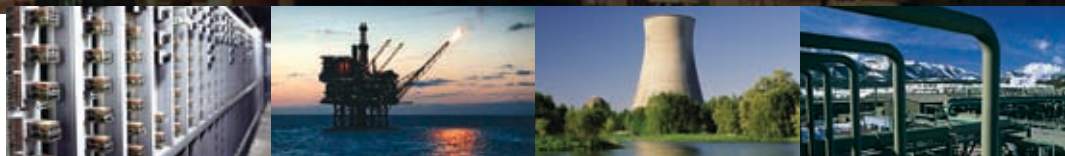


# Uptimax Ni-Cd battery

High reliability with low maintenance



# The Uptimax solution

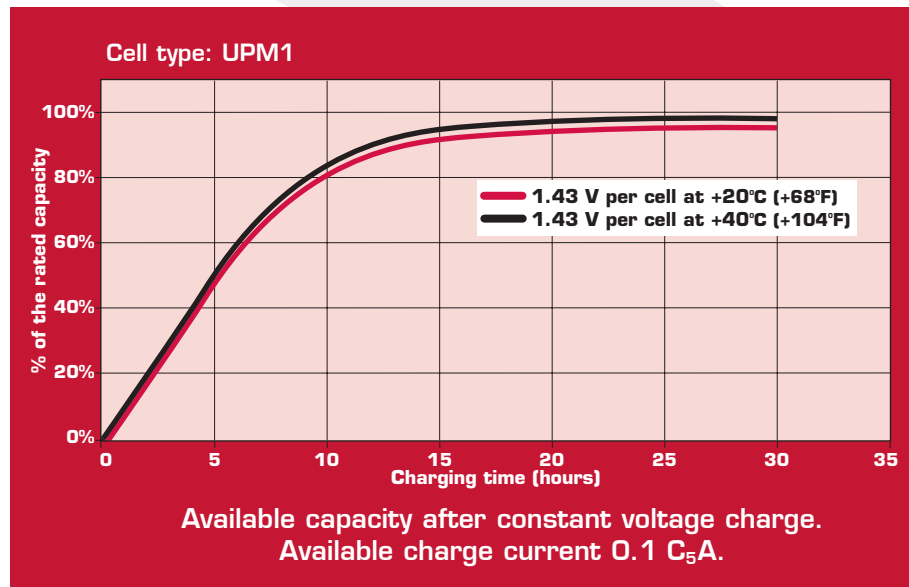
## - low maintenance for high temperatures

Saft's new Uptimax battery offers the ideal low maintenance battery solution. It meets the demands of stationary industrial backup power installations requiring maximum reliability and optimum TCO (total cost of ownership) over long periods at high ambient temperatures.

## Ideal for oil and gas, utility and electricity industries

The combination of well-proven Ni-Cd pocket plate construction with Saft's new high technology, low maintenance concept is now augmented in Uptimax, giving extended service life and outstanding performance –

- in temperatures up to +40°C, and from -40°C to +70°C in extremes, exceeding by **more than 4 times the endurance test of IEC 62259**
- with **good chargeability** characteristics – **more than 90% capacity is available even at +40°C** after constant charge at 1.43 V/cell in 15 hours with a charge current available of 0.1 C<sub>5</sub>A.
- featuring **high level of gas recombination** beyond requirements of IEC 62259 allowing reductions of gas emissions and water consumption.
- with the **total reliability** inherent in Ni-Cd's unique electrochemistry.



## Robust and reliable Uptimax: easy operation in all conditions

Backup power systems for stationary applications must be totally reliable and require the minimum level of maintenance. Uptimax gives complete peace-of-mind operation for applications in all locations, offering –

- excellent chargeability at low charge voltage, reducing down-time load voltage window
- no risk of the sudden death which is suffered by VRLA batteries
- only one topping-up requirement during its entire service life
- long operational life: 12 years plus at +40°C.

# Easy to use

## - simple handling and operation

### Very convenient...

To make transportation, installation and operation fast and easy, Uptimax batteries are delivered already filled and assembled in blocks of up to 6 cells configured in series.

- **long storage period**

Uptimax may be stored for up to 2 years in normal conditions, and in some circumstances in higher temperatures.



### ...highly efficient performance

- **low maintenance –**

the high technology, low maintenance concept enables a gas recombination level of more than 90% giving a very low level of gas emission.

- **top-up only once**

throughout its entire service life, Uptimax requires only one top-up operation, enabling very long maintenance intervals,

- **good chargeability –**

using single level low voltage charging without temperature compensation\* allows Uptimax to be charged and discharged within a low load voltage window. Battery over-sizing is unnecessary, allowing Uptimax to be optimised for your application.

*\*except for low temperatures*

# Uptimax delivers

## - a new high-technology capability

### Meets highest quality standards...

Uptimax's robust Ni-Cd construction and engineered electrolyte ensure total reliability and a long, predictable service life.

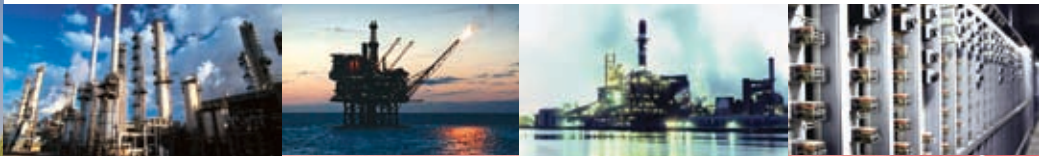
- manufactured to the most rigorous international standards at Saft's facilities qualified to ISO 9001 and ISO 14001
- exceeds gas recombination requirements of IEC 62259
- developed in line with safety requirements of EN 50272-2. Components such as insulated cable connectors and end lug covers meet IP2 level protection against electric shocks
- complemented by Saft's total support network – a global capability from consultation, design and engineering to manufacture, training and expert technical backup: a comprehensive service for the life of your battery.



### ...in a very wide capacity range

Uptimax cells are available from 8 – 1700 Ah in a choice of plate types, optimised for applications.

- **L type cells** – for low rate discharges over long periods of between 3 – 100 hours
- **M type cells** – for varied loads of low and high discharges, between 30 minutes and 3 hours.



# Proven technology

## Good chargeability

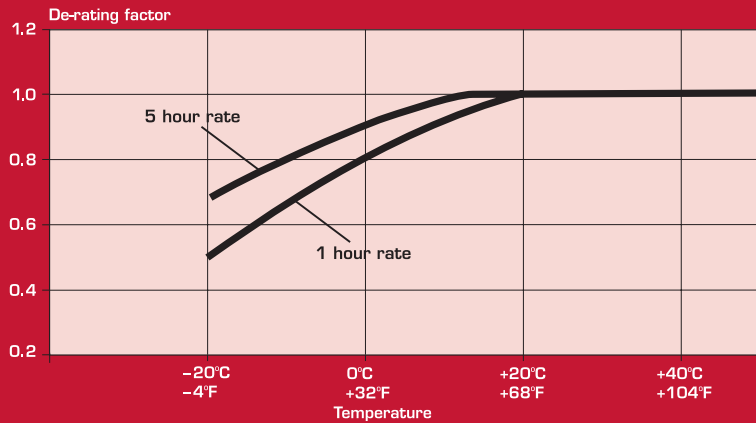
Charging of Uptimax is quick and simple, using either single or two level charging methods. Additionally, charging and discharging can occur within a low load voltage window, as a result of the low charge voltage level.

- **single level charge**  
1.43 ± 0.01 V/cell
- **two level charge**
  - float level  
1.43 ± 0.01 V/cell
  - high level  
1.45 ± 0.01 V/cell

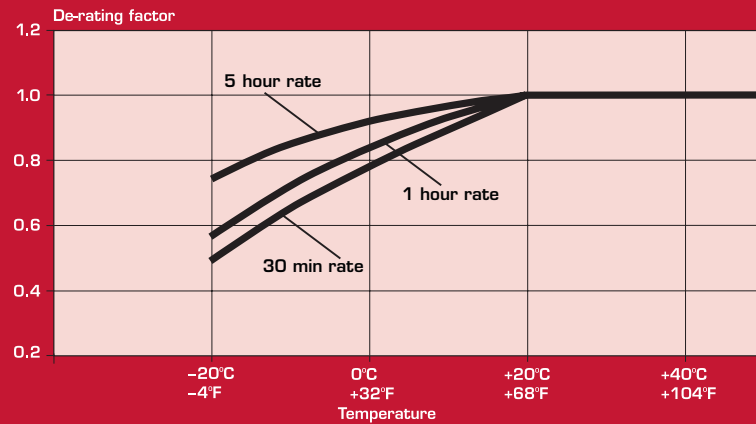
Fast recharging enables Uptimax to return rapidly to service with the benefit of minimising downtime and maximising application reliability.

