

# STARMAX

The world's leading battery brand



## TELECOMMUNICATION **BATTERIES**

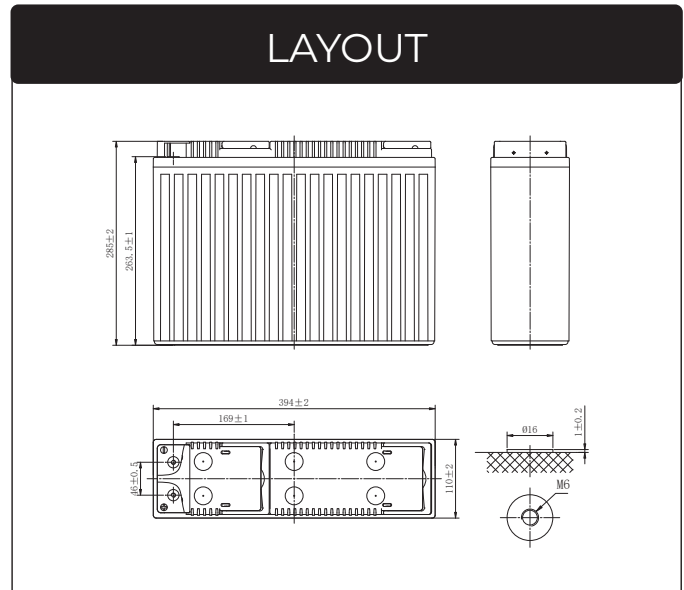
STF12-90 (12V 90Ah)



[www.starmaxbatteries.com](http://www.starmaxbatteries.com)

# FT SERIES - FRONT TERMINAL

## STF12-90



## General Features

- ✓ 12 years design life(25°C)
- ✓ Specifically ideal for 19 inches or 23 inches power cabinets
- ✓ Front terminals make the installation, maintenance and supervision easy
- ✓ Shield designs protect terminals from short circuit and show good appearance
- ✓ Unique vent valve design: reduce water losing and prevent air/spark going inside

## Applications

- ✓ UPS
- ✓ For standard power cabinet
- ✓ Network connection equipment of communication system
- ✓ Power system of special network of local area network
- ✓ Power station systems

## Standards

- ✓ Compliance with IEC 60896 standards, EU Battery Directive
- ✓ UL, CE Certified
- ✓ Manufactured in Starmax® IATF16949, ISO 45001,ISO 9001 and ISO 14001 certified production facilities



# SPECIFICATIONS

Rated Voltage	12V	
Nominal Capacity	(C <sub>10</sub> ,1.80V/cell)	90.0Ah
Dimensions	Length	394±2mm (15.5 inches)
	Width	110±2mm (4.33 inches)
	Container height	285±2mm (11.2 inches)
	Total height	285±2mm (11.2 inches)
Approx. weight	31.0 Kg (68.4 lbs)	
Terminal	M6	
Container material	ABS	
Rated capacity (25°C)	100.0 Ah	(20hr,5.00A,1.80V/cell)
	90.0 Ah	(10hr,9.00A,1.80V/cell)
	88.8 Ah	(8hr,11.1A,1.75V/cell)
	82.0 Ah	(5hr,16.4A,1.75V/cell)
	62.3 Ah	(1hr,62.3A,1.60V/cell)
Max. discharge current	900A (5s)	
Internal resistance (25°C)	Approx 5.5mΩ	
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)	
Standby Use	Initial Charging Current less than 27.0A. Voltage 14.1V~14.4V at 25°C (77°F)Temp. Coefficient -30mV/°C	
Equalization Use	Initial Charging Current less than 27.0A.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	STF 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.	

