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Specifications of NiCd/NiMH charger CHZ1xx

The charger module is designed for fast charging a wide range of NiCd as well as NiMH battery packs. It incorporates intelligent, microcontroller based battery voltage monitoring and a step-down DC-DC converter for power management. The charger module supervises the battery conditions (voltage, temperature [if used with the optional thermistor attached to the battery pack) and controls the applied charging current. With automatic top-off charging, the charger ensures that the fast charge is stopped, before the critical stage of overcharging is reached. It has two LED's for charge and temperature status.
This charger module has to be powered by DC as well as AC voltages.

Features

- Voltage gradient monitoring (dV/dt)
- Charging is disabled at too low or too high temperatures
- Battery voltage measurement without charging current
- Top-off and trickle charge function
- Two LED outputs for charge status indication
- Battery formation with lower charging current (pre-charging)
- Battery-voltage check to avoid fast charging of deep discharged or overcharged batteries
- Options: temperature gradient monitoring (dT/dt), safety timer

Detailed Specifications

The following table contains a summary of detailed specification of the charger design. The first column specifies the range this design can be adjusted for and the second column contains the specifications of the existing charger module.

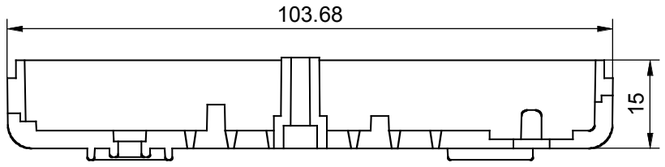
Specification	Adjustment range	CHZ110 charger design
Number of cells	2-14	Switch between 4 and 10
Fast charging current (I_{fast})	0.25C .. 3 C recommended	About 800mA
Formation charge current	Adjustable	1/2 I_{fast}
Top off charge current	Adjustable	1/10 I_{fast}
Trickle charge current	Adjustable	1/20 I_{fast}
-delta V sensitivity	-2..3mV/cell	-2..3mV/cell
Charging temperature window	0ºC – 40ºC recommended any range possible	0ºC – 40ºC
Input voltage	DC or AC around 1.5 x V_{BAT}	18V AC or DC

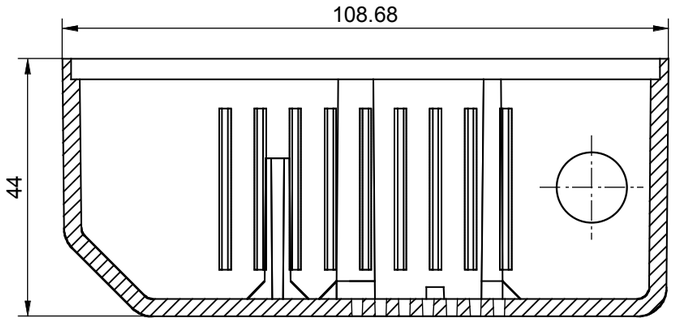
LED behaviour

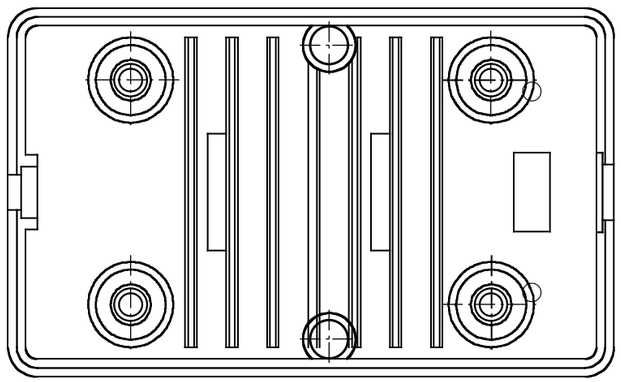
The following table summarizes the behaviour of the two LED under different operating conditions.

Operation mode	green LED	red LED
Battery formation/pre-charging	Slower flashing	OFF
Battery fast charging	flashing	OFF
Fast charge finished or battery in trickle charge	ON	OFF
No battery connected	OFF	ON
Temperature out of the window, NTC short or broken	OFF	ON
Battery voltage too high (overcharged)	OFF	ON

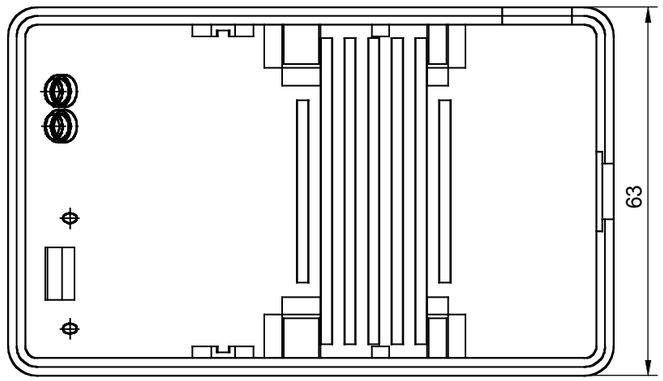
Housing available for CHT1xx and CHZ1xx charger modules.







