

The MICROLYTE MRT Series

6/12 Volt flat plate monobloc
cyclic AGM battery

**Universally
designed for
float and cycling
service**





Specification

Positive electrode:	Lead Calcium high Tin grid alloy
Negative electrode:	Lead Calcium grid alloy
Float voltage:	2.25 vpc ± 1% at 25°C
Max. charge voltage:	2.50 vpc ± 1% at 25°C
Electrolyte:	Sulphuric acid absorbed into AGM separator
Safety valve:	1-3 psi self-resealing
Separators:	Absorptive glass mat (AGM) separator
Terminals:	Integral brass insert for stainless steel bolt
Electrical:	6V 9.5Ah to 210Ah & 12V 3Ah to 248Ah at C/10 to 1.75vpc @ 25°C

Design life

Life:	10 years in float service @ 25°C (For 35Ah to 275Ah)
Cycles:	250 cycles @ 80% DOD @ 25°C

Product compliance

IEC 60896-21/22-2004
 BS 6290 part 4
 UL component approval
 Eurobat

Company accreditation

ISO 9001:2015
 ISO 14001:2004

Product information

The Microlyte MRT series

Optimised plate design for universal use

The Microlyte MRT is a sealed AGM rechargeable Lead Acid battery that allows safe, trouble-free operation in any position. SEC engineers designed the MRT specifically for applications that require both cycling and float service.

The positive grid of the MRT is gravity cast using a high-tin, Lead-Calcium alloy which enhances the cyclic capability of the AGM technology. This rare construction enables the battery to achieve 250 cycles at 80% DOD making the MICROLYTE MRT truly a dual purpose battery

Optimised plate design for universal use

The MRT is extremely low maintenance. There is no need to top up the electrolyte because over 99% of the gases generated in normal operation are recombined inside the battery. The MRT does not require you to add water or take time-consuming gravity readings.

The MRT is sealed with the exception of a one-way valve (VRLA) that opens when excess pressure builds up inside the battery. This controls the internal pressure of the battery, optimises the efficiency of the recombination reaction and minimises loss of water through gassing. All of which make for a long lasting, safe and reliable power source.

Product features

- ⚡ Valve regulated AGM
- ⚡ Very low maintenance
- ⚡ Never requires added water
- ⚡ Explosion-proof
- ⚡ Lead-Calcium, high-Tin alloy
- ⚡ Increased capacity
- ⚡ Spill-proof and leak-proof
- ⚡ Low self-discharge
- ⚡ State of the art plate formation
- ⚡ Increased cycle life
- ⚡ Low gassing on float charge
- ⚡ Tough, multicell container

“The MRT range of monoblocs combines the best elements of alloy technology and grid design to provide a battery with both low-resistance and low corrosion level in the positive grid.

This engineering enhancement enables the batteries to perform well in both cyclic and float applications, making it a truly flexible option.”

Dr Mike McDonagh **SEC Group**

Product benefits

ISO:9001 approved

With installation of the most modern production and design equipment, SEC ensures that continuous product improvement is a given. SEC has recently had our efforts recognised with the coveted TUV SUD ISO:9001:2015 accreditation and are proud to remain the first in the industry to hold this mark of quality.

Universal design and shelf life

The MRT is designed for both cyclic and float requirements. A hardy battery, it does not require water or electrolyte top ups. This means peace of mind for busy operators in a range of applications.

Product consistency

The MICROLYTE MRT has minimal product performance variation. This means there's a low risk of batteries going out of phase, which makes it a safe investment in multiple series or parallel string applications.

High-quality components

Our engineers use the best possible raw materials. SEC components are manufactured by separate international companies and assembled in a tough, non-conductive, impact-resistant casing that can then be stored for long periods of time without charge.

Increased safety

The MRT is spill-proof and leak-proof with explosion-proof vents as standard which lowers the risk of accidental fire. Our Japanese-manufactured triple-post seal enhances durability, and provides extra security against leakage, preventing low-performance issues.

Highly efficient

The MRT is a reliable all-rounder with extremely low internal resistance. It runs cooler in operation and enables faster recharge. This makes it more efficient when your application demands a quick charge/recharge turnaround.

Long-lasting

The latest plate formation technology and the high-Tin, Lead Calcium alloy grids mean the MRT will perform for longer. As a dual purpose stand-by service battery the MRT is an ideal choice for a variety of applications.

Low self-discharge

The MICROLYTE MRT series is available in a wide range of capacities from 3.3 Ah to 275 Ah. With a proven low self-discharge rate it can be stored for long periods of time in the correct environments.

Applications



UPS system



Telecommunication



Emergency lighting



Fire & security alarm system



Portable VTR/TV



Power tools



Computer



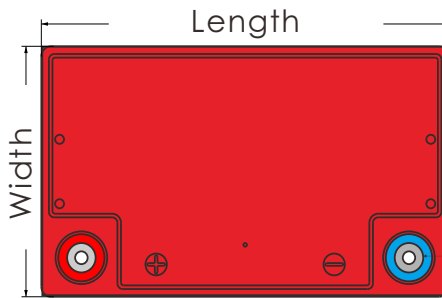
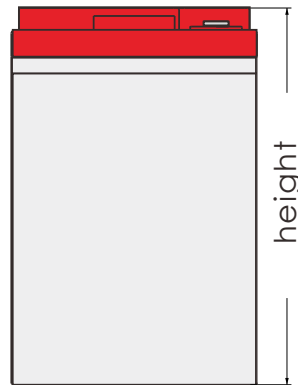
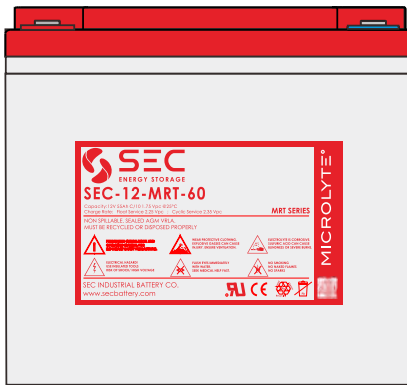
Fans



Electronic torch

Engineering

Cell outline



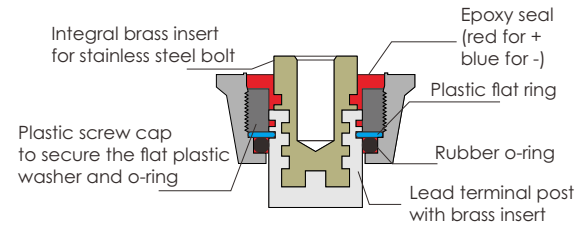
'Silkscreen: Pantone 200C red text on Pantone grey 427U background

Container: Pantone grey 427U

Lid: Pantone red 200C

Integral Brass Insert for M-Bolt

Triple-seal detail



SEC TRIPLE-SEAL DESIGN

Terminal Type

SEC Terminal Type	Description
ST1	FASTON TAB No. 187
ST2	FASTON TAB No. 250
FT2	12mm ø brass insert terminal for M5 bolt
FT3	14mm ø brass insert terminal for M6 bolt
FT4	16mm ø brass insert terminal for M6 bolt
FT5	16mm ø brass insert terminal for M8 bolt

Battery dimensions

Dimensions/ Weights/ Data

SEC bloc type	Nominal capacity (Ah) C/10 1.75 vpc	Battery weight		Overall battery dimension						Short circuit current (A)	Maximum charge current (A)	Internal resistance (mΩ)	Female terminal type
		kg	lbs	Length		Width		Height					
				mm	Inch	mm	Inch	mm	Inch				
6-MRT-10	9.5	1.69	3.73	151	5.94	50.0	1.97	98	3.86	310	1.84	10	ST1
6-MRT-12	11.4	1.79	3.95	151	5.94	50.0	1.97	98	3.86	380	2.22	9.0	ST1
6-MRT-130	120	15.9	35.1	196	7.72	170	6.69	214	8.43	3200	23.4	3.0	FT4
6-MRT-200	180	28.8	63.5	306	12.0	168	6.61	225	8.86	4600	35.0	2.4	FT5
6-MRT-220	200	30.2	66.6	323	12.7	178	7.01	230	9.06	5000	39.0	2.3	FT5
6-MRT-230	210	31.5	69.4	243	9.57	188	7.40	275	10.8	5500	41.0	2.2	FT5
12-MRT-3.3	3	1.24	2.73	134	5.28	67.5	2.66	67.0	2.64	85	0.58	60	ST1
12-MRT-5.0-SP	4.8	1.74	3.84	151	5.94	51.5	2.03	100	3.94	130	0.93	40	ST1/ST2
12-MRT-7.2	6.8	2.15	4.74	151	5.94	67.0	2.64	100	3.94	200	1.32	37	ST1/ST2
12-MRT-8.0	7.6	2.33	5.14	151	5.94	67.0	2.64	100	3.94	210	1.47	35	ST1/ST2
12-MRT-9.0	8.5	2.43	5.36	151	5.94	67.0	2.64	100	3.94	220	1.65	34	ST1/ST2
12-MRT-12	11	3.42	7.54	151	5.94	98.0	3.86	101	3.98	360	2.14	32	ST2
12-MRT-14	13.3	3.77	8.31	151	5.94	98.0	3.86	101	3.98	420	2.58	30	ST2

