AC – DC

Features

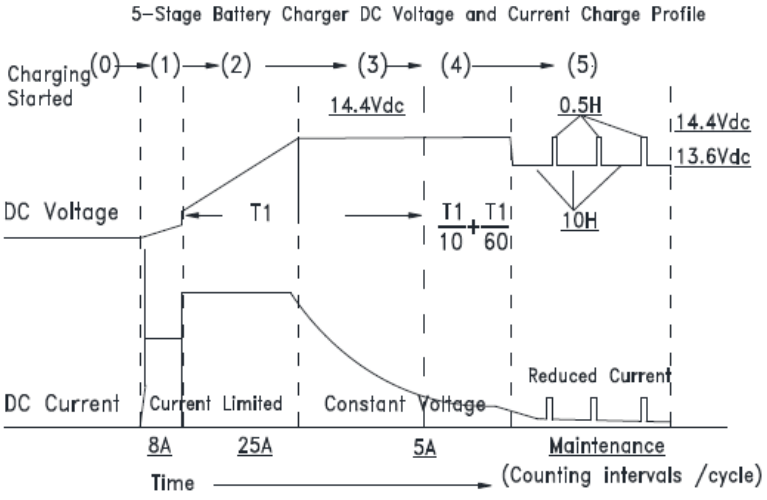
- Input Voltage 230V AC
- 5 State Charger
- Easily converted to a PSU
- Can be used for multiple battery chemistries.
- OVP, OCP, OTP, SCP
- LED Charge Indicators Included

Ideal Power's 31TF2512-BHF 12V Lead Acid Battery Charger is certified to LVD EN 60335-1 & EN 60335-2-29, EMC/EMI EN 55032 & EN 55024 Standards and comply with the relevant RoHS & REACH Directives. These are primarily used in camping & Leisure application Industries. Customised solutions are available upon request.

Models	31TF2512-BHF
Input Voltage	230V AC +/-15%
Input Frequency	47Hz ~ 63Hz
Input Current	4A Max - 230Vac
Output Max Current	25A
Output Power	300W
Efficiency	86.7% at 230Vac full load, 87.1% at 230Vac half load
Output Voltage	14.4~13.6 DC Absorption charge / Float charge
Ripple & Noise	150 mVp-p
Operation Temperature	-30℃ to 55℃
Protection	Input Power Limit at 600W (at 25℃) Output short protect. Output Over current protect. Output Over Voltage Protect Output Low voltage Protect. Output Battery reverse protect. Over Temperature protection: a. 80℃last 2s to decrement power rate (lowest current to 7A). b. 80℃continue then to cut off output & Restart when temperature down to 60℃
Battery Application	Lead Acid Battery
LED - Power	Red
LED - Charging	Orange
LED – Fully Charged	Green
Dimensions	Board :153 x 94 x 49.5 mm / Case: 168 x 113 x 56 mm
Weight	Board: 424.5 g / Case : 618 g
Specifications subject to change without notice.	

