

Алматы (7273)495-231

Ангарск (3955)60-70-56

Архангельск (8182)63-90-72

Астрахань (8512)99-46-04

Барнаул (3852)73-04-60

Белгород (4722)40-23-64

Благовещенск (4162)22-76-07

Брянск (4832)59-03-52

Владивосток (423)249-28-31

Владикавказ (8672)28-90-48

Владимир (4922)49-43-18

Волгоград (844)278-03-48

Вологда (8172)26-41-59

Воронеж (473)204-51-73

Екатеринбург (343)384-55-89

Иваново (4932)77-34-06

Ижевск (3412)26-03-58

Иркутск (395)279-98-46

Казань (843)206-01-48

Калининград (4012)72-03-81

Калуга (4842)92-23-67

Кемерово (3842)65-04-62

Киров (8332)68-02-04

Коломна (4966)23-41-49

Кострома (4942)77-07-48

Краснодар (861)203-40-90

Красноярск (391)204-63-61

Курск (4712)77-13-04

Курган (3522)50-90-47

Липецк (4742)52-20-81

Магнитогорск (3519)55-03-13

Москва (495)268-04-70

Мурманск (8152)59-64-93

Набережные Челны (8552)20-53-41

Нижний Новгород (831)429-08-12

Новокузнецк (3843)20-46-81

Ноябрьск (3496)41-32-12

Новосибирск (383)227-86-73

Киргизия (996)312-96-26-47

Омск (3812)21-46-40

Орел (4862)44-53-42

Оренбург (3532)37-68-04

Пенза (8412)22-31-16

Петрозаводск (8142)55-98-37

Псков (8112)59-10-37

Пермь (342)205-81-47

Ростов-на-Дону (863)308-18-15

Рязань (4912)46-61-64

Самара (846)206-03-16

Саранск (8342)22-96-24

Санкт-Петербург (812)309-46-40

Саратов (845)249-38-78

Севастополь (8692)22-31-93

Симферополь (3652)67-13-56

Смоленск (4812)29-41-54

Сочи (862)225-72-31

Ставрополь (8652)20-65-13

Сургут (3462)77-98-35

Россия (495)268-04-70

Сыктывкар (8212)25-95-17

Тамбов (4752)50-40-97

Тверь (4822)63-31-35

Тольятти (8482)63-91-07

Томск (3822)98-41-53

Тула (4872)33-79-87

Тюмень (3452)66-21-18

Ульяновск (8422)24-23-59

Улан-Удэ (3012)59-97-51

Уфа (347)229-48-12

Хабаровск (4212)92-98-04

Чебоксары (8352)28-53-07

Челябинск (351)202-03-61

Череповец (8202)49-02-64

Чита (3022)38-34-83

Якутск (4112)23-90-97

Ярославль (4852)69-52-93

Казахстан (772)734-952-31



trak | charger HF mini

High frequency charger
for small traction applications

trak | charger HF mini

The unique HOPPECKE HF battery charger for small traction applications

Traction batteries are designed for special applications and form a system together with their charger. The operation of your vehicle and maximum life of your battery can be ensured only when this system is working in perfect harmony.

So that you may always be offered the very best system, HOPPECKE has designed and developed the trak | charger HF mini range in Germany.

The trak | charger HF mini charger series has been specially developed for smaller industrial trucks, electric forklifts, order picking trucks, lifting and working platforms, and cleaning machines. This series can be used for all lead motive power batteries on the market with a voltage of up to 48 V and guarantees optimal charging.

Thanks to HOPPECKE HF technology, the trak | charger HF mini has the lowest energy consumption with minimal losses when compared with conventional systems, and therefore gives the best energy efficiency. These especially energy-saving chargers merit a top spot on the rating scale for energy consumption, namely efficiency class 1A.

Typical Applications:

- Electric lift trucks
- Small industrial trucks
- Order pickers
- Cleaning machines
- Lifting and work platforms

trak | charger HF mini



Product benefits:

- **High-frequency (HF) charging technology**
- **Cost reduction through energy saving of around 12%** compared to conventional chargers with every charging operation
- **Great flexibility in operation**
- modular charger design
- **Optimal use of space in the charging station**
- compact and lightweight design



Customer benefits and features

- **Modular charger design, good flexibility: the charger may be adapted at any time to the circumstances in operation on site.**
- **Maximum possible operating reliability compared to standard chargers – faults do not lead to failure.**

The trak | charger HF mini comprises one to four power modules, which may be retrofitted at any time, to increase the rating of the charger (12V to 24V and 5A to 60A).

- **Fast and clear information in the charging station**

Power LEDs make it possible to read the state of charge of the battery from a greater distance.

- **Optimal use of space in the charging station**

This single-phase charger has a compact and lightweight design. The lower volume and weight make wall mounting possible. Rack installation is also an option. The bracket for rack mounting and the rear panel holes for wall mounting are available as standard features.

- **Enhanced operating safety**

All chargers in the range have been tested to the current EMC standard. Each individual module is given additional protection by primary and secondary fuses.



LED display

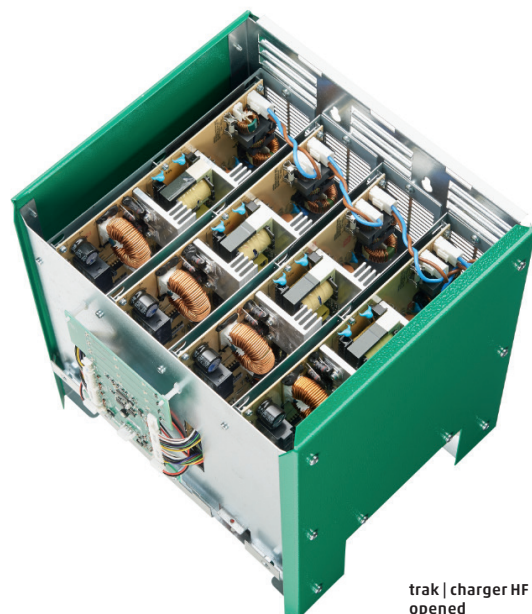
Blue	=	unit on standby
Yellow	=	unit is charging
Green	=	end of charging
Red	=	fault
STOP	=	interruption of charging

Standard equipment

- Power Factor Correction (PFC) Function
- Programmable external chip
- Complete plug-in mains and charging cable
- Fixture for wall and rack mounting
- Large LED display
- Stop button

Optional equipment features

- Charging plug connector
- Steel underframe for easy and rapid installation and reduction of contamination
- Special charging characteristic to reduce charging times
- Air filter for operation in dusty environments



trak | charger HF mini
opened

Customer benefits and features

- **Enhanced operating reliability**
- **Gentle and optimal charging of the battery**

The regulated HF charging system with automatic correction of possible mains power fluctuations of +/- 15% rules out insufficient charging or damage (or overcharging) due to mains power fluctuations.

- **Lower electrical installation costs**
- **Lower energy costs since there are no additional costs for power factor correction**

Thanks to the HF technology with controlled power factor correction – integrated PFC function – only effective power is drawn from the mains ($\cos \varphi \approx 0.98$).

- **Energy saving and reduction of costs by around 12% at each charging operation compared to conventional chargers**

The primary-cycled high-frequency charging system leads to an improvement of electrical efficiency of over 92%.

- **May be used with all types of battery - Freedom to decide on type of battery purchased.**
- **High level of flexibility in operation**

trak | charger HF mini may be used to charge all types of battery: lead-acid, AGM/lead gel, nickel-cadmium, nickel-metal hydride. Just change the chip installed in the front panel.

- **Perfect harmonisation with all battery types**

The ampere-hour balanced charging process allows charging with different characteristics as for example PUIoU, IU1a, IU or I.

- **More reliable operation without monitoring**

Thanks to the charging electronics used, after mains power failure the charging curve is automatically adapted to the actual state of charge of the battery.

- **Easy to operate - automatic start and stop**

With its regulated automatic charging feature, the charger starts and stops automatically. If required, the charging process may be interrupted by using the stop button on the front panel.

- **Constant ease of updating**
- **No specialist skills required on site**

The microprocessor-controlled charging electronics of the trak | charger HF mini may be programmed by plugging in an external chip.

- **Safer in operation, even at high ambient temperatures**

Equipment cooling is ensured through a temperature- and output-controlled fan.

Type list **trak** | charger HF mini

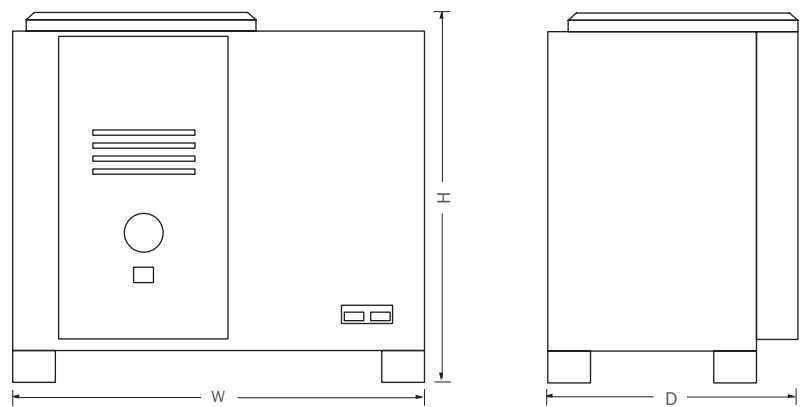
PzS batteries Vented (Ah C ₅) HOPP 3/Uoia		GEL-AGM system Sealed (Ah C ₅)	Charger type	Mains output [VA]	Mains current [A]	Mains fuse rating [A]
approx. 8 h	approx. 12 h	approx. 10 h				
38 - 115	60 - 180	60 - 100	E 12/15 HOHF mini	245	1.2	10
77 - 250	121 - 360	100 - 260	E 12/30 HOHF mini	450	2.2	10
114 - 345	180 - 525	150 - 390	E 12/45 HOHF mini	720	3.5	10
154 - 465	242 - 690	201 - 520	E 12/60 HOHF mini	960	4.6	10
38 - 115	60 - 180	60 - 100	E 24/15 HOHF mini	450	2.2	10
77 - 250	121 - 360	100 - 260	E 24/30 HOHF mini	890	4.3	10
114 - 345	180 - 525	150 - 390	E 24/45 HOHF mini	1335	6.5	10
154 - 465	242 - 690	242 - 520	E 24/60 HOHF mini	1780	8.6	10

Casing dimensions (W x H x D): 300 x 336 x 296 mm

trak | charger HF mini



Image similar



DATA SHEET

trak | charger LF classic



Reliable and robust 50Hz 1-phase and 3-phase chargers

Your advantages:

- ▶ Excellent value for money
- ▶ Discharge-independent automatic recharging in robust low-frequency technology
- ▶ One charger can charge several battery capacities without the need for separate programming
- ▶ Reliable and gentle charging independent of the degree of discharge
- ▶ Lower charging current changes in the event of mains deviations compared to WA chargers
- ▶ Simplest handling

Typical areas of application:

- ▶ Chargers for lead-acid traction batteries with liquid electrolyte
- ▶ Charging batteries from 24 to 80V DC
- ▶ Charging batteries from 45 to 1800Ah