Battery dimensions

Dimensions/ Weights/ Data

SEC bloc type	Nominal capacity (Ah) C/10 1.75 vpc	Battery weight		Overall battery dimension						Short circuit current (A)	Maximum charge current (A)	Internal resistance (mΩ)	Female terminal type
				Length		Width		Height					
				kg	lbs	mm	Inch	mm	Inch				
12-MRT-18	17	5.23	11.5	181	7.13	77.0	3.03	167	6.57	585	3.30	29	FT2
12-MRT-20	19	5.89	13.0	181	7.13	77.0	3.03	167	6.57	700	3.68	28	FT2
12-MRT-25	22.5	7.72	17.0	165	6.50	125	4.92	176	6.93	940	4.36	12	FT3
12-MRT-26	24	8.12	17.9	165	6.50	125	4.92	176	6.93	950	4.65	12	FT3
12-MRT-28	26	8.91	19.6	165	6.50	125	4.92	176	6.93	1220	5.04	8.2	FT3
12-MRT-35	32.2	10.0	22.0	196	7.72	131	5.16	181	7.13	1500	6.24	7.3	FT3
12-MRT-45	38	12.0	26.5	197	7.76	165	6.50	170	6.69	1600	7.16	7.0	FT3
12-MRT-50	44	13.8	30.4	197	7.76	165	6.50	170	6.69	1700	8.54	6.0	FT3
12-MRT-60	55	17.0	37.5	230	9.06	138	5.43	228	8.98	1900	10.7	5.6	FT3
12-MRT-70	65	20.2	44.5	350	13.8	167	6.57	179	7.05	2000	12.6	5.5	FT3
12-MRT-80	70	21.3	47.0	260	10.2	169	6.65	227	8.94	2100	13.6	5.4	FT3
12-MRT-90	80	24.0	52.9	260	10.2	169	6.65	227	8.94	2400	15.5	4.5	FT3
12-MRT-100	90	25.8	56.9	307	12.1	170	6.69	227	8.94	2650	17.5	4.3	FT4
12-MRT-110	100	28.5	62.8	331	13.0	176	6.92	225	8.86	2900	19.4	3.9	FT4
12-MRT-120	110	31.2	68.8	331	13.0	176	6.92	225	8.86	3000	21.4	3.4	FT4
12-MRT-130	120	31.7	69.9	331	13.0	176	6.92	225	8.86	3300	23.2	3.1	FT4
12-MRT-150	135	39.7	87.5	342	13.5	173	6.81	285	11.2	4200	26.2	2.9	FT5
12-MRT-160	150	43.8	96.6	483	19.0	170	6.69	240	9.45	4500	29.2	2.8	FT5
12-MRT-175	160	48.3	106	532	20.9	207	8.15	240	9.45	4500	31.0	2.6	FT5
12-MRT-200	180	52.0	115	532	20.9	207	8.15	240	9.45	4700	35.0	2.3	FT5
12-MRT-220	200	60.5	133	522	20.6	240	9.45	225	8.86	5400	38.8	2.2	FT5
12-MRT-250	230	66.2	146	522	20.6	269	10.6	245	9.65	6157	44.6	2.0	FT5
12-MRT-275	248	73.0	161	522	20.6	269	10.6	245	9.65	6464	48.2	1.9	FT5

Operating temperature

Design operating temperature	30°C with an approved catalyst
Limit for charging	-10 to +50°C
Limit for discharging	-15 to +50°C
Limit for storage	-20 to +50°C

Charging method

Float charging voltage at 25°C	2.25 - 2.30vpc with temperature compensation
Maximum charging voltage at 25°C	2.50vpc with temperature compensation
Float charge temperature compensation factor	-3 mV/cell/°C above 25°C +3 mV/cell/°C below 25°C
Cyclic charge temperature compensation factor	-5 mV/cell/°C above 25°C +5 mV/cell/°C below 25°C

Capacity

Ampere hour at 25°C

SEC bloc type	Discharge ampere hour at 25°C														
	End volts /Cell	Discharge time in minutes			End Volts /Cell	Discharge time in hours									
		15min	30min	45min		1hr	1.5hr	2hr	3hr	4hr	5hr	6hr	8hr	10hr	20hr
6-MRT-10	1.80	4.00	4.66	4.90	1.85	5.47	6.29	6.39	6.86	7.33	7.80	7.88	8.09	8.90	9.40
	1.75	4.23	4.83	5.08	1.80	5.87	6.57	6.67	7.23	7.73	8.22	8.31	8.53	9.20	9.80
	1.67	4.49	5.06	5.32	1.75	6.06	6.73	6.84	7.45	7.97	8.47	8.56	8.79	9.50	10.00
6-MRT-12	1.80	4.80	5.59	5.88	1.85	6.56	7.55	7.67	8.23	8.80	9.36	9.45	9.71	10.7	11.3
	1.75	5.07	5.80	6.10	1.80	7.04	7.88	8.00	8.68	9.27	9.86	9.97	10.2	11.1	11.8
	1.67	5.38	6.07	6.38	1.75	7.27	8.08	8.21	8.95	9.56	10.2	10.3	10.5	11.4	12.0
6-MRT-130	1.80	43.6	54.9	61.8	1.85	64.8	76.9	81.4	84.8	92.8	99.0	104	109	109	124
	1.75	46.1	57.0	64.1	1.80	69.5	81.4	85.0	89.4	97.8	104	109	114	117	129
	1.67	48.9	59.6	67.1	1.75	71.7	82.3	87.2	92.2	101	108	113	118	120	130
6-MRT-200	1.80	67.1	84.5	95.0	1.85	99.7	118	125	131	143	152	160	162	164	191
	1.75	70.8	87.7	98.6	1.80	107	125	131	138	150	161	168	172	175	199
	1.67	75.2	91.7	103	1.75	110	127	134	142	155	166	174	177	180	200
6-MRT-220	1.80	73.8	92.9	105	1.85	110	130	138	144	157	167	176	180	182	210
	1.75	77.9	96.4	108	1.80	118	138	144	151	165	177	185	192	195	218
	1.67	82.7	101	114	1.75	121	139	148	156	171	182	191	198	200	220
6-MRT-230	1.80	77.2	97.1	109	1.85	115	136	144	150	164	175	184	188	191	219
	1.75	81.5	101	113	1.80	123	144	150	158	173	185	194	201	205	228
	1.67	86.5	105	119	1.75	127	146	154	163	178	190	200	206	210	230
12-MRT-3.3	1.80	1.32	1.54	1.62	1.85	1.81	2.08	2.11	2.26	2.42	2.57	2.60	2.67	2.80	3.10
	1.75	1.39	1.60	1.68	1.80	1.94	2.17	2.20	2.39	2.55	2.71	2.74	2.81	2.90	3.23
	1.67	1.48	1.67	1.76	1.75	2.00	2.22	2.26	2.46	2.63	2.80	2.83	2.90	3.00	3.30
12-MRT-5.0-SP	1.80	2.00	2.33	2.45	1.85	2.73	3.15	3.19	3.43	3.67	3.90	3.94	4.04	4.50	4.70
	1.75	2.11	2.42	2.54	1.80	2.93	3.28	3.33	3.62	3.86	4.11	4.15	4.26	4.70	4.90
	1.67	2.24	2.53	2.66	1.75	3.03	3.37	3.42	3.73	3.98	4.24	4.28	4.40	4.80	5.00
12-MRT-7.2	1.80	2.88	3.35	3.53	1.85	3.94	4.53	4.60	4.94	5.28	5.61	5.67	5.82	6.40	6.77
	1.75	3.04	3.48	3.66	1.80	4.23	4.73	4.80	5.21	5.56	5.92	5.98	6.14	6.60	7.06
	1.67	3.23	3.64	3.83	1.75	4.36	4.85	4.92	5.37	5.74	6.10	6.17	6.33	6.80	7.20
12-MRT-8.0	1.80	3.20	3.73	3.92	1.85	4.38	5.04	5.11	5.49	5.86	6.24	6.30	6.47	7.10	7.52
	1.75	3.38	3.87	4.06	1.80	4.69	5.25	5.33	5.79	6.18	6.58	6.64	6.82	7.40	7.84
	1.67	3.59	4.05	4.26	1.75	4.84	5.39	5.47	5.96	6.37	6.78	6.85	7.03	7.60	8.00
12-MRT-9.0	1.80	3.60	4.19	4.41	1.85	4.92	5.67	5.75	6.17	6.60	7.02	7.09	7.28	7.94	8.46
	1.75	3.80	4.35	4.57	1.80	5.28	5.91	6.00	6.51	6.96	7.40	7.48	7.67	8.24	8.82
	1.67	4.04	4.55	4.79	1.75	5.45	6.06	6.16	6.71	7.17	7.63	7.71	7.91	8.50	9.00
12-MRT-12	1.80	4.80	5.59	5.88	1.85	6.56	7.55	7.67	8.23	8.80	9.36	9.45	9.71	10.3	11.3
	1.75	5.07	5.80	6.10	1.80	7.04	7.88	8.00	8.68	9.27	9.86	9.97	10.2	10.7	11.8
	1.67	5.38	6.07	6.38	1.75	7.27	8.08	8.21	8.95	9.56	10.2	10.3	10.5	11.0	12.0
12-MRT-14	1.80	5.60	6.52	6.86	1.85	7.66	8.81	8.94	9.60	10.3	10.9	11.0	11.3	12.4	13.2
	1.75	5.92	6.77	7.11	1.80	8.22	9.20	9.33	10.1	10.8	11.5	11.6	11.9	12.9	13.7
	1.67	6.28	7.08	7.45	1.75	8.48	9.43	9.58	10.4	11.2	11.9	12.0	12.3	13.3	14.0
12-MRT-18	1.80	7.21	8.38	8.82	1.85	9.85	11.3	11.5	12.3	13.2	14.0	14.2	14.6	15.9	16.9
	1.75	7.61	8.70	9.15	1.80	10.6	11.8	12.0	13.0	13.9	14.8	15.0	15.3	16.5	17.6
	1.67	8.08	9.11	9.58	1.75	10.9	12.1	12.3	13.4	14.3	15.3	15.4	15.8	17.0	18.0
12-MRT-20	1.80	8.01	9.31	9.80	1.85	10.9	12.6	12.8	13.7	14.7	15.6	15.8	16.2	17.8	18.8
	1.75	8.45	9.67	10.2	1.80	11.7	13.1	13.3	14.5	15.5	16.4	16.6	17.1	18.4	19.6
	1.67	8.97	10.1	10.6	1.75	12.1	13.5	13.7	14.9	15.9	16.9	17.1	17.6	19.0	20.0
12-MRT-25	1.80	10.0	11.6	12.2	1.85	13.7	15.7	16.0	17.1	18.3	19.5	19.7	20.2	21.1	23.5
	1.75	10.6	12.1	12.7	1.80	14.7	16.4	16.7	18.1	19.3	20.6	20.8	21.3	21.8	24.5
	1.67	11.2	12.6	13.3	1.75	15.1	16.8	17.1	18.6	19.9	21.2	21.4	22.0	22.5	25.0

