Narada® Reliable Battery Solutions

Reserve Power

MH27487

The Narada Reserve Power of VRLA batteries are well suited to provide battery backup to any application long duration or outside plant application. The Reserve Power GFM /NDx/ FM & TT series batteries are available in top and front terminal designs. All Narada Telecom series batteries use optimized plate technology and a patented post design offering exceptional service life.

Technical Features:

- Flame Retardant ABS Cover and Container, UL94 V-0, LOI>28%
- Patented copper alloy terminal design
- Epoxy TPS design for high reliability post seal
- Continuous Cast Punch Pure Lead Plate (CCPP) Technology
- Shelf Life 1 year (20°C/68°F)
- Initial capacity at 100%
- Low pressure one-way flame arresting valve(s) UL1989
- Absorbent Glass Mat (AGM) Sealed Technology, Recombination efficiency of 99.9%

Compliance and Safety:

- **ISO 9001:2000 and ISO 14001:2004 certified production facilities**
- UL Recognized Component 924, for use in or width listed UL1778, UL1989 and UL924 systems
- IEC60896-21/22 / BS6290 part 4
- Certified NEBS Version 4, Level 3 2012, Telcordia SR-3580, Issue 5, June 2012, Level 3
  - Telcordia GR-1089-CORE, Issue 6
  - Telcordia GR-63-CORE, Issue 4
  - Telcordia GR-3108-4.2 Class 3
- Compliant to SR-4228 & VZ.TPR.9802
- **Manufactured under system ISO9001(TUV)**
- Battery installation compliant with: EN 50272-2 or local equivalents
- NEBS Earthquake Risk Seismic Zone 4 Compliant
- Exceeds 1997 UBC Zone 4 Seismic requirements for at or below grade installations Exceeds 2007 IBC requirements for 125% g level

Transportation:

- Classified as Nonspillable UN 2800 and meet the Nonspillable criteria listed in DOT-CFR Title 49, 171-189 (d) (3) (i) and (ii) and exempt from CFR 49, Subchapter C requirements
- Meets transportation conditions of IMDG exemption 238, IATA/ICAO Special Provision A67 (Not Restricted)

Operating Parameters

Float Charging Voltage	2.25Vpc to 2.27Vpc @ 77°F (25°C)
Equalize Charging Voltage	2.35Vpc to 2.40Vpc @ 77°F (25°C)
See Operations and Maintenance Manual for specific guidelines and recharge times	

Charging Temperature Compensation	-1.7 mV/cell/°F > 77°F (-3 mV/cell /°C > 25°C)
	+1.7 mV/cell/°F < 77°F (+3 mV/cell/°C < 25°C)

Maximum AC Ripple (Charger)	0.5% RMS, 1.5% peak-to-peak for float charge voltage for best results
Maximum Charge Current	C_5 Rate Amps (5 hour rate @ 1.75vpc)

Electrolyte	Absorbed 1.300 s.g. H_2SO_4

Self-discharge Rate	<2% per month at 77°F (25°C)

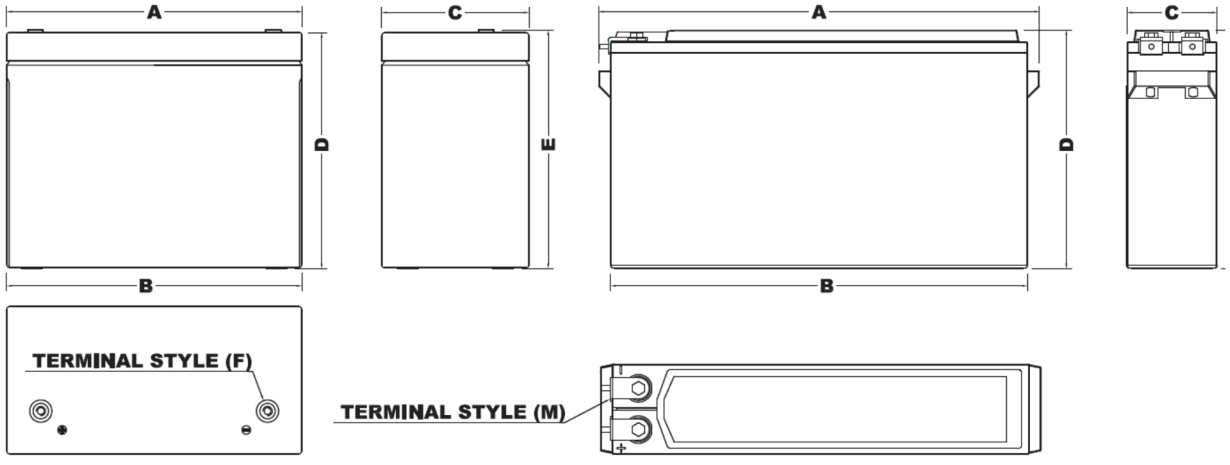
Relief Valve	Self-resealing; Operates at 2 to 3 psi and is complete with integral flame arrestor

Terminal Type	Torque
F5	65 in-lbs (6 Nm)
M6-M / M6-F	78 in-lbs (8 Nm)
M8-F	90 in-lbs (10 Nm)

Operating Temperature Range	
Nominal	+74°F (24°C) to 80°F (27°C)
Charge	-20°F (-28°C) to +122°F (50°C)
Discharge	-40°F (-40°C) to +140°F (60°C)
Storage Temperature Range	-4°F (-20°C) to +104°F (40°C)

See Operations Manual for full specification and operating parameters.

