

# BATTERY CHARGING SYSTEMS FOR INTRALOGISTICS

/ Product classifications, technical data and options



/ The Selectiva series with four power classes and housing versions (1kW, 3kW, 8kW, 16kW) offers a complete product range for 12, 24, 36, 48, 72 and 80 Volt traction batteries. The intelligent Active Inverter Technology gently charges each battery and combines the advantage of 50 Hz transformer technology with those of inverter technology. With the new Ri-charging process that is available for the housing versions 8kW and 16kW, the charging characteristic will be adapted according to age, temperature and charging status of the battery. Each charging cycle is unique with an individual charging characteristic.



HOUSING	SELECTIVA 1kW	SELECTIVA PLUS 3kW	SELECTIVA 8kW	SELECTIVA 16kW
Housing type	Housing 1	Housing 2	Housing 3	Housing 4
Power	1 kW	3 kW	8 kW	16 kW
Dimensions w/h/d	247 x 162 x 88 mm	315 x 200 x 110 mm	633 x 344 x 180 mm	647 x 392 x 247 mm
Weight incl. mains and charging lead	4 kg	8 kg	23 kg	34 kg
Protection class	IP44 / IP40	IP21	IP20	IP20
Mains lead	2 m	2,5 m	3 m	3 m
Charging lead	2,5 m	3 m	3 m	3 m
Mains voltage	1 x 230V AC (+/- 10%)	1 x 230V AC (+/- 10%)	3 x 400V AC (+/- 10%)	3 x 400V AC (+/- 10%)

