

## TT12V93

The Narada Telecom range of VRLA batteries are well suited to provide battery backup to any application long duration or outside plant application.

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
- ◆ 6 months of storage at 77°F (25°C) with a capacity > 80%
- ◆ 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 with listed UL1778, UL1989 and UL924 systems
- ◆ IEC60896-21/22
- ◆ BS6290 part 4 / Eurobatt guide
- ◆ **TL9001 / ISO9001(TUV) Quality System**
- ◆ Battery installation compliant with: EN 50272-2
- ◆ All batteries meet or exceed IEEE recommended practices

### 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)

Ah @ 8hr 1.75 vpc / 77°F (25°C)	90 Ah
Ah @ 10hr 1.80 vpc / 77°F (25°C)	93 Ah

Nominal Voltage	12V
Float Charge Voltage @25°C (2.23 – 2.27vpc)	13.4 – 13.6
Max. Charge Current (A) (5 hour rate @ 1.75vpc)	25 Amps

Electrolyte Absorbed H <sub>2</sub> SO <sub>4</sub>	1.300
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Short Circuit Current (A)	2190 Amps
Internal Resistance (mΩ)	5.8

Terminal Type	Torque
M6-F (Top Insert)	78 in-lbs (8 ±1 Nm)

Dimension	in	mm
Length	12.0	305
Length Base	12.0	305
Width	6.6	168
Overall Height	8.4	212

	Lbs.	Kg
Weight	70	31.5

CLEI	Pending	CPR	Pending
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## Operating Parameters

Float Charging Voltage	13.5V / 2.25vpc @ 77°F (25°C)
Equalize /Cycle	14.0V – 14.3V 2.33Vpc to 2.38Vpc @ 77°F (25°C)
See Operations and Maintenance Manual for specific guidelines and recharge times	

Charging Temperature Compensation	-2 mV/cell/°F > 77°F (-3.6 mV/cell /°C > 25°C)
	+2 mV/cell/°F < 77°F (+3.6 mV/cell/°C < 25°C)

Maximum AC Ripple (Charger)	0.5% RMS, 1.5% peak-to-peak for float charge voltage for best results
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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)

Constant Current Discharge (Amps) @ 77°F/25°C															
End vpc	5m	15m	30m	45m	1h	2h	3h	4h	5h	6h	8h	10h	12h	20h	24h
1.67	284	157	96.8	70.8	57.3	32.9	25.4	19.8	17.7	15.0	11.5	9.58	8.06	5.01	4.19
1.70	281	154	95.4	70.3	56.9	32.6	25.3	19.7	17.5	14.9	11.5	9.47	7.98	5.00	4.19
1.75	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	4.18
1.80	232	139	90.5	66.9	54.6	31.5	24.8	19.4	16.8	14.5	11.2	9.30	7.92	4.94	4.17
1.83	221	127	88.8	64.7	52.3	31.1	24.0	18.5	16.3	14.0	11.0	8.95	7.60	4.93	4.11
1.85	207	124	82.5	62.1	50.6	30.0	23.4	18.3	15.9	13.7	10.7	8.88	7.55	4.84	4.07
1.86	200	123	79.4	60.8	49.8	29.5	23.1	18.2	15.7	13.6	10.6	8.85	7.53	4.80	4.05

Constant Power Discharge (Watt/Cell) @ 77°F/25°C															
End vpc	5m	15m	30m	45m	1h	2h	3h	4h	5h	6h	8h	10h	12h	20h	24h
1.67	487	280	177	133	108	62.3	48.6	38.1	34.1	28.9	22.4	18.7	15.6	10.0	8.39
1.70	484	277	177	133	108	62.0	48.6	37.9	33.7	28.8	22.3	18.3	15.5	10.0	8.37
1.75	451	275	176	133	106	61.7	48.1	37.9	33.6	28.7	21.9	18.3	15.5	9.93	8.37
1.80	422	260	172	129	106	61.5	48.0	37.8	32.8	28.4	21.7	18.2	15.4	9.93	8.35
1.83	407	238	170	126	101	60.7	46.9	36.4	32.1	27.6	21.5	17.7	15.1	9.91	8.30
1.85	385	233	158	121	98.2	58.8	45.6	35.9	31.3	27.0	21.2	17.6	15.0	9.72	8.23
1.86	374	231	152	119	96.8	57.9	45.0	35.7	30.9	26.7	21.1	17.5	14.9	9.63	8.20

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