NP SERIES - **NP65-12I**

Reliability is your Security

Yuasa NP, NPC and NPH Batteries. Utilising the latest advance design Oxygen Recombination Technology, Yuasa have applied their 80 years experience in the lead acid battery field to produce the optimum design of Sealed Lead Acid batteries.

FEATURES

- Superb recovery from deep discharge.
- Electrolyte suspension system.
- Gas Recombination.
- Multipurpose: Float or Cyclic use.
- Usable in any orientation (except continuous inverted).
- Superior energy density.
- Lead calcium grids for extended life.
- Manufactured World wide.
- Application specific designs.

Technical Features

Sealed Construction
Yuasa's unique construction and sealing technique ensures no electrolyte leakage from case or terminals

Electrolyte Suspension System
All NP batteries utilize Yuasa's unique electrolyte suspension system incorporating a microfine glass mat to retain the maximum amount of electrolyte in the cells. The electrolyte is retained in the separator material and there is no free electrolyte to escape from the cells. No gels or other contaminants are added.

Control of Gas Generation
The design of Yuasa's NP batteries incorporates the very latest oxygen recombination technology to effectively control the generation of gas during normal use.

Low Maintenance Operation
Due to the perfectly sealed construction and the recombination of gasses within the cell, the battery is almost maintenance free.

Terminals
NP batteries are manufactured using a range of terminals which vary in size and type. Please refer to details as shown.

Operation in any Orientation
The combination of sealed construction and Yuasa's unique electrolyte suspension system allows operation in any orientation, with no loss of performance or fear of electrolyte leakage. (Excluding continuous use inverted)

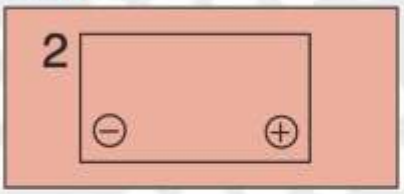
Valve Regulated Design
The batteries are equipped with a simple, safe low pressure venting system which releases excess gas and automatically reseals should there be a build up of gas within the battery due to severe overcharge. Note. On no account should the battery be charged in a sealed container.

WARNING!
The battery type NP65-12I must never be installed permanently suspended by their handles; they are not designed for this purpose.

General Specifications

Nominal Capacity (Ah)	NP65-12I
20hr to 1.75vpc 30°C	65
10hr to 1.75vpc 20°C	60.5
5hr to 1.70vpc 20°C	55.3
1hr to 1.60vpc 20°C	39
Voltage	12
Energy Density (Wh.L.20hr)	77
Specific Energy (Wh.kg.20hr)	34
Int. Resistance (m.Ohms)	5
Maximum discharge (A)	500
Short Circuit current (A)	800
Dimensions (mm)	
Length	350
Width	166
Height overall	174
Weight (Kg)	23
Terminal	K
Layout	2
Terminal Torque Nm	4.76

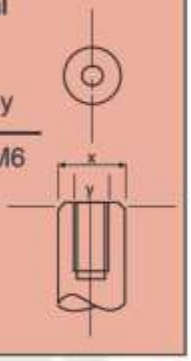
Layout



Terminals

Internal thread terminal

Terminal	x	y
K:	20mm	M6



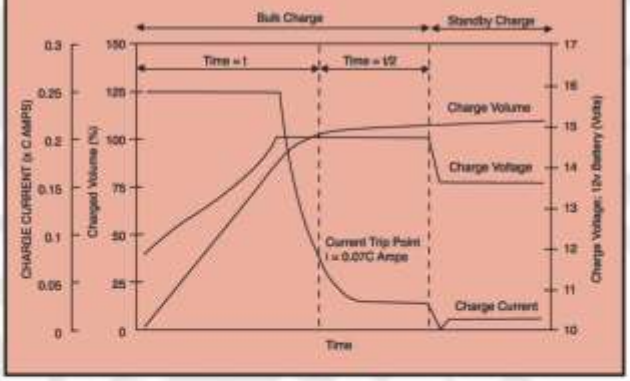
Lead Calcium Grids
The heavy duty lead calcium alloy grids provide an extra margin of performance and life in both cyclic and float applications and give unparalleled recovery from deep discharge.

Long Cycle Service Life
Depending upon the average depth of discharge, over a thousand discharge/charge cycles can be expected.

