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Specifications of NiCd/NiMH charger CHT1xx

The charger module is designed for fast charging a wide range of NiCd as well as NiMH battery packs. It incorporates intelligent multiple-gradient battery voltage monitoring and mains phase control for power management. The charger module supervises the battery conditions (voltage and 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 via a mains transformer or any other sine wave AC voltage.

Features

- Multiple voltage gradient monitoring (dV/dt and d^2V/dt^2)
- Charging is disabled at too low or too high temperatures
- Battery voltage measurement without charging current
- Phase control for charge-current regulation
- Top-off and trickle charge function
- Two LED outputs for charge status indication
- Disabling of d^2V/dt^2 switch-off criteria during battery formation
- Battery-voltage check to avoid fast charging of deep discharged or overcharged batteries
- Pulsed charging current

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.

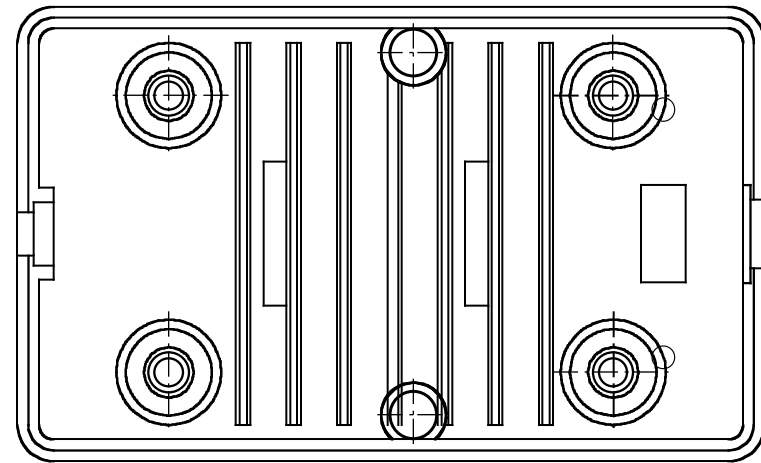
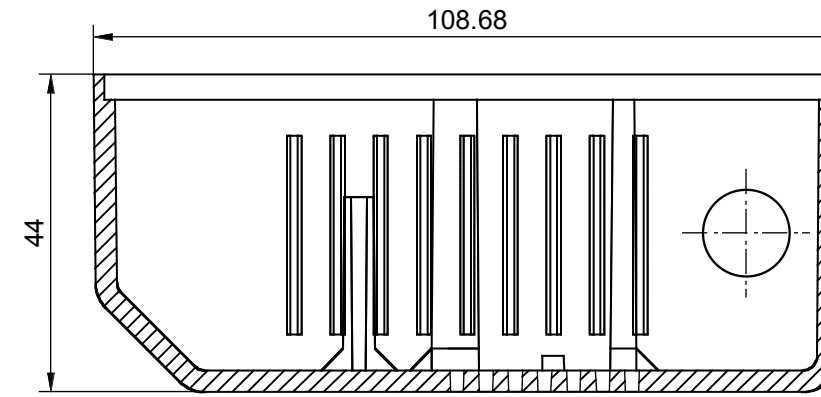
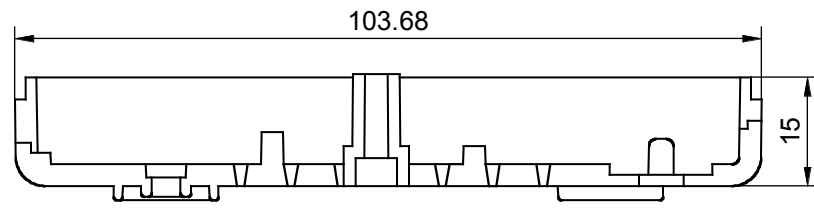
Specification	Adjustment range	Existing CHT160 charger
Number of cells	2-12	Switch between 4 and 10
Fast charging current (I_{fast})	0.25C .. 3 C recommended	About 650mA
Top off charge current (only if fast charge is terminated by d^2V/dt^2 criteria)	$1/4 I_{fast}$	$1/4 I_{fast}$
Trickle charge current	$1/256 I_{fast}$	$1/256 I_{fast}$
-delta V sensitivity	-12mV/cell	-12mV/cell
Charging temperature window	0°C – 40°C recommended any range possible	0°C – 40°C
Input voltage	Any sine wave AC around $1.5 \times V_{BAT}$	Dual voltage (115/230V) mains transformer

