

stored energy solutions for a demanding world

NARADA

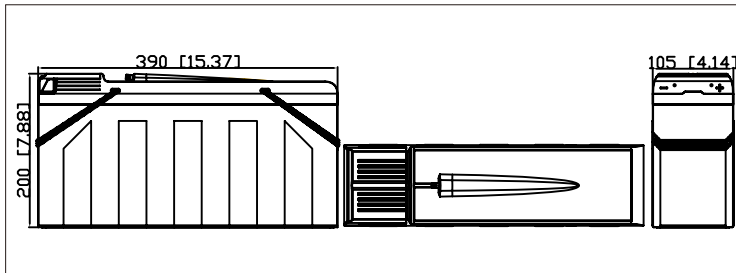
Model: **AG12V50F**

AcmeG Series

The AcmeG range front access gel batteries is designed based on the Acme series. Using the polymer gel electrolyte with real front access structure. The state of the art internal and external design ensures AcmeG the high reliability and makes the installations quite simple and safe when placed on a standard relay rack tray or in a closed cabinet. The design float life is 12 years at 20°C(68°F).



Dimensions-mm [inch]



Specifications

| Battery Model | AG12V50F |
|--|---|
| Nominal Voltage | 12V |
| Rated Capacity | 50Ah (10 hour rate) to 1.80V/cell @25°C(77°F) |
| Typical Weight | 21.3kg |
| Internal Resistance | Approx 8.94mΩ |
| Temperature Ranges | Operation (maximum): -40°C to 50°C(-40°F to 122°F) |
| | Operation (recommended): 15°C to 25°C(59°F to 77°F) |
| | Storage: -20°C to 40°C(-4°F to 104°F) |
| Float Voltage | 2.25V/cell@25°C(77°F) |
| Recommended Maximum Charging Current Limit | 12.5A |
| Equalize and Cycle Service | 2.35V~2.40V/cell@25°C(77°F) |
| Self Discharge | The residual capacity is above 90% after 90 days storage(25°C/77°F) |
| Terminal | M6 Female |
| Terminal Hardware Torque | 8 ± 1.0Nm |
| Container Material | ABS (V0 optional) |

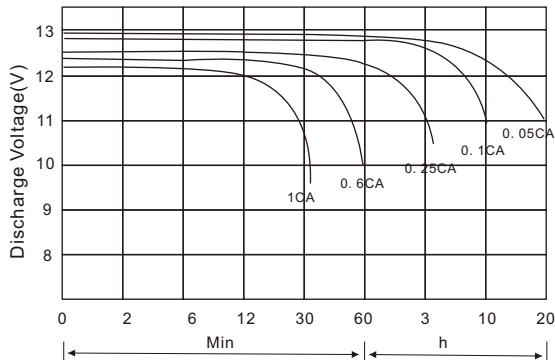
Constant Current Discharge Characteristics Units: Amperes (25°C, 77°F)

| End voltage per cell | 5MIN | 15MIN | 30MIN | 45MIN | 1HR | 2HR | 3HR | 4HR | 5HR | 6HR | 8HR | 10HR | 12HR | 20HR | 24HR |
|----------------------|-------|-------|-------|-------|------|------|------|------|------|------|------|------|------|------|------|
| 1.60V | 187.0 | 100.5 | 61.1 | 44.2 | 35.7 | 20.5 | 14.9 | 11.7 | 9.86 | 8.46 | 6.49 | 5.30 | 4.53 | 2.84 | 2.37 |
| 1.67V | 175.6 | 96.9 | 60.1 | 43.8 | 35.5 | 20.4 | 14.6 | 11.6 | 9.81 | 8.41 | 6.44 | 5.25 | 4.52 | 2.81 | 2.35 |
| 1.70V | 174.0 | 95.3 | 59.0 | 43.5 | 35.3 | 20.2 | 14.5 | 11.6 | 9.65 | 8.30 | 6.44 | 5.25 | 4.47 | 2.81 | 2.35 |
| 1.75V | 160.0 | 92.2 | 58.5 | 43.2 | 34.7 | 19.7 | 14.4 | 11.4 | 9.60 | 8.25 | 6.38 | 5.20 | 4.47 | 2.80 | 2.35 |
| 1.80V | 143.5 | 86.0 | 55.9 | 41.4 | 33.9 | 19.5 | 14.3 | 11.4 | 9.39 | 8.10 | 6.33 | 5.14 | 4.44 | 2.77 | 2.34 |
| 1.83V | 136.7 | 78.7 | 54.9 | 40.0 | 32.4 | 19.3 | 13.8 | 10.8 | 9.08 | 7.84 | 6.18 | 4.95 | 4.22 | 2.76 | 2.31 |
| 1.85V | 127.9 | 76.7 | 51.1 | 38.5 | 31.4 | 18.6 | 13.4 | 10.7 | 8.87 | 7.63 | 5.97 | 4.91 | 4.17 | 2.71 | 2.28 |