### Flexible block configurations

For serial connection of blocks on racks or on shelves, always use blocks with an even number of cells. This gives short, straight interblock connectors. When a block with an odd number of cells is necessary, it should be placed at the end of a cell row.

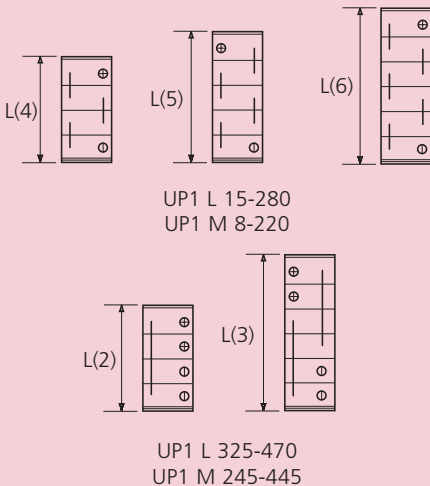


Temperature de-rating factors for L type cell

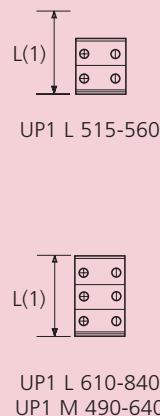


Temperature de-rating factors for M type cell

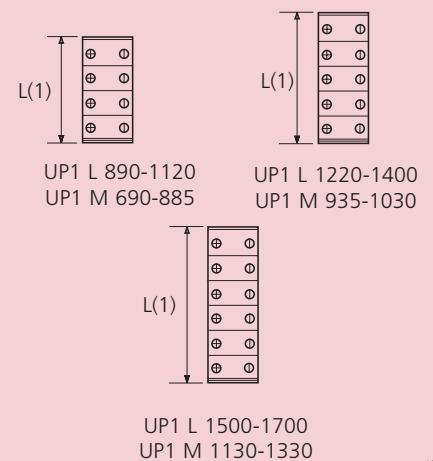
### Blocks of cells with single pole bolts



### Blocks of cells with double pole bolts



### Blocks of cells with 2-6 pole bolts per pole. Crossways mounted on racks

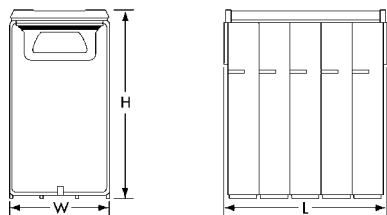


# Physical properties – L Range

Uptimax type	Capacity C <sub>5</sub> Ah	Height		Width		Length per block												Approx. weight per cell		Internal resistance*	Cell connection bolt per pole
		mm	in	mm	in	1 cell		2 cells		3 cells		4 cells		5 cells		6 cells		kg	lb		
						mm	in	mm	in	mm	in	mm	in	mm	in	mm	in				
UP1 L 15	15	270	10.6	123	4.8	-	-	-	-	-	-	101	3.97	124	4.88	148	5.82	1.10	2.42	12.1	M6
UP1 L 30	30	270	10.6	123	4.8	-	-	-	-	-	-	143	5.62	177	6.96	211	8.30	1.80	3.96	6.03	M6
UP1 L 47	47	270	10.6	123	4.8	-	-	-	-	-	-	191	7.51	237	9.33	283	11.1	2.50	5.51	3.85	M6
UP1 L 62	62	270	10.6	123	4.8	-	-	-	-	-	-	239	9.40	297	11.6	355	13.9	3.20	7.05	2.92	M6
UP1 L 75	75	270	10.6	123	4.8	-	-	-	-	-	-	329	12.9	409	16.1	490	19.2	4.30	9.47	2.41	2 x M6
UP1 L 95	95	421	16.6	195	7.7	-	-	-	-	-	-	156	6.14	192	7.55	228	8.97	4.90	10.8	2.55	M8
UP1 L 110	110	270	10.6	123	4.8	-	-	-	-	-	-	425	16.7	529	20.8	634	24.9	5.70	12.5	1.65	2 x M6
UP1 L 140	140	421	16.6	195	7.7	-	-	-	-	-	-	204	8.03	252	9.92	300	11.8	6.70	14.7	1.73	M10
UP1 L 185	185	421	16.6	195	7.7	-	-	-	-	-	-	252	9.92	312	12.2	372	14.6	8.40	18.5	1.31	M10
UP1 L 235	235	421	16.6	195	7.7	-	-	-	-	-	-	304	11.9	377	14.8	450	17.7	9.90	21.8	1.03	M10
UP1 L 280	280	421	16.6	195	7.7	-	-	-	-	-	-	352	13.8	437	17.2	522	20.5	11.50	25.3	0.86	M10
UP1 L 325	325	421	16.6	195	7.7	-	-	228	8.97	336	13.2	-	-	-	-	-	-	15.10	33.2	0.74	2 x M10
UP1 L 375	375	421	16.6	195	7.7	-	-	252	9.92	372	14.6	-	-	-	-	-	-	16.80	37.0	0.65	2 x M10
UP1 L 420	420	421	16.6	195	7.7	-	-	278	10.9	411	16.1	-	-	-	-	-	-	18.30	40.3	0.58	2 x M10
UP1 L 470	470	421	16.6	195	7.7	-	-	304	11.9	450	17.7	-	-	-	-	-	-	19.80	43.6	0.51	2 x M10
UP1 L 515	515	405	15.9	195	7.7	171	6.73	-	-	-	-	-	-	-	-	-	-	21.40	47.1	0.47	2 x M10
UP1 L 560	560	405	15.9	195	7.7	183	7.20	-	-	-	-	-	-	-	-	-	-	23.00	50.7	0.43	2 x M10
UP1 L 610	610	405	15.9	195	7.7	207	8.14	-	-	-	-	-	-	-	-	-	-	26.50	58.4	0.40	3 x M10
UP1 L 650	650	405	15.9	195	7.7	219	8.62	-	-	-	-	-	-	-	-	-	-	28.20	62.1	0.37	3 x M10
UP1 L 700	700	405	15.9	195	7.7	232	9.13	-	-	-	-	-	-	-	-	-	-	29.70	65.4	0.35	3 x M10
UP1 L 750	750	405	15.9	195	7.7	243	9.56	-	-	-	-	-	-	-	-	-	-	31.40	69.2	0.32	3 x M10
UP1 L 800	800	405	15.9	195	7.7	256	10.0	-	-	-	-	-	-	-	-	-	-	32.90	72.5	0.30	3 x M10
UP1 L 840	840	405	15.9	195	7.7	268	10.5	-	-	-	-	-	-	-	-	-	-	34.50	76.0	0.29	3 x M10
UP1 L 890	890	405	15.9	195	7.7	291	11.4	-	-	-	-	-	-	-	-	-	-	38.10	83.9	0.27	4 x M10
UP1 L 940	940	405	15.9	195	7.7	304	11.9	-	-	-	-	-	-	-	-	-	-	39.60	87.3	0.26	4 x M10
UP1 L 980	980	405	15.9	195	7.7	315	12.4	-	-	-	-	-	-	-	-	-	-	41.20	90.8	0.25	4 x M10
UP1 L 1030	1030	405	15.9	195	7.7	327	12.8	-	-	-	-	-	-	-	-	-	-	42.90	94.5	0.23	4 x M10
UP1 L 1120	1120	405	15.9	195	7.7	352	13.8	-	-	-	-	-	-	-	-	-	-	46.00	101.4	0.22	4 x M10
UP1 L 1220	1220	405	15.9	195	7.7	387	15.2	-	-	-	-	-	-	-	-	-	-	51.30	113.0	0.20	5 x M10
UP1 L 1300	1300	405	15.9	195	7.7	412	16.2	-	-	-	-	-	-	-	-	-	-	54.40	119.9	0.19	5 x M10
UP1 L 1400	1400	405	15.9	195	7.7	437	17.2	-	-	-	-	-	-	-	-	-	-	57.50	126.7	0.17	5 x M10
UP1 L 1500	1500	405	15.9	195	7.7	472	18.5	-	-	-	-	-	-	-	-	-	-	62.80	138.4	0.16	6 x M10
UP1 L 1600	1600	405	15.9	195	7.7	497	19.5	-	-	-	-	-	-	-	-	-	-	65.90	145.2	0.15	6 x M10
UP1 L 1700	1700	405	15.9	195	7.7	522	20.5	-	-	-	-	-	-	-	-	-	-	69.00	152.1	0.14	6 x M10

The block length and weight are determined by the number of cells in the block.  
All tabulated dimensions are maximum values.