LED behaviour

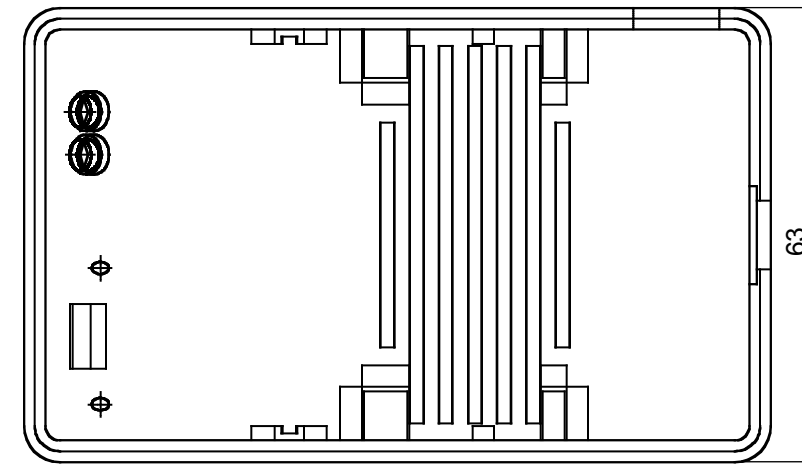
The following table summarizes the behaviour of the two LED under different operating conditions.

Operation mode	green LED	red LED
Battery fast charging	flashing	OFF
Fast charge finished or battery in trickle charge	ON	OFF
No battery connected	OFF	flashing
Temperature out of the window, NTC short or broken	OFF	ON
Battery voltage too high (overcharged)	OFF	flashing
Temperature out of the window before power on or battery insertion	flashing, but no current is flowing	OFF

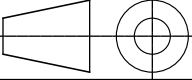
Housing available for CHT1xx and CHZ1xx charger modules.

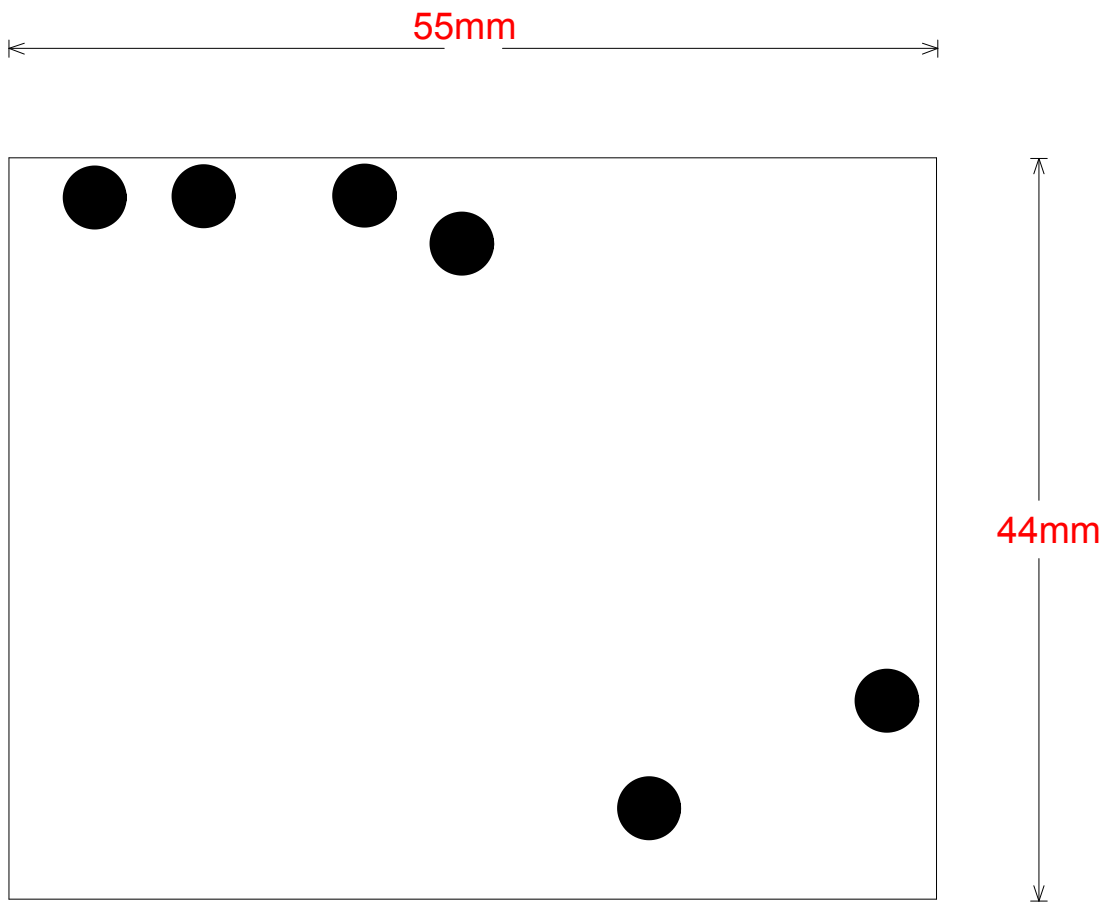


Top View
Bottom Case



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 existing CHT160 module

Existing charger for 115/230VAC input and selectable 4/10 cells battery packs



Connection diagram CHT160 AC powered battery charger

