



Telecommunications

Battery Performance Specifications



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Features and Benefits

- Positive and negative plate grids made of lead-calcium-tin alloy for long life and efficient recharge
- Flame retardant case (UL94) and cover to meet UL1778
- Individual flame arresting cell vents
- DataSafe® HX top terminated battery containers and covers are hermetically sealed to provide leak resistance over the life of the product
- AGM separators - The electrolyte is completely absorbed into the separator
- High performance brass threaded receptacle and bolt terminal
- Increased energy density
- 100% initial battery capacity

Construction

- High conductivity terminals. Brass insert with threaded receptacle and bolt terminal for maximum conductivity and ease of installation
- High integrity terminal seal. Compression grommet or dual welded/epoxy seal designed for long life
- Self-regulating relief valve. Low pressure non-return valve prevents ingress of atmospheric oxygen
- Rugged high performance positive plates. Grids designed to resist corrosion and prolong active life
- Balanced negative plates. Ensure optimum recombination efficiency
- Tough cell containers. Thick-wall plastic, highly resistant to shock and vibration. Flame retardant material
- Separators. Low resistance microporous Absorbant Glass Mat (AGM). The electrolyte is absorbed within this material

Installation and Operation

- Normal operating temperature range: -22°F (-30°C) to 122°F (50°C)
- Float charging voltage: 2.25 - 2.28 Volts per cell at 77°F (25°C)
- Charging current: DataSafe® HX top terminated batteries can be safely recharged at high current rates when utilizing a constant voltage charger
- Storage time: DataSafe HX top terminated batteries can be stored for up to 6 months at 77°F (25°C) before a freshening charge is required. At higher temperatures this time interval will be reduced
- Torque specifications: 44 in-lbs (5 Nm) ± 5%
- DataSafe HX top terminated batteries are designed to be installed on their base. Consult your local EnerSys® dealer before installing in any other orientation

Standards

- UL listing - File No MH12544
- Manufactured to EnerSys® standards in ISO 9001 registered production facilities worldwide
- Approved for shipping as non-hazardous, non-spillable - per IATA Special Provision A67 and 49 CFR

General Specifications

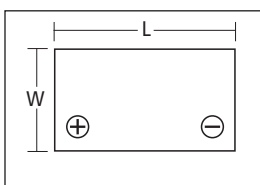
| Cell Type | Nominal Voltage (V) | Nominal Ah | Watts/Cell | Nominal Dimensions | | | | | | Typical Weight | | Short Circuit Current (A) | Max Discharge Current (Amps-2 min rate) | Current Resistance (mΩ)** |
|-----------|---------------------|--|---|--------------------|-------|-----|--------|------|-----|----------------|------|---------------------------|---|---------------------------|
| | | 8hr rate to 1.75 volts/cell end voltage at 77°F (25°C) | @ 15 min. to 1.67 volts/cell end voltage at 77°F (25°C) | Overall Height* | Width | | Length | | lbs | kg | | | | |
| 12HX205 | 12 | 44 | 205 | 8.1 | 206 | 5.5 | 140 | 8.9 | 226 | 43.0 | 19.5 | 2775 | 439 | 4.5 |
| 12HX300 | 12 | 70 | 284 | 8.2 | 208 | 6.9 | 175 | 10.2 | 259 | 60.0 | 27.2 | 3175 | 503 | 3.9 |
| 12HX330 | 12 | 82 | 336 | 8.4 | 213 | 6.8 | 173 | 11.8 | 300 | 71.0 | 32.2 | 3700 | 586 | 3.4 |
| 12HX400 | 12 | 94 | 381 | 8.3 | 211 | 6.8 | 173 | 13.3 | 338 | 80.0 | 36.3 | 4225 | 670 | 3.0 |
| 12HX540 | 12 | 123 | 540 | 10.7 | 272 | 6.8 | 173 | 13.3 | 338 | 106.0 | 48.1 | 4775 | 961 | 2.6 |

*Including Terminal

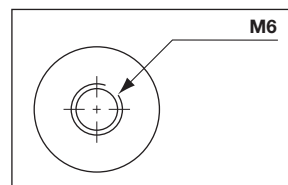
** Resistance values are for reference only and not intended to represent an Ohmic Value or Baseline measurement

All dimensions given are +/-0.08 in (2mm)