Capacity

Ampere hour at 25°C

SEC bloc type	Discharge ampere hour at 25°C														
	End volts /Cell	Discharge time in minutes			End Volts /Cell	Discharge time in hours									
		15min	30min	45min		1hr	1.5hr	2hr	3hr	4hr	5hr	6hr	8hr	10hr	20hr
12-MRT-26	1.80	10.4	12.1	12.7	1.85	14.2	16.4	16.6	17.8	19.1	20.3	20.5	21.0	22.5	24.4
	1.75	11.0	12.6	13.2	1.80	15.3	17.1	17.3	18.8	20.1	21.4	21.6	22.2	23.3	25.5
	1.67	11.7	13.2	13.8	1.75	15.7	17.5	17.8	19.4	20.7	22.0	22.3	22.9	24.0	26.0
12-MRT-28	1.80	11.2	13.0	13.7	1.85	15.3	17.6	17.9	19.2	20.5	21.8	22.1	22.6	24.3	26.3
	1.75	11.8	13.5	14.2	1.80	16.4	18.4	18.7	20.2	21.6	23.0	23.3	23.9	25.2	27.4
	1.67	12.6	14.2	14.9	1.75	17.0	18.9	19.2	20.9	22.3	23.7	24.0	24.6	26.0	28.0
12-MRT-35	1.80	11.7	14.8	16.6	1.85	17.4	20.7	21.9	22.8	25.0	26.6	28.0	29.2	30.1	33.4
	1.75	12.4	15.3	17.3	1.80	18.7	21.9	22.9	24.1	26.3	28.1	29.5	30.8	31.2	34.8
	1.67	13.2	16.1	18.1	1.75	19.3	22.2	23.5	24.8	27.1	29.0	30.4	31.8	32.2	35.0
12-MRT-45	1.80	13.4	16.9	19.0	1.85	19.9	23.6	25.1	26.1	28.5	30.5	32.0	33.4	34.7	38.1
	1.75	14.2	17.5	19.7	1.80	21.4	25.1	26.1	27.5	30.1	32.1	33.7	35.2	35.8	39.7
	1.67	15.0	18.3	20.6	1.75	22.1	25.3	26.8	28.4	31.0	33.1	34.7	36.3	36.7	40.0
12-MRT-50	1.80	15.4	19.4	21.9	1.85	22.9	27.2	28.8	30.0	32.8	35.0	36.7	38.4	41.2	43.9
	1.75	16.3	20.2	22.7	1.80	24.6	28.8	30.1	31.6	34.6	36.9	38.7	40.5	42.7	45.7
	1.67	17.3	21.1	23.7	1.75	25.4	29.1	30.9	32.6	35.7	38.1	39.9	41.8	44.0	46.0
12-MRT-60	1.80	19.5	24.5	27.6	1.85	28.9	34.3	36.3	37.8	41.4	44.2	46.3	48.4	51.5	55.3
	1.75	20.5	25.4	28.6	1.80	31.0	36.3	37.9	39.9	43.6	46.6	48.8	51.1	53.4	57.6
	1.67	21.8	26.6	29.9	1.75	32.0	36.7	38.9	41.1	45.0	48.0	50.4	52.7	55.0	58.0
12-MRT-70	1.80	22.8	28.7	32.3	1.85	33.9	40.2	42.6	44.4	48.5	51.8	54.3	56.8	60.8	64.8
	1.75	24.1	29.8	33.5	1.80	36.4	42.6	44.5	46.8	51.2	54.6	57.3	59.9	63.1	67.5
	1.67	25.6	31.2	35.1	1.75	37.5	43.0	45.6	48.2	52.7	56.3	59.0	61.7	65.0	68.0
12-MRT-80	1.80	24.5	30.8	34.7	1.85	36.4	43.2	45.7	47.6	52.1	55.6	58.3	61.0	65.5	69.6
	1.75	25.9	32.0	36.0	1.80	39.0	45.7	47.7	50.2	54.9	58.6	61.5	64.3	67.9	72.5
	1.67	27.5	33.5	37.7	1.75	40.3	46.2	49.0	51.8	56.6	60.4	63.4	66.3	70.0	73.0
12-MRT-90	1.80	28.5	35.9	40.4	1.85	42.4	50.3	53.3	55.5	60.6	64.7	67.9	71.0	74.9	81.0
	1.75	30.1	37.3	41.9	1.80	45.5	53.3	55.6	58.5	63.9	68.2	71.6	74.9	77.6	84.4
	1.67	32.0	39.0	43.9	1.75	46.9	53.8	57.0	60.3	65.9	70.3	73.8	77.2	80.0	85.0
12-MRT-100	1.80	33.6	42.2	47.5	1.85	49.8	59.1	62.6	65.3	71.3	76.1	79.9	83.5	84.2	95.3
	1.75	35.4	43.8	49.3	1.80	53.5	62.7	65.4	68.8	75.2	80.3	84.2	86.4	87.3	99.3
	1.67	37.6	45.9	51.6	1.75	55.2	63.3	67.1	70.9	77.6	82.8	86.8	88.0	90.0	100
12-MRT-110	1.80	36.9	46.5	52.3	1.85	54.8	65.0	68.9	71.8	78.5	83.7	87.9	91.9	93.6	105
	1.75	39.0	48.2	54.2	1.80	58.8	68.9	71.9	75.7	82.7	88.3	92.6	96.9	97.0	109
	1.67	41.4	50.5	56.8	1.75	60.7	69.6	73.8	78.0	85.3	91.0	95.5	99.9	100	110
12-MRT-120	1.80	40.6	51.1	57.5	1.85	60.3	71.5	75.8	79.0	86.3	92.1	96.6	101	103	115
	1.75	42.9	53.0	59.7	1.80	64.7	75.8	79.1	83.3	91.0	97.1	102	105	107	120
	1.67	45.5	55.5	62.4	1.75	66.8	76.6	81.2	85.8	93.8	100	105	108	110	121
12-MRT-130	1.80	44.3	55.7	62.7	1.85	65.8	78.0	82.7	86.1	94.2	100	105	110	112	126
	1.75	46.8	57.9	65.1	1.80	70.6	82.7	86.3	90.8	99.3	106	111	114	116	131
	1.67	49.6	60.5	68.1	1.75	72.8	83.6	88.5	93.6	102	109	115	118	120	132
12-MRT-150	1.80	49.7	62.5	70.3	1.85	73.8	87.5	92.7	96.6	106	113	118	122	126	141
	1.75	52.4	64.9	73.0	1.80	79.1	92.7	96.7	102	111	119	125	129	131	147
	1.67	55.7	67.9	76.4	1.75	81.7	93.7	99.3	105	115	122	128	134	135	148
12-MRT-160	1.80	55.4	69.7	78.4	1.85	82.2	97.6	103	108	118	126	132	138	140	157
	1.75	58.4	72.3	81.4	1.80	88.2	103	108	114	124	132	139	144	146	164
	1.67	62.1	75.7	85.1	1.75	91.0	104	111	117	128	137	143	148	150	165
12-MRT-175	1.80	59.0	74.3	83.6	1.85	87.7	104	110	115	126	134	141	147	150	168
	1.75	62.3	77.2	86.8	1.80	94.1	110	115	121	132	141	148	152	155	175
	1.67	66.2	80.7	90.8	1.75	97.1	111	118	125	136	146	153	158	160	176