\*Rigid connector included.

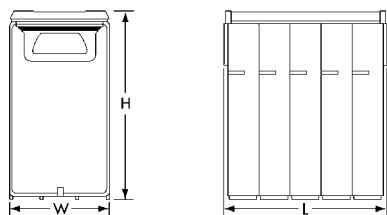


# Physical properties – M Range

Uptimax type	Capacity C <sub>5</sub> Ah	Height		Width		Length per block												Approx. weight per cell		Internal resistance* mOhm	Cell connection bolt per pole
		mm	in	mm	in	1 cell		2 cells		3 cells		4 cells		5 cells		6 cells		kg	lb		
UP1 M 8	8	270	10.6	123	4.8	-	-	-	-	-	-	101	3.97	124	4.88	148	5.82	1.10	2.42	12.5	M6
UP1 M 16	16	270	10.6	123	4.8	-	-	-	-	-	-	123	4.84	151.5	5.96	181	7.12	1.50	3.30	6.25	M6
UP1 M 24	24	270	10.6	123	4.8	-	-	-	-	-	-	143	5.62	176.5	6.94	211	8.30	1.80	3.96	4.17	M6
UP1 M 32	32	270	10.6	123	4.8	-	-	-	-	-	-	191	7.51	236.5	9.31	283	11.1	2.50	5.51	3.13	M6
UP1 M 40	40	270	10.6	123	4.8	-	-	-	-	-	-	239	9.40	296.5	11.6	355	13.9	3.20	7.05	2.50	M6
UP1 M 48	48	270	10.6	123	4.8	-	-	-	-	-	-	239	9.40	296.5	11.6	355	13.9	3.30	7.27	2.08	M6
UP1 M 65	65	270	10.6	123	4.8	-	-	-	-	-	-	377	14.8	469	18.4	562	22.1	5.00	11.0	1.54	2 x M6
UP1 M 75	75	421	16.6	195	7.7	-	-	-	-	-	-	156	6.14	192	7.55	228	8.97	4.90	10.8	1.52	M8
UP1 M 100	100	421	16.6	195	7.7	-	-	-	-	-	-	186	7.32	229.5	9.03	273	10.7	6.30	13.8	1.14	M10
UP1 M 125	125	421	16.6	195	7.7	-	-	-	-	-	-	228	8.97	282	11.1	336	13.2	7.60	16.7	0.91	M10
UP1 M 150	150	421	16.6	195	7.7	-	-	-	-	-	-	252	9.92	312	12.2	372	14.6	8.40	18.5	0.76	M10
UP1 M 170	170	421	16.6	195	7.7	-	-	-	-	-	-	304	11.9	377	14.8	450	17.7	9.90	21.8	0.67	M10
UP1 M 195	195	421	16.6	195	7.7	-	-	-	-	-	-	352	13.8	437	17.2	522	20.5	11.50	25.3	0.58	M10
UP1 M 220	220	421	16.6	195	7.7	-	-	-	-	-	-	352	13.8	437	17.2	522	20.5	12.00	26.4	0.52	M10
UP1 M 245	245	421	16.6	195	7.7	-	-	228	8.97	336	13.2	-	-	-	-	-	15.20	33.5	0.47	2 x M10	
UP1 M 270	270	421	16.6	195	7.7	-	-	240	9.44	354	13.9	-	-	-	-	-	16.00	35.2	0.42	2 x M10	
UP1 M 295	295	421	16.6	195	7.7	-	-	252	9.92	372	14.6	-	-	-	-	-	16.80	37.0	0.39	2 x M10	
UP1 M 320	320	421	16.6	195	7.7	-	-	278	10.9	411	16.1	-	-	-	-	-	18.30	40.3	0.36	2 x M10	
UP1 M 345	345	421	16.6	195	7.7	-	-	304	11.9	450	17.7	-	-	-	-	-	19.80	43.6	0.33	2 x M10	
UP1 M 370	370	421	16.6	195	7.7	-	-	328	12.9	486	19.1	-	-	-	-	-	21.40	47.1	0.31	2 x M10	
UP1 M 395	395	421	16.6	195	7.7	-	-	352	13.8	522	20.5	-	-	-	-	-	23.00	50.7	0.29	2 x M10	
UP1 M 420	420	421	16.6	195	7.7	-	-	352	13.8	522	20.5	-	-	-	-	-	23.50	51.8	0.27	2 x M10	
UP1 M 445	445	421	16.6	195	7.7	-	-	352	13.8	522	20.5	-	-	-	-	-	24.00	52.9	0.26	2 x M10	
UP1 M 490	490	405	15.9	195	7.7	219	8.62	-	-	-	-	-	-	-	-	-	28.20	62.1	0.23	3 x M10	
UP1 M 540	540	405	15.9	195	7.7	243	9.56	-	-	-	-	-	-	-	-	-	31.40	69.2	0.21	3 x M10	
UP1 M 590	590	405	15.9	195	7.7	268	10.5	-	-	-	-	-	-	-	-	-	34.50	76.0	0.19	3 x M10	
UP1 M 640	640	405	15.9	195	7.7	268	10.5	-	-	-	-	-	-	-	-	-	35.50	78.2	0.18	3 x M10	
UP1 M 690	690	405	15.9	195	7.7	304	11.9	-	-	-	-	-	-	-	-	-	39.60	87.3	0.17	4 x M10	
UP1 M 740	740	405	15.9	195	7.7	327	12.8	-	-	-	-	-	-	-	-	-	42.90	94.5	0.15	4 x M10	
UP1 M 785	785	405	15.9	195	7.7	352	13.8	-	-	-	-	-	-	-	-	-	46.00	101.4	0.15	4 x M10	
UP1 M 835	835	405	15.9	195	7.7	340	13.3	-	-	-	-	-	-	-	-	-	45.90	101.1	0.14	4 x M10	
UP1 M 885	885	405	15.9	195	7.7	352	13.8	-	-	-	-	-	-	-	-	-	48.00	105.8	0.13	4 x M10	
UP1 M 935	935	405	15.9	195	7.7	412	16.2	-	-	-	-	-	-	-	-	-	54.40	119.9	0.12	5 x M10	
UP1 M 985	985	405	15.9	195	7.7	437	17.2	-	-	-	-	-	-	-	-	-	57.50	126.7	0.12	5 x M10	
UP1 M 1030	1030	405	15.9	195	7.7	412	16.2	-	-	-	-	-	-	-	-	-	56.40	124.3	0.11	5 x M10	
UP1 M 1130	1130	405	15.9	195	7.7	497	19.5	-	-	-	-	-	-	-	-	-	65.90	145.2	0.10	6 x M10	
UP1 M 1230	1230	405	15.9	195	7.7	491	19.3	-	-	-	-	-	-	-	-	-	67.60	149.0	0.09	6 x M10	
UP1 M 1330	1330	405	15.9	195	7.7	522	20.5	-	-	-	-	-	-	-	-	-	72.00	158.7	0.09	6 x M10	

The block length and weight are determined by the number of cells in the block.  
All tabulated dimensions are maximum values.

\*Rigid connector included.



# Electrical performance – L Range

## Performance after prolonged float charge of fully charged cells

Available amperes at +20°C ± 5°C (+68°F ± 9°F)

