BIM103

Intelligent Charger

Developed and manufactured by MicroStep-MIS, BIM103 is an intelligent solar charger and power supply provider combined into one compact unit.

Charging 12 V Pb batteries from AC or DC power source and PV panel

Power output with battery protection

SDI-12 communication interface

Operating currents, voltages and coulomb counting measurements

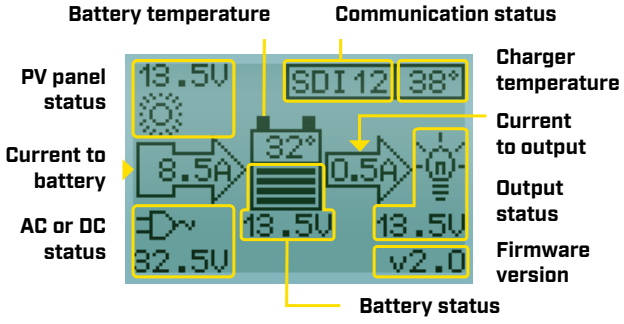
Overload, overvoltage and reverse polarity resistant with notifications

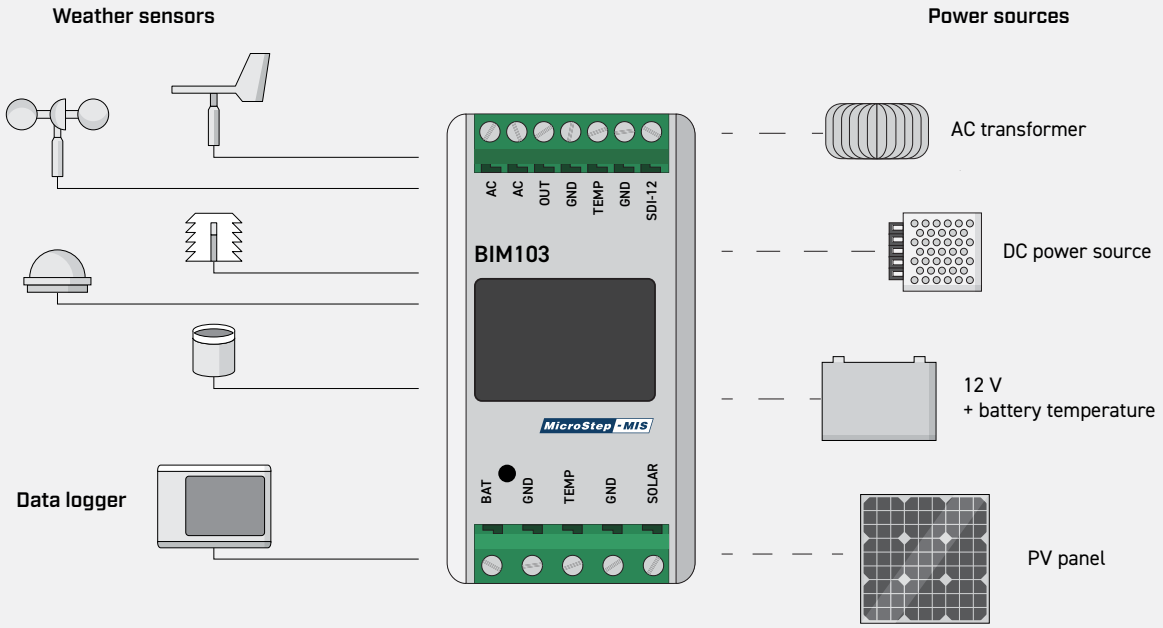
BIM103 charges the lead-acid batteries and provides power supply to the connected devices either from the attached external AC or DC power source, or from the lead-acid battery. Solar charger BIM103 is suitable for majority of powering systems where battery backup is needed or precise information about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

Charging control is performed by using powerful microcontroller and overall power consumption of charger is very low. The intelligent charger supports connection of external temperature sensor DS18S20 for measuring battery temperature. BIM103 features SDI-12 interface for parameters configuration and data access. Solar charger BIM103 is a robust product 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. LCD display and button are also used for editing user settings using start-up menu.





Electrical specification

Number of lead-acid cells	6 (nom. 12 V)
Charging current from solar panel	up to 10 A
Charging current from AC/DC power source	up to 3 A (adjustable)
Output current	up to 2 A
PV panel input voltage range	12 to 28 V
AC/DC power source input voltage range	±20 to ±30 V DC 15 to 25 V AC
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

Environmental specification

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

Housing classification	IP 20
Housing material	aluminium
Type of connection	terminal block 16 A
Dimensions (h x w x d)	92 x 47 x 118 mm

BIM comparison table	SBIM	BIM103	BIM205
12 V operation	yes	yes	yes
24 V operation	yes	no	yes
PV panel input voltage	15 to 50 V	12 to 28 V	14 to 50 V
Charging from PV panel	up to 16 A	up to 10 A	up to 20 A
Supplying from PV panel	no	no	yes
MPPT algorithm	no	no	yes
PV panel stealing detection	yes	no	yes
AC power source input voltage	no	15 to 25 V AC	15 to 40 V AC
DC power source input voltage	no	±20 to ±30 V DC	±14 to ±50 V DC
Charging from AC or DC power source	no	up to 3 A	up to 10 A
Supplying from AC or DC power source	no	yes	yes
Power output	up to 5 A	up to 2 A	up to 5 A
Battery temperature compensation	yes	yes	yes
SDI-12 communication interface	yes	yes	yes
RS-232 communication interface	no	no	yes (optional)
Power consumption	0.7 mA (@12 V)	1.1 mA (@12 V)	1.3 mA (@12 V)