



GENERAL PURPOSE **BATTERIES**

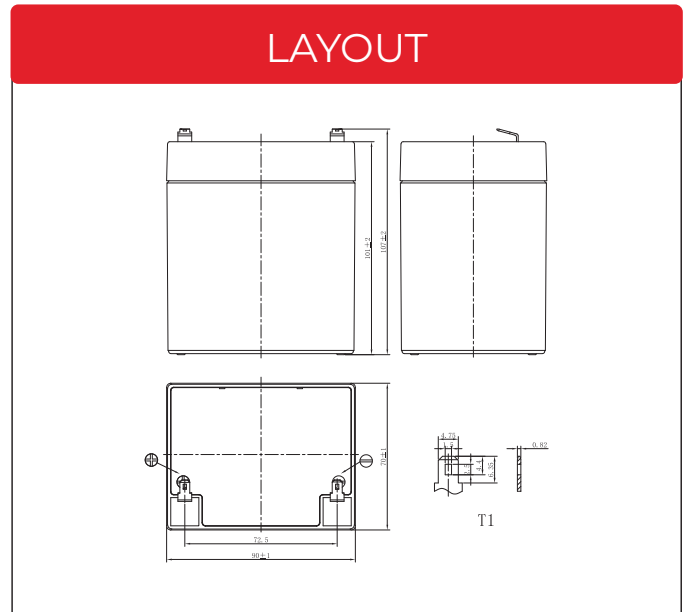
ST12-4.0 (12V 4.0Ah)



www.starmaxbatteries.com

ST SERIES - GENERAL PURPOSE

ST12-4.0



General Features

- ✓ 5 years design life(25°C)
- ✓ Special exhaust structure and sealing technology, safe and reliable, flexible installation, convenient maintenance
- ✓ PbCaSn alloy for plate grids: less gassing, less self-discharging
- ✓ High quality AGM separator: extend cycle life and prevent micro short circuit
- ✓ High purity raw material: ensure low self discharge rate

Applications

- ✓ All purpose
- ✓ Uninterruptable Power Supply (UPS)
- ✓ Electric Power System (EPS)
- ✓ Emergency backup power supply
- ✓ Alarm and security system
- ✓ Communication power supply
- ✓ DC power supply
- ✓ Auto control system

Standards

- ✓ Compliance with IEC 60896 standards, EU Battery Directive
- ✓ UL, CE Certified
- ✓ Manufactured in Starmax® IATF16949, ISO45001, ISO 9001 and ISO 14001 certified production facilities



SPECIFICATIONS

Rated Voltage	12V	
Nominal Capacity	4.0Ah	(C ₂₀ ,1.75V/cell)
Dimensions	Length	90±1mm (3.54 inches)
	Width	70±1mm (2.76 inches)
	Container height	101±2mm (3.98 inches)
	Total height	107±2mm (4.21 inches)
Approx. weight	1.26 Kg (2.78 lbs)	
Terminal	T1/T2	
Container material	ABS	
Rated capacity (25°C)	4.00 Ah	(20hr,0.200A,1.75V/cell)
	3.72 Ah	(10hr,0.372A,1.75V/cell)
	3.39 Ah	(5hr,0.679A,1.75V/cell)
	3.03 Ah	(3hr,1.01A,1.75V/cell)
	2.33 Ah	(1hr,2.33A,1.60V/cell)
Max. discharge current	60A (5s)	
Internal resistance (25°C)	Approx 63mΩ	
Operating temp. range	Discharge	-15~50°C (5~122°F)
	Charge	-20~40°C (-4~104°F)
	Storage	-15~40°C (5~104°F)
Nominal operating temp. range	25±3°C (77±5°F)	
Cycle Use	Initial Charging Current less than 1.2A. Voltage 14.4V~15.0V at 25°C(77°F)Temp. Coefficient -30mV/°C	
Standby Use	Initial Charging Current less than 1.2A. Voltage 13.5V~13.8V at 25°C(77°F)Temp. Coefficient -20mV/°C	
Effect of temp. to Capacity	40°C (104°F)	103%
	25°C (77°F)	100%
	0°C (32°F)	86%
Self discharge	ST series batteries may be stored for up to 6 months at 25°C(77°F) and then a freshening charge is required. For higher temperatures the time interval will be shorter.	