Final voltage: 1.00 V/cell

L type	C <sub>5</sub> Ah	Hours							Minutes							Seconds		
		10	8	5	3	2	1.5	1	45	30	20	15	10	5	1	30	5	1
UP1 L 15	15	1.56	1.93	3.00	4.63	6.10	7.03	8.42	9.58	11.2	12.4	13.4	14.8	17.0	18.5	20	25	29
UP1 L 30	30	3.12	3.86	6.00	9.26	12.2	14.1	16.8	19.2	22.4	24.8	26.9	29.5	34.0	36.9	41	50	58
UP1 L 47	47	4.89	6.05	9.40	14.5	19.1	22.0	26.4	30.0	35.1	38.8	42.1	46.2	53.2	57.9	63	79	91
UP1 L 62	62	6.45	7.98	12.4	19.1	25.2	29.1	34.8	39.6	46.3	51.2	55.6	61.0	70.2	76.3	84	104	120
UP1 L 75	75	7.80	9.66	15.0	23.2	30.5	35.2	42.1	47.9	56.0	62.0	67.2	73.8	85.0	92.3	101	125	145
UP1 L 95	95	9.88	12.2	19.0	30.1	39.1	44.5	51.5	56.4	63.1	66.9	69.9	77.5	91.2	88.9	95	113	124
UP1 L 110	110	11.4	14.2	22.0	34.9	45.3	51.6	59.7	65.3	73.0	77.5	81.0	89.8	106	103	110	131	143
UP1 L 140	140	14.6	18.0	28.0	44.4	57.6	65.6	75.9	83.1	93.0	98.7	103	114	134	131	140	167	182
UP1 L 185	185	19.2	23.8	37.0	58.6	76.1	86.7	100	110	123	130	136	151	178	173	185	221	241
UP1 L 235	235	24.4	30.3	47.0	74.5	96.7	110	127	139	156	166	173	192	226	220	236	281	306
UP1 L 280	280	29.1	36.1	56.0	88.7	115	131	152	166	186	197	206	228	269	262	281	334	364
UP1 L 325	325	33.8	41.8	65.0	103	134	152	176	193	216	229	239	265	312	304	326	388	423
UP1 L 375	375	39.0	48.3	75.0	119	154	176	203	223	249	264	276	306	360	351	376	448	488
UP1 L 420	420	43.7	54.1	84.0	133	173	197	228	249	279	296	309	343	403	393	421	502	546
UP1 L 470	470	48.9	60.5	94.0	149	193	220	255	279	312	331	346	384	451	440	471	561	612
UP1 L 515	515	53.6	66.3	103	163	212	241	279	306	342	363	379	420	494	482	516	615	670
UP1 L 560	560	58.2	72.1	112	177	230	262	304	332	372	395	412	457	538	524	561	669	729
UP1 L 610	610	63.4	78.5	122	193	251	286	331	362	405	430	449	498	586	571	612	729	794
UP1 L 650	650	67.6	83.7	130	206	267	305	352	386	432	458	478	530	624	608	652	776	846
UP1 L 700	700	72.8	90.1	140	222	288	328	380	416	465	493	515	571	672	655	702	836	911
UP1 L 750	750	78.0	96.6	150	238	309	352	407	445	498	529	552	612	720	702	752	896	976
UP1 L 800	800	83.2	103	160	253	329	375	434	475	531	564	589	653	768	749	802	956	1041
UP1 L 840	840	87.4	108	168	266	346	394	456	499	558	592	618	685	806	786	842	1003	1093
UP1 L 890	890	92.6	115	178	282	366	417	483	528	591	627	655	726	854	833	892	1063	1158
UP1 L 940	940	98	121	188	298	387	441	510	558	624	662	692	767	902	880	942	1123	1223
UP1 L 980	980	102	126	196	311	403	459	531	582	651	691	721	800	941	917	982	1171	1275
UP1 L 1030	1030	107	133	206	326	424	483	559	611	684	726	758	840	989	964	1033	1230	1340
UP1 L 1120	1120	116	144	224	355	461	525	607	665	744	789	824	914	1075	1048	1123	1338	1457
UP1 L 1220	1220	127	157	244	387	502	572	662	724	810	860	898	996	1171	1142	1223	1457	1587
UP1 L 1300	1300	135	167	260	412	535	609	705	772	863	916	957	1061	1248	1217	1303	1553	1691
UP1 L 1400	1400	146	180	280	444	576	656	759	831	930	987	1030	1142	1344	1310	1404	1672	1822
UP1 L 1500	1500	156	193	300	475	617	703	813	890	996	1057	1104	1224	1440	1404	1504	1792	1952
UP1 L 1600	1600	166	206	320	507	658	750	868	950	1062	1128	1178	1306	1536	1498	1604	1911	2082
UP1 L 1700	1700	177	219	340	539	700	797	922	1009	1129	1198	1251	1387	1632	1591	1704	2031	2212



# Electrical performance – L Range

## Performance after prolonged float charge of fully charged cells

Available amperes at +20°C ± 5°C (+68°F ± 9°F)

Final voltage: 1.05 V/cell

L type	C <sub>5</sub> Ah	Hours							Minutes							Seconds		
		10	8	5	3	2	1.5	1	45	30	20	15	10	5	1	30	5	1
UP1 L 15	15	1.55	1.90	2.91	4.19	5.46	6.02	7.26	8.00	9.12	10.0	10.8	11.8	13.3	14.7	16.4	20.5	23
UP1 L 30	30	3.09	3.81	5.82	8.37	10.9	12.0	14.5	16.0	18.2	19.9	21.5	23.6	26.6	29.4	32.8	41.0	47
UP1 L 47	47	4.84	5.96	9.12	13.1	17.1	18.9	22.7	25.1	28.6	31.2	33.7	36.9	41.7	46.0	51.3	64.2	74
UP1 L 62	62	6.39	7.87	12.0	17.3	22.6	24.9	30.0	33.1	37.7	41.1	44.5	48.7	55.1	60.7	67.7	84.6	97
UP1 L 75	75	7.73	9.5	14.6	20.9	27.3	30.1	36.3	40.0	45.6	49.8	53.8	58.9	66.6	73.4	81.9	102	117
UP1 L 95	95	9.79	12.1	18.4	27.1	35.0	38.7	44.0	47.4	52.9	56.3	59.3	64.4	67.5	70.9	77.2	92.4	100
UP1 L 110	110	11.3	14.0	21.3	31.4	40.5	44.8	51.0	54.9	61.2	65.2	68.6	71.1	78.1	82.1	89.4	107	116
UP1 L 140	140	14.4	17.8	27.2	39.9	51.6	57.0	64.9	69.9	78.0	83.0	87.4	90.6	99.5	104	114	136	147
UP1 L 185	185	19.1	23.5	35.9	52.8	68.2	75.3	85.7	92.4	103	110	115	120	131	138	150	180	195
UP1 L 235	235	24.2	29.8	45.6	67.0	86.6	95.7	109	117	131	139	147	152	167	175	191	229	247
UP1 L 280	280	28.8	35.5	54.3	79.9	103	114	130	140	156	166	175	181	199	209	228	272	295
UP1 L 325	325	33.5	41.2	63.1	92.7	120	132	151	162	181	193	203	210	231	242	264	316	342
UP1 L 375	375	38.6	47.6	72.8	107	138	153	174	187	209	222	234	243	266	280	305	365	395
UP1 L 420	420	43.3	53.3	81.5	120	155	171	195	210	234	249	262	272	298	313	341	408	442
UP1 L 470	470	48.4	59.6	91.2	134	173	191	218	235	262	278	293	304	334	351	382	457	495
UP1 L 515	515	53.0	65.3	100	147	190	210	239	257	287	305	321	333	366	384	418	501	542
UP1 L 560	560	57.7	71.1	109	160	206	228	259	280	312	332	349	362	398	418	455	545	589
UP1 L 610	610	62.8	77.4	118	174	225	248	283	305	340	361	381	395	433	455	496	593	642
UP1 L 650	650	67.0	82.5	126	185	240	265	301	324	362	385	406	420	462	485	528	632	684
UP1 L 700	700	72.1	88.8	136	200	258	285	324	349	390	415	437	453	497	522	569	681	737
UP1 L 750	750	77.3	95.2	146	214	276	305	347	374	418	444	468	485	533	559	609	729	789
UP1 L 800	800	82.4	102	155	228	295	326	371	399	445	474	499	517	568	597	650	778	842
UP1 L 840	840	86.5	107	163	240	310	342	389	419	468	498	524	543	597	627	683	817	884
UP1 L 890	890	91.7	113	173	254	328	362	412	444	496	527	555	576	632	664	723	865	937
UP1 L 940	940	96.8	119	182	268	346	383	436	469	523	557	587	608	668	701	764	914	989
UP1 L 980	980	101	124	190	279	361	399	454	489	546	581	612	634	696	731	796	953	1031
UP1 L 1030	1030	106	131	200	294	380	419	477	514	574	610	643	666	732	768	837	1002	1084
UP1 L 1120	1120	115	142	217	319	413	456	519	559	624	664	699	724	796	835	910	1089	1179
UP1 L 1220	1220	126	155	237	348	450	497	565	609	679	723	761	789	867	910	991	1186	1284
UP1 L 1300	1300	134	165	252	371	479	529	602	649	724	770	811	841	924	970	1056	1264	1368
UP1 L 1400	1400	144	178	272	399	516	570	649	699	780	830	874	906	995	1044	1138	1361	1473
UP1 L 1500	1500	155	190	291	428	553	611	695	749	835	889	936	970	1066	1119	1219	1459	1578
UP1 L 1600	1600	165	203	310	456	590	651	741	799	891	948	998	1035	1137	1193	1300	1556	1684
UP1 L 1700	1700	175	216	330	485	627	692	788	849	947	1007	1061	1100	1208	1268	1381	1653	1789

