goBILDA® Smart Dock for 20V Battery

SKU: 3104-0020-0001 V1.0

The goBILDA® Smart Dock is a battery docking station for DeWalt 20V batteries and batteries designed to be compatible with DeWalt 20V tools. The Smart Dock features built-in battery protection features so that your battery is not damaged due to the demands of the devices it powers. Power is passed from the Smart Dock to your project via the XT90 connector located at the rear of the dock. Status LEDs on the right of the dock provide real-time battery level feedback to the user. The switch on the right is used to turn the dock on and off, while the switch break-out port on the left of the dock allows the user to wire a remote switch to power the dock on and off. The aluminum base of the dock has threaded and thru-holes on the 8mm grid pattern for ease of mounting.

Protection/Battery Management Features: The Smart Dock has 3 protection features to prevent damage to the battery and the devices it powers. If any of these protection features are activated, power to the XT90 connector will be disconnected. The Smart Dock must be power-cycled by turning the switch off and on before power can be output via the XT90 connector.

Low Voltage Protection: Low voltage protection is activated if the battery voltage drops below 14V for 5 seconds, or if the battery voltage is pulled down to 12V. The Low Voltage

Protection feature prevents the battery from being discharged to a level that can damage the battery.

Over-Current Protection: Over-current protection is activated if the output current is greater than 200A for 5 seconds, or if 300A or greater is detected. The Over-Current Protection feature is intended to protect from short circuit events and prevent damage when a project is improperly wired or an excessive load is applied. If an over-current event is detected, please inspect your project's load and check your wiring before proceeding.

Over-Temperature Protection: Over-temperature protection is activated if the battery temperature exceeds 85°C (185°F). This prevents the battery from overheating and causing damage. The battery must be allowed to cool before using or charging it.
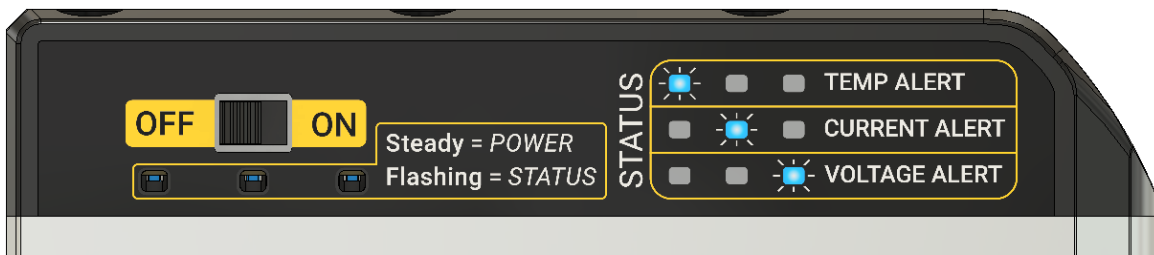

Status LEDs: There are 3 LEDs that describe the state of the Smart Dock. These LEDs are located directly below the power switch. When no protection feature is active, the status LEDs indicate the battery level. 3 solid LEDs indicate full charge, 2 solid LEDs indicate half charge, and 1 solid LED indicates a low battery (you may continue to use the battery with 1 solid LED, as the Smart Dock will cut off power at a safe minimum voltage).

The battery level LEDs will begin flashing when a protection feature has been activated. If the left of the three battery level LEDs is flashing, it indicates the over-temperature protection is active. The center LED indicates over-current protection is active, and the right LED indicates the low-voltage protection is active. The table to the right of the LEDs can be referenced for easy diagnosis in the field. The output voltage is cut off when any of these protections are active.
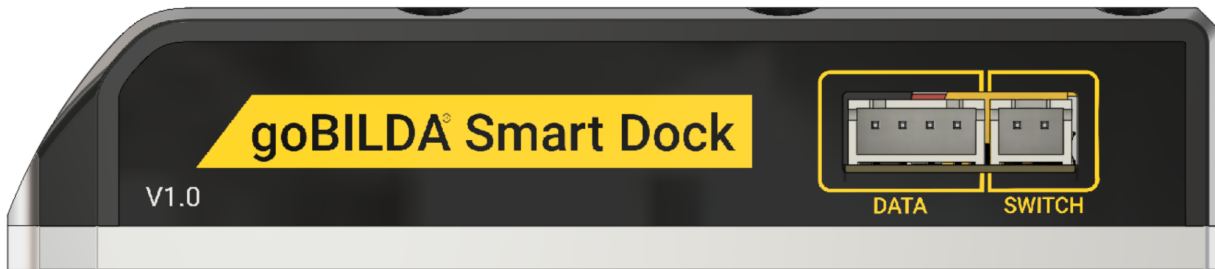
Power Switch Breakout: This port is a 2 pin XH series connector labeled "SWITCH". The Smart Dock output can be controlled using the physical power switch or with the 2-pin (XH) SWITCH breakout port. The breakout is wired in parallel with the physical switch, meaning the breakout is only effective when the physical switch is in the OFF position. When the two pins of the switch are disconnected, the Smart Dock will not output power. When the two pins of the switch are connected, the Smart Dock will output power, and the physical switch will have no effect.

Data Port: This port is not active in Version 1.0 of the Smart Dock.

Mounting: The Smart Dock is intended to be mounted via the aluminum base. The combination of M4 x 0.7mm threaded holes and 4mm thru-holes provide you with a variety of ways to fasten the Smart Dock to your project.