Capacity

Ampere hour at 25°C

SEC bloc type	Discharge ampere hour at 25°C														
	End volts /Cell	Discharge time in minutes			End Volts /Cell	Discharge time in hours									
		15min	30min	45min		1hr	1.5hr	2hr	3hr	4hr	5hr	6hr	8hr	10hr	20hr
12-MRT-200	1.80	66.4	83.6	94.1	1.85	98.7	117	124	129	141	151	158	164	168	189
	1.75	70.1	86.8	97.6	1.80	106	124	129	136	149	159	167	173	175	197
	1.67	74.5	90.8	102	1.75	109	125	133	140	154	164	172	176	180	198
12-MRT-220	1.80	73.8	92.9	105	1.85	110	130	138	144	157	167	176	184	187	210
	1.75	77.9	96.4	108	1.80	118	138	144	151	165	177	185	190	194	218
	1.67	82.7	101	114	1.75	121	139	148	156	171	182	191	196	200	220
12-MRT-250	1.80	85.2	107	121	1.85	127	150	159	166	181	193	203	212	215	242
	1.75	90.0	111	125	1.80	136	159	166	175	191	204	214	220	223	252
	1.67	95.5	117	131	1.75	140	161	170	180	197	210	221	227	230	254
12-MRT-275	1.80	91.9	116	130	1.85	137	162	172	179	195	209	219	229	233	261
	1.75	97.1	120	135	1.80	147	172	179	189	206	220	231	238	241	272
	1.67	103	126	141	1.75	151	173	184	194	212	227	238	245	248	274

Current

Ampere at 25°C

SEC bloc type	Discharge amps at 25°C														
	End volts /Cell	Discharge time in minutes			End Volts /Cell	Discharge time in hours									
		15min	30min	45min		1hr	1.5hr	2hr	3hr	4hr	5hr	6hr	8hr	10hr	20hr
6-MRT-10	1.80	16.0	9.31	6.53	1.85	5.47	4.20	3.19	2.29	1.83	1.56	1.31	1.01	0.89	0.47
	1.75	16.9	9.67	6.77	1.80	5.87	4.38	3.33	2.41	1.93	1.64	1.38	1.07	0.92	0.49
	1.67	17.9	10.1	7.09	1.75	6.06	4.49	3.42	2.48	1.99	1.69	1.43	1.10	0.95	0.50
6-MRT-12	1.80	19.2	11.2	7.84	1.85	6.56	5.04	3.83	2.74	2.20	1.87	1.58	1.21	1.07	0.56
	1.75	20.3	11.6	8.13	1.80	7.04	5.25	4.00	2.89	2.32	1.97	1.66	1.28	1.11	0.59
	1.67	21.5	12.1	8.51	1.75	7.27	5.39	4.10	2.98	2.39	2.03	1.71	1.32	1.14	0.60
6-MRT-130	1.80	174	110	82.3	1.85	64.8	51.2	40.7	28.3	23.2	19.8	17.3	13.6	10.9	6.20
	1.75	184	114	85.5	1.80	69.5	54.3	42.5	29.8	24.4	20.9	18.2	14.3	11.7	6.45
	1.67	196	119	89.4	1.75	71.7	54.9	43.6	30.7	25.2	21.5	18.8	14.8	12.0	6.50
6-MRT-200	1.80	268	169	127	1.85	99.7	78.8	62.6	43.5	35.7	30.5	26.6	20.3	16.4	9.53
	1.75	283	175	132	1.80	107	83.5	65.4	45.9	37.6	32.1	28.1	21.5	17.5	9.93
	1.67	301	183	138	1.75	110	84.4	67.1	47.3	38.8	33.1	28.9	22.1	18.0	10.0
6-MRT-220	1.80	295	186	139	1.85	110	86.7	68.9	47.9	39.2	33.5	29.3	22.5	18.2	10.5
	1.75	312	193	145	1.80	118	91.9	71.9	50.5	41.4	35.3	30.9	24.0	19.5	10.9
	1.67	331	202	151	1.75	121	92.8	73.8	52.0	42.7	36.4	31.8	24.7	20.0	11.0
6-MRT-230	1.80	309	194	146	1.85	115	90.7	72.0	50.0	41.0	35.0	30.6	23.5	19.1	11.0
	1.75	326	202	151	1.80	123	96.1	75.2	52.7	43.3	36.9	32.3	25.1	20.5	11.4
	1.67	346	211	158	1.75	127	97.1	77.1	54.4	44.6	38.1	33.3	25.8	21.0	11.5
12-MRT-3.3	1.80	5.28	3.07	2.16	1.85	1.81	1.38	1.05	0.75	0.60	0.51	0.43	0.33	0.28	0.16
	1.75	5.58	3.19	2.24	1.80	1.94	1.44	1.10	0.80	0.64	0.54	0.46	0.35	0.29	0.16
	1.67	5.92	3.34	2.34	1.75	2.00	1.48	1.13	0.82	0.66	0.56	0.47	0.36	0.30	0.16
12-MRT-5.0-SP	1.80	8.01	4.66	3.27	1.85	2.73	2.10	1.60	1.14	0.92	0.78	0.66	0.51	0.45	0.24
	1.75	8.45	4.83	3.39	1.80	2.93	2.19	1.67	1.21	0.97	0.82	0.69	0.53	0.47	0.25
	1.67	8.97	5.06	3.55	1.75	3.03	2.24	1.71	1.24	1.00	0.85	0.71	0.55	0.48	0.25
12-MRT-7.2	1.80	11.5	6.71	4.70	1.85	3.94	3.02	2.30	1.65	1.32	1.12	0.95	0.73	0.64	0.34
	1.75	12.2	6.96	4.88	1.80	4.23	3.15	2.40	1.74	1.39	1.18	1.00	0.77	0.66	0.35
	1.67	12.9	7.28	5.11	1.75	4.36	3.23	2.46	1.79	1.43	1.22	1.03	0.79	0.68	0.36
12-MRT-8.0	1.80	12.8	7.45	5.23	1.85	4.38	3.36	2.56	1.83	1.47	1.25	1.05	0.81	0.71	0.38
	1.75	13.5	7.74	5.42	1.80	4.69	3.50	2.67	1.93	1.55	1.32	1.11	0.85	0.74	0.39
	1.67	14.4	8.09	5.68	1.75	4.84	3.59	2.74	1.99	1.59	1.36	1.14	0.88	0.76	0.40