Type overview trak | charger LF classic / -classic air

24V DC chargers: Capacity, dimensions and weight

Type	DC nominal voltage [V]	DC nominal current [A]	AC input voltage [V]	AC input current [A]	Dimensions (LxWxH) [mm]	Battery capacity 8h recharge time [Ah]	Weight LF classic [kg]	Weight LF classic air [kg]
trak charger LF classic F1 24/10	24	10	1~ 230	1.5	320x300x285	45-65	13	-
trak charger LF classic F1 24/15	24	15	1~ 230	2.2	320x300x285	65-95	14	-
trak charger LF classic F1 24/20	24	20	1~ 230	3.0	320x300x285	95-125	15	-
trak charger LF classic F1 24/25	24	25	1~ 230	3.7	320x300x285	120-155	16	-
trak charger LF classic F1 24/30	24	30	1~ 230	4.4	320x300x285	145-190	17	-
trak charger LF classic F1 24/35	24	35	1~ 230	5.1	320x300x285	165-220	18	-
trak charger LF classic F1 24/40	24	40	1~ 230	5.9	320x300x285	190-250	19	-
trak charger LF classic F1 24/45	24	45	1~ 230	6.6	320x300x285	215-280	21	-
trak charger LF classic F1 24/50	24	50	1~ 230	7.3	320x300x285	250-315	22	-
trak charger LF classic F1 24/55	24	55	1~ 230	8.1	320x300x285	260-345	23	-
trak charger LF classic F1 24/60	24	60	1~ 230	8.8	320x300x285	300-375	24	-
trak charger LF classic F1 24/65	24	65	1~ 230	9.6	320x300x285	310-405	24	-
trak charger LF classic F1 24/70	24	70	1~ 230	10.3	370x375x340	330-435	27	-
trak charger LF classic F1 24/80	24	80	1~ 230	11.8	370x375x340	380-500	29	47
trak charger LF classic E230 G 24/85	24	85	1~ 230	13.7	760x500x400	465-530	48	49
trak charger LF classic E230 G 24/90	24	90	1~ 230	14.6	760x500x400	495-560	48	49
trak charger LF classic E230 G 24/100	24	100	1~ 230	16.2	760x500x400	550-630	49	50
trak charger LF classic E230 G 24/125	24	125	1~ 230	20.2	760x500x400	690-780	56	57
trak charger LF classic D400 G 24/40	24	40	3~ 400	2.4	760x500x400	220-250	-	43
trak charger LF classic D400 G 24/50	24	50	3~ 400	3.0	760x500x400	275-315	44	45
trak charger LF classic D400 G 24/60	24	60	3~ 400	3.6	760x500x400	330-380	45	46
trak charger LF classic D400 G 24/80	24	80	3~ 400	4.8	760x500x400	440-505	50	51
trak charger LF classic D400 G 24/90	24	90	3~ 400	5.4	760x500x400	495-560	52	53
trak charger LF classic D400 G 24/95	24	95	3~ 400	5.7	760x500x400	520-595	52	53
trak charger LF classic D400 G 24/100	24	100	3~ 400	6.0	760x500x400	550-630	53	54
trak charger LF classic D400 G 24/110	24	110	3~ 400	6.6	760x500x400	605-685	54	55
trak charger LF classic D400 G 24/120	24	120	3~ 400	7.2	760x500x400	660-750	56	57
trak charger LF classic D400 G 24/125	24	125	3~ 400	7.5	760x500x400	690-780	58	59
trak charger LF classic D400 G 24/130	24	130	3~ 400	7.8	760x500x400	715-815	60	61
trak charger LF classic D400 G 24/140	24	140	3~ 400	8.4	760x500x400	770-875	60	61
trak charger LF classic D400 G 24/150	24	150	3~ 400	9.0	760x500x400	825-940	62	63
trak charger LF classic D400 G 24/160	24	160	3~ 400	9.6	760x500x400	880-1000	75	76
trak charger LF classic D400 G 24/170	24	170	3~ 400	10.2	760x500x400	935-1060	77	78
trak charger LF classic D400 G 24/180	24	180	3~ 400	10.8	760x500x400	990-1125	78	79
trak charger LF classic D400 G 24/185	24	185	3~ 400	11.1	760x500x400	1020-1155	79	80
trak charger LF classic D400 G 24/190	24	190	3~ 400	11.4	760x500x400	1045-1185	80	81
trak charger LF classic D400 G 24/200	24	200	3~ 400	12.0	760x500x400	1100-1250	81	82
trak charger LF classic D400 G 24/210	24	210	3~ 400	12.6	760x500x400	1155-1310	82	83
trak charger LF classic D400 G 24/220	24	220	3~ 400	13.2	760x500x400	1210-1375	85	86

Type overview trak | charger LF classic / -classic air

36V DC chargers: Capacity, dimensions and weight

Type	DC nominal voltage [V]	DC nominal current [A]	AC input voltage [V]	AC input current [A]	Dimensions (LxWxH) [mm]	Battery capacity 8h recharge time [Ah]	Weight LF classic [kg]	Weight LF classic air [kg]
trak charger LF classic F1 36/10	36	10	1-230	2.2	320x300x285	45-65	18	-
trak charger LF classic F1 36/15	36	15	1-230	3.3	320x300x285	65-95	19	-
trak charger LF classic F1 36/20	36	20	1-230	4.4	320x300x285	95-125	21	-
trak charger LF classic F1 36/25	36	25	1-230	5.5	320x300x285	120-155	22	-
trak charger LF classic F1 36/30	36	30	1-230	6.6	320x300x285	145-190	22	-
trak charger LF classic F1 36/35	36	35	1-230	7.7	320x300x285	165-220	23	-
trak charger LF classic F1 36/40	36	40	1-230	8.8	320x300x285	190-250	24	-
trak charger LF classic F1 36/45	36	45	1-230	9.9	320x300x285	215-280	26	-
trak charger LF classic F1 36/50	36	50	1-230	11.0	320x300x285	250-315	26	-
trak charger LF classic F1 36/55	36	55	1-230	12.1	320x300x285	260-345	28	-
trak charger LF classic F1 36/60	36	60	1-230	13.3	370x375x340	300-375	29	-
trak charger LF classic E230 G 36/75	36	75	1-230	18.2	760x500x400	410-470	46	47
trak charger LF classic E230 G 36/80	36	80	1-230	19.4	760x500x400	440-505	47	48
trak charger LF classic E230 G 36/85	36	85	1-230	20.6	760x500x400	465-530	50	51
trak charger LF classic E230 G 36/90	36	90	1-230	21.8	760x500x400	495-560	56	57
trak charger LF classic E230 G 36/100	36	100	1-230	24.3	760x500x400	550-630	58	59
trak charger LF classic E230 G 36/110	36	110	1-230	26.7	760x500x400	605-685	59	60
trak charger LF classic E230 G 36/120	36	120	1-230	29.1	760x500x400	660-750	60	61
trak charger LF classic E230 G 36/125	36	125	1-230	30.3	760x500x400	690-780	61	62
trak charger LF classic D400 G 36/40	36	40	3-400	3.6	760x500x400	220-250	49	50
trak charger LF classic D400 G 36/60	36	60	3-400	5.4	760x500x400	330-380	51	52
trak charger LF classic D400 G 36/65	36	65	3-400	5.8	760x500x400	355-405	52	53
trak charger LF classic D400 G 36/70	36	70	3-400	6.3	760x500x400	385-435	54	55
trak charger LF classic D400 G 36/80	36	80	3-400	7.2	760x500x400	440-505	57	58
trak charger LF classic D400 G 36/90	36	90	3-400	8.1	760x500x400	495-560	58	59
trak charger LF classic D400 G 36/95	36	95	3-400	8.5	760x500x400	520-595	59	60
trak charger LF classic D400 G 36/100	36	100	3-400	9.0	760x500x400	550-630	60	61
trak charger LF classic D400 G 36/110	36	110	3-400	9.9	760x500x400	605-685	61	62
trak charger LF classic D400 G 36/115	36	115	3-400	10.3	760x500x400	630-720	62	63
trak charger LF classic D400 G 36/120	36	120	3-400	10.8	760x500x400	660-750	64	65
trak charger LF classic D400 G 36/125	36	125	3-400	11.2	760x500x400	690-780	65	66
trak charger LF classic D400 G 36/130	36	130	3-400	11.7	760x500x400	715-815	66	67
trak charger LF classic D400 G 36/140	36	140	3-400	12.6	760x500x400	770-875	68	69
trak charger LF classic D400 G 36/150	36	150	3-400	13.5	760x500x400	825-940	70	71
trak charger LF classic D400 G 36/160	36	160	3-400	14.4	760x500x400	880-1000	72	73
trak charger LF classic D400 G 36/170	36	170	3-400	15.3	760x500x400	935-1060	73	74
trak charger LF classic D400 G 36/180	36	180	3-400	16.2	760x500x400	990-1125	75	76
trak charger LF classic D400 G 36/185	36	185	3-400	16.6	760x500x400	1020-1155	78	79
trak charger LF classic D400 G 36/190	36	190	3-400	17.1	760x500x400	1045-1185	82	83
trak charger LF classic D400 G 36/200	36	200	3-400	18.0	760x500x400	1100-1250	88	89
trak charger LF classic D400 G 36/210	36	210	3-400	18.9	760x500x400	1155-1310	90	91
trak charger LF classic D400 G 36/220	36	220	3-400	19.8	760x500x400	1210-1375	93	94

Type overview trak | charger LF classic / -classic air

48V DC chargers: Capacity, dimensions and weight

Type	DC nominal voltage [V]	DC nominal current [A]	AC input voltage [V]	AC input current [A]	Dimensions (LxWxH) [mm]	Battery capacity 8h recharge time [Ah]	Weight LF classic [kg]	Weight LF classic air [kg]
trak charger LF classic F1 48/20	48	20	1~230	5.9	320x300x285	95-125	25	-
trak charger LF classic F1 48/25	48	25	1~230	7.3	320x300x285	120-155	25	-
trak charger LF classic F1 48/30	48	30	1~230	8.8	320x300x285	145-190	27	-
trak charger LF classic F1 48/35	48	35	1~230	10.3	320x300x285	165-220	27	-
trak charger LF classic F1 48/40	48	40	1~230	11.8	370x375x340	190-250	28	-
trak charger LF classic F1 48/45	48	45	1~230	13.3	370x375x340	215-280	28	-
trak charger LF classic E230 G 48/50	48	50	1~230	16.2	760x500x400	275-315	45	46
trak charger LF classic E230 G 48/55	48	55	1~230	17.8	760x500x400	300-345	46	47
trak charger LF classic E230 G 48/60	48	60	1~230	19.4	760x500x400	330-380	58	59
trak charger LF classic E230 G 48/65	48	65	1~230	21.0	760x500x400	355-405	58	59
trak charger LF classic E230 G 48/70	48	70	1~230	22.7	760x500x400	385-435	59	60
trak charger LF classic E230 G 48/80	48	80	1~230	25.9	760x500x400	440-505	60	61
trak charger LF classic E230 G 48/90	48	90	1~230	29.1	760x500x400	495-560	61	62
trak charger LF classic E230 G 48/100	48	100	1~230	32.3	760x500x400	550-630	62	63
trak charger LF classic E230 G 48/110	48	110	1~230	35.6	760x500x400	605-685	63	64
trak charger LF classic E230 G 48/120	48	120	1~230	38.8	760x500x400	660-750	65	66
trak charger LF classic E230 G 48/125	48	125	1~230	40.4	760x500x400	690-780	68	69
trak charger LF classic D400 G 48/40	48	40	3~400	4.8	760x500x400	220-250	52	53
trak charger LF classic D400 G 48/60	48	60	3~400	7.2	760x500x400	330-380	58	59
trak charger LF classic D400 G 48/65	48	65	3~400	7.8	760x500x400	355-405	58	59
trak charger LF classic D400 G 48/70	48	70	3~400	8.4	760x500x400	385-435	61	62
trak charger LF classic D400 G 48/80	48	80	3~400	9.6	760x500x400	440-505	62	63
trak charger LF classic D400 G 48/90	48	90	3~400	10.8	760x500x400	495-560	64	65
trak charger LF classic D400 G 48/100	48	100	3~400	12.0	760x500x400	550-630	65	66
trak charger LF classic D400 G 48/110	48	110	3~400	13.2	760x500x400	605-685	66	67
trak charger LF classic D400 G 48/115	48	115	3~400	13.8	760x500x400	630-720	68	69
trak charger LF classic D400 G 48/120	48	120	3~400	14.4	760x500x400	660-750	72	73
trak charger LF classic D400 G 48/125	48	125	3~400	15.0	760x500x400	690-780	72	73
trak charger LF classic D400 G 48/130	48	130	3~400	15.6	760x500x400	715-815	73	74
trak charger LF classic D400 G 48/140	48	140	3~400	16.8	760x500x400	770-880	74	75
trak charger LF classic D400 G 48/150	48	150	3~400	18.0	760x500x400	825-940	75	76
trak charger LF classic D400 G 48/160	48	160	3~400	19.2	760x500x400	880-1010	80	81
trak charger LF classic D400 G 48/170	48	170	3~400	20.4	760x500x400	935-1060	82	83
trak charger LF classic D400 G 48/180	48	180	3~400	21.6	760x500x400	810-900	88	89
trak charger LF classic D400 G 48/185	48	185	3~400	22.2	760x500x400	1020-1155	91	92
trak charger LF classic D400 G 48/190	48	190	3~400	22.8	760x500x400	1045-1185	92	93
trak charger LF classic D400 G 48/200	48	200	3~400	24.0	900x500x400	1100-1260	96	97
trak charger LF classic D400 G 48/210	48	210	3~400	25.2	900x500x400	1155-1310	99	100
trak charger LF classic D400 G 48/220	48	220	3~400	26.4	900x500x400	1210-1375	100	101

