



GENERAL PURPOSE **BATTERIES**

ST12-28 (12V 28Ah)



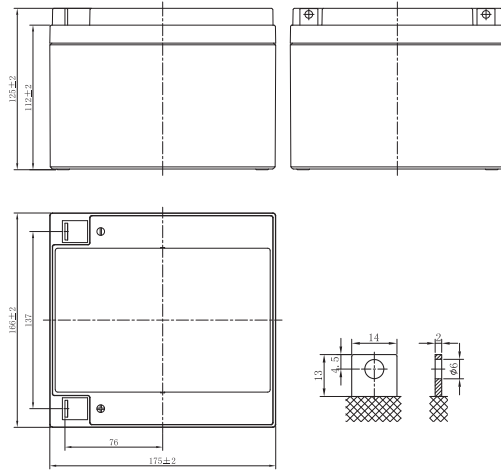
www.starmaxbatteries.com

ST SERIES - GENERAL PURPOSE

ST12-28



LAYOUT



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	28.0Ah	(C ₂₀ ,1.75V/cell)
Dimensions	Length	166±2mm (6.54 inches)
	Width	175±2mm (6.93 inches)
	Container height	125±2mm (4.92 inches)
	Total height	125±2mm (4.92 inches)
Approx. weight	8.4 Kg (18.5 lbs)	
Terminal	T3	
Container material	ABS	
Rated capacity (25°C)	28.0 Ah	(20hr,1.40A,1.75V/cell)
	26.3 Ah	(10hr,2.63A,1.75V/cell)
	23.9 Ah	(5hr,4.78A,1.75V/cell)
	21.2 Ah	(3hr,7.08A,1.75V/cell)
	18.2 Ah	(1hr,18.2A,1.60V/cell)
Max. discharge current	420A (5s)	
Internal resistance (25°C)	Approx 14mΩ	
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 8.4A. Voltage 14.4V~15.0V at 25°C(77°F)Temp. Coefficient -30mV/°C	
Standby Use	Initial Charging Current less than 8.4A. 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.	

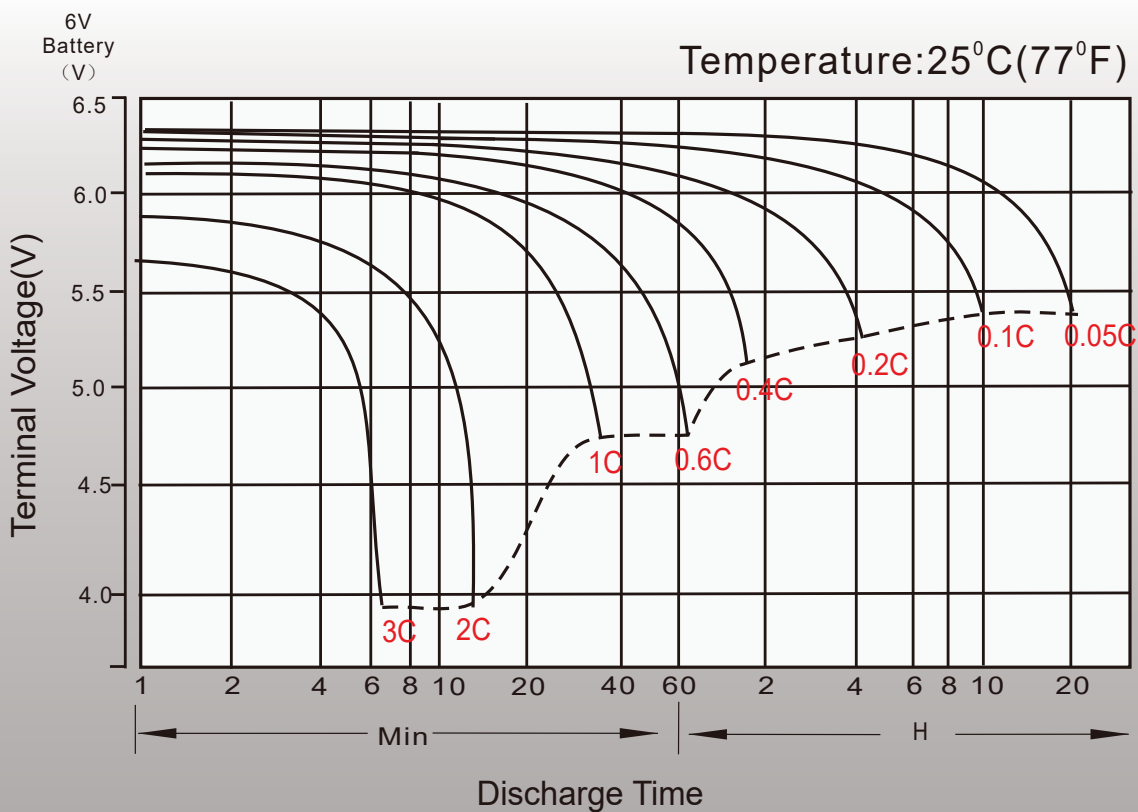
Constant Current Discharge (Amperes) at 25°C (77°F)

