



The **Long Duration Telecom (LDT-Series)** of Valve Regulated Lead Acid (VRLA) batteries feature the latest advancement in plate and battery technology offering exceptional service life, low self discharge, high cycling capabilities and low float charge current characteristics.

**LDT-Series** VRLA batteries with optimized recombination technology and superior performance are specifically engineered and designed for Telecommunication applications requiring the highest level reliability and integrity.

**LDT-Series** VRLA batteries are manufactured in compliance with NEBS, GR, SR, IEC, BS, UL, ISO, and CE quality and performance standards.

**LDT-Series** VRLA batteries are available in both modular, 4-post and standard 19" and 23" rack power systems meeting NEBS and UBC Seismic Zone 4 requirements.

## Applications

WIRES  
WIRELESS  
MICROWAVE

MOBILE SWITCHING SYSTEMS  
PBX SYSTEMS  
BROADBAND HEADEND

SWITCHGEAR  
DATA CENTERS  
ALTERNATIVE ENERGY

## Battery Features

- 12-Year Design Life
- Initial (Out-of-box) capacity at 100%
- 6 month of storage at 77°F (25°C) capacity > 86%
- Low pressure one-way flame arresting valves UL924
- Absorbent Glass Mat (AGM) technology
- Recombination efficiency of 99.9%
- Flame Retardant ABS, UL94V-0, LOI>28%
- High reliability thermally welded case to cover seal
- 3 part post-to-cover seal ensuring operating service life integrity
- Copper alloy front terminals for ease of installation and maximum current carrying capabilities
- Low-Calcium-Tin grid alloy

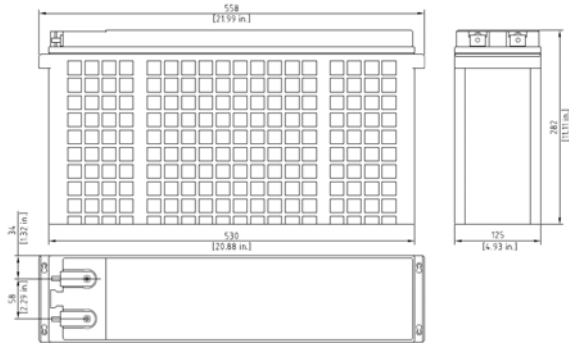
## Standards

- Compliant to:
  - NEBS Version 4, Level 3
  - Telcordia GR-1089-CORE, Issue 3
  - Telcordia GR-63-CORE, Issue 3
  - Telcordia SR-4228
  - Telcordia GR-1200-CORE, Issue 1
  - EUROBAT Guide
  - BS6290 Part 4
  - IEC 60896-21/-22
- UL Recognized Component 924, 1778, 1989
- NEBS Earthquake Risk Seismic Zone 4 Compliant
- Exceeds 1997 UBC Zone 4 seismic requirements for at or below grade installations
- Exceeds 2000/2003 IBC requirements for 125% g level
- 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 for air transport)
- Manufactured under certified compliance to:
  - ISO9001:2000
  - ISO14001
  - TL9001



**Specifications & Physical Characteristics**

|  |  |                                |
|--|--|--------------------------------|
| Rated Capacity   | 155.0 Ah @ 8 hr to 1.75Vpc   |                                |
| Float Charging Voltage   | 2.23Vpc to 2.27Vpc @ 77°F (25°C)   |                                |
| Charging Temperature Compensation                              | -2 mV/cell/°F > 77°F (-3.6 mV/cell /°C > 25°C)<br>+2 mV/cell/°F < 77°F (+3.6 mV/cell/°C < 25°C)                      |                                |
| Equalize /Cycle or Freshening at Installation Charging Voltage | 2.35Vpc to 2.40Vpc @ 77°F (25°C)<br>See Operations and Maintenance Manual for specific guidelines and recharge times |                                |
| Maximum Charge Current   | C <sub>5</sub> Rate Amps (5 hour rate @ 1.75vpc)   |                                |
| Maximum AC Ripple (Charger)                                    | 0.5% RMS, 1.5% peak-to-peak for float charge voltage for best results Max AC ripple voltage 4% P-P                   |                                |
| Self Discharge Rate  | <2% per month at 77°F (25°C)   |                                |
| Electrolyte  | Absorbed 1.300 s.g. H <sub>2</sub> SO <sub>4</sub>   |                                |
| Operating Temperature  | 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  | -4°F (-20°C) to +104°F (40°C)  |                                |
| Terminal Type  | Torque   | Retorque                       |
| M8-F (Female)  | 90 in-lbs (10 Nm)  | 78 in-lbs (8 Nm)               |
| Internal Resistance  | 0.003 Ω Fully Charged  |                                |
| Intercell Connection   | Tin-Plated Cu Bar (Included)   |                                |
| Relief Valve   | Self Resealing; Operates at 2 to 3 psi and is complete with integral flame arrestor                                  |                                |



| Overall Length A |     | Length Base B |     | Width C       |     |
|------------------|-----|---------------|-----|---------------|-----|
| in               | mm  | in            | mm  | in            | mm  |
| 22.0             | 558 | 20.88         | 530 | 4.93          | 125 |
| Total Height D   |     | Weight        |     | Terminal Type |     |
| in               | mm  | lbs.          | kg  |               |     |
| 11.11            | 282 | 119           | 54  | M8-F          |     |

