

# UP Series

## TFS250-12 v2

D E E P C Y C L E



### Main Features

- Specially designed for telecom use with 12 years design life in float service.
- With its new AGM separator and centralized venting system, it can be installed in any position while maintaining high reliability.
- Dimensions designed for 19" and 23" cabinet installation.
- It is suitable for telecom EPS/EPS, applications.

### Technical Specifications

Cells per Unit	6
Voltage per Unit	12 V
Nominal Capacity	250 Ah at 100 hour-rate to 1.80 V/cell at 25°C
Weight	Approx. 57 Kg (Tolerance ± 5.0%)
Internal Resistance	≤ 4 mΩ (Full Charge Condition at 25°C)
Terminal	Default F14 (M8)
Maximum Discharge Current	2000 A (5 sec)
Design Life	12 years
Maximum Charging Current	60.0 A
Reference Capacity	C <sub>10</sub> 200.0 Ah
	C <sub>20</sub> 212.0 Ah
	C <sub>100</sub> 250.0 Ah
Standby Use Voltage	13.6 V ~ 13.8 V at 25°C
	Temperature Compensation: -3 mV/°C/Cell
Cycle Use Voltage	14.6 V ~ 14.8 V @ 25°C
	Temperature Compensation: -4 mV/°C/Cell
Operating Temperature Range	Discharge: -20°C ~ 60°C
	Charge: 0°C ~ 50°C
	Storage: -20°C ~ 60°C
Normal Operating Temperature Range	25°C ± 5°C
Self Discharge	Valve Regulated Lead Acid (VRLA) batteries can be stored for up to 6 months at 25°C and then recharging is recommended. Monthly Self-discharge ratio is less than 3% at 25°C. Please charge batteries before using.
Container Material	A.B.S. UL94-HB, UL94-V0 Optional.



Dimensions

Length	560±2mm (22.1 inches)
Width	125±2mm (4.92 inches)
Height	316±2mm (12.4 inches)
Total Height	316±2mm (12.4 inches)
Terminal	Value
M5	6~7 N*m
M6	8~10 N*m
M8	10~12 N*m

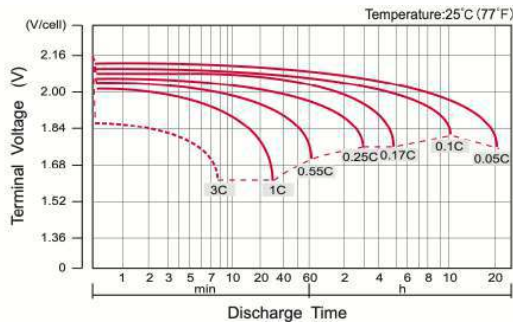
Unit: mm

Constant Current Discharge Characteristics: A (25°C)										
F.V/Time	15min	30min	1h	2h	3h	4h	5h	8h	10h	20h
1.60 V	338.2	212.5	122.2	72.8	56.4	44.3	37.7	25.4	21.1	11.0
1.65 V	323.3	204.0	118.0	70.5	54.7	43.1	36.8	25.1	20.8	10.9
1.70 V	302.8	195.0	114.2	68.2	53.2	42.0	35.8	24.7	20.5	10.7
1.75 V	281.8	186.4	110.0	65.8	51.6	40.9	34.9	24.3	20.3	10.6
1.80 V	260.2	178.1	105.8	63.4	50.0	39.7	34.0	23.9	20.0	10.5
1.85 V	215.9	153.4	94.9	58.1	46.2	36.9	31.7	22.5	18.8	10.0