Current

Ampere at 25°C

SEC bloc type	Discharge amps at 25°C														
	End volts /Cell	Discharge time in minutes			End Volts /Cell	Discharge time in hours									
		15min	30min	45min		1hr	1.5hr	2hr	3hr	4hr	5hr	6hr	8hr	10hr	24hr
12-MRT-9.0	1.80	14.4	8.38	5.88	1.85	4.92	3.78	2.87	2.06	1.65	1.40	1.18	0.91	0.79	0.42
	1.75	15.2	8.70	6.10	1.80	5.28	3.94	3.00	2.17	1.74	1.48	1.25	0.96	0.82	0.44
	1.67	16.2	9.11	6.38	1.75	5.45	4.04	3.08	2.24	1.79	1.53	1.28	0.99	0.85	0.45
12-MRT-12	1.80	19.2	11.2	7.84	1.85	6.56	5.04	3.83	2.74	2.20	1.87	1.58	1.21	1.03	0.56
	1.75	20.3	11.6	8.13	1.80	7.04	5.25	4.00	2.89	2.32	1.97	1.66	1.28	1.07	0.59
	1.67	21.5	12.1	8.51	1.75	7.27	5.39	4.10	2.98	2.39	2.03	1.71	1.32	1.10	0.60
12-MRT-14	1.80	22.4	13.0	9.15	1.85	7.66	5.88	4.47	3.20	2.57	2.18	1.84	1.42	1.24	0.66
	1.75	23.7	13.5	9.48	1.80	8.22	6.13	4.67	3.37	2.71	2.30	1.94	1.49	1.29	0.69
	1.67	25.1	14.2	9.9	1.75	8.48	6.29	4.79	3.48	2.79	2.37	2.00	1.54	1.33	0.70
12-MRT-18	1.80	28.8	16.8	11.8	1.85	9.85	7.55	5.75	4.12	3.30	2.81	2.36	1.82	1.59	0.85
	1.75	30.4	17.4	12.2	1.80	10.6	7.88	6.00	4.34	3.48	2.96	2.49	1.92	1.65	0.88
	1.67	32.3	18.2	12.8	1.75	10.9	8.08	6.16	4.47	3.59	3.05	2.57	1.98	1.70	0.90
12-MRT-20	1.80	32.0	18.6	13.1	1.85	10.9	8.39	6.39	4.57	3.67	3.12	2.63	2.02	1.78	0.94
	1.75	33.8	19.3	13.5	1.80	11.7	8.76	6.67	4.82	3.86	3.29	2.77	2.13	1.84	0.98
	1.67	35.9	20.2	14.2	1.75	12.1	8.98	6.84	4.97	3.98	3.39	2.85	2.20	1.90	1.00
12-MRT-25	1.80	40.0	23.3	16.3	1.85	13.7	10.5	7.99	5.72	4.58	3.90	3.28	2.53	2.11	1.18
	1.75	42.3	24.2	16.9	1.80	14.7	10.9	8.33	6.03	4.83	4.11	3.46	2.66	2.18	1.23
	1.67	44.9	25.3	17.7	1.75	15.1	11.2	8.55	6.21	4.98	4.24	3.57	2.75	2.25	1.25
12-MRT-26	1.80	41.6	24.2	17.0	1.85	14.2	10.9	8.31	5.94	4.76	4.05	3.41	2.63	2.25	1.22
	1.75	44.0	25.1	17.6	1.80	15.3	11.4	8.67	6.27	5.02	4.27	3.60	2.77	2.33	1.27
	1.67	46.7	26.3	18.4	1.75	15.7	11.7	8.89	6.46	5.18	4.41	3.71	2.86	2.40	1.30
12-MRT-28	1.80	44.8	26.1	18.3	1.85	15.3	11.8	8.94	6.40	5.13	4.37	3.68	2.83	2.43	1.32
	1.75	47.3	27.1	19.0	1.80	16.4	12.3	9.33	6.75	5.41	4.60	3.88	2.98	2.52	1.37
	1.67	50.3	28.3	19.9	1.75	17.0	12.6	9.58	6.96	5.58	4.75	4.00	3.08	2.60	1.40
12-MRT-35	1.80	47.0	29.6	22.2	1.85	17.4	13.8	11.0	7.61	6.24	5.33	4.66	3.65	3.01	1.67
	1.75	49.6	30.7	23.0	1.80	18.7	14.6	11.4	8.03	6.58	5.62	4.91	3.85	3.12	1.74
	1.67	52.7	32.1	24.1	1.75	19.3	14.8	11.7	8.28	6.79	5.79	5.06	3.97	3.22	1.75
12-MRT-45	1.80	53.7	33.8	25.3	1.85	19.9	15.8	12.5	8.70	7.13	6.09	5.33	4.18	3.47	1.91
	1.75	56.7	35.1	26.3	1.80	21.4	16.7	13.1	9.17	7.52	6.42	5.61	4.40	3.58	1.99
	1.67	60.2	36.7	27.5	1.75	22.1	16.9	13.4	9.46	7.76	6.62	5.79	4.54	3.67	2.00
12-MRT-50	1.80	61.7	38.8	29.1	1.85	22.9	18.1	14.4	10.0	8.21	7.00	6.12	4.80	4.12	2.19
	1.75	65.2	40.3	30.2	1.80	24.6	19.2	15.0	10.5	8.65	7.38	6.46	5.06	4.27	2.28
	1.67	69.2	42.2	31.6	1.75	25.4	19.4	15.4	10.9	8.92	7.61	6.66	5.22	4.40	2.30
12-MRT-60	1.80	77.8	49.0	36.7	1.85	28.9	22.9	18.2	12.6	10.3	8.83	7.72	6.06	5.15	2.76
	1.75	82.2	50.8	38.1	1.80	31.0	24.2	19.0	13.3	10.9	9.31	8.14	6.39	5.34	2.88
	1.67	87.3	53.2	39.9	1.75	32.0	24.5	19.5	13.7	11.2	9.60	8.39	6.58	5.50	2.90
12-MRT-70	1.80	91.3	57.4	43.1	1.85	33.9	26.8	21.3	14.8	12.1	10.4	9.05	7.10	6.08	3.24
	1.75	96.4	59.6	44.7	1.80	36.4	28.4	22.2	15.6	12.8	10.9	9.54	7.49	6.31	3.38
	1.67	102	62.4	46.8	1.75	37.5	28.7	22.8	16.1	13.2	11.3	9.84	7.72	6.50	3.40
12-MRT-80	1.80	98.0	61.7	46.2	1.85	36.4	28.8	22.9	15.9	13.0	11.1	9.72	7.62	6.55	3.48
	1.75	103	64.0	48.0	1.80	39.0	30.5	23.9	16.7	13.7	11.7	10.2	8.04	6.79	3.62
	1.67	110	67.0	50.2	1.75	40.3	30.8	24.5	17.3	14.2	12.1	10.6	8.28	7.00	3.65
12-MRT-90	1.80	114	71.8	53.8	1.85	42.4	33.5	26.6	18.5	15.2	12.9	11.3	8.88	7.49	4.05
	1.75	120	74.5	55.9	1.80	45.5	35.5	27.8	19.5	16.0	13.6	11.9	9.36	7.76	4.22
	1.67	128	78.0	58.5	1.75	46.9	35.9	28.5	20.1	16.5	14.1	12.3	9.65	8.00	4.25
12-MRT-100	1.80	134	84.5	63.3	1.85	49.8	39.4	31.3	21.8	17.8	15.2	13.3	10.4	8.42	4.77
	1.75	142	87.7	65.8	1.80	53.5	41.8	32.7	22.9	18.8	16.1	14.0	10.8	8.73	4.97
	1.67	150	91.7	68.8	1.75	55.2	42.2	33.5	23.6	19.4	16.6	14.5	11.0	9.00	5.00