# Electrical performance – L Range

## Performance after prolonged float charge of fully charged cells

Available amperes at +20°C ± 5°C (+68°F ± 9°F)

Final voltage: 1.10 V/cell

L type	C <sub>5</sub> Ah	Hours							Minutes							Seconds		
		10	8	5	3	2	1.5	1	45	30	20	15	10	5	1	30	5	1
UP1 L 15	15	1.50	1.82	2.65	3.65	4.46	5.04	6.00	6.55	7.39	8.21	8.55	9.32	10.4	12.0	13.5	16.9	19.0
UP1 L 30	30	3.00	3.64	5.30	7.29	8.93	10.1	12.0	13.1	14.8	16.4	17.1	18.6	20.7	23.9	27.0	33.8	37.9
UP1 L 47	47	4.70	5.70	8.30	11.4	14.0	15.8	18.8	20.5	23.2	25.7	26.8	29.2	32.5	37.5	42.3	53.0	59.4
UP1 L 62	62	6.20	7.52	11.0	15.1	18.4	20.8	24.8	27.1	30.6	33.9	35.3	38.5	42.9	49.4	55.8	69.9	78.3
UP1 L 75	75	7.50	9.10	13.2	18.2	22.3	25.2	30.0	32.8	37.0	41.0	42.8	46.6	51.8	59.8	67.6	84.6	94.8
UP1 L 95	95	9.50	11.5	16.7	23.2	28.3	31.2	35.7	38.5	42.4	45.5	47.0	50.6	49.2	58.5	64.0	75.7	81.9
UP1 L 110	110	11.0	13.3	19.4	26.9	32.7	36.1	41.4	44.6	49.1	52.7	54.5	58.6	57.0	67.7	74.1	87.7	94.8
UP1 L 140	140	14.0	17.0	24.7	34.2	41.7	45.9	52.6	56.8	62.5	67.0	69.3	74.6	72.6	86.2	94.3	112	121
UP1 L 185	185	18.5	22.4	32.6	45.2	55.0	60.7	69.6	75.0	82.6	88.6	91.6	98.6	95.9	114	125	147	159
UP1 L 235	235	23.5	28.5	41.4	57.5	69.9	77.1	88.4	95.3	105	113	116	125	122	145	158	187	203
UP1 L 280	280	28.0	34.0	49.4	68.5	83.3	91.8	105	114	125	134	139	149	145	172	189	223	241
UP1 L 325	325	32.5	39.4	57.3	79.5	96.7	107	122	132	145	156	161	173	168	200	219	259	280
UP1 L 375	375	37.5	45.5	66.1	91.7	112	123	141	152	167	180	186	200	194	231	253	299	323
UP1 L 420	420	42.0	50.9	74.0	103	125	138	158	170	188	201	208	224	218	259	283	335	362
UP1 L 470	470	47.0	57.0	82.8	115	140	154	177	191	210	225	233	250	244	289	317	375	405
UP1 L 515	515	51.5	62.5	90.8	126	153	169	194	209	230	247	255	274	267	317	347	410	444
UP1 L 560	560	56.0	67.9	98.7	137	167	184	211	227	250	268	277	298	290	345	377	446	483
UP1 L 610	610	61.0	74.0	108	149	181	200	229	247	272	292	302	325	316	376	411	486	526
UP1 L 650	650	65.0	78.8	115	159	193	213	244	264	290	311	322	346	337	400	438	518	560
UP1 L 700	700	70.0	84.9	123	171	208	230	263	284	313	335	347	373	363	431	472	558	603
UP1 L 750	750	75.0	91.0	132	183	223	246	282	304	335	359	371	400	389	462	505	598	646
UP1 L 800	800	80.0	97.0	141	196	238	262	301	324	357	383	396	426	415	492	539	638	689
UP1 L 840	840	84.0	102	148	205	250	276	316	341	375	402	416	448	435	517	566	670	724
UP1 L 890	890	89.0	108	157	218	265	292	335	361	397	426	441	474	461	548	600	709	767
UP1 L 940	940	94.0	114	166	230	280	308	353	381	420	450	465	501	487	579	633	749	810
UP1 L 980	980	98.0	119	173	240	292	321	368	397	438	469	485	522	508	603	660	781	845
UP1 L 1030	1030	103	125	182	252	306	338	387	418	460	493	510	549	534	634	694	821	888
UP1 L 1120	1120	112	136	197	274	333	367	421	454	500	536	554	597	581	689	755	893	965
UP1 L 1220	1220	122	148	215	298	363	400	459	495	545	584	604	650	632	751	822	972	1051
UP1 L 1300	1300	130	158	229	318	387	426	489	527	581	622	644	693	674	800	876	1036	1120
UP1 L 1400	1400	140	170	247	342	417	459	526	568	625	670	693	746	726	862	943	1116	1207
UP1 L 1500	1500	150	182	264	367	446	492	564	608	670	718	743	799	778	923	1011	1196	1293
UP1 L 1600	1600	160	194	282	391	476	525	602	649	715	766	792	852	829	985	1078	1275	1379
UP1 L 1700	1700	170	206	300	416	506	558	639	690	759	814	842	906	881	1047	1146	1355	1465

# Electrical performance – L Range

## Performance after prolonged float charge of fully charged cells

Available amperes at +20°C ± 5°C (+68°F ± 9°F)

Final voltage: 1.14 V/cell

L type	C <sub>5</sub> Ah	Hours							Minutes							Seconds		
		10	8	5	3	2	1.5	1	45	30	20	15	10	5	1	30	5	1
UP1 L 15	15	1.41	1.66	2.29	3.02	3.60	3.95	4.61	5.03	5.69	6.32	6.72	7.25	8.19	9.8	11.0	14.0	15.6
UP1 L 30	30	2.82	3.31	4.58	6.04	7.20	7.90	9.23	10.1	11.4	12.6	13.4	14.5	16.4	19.6	22.0	27.9	31.3
UP1 L 47	47	4.42	5.19	7.18	9.45	11.3	12.4	14.5	15.8	17.8	19.8	21.1	22.7	25.7	30.6	34.4	43.8	49.0
UP1 L 62	62	5.83	6.84	9.47	12.5	14.9	16.3	19.1	20.8	23.5	26.1	27.8	29.9	33.9	40.4	45.4	57.8	64.7
UP1 L 75	75	7.05	8.28	11.5	15.1	18.0	19.8	23.1	25.2	28.5	31.6	33.6	36.2	41.0	48.9	55.0	69.9	78.2
UP1 L 95	95	8.93	10	14.5	18.6	21.7	23.3	27.1	29.1	31.9	34.9	36.7	39.9	46.3	47.2	52.5	62.5	67.3
UP1 L 110	110	10.3	12.1	16.8	21.5	25.1	27.0	31.4	33.6	36.9	40.4	42.5	46.2	53.6	54.6	60.8	72.4	77.9
UP1 L 140	140	13.2	15.5	21.4	27.4	31.9	34.4	39.9	42.8	47.0	51.4	54.1	58.8	68.2	69.6	77.4	92.2	99.1
UP1 L 185	185	17.4	20.4	28.3	36.2	42.2	45.5	52.7	56.6	62.1	67.9	71.5	77.7	90	92	102	122	131
UP1 L 235	235	22.1	25.9	35.9	45.9	53.6	57.7	67.0	71.9	78.9	86.3	90.8	98.7	114	117	130	155	166
UP1 L 280	280	26.3	30.9	42.8	54.7	63.8	68.8	79.8	85.6	94.0	103	108	118	136	139	155	184	198
UP1 L 325	325	30.6	35.9	49.6	63.5	74.1	79.9	92.6	99.4	109	119	126	137	158	161	180	214	230
UP1 L 375	375	35.3	41.4	57.3	73.3	85.5	92.2	107	115	126	138	145	158	183	186	207	247	265
UP1 L 420	420	39.5	46.4	64.1	82.1	95.8	103	120	128	141	154	162	176	205	209	232	276	297
UP1 L 470	470	44.2	51.9	71.8	91.9	107	115	134	144	158	173	182	197	229	233	260	309	333
UP1 L 515	515	48.4	56.9	78.7	101	117	127	147	158	173	189	199	216	251	256	285	339	365
UP1 L 560	560	52.6	61.8	85.5	109	128	138	160	171	188	206	216	235	273	278	310	369	396
UP1 L 610	610	57.3	67.3	93.2	119	139	150	174	187	205	224	236	256	297	303	337	402	432
UP1 L 650	650	61.1	71.8	99.3	127	148	160	185	199	218	239	251	273	317	323	359	428	460
UP1 L 700	700	65.8	77.3	107	137	160	172	200	214	235	257	270	294	341	348	387	461	496
UP1 L 750	750	70.5	82.8	115	147	171	184	214	229	252	275	290	315	365	373	415	494	531
UP1 L 800	800	75.2	88.3	122	156	182	197	228	245	269	294	309	336	390	397	442	527	566
UP1 L 840	840	79.0	92.7	128	164	192	206	239	257	282	308	325	353	409	417	464	553	595
UP1 L 890	890	83.7	98.3	136	174	203	219	254	272	299	327	344	374	434	442	492	586	630
UP1 L 940	940	88.4	104	144	184	214	231	268	288	316	345	363	395	458	467	520	619	665
UP1 L 980	980	92.1	108	150	192	223	241	279	300	329	360	379	412	477	487	542	645	694
UP1 L 1030	1030	96.8	114	157	201	235	253	294	315	346	378	398	433	502	512	569	678	729
UP1 L 1120	1120	105	124	171	219	255	275	319	343	376	411	433	470	546	556	619	737	793
UP1 L 1220	1220	115	135	186	239	278	300	348	373	410	448	471	512	594	606	674	803	864
UP1 L 1300	1300	122	144	199	254	296	319	371	398	437	477	502	546	633	646	718	856	920
UP1 L 1400	1400	132	155	214	274	319	344	399	428	470	514	541	588	682	696	774	922	991
UP1 L 1500	1500	141	166	229	293	342	369	428	459	504	551	580	630	731	745	829	987	1062
UP1 L 1600	1600	150	177	244	313	365	393	456	489	537	588	618	672	780	795	884	1053	1133
UP1 L 1700	1700	160	188	260	332	388	418	485	520	571	624	657	714	828	845	940	1119	1203

