

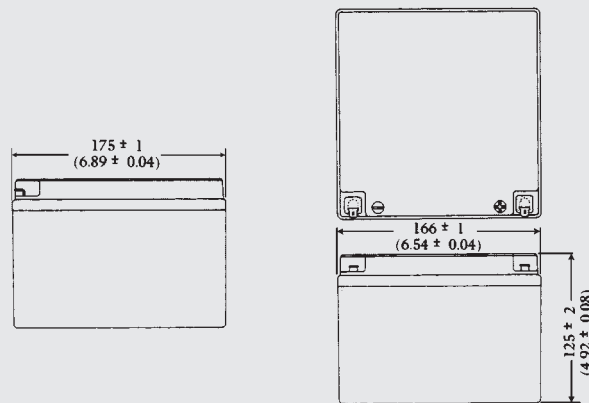
Independence™ Sealed Rechargeable Lead-Acid Battery



NP24-12
NP24-12FR
12V, 24.0Ah

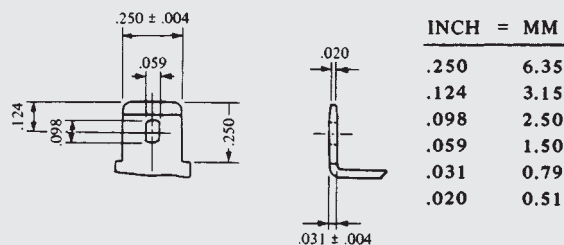


Dimensions



DIMENSIONS: MM (INCHES)

Terminal



DIMENSIONS: INCHES

Specifications

Nominal Voltage 12V

Nominal Capacity

20 hr. rate of 1.20 A to 10.50 V 24.0 Ah

10 hr. rate of 2.23 A to 10.50 V 22.3 Ah

5 hr. rate of 4.08 A to 10.20 V 20.4 Ah

1 hr. rate of 14.40 A to 9.60 V 14.4 Ah

Weight (approx.) 19 pounds

Energy density (20 hr.rate)

..... 1.30 WH/cubic inch

(79.7 WH/litre)

Specific energy (20 hr. rate)

..... 15.2 WH/pound

(33.4 WH/kg)

Internal resistance of charged battery

..... 10 milliohms (approx.)

Maximum discharge current with standard

terminals 150 amperes

Maximum short-duration discharge current

..... 500 amperes

Operating temperature range

Charge 5°F to 122°F

(-15°C to 50°C)

Discharge -4°F to 140°F

(-20°C to 60°C)

Charge retention (shelf life) at 68°F (20°C)

1 month 97%

3 months 91%

6 months 85%

Life expectancy

Standby use 3 to 5 years

Cycle use (approx.)

100% depth of discharge ... 250 cycles

50% depth of discharge ... 550 cycles

30% depth of discharge .. 1200 cycles

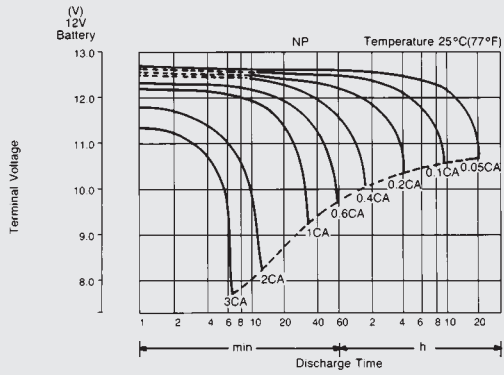
Sealed construction

Can be operated, charged or stored in any position without leakage.

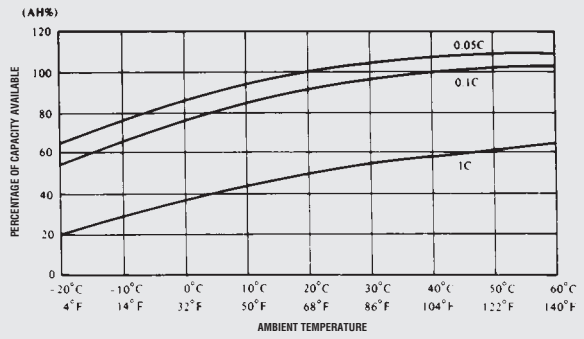
Standard terminal . . Quick Disconnect .250