## SELECTIVA BATTERY CHARGING SYSTEMS



/ Pluggable mains and charging leads



/ Remote control system

### SELECTION TABLE

BATTERY VOLTAGE [V]	WET BATTERIES (PzS)												VRLA-BATTERY			DEVICE TYPE	COMPARATIVE TABLE FOR NOMINAL VOLTAGE	POWER SUPPLY VOLTAGE/CURRENT	HOUSING
	6h	7h	8h	9h	10h	11h	12h	13h	14h	10h	12h	14h							
	CAPACITY [Ah]																		
12V	110	135	165	195	225	250				120	140	160	Selectiva 1020	12V - 25A	E230V / 2A	1			
	160	190	240	300	345	375				180	200	220	Selectiva 1030	12V - 40A	E230V / 2A	1			
24V	52	65	80	95	110	125				55	70	85	Selectiva 2010	24V - 15A	E230V / 2A	1			
	80	100	125	150	170	185				80	105	120	Selectiva 2015	24V - 20A	E230V / 2A	1			
	110	135	165	195	225	250				120	140	160	Selectiva 2020	24V - 25A	E230V / 2A	1			
	180	210	260	320	360	400				190	205	220	Selectiva 2032	24V - 40A	E230V / 4A	1			
	200	230	290	345	395	440				220	250	280	Selectiva 2040	24V - 45A	E230V / 7A	1			
	185	240	290	345	395	445	495	545	595	220	250	280	Selectiva Plus 2035	24V - 45A	E230V / 6A	2			
	280	365	440	520	595	675	750	825	900	280	330	420	Selectiva Plus 2050	24V - 60A	E230V / 7A	2			
	365	470	575	680	775	875	980	1070	1170	360	430	540	Selectiva Plus 2065	24V - 80A	E230V / 9A	2			
	450	580	710	830	950	1075	1200	1320	1440	440	530	670	Selectiva Plus 2080	24V - 100A	E230V / 11A	2			
	560	730	880	1040	1190	1350	1500	1650	1800	560	670	835	Selectiva Plus 2100	24V - 120A	E230V / 16A	2			
	560	730	880	1040	1190	1350	1500	1650	1800	560	670	835	Selectiva 2100	24V - 120A	400V / 6A	3			
	670	870	1060	1250	1430	1600	1800	1980	2160	670	800	1000	Selectiva 2120	24V - 145A	400V / 7A	3			
	800	1000	1240	1450	1680	1880	2100	2310	2520	780	930	1170	Selectiva 2140	24V - 170A	400V / 8A	3			
	930	1150	1420	1650	1920	2140	2400	2640	2880	900	1170	1350	Selectiva 2160	24V - 190A	400V / 9A	3			
	1010	1305	1595	1875	2150	2407	2700	2970	3240				Selectiva 2180	24V - 220A	400V / 11A	3			
	1120	1450	1770	2080	2390	2675	3000	3300	3600				Selectiva 2200	24V - 240A	400V / 12A	3			
36V / 48V	140	180	220	260	300	335	375	410	450	140	170	210	Selectiva Plus 4025	48V - 30A	E230V / 7A	2			
	185	240	290	345	395	445	495	545	595	220	250	280	Selectiva Plus 4035	48V - 45A	E230V / 10A	2			
	280	365	440	520	595	675	750	825	900	280	330	420	Selectiva Plus 4050	48V - 60A	E230V / 16A	2			
	340	440	530	620	720	800	900	990	1080	340	400	505	Selectiva 4060	48V - 70A	400V / 8A	3			
	420	545	660	780	890	1015	1125	1240	1350	420	490	620	Selectiva 4075	48V - 90A	400V / 9A	3			
	505	655	795	935	1075	1200	1350	1485	1620	505	600	750	Selectiva 4090	48V - 110A	400V / 10A	3			
	670	870	1060	1250	1430	1600	1800	1980	2160	670	800	1000	Selectiva 4120	48V - 145A	400V / 13A	3			
	800	1000	1240	1450	1680	1880	2100	2310	2520	780	930	1170	Selectiva 4140	48V - 170A	400V / 15A	3			
	870	1085	1345	1575	1825	2040	2280	2508	2740	850	1010	1270	Selectiva 4160	48V - 190A	400V / 15A	3			
	225	290	355	415	480	535	600	660	720	225	265	335	Selectiva 8040	80V - 50A	400V / 8A	3			
80V / 72V	340	440	530	620	720	800	900	990	1080	340	400	505	Selectiva 8060	80V - 70A	400V / 11A	3			
	420	545	660	780	890	1015	1125	1240	1350	420	490	620	Selectiva 8075	80V - 90A	400V / 13A	3			
	495	635	770	910	1040	1170	1300	1430	1570	480	580	720	Selectiva 8090	80V - 110A	400V / 15A	3			
	670	870	1060	1250	1430	1600	1800	1980	2160	670	800	1000	Selectiva 8120	80V - 145A	400V / 22A	4			
	800	1000	1240	1450	1680	1880	2100	2310	2520	780	930	1170	Selectiva 8140	80V - 170A	400V / 25A	4			
	930	1150	1420	1650	1920	2140	2400	2640	2880	900	1170	1350	Selectiva 8160	80V - 190A	400V / 28A	4			
	1000	1250	1550	1790	2090	2330	2610	2870	3130	970	1260	1460	Selectiva 8180	80V - 220A	400V / 30A	4			

/ Valid for all charging processes: Battery temperature +27°C, charging times can fluctuate about +/- 0.5 hours,

/ Charging instructions by battery manufacturer have to be observed!

## SELECTION TABLE FOR AIR-PULS CHARGING

/ Using a pneumatic electrolyte circulation system, the charging time is shortened by approx. 1 hour compared to standard.