Terminal Layout

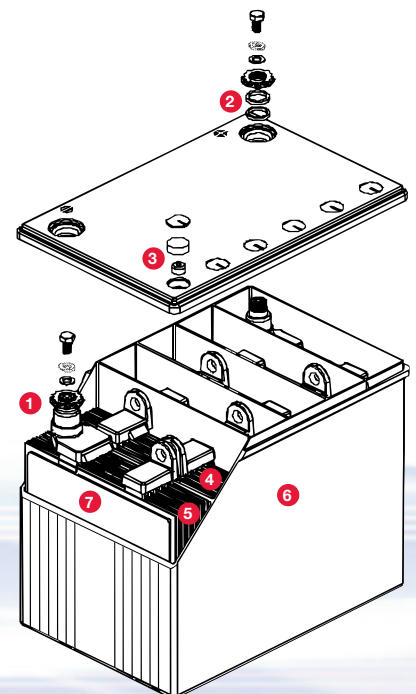


Terminal Drawing



M6 Threaded Receptacle

1. High conductivity terminals
2. High integrity terminal seal
3. Self-regulating relief valve
4. Rugged high performance positive plates
5. Balanced negative plates
6. Tough cell containers
7. Separators



Battery Performance Specifications

Constant Current

End Voltage 1.75 Vpc

Ampere Rating for Minutes to Specified End Voltage at 77°F (25°C)

| PowerSafe® HX Battery | Minutes | | | | Hours | | | | | | | | | |
|--------------------------|---------|-------|-------|-------|-------|------|------|------|------|------|------|------|------|-----|
| | 1 | 15 | 30 | 45 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 10 | 20 |
| 12HX205 | 331.3 | 106.0 | 61.9 | 44.0 | 34.4 | 18.7 | 12.8 | 9.9 | 8.1 | 6.9 | 6.0 | 5.4 | 4.4 | 2.3 |
| 12HX300 | 435.8 | 149.0 | 92.1 | 66.7 | 52.7 | 29.8 | 21.2 | 16.5 | 13.6 | 11.5 | 10.0 | 8.9 | 7.2 | 3.7 |
| 12HX330 | 498.1 | 177.4 | 108.0 | 78.3 | 61.7 | 34.8 | 24.7 | 19.3 | 15.8 | 13.4 | 11.7 | 10.3 | 8.4 | 4.3 |
| 12HX400 | 563.5 | 200.4 | 121.5 | 89.0 | 70.4 | 39.8 | 28.2 | 22.0 | 18.1 | 15.3 | 13.3 | 11.8 | 9.6 | 5.0 |
| 12HX540 | 613.1 | 279.1 | 169.3 | 123.0 | 97.3 | 53.4 | 37.3 | 28.7 | 23.5 | 19.9 | 17.4 | 15.4 | 12.6 | 6.6 |

End Voltage 1.80 Vpc

Ampere Rating for Minutes to Specified End Voltage at 77°F (25°C)

| PowerSafe® HX Battery | Minutes | | | | Hours | | | | | | | | | |
|--------------------------|---------|-------|-------|-------|-------|------|------|------|------|------|------|------|------|-----|
| | 1 | 15 | 30 | 45 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 10 | 20 |
| 12HX205 | 284.8 | 99.4 | 59.2 | 42.6 | 33.6 | 18.7 | 12.8 | 9.9 | 8.1 | 6.9 | 6.0 | 5.4 | 4.4 | 2.3 |
| 12HX300 | 376.9 | 140.7 | 88.6 | 64.6 | 51.5 | 29.6 | 21.1 | 16.5 | 13.6 | 11.5 | 10.0 | 8.9 | 7.2 | 3.7 |
| 12HX330 | 430.3 | 168.2 | 103.9 | 75.7 | 60.2 | 34.5 | 24.7 | 19.3 | 15.8 | 13.4 | 11.7 | 10.3 | 8.4 | 4.3 |
| 12HX400 | 487.2 | 190.3 | 116.9 | 86.2 | 68.7 | 39.4 | 28.2 | 22.0 | 18.1 | 15.3 | 13.3 | 11.8 | 9.6 | 5.0 |
| 12HX540 | 516.6 | 257.4 | 160.5 | 117.5 | 93.2 | 52.1 | 36.7 | 28.5 | 23.4 | 19.9 | 17.4 | 15.4 | 12.6 | 6.6 |

