

# Northern Light® Charging Systems

## optimize battery life

The Northern Light® Charging systems are designed to prolong the life of your cap lamps while accommodating inventory growth. Using a unique 4-stage charging cycle, Northern Light® chargers optimize battery life extending battery life to 400-500 cycles.

Northern Light® Chargers are self-contained units built in modular racks. This allows for ease of upgrade for expanding fleets.

Charging racks come in single, 2, 5, 10, 20 and 40 unit racks.



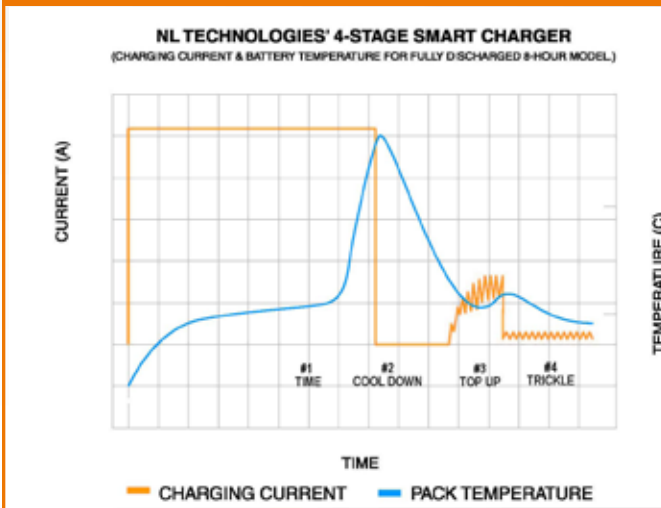
### Features

- ❑ Self-contained chargers that function independently of one another
- ❑ Modular design can grow with requirements
- ❑ Available in portable units including a vehicle charger
- ❑ Labelled according to internal circuitry, either Standard (S), Extended (E) or for Radio Cap Lamps (RE).

### Benefits

- ❑ Replaceable circuit board makes servicing and future upgrades easy
- ❑ 4-stage charging cycle optimizes battery life
- ❑ Accommodates all Northern Light® GII cap lamps, including Messenger and Tracking lamps.

### Technical Specifications\*



#### Stage 1: High Rate

A constant current is supplied to the battery until the pack temperature rises. The charge indicator LED is off during this stage

#### Stage 2: Cool Down

The current shuts off, allowing the battery to cool down. The charge indicator will be on during this stage.

#### Stage 3: Top Up

After cooling, a pulse width modulated (PWM) format is employed until the pack temperature rises again. This charges the battery the last 5-10% ensure the pack is fully charged. The charge indicator is on during this stage.

#### Stage 4: Trickle

A trickle current is supplied to the battery to keep in 100% charged. The charge indicator will be on during this stage.

\*Technical specifications are subject to change without notice.