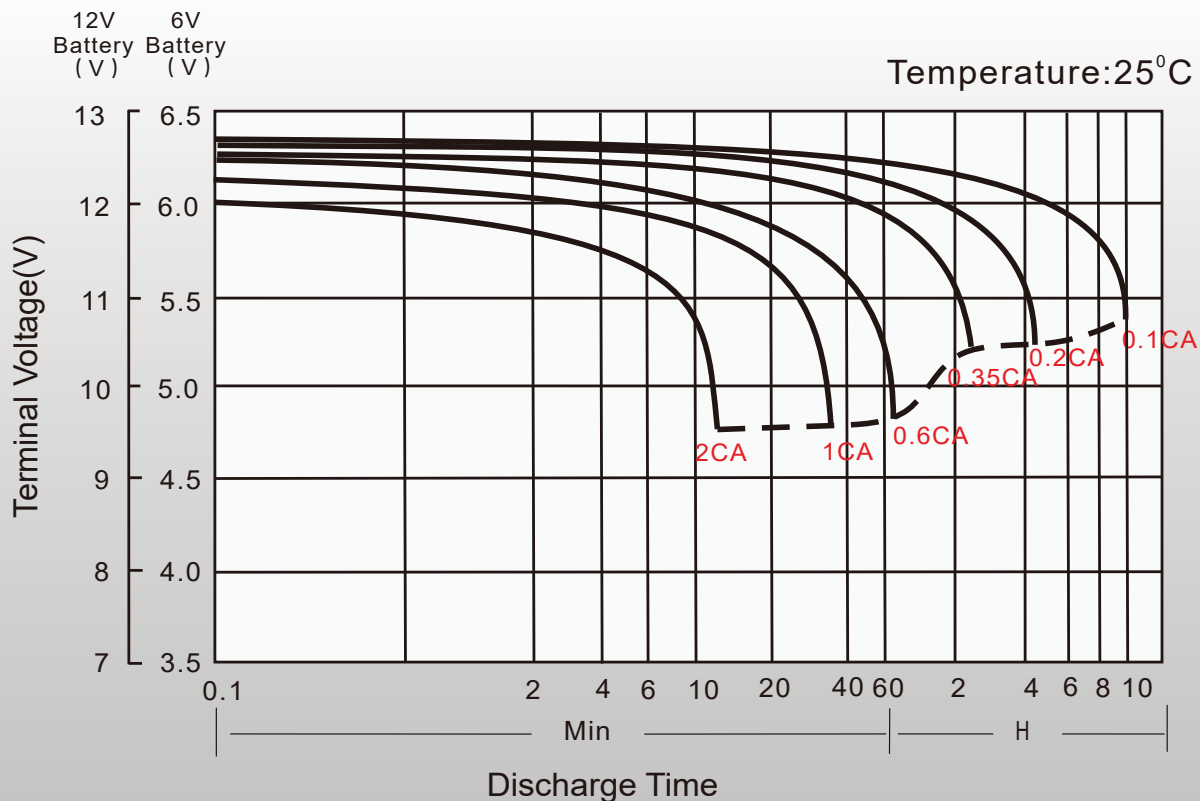
## Constant Current Discharge (Amperes) at 25°C (77°F)

F.V/Time	10min	15min	20min	30min	45min	1h	2h	3h	4h	5h	6h	8h	10h	20h
1.85V/cell	136.5	119.2	106.1	85.7	66.8	54.1	31.5	22.9	18.3	15.4	13.4	10.5	8.58	4.78
1.80V/cell	155.1	132.7	116.1	92.1	70.7	56.9	32.8	23.9	19.1	16.2	14.1	10.8	9.00	5.00
1.75V/cell	170.8	144.7	123.4	95.8	73.4	58.6	33.5	24.2	19.4	16.4	14.2	11.1	9.55	5.05
1.70V/cell	183.9	152.9	130.0	100.2	75.5	60.1	34.1	24.6	19.7	16.6	14.5	11.3	9.61	5.08
1.67V/cell	192.0	159.3	134.5	102.8	77.1	61.4	34.7	25.0	19.9	16.8	14.6	11.4	9.69	5.11
1.60V/cell	199.6	164.4	137.9	104.9	78.3	62.3	35.3	25.3	20.1	17.0	14.7	11.5	9.74	5.14

