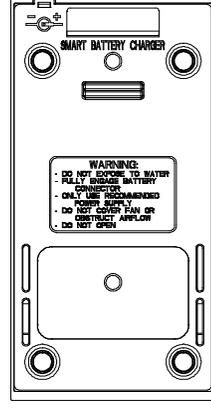
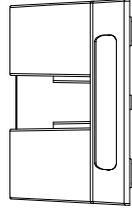
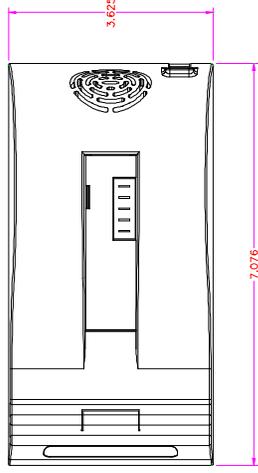
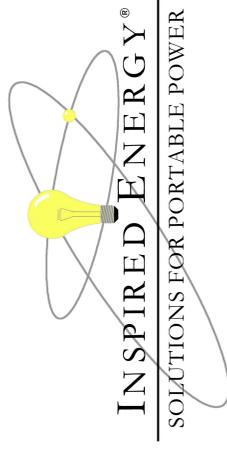


CH7000A/E/U Specification Summary	
Weight:	235g / 8oz
Height:	58mm / 2¼"
Length:	180mm / 7"
Width:	92mm / 3½"
Battery Connector	5-blade standard, smart battery connector
DC Input	5.5mm x 2.1mm DC barrel socket, center positive, 10-25V DC, <60W
Communications Compliances.	System Management Bus Rev 1.0, Smart Battery Data Specification rev 1.1 and Smart Battery Charger specification Rev 1.0 compliant
Power Supply	100-240VAC input, 24V, 2.5A DC output via 5.5mm x 2.1mm DC barrel plug, 119x38x60mm, 500g /18oz, UL listed, CE Compliant, CEC Compliant
AC Cable	CH7000A - 110V N. American 3-pin connector CH7000E - 220V European 2-pin connector with ground recess CH7000U - 240V UK 3-pin connector
DC Cable	6' cable + Std vehicle cigar lighter plug to 5.5mm x 2.1mm DC barrel plug



CH7000A/E/U Desktop Smart Charger Instructions for use



The CH7000 is a standalone desktop smart, standard battery charger with the capability to accept various input sources such as vehicle cigarette lighter sockets & solar panels. It works with all Inspired Energy® brand "N" series standard packs and hybrids irrespective of size, shape, voltage, cell type or capacity.

What's in the box?

1. One CH7000 desktop charger
2. Three plastic spacers to modify the battery bay to suit your battery size
3. One 6' DC cable with standard vehicle 12V "cigarette lighter" plug
4. One 24V 2.5A AC:DC power supply with universal AC input.
 - North American chargers (CH7000A) include a US 3-pin mains cord
 - European chargers (CH7000E) include a European 2-pin mains cord
 - UK chargers (CH7000U) include a UK 3-pin mains cord

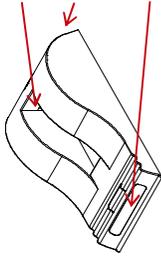
Safety

1. Do not expose the charger, power supply or cables to water or liquids.
2. Do not open the charger or power supply case, no user-serviceable parts are inside.
3. Do not cover the air vent or obstruct the airflow, this will cause overheating.
4. When using AC power, use only the manufacturer's power supply.
5. When using DC power observe terminal polarity (Center +) & do not exceed 25V.
6. Place the charger in a cool spot, away from external heat sources

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www.inspiredenergy.com

Using your

Battery Bay



Charger

Place the charger on a flat, level surface away from sources of heat and moisture. Plug the DC connector from the power supply into the back of the charger and connect the power supply to the mains AC supply using the cable supplied. Alternatively use the DC cable to connect to the cigarette lighter socket in a vehicle.

