



an EnerSys company

# AlphaCell® HP

Broadband Pure Lead AGM Top Terminal Batteries



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## AlphaCell HP pure lead AGM batteries provide high power density and extended reliability for broadband applications.

AlphaCell HP batteries use fewer strings in broadband power systems compared to standard VRLA batteries while maintaining network runtime and reliability. For power supply loads that are less than 8A, 4 hours runtime can be achieved using a single string of AlphaCell 4.0HP batteries, compared to using two strings of competitive products. Additionally, AlphaCell HP batteries provide up to 50% more runtime in colder climates compared to standard batteries.

- Pure lead technology provides up to 20% increased life expectancy
- 3 to 5 times longer shelf life versus standard VRLA batteries
- Up to 50% increased runtime in cold climates
- Non-spillable rating for ease of transportation
- Higher runtime allows string count reduction
- Up to 5 year warranty

| General                                                             | 3.5HP                                                                                    | 4.0HP                                                  |
|---------------------------------------------------------------------|------------------------------------------------------------------------------------------|--------------------------------------------------------|
| <b>Operating Temperature Range</b> (w/ Temperature Compensation):   | -40 to 140°F / -40 to 60°C (Charger temperature compensation @±4mVpC per °C)             |                                                        |
| <b>Storage Temperature:</b>                                         | 14 to 104°F / -10 to 40°C                                                                | 14 to 104°F / -10 to 40°C                              |
| <b>Self Discharge:</b>                                              | Battery can be store for up to 18 months @ 77°F/25°C                                     | Battery can be store for up to 18 months @ 77°F/25°C   |
| <b>Voltage Per Unit:</b>                                            | 12V                                                                                      | 12V                                                    |
| <b>Float Charge Voltage:</b>                                        | 13.5 to 13.8VDC average per 12V unit at 77°F/25°C                                        | 13.5 to 13.8VDC average per 12V unit at 77°F/25°C      |
| <b>Refresh/Boost Charging Voltage:</b>                              | 14.4 to 15.0VDC average per 12V unit at 77°F/25°C                                        | 14.4 to 15.0VDC average per 12V unit at 77°F/25°C      |
| <b>Maximum AC Ripple (Charger):</b>                                 | 0.5% RMS or 1.5% of float recommended for best results. Maximum voltage allowed = 4% P/P |                                                        |
| <b>Terminal Type:</b>                                               | Threaded alloy insert terminal to accept ¼" 20UNC bolt                                   | Threaded alloy insert terminal to accept ¼" 20UNC bolt |
| <b>Terminal Hardware Torque:</b>                                    | 110in-lbs / 12.4NM                                                                       | 110in-lbs / 12.4NM                                     |
| <b>Case Sizes:</b>                                                  | 31                                                                                       | 31                                                     |
| <b>Dimensions H x L x W (in/mm):</b>                                | 8.5 x 13.4 x 6.8 / 223.5 x 337.0 x 172.7                                                 | 8.5 x 13.4 x 6.8 / 223.5 x 337.0 x 172.7               |
| <b>Weight Approximate (lbs/kg):</b>                                 | 68 / 30.8                                                                                | 74 / 35.6                                              |
| Battery                                                             | 3.5HP                                                                                    | 4.0HP                                                  |
| <b>Runtime Rating 25A</b> (@ 25°C / 77°F to 1.75VPC):               | 210 minutes                                                                              | 240 minutes                                            |
| <b>Amp Hour Capacity 20Hr Rate</b> (@ 25°C / 77°F to 1.75VPC):      | 104Ah                                                                                    | 114Ah                                                  |
| <b>Amp Hour Capacity 10Hr Rate</b> (@ 20°C / 68°F to 1.80VPC):      | 95Ah                                                                                     | 102Ah                                                  |
| <b>Maximum Discharge Current:</b>                                   | 800A                                                                                     | 900A                                                   |
| <b>Short Circuit Current:</b>                                       | 2800A                                                                                    | 3200A                                                  |
| <b>Impedance 60Hz (Approximate):</b>                                | 0.0027Ω                                                                                  | 0.0022Ω                                                |
| <b>Conductance Range Fully Charged New Battery</b> (@ 25°C / 77°F): | 1550 to 1850                                                                             | 1800 to 2100                                           |