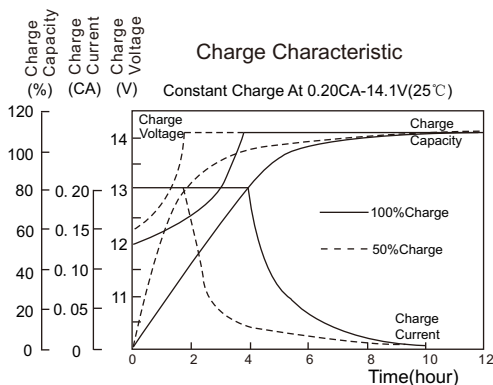
Discharge Data with Constant Power Units: Watts per cell (25°C, 77°F)

| End voltage per cell | 5MIN | 15MIN | 30MIN | 45MIN | 1HR | 2HR | 3HR | 4HR | 5HR | 6HR | 8HR | 10HR | 12HR | 20HR | 24HR |
|----------------------|-------|-------|-------|-------|------|------|------|------|------|------|------|------|------|------|------|
| 1.60V | 313.5 | 177.0 | 110.5 | 83.0 | 67.5 | 38.6 | 28.2 | 22.3 | 18.8 | 16.2 | 12.6 | 10.3 | 8.69 | 5.58 | 4.66 |
| 1.67V | 301.5 | 173.9 | 109.5 | 82.5 | 67.0 | 38.5 | 27.8 | 22.3 | 18.8 | 16.1 | 12.5 | 10.2 | 8.69 | 5.53 | 4.66 |
| 1.70V | 300.0 | 171.8 | 109.5 | 82.5 | 67.0 | 38.3 | 27.8 | 22.2 | 18.6 | 16.0 | 12.4 | 10.1 | 8.63 | 5.53 | 4.65 |
| 1.75V | 279.7 | 170.7 | 109.0 | 82.0 | 66.0 | 38.1 | 27.5 | 22.2 | 18.6 | 16.0 | 12.3 | 10.1 | 8.58 | 5.53 | 4.65 |
| 1.80V | 256.9 | 161.4 | 106.4 | 80.4 | 65.5 | 38.0 | 27.5 | 22.1 | 18.2 | 15.8 | 12.3 | 10.1 | 8.58 | 5.53 | 4.64 |
| 1.83V | 245.5 | 147.9 | 105.3 | 77.8 | 62.9 | 37.5 | 26.8 | 21.3 | 17.8 | 15.4 | 12.1 | 9.90 | 8.32 | 5.53 | 4.61 |
| 1.85V | 229.4 | 144.3 | 97.6 | 74.7 | 60.8 | 36.3 | 26.1 | 21.0 | 17.4 | 15.0 | 11.8 | 9.80 | 8.22 | 5.43 | 4.58 |

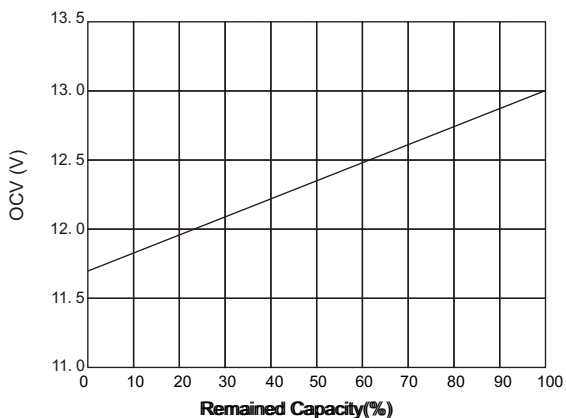
Terminal Voltage(V) Vs. Discharge Time (25°C, 77°F)



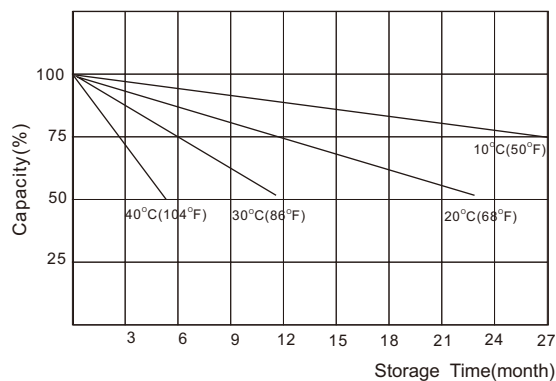
Battery Voltage Vs. Charge Time



Relationship of OCV Vs. State of Charge



Capacity Retention Characteristic



Charging Procedures

| Application | Charge Voltage (V/Cell) | | | Max. Charge Current |
|-------------|-------------------------|-----------|-----------------|---------------------|
| | Temperature | Set Point | Allowable Range | |
| Cycle | 25°C | 2.40 | 2.35~2.40 | 0.25C |
| Standby | 25°C | 2.25 | 2.23~2.27 | |

Discharge Current VS. Discharge Voltage

| Final Discharge Voltage V/Cell | 1.80 | 1.70 | 1.55 | 1.30 |
|--------------------------------|------------|-------------------|-------------------|------------|
| Discharge Current (A) | 0.2C ≥ (A) | 0.2C < (A) < 0.5C | 0.5C < (A) < 1.0C | (A) > 1.0C |

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