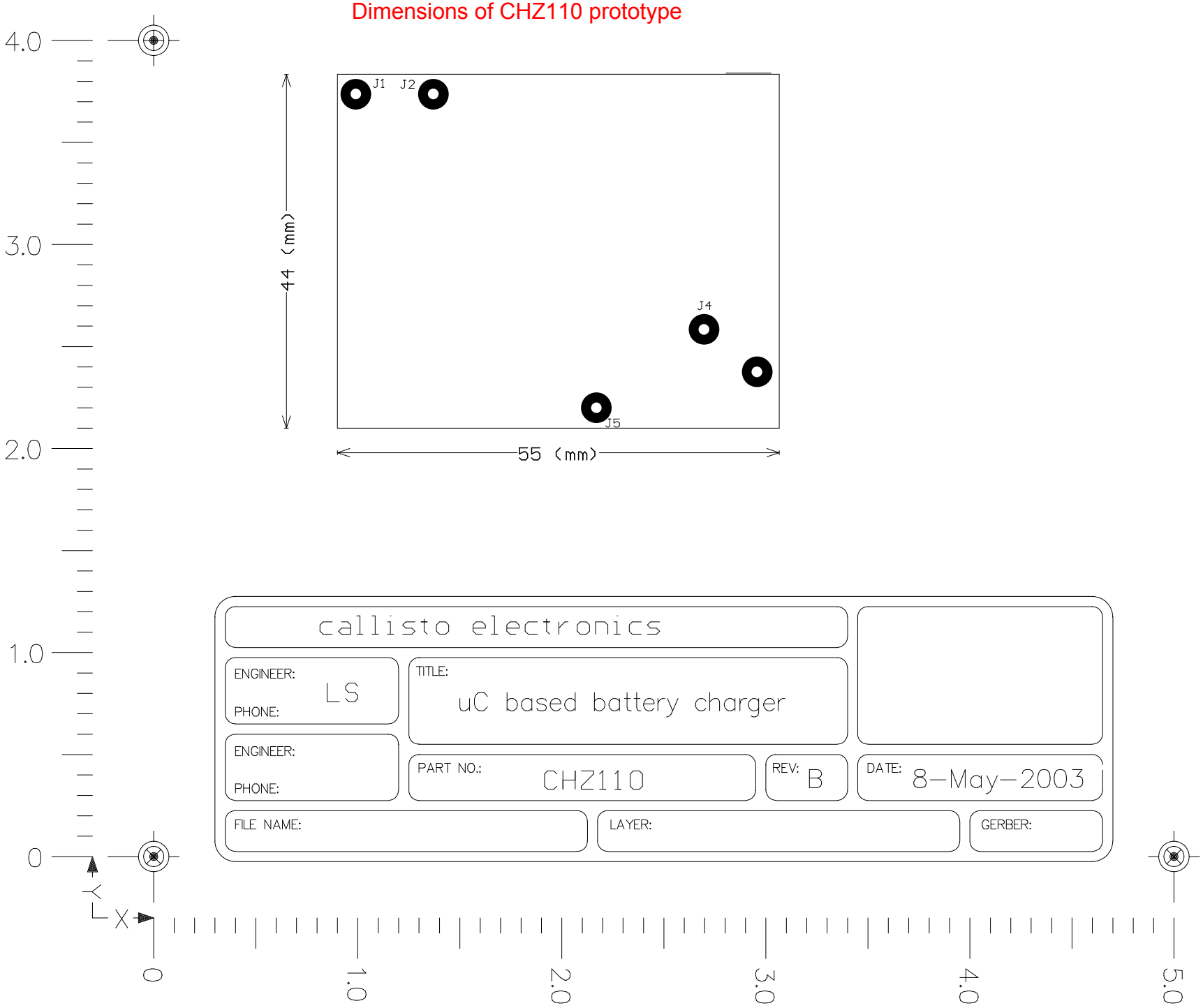
Top View
Bottom Case

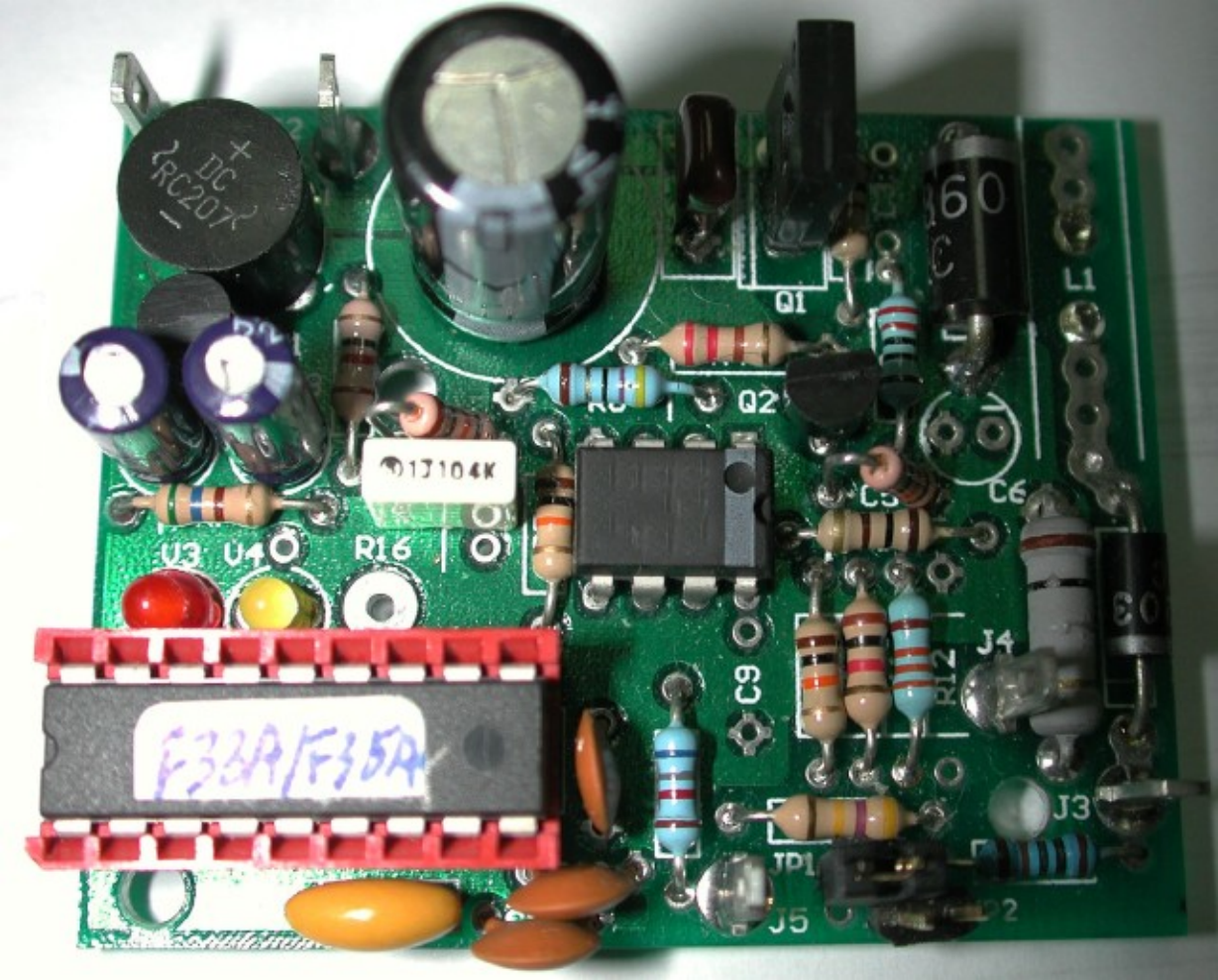


Top View
Top Case

Tolerance unless otherwise specified: .X = 0.10 .XX = 0.05 .XXX = 0.005 .ANGLE = 0.50 DEG.			Product Material: ABS FLAME RETARDANT		Drawing No.: WTI-YY-29	Part No.: 00	Mould Type: Submarine Gate System	Scale: NTS	
					Shrinkage: 0.6%	Product Weight:	Paper Size: 279 x 210	Steel Type: N/A	Page No.: 01
					Date	Name	Title: BATTERY CHARGER TOP & BOTTOM		
				Designed/Drawn by:					
				Checked by:					
				Approved by:					
				Noted By:					
No.:	Changes	Date	Name	Customer:					

Dimensions of CHZ110 prototype




Q1
Q2
U3
U4
R16
C3
C6
C9
J4
J3
J5
JP1
L1
F32R/F35R