Housing material ABS Resin or ABS Flame Retardant (UL94-V0)

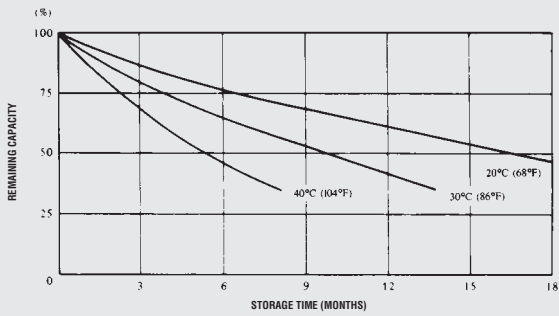
DISCHARGE CHARACTERISTIC CURVES



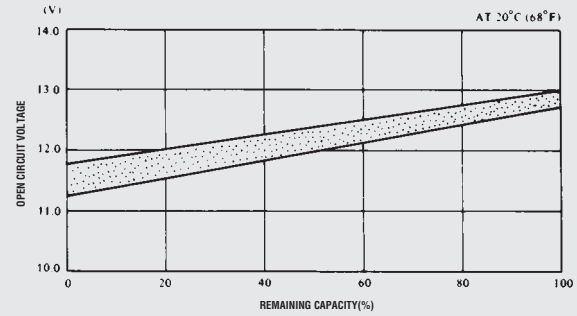
TEMPERATURE EFFECTS IN RELATION TO BATTERY CAPACITY



SELF DISCHARGE CHARACTERISTICS

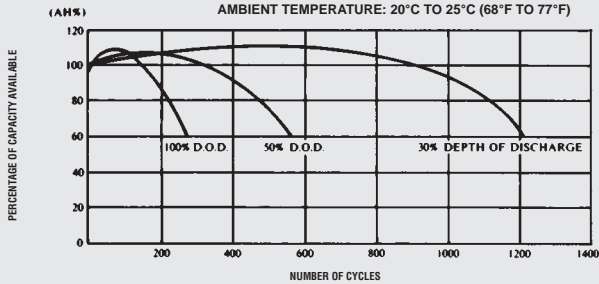


OPEN CIRCUIT VOLTAGE VS REMAINING CAPACITY



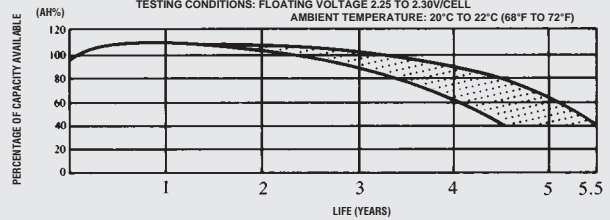
CYCLE SERVICE LIFE IN RELATION TO DEPTH OF DISCHARGE

TESTING CONDITIONS: DISCHARGE CURRENT: 0.17C Amp. (F.V. 1.7V/CELL)
 CHARGING CURRENT: 0.09C Amp.
 CHARGING VOLUME: 125% OF DISCHARGED CAPACITY
 AMBIENT TEMPERATURE: 20°C TO 25°C (68°F TO 77°F)



FLOAT SERVICE LIFE

TESTING CONDITIONS: FLOATING VOLTAGE 2.25 TO 2.30V/CELL
 AMBIENT TEMPERATURE: 20°C TO 22°C (68°F TO 72°F)



When the battery will be used by the current in excess of 3C, consult with Yuasa, Inc. prior to use.

CHARGING METHODS (At 20°C) **Cycle use:** Maximum charging current 6.0A
 Charging voltage 14.4 to 15.0V
Standby use: Float charging voltage 13.50 to 13.80V

CAUTION

- Avoid short circuit
- Do not charge in a sealed container.

Distributed by:



Sales Offices

Eastern Region:

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 FAX 201-641-8720

Western Region:

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 610-208-1991 • 800-528-3627
 FAX 610-372-8613

Visit us on the web at:

www.yuasainc.com



When ordering new batteries, also remember to properly dispose your old lead batteries. Most federal and state regulations require lead-acid batteries be recycled. Yuasa, Inc.'s nationwide service organization can arrange pickup, transportation to and recycling at any one of our company affiliated smelters. Call 1-800-972-7372 for more information.