Type overview trak | charger LF classic / -classic air

72V DC chargers: Capacity, dimensions and weight

Type	DC nominal voltage [V]	DC nominal current [A]	AC input voltage [V]	AC input current [A]	Dimensions (LxWxH) [mm]	Battery capacity 8h recharge time [Ah]	Weight LF classic [kg]	Weight LF classic air [kg]
trak charger LF classic E230 G 72/20	72	20	1~230	9.7	760x500x400	110-125	48	49
trak charger LF classic E230 G 72/25	72	25	1~230	12.1	760x500x400	135-155	50	51
trak charger LF classic E230 G 72/30	72	30	1~230	14.6	760x500x400	165-185	53	54
trak charger LF classic E230 G 72/35	72	35	1~230	17.0	760x500x400	190-220	55	56
trak charger LF classic E230 G 72/40	72	40	1~230	19.4	760x500x400	220-250	56	57
trak charger LF classic E230 G 72/50	72	50	1~230	24.3	760x500x400	275-315	58	59
trak charger LF classic E230 G 72/60	72	60	1~230	29.1	760x500x400	330-380	61	62
trak charger LF classic E230 G 72/70	72	70	1~230	34.0	760x500x400	385-435	63	64
trak charger LF classic E230 G 72/80	72	80	1~230	38.8	760x500x400	440-505	65	66
trak charger LF classic E230 G 72/90	72	90	1~230	43.7	760x500x400	495-560	68	69
trak charger LF classic E230 G 72/100	72	100	1~230	48.5	760x500x400	550-630	73	74
trak charger LF classic E230 G 72/110	72	110	1~230	53.4	760x500x400	605-685	82	83
trak charger LF classic E230 G 72/120	72	120	1~230	58.2	760x500x400	660-750	86	87
trak charger LF classic E230 G 72/125	72	125	1~230	60.7	900x500x400	690-780	88	89
trak charger LF classic D400 G 72/40	72	40	3~400	7.2	760x500x400	220-250	63	-
trak charger LF classic D400 G 72/50	72	50	3~400	9.0	760x500x400	275-315	65	-
trak charger LF classic D400 G 72/55	72	55	3~400	9.9	760x500x400	300-345	67	-
trak charger LF classic D400 G 72/60	72	60	3~400	10.8	760x500x400	330-380	70	-
trak charger LF classic D400 G 72/70	72	70	3~400	12.6	760x500x400	385-435	75	76
trak charger LF classic D400 G 72/80	72	80	3~400	14.4	760x500x400	440-505	78	79
trak charger LF classic D400 G 72/85	72	85	3~400	15.3	760x500x400	465-530	79	80
trak charger LF classic D400 G 72/90	72	90	3~400	16.2	760x500x400	495-560	81	82
trak charger LF classic D400 G 72/100	72	100	3~400	18.0	760x500x400	550-630	82	83
trak charger LF classic D400 G 72/110	72	110	3~400	19.8	760x500x400	605-685	85	86
trak charger LF classic D400 G 72/120	72	120	3~400	21.6	760x500x400	660-750	88	89
trak charger LF classic D400 G 72/125	72	125	3~400	22.5	760x500x400	690-780	90	91
trak charger LF classic D400 G 72/130	72	130	3~400	23.4	760x500x400	715-815	92	93
trak charger LF classic D400 G 72/135	72	135	3~400	24.3	900x500x400	740-845	94	95
trak charger LF classic D400 G 72/140	72	140	3~400	25.2	900x500x400	770-880	96	97
trak charger LF classic D400 G 72/150	72	150	3~400	27.0	900x500x400	825-940	100	101
trak charger LF classic D400 G 72/160	72	160	3~400	28.8	900x500x400	880-1010	104	105
trak charger LF classic D400 G 72/165	72	165	3~400	29.7	900x500x400	905-1030	106	107
trak charger LF classic D400 G 72/170	72	170	3~400	30.6	900x600x500	935-1060	108	109
trak charger LF classic D400 G 72/175	72	175	3~400	31.5	900x600x500	960-1095	130	131
trak charger LF classic D400 G 72/180	72	180	3~400	32.4	900x600x500	810-900	135	136
trak charger LF classic D400 G 72/190	72	190	3~400	34.2	900x600x500	1045-1185	137	138
trak charger LF classic D400 G 72/200	72	200	3~400	36.0	900x600x500	1100-1260	140	141

Type overview trak | charger LF classic / -classic air

80V DC chargers: Capacity, dimensions and weight

Type	DC nominal voltage [V]	DC nominal current [A]	AC input voltage [V]	AC input current [A]	Dimensions (LxWxH) [mm]	Battery capacity 8h recharge time [Ah]	Weight LF classic [kg]	Weight LF classic air [kg]
trak charger LF classic E230 G 80/20	80	20	1~230	10.8	760x500x400	110-125	50	51
trak charger LF classic E230 G 80/25	80	25	1~230	13.5	760x500x400	135-155	52	53
trak charger LF classic E230 G 80/30	80	30	1~230	16.2	760x500x400	165-185	53	54
trak charger LF classic E230 G 80/35	80	35	1~230	18.9	760x500x400	190-220	54	55
trak charger LF classic E230 G 80/40	80	40	1~230	21.6	760x500x400	220-250	56	57
trak charger LF classic E230 G 80/50	80	50	1~230	27.0	760x500x400	275-315	62	63
trak charger LF classic E230 G 80/60	80	60	1~230	32.2	760x500x400	330-380	66	67
trak charger LF classic E230 G 80/70	80	70	1~230	37.7	760x500x400	385-440	72	73
trak charger LF classic E230 G 80/80	80	80	1~230	43.1	760x500x400	440-505	75	74
trak charger LF classic E230 G 80/90	80	90	1~230	48.5	760x500x400	495-560	76	77
trak charger LF classic E230 G 80/100	80	100	1~230	53.9	760x500x400	550-630	78	79
trak charger LF classic E230 G 80/110	80	110	1~230	59.3	760x500x400	605-685	82	83
trak charger LF classic E230 G 80/120	80	120	1~230	64.7	900x500x400	660-750	92	93
trak charger LF classic E230 G 80/125	80	125	1~230	67.4	900x500x400	690-780	95	96
trak charger LF classic D400 G 80/40	80	40	3~400	8.0	760x500x400	220-250	66	67
trak charger LF classic D400 G 80/50	80	50	3~400	10.0	760x500x400	275-315	70	71
trak charger LF classic D400 G 80/55	80	55	3~400	11.0	760x500x400	300-345	71	72
trak charger LF classic D400 G 80/60	80	60	3~400	12.0	760x500x400	330-380	72	73
trak charger LF classic D400 G 80/70	80	70	3~400	14.0	760x500x400	385-440	74	75
trak charger LF classic D400 G 80/80	80	80	3~400	16.0	760x500x400	440-505	80	81
trak charger LF classic D400 G 80/85	80	85	3~400	17.0	760x500x400	465-530	81	82
trak charger LF classic D400 G 80/90	80	90	3~400	18.0	760x500x400	495-560	82	83
trak charger LF classic D400 G 80/100	80	100	3~400	20.0	760x500x400	550-630	84	85
trak charger LF classic D400 G 80/110	80	110	3~400	22.0	760x500x400	605-685	88	89
trak charger LF classic D400 G 80/120	80	120	3~400	24.0	760x500x400	660-750	90	91
trak charger LF classic D400 G 80/125	80	125	3~400	25.0	900x500x400	690-780	92	93
trak charger LF classic D400 G 80/130	80	130	3~400	26.0	900x500x400	715-815	95	96
trak charger LF classic D400 G 80/135	80	135	3~400	27.0	900x500x400	740-845	96	97
trak charger LF classic D400 G 80/140	80	140	3~400	28.0	900x500x400	770-880	100	101
trak charger LF classic D400 G 80/150	80	150	3~400	30.0	900x600x500	825-940	105	106
trak charger LF classic D400 G 80/160	80	160	3~400	32.0	900x600x500	880-1010	107	108
trak charger LF classic D400 G 80/165	80	165	3~400	33.0	900x600x500	905-1030	108	109
trak charger LF classic D400 G 80/170	80	170	3~400	34.0	900x600x500	935-1060	110	111
trak charger LF classic D400 G 80/175	80	175	3~400	35.0	900x600x500	960-1095	135	136
trak charger LF classic D400 G 80/180	80	180	3~400	36.0	900x600x500	818-900	140	141
trak charger LF classic D400 G 80/190	80	190	3~400	38.0	900x600x500	1045-1185	142	143
trak charger LF classic D400 G 80/200	80	200	3~400	40.0	900x600x500	1100-1260	145	146

Available AC plug devices:

- ▶ Schuko 230V 1~
- ▶ SEV 1011 Type 23
- ▶ CEE 16A 230V 1~
- ▶ CEE 16A 400V 3~
- ▶ CEE 32A 400V 3~

Technical specification:

- ▶ 1Ph 230V / 3Ph 400V input voltage
- ▶ 50-60HZ WA or WpWa charging mode
- ▶ Designed for single or double shift operation
- ▶ Equalisation charge and trickle charge
- ▶ Alphanumeric display or LEDs to indicate state of charge and error codes
- ▶ Extra long charging cable
- ▶ Optionally with pump module for electrolyte circulation
- ▶ Thermal shut-off

trak | charger HF classic

High efficiency switch mode
three phase charger

Typical applications:

- charging of vented and GEL traction batteries
- charging batteries from 24 to 80 VDC
- charging batteries from 100 to 1.200 Ah

Your benefits:

- the high efficiency (94% max.) leads to a significant reduction of costs
- low weight and volume for easy handling and placement
- also available with electrolyte circulation system (trak | air) for reduced electricity bills, reduced water consumption, reduced battery maintenance and improved battery life
- very low temperature increase upon operation leads to increased lifetime and low service costs



Similar to the illustration

Type overview **trak** | charger HF classic

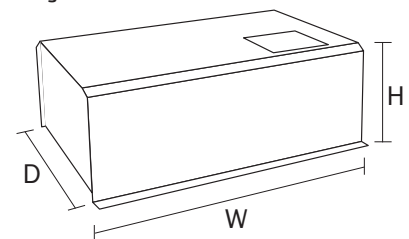
Capacities, dimensions and weights

Type	Nominal Voltage	Nom. Mains current [A]	AC plug	DC cable [mm ²]	Dimensions	Weight trak basic [kg]	Weight trak air [kg]
trak charger HF classic 24 - 70	24	3.4	CEE 16A 400V 3~	25	A	14.0	15.0
trak charger HF classic 24 - 80	24	3.8	CEE 16A 400V 3~	25	A	14.0	15.0
trak charger HF classic 24 - 90	24	4.3	CEE 16A 400V 3~	25	A	14.0	15.0
trak charger HF classic 24-100	24	4.8	CEE 16A 400V 3~	25	A	14.0	15.0
trak charger HF classic 24-120	24	5.8	CEE 16A 400V 3~	35	B	20.5	21.5
trak charger HF classic 36 - 50	36	3.6	CEE 16A 400V 3~	16	B	20.5	21.5
trak charger HF classic 36 - 60	36	4.3	CEE 16A 400V 3~	16	B	20.5	21.5
trak charger HF classic 36 - 70	36	4.3	CEE 16A 400V 3~	25	B	20.5	21.5
trak charger HF classic 36 - 80	36	5.8	CEE 16A 400V 3~	25	B	20.5	21.5
trak charger HF classic 36 - 90	36	6.5	CEE 16A 400V 3~	25	B	20.5	21.5
trak charger HF classic 36-100	36	7.2	CEE 16A 400V 3~	25	B	20.5	21.5
trak charger HF classic 36-120	36	8.6	CEE 16A 400V 3~	35	B	20.5	21.5
trak charger HF classic 48 - 50	48	4.8	CEE 16A 400V 3~	16	B	20.5	21.5
trak charger HF classic 48 - 60	48	5.8	CEE 16A 400V 3~	16	B	20.5	21.5
trak charger HF classic 48 - 70	48	6.7	CEE 16A 400V 3~	25	B	20.5	21.5
trak charger HF classic 48 - 80	48	7.7	CEE 16A 400V 3~	25	B	20.5	21.5
trak charger HF classic 48 - 90	48	8.6	CEE 16A 400V 3~	25	B	20.5	21.5
trak charger HF classic 48-100	48	9.6	CEE 16A 400V 3~	25	B	20.5	21.5
trak charger HF classic 48-120	48	11.5	CEE 16A 400V 3~	35	B	20.5	21.5
trak charger HF classic 72 - 50	72	7.2	CEE 16A 400V 3~	16	B	20.5	21.5
trak charger HF classic 72 - 60	72	8.6	CEE 16A 400V 3~	16	B	20.5	21.5
trak charger HF classic 72 - 70	72	10.1	CEE 16A 400V 3~	25	B	20.5	21.5
trak charger HF classic 72 - 80	72	11.5	CEE 16A 400V 3~	25	B	20.5	21.5
trak charger HF classic 72 - 90	72	13	CEE 16A 400V 3~	25	B	20.5	21.5
trak charger HF classic 72-100	72	14.4	CEE 16A 400V 3~	25	B	20.5	21.5
trak charger HF classic 72-120	72	17.3	CEE 32A 400V 3~	35	B	20.5	21.5
trak charger HF classic 80 - 50	80	8.0	CEE 16A 400V 3~	16	B	20.5	21.5
trak charger HF classic 80 - 60	80	9.6	CEE 16A 400V 3~	16	B	20.5	21.5
trak charger HF classic 80 - 70	80	11.2	CEE 16A 400V 3~	25	B	20.5	21.5
trak charger HF classic 80 - 80	80	12.8	CEE 16A 400V 3~	25	B	20.5	21.5
trak charger HF classic 80 - 90	80	14.4	CEE 16A 400V 3~	25	B	20.5	21.5
trak charger HF classic 80 - 100	80	16.0	CEE 16A 400V 3~	25	B	20.5	21.5
trak charger HF classic 80 - 120	80	19.2	CEE 32A 400V 3~	35	B	20.5	21.5

Technical Specifications:

- Incorrect battery voltage protection
- Deep discharge warning
- Random delay start after connection
- Time of day Start feature
- Multi-ampere-hour capability
- User selectable charging characteristics
- Safety timer
- Thermal protection
- Equalisation charge (fixed 10 h)
- Maintenance charge
- Adjustable gassing point
- Adjustable charge factor
- Battery disconnect shutdown
- LCD display
- Display with adjustable brightness
- Charge cycle review
- Instantaneous AC power absorption (kW)
- Input kilowatt hour feature (kWh)
- LED indication of charge status
- AC fail recovery protection
- Password protection
- Archive function
- Test mode

Fig. A & B



W x D x H [mm]
476 x 290 x 202
531 x 396 x 202



trak | charger HF classic

High efficiency switch mode
single phase charger

Typical applications:

- charging of vented and GEL traction batteries
- charging batteries from 24 to 48 VDC
- charging batteries from 100 to 650 Ah

