

stored energy solutions for a demanding world

**Narada**

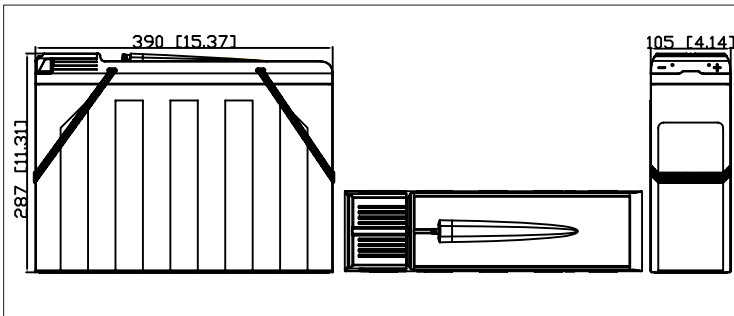
Model: **12NDF100**

**Acme-F**

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	12NDF100
Nominal Voltage	12V
Rated Capacity	100Ah (10 hour rate) to 1.80V/cell @25°C(77°F)
Typical Weight	33.0kg
Internal Resistance	Approx 6.31mΩ
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	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)

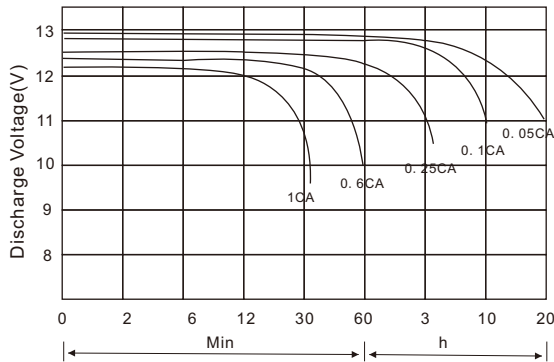
**Constant Current Discharge Data Units: Amperes (25°C, 77°F)**

End voltage per cell	5MIN	15MIN	30MIN	45MIN	1HR	2HR	3HR	4HR	5HR	6HR	8HR	10HR	12HR	20HR	24HR
1.60V	361	194	118	85.3	68.9	39.5	28.7	22.5	19.0	16.3	12.5	10.3	8.68	5.44	4.54
1.67V	339	187	116	84.6	68.5	39.3	28.2	22.4	18.9	16.2	12.4	10.2	8.67	5.39	4.50
1.70V	336	184	114	84.0	68.0	39.0	28.0	22.3	18.6	16.0	12.4	10.2	8.58	5.38	4.50
1.75V	309	178	113	83.4	67.0	38.0	27.7	22.0	18.5	15.9	12.3	10.1	8.58	5.37	4.50
1.80V	277	166	108	80.0	65.3	37.7	27.5	21.9	18.1	15.6	12.2	10.0	8.51	5.31	4.49
1.83V	264	152	106	77.3	62.4	37.2	26.6	20.9	17.5	15.1	11.9	9.63	8.09	5.30	4.42
1.85V	247	148	98.6	74.3	60.5	35.8	25.9	20.7	17.1	14.7	11.5	9.55	8.00	5.20	4.38

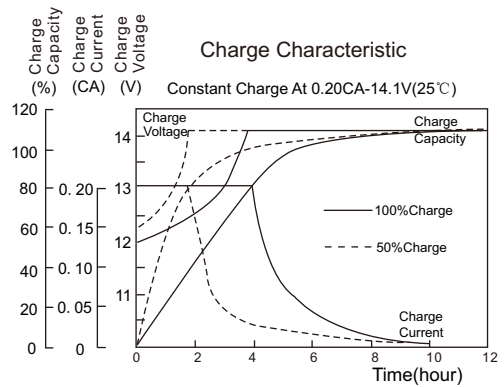
**Constant Power Discharge Data Units: Watts per cell (25°C, 77°F)**

End voltage per cell	5MIN	15MIN	30MIN	45MIN	1HR	2HR	3HR	4HR	5HR	6HR	8HR	10HR	12HR	20HR	24HR
1.60V	604	341	213	160	130	74.6	54.5	43.2	36.4	31.4	24.3	20.0	16.8	10.8	9.02
1.67V	581	335	211	159	129	74.4	53.8	43.1	36.4	31.2	24.2	19.8	16.8	10.7	9.02
1.70V	578	331	211	159	129	74.1	53.8	42.9	35.9	31.0	24.0	19.6	16.7	10.7	9.00
1.75V	539	329	210	158	127	73.7	53.2	42.9	35.9	30.9	23.8	19.6	16.6	10.7	9.00
1.80V	495	311	205	155	126	73.5	53.1	42.8	35.3	30.6	23.7	19.6	16.6	10.7	8.98
1.83V	473	285	203	150	121	72.6	51.8	41.2	34.5	29.7	23.5	19.1	16.1	10.7	8.92
1.85V	442	278	188	144	117	70.2	50.4	40.7	33.7	29.1	22.8	18.9	15.9	10.5	8.85

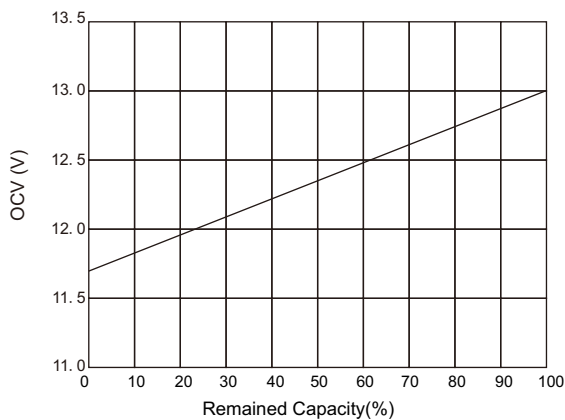
Terminal Voltage(V) Vs. Discharge Time (25°C, 77°F)



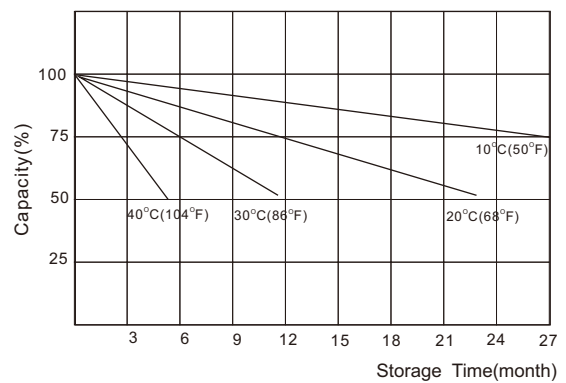
Battery Voltage Vs. Charge Time



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

**NARADA POWER SOURCE CO.,LTD.**  
 9F, Building A, No. 50 Zijinghua Road, Hangzhou, China  
 Tel:+86-571-28827013 Fax:+86-571-28828290  
 Website:www.naradabattery.com E-mail:intl@narada.biz

**NARADA ASIA PACIFIC PTE.LTD.**  
 65 Ubi Crescent #07-05 HOLA centre, Singapore  
 Tel: +65-6848 1191 Fax: +65-6749 3498  
 E-mail: sales@narada.com.sg

**NARADA EUROPE (UK) LIMITED**  
 Spectrum House, Dunstable Road, Redbourn,  
 St. Albans, Herts AL3 7PR  
 Tel: +44 (0)845 371 7095 Fax:+44 (0)845 612 2031  
 E-mail: sales@naradaeurope.com