Current

Ampere at 25°C

SEC bloc type	Discharge amps at 25°C														
	End volts /Cell	Discharge time in minutes			End Volts /Cell	Discharge time in hours									
		15min	30min	45min		1hr	1.5hr	2hr	3hr	4hr	5hr	6hr	8hr	10hr	20hr
12-MRT-110	1.80	148	92.9	69.7	1.85	54.8	43.4	34.5	23.9	19.6	16.7	14.6	11.5	9.36	5.24
	1.75	156	96.4	72.3	1.80	58.8	45.9	36.0	25.2	20.7	17.7	15.4	12.1	9.7	5.46
	1.67	165	101	75.7	1.75	60.7	46.4	36.9	26.0	21.3	18.2	15.9	12.5	10.0	5.50
12-MRT-120	1.80	162	102	76.6	1.85	60.3	47.7	37.9	26.3	21.6	18.4	16.1	12.6	10.3	5.77
	1.75	171	106	79.6	1.80	64.7	50.5	39.5	27.8	22.8	19.4	17.0	13.1	10.7	6.01
	1.67	182	111	83.3	1.75	66.8	51.1	40.6	28.6	23.5	20.0	17.5	13.5	11.0	6.05
12-MRT-130	1.80	177	111	83.6	1.85	65.8	52.0	41.3	28.7	23.5	20.1	17.6	13.8	11.2	6.29
	1.75	187	116	86.8	1.80	70.6	55.1	43.1	30.3	24.8	21.2	18.5	14.2	11.6	6.55
	1.67	199	121	90.8	1.75	72.8	55.7	44.3	31.2	25.6	21.8	19.1	14.8	12.0	6.60
12-MRT-150	1.80	199	125	93.7	1.85	73.8	58.3	46.4	32.2	26.4	22.5	19.7	15.3	12.6	7.05
	1.75	210	130	97.3	1.80	79.1	61.8	48.4	33.9	27.8	23.8	20.8	16.1	13.1	7.35
	1.67	223	136	102	1.75	81.7	62.5	49.6	35.0	28.7	24.5	21.4	16.8	13.5	7.40
12-MRT-160	1.80	221	139	105	1.85	82.2	65.0	51.7	35.9	29.4	25.1	22.0	17.2	14.0	7.86
	1.75	234	145	108	1.80	88.2	68.9	53.9	37.8	31.0	26.5	23.2	18.0	14.6	8.19
	1.67	248	151	114	1.75	91.0	69.6	55.3	39.0	32.0	27.3	23.9	18.5	15.0	8.25
12-MRT-175	1.80	236	149	111	1.85	87.7	69.4	55.1	38.3	31.4	26.8	23.4	18.4	15.0	8.39
	1.75	249	154	116	1.80	94.1	73.5	57.5	40.4	33.1	28.3	24.7	19.0	15.5	8.74
	1.67	265	161	121	1.75	97.1	74.3	59.0	41.6	34.1	29.1	25.5	19.8	16.0	8.80
12-MRT-200	1.80	266	167	125	1.85	98.7	78.0	62.0	43.1	35.3	30.1	26.4	20.5	16.8	9.44
	1.75	281	174	130	1.80	106	82.7	64.7	45.4	37.2	31.8	27.8	21.6	17.5	9.83
	1.67	298	182	136	1.75	109	83.6	66.4	46.8	38.4	32.8	28.7	22.0	18.0	9.90
12-MRT-220	1.80	295	186	139	1.85	110	86.7	68.9	47.9	39.2	33.5	29.3	23.0	18.7	10.5
	1.75	312	193	145	1.80	118	91.9	71.9	50.5	41.4	35.3	30.9	23.8	19.4	10.9
	1.67	331	202	151	1.75	121	92.8	73.8	52.0	42.7	36.4	31.8	24.5	20.0	11.0
12-MRT-250	1.80	341	215	161	1.85	127	100	79.6	55.3	45.3	38.7	33.8	26.5	21.5	12.1
	1.75	360	223	167	1.80	136	106	83.0	58.3	47.8	40.8	35.7	27.5	22.3	12.6
	1.67	382	233	175	1.75	140	107	85.2	60.1	49.2	42.0	36.8	28.4	23.0	12.7
12-MRT-275	1.80	368	231	174	1.85	137	108	85.8	59.6	48.9	41.7	36.5	28.6	23.3	13.1
	1.75	388	240	180	1.80	147	114	89.6	62.8	51.5	44.0	38.5	29.7	24.1	13.6
	1.67	412	251	189	1.75	151	116	91.9	64.8	53.1	45.3	39.6	30.6	24.8	13.7

Power

Watts/cell at 25°C

SEC bloc type	Discharge data watts/cell at 25°C														
	End volts /Cell	Discharge time in minutes			End Volts /Cell	Discharge time in hours									
		15min	30min	45min		1hr	1.5hr	2hr	3hr	4hr	5hr	6hr	8hr	10hr	20hr
6-MRT-10	1.80	29.6	17.5	12.3	1.85	10.5	8.07	6.17	4.46	3.60	3.07	2.60	2.01	1.77	0.94
	1.75	30.4	17.6	12.5	1.80	11.1	8.32	6.40	4.67	3.77	3.22	2.72	2.11	1.83	0.97
	1.67	31.4	18.2	13.0	1.75	11.3	8.46	6.49	4.77	3.85	3.29	2.78	2.15	1.87	0.99
6-MRT-12	1.80	35.5	21.0	14.8	1.85	12.6	9.69	7.41	5.35	4.31	3.69	3.11	2.41	2.13	1.13
	1.75	36.5	21.2	15.0	1.80	13.3	10.0	7.68	5.60	4.52	3.86	3.27	2.53	2.20	1.16
	1.67	37.7	21.9	15.6	1.75	13.6	10.2	7.79	5.72	4.62	3.95	3.34	2.58	2.24	1.18
6-MRT-130	1.80	323	206	155	1.85	124	98.6	78.7	55.1	45.5	39.0	34.2	27.0	21.7	12.4
	1.75	332	208	158	1.80	132	103	81.6	57.8	47.7	40.9	35.9	28.3	23.2	12.8
	1.67	342	215	164	1.75	134	103	82.7	59.0	48.7	41.8	36.7	28.9	23.6	12.8
6-MRT-200	1.80	497	317	238	1.85	191	152	121	84.8	70.0	60.0	52.6	40.3	32.7	19.1
	1.75	510	320	243	1.80	203	159	126	88.8	73.3	62.9	55.2	42.5	34.7	19.6
	1.67	527	330	252	1.75	206	159	127	90.7	74.9	64.3	56.4	43.3	35.4	19.7

Power

Watts/cell at 25°C

SEC bloc type	Discharge data watts/cell at 25°C														
	End volts /Cell	Discharge time in minutes			End Volts /Cell	Discharge time in hours									
		15min	30min	45min		1hr	1.5hr	2hr	3hr	4hr	5hr	6hr	8hr	10hr	20hr
6-MRT-220	1.80	546	349	262	1.85	210	167	133	93.3	77.0	66.0	57.9	44.7	36.3	21.0
	1.75	561	352	267	1.80	223	175	138	97.7	80.7	69.2	60.7	47.5	38.7	21.6
	1.67	579	363	277	1.75	226	175	140	99.8	82.4	70.7	62.0	48.4	39.4	21.7
6-MRT-230	1.80	571	365	274	1.85	219	174	139	97.5	80.5	69.0	60.5	46.7	38.1	21.9
	1.75	587	368	279	1.80	233	183	144	102	84.4	72.3	63.5	49.6	40.7	22.6
	1.67	605	380	290	1.75	237	183	146	104	86.2	73.9	64.9	50.6	41.3	22.7
12-MRT-3.3	1.80	9.8	5.77	4.06	1.85	3.45	2.66	2.04	1.47	1.19	1.01	0.86	0.66	0.56	0.31
	1.75	10.0	5.82	4.12	1.80	3.67	2.75	2.11	1.54	1.24	1.06	0.90	0.70	0.58	0.32
	1.67	10.4	6.01	4.28	1.75	3.73	2.79	2.14	1.57	1.27	1.09	0.92	0.71	0.59	0.33
12-MRT-5.0-SP	1.80	14.8	8.74	6.15	1.85	5.23	4.04	3.09	2.23	1.80	1.54	1.30	1.00	0.90	0.47
	1.75	15.2	8.82	6.25	1.80	5.56	4.16	3.20	2.33	1.88	1.61	1.36	1.05	0.93	0.48
	1.67	15.7	9.11	6.49	1.75	5.65	4.23	3.25	2.38	1.92	1.65	1.39	1.08	0.94	0.49
12-MRT-7.2	1.80	21.3	12.6	8.85	1.85	7.53	5.81	4.45	3.21	2.59	2.21	1.87	1.45	1.28	0.68
	1.75	21.9	12.7	9.00	1.80	8.00	5.99	4.61	3.36	2.71	2.32	1.96	1.52	1.31	0.70
	1.67	22.6	13.1	9.35	1.75	8.13	6.09	4.67	3.43	2.77	2.37	2.00	1.55	1.34	0.71
12-MRT-8.0	1.80	23.7	14.0	9.8	1.85	8.37	6.46	4.94	3.56	2.88	2.46	2.08	1.61	1.42	0.75
	1.75	24.3	14.1	10.0	1.80	8.89	6.66	5.12	3.74	3.01	2.58	2.18	1.69	1.47	0.77
	1.67	25.1	14.6	10.4	1.75	9.03	6.77	5.19	3.81	3.08	2.63	2.22	1.72	1.50	0.79
12-MRT-9.0	1.80	26.7	15.7	11.1	1.85	9.4	7.27	5.56	4.01	3.24	2.76	2.34	1.81	1.58	0.85
	1.75	27.4	15.9	11.2	1.80	10.0	7.49	5.76	4.20	3.39	2.90	2.45	1.90	1.64	0.87
	1.67	28.3	16.4	11.7	1.75	10.2	7.62	5.84	4.29	3.46	2.96	2.50	1.94	1.67	0.89
12-MRT-12	1.80	35.5	21.0	14.8	1.85	12.6	9.69	7.41	5.35	4.31	3.69	3.11	2.41	2.05	1.13
	1.75	36.5	21.2	15.0	1.80	13.3	10.0	7.68	5.60	4.52	3.86	3.27	2.53	2.12	1.16
	1.67	37.7	21.9	15.6	1.75	13.6	10.2	7.79	5.72	4.62	3.95	3.34	2.58	2.16	1.18
12-MRT-14	1.80	41.5	24.5	17.2	1.85	14.6	11.3	8.64	6.24	5.03	4.30	3.63	2.81	2.47	1.32
	1.75	42.6	24.7	17.5	1.80	15.6	11.6	8.96	6.54	5.28	4.51	3.81	2.95	2.56	1.36
	1.67	44.0	25.5	18.2	1.75	15.8	11.8	9.09	6.67	5.39	4.61	3.89	3.02	2.62	1.38
12-MRT-18	1.80	53.3	31.5	22.1	1.85	18.8	14.5	11.1	8.02	6.47	5.53	4.67	3.62	3.17	1.69
	1.75	54.8	31.8	22.5	1.80	20.0	15.0	11.5	8.40	6.78	5.80	4.90	3.79	3.27	1.74
	1.67	56.5	32.8	23.4	1.75	20.3	15.2	11.7	8.58	6.93	5.93	5.01	3.88	3.35	1.78
12-MRT-20	1.80	59.2	35.0	24.6	1.85	20.9	16.1	12.3	8.91	7.19	6.14	5.19	4.02	3.55	1.88
	1.75	60.9	35.3	25.0	1.80	22.2	16.6	12.8	9.34	7.54	6.44	5.44	4.21	3.65	1.94
	1.67	62.8	36.4	26.0	1.75	22.6	16.9	13.0	9.53	7.70	6.58	5.56	4.31	3.74	1.97
12-MRT-25	1.80	74.1	43.7	30.7	1.85	26.2	20.2	15.4	11.1	8.99	7.68	6.49	5.02	4.21	2.35
	1.75	76.1	44.1	31.2	1.80	27.8	20.8	16.0	11.7	9.42	8.05	6.80	5.27	4.32	2.42
	1.67	78.5	45.5	32.5	1.75	28.2	21.2	16.2	11.9	9.62	8.23	6.95	5.38	4.43	2.47
12-MRT-26	1.80	77.0	45.5	32.0	1.85	27.2	21.0	16.1	11.6	9.35	7.99	6.75	5.22	4.49	2.44
	1.75	79.1	45.9	32.5	1.80	28.9	21.6	16.6	12.1	9.80	8.37	7.08	5.48	4.61	2.52
	1.67	81.7	47.3	33.8	1.75	29.4	22.0	16.9	12.4	10.0	8.56	7.23	5.60	4.72	2.56
12-MRT-28	1.80	82.9	49.0	34.4	1.85	29.3	22.6	17.3	12.5	10.1	8.60	7.27	5.62	4.85	2.63
	1.75	85.2	49.4	35.0	1.80	31.1	23.3	17.9	13.1	10.6	9.02	7.62	5.90	5.00	2.71
	1.67	88.0	51.0	36.4	1.75	31.6	23.7	18.2	13.3	10.8	9.22	7.79	6.03	5.12	2.76
12-MRT-35	1.80	86.9	55.5	41.7	1.85	33.4	26.5	21.2	14.8	12.2	10.5	9.21	7.26	6.00	3.34
	1.75	89.3	56.0	42.5	1.80	35.5	27.8	22.0	15.5	12.8	11.0	9.66	7.62	6.19	3.43
	1.67	92.1	57.8	44.1	1.75	36.0	27.8	22.3	15.9	13.1	11.3	9.87	7.79	6.34	3.45
12-MRT-45	1.80	99.3	63.4	47.7	1.85	38.1	30.3	24.2	17.0	14.0	12.0	10.5	8.30	6.92	3.81
	1.75	102	64.0	48.5	1.80	40.5	31.7	25.1	17.8	14.7	12.6	11.0	8.71	7.10	3.92
	1.67	105	66.1	50.4	1.75	41.2	31.8	25.5	18.1	15.0	12.9	11.3	8.90	7.22	3.95