Dimensions & Specifications



Dimensions & Specifications

TOP TERMINAL															
Model	V	Ah 8hr 1.75 vpc 77°F	Ah10hr 1.80 vpc 25°C	Total Length (A)		Base Length (B)		Width (C)		Height (D)		Height Term. (E)		Weight	
				mm	in	mm	in	mm	in	mm	in	mm	in	Kg	Lbs.
12NDT26	12	26	26	250	9.85	250	9.85	97	3.82	146.5	5.77	160	6.30	9.3	21
6-FM-26H	12	24	23	165	6.50	165	6.50	126	4.97	174	6.86	182	7.17	9.2	21
6-FM-33	12	32	33	196	7.72	196	7.72	131	5.16	161	6.34	168	6.62	10.3	23
TT12V38	12	37	38	250	9.85	250	9.85	97	3.82	195	7.68	195	7.68	13.7	31
6-FM-38B	12	36	37	197	7.76	197	7.76	166	6.54	170	6.70	170	6.70	13	29
TT12V52	12	50	52	220	8.67	220	8.67	121	4.77	240	9.45	245	9.65	17.8	40
6-FM-55	12	53	55	230	9.06	230	9.06	138	5.44	206	8.12	210	8.27	17	38
6-FM-65B	12	61	62	350	13.78	350	13.78	166.5	6.56	170	6.70	170	6.70	20.5	46
6-FM-80	12	79	80	260	10.24	259	10.20	169	6.66	211	8.31	214	8.43	24	53
6-FM-90	12	90	92	306	12.05	306	12.05	169	6.66	211	8.31	214	8.43	26	58
TT12V93	12	90	93	305	12.01	305	12.01	168	6.62	212	8.35	212	8.35	31.5	70
6-FM-100A	12	90	93	330	13.00	330	13.00	174.5	6.88	221	8.71	215	8.47	32	71
6-FM-120	12	118	120	406	15.99	406	15.99	174	6.86	208	8.19	236	9.30	38	84
6-FM-134	12	131	134	345	13.59	345	13.59	172	6.78	281	11.07	286	11.26	43.5	96
6-FM-150	12	137	139	485	19.10	485	19.10	172	6.78	240	9.45	240	9.45	43.8	97
TT6V105	6	103	105	194	7.64	191.5	7.54	170	6.70	208	8.19	208	8.19	18.5	41
3-FM-200	6	182	189	520	20.48	484	19.06	240	9.45	219	8.63	222	8.75	60	132
TT6V200A	6	202	204	363	14.30	363	14.30	125	4.93	250	9.85	250	9.85	36.5	81

FRONT TERMINAL															
Model	V	Ah 8hr 1.75 vpc 77°F	Ah10hr 1.80 vpc 25°C	Total Length (A)		Base Length (B)		Width (C)		Height (D)		Height Term. (E)		Weight	
				mm	in	mm	in	mm	in	mm	in	mm	in	Kg	Lbs.
19" Rack															
AT12V90F	12	88	90	395	15.56	363	14.30	105	4.14	264	10.40	264	10.40	30.5	68
12NDF100	12	97	100	390	15.36	369	14.53	105	4.14	287	11.30	274	10.79	32	71
6-GFM-100FB	12	97	100	395	15.56	369	14.53	108	4.26	287	11.30	272	10.71	32	71
6-GFM-105F	12	101	105	511	20.12	485	19.10	110	4.34	238	9.38	238	9.38	34	75
6-GFM-155FC	12	152	155	550	21.66	550	21.66	110	4.34	285	11.23	285	11.23	48	106
23" Rack															
6-GFM-100F	12	99	100	558	21.97	530	20.87	125	4.93	227	8.94	227	8.94	37.5	83
6-GFM-155F	12	152	155	559	22.01	530	20.87	125	4.93	283	11.15	283	11.15	53	117
12NDF155	12	153	155	558	21.97	558	21.97	125	4.93	270	10.63	270	10.63	52.5	116
12NDT180	12	180	180	558	21.97	530	20.87	125	4.93	316	12.45	305	12.01	60	132
12NDT190	12	191	190	558	21.97	530	20.87	125	4.93	316	12.45	305	12.01	60.5	134
12NDT200	12	199	200	558	21.97	530	20.87	125	4.93	316	12.45	305	12.01	61	135

