

BHW123 Installation

Your Btracking BHW123 GPS tracker arrives ready to install, with the latest firmware and software pre-loaded and an activated data plan. The unit has been tested at our lab and is guaranteed to track once installed into your vehicle.

The BHW123 uses 8 - 22AWG leads for its power and I/O connections, mapped as follows:

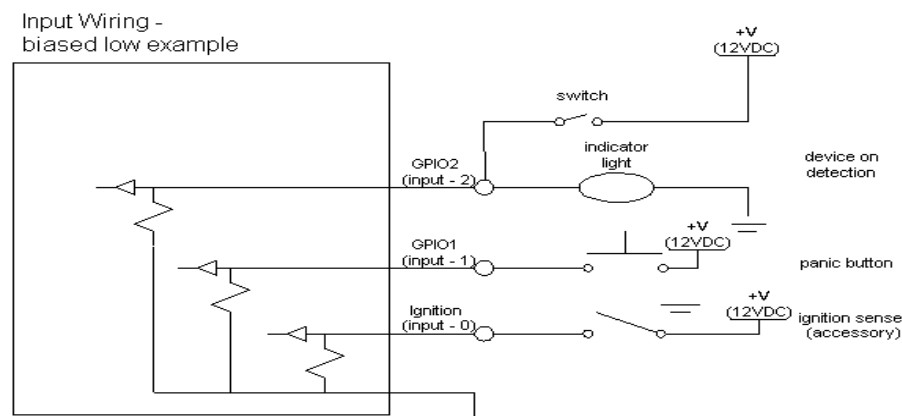
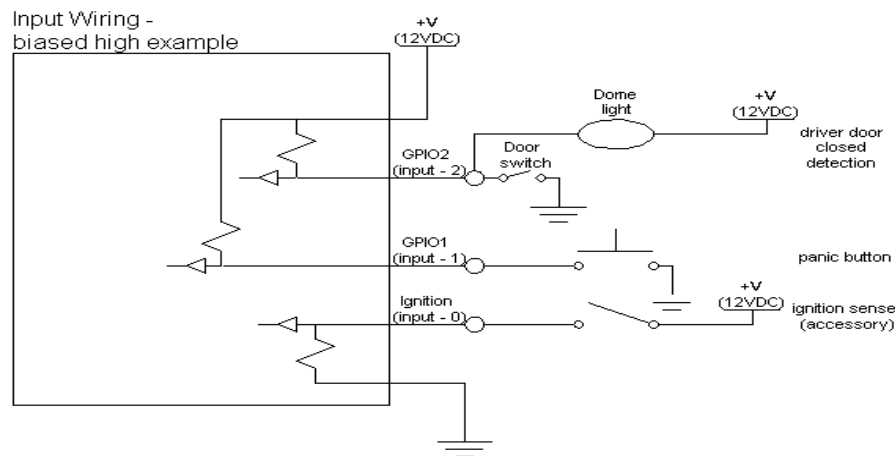
Wire	Signal Name	Description	Lead Color	Input or Output
1	GND	Ground	Black	Ground – Serial Cable
2	V _{cc}	Primary Power Input	Red	Power
3	IN-0	Ignition	White	Input
4	IN-1	Input 1	Blue	Input
5	IN-2	Input 2 \ Rx	Orange	Input \ Serial Rx
6	Out-0	Output 0	Green	Output
7	Out-1	Output 1	Brown	Output
8	Out-2	Output 2 \ Tx	Yellow	Output \ Serial Tx

IMPORTANT – IF YOU CHOOSE TO CONNECT THE INPUT OUT WIRES (BLUE, ORANGE, GREEN, BROWN) IN ORDER TO RECEIVE NOTICES ON THE BTRACKING PLATFORM I.E., FOR DOORS OPENED/CLOSED, LIGHTS ON/OFF, ETC., YOU MUST INFORM US HOW THE INPUT/OUTPUT WIRES ARE CONNECTED AT [INFO@BTRACKING.COM](mailto:info@btracking.com)

