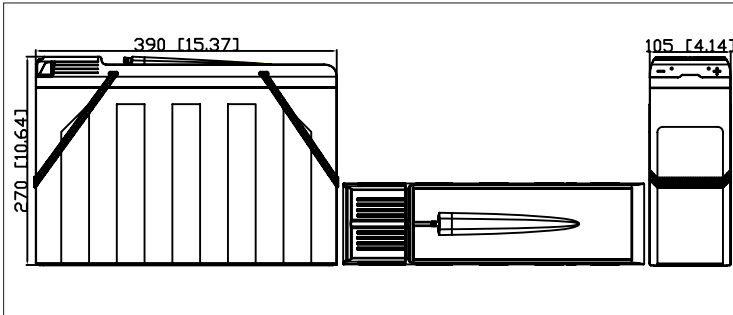


**Model: 12NDF85**



The Acme F range of front access VRLA batteries has been specifically designed for applications using 19" and 23" cabinets, especially telecoms. Reliability is assured with the patented post seal and a state-of-the-art AGM design developed to comply with the latest IEC, British and Telcordia standards. A 12+ years design life and centralised venting system add to the suitability and flexibility of this superior range.

**Dimensions—mm [inch]**



**Specifications**

Battery Model	12NDF85
Nominal Voltage	12V
Rated Capacity	85Ah (10 hour rate) to 1.80V/cell @25°C(77°F)
Typical Weight	31kg
Internal Resistance	Approx 6.47mΩ
Temperature Ranges	Operation (maximum) : -40°C to 50°C(-40°F to 122°F)
	Operation (recommended) : 15°C to 25°C(59°F to 77°F)
	Storage: -20°C to 40°C(-4°F to 104°F)
Float Voltage	2.25V/cell@25°C(77°F)
Recommended Maximum Charging Current Limit	21.25A
Equalize and Cycle Service	2.35V~2.40V/cell@25°C(77°F)
Self Discharge	The residual capacity is above 90% after 90 days storage(25°C/77°F)
Terminal	M6 Female
Terminal Hardware Torque	8 ± 1.0Nm
Container Material	ABS (V0 optional)

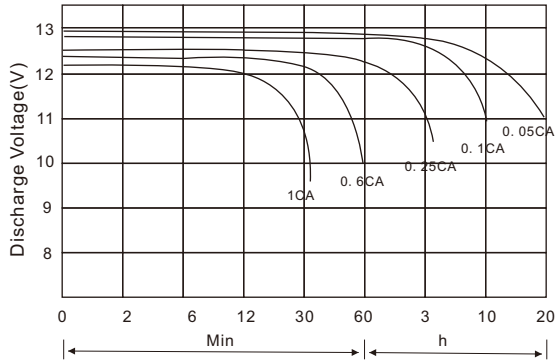
**Constant Current Discharge Characteristics Units: Amperes (25°C, 77°F)**

End voltage per cell	5MIN	15MIN	30MIN	45MIN	1HR	2HR	3HR	4HR	5HR	6HR	8HR	10HR	12HR	20HR	24HR
1. 60V	307	165	100	72.5	58.6	33.6	24.4	19.1	16.2	13.9	10.6	8.76	7.38	4.62	3.86
1. 67V	288	159	98.3	71.9	58.2	33.4	23.9	19.0	16.1	13.7	10.6	8.67	7.37	4.58	3.83
1. 70V	286	156	96.9	71.4	57.8	33.2	23.8	18.9	15.8	13.6	10.5	8.63	7.30	4.57	3.83
1. 75V	262	151	96.0	70.9	57.0	32.3	23.5	18.7	15.7	13.5	10.4	8.58	7.29	4.56	3.82
1. 80V	235	141	91.9	68.0	55.5	32.0	23.4	18.6	15.4	13.3	10.4	8.50	7.23	4.52	3.82
1. 83V	224	129	90.2	65.7	53.1	31.6	22.6	17.8	14.9	12.8	10.1	8.18	6.88	4.51	3.75
1. 85V	210	125	83.8	63.1	51.4	30.5	22.0	17.6	14.5	12.5	9.78	8.12	6.80	4.42	3.72

