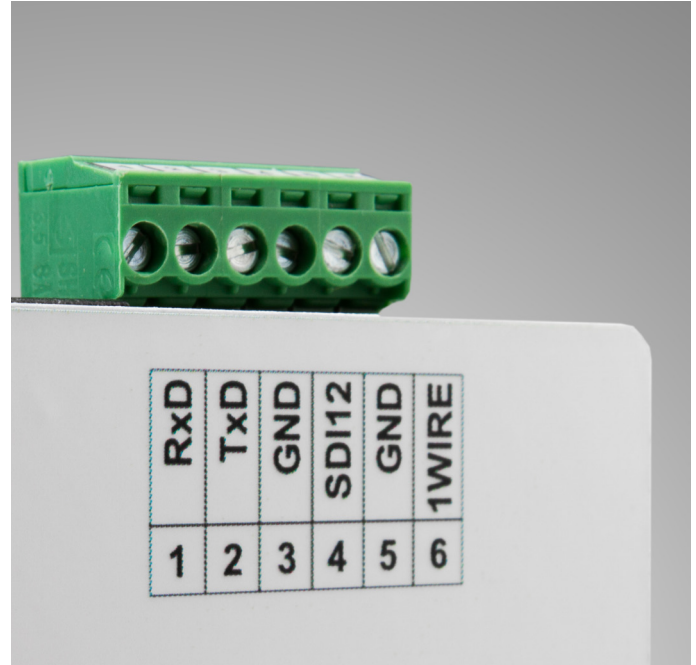
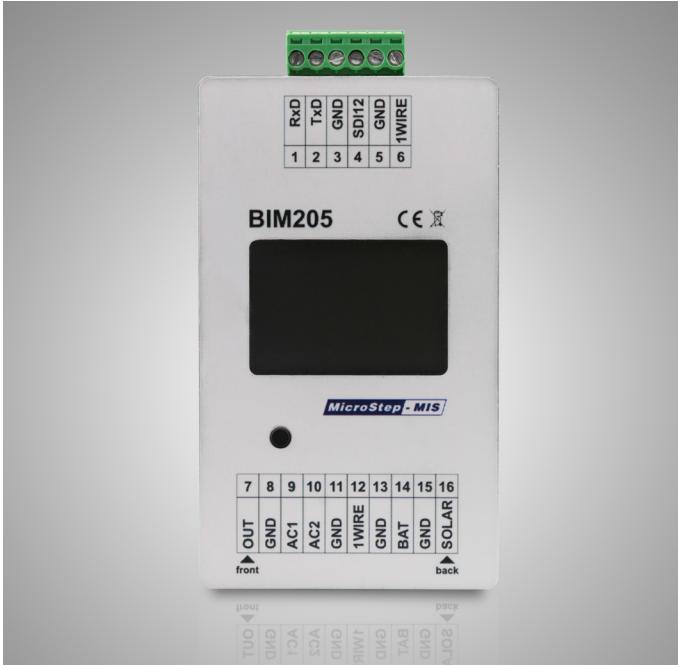


BIM205

Intelligent Charger

Developed and manufactured by MicroStep-MIS, BIM205 is an intelligent solar charger with MPPT function and power supply provider combined into one compact unit.



Charging 12 or 24 V Pb batteries from AC or DC power source and PV panel



Maximum power point tracking [MPPT]



