

SPECIFICATIONS:

Anderson style plug output:	50 Amps
12V DC socket output:	10 Amps
12 V DC Heavy Duty Socket Output:	15 Amps
USB Output:	5V/2.4A x 2
Charging input plug:	Maximum charger current 16Amp
Low voltage warning:	When the display is on, if the battery voltage is lower than 12.3V, the low voltage Indicator light flashes and audible alarm sounds once every 25 seconds. (Function is disabled during charging). When the display is off, only the audible alarm will be heard every 25 seconds.
LED Screen display:	To turn on, press ON/OFF switch. To turn off, press ON/OFF switch again. It displays the voltage of the PBG-26 power cell and capacity, display total connected output current, display power on, charger input, low voltage warning, over load warning, display output status of all outlets.
Installation method:	Can be directly fitted onto the PBG-26 battery, or can be moved to any remote and suitable place for mounting the monitor using additional extension cable (not supplied). See below table for wiring sizes if remote connecting.
Charging Status:	When charging, the voltage and current only displays charging status.

POWER CELL BATTERY HUB CONTROLLER



Battery Warning

WARNING:

BATTERY ACID IS HIGHLY CORROSIVE; ALWAYS WEAR PERSONAL PROTECTIVE EQUIPMENT (PPE) WHEN WORKING ON OR AROUND LEAD-ACID BATTERIES. FIRST AID & BATTERIES

- For advice, contact the Poisons Information Centre in Australia (PH: 13 11 26) or the National Poisons Centre in New Zealand (PH: 0800 764 766)
- If battery acid makes contact with the skin or clothing, wash immediately with soap and water.
- If battery acid makes contact with the eyes, hold eyelids apart and flush the eye continuously with fresh running water for at least 15 minutes or until the Poisons information centre advises you to stop.

If battery acid is swallowed, **do not** induce vomiting. Drink a glass of water and seek medical assistance.

WARNING:

SEALED LEAD-ACID RECHARGEABLE BATTERIES STILL GENERATE HYDROGEN GAS DURING THE CHARGING PROCESS.

HYDROGEN GAS IS:

- EXPLOSIVE
- POISONOUS TO BREATHE
- HIGHLY FLAMMABLE

TO AVOID AN EXPLOSION OR THE POSSIBILITY OF BEING SPLASHED FROM BATTERY ACID.

- ALWAYS RECHARGE BATTERIES IN A WELL-VENTILATED AREA
- IF INSTALLED IN A SEALED CABINET, ALLOW FOR EXTERIOR VENTING

DO NOT OPERATE OR STORE NEAR FLAMMABLE GOODS OR COMBUSTIBLES

Fitting Instructions for HUB-100

The HUB-100 Power Cell control hub has been designed to securely fit onto the front of your PBG-26 Power Cell battery stack using locking tabs. These locking tabs are positioned at the front of each battery, therefore the mounted location of the HUB-100 can be on any battery depending on the total you have chosen to stack together.



Additionally, by using an optional extension cable (not provided), the HUB-100 can be fitted and operated remotely to the Power Cell battery stack if the battery stack is mounted underfloor or in a concealed location. Please refer to the later section titled "Alternate Mounting Options"

We recommend to first assemble your PBG-26 battery stack together if using with multiple battery packs (Please refer to Power Cell PBG-26 instructions for correct stacking process)

1. Choose desired mounting location of HUB-100 if using several stacked PBG-26 Power Cell's.



2. Remove plastic terminal covers from Hub mount location, keep aside for later fitment.

3. Unscrew Allen bolts from battery terminals, refit through correct polarity wire eyelets and remount to battery terminals. BLACK TO BLACK – (NEGATIVE TO NEGATIVE), RED TO RED (POSITIVE TO POSITIVE).



4. Slide HUB-100 lock tabs into correct position and slot in firmly, use the small Phillips screws to further secure the HUB-100 in its mounting channel.