F.V/Time	5min	10min	15min	20min	30min	45min	1h	1.5h	2h	3h	4h	5h	6h	8h	10h	20h
1.85V/cell	73.1	53.3	43.1	35.5	26.8	20.0	16.5	12.1	9.50	6.86	5.46	4.65	3.98	3.14	2.57	1.37
1.80V/cell	78.6	56.5	45.3	36.9	27.7	20.5	16.9	12.3	9.68	6.97	5.54	4.72	4.04	3.18	2.60	1.38
1.75V/cell	82.8	58.8	46.8	37.9	28.4	21.0	17.3	12.6	9.85	7.08	5.62	4.78	4.09	3.22	2.63	1.40
1.70V/cell	86.7	61.1	48.3	39.0	29.1	21.4	17.6	12.8	10.0	7.18	5.70	4.84	4.14	3.25	2.65	1.41
1.67V/cell	89.7	62.8	49.5	39.8	29.6	21.8	17.8	12.9	10.1	7.25	5.75	4.89	4.18	3.28	2.67	1.42
1.60V/cell	95.2	65.5	51.2	41.0	30.4	22.3	18.2	13.2	10.3	7.39	5.85	4.96	4.24	3.32	2.71	1.44

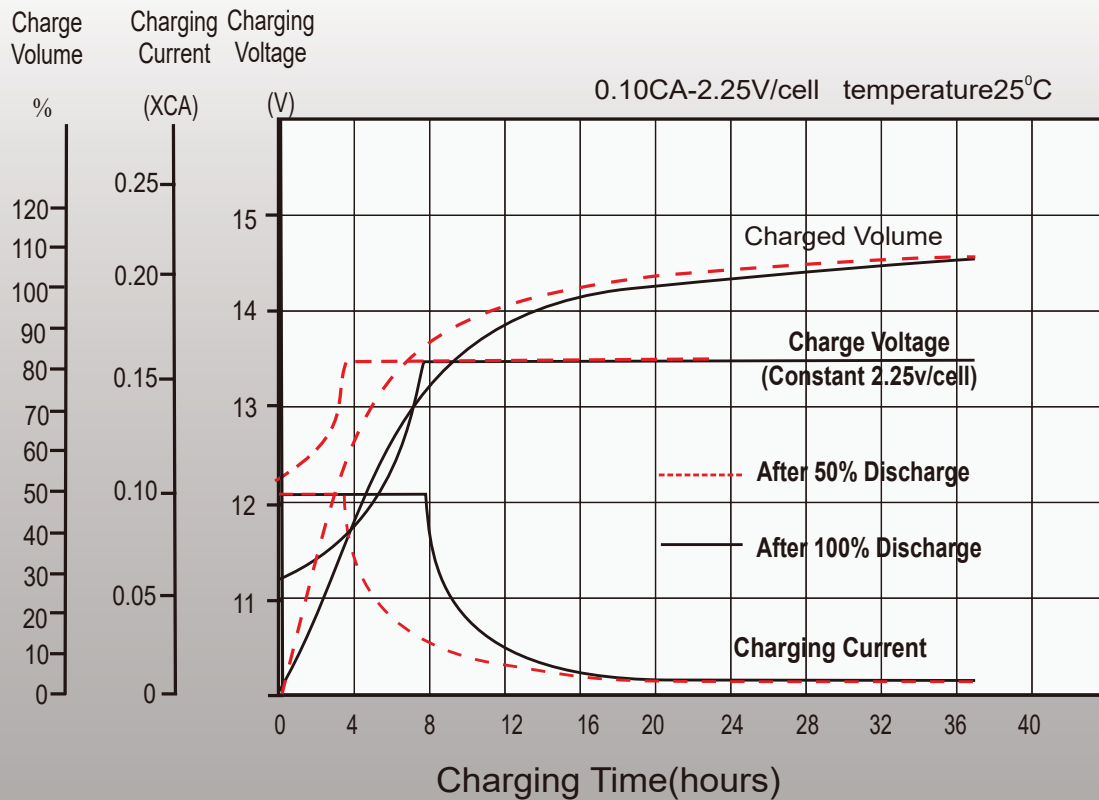
Constant Power Discharge (Watts/cell) at 25°C (77°F)

