


HF-chargers for universal traction battery applications



Coloured text-display

new

- ▶ For single and multi shift operation
- ▶ For opportunity charge of batteries with air circulation (AEM)
- ▶ To charge all types of standard PzS, PzV and VRLA traction batteries
- ▶ For battery recognition with 
- ▶ Suitable for charging with the intelligent battery charge system *e-fΔct*

Charger type	Battery type	Charging time (h)
powertron S	Standard PzS	7 – 14h
powertron S	Standard PzS with AEM	5,5 – 13h
powertron S	PzV + VRLA types	11 – 14h

Technology and characteristics

- ▶ Fully controlled charging programmes
- ▶ Energy saving due to HF-technology
- ▶ Ah balanced charging process
- ▶ Guaranteed recharge times in case of mains voltage variations +/- 10%
- ▶ Sinusoidal mains current due to active power factor correction (PFC)
- ▶ Completely smoothed charge current (100% DC), therefore reduced increase of the battery temperature (approx. -5°C) during the charging process
- ▶ Suitable for industrial and household applications, respecting EMC-guideline and EN-standards
- ▶ Automatic equalising and maintenance charge
- ▶ Data memory in real time and analysis of stored data via IrComm-interface
- ▶ Battery charge history with battery-ID in combination with e-guide
- ▶ Programmable starting time of charging process to avoid power peaks in the mains

Operation and display

- ▶ **Fully automatic**
 - Soft start
 - Adjustment of charge parameter
 - Secured full charge and termination of charging programme
- ▶ **Simple operation:**
 - Just connect battery with charger
 - No adjustment of parameter settings or manual switching
 - Display of operation state by coloured text-display and Jumbo-LEDs
 - Data check via buttons and IrComm-interface









Safety

- ▶ Reverse polarity protection
- ▶ Automatic battery parameter check prior to start of charging process
- ▶ Permanent control of the charging programme on errors and safety switch-off parameters
- ▶ Thermal protection of the charger
- ▶ If a pressure fault in the air circulation system is detected; switch over to the standard charging programme









Your benefits

- ▶ **Higher performance through** new
 - Unique ventilation system with forced ventilation through a separate air channel, therefore less sensitivity for dust
 - More stable use in areas with high mains voltage variations
- ▶ **Reduction of energy costs up to 30% through** new
 - Higher efficiency up to 95%
 - Very little reactive power, $\cos \varphi > 0,95$
 - Low backlashes into mains
 - Charging system *e-fΔct*
- ▶ **Clear information through** new
 - Coloured text-display new
 - Far visible traffic light display new
- ▶ **Analysis of stored data via IrComm-interface** new
- ▶ **Use of night electricity tariffs** by programming the start of the charge with real time clock new
- ▶ **Suitable for industrial and household applications**, respecting EMC-guidelines and EN-standards new
- ▶ **Housing suitable for wall and floor mounting**

Standard features

-  Soft start new
-  Real time clock new
-  Coloured text-display with info about state of charge, residual charge time and charge current new
-  Data check via menu button new
-  IrComm-interface and data memory in real time new
-  PFC-Filter
-  Automatic equalising charge
-  Automatic maintenance charge

Options

-  Charger plug
-  Air circulation (AEM)
-  Control for automatic water refill
-  Remote control
-  Charge programme for batteries in cold store application
-  Battery recognition with battery ID and statistics (for leasing / rental and change batteries) new
-  *e-fΔct* charging system new
- Syst. I: *e-fΔct*
- Syst. II: *e-fΔct* with 

Reducing costs with *e-fΔct*.
Ask for further details.