# Electrical performance – M Range

## Performance after prolonged float charge of fully charged cells

Available amperes at +20°C ± 5°C (+68°F ± 9°F)

Final voltage: 1.00 V/cell

L type	C <sub>5</sub> Ah	Hours							Minutes							Seconds		
		10	8	5	3	2	1.5	1	45	30	20	15	10	5	1	30	5	1
UP1 M 8	8	0.82	1.02	1.60	2.60	3.72	4.66	6.61	7.91	9.79	11.6	12.9	14.3	16.9	17.4	19.1	23.7	27.5
UP1 M 16	16	1.65	2.04	3.20	5.20	7.44	9.32	13.2	15.8	19.6	23.1	25.9	28.7	33.7	34.8	38.2	47.5	55.1
UP1 M 24	24	2.47	3.06	4.80	7.80	11.2	14.0	19.8	23.7	29.4	34.7	38.8	43.0	50.6	52.2	57.3	71.2	82.6
UP1 M 32	32	3.30	4.08	6.40	10.4	14.9	18.6	26.4	31.6	39.1	46.2	51.7	57.4	67.5	69.6	76.5	95.0	110
UP1 M 40	40	4.12	5.10	8.00	13.0	18.6	23.3	33.1	39.6	48.9	57.8	64.7	71.7	84.4	87.0	95.6	119	138
UP1 M 48	48	4.94	6.12	9.6	15.6	22.3	28.0	39.7	47.5	58.7	69.4	77.6	86.1	101	104	115	142	165
UP1 M 65	65	6.70	8.29	13.0	21.1	30.2	37.9	53.7	64.3	79.5	93.9	105	117	137	141	155	193	224
UP1 M 75	75	7.73	9.56	15.0	24.3	34.5	43.2	62.7	74.6	91.1	104	111	118	135	137	147	174	191
UP1 M 100	100	10.3	12.8	20.0	32.3	46.0	57.6	83.6	99.5	121	138	148	157	180	182	196	231	255
UP1 M 125	125	12.9	15.9	25.0	40.4	57.5	72.0	105	124	152	173	185	196	225	228	245	289	318
UP1 M 150	150	15.5	19.1	30.0	48.5	69.0	86.4	125	149	182	207	222	235	270	274	294	347	382
UP1 M 170	170	17.5	21.7	34.0	55.0	78.2	97.9	142	169	206	235	251	267	306	310	334	393	433
UP1 M 195	195	20.1	24.9	39.0	63.1	89.7	112	163	194	237	269	288	306	351	356	383	451	497
UP1 M 220	220	22.7	28.1	44.0	71.1	101	127	184	219	267	304	325	345	396	401	432	509	560
UP1 M 245	245	25.2	31.2	49.0	79.2	113	141	205	244	298	338	362	384	441	447	481	567	624
UP1 M 270	270	27.8	34.4	54.0	87.3	124	156	226	269	328	373	399	424	486	493	530	625	688
UP1 M 295	295	30.4	37.6	59.0	95.4	136	170	247	294	358	407	436	463	530	538	579	682	751
UP1 M 320	320	33.0	40.8	64.0	103	147	184	268	318	389	442	473	502	575	584	628	740	815
UP1 M 345	345	35.5	44.0	69.0	112	159	199	288	343	419	476	510	541	620	629	677	798	879
UP1 M 370	370	38.1	47.2	74.0	120	170	213	309	368	449	511	547	580	665	675	726	856	943
UP1 M 395	395	40.7	50.4	79.0	128	182	228	330	393	480	545	584	620	710	721	775	914	1006
UP1 M 420	420	43.3	53.6	84.0	136	193	242	351	418	510	580	621	659	755	766	824	972	1070
UP1 M 445	445	45.8	56.7	89.0	144	205	256	372	443	540	614	658	698	800	812	873	1029	1134
UP1 M 490	490	50.5	62.5	98.0	158	225	282	410	488	595	676	725	769	881	894	961	1134	1248
UP1 M 540	540	55.6	68.9	108	175	248	311	451	537	656	745	799	847	971	985	1060	1249	1376
UP1 M 590	590	60.8	75.2	118	191	271	340	493	587	716	814	873	926	1061	1076	1158	1365	1503
UP1 M 640	640	65.9	81.6	128	207	294	369	535	637	777	883	947	1004	1151	1168	1256	1481	1630
UP1 M 690	690	71.1	88.0	138	223	317	397	577	687	838	952	1021	1082	1241	1259	1354	1596	1758
UP1 M 740	740	76.2	94.4	148	239	340	426	619	736	899	1021	1095	1161	1331	1350	1452	1712	1885
UP1 M 785	785	80.9	100	157	254	361	452	656	781	953	1084	1161	1231	1412	1432	1540	1816	2000
UP1 M 835	835	86.0	106	167	270	384	481	698	831	1014	1153	1235	1310	1501	1523	1638	1932	2127
UP1 M 885	885	91.2	113	177	286	407	510	740	881	1075	1222	1309	1388	1591	1615	1737	2047	2254
UP1 M 935	935	96.3	119	187	302	430	539	782	930	1135	1291	1383	1467	1681	1706	1835	2163	2382
UP1 M 985	985	101	126	197	318	453	567	823	980	1196	1360	1457	1545	1771	1797	1933	2279	2509
UP1 M 1030	1030	106	131	206	333	474	593	861	1025	1251	1422	1524	1616	1852	1879	2021	2383	2624
UP1 M 1130	1130	116	144	226	365	520	651	945	1124	1372	1560	1671	1773	2032	2062	2217	2614	2879
UP1 M 1230	1230	127	157	246	398	566	708	1028	1224	1494	1698	1819	1930	2212	2244	2414	2845	3133
UP1 M 1330	1330	137	170	266	430	612	766	1112	1323	1615	1836	1967	2086	2392	2427	2610	3077	3388

# Electrical performance – M Range

## Performance after prolonged float charge of fully charged cells

Available amperes at +20°C ± 5°C (+68°F ± 9°F)