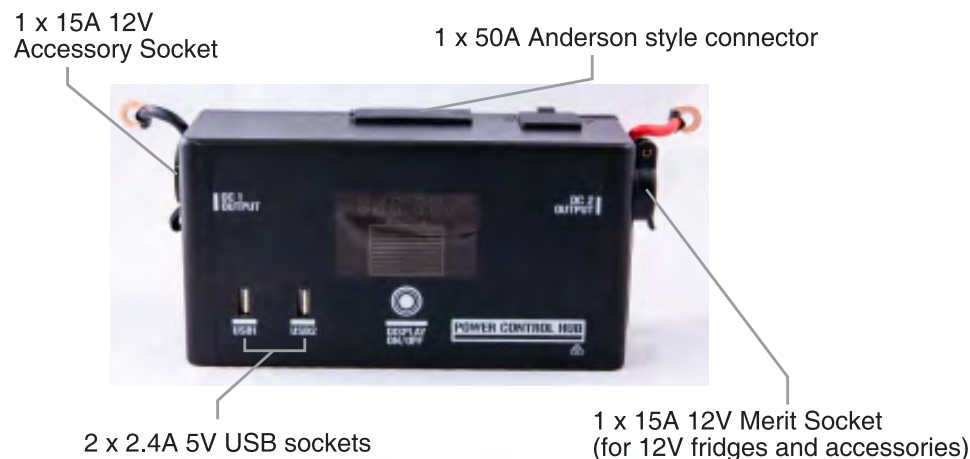


5. Re-fit plastic terminal covers to front of terminals by snapping back into place.



Operation of combined PBG-26 and HUB-100

The HUB-100 control unit and power hub is used to distribute the power from the connected PBG-26 batteries safely and conveniently. The HUB-100 has the following power output sockets:

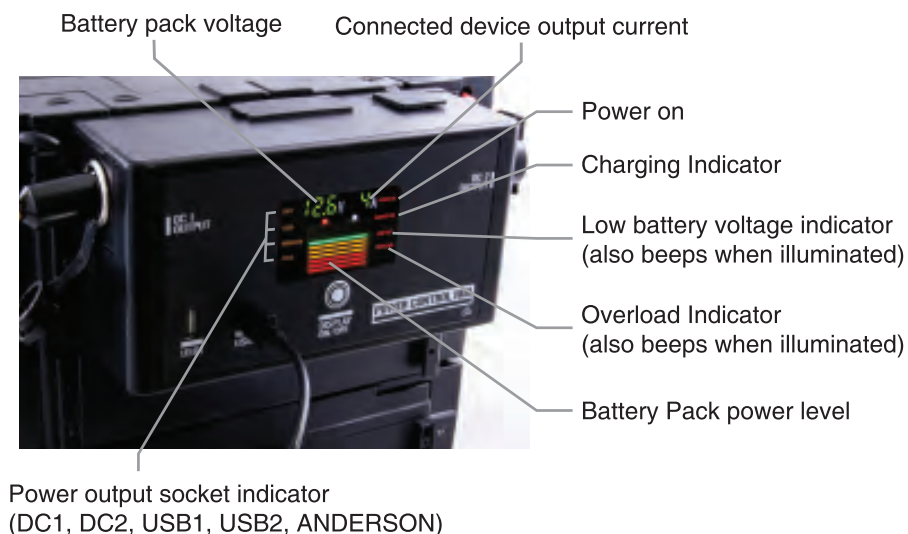


50A Anderson style connector - Input

- Overload protection warning for cigarette light output: Over 15A – Beeping sound and OVERLOAD with DC1 or DC2 LED flashing (dependant on where overload is occurring).
- Overload protection warning for Anderson plug output: Over 50A – Beeping sound and OVERLOAD with ANDERSON LED flashes.

Simply plug in your device's power plug into the respective socket, output will commence once a connection is made.

The HUB-100 is fitted with an easy to read LED display which will show simultaneously:



To turn the display on or off, simply push the “Display” button. The display will stay on indefinitely. Press Display button again to switch off. The control unit will beep as a warning if the output is overloaded, if this occurs please reduce the load on the relevant connection. The overload limits are as follows DO NOT EXCEED BELOW LIMITS:

- Anderson style connector – 50A output MAXIMUM – beeping warning, OVERLOAD with ANDERSON indicator light flashes.
- 12V sockets (each) – 15A output MAXIMUM – beeping warning, OVERLOAD with DC1 or DC2 indicator light flashes.
- 2 x 5V USB – 3A max each – internal circuit breaker will cut off output power – no beeping.
- If the LED Screen is off, any overload will be just beeping with no LED indicator flashing.

Recharging your battery pack

The PBG-26 and HUB-100 have been specifically designed to behave just like a normal lead acid battery, as a result you will not require a specialised battery charger to recharge. Any KENAX and Power Train smart battery charger between 2.5Amp and 15Amp output will be ideal depending on how many batteries you have connected to your pack. We recommend recharging the battery pack through the HUB-100 controller. **DO NOT USE A BATTERY CHARGER LARGER THAN 16 AMPS.**

There will be a low voltage warning when the voltage level of the PBG-26 battery reaches 12.3V. Every 25 seconds, the low voltage warning LED will flash, and a beeping sound will occur.