SDI-12 and RS-232 communication interfaces



Operating currents, voltages and coulomb counting measurements



Overload, overvoltage and reverse polarity resistant with notifications

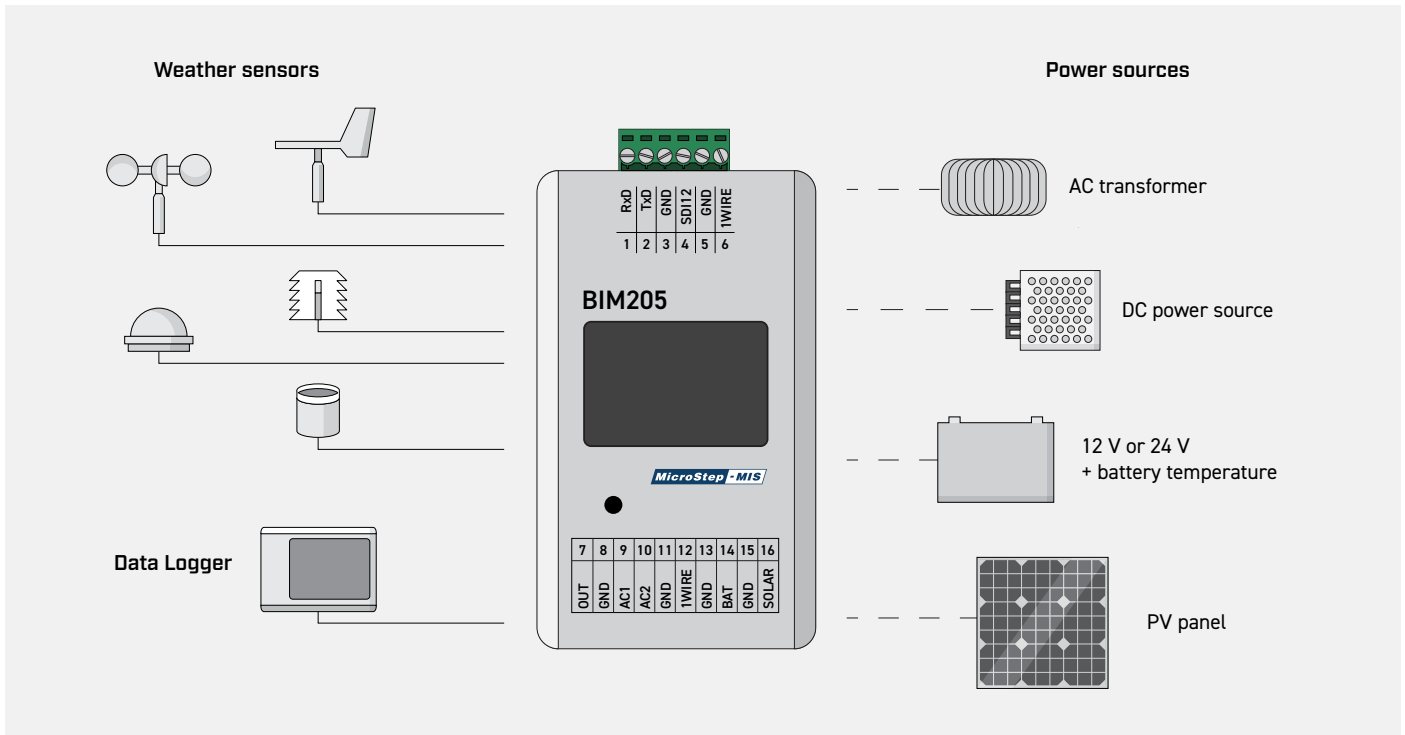
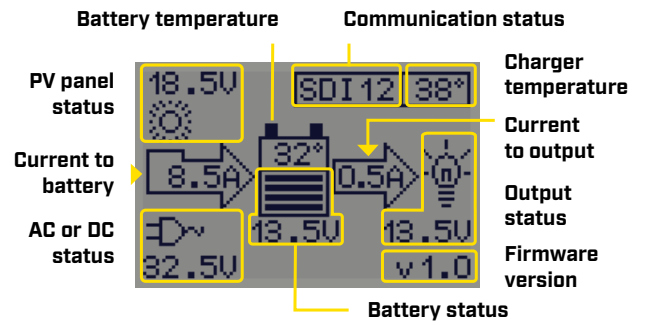
BIM205 charges the 12 V or 24 V lead-acid batteries and provides power supply to the connected devices either from attached external AC or DC power source or photovoltaic (PV) panel, or from the lead acid battery. Solar charger BIM205 uses advanced algorithms such as maximum power point tracking (MPPT) to reach the best performance. Therefore BIM205 is suitable for majority of powering systems where charging efficiency and battery backup are essential. BIM205 also provides precise information about power supply. Solar charger BIM205 features PV panel stealing detection which detects manipulation with panel even at night.

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. BIM205 features SDI-12 and optional RS-232 interface for parameters configuration and data access.

Solar charger BIM205 is a robust product made of durable hardware components housed in enclosure made of aluminium and steel.

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 includes two colour backlights which improve readability in bad light conditions and focus attention in case of warning. 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) or 12 (nom. 24 V), automatic recognition
Input current from PV panel	up to 20 A (adjustable)
Input current from AC/ DC power source	up to 10 A (adjustable)
Charging current	up to 20 A (adjustable)
Output current	up to 5 A
PV panel input voltage range	14 to 50 V
AC/DC power source input voltage range	±14 to ±50 VDC, 15 to 40 VAC
Output voltage range with battery	10.5 to 16 V (nom. 12 V battery) 21 to 28 V (nom. 24 V battery)
Output voltage range without battery	15 to 40 VDC
Load disconnection voltage	1.75 V/CELL
End charge voltage	2.3 to 2.45 V/CELL (adjustable) regulation error < 0.3 %
Temperature compensation	-3 mV/°C/CELL
Peak power conversion efficiency	96 % (PV panel), 94 % (AC source)
MPPT efficiency	99 %
Power consumption	15 mW
Communication interface	SDI-12, RS-232

Environmental specification

Heat dissipation	passive and active
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	IP20
Housing material	aluminium, steel
Type of connection	pluggable terminal block 20 A
Dimensions (h x w x d)	91 x 53 x 108 mm (without terminal blocks) 109 x 53 x 108 mm (with terminal blocks)
Weight	approx. 560 g (terminals approx. 20 g)

BIM comparison table

	SBIM	BIM103	BIM163	BIM205
12 V operation	yes	yes	yes	yes
24 V operation	yes	no	no	yes
PV panel input voltage	15 to 50 V	12 to 28 V	12 to 28 V	14 to 50 V
Charging from PV panel	up to 16 A	up to 10 A	up to 16 A	up to 20 A
Supplying from PV panel	no	no	no	yes
MPPT algorithm	no	no	no	yes
PV panel stealing detection	yes	no	no	yes
AC power source input voltage	no	15 to 25 V AC	15 to 25 V AC	15 to 40 V AC
DC power source input voltage	no	±20 to ±30 V DC	±20 to ±30 V DC	±14 to ±50 V DC
Charging from AC or DC power source	no	up to 3 A	up to 3 A	up to 10 A
Supplying from AC or DC power source	no	yes	yes	yes
Power output	up to 5 A	up to 2 A	up to 2.5 A	up to 5 A
Battery temperature compensation	yes	yes	yes	yes
SDI-12 communication interface	yes	yes	yes	yes
RS-232 communication interface	yes	no	no	yes (optional)
Power consumption	0.7 mA (@12 V)	1.1 mA (@12 V)	1.1 mA (@12 V)	1.3 mA (@12 V)