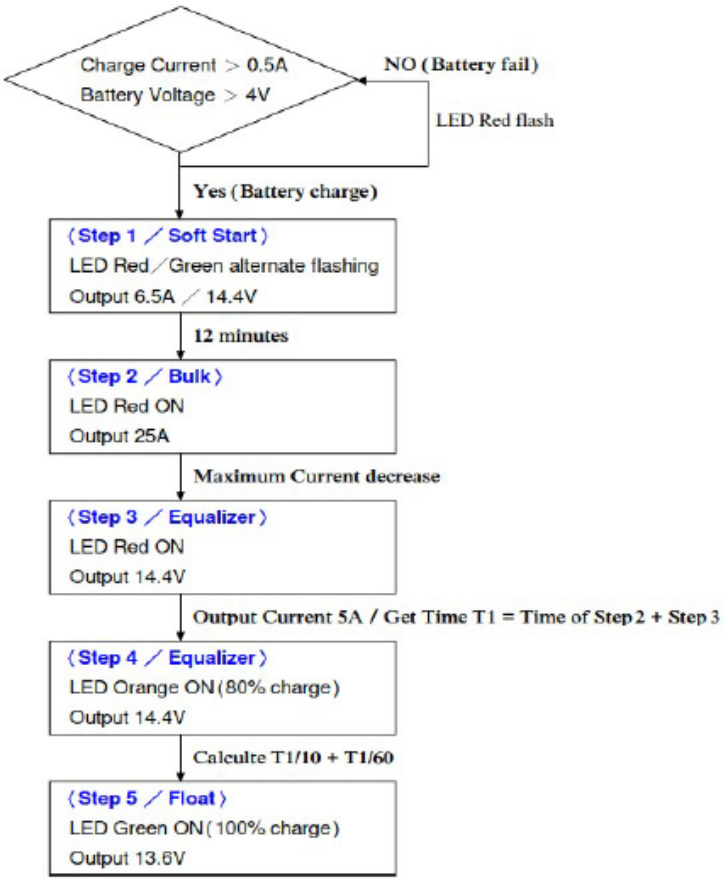
Lead Acid Charge Curve & Procedure

(Mode: 0001 / 0010 / 0011 / 1001 / 1010 / 1011)



Total Charge Time: 12 minutes + T1 + T1/10 + T1/60
Time T1 = Time of Step 2 + Step 3 (start after soft start and end at charger output decrease at 5A)
T1 to different by battery capacity & battery start charge level

Charge Procedure



Available Interface Connection Diagram

Start Code	Control Code	Data Length	Data High Bits	Data Low Bits	Check Sum
AA	10	02	00	00	83

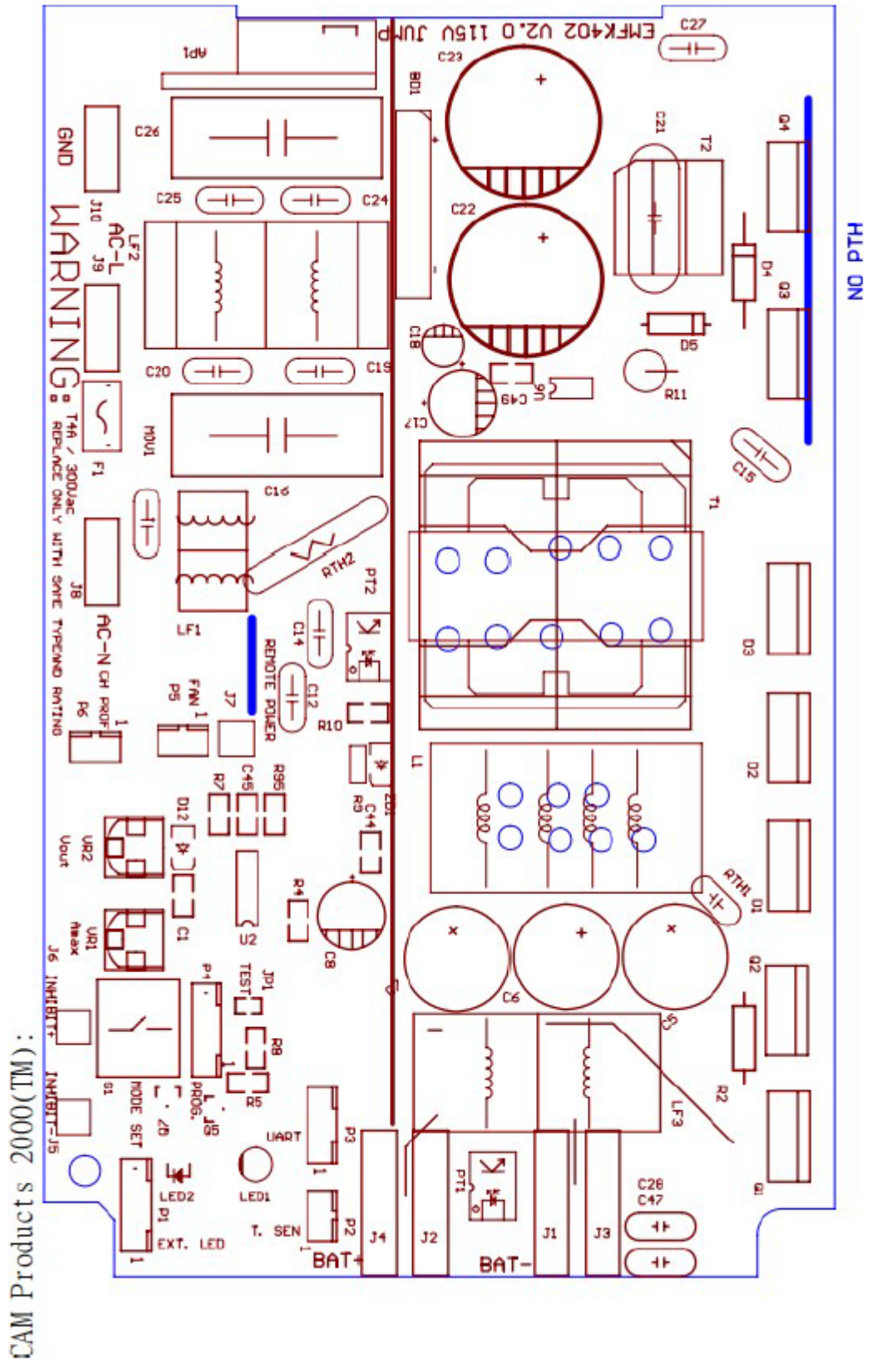
Control code	Description	Read Display Value
01	Output Voltage	Currently Voltage (xx.xxV)
04	Output Current	Currently Current (xx.xxA)
07	Internal Temperature	Currently Internal Temperature (xx°C)
10	Battery Temperature Value	Currently Battery Temperature (xx°C)
16	State	Currently Charger State
17	Mode Display	(Power Mode=x)

