



Energy Access Incorporated

Intelligent Charging Series



Charge rate	500mA - 5000mA
Charge range	2V to 35V
Input connector	2.5mm, center positive
Weight	6oz (171g)
Material	ABS GSM
Color	Black
Dimensions	3.63" x 2.27" x 1.85" (92mm x 58mm x 47mm)



ICS-1002



ICS-3010-VVVVV

Target Batteries: Lithium Ion, Lithium Polymer, Nickel Metal Hydride, Nickel Cadmium, Lead Acid

Standard ICS Kit includes:

- Charger
- Universal switching power supply
- Line cord (specific country)
- Instruction sheet

Optional Components:

- Vehicle power adaptor
- 2-bay housing

Carton Dimensions:

12.56" x 7.68" x 2.46"



Charger Kit: Product Part Numbering

Key: XXX - Charger platform
CC - Current capability (Amps x10)
BB - Battery bays
VVVVV - Charger voltage setting, mV
PPPPPP - Power supply
LLLL - UL listed line cord

XXX - CCBB - VVVV - PPPPP - LLLL

ICS	1000	04200	PS2524	LCUL - North America
	1500	16800	PS2036	LCAS - Australia
	2000	25200	PS3636	LCEC - Europe
	3000	33600	PS0524	LCUK - United Kingdom
	4000	0DTDV	VA2524	

Not all part numbers displayed

Agency Approvals:



Description

The ICS charger is a stand alone battery charger with the versatility to accommodate a broad array of cell chemistries and configurations. Typical applications include lithium ion (1 to 8 cells), nickel metal hydride (2 to 20 cells), nickel cadmium (2 to 20 cells), and lead acid (2 to 12 cells). The maximum charge current is easily adjustable from 500mA to 5000mA. The unit may be ordered without its plastic housing and output cable for use as a component.

The ICS charger uses an external power supply. Depending on the application, this may be either a universal input switching supply or an inexpensive iron-core wall adaptor. Since the current sensing occurs in the negative battery lead, there must not be a common ground connection established between the battery and the external power supply.

Absolute Maximum Ratings

Input voltage 40DC

General

Adjustable charge current 500mA to 5000mA
Current tolerance $\pm 10\%$
Voltage limit 4V to 35V
Voltage limit tolerance $\pm 0.2\%$
Operating temperature 0°C to 50°C

Physical and Environmental

Dimensions 3.63" x 2.27" x 1.85"
(92mm x 58mm x 47mm)
Weight 6oz (171g)
Material Black ABS GSM
Input connector 2.5mm, center positive
Storage temperature -20°C to 80°C
Humidity 15% to 95% (non-condensing)

Standard Output Cable

Length 8", stripped and tinned
Red wire Positive battery lead
Black wire Negative battery lead
Green wire Thermistor lead
(used only with NiMH and NiCd)

LED Indications

Off No battery detected
Power-up Red-yellow-green-off
Green flashing Fast charging
Green solid Fully charged
Yellow solid Out of temperature range
Red/green flashing Shorted terminals
Red flashing Error

ICS	Lithium Ion Chemistry	NiMH Chemistry	NiCd Chemistry	Lead Acid Chemistry	Timed
Termination Algorithm	CCCV	dT/dt	Negative delta V	CCCV	Timer
Applicable Range	N/A	Capacity/3 to 3x Capacity	Capacity/3 to 3x Capacity	N/A	< Capacity/6
Termination Value/Point	Current falls to limit value/5	$0.75^{\circ}\text{C}/\text{minute}$ $\pm 0.1^{\circ}\text{C}/\text{minute}$	52mV $\pm 5\text{mV}$	Current falls to limit value/5	Customer specified
Top-off Charge	1 hour or current falls to limit value/10	1 hour at C/10	1 hour at C/10	N/A	N/A
Trickle Charge	N/A	Continuous at C/300	Continuous at C/300	Float	Continuous at C/300
Charge Current Limit	Customer specified	Customer specified	Customer specified	Customer specified	Customer specified
Charge Voltage Limit	Customer specified	Disabled	Disabled	Customer specified	Customer specified
Override Timer	None	4 hours	4 hours	None	Customer specified
Restart Threshold	7/8 of termination voltage or every 2 hours	N/A	N/A	7/8 of termination voltage	N/A
Number of Cells	1 to 8	2 to 20	2 to 20	2 to 12	2 to 20