Note: Terminal hardware included with every battery.

| Constant Current Nominal Ratings in Amps (@ 77°F / 25°C to 1.75V per Cell) |      |      |      |      |      |      |      |      |     |     |
|----------------------------------------------------------------------------|------|------|------|------|------|------|------|------|-----|-----|
| Discharge Time (Hours)                                                     | 1    | 2    | 3    | 4    | 5    | 6    | 8    | 10   | 12  | 20  |
| <b>3.5HP:</b>                                                              | 70.2 | 40.3 | 28.6 | 22.3 | 18.2 | 15.3 | 12.1 | 9.9  | 8.4 | 5.2 |
| <b>4.0HP:</b>                                                              | 81.9 | 45.8 | 32.2 | 25.0 | 19.9 | 16.7 | 13.1 | 10.6 | 9.1 | 5.7 |

| Estimated Runtime Minutes Using XM3-918HP (Deduct 4 to 6% for Legacy XM Power Supplies) |       |       |       |       |       |       |       |       |
|-----------------------------------------------------------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|
| 90VAC @                                                                                 | 4A    |       | 6A    |       | 8A    |       | 10A   |       |
| Models:                                                                                 | 3.5HP | 4.0HP | 3.5HP | 4.0HP | 3.5HP | 4.0HP | 3.5HP | 4.0HP |
| <b>3 Batteries:</b>                                                                     | 540   | 585   | 358   | 391   | 263   | 291   | 204   | 229   |
| <b>6 Batteries:</b>                                                                     | 1144  | 1254  | 771   | 839   | 574   | 620   | 450   | 487   |
| <b>9 Batteries:</b>                                                                     | 1757  | 1957  | 1191  | 1308  | 892   | 969   | 704   | 762   |
| 90VAC @                                                                                 | 12A   |       | 14A   |       | 16A   |       | 18A   |       |
| Models:                                                                                 | 3.5HP | 4.0HP | 3.5HP | 4.0HP | 3.5HP | 4.0HP | 3.5HP | 4.0HP |
| <b>3 Batteries:</b>                                                                     | 165   | 189   | 137   | 159   | 116   | 137   | 100   | 119   |
| <b>6 Batteries:</b>                                                                     | 368   | 401   | 308   | 337   | 264   | 291   | 227   | 252   |
| <b>9 Batteries:</b>                                                                     | 578   | 625   | 486   | 527   | 418   | 454   | 361   | 392   |

| Estimated Runtime Minutes Using XM3-918HP (Deduct 4 to 6% for Legacy XM Power Supplies) |       |       |       |       |       |       |       |       |
|-----------------------------------------------------------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|
| 60VAC @                                                                                 | 4A    |       | 6A    |       | 8A    |       | 10A   |       |
| Models:                                                                                 | 3.5HP | 4.0HP | 3.5HP | 4.0HP | 3.5HP | 4.0HP | 3.5HP | 4.0HP |
| <b>3 Batteries:</b>                                                                     | 797   | 865   | 534   | 579   | 395   | 429   | 308   | 337   |
| <b>6 Batteries:</b>                                                                     | 1669  | 1859  | 1131  | 1235  | 846   | 919   | 667   | 721   |
| <b>9 Batteries:</b>                                                                     | 2551  | 2889  | 1737  | 1932  | 1305  | 1440  | 1034  | 1125  |
| 60VAC @                                                                                 | 12A   |       | 14A   |       | 16A   |       | 18A   |       |
| Models:                                                                                 | 3.5HP | 4.0HP | 3.5HP | 4.0HP | 3.5HP | 4.0HP | 3.5HP | 4.0HP |
| <b>3 Batteries:</b>                                                                     | 251   | 277   | 209   | 234   | 178   | 202   | 152   | 175   |
| <b>6 Batteries:</b>                                                                     | 547   | 593   | 461   | 500   | 396   | 430   | 341   | 372   |
| <b>9 Batteries:</b>                                                                     | 852   | 925   | 720   | 781   | 620   | 672   | 537   | 582   |

Based on .92 cable plant factor @ 25°C / 77°F



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