Master Instruments

Battery Fighter®

BFP-012 12V 5A charger and BFP-024 24V 3A lead battery charger

The BFP is a Microprocessor controlled fully automatic 4 stage charger that charges more efficiently plus extending battery life compared to other similar output chargers. Featuring a lightweight mountable chassis the BFP series is also vibration resistant, dust proof & water resistant to IP65. Other features include spark proof connection, reverse polarity protection on the PCB & an auto reset program. Available in two models, suitable for 12 volt batteries with a 5 amp output & suitable for 24 volt batteries with a 3 amp output.

GENERAL DESCRIPTION: The lightweight, mountable battery charger is a high frequency switching power converter that has a true DC output at a maximum power level of approximately 70 watts.

SUITABILITY: Lead Acid Battery types - Standard; Flooded, Sealed, VRLA, GRT, AGM and GEL.

OUTPUT CABLE CONNECTIONS: The battery charger is equipped with an Constar type interchangeable non-reversible connection output. Included in the package are a BFL2 leads fitted with permanent connect ring terminals:- positive 3/8" diameter ring terminal with a red molded polymer insulation cylinder, negative 5/16" diameter ring terminal with a black molded polymer insulation cylinder. BFL1 Alligator clips are the second connection type also included.

Charger Specification Summary		
Part Number:	**BFP-012**	**BFP-024**
Nominal Output Voltage:	**12 Volts**	**24 Volts**
Nominal Output Current:	**5 Amps**	**3 Amps**
Input Voltage:	230 to 240 VAC	
Input Frequency:	47 to 62 Hz	
Maximum Input Current:	0.81 Arms @ 180 VAC	
Nominal Efficiency:	80%	
Nominal Power Factor:	0.6	
Charger Output:		
Maximum Power: @ 25 °C:	70 Watts (+2, -5) Watts	
Maximum Current During Bulk Charge:	5.0 Amps (+/- 10%)	3.0 Amps (+/- 10%)
Absorption Voltage:	14.4 VDC = (2.42 vpc)	28.8 VDC = (2.4 vpc)
Absorption to Float Transition:	Charge Current drops: **below 2.5 Amps.**	Charge Current drops: **below 1.0 Amp.**
Float Voltage:	13.2 VDC = (2.2 vpc)	26.4 VDC = (2.2 vpc)
Charge Reset: Battery Voltage Threshold:	11.5 to 12.0 VDC (2 to 2.08 vpc)	23.5 to 24.0 VDC (2 to 2.04 vpc)
Output Regulation: Line (Typical):	1%	
Electrical Isolation: Input / Output:	2500 VAC	
Electrical Isolation: Input / Chassis:	2500 VAC	
Electrical Isolation: Output / Chassis:	500 VAC	
Operating Temp:	-20°C to 50°C	
Dimensions & Weight:	5 in (127mm)L **x** 4.9 in (125mm)W **x** 2 in (51mm)H, 800 grams	
Enclosure:	Powder Coated Aluminum Chassis	
Short Circuit Protection:	YES	
Reverse Polarity Protection:	YES	

Stage 1) Qualification: Ensure the battery is in good condition and safely able to be charged. The following symptoms are incurred if the Red light continuously flashes:-

- The battery voltage is detected too low, that is the battery voltage is lower than 4.0V (BFP-024), 2.0V (BFP-012), the charging will not be commenced.
- The battery is not being connected properly, please check the connection of battery is clean & good.
- Reverse polarity connected.

Stage 2) Bulk Charge: Red Light On, Green Light Off, Constant Current = 5.0 Amps, Transition to Stage 3, Absorption Charge when battery voltage reaches 14.4 VDC.

Stage 3) Absorption Charge: Red Light On, Absorption Voltage = 14.4 VDC Transition to Float Charge (Stage 4) when battery charging current drops below 2.5 amps.

Stage 4) Float Charge: Red Light Off, Green Light On. Float Voltage = 13.2 VDC. If an external load is applied to the battery while the charger is in stage 3, Float Charge, and if the battery voltage drops below a range between 11.5 to 12.0 VDC, then the charge cycle restarts.

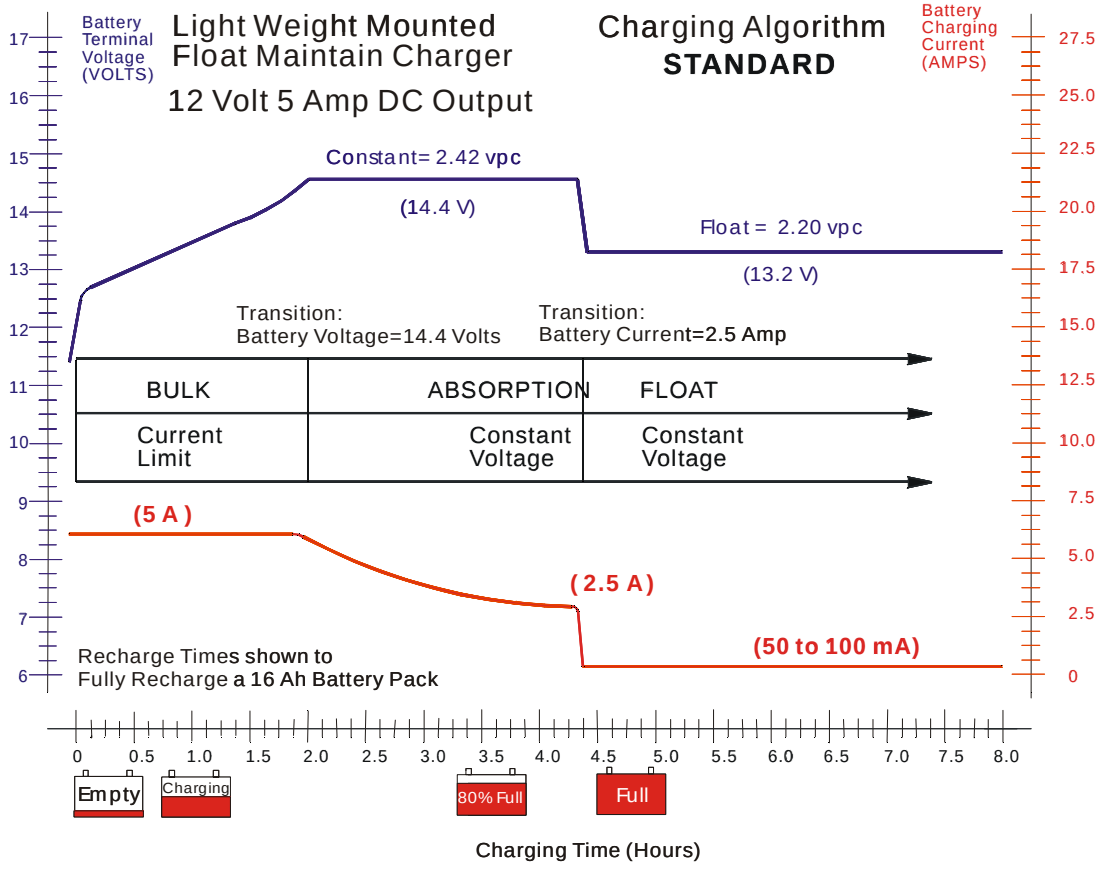

Figure 1 Charging Graph: Float Maintain Charger 'Fighter' 12Vdc 5A

More information plus addition connector cable termination options available at:

www.batteryfighter.com.au