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

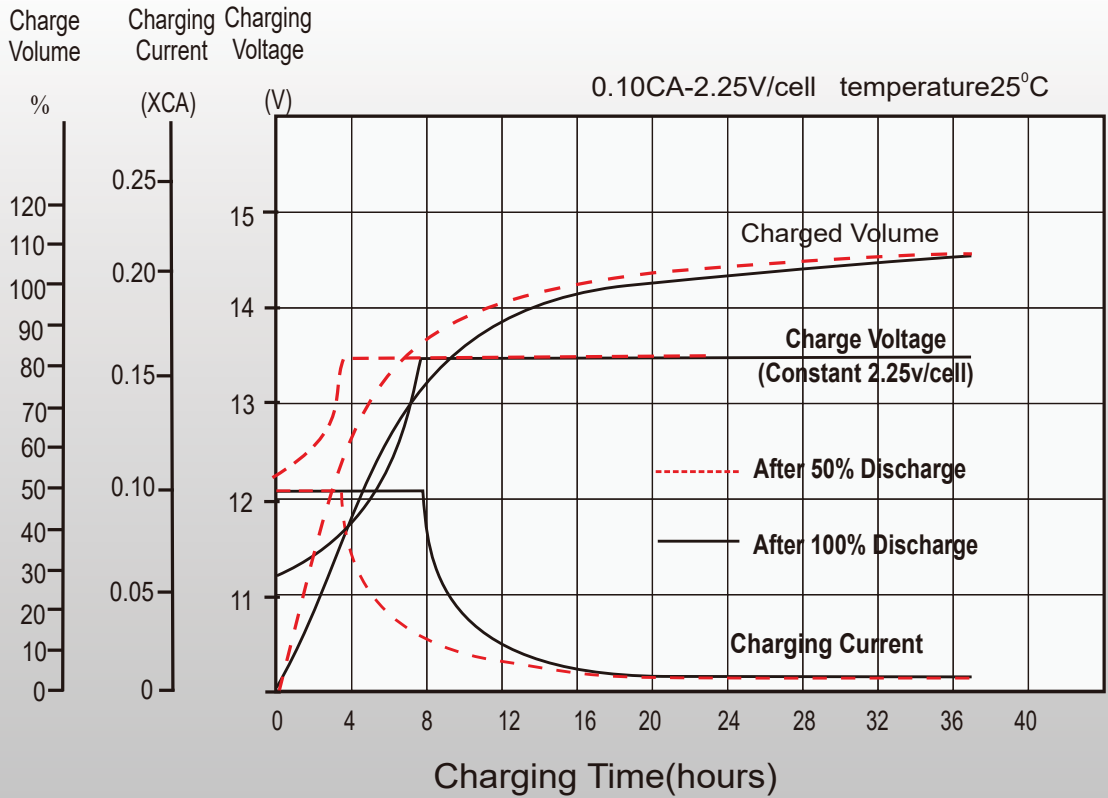
F.V/Time	10min	15min	20min	30min	45min	1h	2h	3h	4h	5h	6h	8h	10h	20h
1.85V/cell	260.0	228.9	205.2	166.9	131.0	106.2	62.3	45.5	36.6	30.9	26.9	21.2	18.2	9.66
1.80V/cell	293.2	253.6	223.2	178.9	138.1	111.5	64.8	47.3	37.9	32.4	28.2	22.0	19.0	10.1
1.75V/cell	320.6	274.7	236.0	185.1	142.9	114.6	65.9	48.0	38.5	32.6	28.5	22.2	19.1	10.1
1.70V/cell	340.7	287.0	246.0	191.8	145.8	116.7	66.9	48.7	38.9	32.9	28.9	22.6	19.2	10.2
1.67V/cell	350.1	294.6	251.3	194.5	147.5	118.1	67.7	49.1	39.2	33.1	29.2	22.8	19.4	10.2
1.60V/cell	356.4	299.1	254.1	196.3	148.2	118.7	68.3	49.5	39.5	33.4	29.5	23.0	19.5	10.3

