

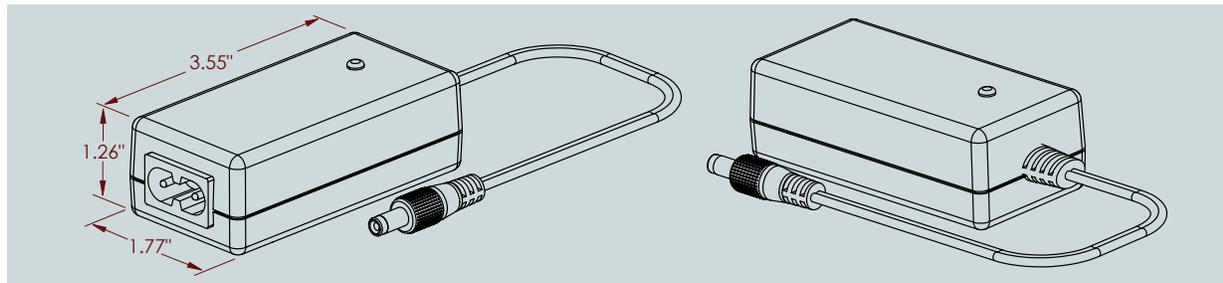
Cell-Con, Inc. nickel metal hydride / nickel cadmium smart chargers are designed to charge packs made of either rechargeable chemistry. Each model is capable of charging various quantities of cells. Chargers are based on a nominal, universal input of 90-264VAC/50-60Hz.



NiMH/NiCd SMART CHARGER, 16W

Features:

- Medically certified (UL60601)
- Multiple charge detection options
-dV (typical), dT/dt, 0dV
- Safety timer termination
- Charges NiMH or NiCd battery packs
- 5 versions for 3-20 cell packs
- Integral start timer to prevent initial, false -dV detection
- Reverse polarity/short circuit protection
- LED status indicator



Category	Specification
Model number	452115 Series
Cell count	5 versions for 3-20 cells
Input rating	Nominal 90-265VAC/50-60Hz
Maximum output power	16W
Trickle charge current	30mA +/- 15mA continuously (10-20 cell: 25mA +/- 10mA continuously)
Leakage current (from battery with mains off)	<1mA
Start timer (no -dV detection)	3 minutes
Timer settings	Start, top off, & safety timer are factory programmed per application
Switch frequency	40 kHz
Temperature range	-20°C to +40°C
Efficiency	≈ 80%
Insulation class	II
Electrical safety	UL-60601-1, EN 60601-1, EN 60950, EN 60335-2-29
EMC standards	EN 60601-1-2 (Medical), EN 61000-6-3 (Emission), EN 61000-6-1 (Immunity)
Input connection	2 PIN IEC 320-C7 (input cordset not included)
Output connection	NiCd: 2.5 x 5.5 x 9.5mm barrel plug, NiMH: 3 PIN DIN (other options available)
Dimensions/weight	3.55" x 1.77" x 1.26" (90 x 45 x 32mm) / .25 lbs (115g)

*other output connection options available upon request



Functionality:

Charging begins when a battery pack is connected to the charger. The LED will be orange before the fast charge starts and the LED changes to red. When the cells are fully charged and the voltage drops (because of the -dV signal from the cells), the charger will go into a top-off charge mode before switching to trickle charge mode.

During the top-off charge session, the LED will be green with short, intermittent orange flashes. When the top-off charge is complete, the charger will go into trickle charge mode, changing the LED color to green. The charge current is now reduced to a safe level, permitting the charger to stay connected to a NiCd battery pack without damaging the cells. Depending upon the specific manufacturer of NiMH cells, trickle charging in excess of 24 hours may not be permitted.