BATTERY VOLTAGE [V]	WET BATTERIES (PzS)										DEVICE TYPE	POWER SUPPLY VOLTAGE-/ CURRENT	TYPE
	5h	6h	7h	8h	9h	10h	11h	12h	13h	14h			
	CAPACITY [Ah]												
24V	170	230	285	340	395	450	500	555	610	660	Selectiva Plus 2035	E230 / 6A	2
	245	330	410	485	565	640	720	795	870	940	Selectiva Plus 2050	E230V/ 7A	2
	320	425	530	630	730	830	935	1035	1135	1230	Selectiva Plus 2065	E230V/ 9A	2
	390	525	660	775	900	1030	1150	1270	1390	1510	Selectiva Plus 2080	E230V/ 11A	2
	485	655	820	975	1130	1280	1440	1590	1740	1890	Selectiva Plus 2100	E230V/ 16A	2
	485	655	820	975	1130	1280	1440	1590	1740	1890	Selectiva 2100	400V / 6A	3
	580	790	980	1170	1350	1540	1730	1910	2090	2270	Selectiva 2120	400V / 7A	3
	680	920	1150	1360	1580	1800	2000	2225	2435	2645	Selectiva 2140	400V / 8A	3
	775	1050	1310	1550	1800	2055	2285	2540	2645	2870	Selectiva 2160	400V / 9A	3
	875	1200	1465	1750	2030	2310	2570	2860	2975	3225	Selectiva 2180	400V / 11A	3
970	1320	1650	1950	2255	2565	2855	3180	3305	3580	Selectiva 2200	400V / 12A	3	
36V / 48V	125	165	205	245	280	320	360	400	435	470	Selectiva Plus 4025	E230V/ 7A	2
	170	230	285	340	395	450	500	555	610	660	Selectiva Plus 4035	E230V/ 10A	2
	245	330	410	485	565	640	720	795	870	940	Selectiva Plus 4050	E230V/ 16A	2
	285	390	490	580	675	765	860	950	1040	1125	Selectiva 4060	400V / 8A	3
	360	490	610	725	845	960	1080	1190	1305	1410	Selectiva 4075	400V / 9A	3
	440	590	745	875	1015	1160	1300	1430	1565	1700	Selectiva 4090	400V / 10A	3
	580	790	980	1170	1350	1540	1730	1910	2090	2270	Selectiva 4120	400V / 13A	3
	680	920	1150	1360	1580	1800	2000	2225	2435	2645	Selectiva 4140	400V / 15A	3
	725	985	1230	1455	1690	1925	2140	2415	2645	2870	Selectiva 4160	400V / 15A	3
	840	1140	1425	1685	1955	2235	2485	2765	2875	3120	Selectiva 4180	400V / 30A	4
80V / 72V	190	260	325	385	450	510	575	635	695	750	Selectiva 8040	400V / 8A	3
	285	390	490	580	675	765	860	950	1040	1125	Selectiva 8060	400V / 11A	3
	360	490	610	725	845	960	1080	1190	1305	1410	Selectiva 8075	400V / 13A	3
	415	565	710	840	980	1110	1250	1380	1515	1635	Selectiva 8090	400V / 15A	3
	580	790	980	1170	1350	1540	1730	1910	2090	2270	Selectiva 8120	400V / 22A	4
	680	920	1150	1360	1580	1800	2000	2225	2435	2645	Selectiva 8140	400V / 25A	4
	775	1050	1310	1550	1800	2055	2285	2540	2645	2870	Selectiva 8160	400V / 28A	4
	840	1140	1425	1685	1955	2235	2485	2765	2875	3120	Selectiva 8180	400V / 30A	4

## SELECTIVA OPTIONS

OPTION	SELECTIVA 1kW	SELECTIVA PLUS 3kW	SELECTIVA 8kW	SELECTIVA 16kW
Aquamatic		x*)	x	x
External start/stop	x	x*)	x	x
Remote control system (Length 30m)		x*)	x	x
Passive reverse polarity protection	Standard	x	Standard	Standard
Relay board			x	x
Charging status indication	x	x*)	Standard	Standard
LED-stripe			x	x
Floor bracket		x	x	x
Wall bracket	x		x	x
Edge guard	x		x	
Carrying strap + carrying bar		x	x	x
Common error message	x	x*)	x	x
USB interface	x		Standard	Standard
Temperature-controlled charging	x		x	x
Immobilizer device	x	x*)	x	x

We would be pleased to offer you charging plugs on request!

\*) not retrofittable on site



/ LED-stripe



/ USB interface

## ADDITIONAL INFORMATION AND HELPFUL TOOLS

/ Learn more about the topic battery charging and the Selectiva battery charging systems using the links below.