Operation from a Solar Panel: (Not included)

A 12V solar panel may be connected either directly to the DC input or via the included cigarette-lighter cable (Many solar panels have a cigarette-lighter socket as their output connector). The CH7000 uses a unique power-sensing circuit to adjust its charge rate to suit the constantly changing power from a solar panel.

In variable sunlight or cloudy weather the CH7000 will continue to charge the battery as the power available from the solar panel varies. Below 1W the CH7000 will cease charging, & will automatically recommence when the sun comes out & power levels are restored.

The CH7000 is intended for use with 12V nominal solar panels with a minimum 25Watt rating. A solar panel is NOT included with the charger. The following solar panels are recommended:

Company	Model	Format	Rated Power	Suitability
PowerFilm	R-28	Roll-up	28W	Good
PowerFilm	F15-1800	Fold-up	30W	Better
PowerFilm	F15-3600	Fold-up	60W	Best
Global Solar	P3-30	Fold-up	30W	Better
Global Solar	P3-62	Fold-up	62W	Best

Use of smaller panels (<25W rating) may significantly extend recharge times. Also, as distance from the equator increases, larger solar panels will be needed to maintain adequate output.

Using the Plastic Spacers

Plastic spacers are supplied to assist in the correct insertion of all of the different sizes of smart standard packs. To insert a spacer, place the bottom of the spacer in the rear corner of the battery bay. Place a thumb on the top of the spacer and push it firmly towards the back of the charger. Correct insertion should be accompanied by a click as the guides lock into place. The cross reference of spacers to batteries is given below:

Thick "L" shaped spacer: NC2560, NI1030 & ND2017 Style
 Thin "L" shaped spacer: NJ1020 & NI2020 Style
 Flat spacer: NL2020 & NL2024

No spacer is required for the Nx204x or Nx205x ranges of batteries.

Charging

Place the battery into the battery bay; the LEDs in the status window will momentarily flash indicating that the battery is correctly inserted.

The Green LED will flash every 4 sec while the battery & charger are communicating & the charger is assessing the power source. If there is sufficient input power available and the battery is in good condition, charging will automatically begin & the rate at which the green LED flashes will increase.

LED Indication:

The status of the battery is indicated by the LEDs visible in the status window:

- * Green slow flash: System preparing to charge
- * Green fast flash: Battery charging
- Green solid: Battery fully charged
- Red solid: Error
- No LED: No input power

Recharge Time:

Different battery packs require differing recharge times. The times below are for a full charge from 0% state of charge using the included AC:DC power supply. They are valid for all variants and custom hybrids of each battery model. (For example the NJ1020HP has the same recharge time as the NJ1020.) If a <50W power source is used, these recharge times will increase depending on the input power available.

Battery Chemistry	Battery Model	Recharge Time (hrs)
NiMH	NI1030, NJ1020	1.5
	ND2057	2
Li Ion	NC2040, NC2560, ND2054	2.5
	NF2040, NF2047	3
	ND2017, NI2020, NI2040, ND2053	3.5
	NL2020, NL2050, NL2024, NL2044, NL2054	4
	NH2057, NH2054	5

How does the charger know what charge to deliver?

The CH7000 charger is capable of sensing and delivering an appropriate charge to all "N-Series" Inspired Energy NiMH and Li ion standard battery packs. Upon inserting the battery into the charger, the battery communicates to the charger over the SMBus telling the charger what type of cell chemistry it is and what type of charge regime it needs. The CH7000 then configures its output to provide the charge regime requested by the battery.

What are the SMBus and the SBS?

The Smart Battery System defines the parameters that are stored by an SBS-compliant battery. These parameters include full battery status and fuel gauging information. The System Management Bus is the language by which these parameters are communicated between the battery, its charger, and your device. For details of the SBS information available from your battery please refer to the battery specification sheet available at www.inspiredenergy.com

Compatibility

The CH7000 is fully compatible with all "N-Series" Inspired Energy® brand standard battery packs and their custom hybrids. For optimum results we recommend using only Inspired Energy® brand smart batteries. For a full list of all compatible Inspired Energy batteries, please visit:

www.inspiredenergy.com