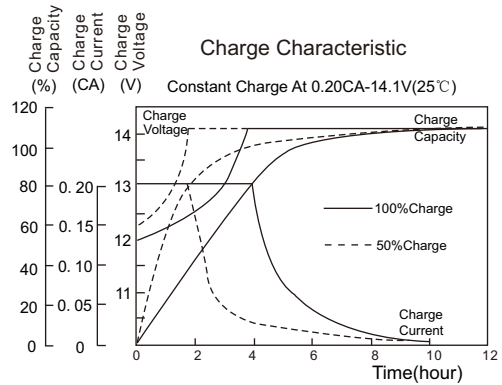
**Discharge Data with Constant Power Units: Watts per cell (25°C, 77°F)**

End voltage per cell	5MIN	15MIN	30MIN	45MIN	1HR	2HR	3HR	4HR	5HR	6HR	8HR	10HR	12HR	20HR	24HR
1. 60V	513	290	181	136	110	63.4	46.3	36.7	31.0	26.7	20.7	17.0	14.3	9.15	7.67
1. 67V	494	285	179	135	109	63.3	45.7	36.6	31.0	26.5	20.5	16.9	14.3	9.12	7.66
1. 70V	491	282	179	135	109	63.0	45.7	36.5	30.5	26.3	20.4	16.7	14.2	9.10	7.65
1. 75V	464	279	179	135	108	62.7	45.2	36.5	30.5	26.2	20.2	16.7	14.2	9.08	7.65
1. 80V	426	264	174	131	107	62.5	45.1	36.4	30.0	26.0	20.2	16.6	14.1	9.08	7.64
1. 83V	413	242	172	128	103	61.7	44.1	35.0	29.3	25.2	20.0	16.2	13.7	9.06	7.58
1. 85V	391	236	160	122	100	59.7	42.9	34.6	28.6	24.7	19.4	16.1	13.5	8.88	7.52

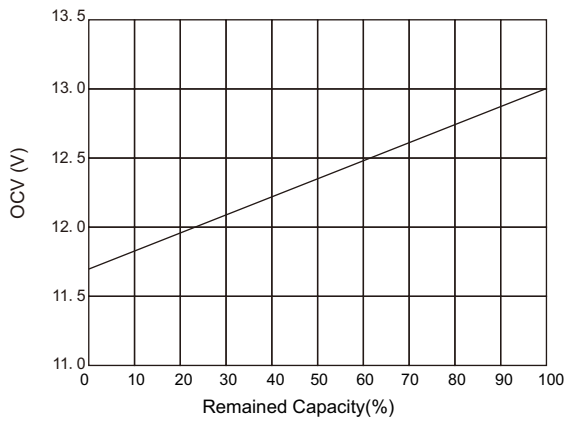
Terminal Voltage(V) Vs. Discharge Time (25°C, 77°F)



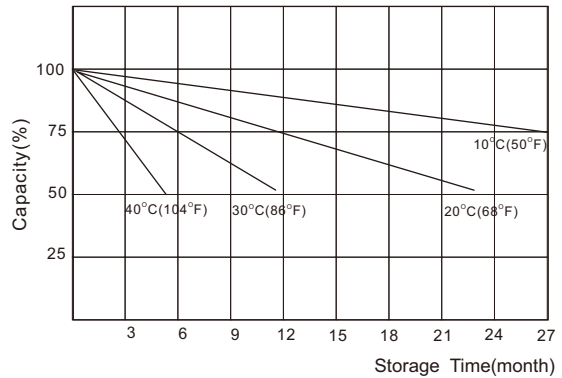
Battery Voltage Vs. Charge Time



Relationship of OCV Vs. State of Charge



Capacity Retention Characteristic



**Charging Procedures**

Application	Charge Voltage (V/Cell)			Max. Charge Current
	Temperature	Set Point	Allowable Range	
Cycle	25°C	2.40	2.35~2.40	0.25C
Standby	25°C	2.25	2.23~2.27	

**Discharge Current VS. Discharge Voltage**

Final Discharge Voltage V/Cell	1.80	1.70	1.55	1.30
Discharge Current (A)	0.2C ≥ (A)	0.2C < (A) < 0.5C	0.5C < (A) < 1.0C	(A) > 1.0C

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