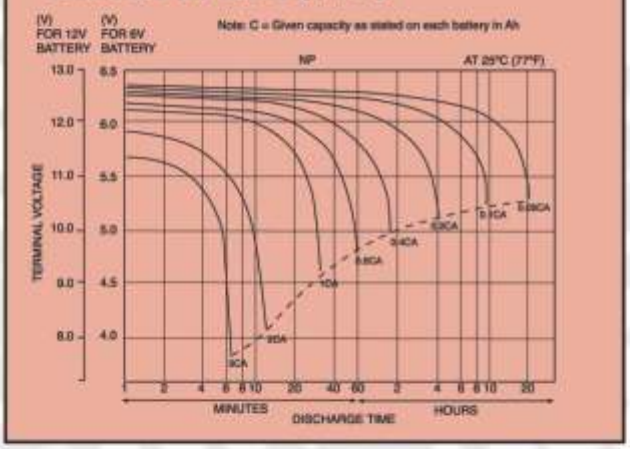
Float Service Life
The expected service life is five years in float standby applications.

Separators
The use of the special separator material provides a very efficient insulation between plates preventing inter-plate short circuits and prohibiting the shedding of active materials.

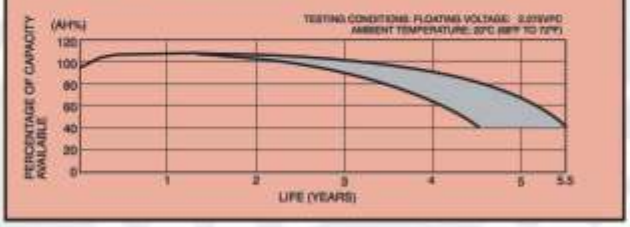
CYCLIC RECHARGE REGIME



NP DISCHARGE CHARACTERISTICS CURVES AT 25ºC (77ºF)



FLOAT SERVICE LIFE NP RANGE

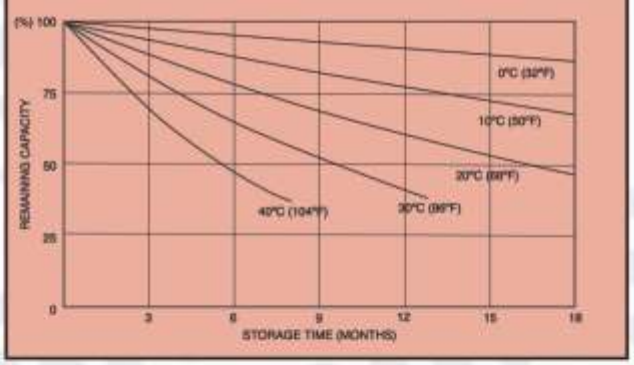


Long shelf Life
The extremely low self discharge rate allows the battery to be stored for extended periods up to one year at normal ambient temperatures with no permanent loss of capacity.

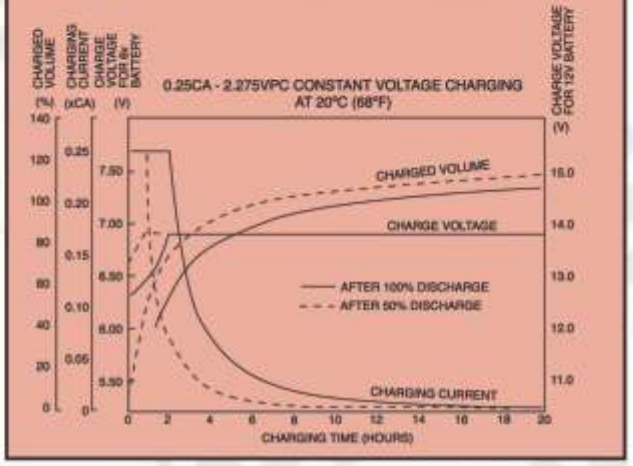
Operating Temperature Range
The batteries can be used over a broad temperature range permitting considerable flexibility in system design and location.

Charge	– 15°C to 50°C
Discharge	– 20°C to 60°C
Storage	– 20°C to 50°C (fully charged battery)

SELF DISCHARGE CHARACTERISTICS



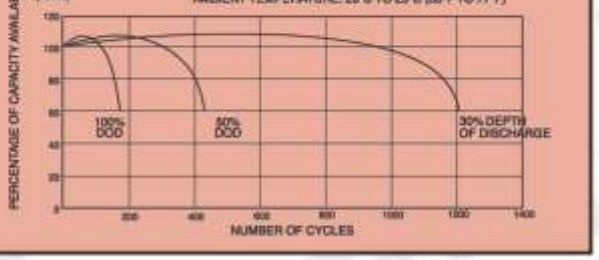
FLOAT CHARGE CHARACTERISTICS



TYPICAL DISCHARGE CHARACTERISTICS NP RANGE

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)