/ Detailed information as well as technical explanations to the new Ri-charging process: [www.fronius.com/Ri-chargingprocess](http://www.fronius.com/Ri-chargingprocess)

/ Are you interested in calculating potential savings for your forklift truck fleet? [www.fronius.com/I-SPoT](http://www.fronius.com/I-SPoT)

/ Current videos and animations show the advantages of our battery charging systems: [www.youtube.com/FroniusCharging](http://www.youtube.com/FroniusCharging)

/ Get the current whitepaper, "Decision-making tool for the purchase of battery charging systems for electric forklift trucks" at [www.fronius.com/whitepaper](http://www.fronius.com/whitepaper)

/ The central association of electrical engineering and electrical industry shows in Handout No. 8/ industrial batteries the considerations on the life of traction batteries. They point out the fact that every degree of battery warming impacts the service life of the battery negatively. <http://www.zvei.org/Verband/Fachverbaende/Batterien/Seiten/Merkblaetter.aspx>

/ Would you like more information about Fronius battery charging systems? Send us an email to [battery.chargers@fronius.com](mailto:battery.chargers@fronius.com) and get the latest information about the Selectiva battery charging systems.

/ Perfect Welding / Solar Energy / Perfect Charging

### WE HAVE THREE DIVISIONS AND ONE PASSION: SHIFTING THE LIMITS OF POSSIBILITY.

/ Whether welding technology, photovoltaics or battery charging technology – our goal is clearly defined: to be the innovation leader. With around 3,000 employees worldwide, we shift the limits of what's possible - our more than 850 active patents are testimony to this. While others progress step by step, we innovate in leaps and bounds. Just as we've always done. The responsible use of our resources forms the basis of our corporate policy.

Further information about all Fronius products and our global sales partners and representatives can be found at [www.fronius.com](http://www.fronius.com)



v02 Feb 2014 EN

**Fronius Polska Sp. z o.o.**  
ul. Gustawa Eiffel'a 8  
44-109 Gliwice  
Polska  
Telefon + 48 32 621 07 00  
Fax +48 32 621 07 01  
[charger.sales.pl@fronius.com](mailto:charger.sales.pl@fronius.com)  
[www.fronius.pl](http://www.fronius.pl)

**Fronius Česká republika s.r.o.**  
Dolnoměcholupská 1535/14  
102 00 Praha 10  
Česká republika  
Telefon +420 272 111 011  
Fax +420 272 738 145  
[charger.sales.cz@fronius.com](mailto:charger.sales.cz@fronius.com)  
[www.fronius.cz](http://www.fronius.cz)

**Fronius UK Limited**  
Maidstone Road, Kingston  
Milton Keynes, MK10 0BD  
United Kingdom  
Telephone +44 1908 512 300  
Fax +44 1908 512 329  
[charger.sales.uk@fronius.com](mailto:charger.sales.uk@fronius.com)  
[www.fronius.co.uk](http://www.fronius.co.uk)

**Fronius France**  
ZAC du Moulin  
8, rue du Meunier – BP 14061  
95723 Roissy CDG Cedex  
France  
Téléphone +33 (0)1 39 33 12 12  
Télécopie +33 (0)1 39 33 12 34  
[charger-sales-france@fronius.com](mailto:charger-sales-france@fronius.com)  
[www.fronius.fr](http://www.fronius.fr)

**Fronius Schweiz AG**  
Oberglatterstrasse 11  
8153 Rümlang  
Schweiz  
Telefon 0848 FRONIUS (3766487)  
Gratisfax 0800 FRONIUS (3766487)  
[sales.chargers.swiss@fronius.com](mailto:sales.chargers.swiss@fronius.com)  
[www.fronius.ch](http://www.fronius.ch)

**Fronius Deutschland GmbH**  
Am Stockgraben 3  
36119 Neuendorf-Dorf bei Fulda  
Deutschland  
Telefon +49 6655 916 94-0  
Telefax +49 6655 916 94-68  
[battery.chargers@fronius.com](mailto:battery.chargers@fronius.com)  
[www.fronius.com](http://www.fronius.com)

**Fronius Italia**  
Via dell'Agricoltura, 46  
37012 Bussolengo (VR)  
Italia  
Tel.: +39 0 45 6763801  
Fax.: +39 0 45 6763811  
Mob.: +39 3420577541  
[charger-sales-it@fronius.com](mailto:charger-sales-it@fronius.com)  
[www.fronius.it](http://www.fronius.it)

**Fronius International GmbH**  
Froniusplatz 1  
4600 Wels  
Österreich  
Telefon +43 7242 241-0  
Telefax +43 7242 241-952560  
[battery.chargers@fronius.com](mailto:battery.chargers@fronius.com)  
[www.fronius.com](http://www.fronius.com)