F.V/Time	5min	10min	15min	20min	30min	45min	1h	1.5h	2h	3h	4h	5h	6h	8h	10h	20h
1.85V/cell	138.3	101.4	82.6	68.4	51.8	38.7	32.1	23.6	18.6	13.5	10.8	9.18	7.88	6.22	5.10	2.74
1.80V/cell	147.2	106.8	86.2	70.7	53.2	39.6	32.8	24.0	18.9	13.7	10.9	9.30	7.99	6.30	5.16	2.77
1.75V/cell	153.5	110.3	88.5	72.3	54.3	40.3	33.3	24.4	19.2	13.9	11.0	9.41	8.07	6.37	5.21	2.80
1.70V/cell	159.1	113.9	90.9	74.0	55.5	41.1	33.8	24.8	19.4	14.0	11.2	9.52	8.16	6.43	5.26	2.82
1.67V/cell	163.3	116.5	92.8	75.3	56.3	41.6	34.3	25.0	19.6	14.2	11.3	9.59	8.23	6.47	5.29	2.84
1.60V/cell	169.9	119.9	95.4	77.2	57.6	42.4	34.9	25.5	19.9	14.4	11.4	9.72	8.32	6.56	5.36	2.88

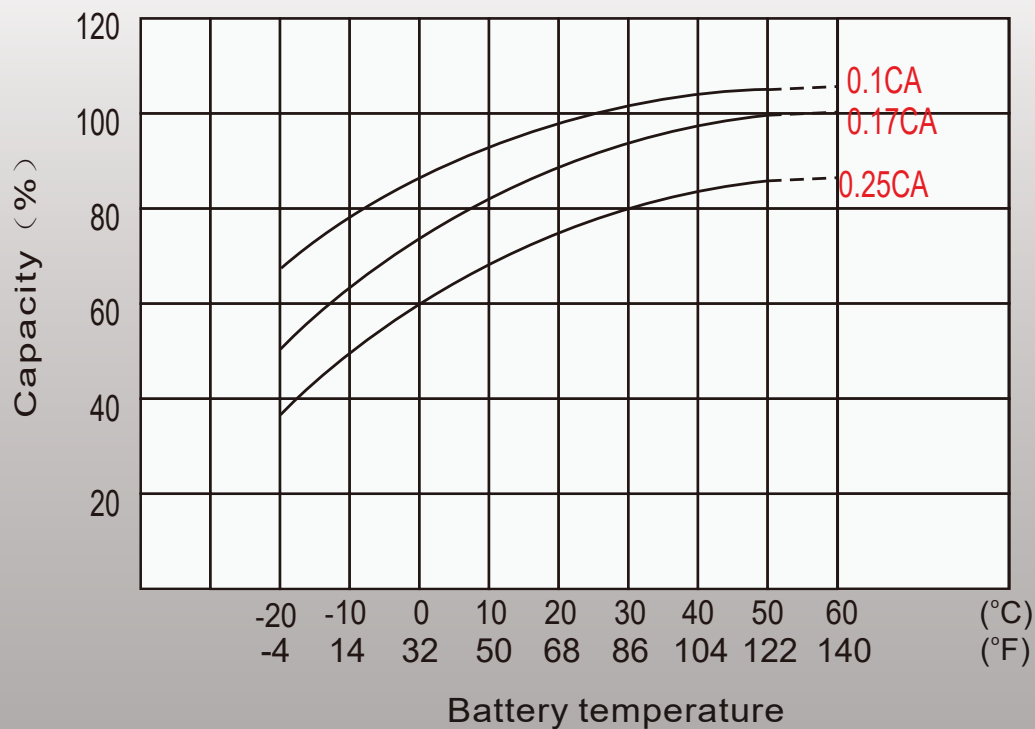
Discharge Characteristics



Float Charging Characteristics



Temperature Effects in Relation to Battery Capacity



Float Service Life



ST12-28 (12V 28Ah)



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