Final voltage: 1.05 V/cell

L type	C <sub>5</sub> Ah	Hours							Minutes							Seconds		
		10	8	5	3	2	1.5	1	45	30	20	15	10	5	1	30	5	1
UP1 M 8	8	0.82	1.02	1.58	2.56	3.53	4.39	5.64	6.68	8.27	9.56	10.5	11.6	13.8	15.0	16.4	20.3	23.4
UP1 M 16	16	1.63	2.04	3.17	5.12	7.06	8.77	11.3	13.4	16.5	19.1	21.0	23.2	27.6	29.9	32.7	40.6	46.8
UP1 M 24	24	2.45	3.06	4.75	7.68	10.6	13.2	16.9	20.0	24.8	28.7	31.5	34.8	41.5	44.9	49.1	60.9	70.2
UP1 M 32	32	3.26	4.08	6.34	10.2	14.1	17.5	22.6	26.7	33.1	38.2	42.0	46.4	55.3	59.8	65.5	81.2	93.6
UP1 M 40	40	4.08	5.10	7.92	12.8	17.7	21.9	28.2	33.4	41.3	47.8	52.5	58.1	69.1	74.8	81.9	101	117
UP1 M 48	48	4.90	6.11	9.5	15.4	21.2	26.3	33.8	40.1	49.6	57.4	63.0	69.7	82.9	89.8	98.2	122	140
UP1 M 65	65	6.63	8.28	12.9	20.8	28.7	35.6	45.8	54.2	67.2	77.7	85.3	94.3	112	122	133	165	190
UP1 M 75	75	7.7	9.6	14.9	23.8	33.1	41.4	54.2	63.8	76.2	85.9	91.0	100	108	115	125	148	161
UP1 M 100	100	10.2	12.7	19.9	31.8	44.1	55.1	72.2	85.1	102	115	121	133	144	154	167	197	214
UP1 M 125	125	12.8	15.9	24.9	39.7	55.2	68.9	90.3	106	127	143	152	166	180	192	208	247	268
UP1 M 150	150	15.3	19.1	29.9	47.7	66.2	82.7	108	128	152	172	182	199	216	231	250	296	321
UP1 M 170	170	17.3	21.7	33.8	54.0	75.0	93.7	123	145	173	195	206	226	245	261	283	335	364
UP1 M 195	195	19.9	24.8	38.8	61.9	86.1	108	141	166	198	223	237	259	281	300	325	385	418
UP1 M 220	220	22.4	28.0	43.8	69.9	97.1	121	159	187	224	252	267	292	317	338	367	434	471
UP1 M 245	245	25.0	31.2	48.8	77.8	108	135	177	209	249	281	297	325	353	377	408	483	525
UP1 M 270	270	27.5	34.4	53.7	85.8	119	149	195	230	274	309	328	359	389	415	450	532	578
UP1 M 295	295	30.1	37.6	58.7	93.7	130	163	213	251	300	338	358	392	425	453	491	582	632
UP1 M 320	320	32.6	40.8	63.7	102	141	176	231	272	325	367	388	425	461	492	533	631	685
UP1 M 345	345	35.2	43.9	68.7	110	152	190	249	294	351	395	419	458	497	530	575	680	739
UP1 M 370	370	37.7	47.1	73.6	118	163	204	267	315	376	424	449	492	533	569	616	730	793
UP1 M 395	395	40.3	50.3	78.6	125	174	218	285	336	401	452	479	525	569	607	658	779	846
UP1 M 420	420	42.8	53.5	83.6	133	185	232	303	358	427	481	510	558	605	645	700	828	900
UP1 M 445	445	45.4	56.7	88.6	141	196	245	321	379	452	510	540	591	641	684	741	878	953
UP1 M 490	490	50.0	62.4	97.5	156	216	270	354	417	498	561	595	651	706	753	816	966	1050
UP1 M 540	540	55.1	68.8	107	172	238	298	390	460	549	619	655	717	778	830	900	1065	1157
UP1 M 590	590	60.2	75.2	117	187	260	325	426	502	600	676	716	784	850	907	983	1163	1264
UP1 M 640	640	65.3	81.5	127	203	282	353	462	545	650	733	777	850	922	984	1066	1262	1371
UP1 M 690	690	70.4	87.9	137	219	305	381	498	587	701	790	837	917	994	1060	1150	1361	1478
UP1 M 740	740	75.5	94.3	147	235	327	408	534	630	752	848	898	983	1066	1137	1233	1459	1585
UP1 M 785	785	80.1	100	156	249	346	433	567	668	798	899	953	1043	1130	1206	1308	1548	1681
UP1 M 835	835	85.2	106	166	265	369	460	603	711	849	956	1013	1109	1202	1283	1391	1647	1789
UP1 M 885	885	90.3	113	176	281	391	488	639	753	900	1014	1074	1176	1274	1360	1474	1745	1896
UP1 M 935	935	95.4	119	186	297	413	516	675	796	950	1071	1135	1242	1346	1437	1558	1844	2003
UP1 M 985	985	100	125	196	313	435	543	711	838	1001	1128	1195	1308	1418	1514	1641	1942	2110
UP1 M 1030	1030	105	131	205	327	455	568	744	877	1047	1180	1250	1368	1483	1583	1716	2031	2206
UP1 M 1130	1130	115	144	225	359	499	623	816	962	1149	1294	1371	1501	1627	1737	1883	2228	2420
UP1 M 1230	1230	125	157	245	391	543	678	888	1047	1250	1409	1493	1634	1771	1890	2049	2426	2635
UP1 M 1330	1330	136	169	265	422	587	733	960	1132	1352	1523	1614	1767	1915	2044	2216	2623	2849

# Electrical performance – M Range

## Performance after prolonged float charge of fully charged cells

Available amperes at +20°C ± 5°C (+68°F ± 9°F)

Final voltage: 1.10 V/cell

L type	C <sub>5</sub> Ah	Hours							Minutes							Seconds		
		10	8	5	3	2	1.5	1	45	30	20	15	10	5	1	30	5	1
UP1 M 8	8	0.81	1.00	1.55	2.48	3.34	4.01	4.94	5.64	6.36	7.39	7.98	8.76	10.2	11.9	13.2	16.3	18.8
UP1 M 16	16	1.62	2.00	3.10	4.96	6.69	8.03	9.9	11.3	12.7	14.8	16.0	17.5	20.4	23.9	26.5	32.7	37.5
UP1 M 24	24	2.42	3.00	4.66	7.44	10.0	12.0	14.8	16.9	19.1	22.2	23.9	26.3	30.6	35.8	39.7	49.0	56.3
UP1 M 32	32	3.23	4.00	6.2	10	13.4	16.1	19.8	22.6	25.5	29.6	31.9	35.0	40.9	47.8	52.9	65.3	75.0
UP1 M 40	40	4.04	5.00	7.8	12	16.7	20.1	24.7	28.2	31.8	37.0	39.9	43.8	51.1	59.7	66.2	81.7	93.8
UP1 M 48	48	4.85	6.00	9.3	15	20.1	24.1	29.6	33.9	38.2	44.4	47.9	52.5	61.3	71.6	79.4	98.0	113
UP1 M 65	65	6.57	8.13	12.6	20.2	27.2	32.6	40.2	45.9	51.7	60.1	64.8	71.1	83.0	97.0	107	133	152
UP1 M 75	75	7.58	9.38	14.7	23.3	31.7	38.2	47.0	52.9	59.1	65.9	70.7	75.2	82.1	91.6	99	117	127
UP1 M 100	100	10.1	12.5	19.6	31.0	42.3	50.9	62.6	70.6	78.8	88	94	100	109	122	132	156	169
UP1 M 125	125	12.6	15.6	24.5	38.8	52.8	63.6	78.3	88.2	98.5	110	118	125	137	153	165	195	212
UP1 M 150	150	15.2	18.8	29.4	46.5	63.4	76.4	94	106	118	132	141	150	164	183	198	234	254
UP1 M 170	170	17.2	21.3	33.3	52.7	71.9	86.5	106	120	134	149	160	171	186	208	224	265	288
UP1 M 195	195	19.7	24.4	38.2	60.5	82.4	99.3	122	138	154	171	184	196	213	238	257	304	330
UP1 M 220	220	22.2	27.5	43.1	68.2	93	112	138	155	173	193	207	221	241	269	290	343	372
UP1 M 245	245	24.7	30.6	48.0	76.0	104	125	153	173	193	215	231	246	268	299	323	381	415
UP1 M 270	270	27.3	33.8	52.9	83.7	114	137	169	191	213	237	254	271	295	330	356	420	457
UP1 M 295	295	29.8	36.9	57.8	91.5	125	150	185	208	232	259	278	296	323	360	389	459	499
UP1 M 320	320	32.3	40.0	62.7	99.2	135	163	200	226	252	281	302	321	350	391	422	498	542
UP1 M 345	345	34.8	43.1	67.6	107	146	176	216	243	272	303	325	346	378	421	455	537	584
UP1 M 370	370	37.4	46.3	72.5	115	156	188	232	261	291	325	349	371	405	452	488	576	626
UP1 M 395	395	39.9	49.4	77.4	122	167	201	247	279	311	347	372	396	432	482	521	615	669
UP1 M 420	420	42.4	52.5	82.3	130	178	214	263	296	331	369	396	421	460	513	553	654	711
UP1 M 445	445	44.9	55.6	87.2	138	188	227	279	314	351	391	419	446	487	543	586	693	753
UP1 M 490	490	49.5	61.3	96.0	152	207	249	307	346	386	431	462	492	536	598	646	763	829
UP1 M 540	540	54.5	67.5	106	167	228	275	338	381	425	475	509	542	591	659	712	841	914
UP1 M 590	590	59.6	73.8	116	183	249	300	370	416	465	518	556	592	646	720	778	919	999
UP1 M 640	640	64.6	80.0	125	198	271	326	401	452	504	562	603	642	700	781	843	996	1083
UP1 M 690	690	69.7	86.3	135	214	292	351	432	487	544	606	650	692	755	842	909	1074	1168
UP1 M 740	740	74.7	92.5	145	229	313	377	464	522	583	650	697	742	810	903	975	1152	1252
UP1 M 785	785	79.3	98.1	154	243	332	400	492	554	618	690	740	788	859	958	1035	1222	1329
UP1 M 835	835	84.3	104	164	259	353	425	523	589	658	734	787	838	914	1019	1100	1300	1413
UP1 M 885	885	89.4	111	173	274	374	451	554	624	697	778	834	888	969	1081	1166	1378	1498
UP1 M 935	935	94.4	117	183	290	395	476	586	660	737	822	881	938	1023	1142	1232	1456	1583
UP1 M 985	985	99.5	123	193	305	416	501	617	695	776	866	928	988	1078	1203	1298	1534	1667
UP1 M 1030	1030	104	129	202	319	435	524	645	727	811	905	971	1033	1127	1258	1357	1604	1743
UP1 M 1130	1130	114	141	221	350	478	575	708	797	890	993	1065	1134	1237	1380	1489	1759	1913
UP1 M 1230	1230	124	154	241	381	520	626	770	868	969	1081	1159	1234	1346	1502	1621	1915	2082
UP1 M 1330	1330	134	166	261	412	562	677	833	938	1048	1169	1253	1334	1456	1624	1753	2071	2251