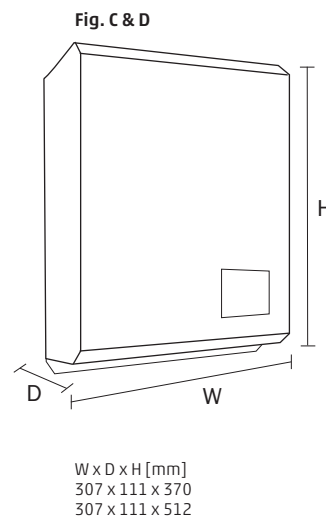
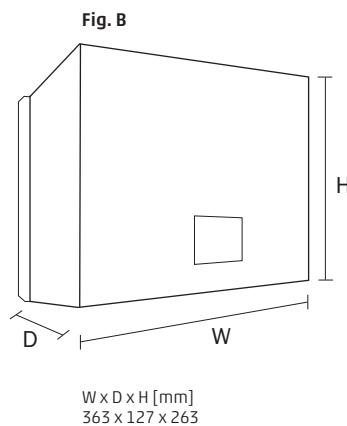
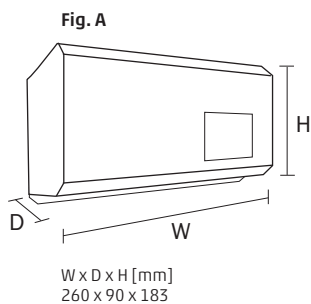
Your benefits:

- the high efficiency (more than 85 %) leads to a significant reduction of costs
- low weight and volume for easy handling and placement
- also available with electrolyte circulation system (trak | air) for reduced electricity bills, reduced water consumption, reduced battery maintenance and improved battery life
- very low temperature increase at operation leads to increased lifetime and low service costs
- electronic components are located away from the main air flow to prevent damage, corrosion and contamination

Type overview **trak** | charger HF classic

Capacities, dimensions and weights

Type	Nominal Voltage	Nom. Mains current [A]	AC plug	DC cable [mm ²]	Dimensions trak basic	Dimensions trak air	Weight trak basic [kg]	Weight trak air [kg]
trak charger HF classic 24-20	24	4.4	Schuko 230 1~. SEV 1011 Typ 23. CEE 16 A 230 V 1~	6	A	C	3.5	8.0
trak charger HF classic 24-30	24	6.6	Schuko 230 1~. SEV 1011 Typ 23. CEE 16 A 230 V 1~	6	A	C	3.5	8.0
trak charger HF classic 24-35	24	7.7	Schuko 230 1~. SEV 1011 Typ 23. CEE 16 A 230 V 1~	10	A	C	3.5	8.0
trak charger HF classic 24-40	24	8.8	Schuko 230 1~. SEV 1011 Typ 23. CEE 16 A 230 V 1~	10	A	C	3.5	8.0
trak charger HF classic 24-45	24	9.9	Schuko 230 1~. SEV 1011 Typ 23. CEE 16 A 230 V 1~	10	A	C	3.5	8.0
trak charger HF classic 24-50	24	11.0	Schuko 230 1~. SEV 1011 Typ 23. CEE 16 A 230 V 1~	16	B	D	8.0	10.5
trak charger HF classic 24-55	24	12.1	Schuko 230 1~. SEV 1011 Typ 23. CEE 16 A 230 V 1~	16	B	D	8.0	10.5
trak charger HF classic 24-60	24	13.2	Schuko 230 1~. SEV 1011 Typ 23. CEE 16 A 230 V 1~	16	B	D	8.0	10.5
trak charger HF classic 24-65	24	14.3	Schuko 230 1~. SEV 1011 Typ 23. CEE 16 A 230 V 1~	16	B	D	8.0	10.5
trak charger HF classic 36-20	36	6.6	Schuko 230 1~. SEV 1011 Typ 23. CEE 16 A 230 V 1~	6	A	C	3.5	8.0
trak charger HF classic 36-25	36	8.2	Schuko 230 1~. SEV 1011 Typ 23. CEE 16 A 230 V 1~	6	A	C	3.5	8.0
trak charger HF classic 36-30	36	9.9	Schuko 230 1~. SEV 1011 Typ 23. CEE 16 A 230 V 1~	16	A	C	3.5	8.0
trak charger HF classic 36-35	36	11.5	Schuko 230 1~. SEV 1011 Typ 23. CEE 16 A 230 V 1~	16	B	D	8.0	10.5
trak charger HF classic 36-40	36	13.2	Schuko 230 1~. SEV 1011 Typ 23. CEE 16 A 230 V 1~	16	B	D	8.0	10.5
trak charger HF classic 36-45	36	14.8	Schuko 230 1~. SEV 1011 Typ 23. CEE 16 A 230 V 1~	20	B	D	8.0	10.5
trak charger HF classic 48-20	48	8.8	Schuko 230 1~. SEV 1011 Typ 23. CEE 16 A 230 V 1~	6	A	C	8.0	10.5
trak charger HF classic 48-25	48	11.0	Schuko 230 1~. SEV 1011 Typ 23. CEE 16 A 230 V 1~	6	B	D	8.0	10.5
trak charger HF classic 48-30	48	13.2	Schuko 230 1~. SEV 1011 Typ 23. CEE 16 A 230 V 1~	6	B	D	8.0	10.5



Technical Specifications:

- 230V ± 15% single Phase Input Voltage
- IUIa, IUIa gel, IUIa charge profiles available
- "Trickle" charge option
- Microprocessor controlled
- LED indicating state of charge and fault condition
- Suitable for wall fixing
- Suitable for on-board application
- Robust metal construction
- Cooling by forced ventilation
- Reverse polarity protection
- Overall charge timer protection
- Incorrect battery voltage protection
- Thermal protection
- Degree of protection IP20
- For indoor use only
- trak | air option
- Equilisation charge
- Maintenance charge

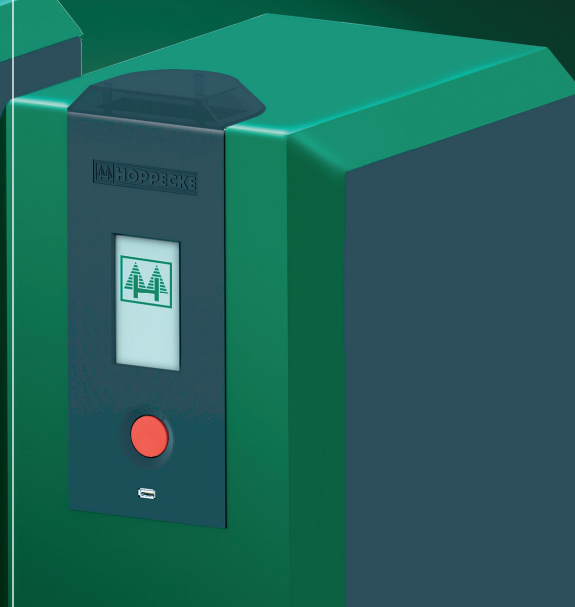


Image similar

trak | charger HF premium

HF chargers
Efficient and interactive

Capacities, dimensions and weights

Input AC Voltage	Nominal DC Voltage	Nominal DC Current	Charge Curve Battery	HOPPECKE internal Product	Number of Modules	Max Nom. Net Current [A]	Max Mains Power [kVA]	AC-Fuse [A]	AC-Plug	AC wire cross section [mm ²]	DC wire cross section [mm ²]	Internal fuse required	Weight without packaging, depending on charger type [kg]	Housing
E230	24	20	B-F14	HO-HFT	1	3,0	0,69	16	Schuko 1~	2,5	25	no	29	A
E230	24	30	B-F14	HO-HFT	1	4,5	1,04	16	Schuko 1~	2,5	25	no	29	A
E230	24	40	B-F14	HO-HFT	2	6,0	1,38	16	Schuko 1~	2,5	25	no	34	A
E230	24	50	B-F14	HO-HFT	2	7,5	1,73	16	Schuko 1~	2,5	25	no	34	A
E230	24	60	B-F14	HO-HFT	2	9,0	2,08	16	Schuko 1~	2,5	25	no	34	A
E230	24	70	B-F14	HO-HFT	3	10,5	2,42	16	Schuko 1~	2,5	35	no	40	A
E230	24	80	B-F14	HO-HFT	3	12,0	2,77	16	Schuko 1~	2,5	35	no	40	A
E230	24	90	B-F14	HO-HFT	3	13,5	3,11	16	Schuko 1~	2,5	35	no	40	A
D400 G	24	30	B-F14	HO-HFT	1	2.3	1.6	16	CEE 16A 400V 3~	2.5	25	no	29	A
D400 G	24	35	B-F14	HO-HFT	1	2.7	1.9	16	CEE 16A 400V 3~	2.5	25	no	29	A
D400 G	24	40	B-F14	HO-HFT	1	3.1	2.2	16	CEE 16A 400V 3~	2.5	25	no	29	A
D400 G	24	45	B-F14	HO-HFT	1	3.5	2.4	16	CEE 16A 400V 3~	2.5	25	no	29	A
D400 G	24	50	B-F14	HO-HFT	1	3.9	2.7	16	CEE 16A 400V 3~	2.5	25	no	29	A
D400 G	24	55	B-F14	HO-HFT	1	4.3	3.0	16	CEE 16A 400V 3~	2.5	25	no	29	A
D400 G	24	60	B-F14	HO-HFT	1	4.7	3.2	16	CEE 16A 400V 3~	2.5	25	no	29	A
D400 G	24	65	B-F14	HO-HFT	1	5.0	3.5	16	CEE 16A 400V 3~	2.5	25	no	29	A
D400 G	24	70	B-F14	HO-HFT	2	5.4	3.8	16	CEE 16A 400V 3~	2.5	50	no	34	A
D400 G	24	75	B-F14	HO-HFT	2	5.8	4.0	16	CEE 16A 400V 3~	2.5	50	no	34	A
D400 G	24	80	B-F14	HO-HFT	2	6.2	4.3	16	CEE 16A 400V 3~	2.5	50	no	34	A
D400 G	24	85	B-F14	HO-HFT	2	6.6	4.6	16	CEE 16A 400V 3~	2.5	50	no	34	A
D400 G	24	90	B-F14	HO-HFT	2	7.0	4.8	16	CEE 16A 400V 3~	2.5	50	no	34	A
D400 G	24	95	B-F14	HO-HFT	2	7.4	5.1	16	CEE 16A 400V 3~	2.5	50	no	34	A
D400 G	24	100	B-F14	HO-HFT	2	7.8	5.4	16	CEE 16A 400V 3~	2.5	50	no	34	A
D400 G	24	105	B-F14	HO-HFT	2	8.1	5.6	16	CEE 16A 400V 3~	2.5	50	no	34	A
D400 G	24	110	B-F14	HO-HFT	2	8.5	5.9	16	CEE 16A 400V 3~	2.5	50	no	34	A
D400 G	24	115	B-F14	HO-HFT	2	8.9	6.2	16	CEE 16A 400V 3~	2.5	50	no	34	A
D400 G	24	120	B-F14	HO-HFT	2	9.3	6.5	16	CEE 16A 400V 3~	2.5	50	no	34	A
D400 G	24	125	B-F14	HO-HFT	2	9.7	6.7	16	CEE 16A 400V 3~	2.5	50	no	34	A
D400 G	24	130	B-F14	HO-HFT	2	10.1	7.0	16	CEE 16A 400V 3~	2.5	50	no	34	A
D400 G	24	135	B-F14	HO-HFT	3	10.5	7.3	16	CEE 16A 400V 3~	2.5	95	no	40	A
D400 G	24	140	B-F14	HO-HFT	3	10.9	7.5	16	CEE 16A 400V 3~	2.5	95	no	40	A
D400 G	24	145	B-F14	HO-HFT	3	11.3	7.8	16	CEE 16A 400V 3~	2.5	95	no	40	A
D400 G	24	150	B-F14	HO-HFT	3	11.6	8.1	16	CEE 16A 400V 3~	2.5	95	no	40	A
D400 G	24	155	B-F14	HO-HFT	3	12.0	8.3	16	CEE 16A 400V 3~	2.5	95	no	40	A
D400 G	24	160	B-F14	HO-HFT	3	12.4	8.6	16	CEE 16A 400V 3~	2.5	95	no	40	A
D400 G	24	165	B-F14	HO-HFT	3	12.8	8.9	16	CEE 16A 400V 3~	2.5	95	no	40	A
D400 G	24	170	B-F14	HO-HFT	3	13.2	9.1	16	CEE 16A 400V 3~	2.5	95	no	40	A
D400 G	24	175	B-F14	HO-HFT	3	13.6	9.4	16	CEE 16A 400V 3~	2.5	95	no	40	A
D400 G	24	180	B-F14	HO-HFT	3	14.0	9.7	16	CEE 16A 400V 3~	2.5	95	no	40	A
D400 G	24	185	B-F14	HO-HFT	3	14.4	9.9	16	CEE 16A 400V 3~	2.5	95	no	40	A
D400 G	24	190	B-F14	HO-HFT	3	14.7	10.2	16	CEE 16A 400V 3~	2.5	95	no	40	A
D400 G	24	195	B-F14	HO-HFT	3	15.1	10.5	16	CEE 16A 400V 3~	2.5	95	no	40	A
D400 G	24	200	B-F14	HO-HFT	4	15.5	10.8	32	CEE 32A 400V 3~	6.0	95	no	48	B
D400 G	24	205	B-F14	HO-HFT	4	15.9	11.0	32	CEE 32A 400V 3~	6.0	95	no	48	B
D400 G	24	210	B-F14	HO-HFT	4	16.3	11.3	32	CEE 32A 400V 3~	6.0	95	no	48	B
D400 G	24	215	B-F14	HO-HFT	4	16.7	11.6	32	CEE 32A 400V 3~	6.0	95	no	48	B
D400 G	24	220	B-F14	HO-HFT	4	17.1	11.8	32	CEE 32A 400V 3~	6.0	95	no	48	B
D400 G	24	225	B-F14	HO-HFT	4	17.5	12.1	32	CEE 32A 400V 3~	6.0	95	no	48	B
D400 G	24	230	B-F14	HO-HFT	4	17.8	12.4	32	CEE 32A 400V 3~	6.0	95	no	48	B
D400 G	24	235	B-F14	HO-HFT	4	18.2	12.6	32	CEE 32A 400V 3~	6.0	95	no	48	B
D400 G	24	240	B-F14	HO-HFT	4	18.6	12.9	32	CEE 32A 400V 3~	6.0	95	no	48	B
D400 G	24	245	B-F14	HO-HFT	4	19.0	13.2	32	CEE 32A 400V 3~	6.0	95	no	48	B
D400 G	24	250	B-F14	HO-HFT	4	19.4	13.4	32	CEE 32A 400V 3~	6.0	95	no	48	B
D400 G	24	255	B-F14	HO-HFT	4	19.8	13.7	32	CEE 32A 400V 3~	6.0	95	no	48	B
D400 G	24	260	B-F14	HO-HFT	4	20.2	14.0	32	CEE 32A 400V 3~	6.0	95	no	48	B
D400 G	24	265	B-F14	HO-HFT	5	20.6	14.2	32	CEE 32A 400V 3~	6.0	95	no	52	B
D400 G	24	270	B-F14	HO-HFT	5	21.0	14.5	32	CEE 32A 400V 3~	6.0	95	no	52	B
D400 G	24	275	B-F14	HO-HFT	5	21.3	14.8	32	CEE 32A 400V 3~	6.0	95	no	52	B
D400 G	24	280	B-F14	HO-HFT	5	21.7	15.1	32	CEE 32A 400V 3~	6.0	95	no	52	B
D400 G	24	285	B-F14	HO-HFT	5	22.1	15.3	32	CEE 32A 400V 3~	6.0	95	no	52	B
D400 G	24	290	B-F14	HO-HFT	5	22.5	15.6	32	CEE 32A 400V 3~	6.0	95	no	52	B
D400 G	24	295	B-F14	HO-HFT	5	22.9	15.9	32	CEE 32A 400V 3~	6.0	95	no	52	B
D400 G	24	300	B-F14	HO-HFT	5	23.3	16.1	32	CEE 32A 400V 3~	6.0	95	no	52	B
D400 G	36	30	B-F14	HO-HFT	1	2.3	1.6	16	CEE 16A 400V 3~	2.5	25	no	29	A
D400 G	36	35	B-F14	HO-HFT	1	2.7	1.9	16	CEE 16A 400V 3~	2.5	25	no	29	A
D400 G	36	40	B-F14	HO-HFT	1	3.1	2.2	16	CEE 16A 400V 3~	2.5	25	no	29	A
D400 G	36	45	B-F14	HO-HFT	1	3.5	2.4	16	CEE 16A 400V 3~	2.5	25	no	29	A
D400 G	36	50	B-F14	HO-HFT	1	3.9	2.7	16	CEE 16A 400V 3~	2.5	25	no	29	A
D400 G	36	55	B-F14	HO-HFT	1	4.3	3.0	16	CEE 16A 400V 3~	2.5	25	no	29	A
D400 G	36	60	B-F14	HO-HFT	1	4.7	3.2	16	CEE 16A 400V 3~	2.5	25	no	29	A
D400 G	36	65	B-F14	HO-HFT	1	5.0	3.5	16	CEE 16A 400V 3~	2.5	25	no	29	A
D400 G	36	70	B-F14	HO-HFT	2	5.4	3.8	16	CEE 16A 400V 3~	2.5	50	no	34	A
D400 G	36	75	B-F14	HO-HFT	2	5.8	4.0	16	CEE 16A 400V 3~	2.5	50	no	34	A
D400 G	36	80	B-F14	HO-HFT	2	6.2	4.3	16	CEE 16A 400V 3~	2.5	50	no	34	A
D400 G	36	85	B-F14	HO-HFT	2	6.6	4.6	16	CEE 16A 400V 3~	2.5	50	no	34	A
D400 G	36	90	B-F14	HO-HFT	2	7.0	4.8	16	CEE 16A 400V 3~	2.5	50	no	34	A
D400 G	36	95	B-F14	HO-HFT	2	7.4	5.1	16	CEE 16A 400V 3~	2.5	50	no	34	A
D400 G	36	100	B-F14	HO-HFT	2	7.8	5.4	16	CEE 16A 400V 3~	2.5	50	no	34	A
D400 G	36	105	B-F14	HO-HFT	2	8.1	5.6	16	CEE 16A 400V 3~	2.5	50	no	34	A
D400 G	36	110	B-F14	HO-HFT	2	8.5	5.9	16	CEE 16A 400V 3~	2.5	50	no	34	A
D400 G	36	115	B-F14	HO-HFT	2	8.9	6.2	16	CEE 16A 400V 3~	2.5	50	no	34	A
D400 G	36	120	B-F14	HO-HFT	2	9.3	6.5	16	CEE 16A 400V 3~	2.5	50	no	34	A