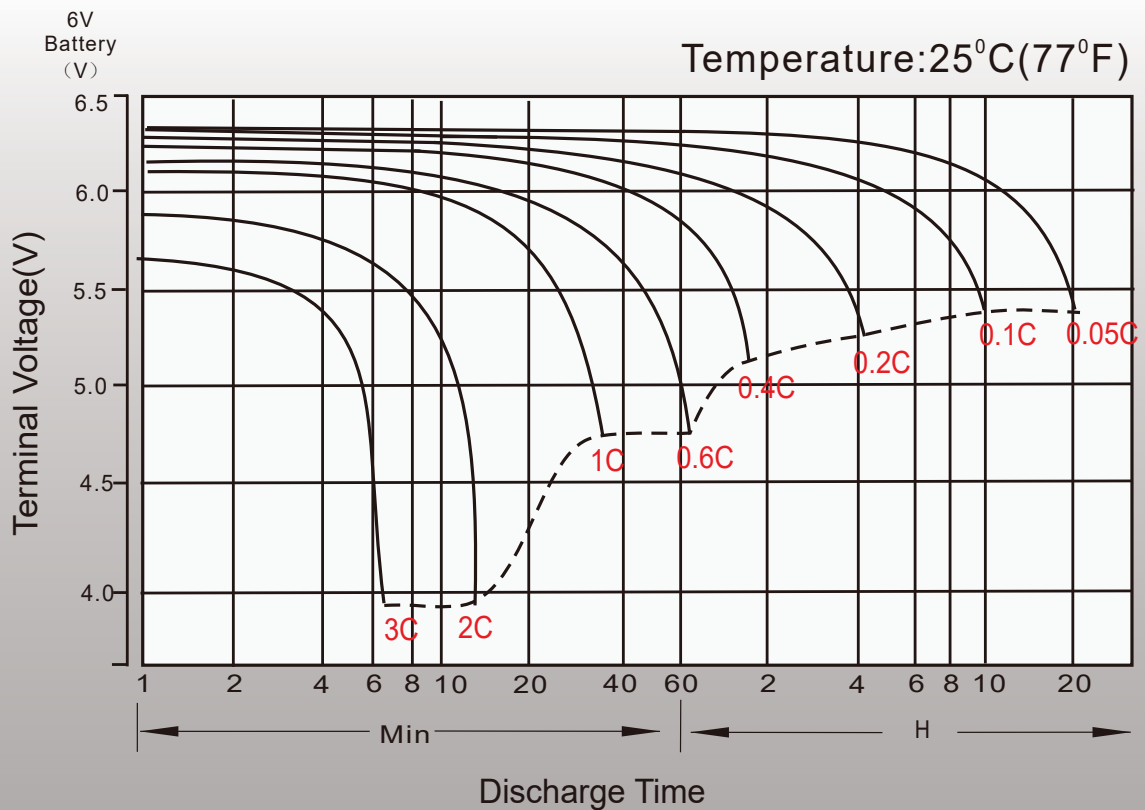
Constant Current Discharge (Amperes) at 25°C (77°F)