Power

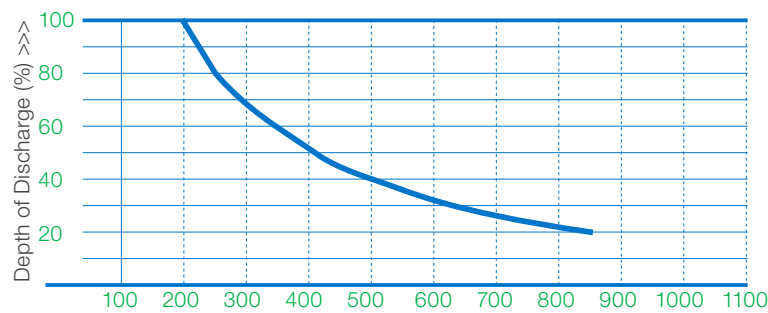
Watts/cell at 25°C

SEC bloc type	Discharge data watts/cell at 25°C														
	End volts /Cell	Discharge time in minutes			End Volts /Cell	Discharge time in hours									
		15min	30min	45min		1hr	1.5hr	2hr	3hr	4hr	5hr	6hr	8hr	10hr	20hr
12-MRT-50	1.80	114	72.9	54.8	1.85	43.9	34.9	27.9	19.5	16.1	13.8	12.1	9.54	8.22	4.38
	1.75	117	73.6	55.8	1.80	46.6	36.5	28.9	20.4	16.9	14.5	12.7	10.0	8.47	4.51
	1.67	121	76.0	57.9	1.75	47.3	36.6	29.3	20.9	17.2	14.8	13.0	10.2	8.66	4.54
12-MRT-60	1.80	144	91.9	69.1	1.85	55.3	44.0	35.1	24.6	20.3	17.4	15.3	12.0	10.3	5.53
	1.75	148	92.8	70.4	1.80	58.7	46.0	36.4	25.8	21.3	18.2	16.0	12.6	10.6	5.69
	1.67	153	95.8	73.0	1.75	59.7	46.1	36.9	26.3	21.7	18.6	16.4	12.9	10.8	5.72
12-MRT-70	1.80	169	108	81.1	1.85	64.8	51.6	41.2	28.8	23.8	20.4	17.9	14.1	12.1	6.48
	1.75	173	109	82.5	1.80	68.9	54.0	42.7	30.2	24.9	21.4	18.8	14.8	12.5	6.67
	1.67	179	112	85.6	1.75	70.0	54.1	43.3	30.8	25.5	21.9	19.2	15.1	12.8	6.71
12-MRT-80	1.80	181	116	87.0	1.85	69.6	55.4	44.2	30.9	25.5	21.9	19.2	15.1	13.1	6.96
	1.75	186	117	88.6	1.80	73.9	57.9	45.8	32.4	26.8	23.0	20.1	15.9	13.5	7.16
	1.67	192	121	91.9	1.75	75.1	58.1	46.5	33.1	27.3	23.5	20.6	16.2	13.8	7.20
12-MRT-90	1.80	211	135	101	1.85	81.0	64.5	51.5	36.0	29.7	25.5	22.4	17.6	14.9	8.10
	1.75	217	136	103	1.80	86.1	67.5	53.3	37.8	31.2	26.7	23.5	18.5	15.4	8.34
	1.67	224	140	107	1.75	87.5	67.6	54.1	38.5	31.8	27.3	24.0	18.9	15.7	8.38
12-MRT-100	1.80	248	159	119	1.85	95.3	75.8	60.5	42.4	35.0	30.0	26.3	20.7	16.8	9.53
	1.75	255	160	121	1.80	101	79.4	62.8	44.4	36.7	31.5	27.6	21.4	17.3	9.81
	1.67	263	165	126	1.75	103	79.5	63.7	45.3	37.5	32.1	28.2	21.6	17.7	9.86
12-MRT-110	1.80	273	174	131	1.85	105	83.4	66.6	46.6	38.5	33.0	29.0	22.8	18.7	10.5
	1.75	281	176	133	1.80	111	87.3	69.0	48.9	40.3	34.6	30.4	23.9	19.2	10.8
	1.67	290	182	139	1.75	113	87.5	70.0	49.9	41.2	35.4	31.0	24.5	19.7	10.9
12-MRT-120	1.80	300	192	144	1.85	115	91.8	73.3	51.3	42.3	36.3	31.8	25.1	20.5	11.5
	1.75	309	194	147	1.80	123	96.0	75.9	53.8	44.4	38.1	33.4	25.9	21.2	11.9
	1.67	319	200	152	1.75	125	96.3	77.0	54.9	45.3	38.9	34.1	26.5	21.6	11.9
12-MRT-130	1.80	328	209	157	1.85	126	100	79.9	56.0	46.2	39.6	34.7	27.4	22.3	12.6
	1.75	337	211	160	1.80	134	105	82.8	58.6	48.4	41.5	36.4	28.1	23.0	12.9
	1.67	347	218	166	1.75	136	105	84.0	59.9	49.4	42.4	37.2	29.0	23.6	13.0
12-MRT-150	1.80	367	235	176	1.85	141	112	89.6	62.7	51.8	44.4	39.0	30.4	25.1	14.1
	1.75	377	237	180	1.80	150	117	92.9	65.7	54.3	46.5	40.8	31.8	26.0	14.5
	1.67	390	244	186	1.75	152	118	94.2	67.1	55.4	47.6	41.7	32.9	26.6	14.6
12-MRT-160	1.80	410	262	197	1.85	157	125	100	70.0	57.7	49.5	43.4	34.2	27.9	15.7
	1.75	421	264	200	1.80	167	131	104	73.3	60.5	51.9	45.5	35.6	29.0	16.2
	1.67	434	272	208	1.75	170	131	105	74.8	61.8	53.0	46.5	36.3	29.5	16.3
12-MRT-175	1.80	437	279	210	1.85	168	133	107	74.6	61.6	52.8	46.3	36.5	29.9	16.8
	1.75	449	282	214	1.80	178	140	110	78.2	64.5	55.4	48.6	37.6	30.7	17.3
	1.67	463	291	222	1.75	181	140	112	79.8	65.9	56.6	49.6	38.8	31.5	17.4
12-MRT-200	1.80	492	314	236	1.85	189	150	120	83.9	69.3	59.4	52.1	40.7	33.5	18.9
	1.75	505	317	240	1.80	201	157	124	88.0	72.6	62.3	54.6	42.7	34.7	19.4
	1.67	521	327	249	1.75	204	158	126	89.8	74.2	63.6	55.8	43.1	35.4	19.5
12-MRT-220	1.80	546	349	262	1.85	210	167	133	93.3	77.0	66.0	57.9	45.6	37.3	21.0
	1.75	561	352	267	1.80	223	175	138	97.7	80.7	69.2	60.7	47.1	38.5	21.6
	1.67	579	363	277	1.75	226	175	140	99.8	82.4	70.7	62.0	48.0	39.4	21.7
12-MRT-250	1.80	631	403	303	1.85	242	193	154	108	88.9	76.2	66.9	52.7	42.9	24.2
	1.75	648	406	308	1.80	257	202	159	113	93.2	79.9	70.1	54.4	44.2	24.9
	1.67	669	419	320	1.75	261	202	162	115	95.1	81.6	71.6	55.7	45.3	25.1
12-MRT-275	1.80	680	434	327	1.85	261	208	166	116	95.9	82.2	72.1	56.8	46.5	26.1
	1.75	699	438	332	1.80	278	217	172	122	100	86.2	75.6	58.7	47.8	26.9
	1.67	721	452	345	1.75	282	218	174	124	103	88.1	77.3	60.0	48.8	27.0

