



For VRLA & Conventional type Motorcycle batteries

# AUTOMATIC BATTERY CHARGER MB-2020

(Applied Battery type: 12V · 2~12Ah/10HR)

This battery charger has the following advantages when compared with normal charger (Semi-CV type) and is suitable for both VRLA & Conventional type lead acid motorcycle batteries.

## ■ Features

- Capability to charge deeply discharged batteries**  
Deeply discharged batteries can be recharged using the recovery-charging mode.
- Determination if battery can be recovered**  
Determines if the battery can be recovered after 30 min. as indicated by LED.
- 3 hours (YTX7 or smaller type), 4 hours (YTX9 or smaller type) charging time**  
Potential to start engine after 3 or 4 hours charge as indicated by LED. ("NORMAL" mode)
- Automatic shut off**  
Charging will stop automatically after 20 hours maximum. ("NEW" mode)
- Safety charging for new battery**  
Safety charging mode for charging newly acid filled battery. ("NEW" mode)
- Maintain charging function**  
Switch to maintain charging mode after 20 hours to keep battery in charged condition. ("NORMAL" mode)

※Explanation of charging mode:

"NEW" : Mode for newly acid filled battery in the event that the battery voltage does not reach to 12.5V 20 minutes after filled with acid.

"NORMAL": Mode for battery once in use.

- Safety standard**  
CE approved.

## ■ Protection

- Reverse connection and Short circuit
- Spark prevention when connecting charging clips
- Automatic shut-off when charging clip is disconnected
- Over charge-high current protection (Output)
- Reverse current prevention (3.0mA or less)
- Thermally protected transformer prevents overheating
- Safety charging function for charging newly acid filled battery ("NEW" mode)



AC input (50/60Hz)		DC Output						Dimension(m/m)			Mass (Approx. kgs.)	Applied battery (V) / (Ah/10HR)	
Voltage(V)	Current(A)	Charging mode	Recovery charging		Bulk charging		Maintain charging		W	OH			D
100	Max. 0.7		NEW	Voltage(V)	Current(A)	Voltage(V)	Current(A)	Voltage(V)	Current(A)	100	60	120	1.7
120	Max. 0.6	NORMAL		Max.20.0	Max.0.2	Max.14.0	Max.2.0	---	---				
220	Max. 0.5		Max.14.5			Max.2.0	Max.13.3	Max.1.0					
230	Max. 0.5												
240	Max. 0.5												

(※ Input voltage, current and frequency to be changed from country to country)

«Estimated charging time to possible to start engine (at 20 deg.C ambient temperature)»

Battery capacity (Ah / 10HR)		3 or smaller	4	6	8	10	11	12
YUASA battery type		YB2.5L-C YTR4A-BS YT4B-BS YT4L-BS	YB4L-B YTX5L-BS	12N5.5-4A YTX7L-BS YT7B-BS YTZ7S	YB7-A YTX9-BS YTZ10S	YB9-B YT12-BS YTX12-BS	YB10L-B YTZ12S YTZ14S	YB12A-A YTX14-BS
Time (H)	NEW mode	0.5	1.0	1.5	2.0	2.5	3.0	3.0
	NORMAL mode	2.0	2.5	3.0	4.0	4.5	5.0	5.0

(Note: Specification shown on this leaflet may change time to time without notice)

Cat No.: MB-2020\_E\_20080616