Ignition and Inputs

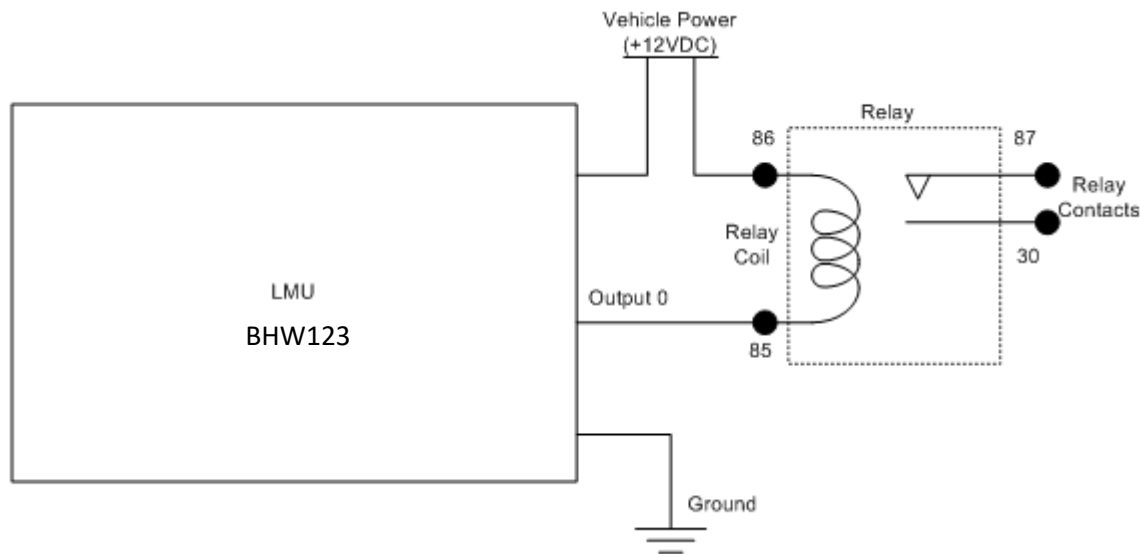
The BHW123 series provides up to 3 external inputs and 4 internal. The external inputs are protected from typical vehicle transients and can be directly connected to most vehicle level logical inputs from 4 volts up to the vehicle power input level (typically 12 VDC). Their input impedance is approximately 10kΩ. One of these inputs is dedicated to sensing the vehicle's ignition status to provide for flexible power management. The other two inputs may be used to sense vehicle inputs such as cooling unit operation, a hidden driver "Panic" switch, taxi on-duty/off-duty meter status or many others.

The ignition input is pulled to ground through the 10kΩ resistance, where the other inputs can be configured to be normally High (i.e. pulled to +12v through a 10kΩ resistor) or Low (i.e. pulled to ground through a 10k resistor). The diagrams below show how to connect the inputs in both a high- and low-biased configuration:



Outputs

The BHW123 outputs are designed to drive external relays. These outputs provide a high-current, open-collector driver that can sink up to 150 mA each. These drivers may be used to drive external relays that can then control vehicle functions such as door locks, fuel shut-off valves, sirens and lights. If additional current is required to drive the relays, external circuitry can be added to source the current. This diagram is a typical use of an output to drive a relay:



LED Patterns

The BHW123 is equipped with two Status LEDs, one for GPS and one for COMM (wireless network status). The LEDs use the following blink patterns to indicate service:

Orange LED (Communication) Status

Condition	Orange LED
Modem Off	Off
Communication On - Searching	Slow Blinking
Network Available	Fast Blinking
Registered but no Inbound Acknowledgement	Alternates from Solid to Fast Blink every 1 sec
Registered and Received Inbound Acknowledgement	Solid

Green LED (GPS) Status

Condition	Green LED
GPS Off	Off
GPS On	Slow Blinking
GPS Time Sync	Fast Blinking
GPS Fix	Solid

View on Your Mapping Platform

Once the unit has been powered on for 5 to 15 minutes, it will send a “power-up” message to the mapping platform. To view the location of the vehicle/machine/equipment on your mapping platform, contact support@btracking.com or call 1.866.233.0953 and provide your account name, group name, machine or equipment identifier, and the ESN or IMEI number printed on the label of the tracker.

Troubleshooting

Issue	Possible Cause
Unit Does Not Power-up	Power is not connected to the unit. With a digital volt meter, measure the voltage at the input to the unit. A positive voltage should be measured on the + terminal of the unit when measuring between the + terminal and the - terminal or chassis ground. This voltage should also measure 12 VDC. Correct the wiring to assure the correct polarity and the correct voltage level. Check fuse. Make sure the ground is connected directly to metal with no paint or residue. Use a digital multimeter to test continuity to ground to ensure good connection.
Unit Does Not Find Cellular Service (Orange LED is not solid)	Usually due to poor signal strength or interference. Move the unit outside (or outside of vehicle/machine if necessary) and re-apply power to the unit. Move vehicle/machine to try to acquire a better signal. If problem persists, contact Tech Support to troubleshoot as it may indicate an improper configuration or an issue with the tracker's modem.
Unit Does Not Receive a GPS Signal	Make sure GPS (Green) light is solid if not, make sure that the unit's label is facing skyward and that there is no metal between it and the sky including but not limited to the roof of the vehicle and any dash bracing. If it is, the move the vehicle outside of or away from any building/garage to allow the internal GPS antenna in the unit to have a clear view of the sky. You may need to power the unit outside of the vehicle as some vehicles may have metallic or leaded windshields. Contact tech support if problem persists.