Battery Charging instructions:

1. Connect the battery charger connector plug into the charger port at the top of the HUB-100



2. Switch the charger on and set the charger to LEAD ACID if applicable
3. Turn the display ON/OFF button on when charger is connected, the charging indicator lights up. Display shows the voltage and current. When there is no charging, the display shows battery voltage capacity and total current of each output port.



4. Once charging is complete, turn off and disconnect the charger.
5. The HUB-100 display will show all bars lit, with the top 2 green. Voltage will be 12.8V – 13.0V.

Alternate Mounting Options

The Power Cell PBG-26 battery pack system, together with the HUB-100 controller can also be configured in a flat layout style. This would be perfect for situations where you need a smaller height profile such as under floor or cargo areas.



REMOTE AND UNDERFLOOR MOUNTING WILL REQUIRE A HIGH APTITUDE OF ELECTRICAL KNOWLEDGE, WE RECOMMEND PROFESSIONAL AUTOMOTIVE ELECTRICAL INSTALLATION IF INSTALLING UNDERFLOOR, OR IF CABLING REQUIREMENTS ARE LONGER THAN RECOMMENDED IN THE BELOW TABLE.

If you are intending to mount in an underfloor configuration with the HUB-100 controller remotely installed, we recommend affixing each battery securely using floor mounting points with suitable cam buckle or ratchet type tie down straps positioned across the battery width as close to the front or rear connector posts as possible. Please ensure the mounting location has adequate free air ventilation.

For these types of installation, the copper battery joining tabs will need to be substituted with eyelet terminated insulated copper cable and affixed using the allen bolts provided, making a parallel connection: BLACK TO BLACK – (NEGATIVE TO NEGATIVE), RED TO RED (POSITIVE TO POSITIVE).

To determine the minimum sized connector cable required for both the battery connections and the remote cable for the HUB-100 controller, please use the below table:

HUB-100 Remote Cable - Minimum Requirements

Cable Length (round up to next metre) - match to input or output	Minimum Remote Cable Specification (AWG)	Minimum PBG-26 Battery connection Cable specification (AWG)	Cross Sectional Cable Area mm ² (does not include insulation)
Up to 1M	8 AWG	8 AWG	10
2M	6 AWG	X*	16
3M	6 AWG	X*	16
4M	4 AWG	X*	25
5M	4 AWG	X*	25
	*do not exceed 5M of remote cable length	*do not exceed 1M between batteries	

Once you have established the correct cable size for the remote lead, simply fit a 50A Anderson style plug (not supplied) to one end and terminate the other end with eye terminals. Connect the 50A Anderson style plug to the back of the HUB as shown below.



Safety/Warning for battery charger

- Before using the any KENAX and Power Train fully automatic battery chargers ensure the instructions have been read and understood.
- The battery charger is not intended for use by young children or infirm persons. Please keep away from pets.
- Any KENAX and Power Train fully automatic battery chargers are designed to charge most 12V battery types including: Lead acid, Deep Cycle, Calcium, Gel and Absorbed Glass Matt (AGM) batteries and flooded and maintenance free configurations.
- Always wear the appropriate Personal Protective Equipment (PPE) when working near batteries. This includes cracks or exposed wires.
- When working with Lead Acid batteries remove all jewellery including watches and rings. Use insulated tools to ensure prevention of a battery short should the metal tool make contact with the battery terminals.
- Ensure battery is charged in a well ventilated area. Explosive gases may escape from the battery during charging. Never charge a battery in a close off space or in an area without ventilation.
- Never smoke, use an open flame or create sparks near a battery or charger whilst charging as gases may cause an explosion. Please keep burning cigarettes, flames or other ignition sources away from the charging battery at all times.
- Any KENAX and Power Train fully automatic battery chargers are designed for indoor use only, and are not water resistant or waterproof. Do not expose the battery charger to water or liquids.
- Do not attempt to use the battery charger if the cables or plugs are damaged. These units do not contain serviceable parts. To avoid a hazard, ensure that any damage to the unit, cable or plugs are replaced by the manufacturer or service agent/qualified technician.
- Do not disassemble the battery charger. The warranty will be void if this instruction is ignored.
- Ensure the battery charger is off before connecting and disconnecting from the battery. Once connected, power can be turned on.
- Ensure vehicles ignition is switched off before charging the battery.
- Do not place the battery charger where it is not able to get adequate ventilation. Do not place on fabric/leather/vinyl seats on the battery or balanced in the engine bay.
- Not capable for charging a frozen battery, non-rechargeable, lithium or dry cell battery.