

12HRL700

HRL SERIES

The Narada High Rate range of VRLA batteries provide reliable battery backup to any High Rate UPS application.

All Narada High Rate 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)



| | |
|--|-------------|
| WPC @ 15 min 1.67 VPC / 77°F (25°C) | 751 watts |
| WPC @ 5 min 1.60 VPC / 77°F (25°C) | 1,301 watts |
| Ah @ 20hr 1.75 VPC / 77°F (25°C) | 193 Ah |

| | |
|--|--------------|
| Nominal voltage | 12V |
| Float charge voltage @25°C (2.23 – 2.27VPC) | 13.5 – 13.62 |
| Max. charge current (A) (5 hour rate @ 1.75VPC) | 39 Amps |

| | |
|--|-------|
| Electrolyte Absorbed H ₂ SO ₄ | 1.300 |
|--|-------|

| | |
|---------------------------|-----------|
| Short circuit current (A) | 4520 Amps |
|---------------------------|-----------|

| | |
|--------------------------|--------|
| Internal resistance (mΩ) | 2.9 mΩ |
|--------------------------|--------|

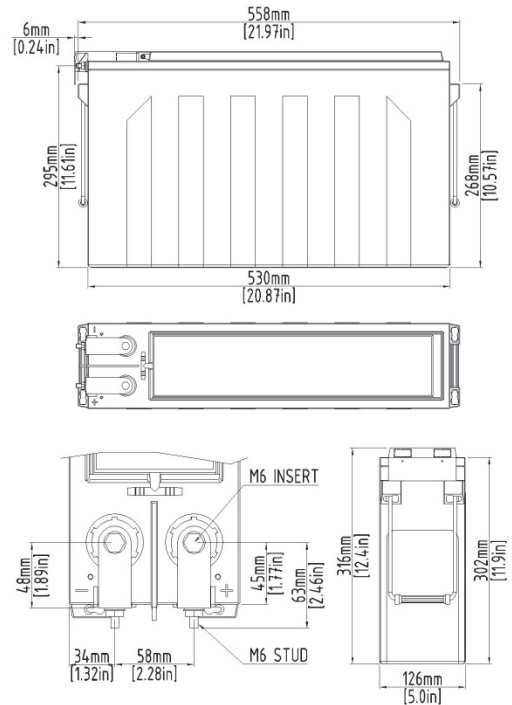
| Terminal Type | Torque |
|------------------------|------------------------|
| M6-M (Front L Bracket) | 78±9 in-lbs (8 ±1 Nm) |
| M8-F (Top Insert) | 89±9 in-lbs (10 ±1 Nm) |

| Dimension | in | mm |
|----------------|-------|-----|
| Length | 21.97 | 558 |
| Length Base | 20.87 | 530 |
| Width | 5.0 | 127 |
| Overall Height | 12.4 | 316 |

| Weight | Lbs. | Kg |
|--------|------|----|
| | 130 | 59 |

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 |
| 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 Power Discharge Watts per cell (25°C, 77°F)

| End Cell Voltage | 5min | 10min | 15min | 20min | 30min | 40min | 50min | 1h | 2h |
|------------------|------|-------|-------|-------|-------|-------|-------|-----|-----|
| 1.60V | 1301 | 984 | 790 | 653 | | | | | |
| 1.63V | 1280 | 964 | 780 | 649 | 465 | | | | |
| 1.67V | 1167 | 913 | 751 | 641 | 465 | 380 | 319 | 275 | |
| 1.70V | 1147 | 901 | 744 | 633 | 460 | 376 | 316 | 275 | |
| 1.75V | 1057 | 841 | 715 | 625 | 450 | 366 | 310 | 270 | 150 |
| 1.80V | 991 | 779 | 654 | 566 | 442 | 334 | 287 | 252 | 149 |
| 1.83V | 846 | 663 | 557 | 484 | 388 | 327 | 283 | 249 | 146 |
| 1.85V | 792 | 631 | 535 | 468 | 378 | 319 | 276 | 244 | 143 |

Constant Current Discharge Amperes (25°C, 77°F)

| End Cell Voltage | 5min | 15min | 30min | 1h | 2h | 4h | 8h | 10h | 20h |
|------------------|------|-------|-------|-----|------|------|------|------|------|
| 1.60V | 793 | 382.0 | 231.0 | | | | | | |
| 1.67V | 662 | 362.0 | 226.0 | 134 | | | | | |
| 1.70V | 602 | 350.0 | 223.0 | 133 | | | | | |
| 1.75V | 517 | 328.0 | 216.0 | 131 | 75.1 | 41.5 | 23.6 | 18.4 | 9.66 |
| 1.80V | 453 | 299.0 | 202.0 | 126 | 73.3 | 40.8 | 23.2 | 18.0 | 9.45 |
| 1.83V | 420 | 277.0 | 190.0 | 120 | 71.4 | 40.2 | 22.7 | 17.6 | 9.24 |
| 1.85V | 395 | 254.0 | 177.0 | 116 | 70.6 | 40.1 | 22.2 | 16.9 | 8.87 |

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