F.V/Time	5min	10min	15min	20min	30min	45min	1h	1.5h	2h	3h	4h	5h	6h	8h	10h	20h
1.85V/cell	9.60	7.09	5.63	4.66	3.46	2.62	2.14	1.63	1.36	0.978	0.778	0.662	0.566	0.445	0.363	0.195
1.80V/cell	10.5	7.45	5.85	4.80	3.55	2.67	2.18	1.65	1.38	0.990	0.789	0.671	0.574	0.450	0.367	0.198
1.75V/cell	11.3	7.81	6.06	4.94	3.64	2.72	2.22	1.68	1.40	1.01	0.799	0.679	0.581	0.456	0.372	0.200
1.70V/cell	12.1	8.18	6.27	5.09	3.72	2.77	2.26	1.71	1.43	1.02	0.811	0.688	0.589	0.461	0.376	0.202
1.67V/cell	12.6	8.40	6.41	5.18	3.77	2.81	2.28	1.73	1.44	1.03	0.817	0.694	0.593	0.465	0.379	0.203
1.60V/cell	13.8	8.91	6.70	5.38	3.88	2.88	2.33	1.76	1.47	1.05	0.833	0.706	0.603	0.472	0.385	0.206

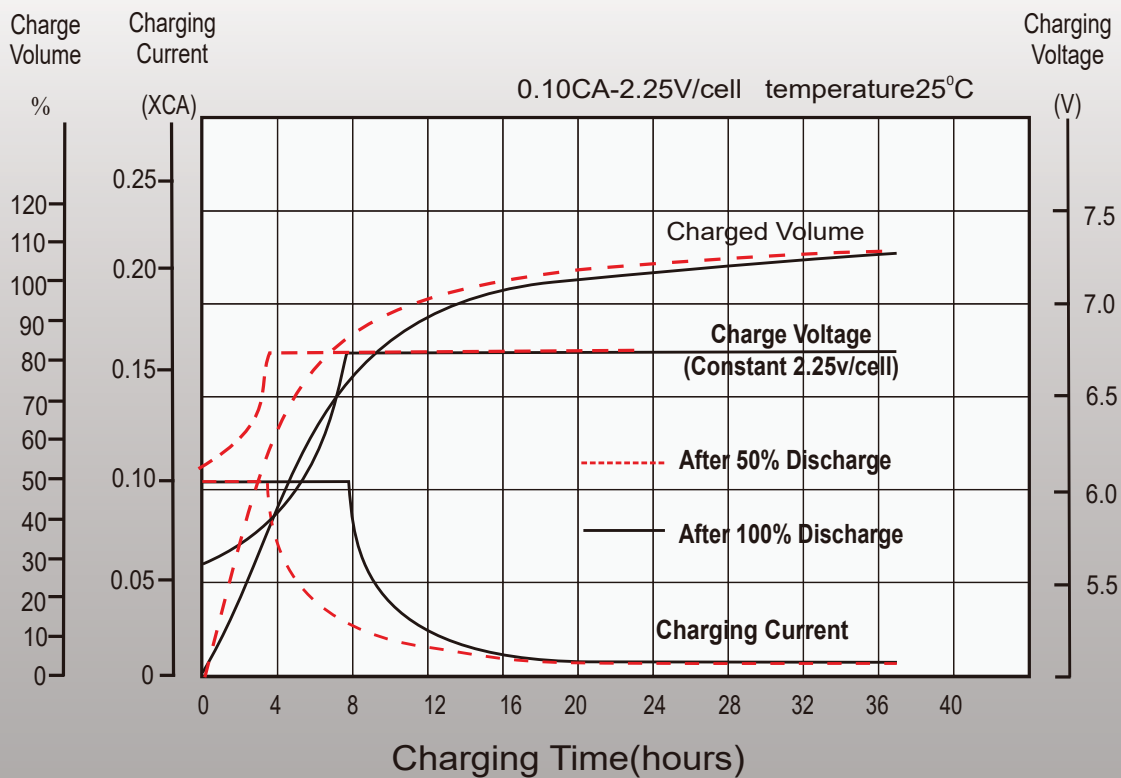
Constant Power Discharge (Watts/cell) at 25°C (77°F)