DIP Switch for POWER MODE

Select (ON - 1, OFF - 0)

DIP switch/P1 pin 4				MODE	MODE Name	OUTPUT Voltage	Max OUTPUT Current	OUTPUT Current adjustment	Timer / protection	Reverse Polarity Protection
1	2	3	4							
OFF	OFF	OFF	OFF	0000	PSU	13.6V	15A	11.25-15A	None	No
OFF	OFF	OFF	ON	0001	Lead Acid	14.45/13.6V	15A	11.25-15A	Max 4 hours on Equalizer	Yes
OFF	OFF	ON or P1 pin 4 GND	OFF	0010	Gel/AGM1	14.45/13.7V	15A	11.25-15A	Max 12 hours on Equalizer	Yes
OFF	OFF	ON or P1 pin 4 GND	ON	0011	AGM2	14.75/13.7V	15A	11.25-15A	Max 4 hours on Equalizer	Yes
OFF	ON	OFF	OFF	0100	OFF/no output					
OFF	ON	OFF	ON	0101	OFF/no output					
OFF	ON	OFF	ON	0110	OFF / no output					
OFF	ON	ON or P1 pin 4 GND	ON	0111	OFF/no output					
ON	OFF	OFF	OFF	1000	PSU	13.6V	25A	18.75-25A	None	No
ON	OFF	OFF	ON	1001	Lead Acid	14.45/13.6V	25A	18.75-25A	Max 4 hours on Equalizer	Yes
ON	OFF	ON or P1 pin 4 GND	OFF	1010	Gel/AGM1	14.45/13.7V	25A	18.75-25A	Max 12 hours on Equalizer	Yes
ON	OFF	ON or P1 pin 4 GND	ON	1011	AGM2	14.75/13.7V	25A	18.75-25A	Max 4 hours on Equalizer	Yes
ON	ON	OFF	OFF	1100	OFF/no output					
ON	ON	OFF	ON	1101	OFF/no output					
ON	ON	ON or P1 pin 4 GND	OFF	1110	OFF/no output					
ON	ON	ON or P1 pin 4 GND	ON	1111	OFF/no output					

PCB Info


EMFK402 V2.0 115V JUMP
NO PTH
WARNING
REPLACE ONLY WITH SAME TYPE AND RATING
AC-L
AC-N
GND
REMOTE POWER
FAN
MODE SET
EXT. LED
T. SEN
UART
TEST
INHIBIT+
INHIBIT-
BAT+
BAT-
CAM Products 2000(TM):