Input AC Voltage	Nominal DC Voltage	Nominal DC Current	Charge Curve Battery	HOPPECKE Internal Product	Number of Modules	Max Nom. Net Current [A]	Max Mains Power [kW]	AC-Fuse [A]	AC-Plug	AC wire cross section [mm ²]	DC wire cross section [mm ²]	Internal fuse required	Weight without packaging, depending on charger type [kg]	Housing
D400 G	36	125	B-F14	HO-HFT	2	9.7	6.7	16	CEE 16A 400V 3~	2.5	50	no	34	A
D400 G	36	130	B-F14	HO-HFT	2	10.1	7.0	16	CEE 16A 400V 3~	2.5	50	no	34	A
D400 G	36	135	B-F14	HO-HFT	3	10.5	7.3	16	CEE 16A 400V 3~	2.5	95	no	40	A
D400 G	36	140	B-F14	HO-HFT	3	10.9	7.5	16	CEE 16A 400V 3~	2.5	95	no	40	A
D400 G	36	145	B-F14	HO-HFT	3	11.3	7.8	16	CEE 16A 400V 3~	2.5	95	no	40	A
D400 G	36	150	B-F14	HO-HFT	3	11.6	8.1	16	CEE 16A 400V 3~	2.5	95	no	40	A
D400 G	36	155	B-F14	HO-HFT	3	12.0	8.3	16	CEE 16A 400V 3~	2.5	95	no	40	A
D400 G	36	160	B-F14	HO-HFT	3	12.4	8.6	16	CEE 16A 400V 3~	2.5	95	no	40	A
D400 G	36	165	B-F14	HO-HFT	3	12.8	8.9	16	CEE 16A 400V 3~	2.5	95	no	40	A
D400 G	36	170	B-F14	HO-HFT	3	13.2	9.1	16	CEE 16A 400V 3~	2.5	95	no	40	A
D400 G	36	175	B-F14	HO-HFT	3	13.6	9.4	16	CEE 16A 400V 3~	2.5	95	no	40	A
D400 G	36	180	B-F14	HO-HFT	3	14.0	9.7	16	CEE 16A 400V 3~	2.5	95	no	40	A
D400 G	36	185	B-F14	HO-HFT	3	14.4	9.9	16	CEE 16A 400V 3~	2.5	95	no	40	A
D400 G	36	190	B-F14	HO-HFT	3	14.7	10.2	16	CEE 16A 400V 3~	2.5	95	no	40	A
D400 G	36	195	B-F14	HO-HFT	3	15.1	10.5	16	CEE 16A 400V 3~	2.5	95	no	40	A
D400 G	36	200	B-F14	HO-HFT	4	15.5	10.8	32	CEE 32A 400V 3~	6.0	95	no	48	B
D400 G	36	205	B-F14	HO-HFT	4	15.9	11.0	32	CEE 32A 400V 3~	6.0	95	no	48	B
D400 G	36	210	B-F14	HO-HFT	4	16.3	11.3	32	CEE 32A 400V 3~	6.0	95	no	48	B
D400 G	36	215	B-F14	HO-HFT	4	16.7	11.6	32	CEE 32A 400V 3~	6.0	95	no	48	B
D400 G	36	220	B-F14	HO-HFT	4	17.1	11.8	32	CEE 32A 400V 3~	6.0	95	no	48	B
D400 G	36	225	B-F14	HO-HFT	4	17.5	12.1	32	CEE 32A 400V 3~	6.0	95	no	48	B
D400 G	36	230	B-F14	HO-HFT	4	17.8	12.4	32	CEE 32A 400V 3~	6.0	95	no	48	B
D400 G	36	235	B-F14	HO-HFT	4	18.2	12.6	32	CEE 32A 400V 3~	6.0	95	no	48	B
D400 G	36	240	B-F14	HO-HFT	4	18.6	12.9	32	CEE 32A 400V 3~	6.0	95	no	48	B
D400 G	36	245	B-F14	HO-HFT	4	19.0	13.2	32	CEE 32A 400V 3~	6.0	95	no	48	B
D400 G	36	250	B-F14	HO-HFT	4	19.4	13.4	32	CEE 32A 400V 3~	6.0	95	no	48	B
D400 G	36	255	B-F14	HO-HFT	4	19.8	13.7	32	CEE 32A 400V 3~	6.0	95	no	48	B
D400 G	36	260	B-F14	HO-HFT	4	20.2	14.0	32	CEE 32A 400V 3~	6.0	95	no	48	B
D400 G	36	265	B-F14	HO-HFT	5	20.6	14.2	32	CEE 32A 400V 3~	6.0	95	no	52	B
D400 G	36	270	B-F14	HO-HFT	5	21.0	14.5	32	CEE 32A 400V 3~	6.0	95	no	52	B
D400 G	36	275	B-F14	HO-HFT	5	21.3	14.8	32	CEE 32A 400V 3~	6.0	95	no	52	B
D400 G	36	280	B-F14	HO-HFT	5	21.7	15.1	32	CEE 32A 400V 3~	6.0	95	no	52	B
D400 G	36	285	B-F14	HO-HFT	5	22.1	15.3	32	CEE 32A 400V 3~	6.0	95	no	52	B
D400 G	36	290	B-F14	HO-HFT	5	22.5	15.6	32	CEE 32A 400V 3~	6.0	95	no	52	B
D400 G	36	295	B-F14	HO-HFT	5	22.9	15.9	32	CEE 32A 400V 3~	6.0	95	no	52	B
D400 G	36	300	B-F14	HO-HFT	5	23.3	16.1	32	CEE 32A 400V 3~	6.0	95	no	52	B
D400 G	48	30	B-F14	HO-HFT	1	2.3	1.6	16	CEE 16A 400V 3~	2.5	25	no	29	A
D400 G	48	35	B-F14	HO-HFT	1	2.7	1.9	16	CEE 16A 400V 3~	2.5	25	no	29	A
D400 G	48	40	B-F14	HO-HFT	1	3.1	2.2	16	CEE 16A 400V 3~	2.5	25	no	29	A
D400 G	48	45	B-F14	HO-HFT	1	3.5	2.4	16	CEE 16A 400V 3~	2.5	25	no	29	A
D400 G	48	50	B-F14	HO-HFT	1	3.9	2.7	16	CEE 16A 400V 3~	2.5	25	no	29	A
D400 G	48	55	B-F14	HO-HFT	1	4.3	3.0	16	CEE 16A 400V 3~	2.5	25	no	29	A
D400 G	48	60	B-F14	HO-HFT	1	4.7	3.2	16	CEE 16A 400V 3~	2.5	25	no	29	A
D400 G	48	65	B-F14	HO-HFT	1	5.0	3.5	16	CEE 16A 400V 3~	2.5	25	no	29	A
D400 G	48	70	B-F14	HO-HFT	2	5.4	3.8	16	CEE 16A 400V 3~	2.5	50	no	34	A
D400 G	48	75	B-F14	HO-HFT	2	5.8	4.0	16	CEE 16A 400V 3~	2.5	50	no	34	A
D400 G	48	80	B-F14	HO-HFT	2	6.2	4.3	16	CEE 16A 400V 3~	2.5	50	no	34	A
D400 G	48	85	B-F14	HO-HFT	2	6.6	4.6	16	CEE 16A 400V 3~	2.5	50	no	34	A
D400 G	48	90	B-F14	HO-HFT	2	7.0	4.8	16	CEE 16A 400V 3~	2.5	50	no	34	A
D400 G	48	95	B-F14	HO-HFT	2	7.4	5.1	16	CEE 16A 400V 3~	2.5	50	no	34	A
D400 G	48	100	B-F14	HO-HFT	2	7.8	5.4	16	CEE 16A 400V 3~	2.5	50	no	34	A
D400 G	48	105	B-F14	HO-HFT	2	8.1	5.6	16	CEE 16A 400V 3~	2.5	50	no	34	A
D400 G	48	110	B-F14	HO-HFT	2	8.5	5.9	16	CEE 16A 400V 3~	2.5	50	no	34	A
D400 G	48	115	B-F14	HO-HFT	2	8.9	6.2	16	CEE 16A 400V 3~	2.5	50	no	34	A
D400 G	48	120	B-F14	HO-HFT	2	9.3	6.5	16	CEE 16A 400V 3~	2.5	50	no	34	A
D400 G	48	125	B-F14	HO-HFT	2	9.7	6.7	16	CEE 16A 400V 3~	2.5	50	no	34	A
D400 G	48	130	B-F14	HO-HFT	2	10.1	7.0	16	CEE 16A 400V 3~	2.5	50	no	34	A
D400 G	48	135	B-F14	HO-HFT	3	10.5	7.3	16	CEE 16A 400V 3~	2.5	95	no	40	A
D400 G	48	140	B-F14	HO-HFT	3	10.9	7.5	16	CEE 16A 400V 3~	2.5	95	no	40	A
D400 G	48	145	B-F14	HO-HFT	3	11.3	7.8	16	CEE 16A 400V 3~	2.5	95	no	40	A
D400 G	48	150	B-F14	HO-HFT	3	11.6	8.1	16	CEE 16A 400V 3~	2.5	95	no	40	A
D400 G	48	155	B-F14	HO-HFT	3	12.0	8.3	16	CEE 16A 400V 3~	2.5	95	no	40	A
D400 G	48	160	B-F14	HO-HFT	3	12.4	8.6	16	CEE 16A 400V 3~	2.5	95	no	40	A
D400 G	48	165	B-F14	HO-HFT	3	12.8	8.9	16	CEE 16A 400V 3~	2.5	95	no	40	A
D400 G	48	170	B-F14	HO-HFT	3	13.2	9.1	16	CEE 16A 400V 3~	2.5	95	no	40	A
D400 G	48	175	B-F14	HO-HFT	3	13.6	9.4	16	CEE 16A 400V 3~	2.5	95	no	40	A
D400 G	48	180	B-F14	HO-HFT	3	14.0	9.7	16	CEE 16A 400V 3~	2.5	95	no	40	A
D400 G	48	185	B-F14	HO-HFT	3	14.4	9.9	16	CEE 16A 400V 3~	2.5	95	no	40	A
D400 G	48	190	B-F14	HO-HFT	3	14.7	10.2	16	CEE 16A 400V 3~	2.5	95	no	40	A
D400 G	48	195	B-F14	HO-HFT	3	15.1	10.5	16	CEE 16A 400V 3~	2.5	95	no	40	A
D400 G	48	200	B-F14	HO-HFT	4	15.5	10.8	32	CEE 32A 400V 3~	6.0	95	no	48	B
D400 G	48	205	B-F14	HO-HFT	4	15.9	11.0	32	CEE 32A 400V 3~	6.0	95	no	48	B
D400 G	48	210	B-F14	HO-HFT	4	16.3	11.3	32	CEE 32A 400V 3~	6.0	95	no	48	B
D400 G	48	215	B-F14	HO-HFT	4	16.7	11.6	32	CEE 32A 400V 3~	6.0	95	no	48	B
D400 G	48	220	B-F14	HO-HFT	4	17.1	11.8	32	CEE 32A 400V 3~	6.0	95	no	48	B
D400 G	48	225	B-F14	HO-HFT	4	17.5	12.1	32	CEE 32A 400V 3~	6.0	95	no	48	B
D400 G	48	230	B-F14	HO-HFT	4	17.8	12.4	32	CEE 32A 400V 3~	6.0	95	no	48	B
D400 G	48	235	B-F14	HO-HFT	4	18.2	12.6	32	CEE 32A 400V 3~	6.0	95	no	48	B
D400 G	48	240	B-F14	HO-HFT	4	18.6	12.9	32	CEE 32A 400V 3~	6.0	95	no	48	B
D400 G	48	245	B-F14	HO-HFT	4	19.0	13.2	32	CEE 32A 400V 3~	6.0	95	no	48	B
D400 G	48	250	B-F14	HO-HFT	4	19.4	13.4	32	CEE 32A 400V 3~	6.0	95	no	48	B
D400 G	48	255	B-F14	HO-HFT	4	19.8	13.7	32	CEE 32A 400V 3~	6.0	95	no	48	B

