16A 400 V 3~	687	302	362	35 *
D400	80 / 90	B-F 14	TCHF - (T)	3	90	360-474	474-720	720-947		391-529	529-783	783-1,000	CEE 16A 400 V 3~	687	302	362	40 *
D400	80 / 100	B-F 14	TCHF - (T)	3	100	400-526	526-800	800-1,053		435-588	588-870	870-1,111	CEE 16A 400 V 3~	687	302	362	40 *
D400	80 / 110	B-F 14	TCHF - (T)	3	110	440-579	579-880	880-1,158		478-647	647-957	957-1,222	CEE 16A 400 V 3~	687	302	362	40 *
D400	80 / 120	B-F 14	TCHF - (T)	3	120	480-632	632-960	960-1,263		522-706	706-1,043	1,043-1,333	CEE 16A 400 V 3~	687	302	362	40 *
D400	80 / 130	B-F 14	TCHF - (T)	4	130	520-684	684-1,040	1,040-1,368		565-765	765-1,130	1,130-1,444	CEE 32A 400 V 3~	690	471	368	50 **
D400	80 / 140	B-F 14	TCHF - (T)	4	140	560-737	737-1,120	1,120-1,474		609-824	824-1,217	1,217-1,556	CEE 32A 400 V 3~	690	471	368	50 **
D400	80 / 150	B-F 14	TCHF - (T)	4	150	600-789	789-1,200	1,200-1,579		652-882	882-1,304	1,304-1,667	CEE 32A 400 V 3~	690	471	368	50 **
D400	80 / 160	B-F 14	TCHF - (T)	4	160	640-842	842-1,280	1,280-1,684		696-941	941-1,391	1,391-1,778	CEE 32A 400 V 3~	690	471	368	50 **
D400	80 / 170	B-F 14	TCHF - (T)	5	170	680-895	895-1,360	1,360-1,789		739-1,000	1,000-1,478	1,478-1,889	CEE 32A 400 V 3~	690	471	368	55 **
D400	80 / 180	B-F 14	TCHF - (T)	5	180	720-947	947-1,440	1,440-1,895		783-1,059	1,059-1,565	1,565-2,000	CEE 32A 400 V 3~	690	471	368	55 **
D400	80 / 190	B-F 14	TCHF - (T)	5	190	760-1,000	1,000-1,520	1,520-2,000		826-1,118	1,118-1,652	1,652-2,111	CEE 32A 400 V 3~	690	471	368	55 **
D400	80 / 200	B-F 14	TCHF - (T)	5	200	800-1,053	1,053-1,600	1,600-2,105		870-1,176	1,176-1,739	1,739-2,222	CEE 32A 400 V 3~	690	471	368	55 **

* small housing

** medium housing

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