

BIM103 & BIM163

Intelligent Chargers

Developed and manufactured by MicroStep-MIS, BIM103 and BIM163 are intelligent solar chargers and power supply providers combined into one compact unit.

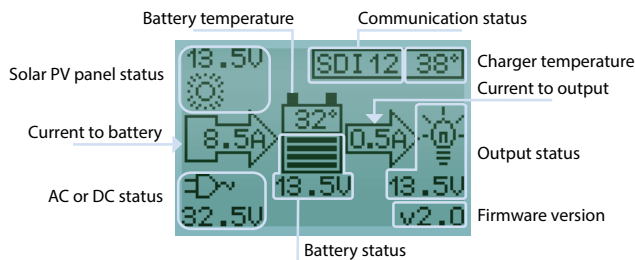
BIM103 and BIM163 charge the lead-acid batteries and provide power supply to the connected devices either from attached external AC or DC power source, or from the lead-acid battery. Solar chargers BIM103 and BIM163 are suitable for majority of powering systems where battery backup is needed or precise information about power supply is required.

Charging control is performed by using powerful microcontroller. The intelligent charger supports connection of external temperature sensor DS18S20 for measuring battery temperature. BIM103 and BIM163 feature SDI-12 interface for parameters configuration and data access.

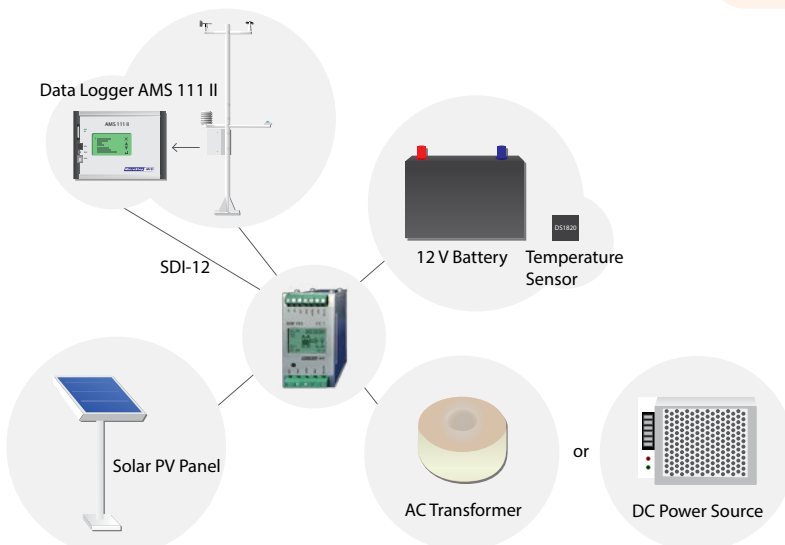
Solar chargers BIM103 and BIM163 are robust products made of durable hardware components housed in aluminium enclosure.

LCD Display

Operating modes and functions are switched automatically and simple menu system shows all necessary information about charging, connected power sources, status and warning messages.



Connection Diagram



Features

- Charging 12V lead-acid batteries with high rate current
- Charging from AC or DC external power source and solar PV panel
- Power output with battery protection
- External temperature sensor for temperature compensation
- Actual status display
- SDI-12 communication interface
- Operating currents, voltages and coulomb counting measurements
- Overload, overvoltage and reverse polarity resistant with notifications

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Electrical Specification	BIM103	BIM163
Number of lead-acid cells	6 (nom. 12 V)	
Charging current from solar panel	up to 10 A	up to 16 A
Charging current from AC/DC power source	up to 3 A (adjustable)	
Output current	up to 2 A	up to 2.5 A
Solar PV panel input voltage range	12 to 28 V	
AC/DC power source input voltage range	±20 to ±30 VDC 15 to 25 VAC	
Output voltage range	10.5 to 16 V	
Load disconnection voltage	10.5 V	
End charge voltage	13.8 V to 14.7 V (adjustable) reg. error < 0.7 % (@14.1 V)	
Temperature compensation	-3 mV/°C/CELL	
Peak power conversion efficiency	90 % (AC source)	
Power consumption	operating 1.1 mA (@12 V) power save 0.9 mA (@10.5 V)	
Communication interface	SDI-12	

Environmental Specification	BIM103	BIM163
Heat dissipation	passive	
Operating temperature range	-50 °C to +60 °C	
Storage temperature range	-60 °C to +80 °C	
Humidity (non-condensing)	0 to 100 % RH	

Mechanical Specification	BIM103	BIM163
Housing classification	IP20	
Housing material	aluminium	
Type of connection	terminal block 16 A	
Dimensions (h x w x d)	92 mm x 47 mm x 118 mm	
Weight	approx. 310 g	approx. 320 g