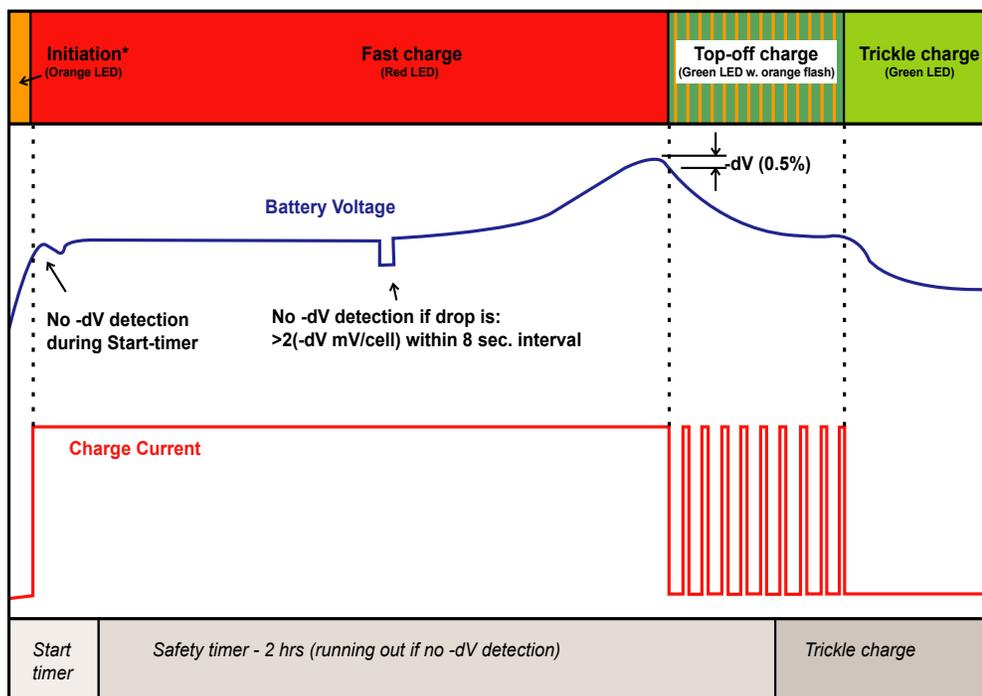
If the safety timer disconnects before -dV, the top-off charge will not be engaged. The charger will then go directly to trickle charge mode and the LED will be green in color. If the battery voltage is far below normal, the charger will stop the fast charge current and switch to trickle charge mode. The LED will then indicate "error" by flickering green and red.

If the mains are turned off, the charger will reset and start a new charge cycle if the mains are turned on again.

Versions

Model number	Cell count	No-load voltage	Min. out for -dV detection (max. 1.5V/cell)	Max. out for -dV detection (max. 1.8V/cell)	-dV detection	Fast charge current	Top-off charge
452115-NZ	2	6.3V+/-0.7V	2.5V (2 cell min.)	5.4V (2 cell max.)	10mV/0.6%	1.3A+/- 100mA	160mA +/- 30mA
452115-NA	3-6	12.8V+/-0.7V	3.7V (3 cell min.)	10.8V (6 cell max.)	12mV-10mV/0.7-0.6%	1.3A +/- 100mA	160mA +/- 15mA
452115-NB	4-8	16.5V+/-1.0V	5.0V (4 cell min.)	14.4V (8 cell max.)	8mV/0.5%	1.0A +/- 100mA	130mA +/- 30mA
452115-NC	5-10	21V+/-1.2V	6.2V (5 cell min.)	18V (10 cell max.)	8mV/0.5%	0.8A +/- 100mA	110mA +/- 30mA
452115-ND	6-12	24.7V+/-1.5V	7.5V (6 cell min.)	21.6V (12 cell max.)	8mV/0.5%	0.7A +/- 100mA	100mA +/- 30mA
452115-NE	10-20	41V+/-2V	12.5V (10 cell min.)	36V (20 cell max.)	8mV/0.5%	400mA +/- 50mA	65mA +/- 20mA

Charging diagram and LED indication for -dV detection



*When specifying product, please consult with Cell-Con to verify that the specifications identified on this data sheet are current.