# Electrical performance – M Range

## Performance after prolonged float charge of fully charged cells

Available amperes at +20°C ± 5°C (+68°F ± 9°F)

Final voltage: 1.14 V/cell

L type	C <sub>5</sub> Ah	Hours							Minutes							Seconds		
		10	8	5	3	2	1.5	1	45	30	20	15	10	5	1	30	5	1
UP1 M 8	8	0.78	0.97	1.496	2.28	2.82	3.12	3.77	4.30	4.98	5.72	6.16	6.83	8.29	9.74	10.8	13.3	15.2
UP1 M 16	16	1.57	1.94	2.992	4.55	5.64	6.24	7.54	8.59	9.96	11.4	12.3	13.7	16.6	19.5	21.5	26.5	30.4
UP1 M 24	24	2.35	2.91	4.488	6.83	8.46	9.35	11.3	12.9	14.9	17.2	18.5	20.5	24.9	29.2	32.3	39.8	45.5
UP1 M 32	32	3.14	3.88	5.984	9.11	11.3	12.5	15.1	17.2	19.9	22.9	24.6	27.3	33.2	39.0	43.1	53.1	60.7
UP1 M 40	40	3.92	4.85	7.48	11.4	14.1	15.6	18.8	21.5	24.9	28.6	30.8	34.2	41.5	48.7	53.9	66.3	75.9
UP1 M 48	48	4.70	5.82	8.976	13.7	16.9	18.7	22.6	25.8	29.9	34.3	36.9	41.0	49.8	58.5	64.6	79.6	91.1
UP1 M 65	65	6.37	7.88	12.2	18.5	22.9	25.3	30.6	34.9	40.5	46.5	50.0	55.5	67.4	79.2	87.5	108	123
UP1 M 75	75	7.35	9.09	14.1	21.8	27.1	29.8	35.3	40.3	45.6	50.6	53.3	59.1	64.8	72.5	78.5	94	101
UP1 M 100	100	9.80	12.1	18.8	29.1	36.1	39.8	47.1	53.7	60.8	67.5	71.0	78.8	86.4	96.7	105	125	135
UP1 M 125	125	12.3	15.2	23.5	36.4	45.1	49.7	58.9	67.1	75.9	84.4	88.8	98.6	108	121	131	157	168
UP1 M 150	150	14.7	18.2	28.2	43.7	54.2	59.6	70.7	80.6	91.1	101	107	118	130	145	157	188	202
UP1 M 170	170	16.7	20.6	32.0	49.5	61.4	67.6	80.1	91.3	103	115	121	134	147	164	178	213	229
UP1 M 195	195	19.1	23.6	36.7	56.7	70.4	77.5	91.9	105	118	132	139	154	168	189	204	245	263
UP1 M 220	220	21.6	26.7	41.4	64.0	79.4	87.5	104	118	134	149	156	173	190	213	230	276	296
UP1 M 245	245	24.0	29.7	46.1	71.3	88.5	97.4	115	132	149	165	174	193	212	237	256	307	330
UP1 M 270	270	26.5	32.7	50.8	78.6	97.5	107	127	145	164	182	192	213	233	261	283	339	364
UP1 M 295	295	28.9	35.8	55.5	85.8	107	117	139	158	179	199	210	233	255	285	309	370	397
UP1 M 320	320	31.4	38.8	60.2	93.1	116	127	151	172	194	216	227	252	276	309	335	401	431
UP1 M 345	345	33.8	41.8	64.9	100	125	137	163	185	210	233	245	272	298	334	361	433	465
UP1 M 370	370	36.3	44.9	69.6	108	134	147	174	199	225	250	263	292	320	358	387	464	498
UP1 M 395	395	38.7	47.9	74.3	115	143	157	186	212	240	267	281	311	341	382	413	496	532
UP1 M 420	420	41.2	50.9	79.0	122	152	167	198	226	255	284	298	331	363	406	440	527	565
UP1 M 445	445	43.6	54.0	83.7	129	161	177	210	239	270	300	316	351	384	430	466	558	599
UP1 M 490	490	48.0	59.4	92.2	143	177	195	231	263	298	331	348	386	423	474	513	615	660
UP1 M 540	540	52.9	65.5	102	157	195	215	254	290	328	365	384	426	467	522	565	677	727
UP1 M 590	590	57.8	71.5	111	172	213	235	278	317	358	398	419	465	510	571	617	740	794
UP1 M 640	640	62.7	77.6	120	186	231	254	302	344	389	432	455	505	553	619	670	803	862
UP1 M 690	690	67.6	83.7	130	201	249	274	325	371	419	466	490	544	596	667	722	866	929
UP1 M 740	740	72.5	89.7	139	215	267	294	349	397	450	500	526	583	639	716	774	928	996
UP1 M 785	785	76.9	95.2	148	228	283	312	370	422	477	530	558	619	678	759	822	985	1057
UP1 M 835	835	81.8	101	157	243	301	332	393	448	507	564	593	658	721	807	874	1048	1124
UP1 M 885	885	86.7	107	166	258	320	352	417	475	538	597	629	698	765	856	926	1110	1192
UP1 M 935	935	91.6	113	176	272	338	372	441	502	568	631	664	737	808	904	978	1173	1259
UP1 M 985	985	96.5	119	185	287	356	392	464	529	598	665	700	777	851	952	1031	1236	1326
UP1 M 1030	1030	101	125	194	300	372	410	485	553	626	695	732	812	890	996	1078	1292	1387
UP1 M 1130	1130	111	137	213	329	408	449	532	607	686	763	803	891	976	1093	1183	1418	1521
UP1 M 1230	1230	121	149	231	358	444	489	580	661	747	830	874	970	1063	1189	1287	1543	1656
UP1 M 1330	1330	130	161	250	387	480	529	627	714	808	898	945	1049	1149	1286	1392	1669	1791



**Saft is committed to the highest standards of environmental stewardship.**

Implementing this commitment to minimise the impact of its products and operations on the environment means that Saft gives priority to recycled over unrecycled raw materials, reduces its plant releases into the environment year after year, minimizes water usage, and ensures that its customers have recycling solutions for their batteries at the end of their lives.

Regarding industrial Ni-Cd batteries, Saft has had partnerships for many years with collection companies in most EU countries as well as in North America. This collection network receives and dispatches our customers' batteries at the end of their lives to fully approved recycling facilities, in compliance with the Laws governing transboundary waste shipments. Saft offers these services free of charge to its customers.

Please find a list of our collection points on our web site.

In other countries, Saft assists its customers in finding environmentally sound recycling solutions. Please contact your sales representative for further information.

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