## Discharge Characteristics

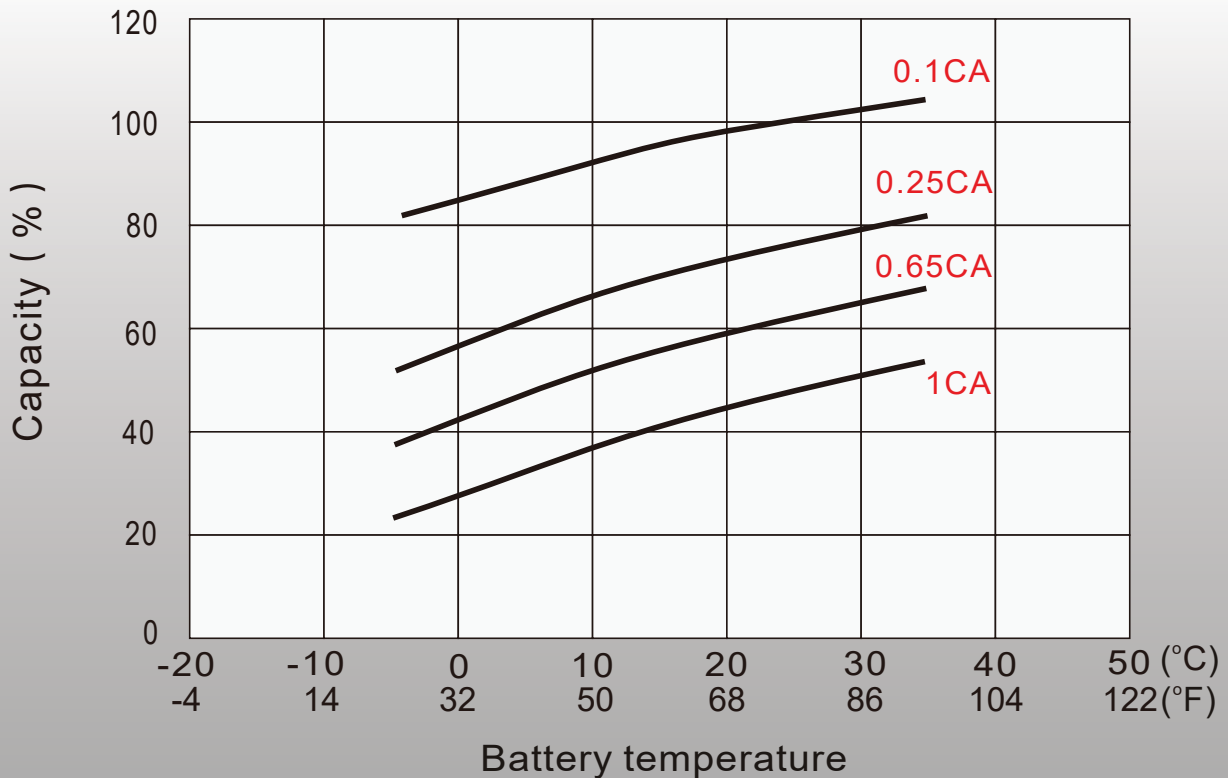




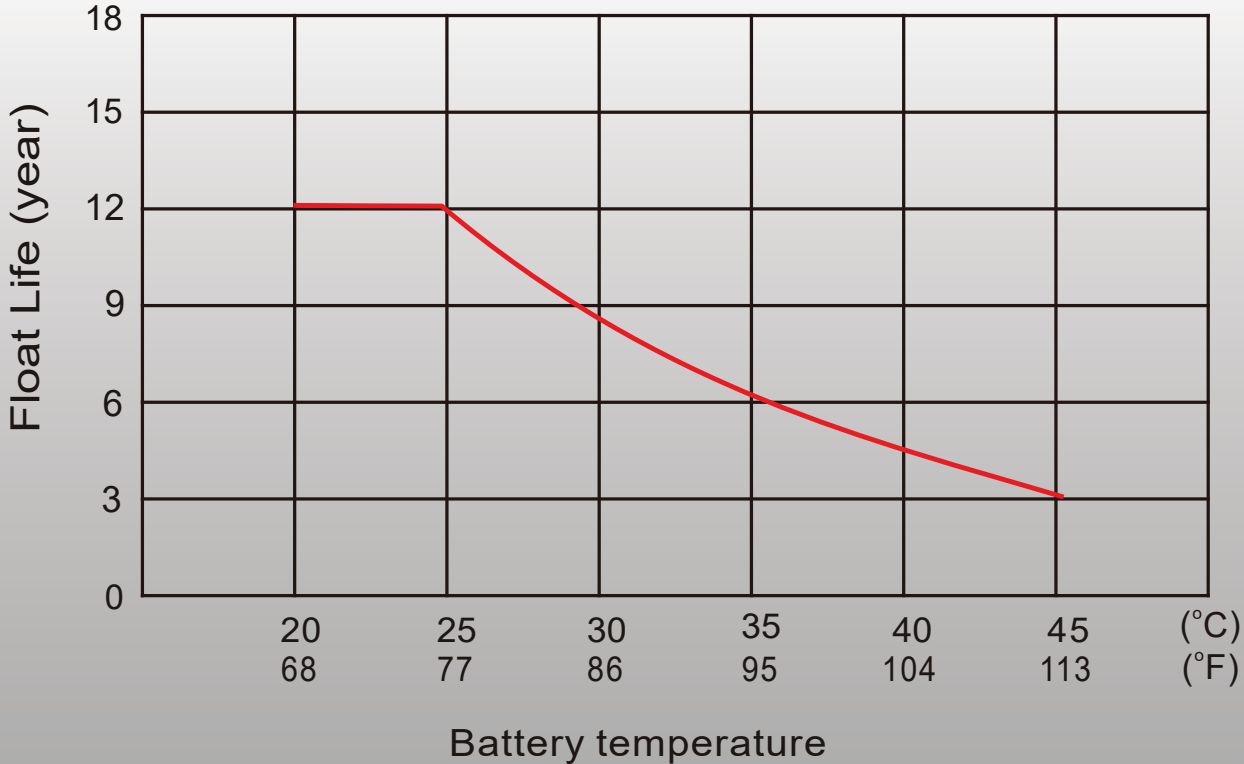
# Float Charging Characteristics



# Temperature Effects in Relation to Battery Capacity



# Effect of Temperature on Long Term Float Life





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