F.V/Time	5min	10min	15min	20min	30min	45min	1h	1.5h	2h	3h	4h	5h	6h	8h	10h	20h
1.85V/cell	18.3	13.6	10.8	8.96	6.70	5.07	4.16	3.18	2.66	1.92	1.53	1.31	1.12	0.882	0.721	0.391
1.80V/cell	19.7	14.2	11.2	9.20	6.83	5.16	4.22	3.22	2.70	1.95	1.55	1.32	1.13	0.892	0.730	0.395
1.75V/cell	21.2	14.8	11.5	9.40	6.97	5.24	4.28	3.26	2.73	1.97	1.57	1.34	1.15	0.902	0.738	0.399
1.70V/cell	22.6	15.4	11.9	9.70	7.09	5.32	4.34	3.31	2.77	2.00	1.59	1.35	1.16	0.912	0.746	0.403
1.67V/cell	23.5	15.8	12.1	9.80	7.17	5.37	4.38	3.33	2.79	2.01	1.60	1.36	1.17	0.919	0.751	0.406
1.60V/cell	25.3	16.6	12.5	10.1	7.35	5.48	4.46	3.39	2.84	2.04	1.63	1.38	1.18	0.933	0.762	0.411

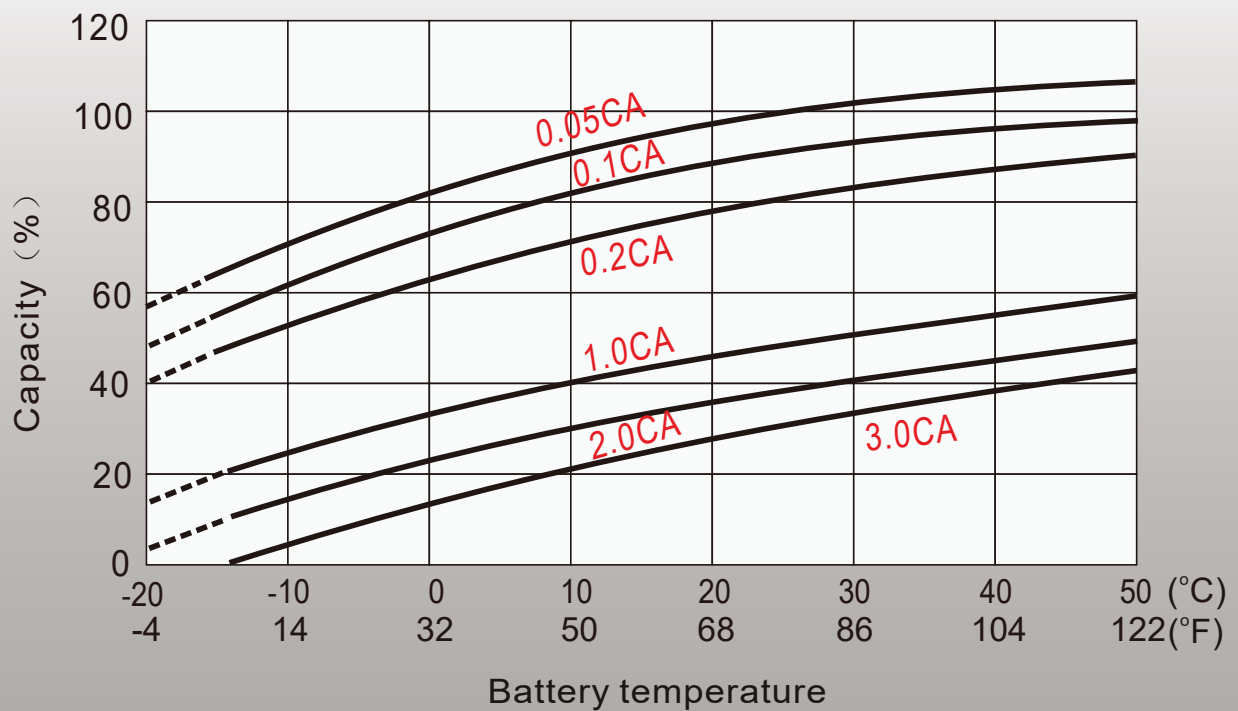
Discharge Characteristics



Float Charging Characteristics



Temperature Effects in Relation to Battery Capacity



Float Service Life



ST12-4.0 (12V 4.0Ah)



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