End Voltage 1.85 Vpc

Ampere Rating for Minutes to Specified End Voltage at 77°F (25°C)

| PowerSafe® HX Battery | Minutes | | | | Hours | | | | | | | | | |
|--------------------------|---------|-------|-------|-------|-------|------|------|------|------|------|------|------|------|-----|
| | 1 | 15 | 30 | 45 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 10 | 20 |
| 12HX205 | 236.2 | 89.3 | 54.7 | 39.9 | 31.6 | 17.6 | 12.2 | 9.5 | 7.8 | 6.7 | 5.8 | 5.2 | 4.3 | 2.3 |
| 12HX300 | 313.1 | 128.1 | 82.5 | 60.8 | 48.6 | 28.1 | 20.2 | 15.8 | 13.0 | 11.1 | 9.7 | 8.6 | 7.0 | 3.6 |
| 12HX330 | 358.4 | 153.7 | 96.7 | 71.2 | 56.8 | 32.8 | 23.5 | 18.4 | 15.2 | 12.9 | 11.3 | 10.0 | 8.1 | 4.2 |
| 12HX400 | 406.6 | 174.2 | 109.2 | 81.1 | 64.9 | 37.5 | 26.9 | 21.1 | 17.4 | 14.8 | 12.9 | 11.4 | 9.3 | 4.8 |
| 12HX540 | 420.1 | 227.8 | 146.6 | 108.9 | 87.0 | 48.9 | 34.5 | 26.9 | 22.1 | 18.9 | 16.5 | 14.7 | 12.1 | 6.5 |

Discharge Rate in Watts

End Voltage 1.75 Vpc

Watts per Cell Rating for Minutes to Specified End Voltage at 77°F (25°C)

| PowerSafe® HX Battery | Minutes | | | | Hours | | | | | | | | | |
|--------------------------|---------|-----|-----|-----|-------|-----|----|----|----|----|----|----|-----|-----|
| | 1 | 15 | 30 | 45 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 10 | 20 |
| 12HX205 | 578 | 197 | 118 | 85 | 67 | 37 | 26 | 20 | 16 | 14 | 12 | 11 | 8.7 | 4.7 |
| 12HX300 | 763 | 277 | 173 | 128 | 102 | 58 | 42 | 33 | 27 | 23 | 20 | 18 | 14 | 7.4 |
| 12HX330 | 872 | 328 | 204 | 150 | 119 | 68 | 48 | 38 | 31 | 27 | 23 | 21 | 17 | 8.7 |
| 12HX400 | 986 | 371 | 230 | 170 | 136 | 78 | 55 | 43 | 36 | 30 | 26 | 23 | 19 | 9.9 |
| 12HX540 | 1066 | 511 | 318 | 233 | 186 | 104 | 73 | 57 | 47 | 40 | 34 | 30 | 25 | 13 |

End Voltage 1.80 Vpc

Watts per Cell Rating for Minutes to Specified End Voltage at 77°F (25°C)

| PowerSafe® HX Battery | Minutes | | | | Hours | | | | | | | | | |
|--------------------------|---------|-----|-----|-----|-------|-----|----|----|----|----|----|----|-----|-----|
| | 1 | 15 | 30 | 45 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 10 | 20 |
| 12HX205 | 512 | 187 | 113 | 83 | 65 | 37 | 26 | 20 | 16 | 14 | 12 | 11 | 8.7 | 4.7 |
| 12HX300 | 677 | 265 | 169 | 124 | 100 | 58 | 41 | 33 | 27 | 23 | 20 | 18 | 14 | 7.4 |
| 12HX330 | 773 | 315 | 198 | 146 | 117 | 67 | 48 | 38 | 31 | 27 | 23 | 21 | 17 | 8.7 |
| 12HX400 | 876 | 356 | 223 | 166 | 133 | 77 | 55 | 43 | 36 | 30 | 26 | 23 | 19 | 9.9 |
| 12HX540 | 921 | 478 | 304 | 225 | 179 | 102 | 72 | 56 | 46 | 39 | 34 | 30 | 25 | 13 |

End Voltage 1.85 Vpc

Watts per Cell Rating for Minutes to Specified End Voltage at 77°F (25°C)

| PowerSafe® HX Battery | Minutes | | | | Hours | | | | | | | | | |
|--------------------------|---------|-----|-----|-----|-------|----|----|----|----|----|----|----|-----|-----|
| | 1 | 15 | 30 | 45 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 10 | 20 |
| 12HX205 | 436 | 170 | 106 | 78 | 62 | 35 | 25 | 19 | 16 | 13 | 12 | 10 | 8.5 | 4.6 |
| 12HX300 | 578 | 244 | 159 | 118 | 95 | 55 | 40 | 31 | 26 | 22 | 19 | 17 | 14 | 7.3 |
| 12HX330 | 661 | 292 | 187 | 139 | 112 | 65 | 46 | 37 | 30 | 26 | 22 | 20 | 16 | 8.5 |
| 12HX400 | 750 | 331 | 211 | 158 | 127 | 74 | 53 | 42 | 35 | 29 | 26 | 23 | 19 | 9.7 |
| 12HX540 | 777 | 431 | 281 | 210 | 169 | 96 | 68 | 54 | 44 | 38 | 33 | 29 | 24 | 13 |



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