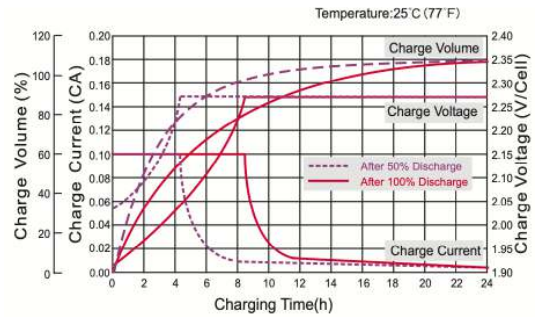
Constant Power Discharge Characteristics: W/Cell (25°C)										
F.V/Time	15min	30min	1h	2h	3h	4h	5h	8h	10h	20h
1.60 V	591.2	386.0	229.6	138.0	107.7	85.1	72.7	49.5	41.5	21.7
1.65 V	573.6	374.4	223.0	134.2	104.9	83.1	71.1	49.1	41.0	21.4
1.70 V	545.3	361.5	217.1	130.5	102.5	81.2	69.5	48.4	40.5	21.2
1.75 V	514.8	349.0	210.5	126.5	99.8	79.4	68.0	47.8	40.0	21.0
1.80 V	482.1	337.0	137.5	122.6	97.1	77.4	66.5	47.1	39.5	20.8
1.85 V	405.7	293.1	183.7	113.0	90.2	72.2	62.2	44.4	37.3	19.7

Note: The above characteristics data are average values obtained within three charge/discharge cycle not the minimum values.  
The battery must be fully charged before the capacity test. The C<sub>10</sub> should reach 95% after the first cycle and 100% after the third cycle.

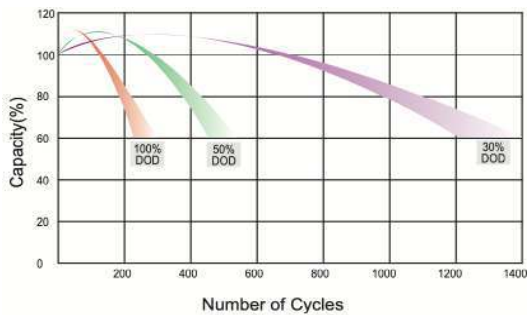
Discharge Characteristics Curve



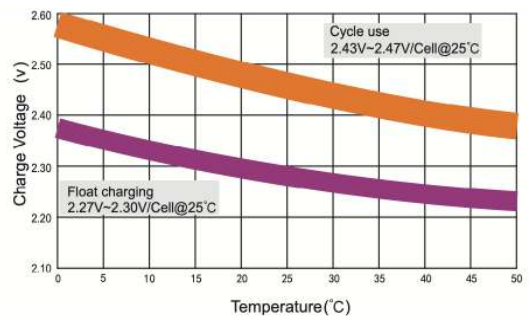
Charge Characteristic Curve for Standby Use (IU)



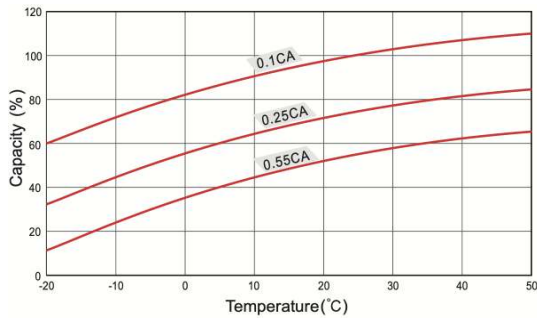
Cycle Life in Relation to Depth of Discharge



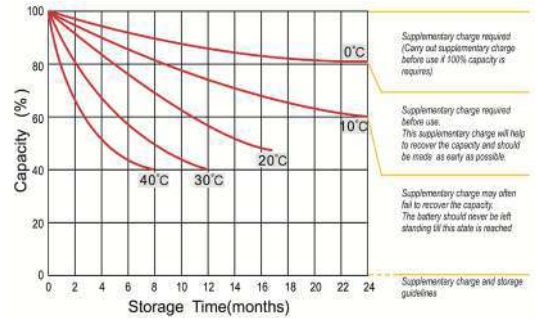
Relationship Between Charging Voltage and Temperature



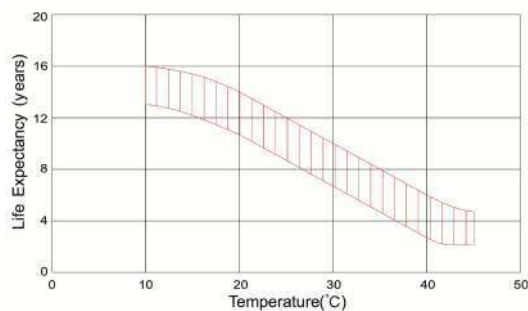
Temperature Effects on Capacity



Storage Characteristics



Effect of Temperature on Long Term Life



Life Characteristics of Standby Use