Input AC Voltage	Nominal DC Voltage	Nominal DC Current	Charge Curve Battery	HOPPECKE internal Product	Number of Modules	Max Nom. Net Current [A]	Max Mains Power [kVA]	AC-Fuse [A]	AC-Plug	AC wire cross section [mm ²]	DC wire cross section [mm ²]	Internal fuse required	Weight without packaging, depending on charger type [kg]	Housing
D400 G	48	260	B-F14	HO-HFT	4	20.2	14.0	32	CEE 32A 400V 3~	6.0	95	no	48	B
D400 G	48	265	B-F14	HO-HFT	5	20.6	14.2	32	CEE 32A 400V 3~	6.0	95	no	52	B
D400 G	48	270	B-F14	HO-HFT	5	21.0	14.5	32	CEE 32A 400V 3~	6.0	95	no	52	B
D400 G	48	275	B-F14	HO-HFT	5	21.3	14.8	32	CEE 32A 400V 3~	6.0	95	no	52	B
D400 G	48	280	B-F14	HO-HFT	5	21.7	15.1	32	CEE 32A 400V 3~	6.0	95	no	52	B
D400 G	48	285	B-F14	HO-HFT	5	22.1	15.3	32	CEE 32A 400V 3~	6.0	95	no	52	B
D400 G	48	290	B-F14	HO-HFT	5	22.5	15.6	32	CEE 32A 400V 3~	6.0	95	no	52	B
D400 G	48	295	B-F14	HO-HFT	5	22.9	15.9	32	CEE 32A 400V 3~	6.0	95	no	52	B
D400 G	48	300	B-F14	HO-HFT	5	23.3	16.1	32	CEE 32A 400V 3~	6.0	95	no	52	B
D400 G	72	20	B-F14	HO-HFT	1	2.6	1.8	16	CEE 16A 400V 3~	2.5	25	no	30	A
D400 G	72	25	B-F14	HO-HFT	1	3.2	2.2	16	CEE 16A 400V 3~	2.5	25	no	30	A
D400 G	72	30	B-F14	HO-HFT	1	3.9	2.7	16	CEE 16A 400V 3~	2.5	25	no	30	A
D400 G	72	35	B-F14	HO-HFT	1	4.5	3.1	16	CEE 16A 400V 3~	2.5	25	no	30	A
D400 G	72	40	B-F14	HO-HFT	1	5.2	3.6	16	CEE 16A 400V 3~	2.5	25	no	30	A
D400 G	72	45	B-F14	HO-HFT	2	5.8	4.0	16	CEE 16A 400V 3~	2.5	25	no	35	A
D400 G	72	50	B-F14	HO-HFT	2	6.5	4.5	16	CEE 16A 400V 3~	2.5	25	no	35	A
D400 G	72	55	B-F14	HO-HFT	2	7.1	4.9	16	CEE 16A 400V 3~	2.5	25	no	35	A
D400 G	72	60	B-F14	HO-HFT	2	7.8	5.4	16	CEE 16A 400V 3~	2.5	25	no	35	A
D400 G	72	65	B-F14	HO-HFT	2	8.4	5.8	16	CEE 16A 400V 3~	2.5	25	no	35	A
D400 G	72	70	B-F14	HO-HFT	2	9.1	6.3	16	CEE 16A 400V 3~	2.5	25	no	35	A
D400 G	72	75	B-F14	HO-HFT	2	9.7	6.7	16	CEE 16A 400V 3~	2.5	25	no	35	A
D400 G	72	80	B-F14	HO-HFT	2	10.3	7.2	16	CEE 16A 400V 3~	2.5	25	no	35	A
D400 G	72	85	B-F14	HO-HFT	3	11.0	7.6	16	CEE 16A 400V 3~	2.5	50	no	40	A
D400 G	72	90	B-F14	HO-HFT	3	11.6	8.1	16	CEE 16A 400V 3~	2.5	50	no	40	A
D400 G	72	95	B-F14	HO-HFT	3	12.3	8.5	16	CEE 16A 400V 3~	2.5	50	no	40	A
D400 G	72	100	B-F14	HO-HFT	3	12.9	9.0	16	CEE 16A 400V 3~	2.5	50	no	40	A
D400 G	72	105	B-F14	HO-HFT	3	13.6	9.4	16	CEE 16A 400V 3~	2.5	50	no	40	A
D400 G	72	110	B-F14	HO-HFT	3	14.2	9.9	16	CEE 16A 400V 3~	2.5	50	no	40	A
D400 G	72	115	B-F14	HO-HFT	3	14.9	10.3	16	CEE 16A 400V 3~	2.5	50	no	40	A
D400 G	72	120	B-F14	HO-HFT	3	15.5	10.8	16	CEE 16A 400V 3~	2.5	50	no	40	A
D400 G	72	125	B-F14	HO-HFT	4	16.2	11.2	32	CEE 32A 400V 3~	6.0	50	no	50	B
D400 G	72	130	B-F14	HO-HFT	4	16.8	11.6	32	CEE 32A 400V 3~	6.0	50	no	50	B
D400 G	72	135	B-F14	HO-HFT	4	17.5	12.1	32	CEE 32A 400V 3~	6.0	50	no	50	B
D400 G	72	140	B-F14	HO-HFT	4	18.1	12.5	32	CEE 32A 400V 3~	6.0	50	no	50	B
D400 G	72	145	B-F14	HO-HFT	4	18.8	13.0	32	CEE 32A 400V 3~	6.0	50	no	50	B
D400 G	72	150	B-F14	HO-HFT	4	19.4	13.4	32	CEE 32A 400V 3~	6.0	50	no	50	B
D400 G	72	155	B-F14	HO-HFT	4	20.0	13.9	32	CEE 32A 400V 3~	6.0	50	no	50	B
D400 G	72	160	B-F14	HO-HFT	4	20.7	14.3	32	CEE 32A 400V 3~	6.0	50	no	50	B
D400 G	72	165	B-F14	HO-HFT	5	21.3	14.8	32	CEE 32A 400V 3~	6.0	70	no	55	B
D400 G	72	170	B-F14	HO-HFT	5	22.0	15.2	32	CEE 32A 400V 3~	6.0	70	no	55	B
D400 G	72	175	B-F14	HO-HFT	5	22.6	15.7	32	CEE 32A 400V 3~	6.0	70	no	55	B
D400 G	72	180	B-F14	HO-HFT	5	23.3	16.1	32	CEE 32A 400V 3~	6.0	70	no	55	B
D400 G	72	185	B-F14	HO-HFT	5	23.9	16.6	32	CEE 32A 400V 3~	6.0	70	no	55	B
D400 G	72	190	B-F14	HO-HFT	5	24.6	17.0	32	CEE 32A 400V 3~	6.0	70	no	55	B
D400 G	72	195	B-F14	HO-HFT	5	25.2	17.5	32	CEE 32A 400V 3~	6.0	70	no	55	B
D400 G	72	200	B-F14	HO-HFT	5	25.9	17.9	32	CEE 32A 400V 3~	6.0	70	no	55	B
D400 G	80	20	B-F14	HO-HFT	1	2.6	1.8	16	CEE 16A 400V 3~	2.5	25	no	30	A
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D400 G	80	50	B-F14	HO-HFT	2	6.5	4.5	16	CEE 16A 400V 3~	2.5	25	no	35	A
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D400 G	80	60	B-F14	HO-HFT	2	7.8	5.4	16	CEE 16A 400V 3~	2.5	25	no	35	A
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D400 G	80	190	B-F14	HO-HFT	5	24.6	17.0	32	CEE 32A 400V 3~	6.0	70	no	55	B
D400 G	80	195	B-F14	HO-HFT	5	25.2	17.5	32	CEE 32A 400V 3~	6.0	70	no	55	B
D400 G	80	200	B-F14	HO-HFT	5	25.9	17.9	32	CEE 32A 400V 3~	6.0	70	no	55	B

trak | charger HF premium

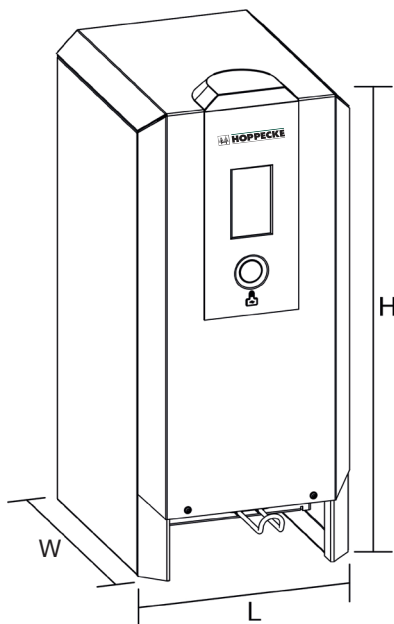
Typical applications:

- Charging of traction batteries in all industrial applications
- Charging batteries from 24 V to 80 V
- Charging batteries from 64 Ah to 1550 Ah

Your benefits:

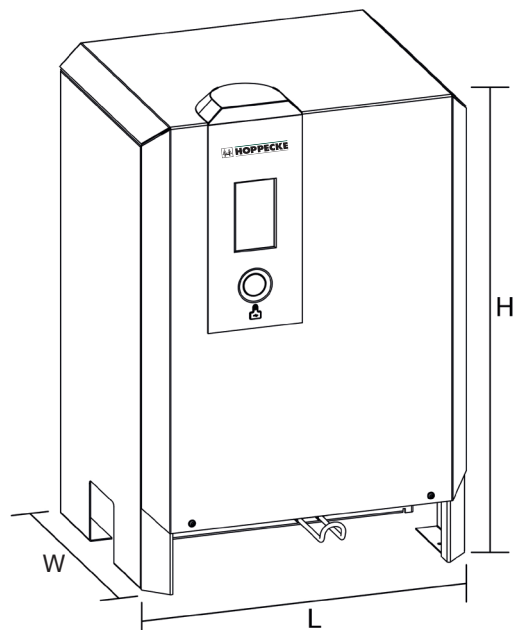
- Automatic charging with high frequency technology irrespective of Depth of Discharge (DOD)
- Optimized life expectancy of the energy storage device
- Modular design of power modules and attachments
- Highest operational safety
- Charging cycles memory of the entire battery life time
- Modern and large display at the charger's front
- The charging status is shown by a 360° statusboard with LEDs on top of the charger

Dimensions



L x W x H [mm]
308 x 373 x 690

A: Small cubicle



L x W x H [mm]
471 x 373 x 690

B: Large cubicle



Product catalogue

Standard components for charging stations

Preamble

The prices listed here are Intercompany prices ex works. **The shipping costs and the necessary fastening material are not included in the product prices.** These can be requested individually for the various standard components from HOPPECKE's back office. After a technically and commercially clear order, the average delivery time is about 3-4 weeks. Depending on the destination and due to unexpected events, the maximum delivery time may differ from the standard.