NP SERIES - **NP65-12I**

Data Sheet

INTELLIGENT BATTERY CHARGERS

Manufactured to BS3456, IEC335, UL 1236, EN60335, CE mark to EN5008-1

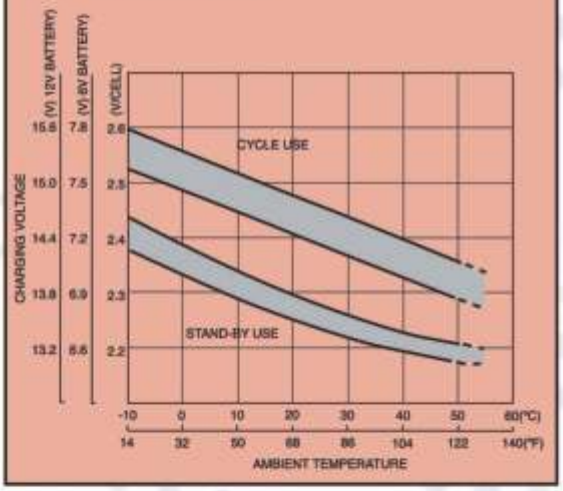
Features

Micro processor controlled
Short circuit protection
Reverse polarity protection
High temperature protection
Soft start current control
Fast constant current bulk charge
3 stage charging CI-CV-float
Constant voltage float/standby
Proportional timing
Flexibility, to match battery specification.

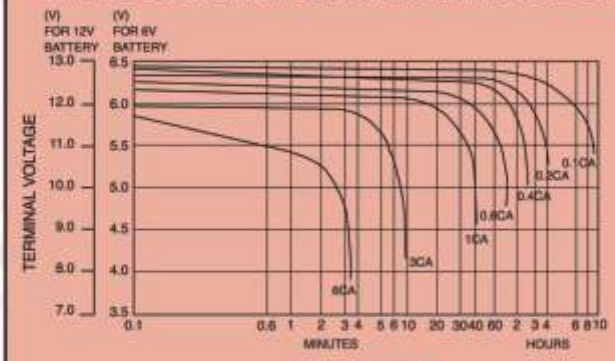
Standard Range

YCP03A12	300mA 12v
YCP03A24	300mA 24v
YCP03A6	300mA 6v
YCP06A12	600mA 12v
YCP06A6	600mA 6v
YCP1.5A12	1.5A 12v
YCP1.5A24	1.5A 24v
YCP1.5A6	1.5A 6v
YCP1A12	1A 12v
YCP1A6	1A 6v
YCP2A12	2A 12v
YCP2A24	2A 24v
YCP2A6	2A 6v
YCP3A12	3A 12v
YCP4A12	4A 12v
YCP6A12	6A 12v
YCP8A12	8A 12v
YCP10A12	10A 12v
YCP8A24	8A 24v

RELATIONSHIP BETWEEN CHARGING VOLTAGE AND TEMPERATURE



NPH DISCHARGE CHARACTERISTIC CURVES



Standard NP

Available in a wide range of sizes to suit general applications.

NPH/NPW

High performance batteries specially designed for applications requiring high rate discharge, supplying up to 50% (NPH), (NPW) more power (Watts) for short durations when compared to conventional NP models.

NPC

Specifically designed to suit the arduous requirements of cyclic applications allowing increased cycle life (at least double that of conventional types). (NPC Shortform refers)

NPL

Long Life Model also to BS6290pt4 (FR Options)
Dedicated literature available on request. (NPL Shortform refers).

Applications

Yuasa NP batteries, having excellent deep discharge recovery characteristics coupled with long life on float standby, are ideal for numerous applications in both cyclic and standby modes. For advice on the use of NP batteries in your particular application please contact our Sales Office.

Charging For Float Standby Applications

Charged at 2.275 volts per cell continuous. The battery will seek its own current level and float fully charged. However, users should be aware that when charging from fully discharged, the battery can draw an initial charge current of approximately 2cA. Care should therefore be taken to ensure that this initial charge current (if ungoverned) is within the output capability of the equipment. Final charge current at 2.275 volts per cell is typically between 0.0005cA to 0.004cA.

Charging For Cyclic Applications

See cyclic recharge regime graph.

CAUTION

- Do not Short Circuit
- Do not charge in a sealed container
- Service life and operational characteristics will be affected by temperature
- AC Ripple reduces service life.

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