Cycle life

Relationship between depth of discharge and cycle life

Ambient temperature 25°C



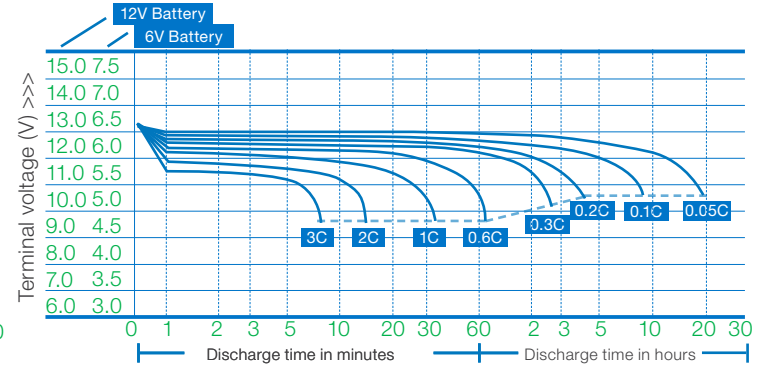
Cycle life >>>

The depth of discharge critically affects the number of cycles which a battery will complete during its life time.

Discharge characteristics

Discharge current VS discharge time curve

Ambient temperature 25°C

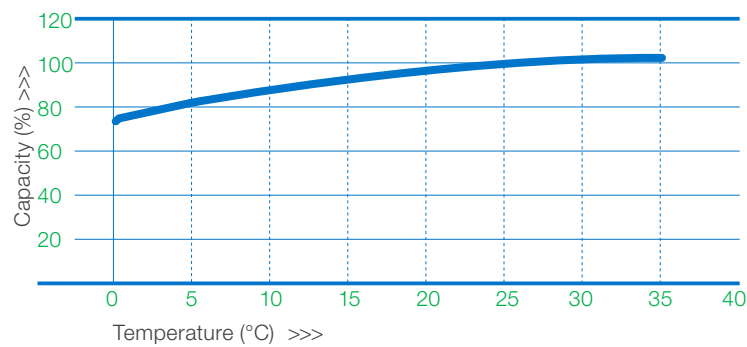


Discharge duration (h) >>>

Effect of discharge rate on battery capacity.

Effect of inclined temperature

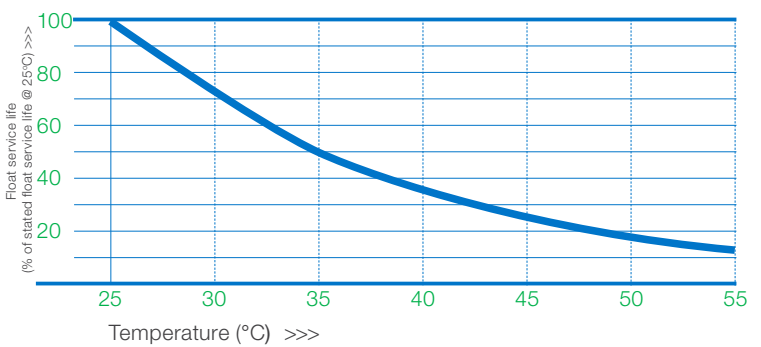
Effect of temperature on capacity at C/10 discharge rate



Temperature (°C) >>>

A high ambient temperature will increase the cell capacity but will significantly shorten its calendar and cycle life.

Float service life VS temperature

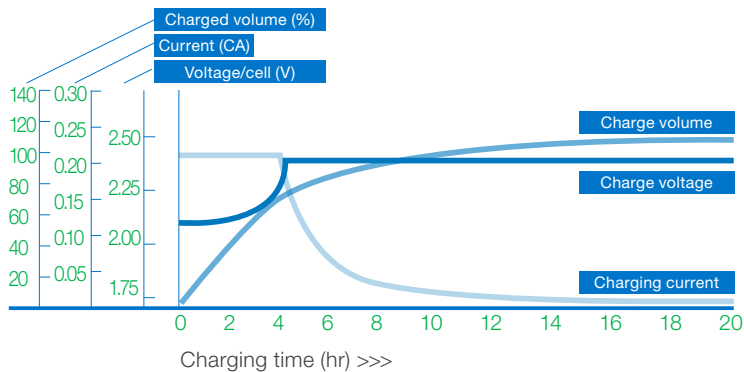


Temperature (°C) >>>

Effect of temperature on float service life.

Charge method

Constant current/voltage charge characteristics



Charging time (hr) >>>

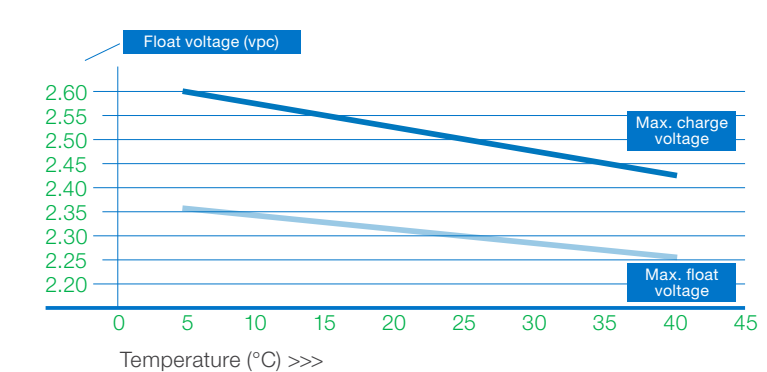
The preferred charging procedure should be in accordance with DIN 41773, constant current/constant voltage (IU characteristics). Constant float charging utilising a constant voltage charger is also acceptable.

Charging voltage measured at the battery terminals: $2.40 \pm 1\% \times \text{number of cells}$.

Equalising or fast charging can occasionally be permitted in which the charging voltage is $2.50V \times \text{number of cells}$ for a maximum fixed period of 8 hours (depends on state of charge). This will apply in deep discharge and limited recharge operations such as stand-by with parallel connections. Automatic changeover to the charging voltage of $2.30V \pm 1\% \times \text{number of cells}$ should follow after this period.

Charge compensation

Temperature compensation for float voltage



Temperature (°C) >>>

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