All products and associated options are delivered separately, so they are not pre-assembled.

The illustrations and diagrams shown may differ from the actual products. In addition, errors can occur in this catalog despite careful processing / checking. If you have any doubts, please contact the internal sales team.

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1. Battery trolley – BT

1.1 Short description

The battery trolley is a freely movable, hand-guided trolley for roller-mounted batteries with side change. It is generally used for trucks with small and light 24V batteries.

- Working load: Max. 375kg/ battery
- Changing height BT without height adjustment: 130mm
- ⚠ BT with fixed height cannot be used with every truck type (e.g. small battery room inside truck)
- Changing height BT-PT with height adjustment (~110mm): Min. 135mm
- Painting: RAL 9005 (black)
- 4 heavy-duty rollers for moving (2 fixed, 2 tilting)
- PT- hand pallet truck can be ordered separately
- ✍ Changing height must be specified when ordering

Individual changing heights should be requested from the HOPPECKE sales office.

1.2 Examples



Trolley (fixed)
BT-850-350-1



Trolley (height adjustment)
BT-PT- 850-350-1

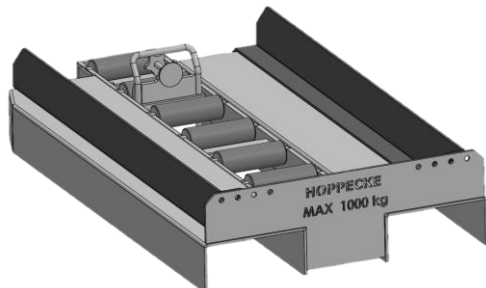
2. Mobile roller bed – MRB

2.1 Short description

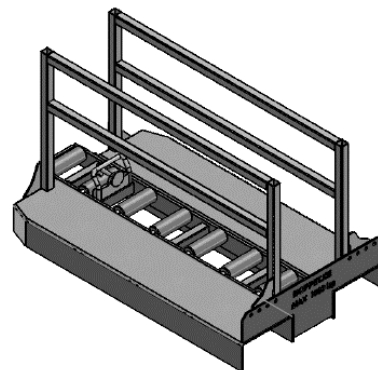
The mobile roller bed is universally applicable because it can be gradually adapted to different battery widths. It can be moved freely with a standard pallet truck provided by the customer. A battery stopper with an adjustable screw is integrated for safe movement of the battery.

- Working load: Max. 1000kg
- Changing height: Min. 110mm
- 2 lengths available: 1.) 850mm and 2.) 1250mm
- Height of standard side frames: Ca. 100mm
- Adjustment range side frames: 180 – 580mm
- Painting: RAL 9005 (black)
- ✎ Battery dimensions must be specified when ordering
- Option: Higher side frames 500mm (nonadjustable – fitted to the battery dimensions)

2.2 Examples



Mobile roller bed
MRB-850/1250-590



Higher side frames for
MRB-850/ 1250-590

3. Standard roller bed with side frames – SRB-S

3.1 Short description

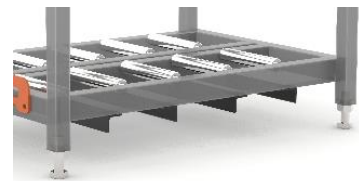
Standard roller beds are used for batteries with side change. They have fixed outer dimensions and stable side frames to prevent the batteries from tipping. There is a battery stop on the front of the roller beds, too.

- Changing height: Min. 125/ max. 350mm
- ✂ Changing height must be specified when ordering
- Feet adjustment range: ± 25 mm (wrench size 32mm)
- Height of side frames: 560mm (floor – top)
- Painting: RAL 9005 (black)
- FFP – floor fixing plates (2x per SRB-S – included in delivery)
- ⚠ When installing, the opening of the „FFP“ faces inwards
- Option: CS – charger shelf: Height 1600mm (floor – shelf), depth 450mm
- Option: „L-Bar“ for centering pallet truck (max. width 620mm) under SRB-S single/double

3.2 Examples



SRB-S: Standard roller bed with side frames – single/ double/ triple



L-Bar: Angles for centering pallet trucks



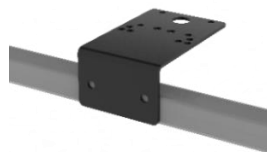
SRB-S + CS: SRB-S with charger shelf (CS) – single/ double/ triple



PPH-450/650: Plug plate holder for standard roller beds



PP-Bar: Plug plate & bar for charger shelf (CS)



PP-CS: Plug plate for charger shelf (CS)



FS-500-2000: fork stopper

4. Battery stands – BS

4.1 Short description

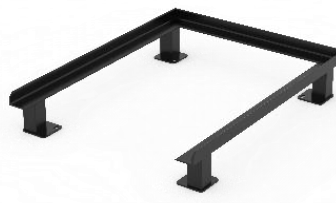
The battery stands can be ordered in different versions, depending on the type of battery change. BS-R and BS-OF can be used for batteries with side change. BS-R can be individually assembled in width, BS-OF are customized to the battery dimensions. Both have an open front for placing the battery using a pallet truck. When changing with a crane or lifting gear the BS-GR with grid can be used.

- Painting: RAL 9005 (black)
- BS-OF are customized in width and length
 - Rack width = battery width + 50mm
 - Rack depth = battery length + 50mm
- ✍ Changing height, dimensions of the battery and the pallet truck must be specified when ordering
- ⚠ Change vehicle must not be too wide so that it can enter the open front.
- Height BS-GR: 150mm
- Changing height BS-OF/ BS-R: ~110mm
- Mounting on the floor using foot plates and impact anchors
- Option: Mounting kit can be ordered for an additional charge

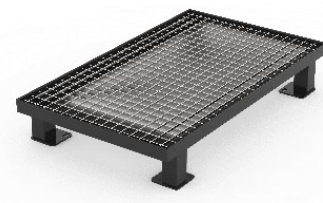
4.2 Examples



BS-R: Battery stand rail - pair



BS-OF: Battery stand with open front



BS-GR: Grid battery stand

5. Charger shelf – CS

5.1 Short description

The charger shelf is suitable for storage of all common chargers. A plug plate rail “PP-Bar” for fixing the plug plate “PP-CS” (option) is located in front of the shelf and is included in the delivery of the charger shelf.

- Characteristics shelf: Height 1600mm, depth 650mm, RAL 9005 (black)
- Mounting on the floor ground using foot plates (Ø12mm)
- Option: PP-CS – plug plates for fixing the charger plugs (must be ordered separately)
- Option: Mounting kit can be ordered for an additional charge

5.2 Examples



CS: Charger shelf with PP-Bar – plug plate bar



PPB-WM: Plug plate bracket wall mounted



CS-FM: Charger shelf – floor mounted (free positioning)

6. Safety equipment and signs

6.1 Short description safety equipment

For safe handling of batteries, we offer a safety package to provide employees with comprehensive personal protection and first-aid equipment. Depending on the size and quality, battery charging stations require safety equipment according to DIN-EN 62485-3, BG and VDS.

The shown safety equipment is only an example and must be delivered from the local subsidiary.

6.2 Examples and scope of delivery



Safety package I

Scope of supply

- 1x safety gloves Latex, size 10
- 1x single-pane safety glasses, clear
- 1x first aid kit for companies DIN13157
- 1x apron Gunova, black
- 1x first aid cabinet
- 1x mandatory sign „protective glasses“ SK-film
- 1x mandatory sign "gloves" SK-film 100mm
- 1x mandatory sign "apron" SK-film 100mm



Safety package III

Scope of supply

- Safety package II +
- 1x combi-shower incl. sign
(stationary body shower+ stationary eye wash)



Safety package II

Scope of supply

- Safety package I +
- 1x eye wash, pH neutral
- 1x eye wash, NaCl
- 1x wall cabinet with integrated mirror
- 1x eye emergency protocol
- 1x plastic safety sign "Eye wash kit"



Binding agent kit

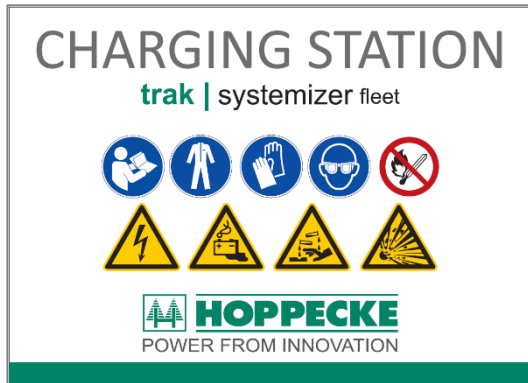
Scope of supply

- 1x 40l binding agent
 - 1x wide neck watertight vessel labelled
"Binding agent"
 - 1x shovel
-

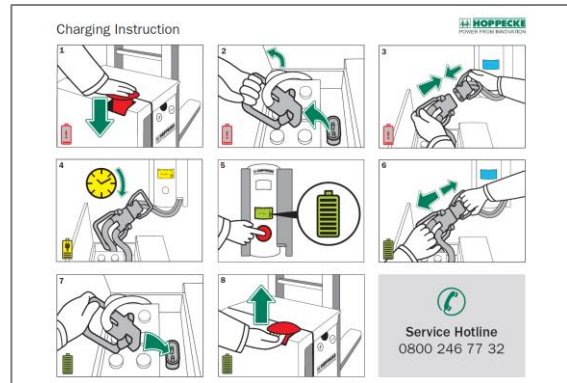
6.3 Short description safety signs

Depending on the size and condition, battery charging stations must be labeled with various warning and information signs in accordance with DIN-EN 62485-3, BG and VDS regulations. A selection of signs is listed below.

6.4 Examples



Information board „charging station“
single sign 900x650mm AluDibond



Information board „charging instructions“
as comic 420x297mm AluDibond

7. Water treatment systems

7.1 Short description

Regular water refilling increases the life and performance of a battery. Water treatment is therefore an economic must if batteries are serviced in large numbers. All our systems meet the water quality requirements of the ZVEI Batteries Association.

From the smallest to the largest water treatment system - all systems are working in accordance to the proven principle of the ion exchanger via a mixed bed with special resins.

Advantages:

- Economical, thanks to special water flow for 100% utilization of the capacity
- Safe, thanks to consistently good water quality without losses due to storage
- Environmentally friendly, thanks to the long service life of the resins and the almost unlimited regenerability

- Types: Analog conductivity meter
 Digital conductivity meter with color display and visual signal

The water station DS battery Plus is a compact water treatment system for holding a stainless-steel ion exchanger and for the ideal production of refill water for batteries. Furthermore, the water station can optionally be delivered with a hose reel.

7.2 Examples



Water treatment systems



DS water station

9. Products for turnkey solutions-trak| systemizer fleet



trak | systemizer fleet

Cost-optimised charging stations
for motive power batteries

www.hoppecke.com

More efficiency thanks to innovative components
trak | systemizer fleet – perfectly coordinated

Modern intralogistics places increasing demands on every single component within the process chain – including the battery changing station. Accelerated processes ensure the highest possible efficiency in value-adding activities. This is achieved by solutions optimally tailored to your requirements.

100% turnkey, including all prescribed safety instructions and first aid station
trak | systemizer fleet

50% Up to 50% energy savings thanks to optimised charging with
trak | monitor 4.0

50% Up to 50% more space with customised system racks
trak | Xcharge

25% Up to 25% fewer charge interruptions
trak | charger HF premium

85% Up to 85% savings in operating costs due to minimised water consumption and maintenance intervals
trak | upliftrq

35% Up to 35% less investment by reducing the number of batteries and maximum space saving
trak | Xchange TU

50% Up to 50% time saved with minimum effort battery changing
trak | Xchange PU

40% Up to 40% faster safe battery change (up to 1.8t)
trak | Xchange MU

Made in Germany

HOPPECKE charging stations - flexible and tailored to your requirements.

We always develop your individual solution for turnkey central charging and changing stations, outdoor solutions or battery charging stations.

The holistic planning takes into account the room dimensions, shift and break models, goods movements, vehicle types as well as ventilation, floor coating and the type of battery change. Thanks to the modularity and flexibility of our system components, we also help you to reduce your investment and energy costs and, in addition, to optimize your fleet.