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Reserve Power

Constant Current Discharge, 1.75vpc, 77°F/25°C

Top Terminal	5m	15m	30m	45m	1h	2h	3h	4h	5h	6h	8h	10h	12h	20h
12NDT26	83	48	30.5	22.6	18.1	10.3	7.5	5.93	5	4.31	3.29	2.63	2.32	1.45
6-FM-26H	101	59	37.1	27.4	22	12.5	9.8	7.63	6.79	5.81	4.47	3.69	3.13	1.96
6-FM-33	117	68	42.9	31.7	25.4	14.5	10.5	8.33	7.03	6.05	4.61	3.84	3.26	2.04
TT12V38	160	93	58.7	43.4	34.8	19.8	14.4	11.4	9.62	8.28	6.31	5.25	4.46	2.79
6-FM-38B	172	99	63	46.5	37.4	21.2	16.7	13	11.5	9.87	7.6	6.26	5.32	3.33
TT12V52	258	149	94.5	69.8	56.1	31.8	25	19.4	17.3	14.8	11.3	9.39	7.98	4.99
6-FM-55	515	344	226	175	140	77.8	56.2	44.4	37.2	32	25.2	20.6	17.8	11.9
6-FM-65B	172	99.4	63	46.5	37.4	21.2	16.7	13	11.5	9.87	7.6	6.26	5.32	3.33
6-FM-80	222	128	81.4	60.1	49.3	27.4	21.6	16.8	14.9	12.8	9.82	8.09	6.87	4.30
6-FM-90	255	148	93.5	69.0	55.5	31.5	24.8	19.3	17.1	14.7	11.3	9.29	7.89	4.94
TT12V93	258	149	94.5	69.8	56.1	31.8	25.0	19.4	17.3	14.8	11.3	9.39	7.98	4.99
6-FM-100A	311	164	108	77.5	61.4	35.5	26.3	21.0	17.5	15.4	12.1	10.0	8.53	5.34
6-FM-120	333	192	122	90.0	72.4	41.0	32.3	25.2	22.3	19.1	14.7	12.1	10.3	6.45
6-FM-134	372	215	136	101	80.8	45.8	36.1	28.1	24.9	21.3	16.4	13.5	11.5	7.20
6-FM-150	345	227	151	120	98.7	59.3	42.5	33.3	27.5	23.4	17.1	14.0	11.9	7.50
TT6V105	292	168	107	78.8	63.3	35.9	28.2	21.9	19.5	16.7	12.9	10.6	9.01	5.63
3-FM-200	432	282	193	151	126	70.92	52.38	41.31	34.2	29.3	22.8	19.0	16.1	10.2
TT6V200A	515	344	226	175	140	77.8	56.2	44.4	37.2	32.0	25.2	20.6	17.8	11.9
Front Terminal	**5m**	**15m**	**30m**	**45m**	**1h**	**2h**	**3h**	**4h**	**5h**	**6h**	**8h**	**10h**	**12h**	**20h**
AT12V90F	280	148	94.8	68.7	55.3	32.0	23.7	18.90	15.80	13.90	11.00	9.01	7.67	4.81
6-GFM-100F	278	160	102.0	75.1	60.3	34.2	26.9	20.90	18.60	15.90	12.10	10.80	8.67	5.37
6-GFM-100FB	278	160	102.0	75.1	60.3	34.2	26.9	20.90	18.60	15.90	12.10	10.10	8.58	5.37
12NDF100	309	178	113.0	83.4	67.0	38.0	27.7	22.00	18.50	15.90	12.30	10.10	8.58	5.37
6-GFM-105F	318	184	116.0	85.9	69.0	39.1	28.5	22.70	19.10	16.40	12.60	10.40	8.84	5.53
6-GFM-150F	485	280	177.0	131.0	105.0	59.7	43.4	34.50	29.00	25.00	19.20	15.90	13.50	8.42
6-GFM-155F	431	249	158.0	116.0	93.5	53.0	41.7	32.40	28.80	24.70	19.00	15.70	13.30	8.32
6-GFM-155FC	433	250	159.0	117.0	94.1	53.4	38.8	32.60	29.00	24.80	19.10	15.80	13.40	8.37
12NDF155	432	292	194.0	149.0	122.0	70.8	50.6	40.20	33.90	28.40	22.50	18.10	15.60	9.66
12NDT180	432	292	194.0	149.0	122.0	70.8	50.6	40.20	33.90	28.40	22.50	18.10	15.60	9.66
12NDT190	456	308	205.0	157.0	129.0	74.7	53.4	42.40	35.80	30.00	23.80	19.10	16.50	10.20
12NDT200	475	321	213.4	163.9	134.2	77.1	55.1	43.80	36.90	31.20	24.80	20.10	17.20	10.60

Model	CPR	CLEI
AT12V90F	217340	PBMYAGASRA
6-GFM-105F	217342	PBMYAGCSRA
12NDF125	217343	PBMYAGDSRA

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