**Constant Current Discharge Rate (Amps) at 77°F (25°C)**

| end vpc | 15m | 30m | 45m | 1h  | 1.5h | 2h   | 3h   | 4h   | 5h   | 6h   | 7h   | 8h   | 9h   | 10h  | 12h  | 20h |
|---------|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|------|-----|
| 1.75    | 278 | 181 | 128 | 106 | 76   | 60.3 | 43.7 | 34.7 | 29.4 | 25.1 | 21.9 | 19.4 | 17.7 | 16.2 | 13.8 | 8.7 |
| 1.78    | 269 | 176 | 126 | 103 | 74   | 58.8 | 42.6 | 33.9 | 28.7 | 24.6 | 21.6 | 19.0 | 17.4 | 15.9 | 13.6 | 8.6 |
| 1.80    | 258 | 171 | 123 | 101 | 73   | 57.9 | 42.0 | 33.5 | 28.3 | 24.3 | 21.3 | 18.8 | 17.2 | 15.9 | 13.4 | 8.5 |
| 1.82    | 251 | 168 | 121 | 99  | 72   | 57.0 | 41.4 | 32.9 | 27.9 | 23.9 | 21.0 | 18.7 | 16.9 | 15.4 | 13.2 | 8.5 |
| 1.83    | 248 | 165 | 118 | 98  | 71   | 56.4 | 41.0 | 32.7 | 27.7 | 23.7 | 20.8 | 18.6 | 16.8 | 15.3 | 13.1 | 8.4 |
| 1.84    | 245 | 161 | 115 | 97  | 70   | 55.9 | 40.7 | 32.4 | 27.5 | 23.6 | 20.7 | 18.4 | 16.7 | 15.2 | 13.0 | 8.4 |
| 1.86    | 230 | 158 | 112 | 95  | 69   | 55.1 | 40.1 | 32.0 | 27.1 | 23.3 | 20.4 | 18.2 | 16.5 | 15.1 | 12.9 | 8.3 |
| 1.88    | 225 | 153 | 109 | 94  | 68   | 54.1 | 39.4 | 31.4 | 26.7 | 22.9 | 20.1 | 17.9 | 16.2 | 14.8 | 12.7 | 8.2 |
| 1.90    | 209 | 149 | 106 | 92  | 67   | 53.1 | 38.7 | 30.9 | 26.3 | 22.5 | 19.8 | 17.7 | 16.0 | 14.6 | 12.5 | 8.1 |

**Constant Power Discharge in Watts per Cell at 77°F (25°C)**

| end vpc | 5m  | 10m | 15m | 20m | 25m | 30m | 45m | 1h  | 1.5h | 2h  | 4h   | 6h   | 8h   | 10h  | 12h  | 20h  |
|---------|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|------|------|------|------|------|------|
| 1.63    | 915 | 743 | 524 | 481 | 421 | 332 | 248 | 201 | 145  | -   | -    | -    | -    | -    | -    | -    |
| 1.65    | 900 | 738 | 520 | 478 | 412 | 329 | 247 | 201 | 144  | -   | -    | -    | -    | -    | -    | -    |
| 1.67    | 892 | 722 | 517 | 471 | 406 | 329 | 247 | 201 | 144  | -   | -    | -    | -    | -    | -    | -    |
| 1.71    | 884 | 683 | 509 | 452 | 394 | 329 | 247 | 199 | 143  | -   | -    | -    | -    | -    | -    | -    |
| 1.75    | 838 | 648 | 508 | 433 | 378 | 329 | 245 | 195 | 140  | 113 | 65.5 | 47.7 | 36.8 | 30.7 | 25.8 | 16.7 |
| 1.78    | 803 | 620 | 490 | 418 | 368 | 320 | 242 | 191 | 138  | 111 | 64.4 | 46.7 | 36.1 | 30.5 | 25.7 | 16.7 |
| 1.8     | 769 | 595 | 480 | 406 | 359 | 313 | 239 | 190 | 137  | 109 | 63.8 | 46.5 | 36.1 | 30.4 | 25.5 | 16.6 |
| 1.82    | 753 | 564 | 450 | 397 | 351 | 307 | 233 | 188 | 135  | 108 | 63.2 | 46.0 | 36.0 | 29.9 | 25.4 | 16.6 |
| 1.84    | 725 | 552 | 434 | 382 | 340 | 297 | 226 | 184 | 133  | 106 | 62.2 | 45.5 | 35.7 | 29.5 | 25.3 | 16.4 |
| 1.88    | 710 | 530 | 402 | 362 | 317 | 284 | 211 | 178 | 129  | 103 | 60.6 | 44.3 | 34.9 | 28.8 | 24.7 | 16.1 |