Trust in our expertise and many years of experience in consulting, planning and realization of charging stations.

Your benefit with HOPPECKE:

- On-site analysis and advice
- Constructional planning of your charging station including compliance with legal requirements
- Layout planning
- Delivery of all system installations and accessories
- All trades from a single source: Ventilation, busbar, coating, etc.
- Installation, maintenance, inspection and training on site
- Commissioning and acceptance of the charging station

More than the sum of its parts – trak | systemizer fleet - the customisable charging station

The number of electric forklifts in intralogistics is growing consistently. Currently, about one in five forklifts worldwide is running on batteries. In Europe, the share of electric forklifts has increased from 49 % to 55.2 % in the past five years.

For the efficient and smooth operation of a modern forklift fleet, the use of battery charging and changing stations is indispensable – especially in a 24/7 multi-shift operation.



Analysis

We analyse your energy requirements and local conditions directly on site

- ▶ Vehicle fleet
- ▶ Energy consumption
- ▶ Logistics routes
- ▶ Shift / break models
- ▶ Measurements
- ▶ Floor conditions
- ▶ Electric installation
- ▶ Ventilation



Expertise

Our many years of experience guarantee innovative solutions tailored to your requirements.

- ▶ Concept development for central and decentralised charging stations and sites
- ▶ Technical drawings
- ▶ Consulting on safety requirements
- ▶ Support for tenders
- ▶ European market leader in research and development



Solutions

We plan your system holistically, sustainable and modular using state-of-the-art technology.

- ▶ Extensive competence in energy storage
- ▶ Company-specific solutions in accordance with European standards
- ▶ Optimisation of logistics routes, energy saving and space utilisation
- ▶ Support for the architect and/or the planner

Apart from economic efficiency and operational safety, easy handling plays an important role. The driver must be able to handle the battery exchange easily, quickly and intuitively.

With the trak | systemizer fleet, HOPPECKE offers a system solution tailored to your requirements. Perfectly matched components guarantee the highest possible level of efficiency. Only in combination can the individual parts reach their full potential.



Components

We only use high-quality and perfectly coordinated HOPPECKE components.

- ▶ Modular and flexible
- ▶ Delivery of all system assemblies and accessories
- ▶ All from one source: ventilation systems, electrical installations, floor coatings etc.
- ▶ Flexible energy billing solutions
- ▶ Top quality - Made in Germany



Turnkey

HOPPECKE system solutions are ready to use. No subsequent installation necessary.

- ▶ Project management or support for sub- or complete projects
- ▶ Installation of turnkey charging stations
- ▶ Commissioning and acceptance of charging stations
- ▶ Operation of charging stations
- ▶ Energy Management



Service

Our extensive range of services secures your investment in the long run and ensures optimal availability.




- ▶ On-site installation, maintenance, inspection and training
- ▶ Global collection and waste management system
- ▶ Professional consulting based on the accumulated data
- ▶ Identification of optimisation and savings potentials
- ▶ Individual models for purchase, rental and refurbishment

9.1 Battery changing units – trak | Xchange

Depending on the dimensions and weight of the battery and the changing method, HOPPECKE has big range of different changing units. All variants are specially tailored to customer needs and thus reduce the time and cost involved in changing the batteries.

When designing a system, the number of batteries required for operation is considered as well as their size and the type of truck in which they are used.

Overview changing units

Small batteries 12V - 48V	Medium batteries 24V - 80V	Medium – large batteries
<ul style="list-style-type: none">• Fleet size: < 20 batteries• Battery weight: < 650 kg• TU – transfer unit by hand• Movable on guide rails	<ul style="list-style-type: none">• Fleet size: < 20 batteries• Battery weight: < 2500 kg• MU – Manual unit with gearbox• PU – Powered unit with hydraulic/ magnet• Free movable	<ul style="list-style-type: none">• Fleet size: < 20-300 batteries• Battery weight: < 2500 kg• PU – Powered unit with hydraulic/ magnet• Free movable• FU – fully automatic drive & change unit
<p>TU TU-HA</p> 	<p>MU PU</p> 	<p>PU FU</p> 

Your benefits:

- Low effort
 - Fast and save battery changing
 - Little need of space
 - Modular expandability of the charging station
 - Choice between manual or driven changing units
-

9.1.1 Battery changing unit for small batteries

The HOPPECKE battery changing units trak | Xchange TU are suitable for smaller batteries and were specially developed for electric pallet trucks and low-level order pickers with rollers and side change of the batteries. They are equipped with a double roller bed, which enables a quick battery change.

All trak | Xchange TU systems run on floor-mounted rails to guarantee easy movement. At the same time, the safe transport of the battery is ensured by a locking device.

The variant trak | Xchange TU-PT is equipped with a special lifting mechanism that enables a height adjustment of 130mm.

Your benefits:

- Manual changing unit for 12V - 48V batteries
- Space saving because of 2 compartments on the changing unit
- Easy movable on guide rails
- Modular to allow flexible expansion
- Simple, robust design enables changing times of approx. 2 minutes



9.1.2 Battery changing unit for medium to large batteries

The trak | Xchange MU is equipped with a roller conveyor. This battery changing unit has a manual gear-assisted device to facilitate the insertion and removal of the battery into the vehicle and to reload it onto the roller beds.

On the trak | Xchange PU, the exchange attachments are equipped with a hydraulically driven extension and a corresponding electromagnet. They have a hydraulic device for easy insertion and removal of the battery into the vehicle and onto the roller beds.

The trak | Xchange MU and PU systems can be moved freely and allow a quick battery change. At the same time, the safe transport of the battery is ensured by a locking device.

Your benefits:

- Changing unit for 48V - 80V batteries
- Little effort due to gearbox support or no physical effort due to driven changing device
- Flexible use with different changing heights
- Safe and easy usability
- High security when moving the battery through locking device



9.2 Battery monitoring and management systems

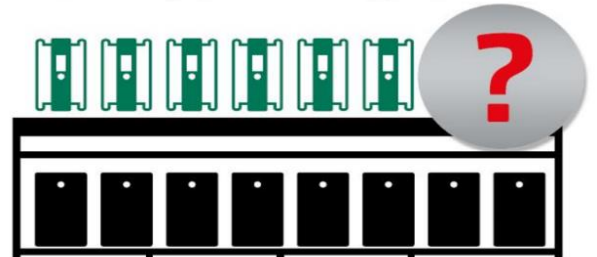
9.2.1 Battery monitoring – trak | monitor easypick

Trak | monitor easypick is an easy monitoring system for small up to medium charging stations. A green signal lamp indicates the battery which can be removed next.

Your benefits:

- Management of up to 48 chargers
- Equally use of the batterie pool
- Observance of cooling times of the batteries

Without trak | monitor easypick



With trak | monitor easypick



Each charging place/ charger requires one LED housing. The HOPPECKE chargers must be equipped with an option board and a potential-free contact. If you place a new order the option “easy pick system” must be selected.

Price and individual planning on request. The systems sales are available to provide any advice.

9.2.2 Battery management – trak | monitor

With trak | monitor, our management system for charging stations, batteries and chargers, you have all performance and consumption data at a glance at all times: The System communicates with the chargers and with the HOPPECKE battery controllers. This provides for highest possible transparency so you can make real-time data decisions.

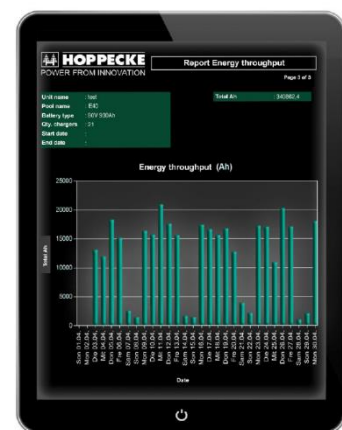


Your benefits:

- Personalized dashboards for clear evaluation - also available from mobile devices - and sending alarm messages
- Expandable at any time - from battery monitoring to peak shaving
- Central provision of the collected data of the chargers and batteries of the entire operation for evaluation in clear reports
- Management of up to 10 battery pools and 200 chargers
- Uniform use of the battery pool and adherence to the cooling times
- Reduction of time and cost for battery maintenance and service
- And much more



Price and individual planning on request. The systems sales are available to provide any advice.



9.3 Bus bars

Our bus bars are a flexible and economical energy distribution system with a wide range of optional accessories for safe, simple and fast expansion of installations.

Your benefits:

- Compliance with degrees of protection IP52 - IP55
- Low fire load of 1.32 kWh/m
- Excellent short-circuit resistance
- No customer-specific electrical installation of individual sockets required

Thanks to the busbar, the charging / changing station is easier to integrate into the house electrical system and even flexible when moving to a different hall later. Only one main voltage cable must be connected to the infeed box (interface between customer and HOPPECKE).

The tap-off boxes are equipped with mains sockets (Schuko or CEE) for chargers and with screw-type fuses, the types and numbers are order-related. They can be individually equipped with adapted fuses (fuse / FI / FI DC sensitive). RCDs / disconnectors are not included in the standard planning according to DIN EN 62485-3. If they are required, they must be specifically requested.

Examples



9.4 Ventilation systems

In the case of batteries with aqueous electrolyte, gases are released during charging. They develop through electrolysis of the water by the charge current. The gases produced are oxygen and hydrogen. If released to the atmosphere, an explosive mixture can result as soon as the proportion of hydrogen in the air exceeds 4%.

When the charger is switched off, the gas escapes noticeably after an hour. However even after this time, safety precautions are needed because gases which have been held within the cell can escape suddenly, e.g. by moving the battery when fitting in the vehicle or by the movement of the operating vehicle.

A battery system is not considered to be at risk of explosion if batteries are housed in it in such a way that the gas mixture generated during charging and discharging is diluted in the surrounding space so that it will certainly lose its explosiveness.

However, in proximity (according to EN62485-3 less than 0.5 m) of the gas outlets, dilution cannot always be guaranteed.

If a ventilation system is to be planned by HOPPECKE, it is recommended that the shelves have a housing so that the entire battery is enclosed. If the batteries are completely enclosed the gases can be optimally extracted.

Examples



10. Mobile charging station – trak | systemizer powercube

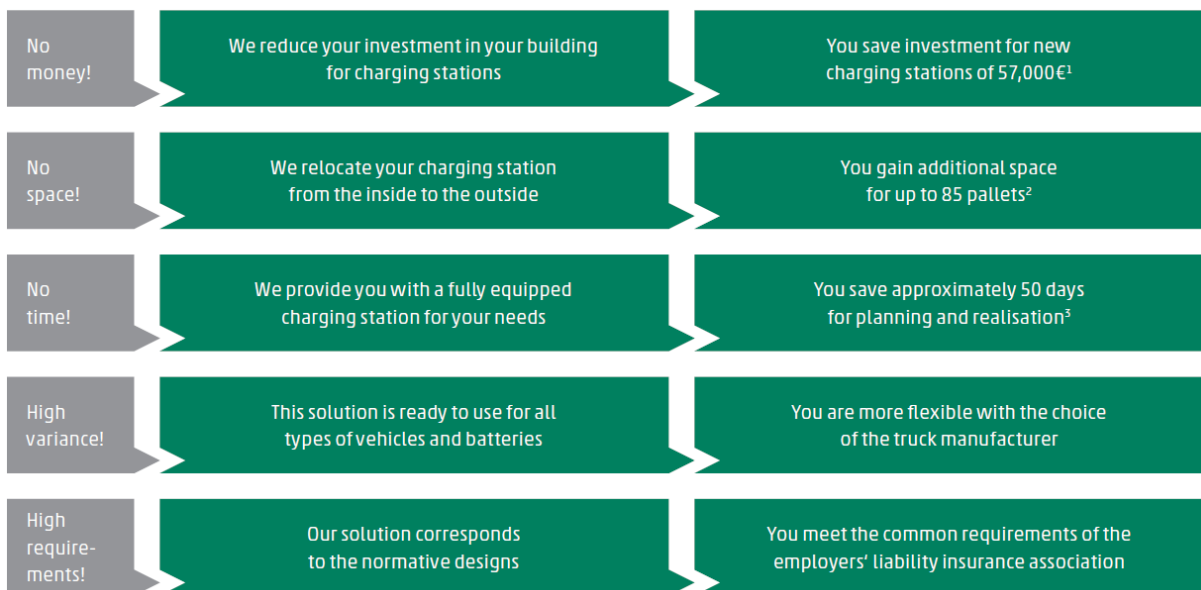
The trak | systemizer powercube is a turnkey solution for charging and changing of batteries in the field of industrial trucks. The charging container is a complete mobile charging station with integrated ventilation system and lighting as well as sophisticated technology down to the smallest detail.

It can be set up variably outside the factory premises, but also at any location within the production that has a suitable power connection.

The energy supply of your vehicle fleet is thus ensured both centrally and decentrally at all times. With the trak | systemizer powercube you create space and ensure greater flexibility, for example during order peaks with high capacity utilization.



Your benefits:



10.1 Varaints and technical dimensions

Typ	24V batteries (835x223x784)	48V batteries (835x634x784)	80V batteries (1028x999x784)	Outer dimensions WxDxH	Inner dimensions WxDxH	Net weight
TS-PC-3R/L	16	6	4	5800 x1625 x2980	2x 2550 X1280 X2380	3t
TS-PC-5R/L	24	10	6	8600 x1625 x2980	2x 3850 X1280 X2380	4,1t

10.2 Examples



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