Charger table

powertron S								HF-Ladegerät / HF-charger / chargeur-HF							
Ladezeit je Batterie-Kapazität (Ah/5h) in Stunden ca. Charging time according to battery capacity (Ah/5h) in hours ca. Temps de charge selon capacité (Ah/5) de la batterie en heures env.								Gerätedaten / Charger data / Données du chargeur							
Spannung	Traktionsbatterie PzS, PzB, GIS mit puls			Traktionsbatterie PzS, PzB, GIS mit EU (Elektrolytumwälzung)			PzV, GiV, AGM wartungsfreie Batterie *	Geräte-typ	Netz-Spannung	Netz-Leistung	Netz-Strom	Netzleitung Stecker	Netz-sicherung (träge)	Gehäuse	Gewicht brutto
	Traction battery PzS, PzB, GIS with puls			Traction battery PzS, PzB, GIS with AEM (air electrolyte mixing)			PzV, GiV, AGM for sealed, M.F.battery *	Charger type	Mains voltage	Mains power rating	Mains current	Mains cable Plug	Mains fuse gl/gG (slow)	Housing	Cross weight approx
Tension	Batterie traction Pzs, PzB, GIS avec puls			Batterie traction Pzs, PzB, GIS avec BE (brassage d'électrolyte)			Batterie PzV, GiV, AGM - étanche S.E.*	Type de chargeur	Tension secteur	Puissance secteur	Courant secteur	Câble secteur et prise	Fusible secteur gl/gG (lent)	Armoire	Poids brut environ
	V	7 - 8,5 h	8,5 - 11,5 h	11,5 - 14 h	5,5 - 6,5 h	6,5 - 9,5 h	9,5 - 13 h	11 - 14 h	V / A	V	kVA	A	mm ²	A	kg
24V	280-400	400-500	500-640	230-300	300-450	450-625	280-400	E 24 / 50	E 230 V	1,5	5,6	1,5 Schuko	10	H2	19
	380-525	525-625	625-875	320-375	375-575	575-840	360-520	E 24 / 65		1,8	7,5	1,5 Schuko	10	H2	19
	470-640	640-800	800-1050	340-470	470-720	720-1000	450-640	E 24 / 80		2,2	9,3	1,5 Schuko	16	H2	19
	580-800	800-1000	1000-1260	450-575	575-900	900-1200	560-800	E 24 / 100		2,8	11,6	1,5 Schuko	16	H3	38
	700-980	980-1200	1200-1550	575-700	700-1085	1085-1550	700-960	E 24 / 120		3,3	13,9	1,5 Schuko	16	H3	38
	850-1240	1240-1500	—	700-875	875-1350	—	840-1150	D 24 / 150		D 400 V	4,4	6,4	1,5 CEE 16	10	H3
36V	200-280	280-350	350-465	160-205	205-320	320-450	200-280	E 36 / 35	E 230 V	1,4	6,1	1,5 Schuko	10	H2	19
	280-400	400-500	500-640	230-300	300-450	450-625	280-400	E 36 / 50		2,0	8,7	1,5 Schuko	10	H3	38
	350-480	480-600	600-800	290-350	350-540	540-775	325-480	E 36 / 60		2,4	10,4	1,5 Schuko	16	H3	38
	500-690	690-850	850-1125	340-500	500-775	775-1050	480-690	D 36 / 85	D 400 V	3,8	5,5	1,5 CEE 16	10	H3	46
	580-800	800-1000	1000-1260	450-575	575-900	900-1200	560-800	D 36 / 100		4,5	6,5	1,5 CEE 16	10	H3	46
	700-980	980-1200	1200-1550	575-700	700-1085	1085-1550	700-960	D 36 / 120		5,4	7,8	1,5 CEE 16	10	H3	46
48V	200-280	280-350	350-465	160-205	205-320	320-450	200-280	E 48 / 35	E 230 V	1,9	8,1	1,5 Schuko	10	H2	19
	280-400	400-500	500-640	230-300	300-450	450-625	280-400	E 48 / 50		2,7	11,6	1,5 Schuko	16	H3	38
	350-480	480-600	600-800	290-350	350-540	540-775	325-480	E 48 / 60		3,2	13,9	1,5 Schuko	16	H3	38
	500-690	690-850	850-1125	340-500	500-775	775-1050	480-690	D 48 / 85	D 400 V	5,2	7,3	1,5 CEE 16	10	H3	46
	580-800	800-1000	1000-1260	450-575	575-900	900-1200	560-800	D 48 / 100		6,1	8,6	1,5 CEE 16	10	H3	46
	700-980	980-1200	1200-1550	575-700	700-1085	1085-1550	700-960	D 48 / 120		7,3	10,3	1,5 CEE 16	16	H3	46
	850-1240	1240-1500	—	700-875	875-1350	—	840-1150	D 48 / 150		9,1	12,9	1,5 CEE 16	16	H4	87
	980-1395	—	—	1000-1450	—	945-1260	—	D 48 / 170		10,2	14,6	1,5 CEE 16	16	H4	87
	1150-1500	—	—	900-1150	1150-1550	—	1100-1550	D 48 / 200		12,2	17,2	2,5 CEE 32	20	H4	87
80V	145-200	200-250	250-340	—	—	—	140-200	E 80 / 25	E 230 V	2,6	9,7	1,5 Schuko	16	H2	19
	200-280	280-350	350-465	160-205	205-320	320-450	200-280	E 80 / 35		3,6	13,5	1,5 Schuko	16	H3	38
	280-400	400-500	500-640	230-300	300-450	450-625	280-400	D 80 / 50	D 400 V	5,1	7,2	1,5 CEE 16	10	H3	46
	380-525	525-625	625-875	320-375	375-575	575-840	360-520	D 80 / 65		6,6	9,3	1,5 CEE 16	16	H3	46
	500-690	690-850	850-1125	340-500	500-775	775-1050	480-690	D 80 / 85		8,7	12,2	1,5 CEE 16	16	H3	46
	580-800	800-1000	1000-1260	450-575	575-900	900-1200	560-800	D 80 / 100		10,2	14,3	1,5 CEE 16	16	H4	87
	700-980	980-1200	1200-1550	575-700	700-1085	1085-1550	700-960	D 80 / 120		12,8	17,2	2,5 CEE 32	20	H4	87
	850-1240	1240-1500	—	700-875	875-1350	—	840-1150	D 80 / 150		15,3	21,5	2,5 CEE 32	25	H4	87
	980-1395	—	—	775-1000	1000-1450	—	945-1260	D 80 / 170		17,3	24,3	4,0 CEE 32	35	H4	87

Abm. / Dim. / Dim. [mm]				E 230 V: Einphasenwechselstrom, single phase, monophasé 1 x 230V 50Hz				Wand-/Standgeräte, wall / floor mounted charger, installation murale / au sol			
Gehäuse	Höhe	Breite	Tiefe	D 400 V: Dreiphasenwechselstrom, three phase, triphasé 3 x 400V 50Hz							
Housing	Height	Width	Depth	* Richtwerte, Vorschriften der Batteriehersteller sind zu beachten							
Armoire	Hauteur	Largeur	Profondeur	* Standard values, observe recommendations of battery manufacturer							
H2	360 mm	450 mm	200 mm	* Respectez les consignes du fabricant de la batterie							
H3	560 mm	520 mm	260 mm	* Schutzrechte nach DIN 34 Absatz 2.1 werden beansprucht				* Technische Änderungen vorbehalten			
H4	960 mm	520 mm	260 mm	* Copyright protected acc. DIN 34 section 2.1				* Rights reserved for technical changes			
				* Protection des copyrights acc. DIN 34 section 2.1				* Modifications techniques réservées			