BMPRO

OWNER'S MANUAL

BC300 EXTERNAL SHUNT COMMLINK

TEAMBMPRO.COM

SAFETY PRECAUTIONS

Please read the Safety Precautions before installing or using the BC300 External Shunt and CommLink. Be sure to observe all precautions without fail. Failure to observe these instructions properly may result in personal damage or personal injury which, depending on the circumstances, may be serious and cause loss of life.

⚠ WARNING
Correct installation is the most critical factor in ensuring the safe use of the device. If every consideration of these instructions has been satisfied, the device will be safe to operate.
Metal conducts electricity. Take care not to drop or touch metal objects onto the battery terminals. If contact is made, this may cause short circuits or lead to serious personal injury. Take care and remove unwanted metal objects from the vicinity of the battery. Remove any personal metal adornment such as chain, watch or ring before handling the battery.
Batteries are electrically live at all times and must be treated with extreme caution. They can supply high short circuit currents, even if they appear damaged or undamaged.
Do not drop or shake the product vigorously as this may cause damage to the product. Do not shock the equipment, batteries and charger, as this may cause device or battery failure, fire or explosion.
Keep the device dry; do not expose it to water. Do not use it where it can fall into water (such as near a pool, pond, bath etc.). Do not let the device, battery or charger come into contact with water vapour or operate it with wet hands. Contact with water will cause the device to short-circuit, corrode or cause electric shock.
Do not use this product where it is excessively hot, cold, dusty or humid, or where it is exposed to strong magnetic fields or long periods of sunshine. Such exposure may cause device or battery failure, fire or explosion.
Only use the device with the cable supplied. Use of other accessories not recommended in this manual may cause damage to the unit and will void the warranty.
Clean the housing of the device lightly with a dry or moist cotton cloth if required. Do not use alcohol, thinners, benzene or any other chemical cleaner.
This device is a high precision electronic product. It contains no user-serviceable parts inside. Do not try to dismantle, modify or repair it yourself. Disassembly by unauthorised persons will void the warranty.
Product specifications are subject to change and improve without notice.

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BMPRO

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Proudly designed in Melbourne by BMPRO, one of Australia's leading power solution experts. Our range represents high-quality products that will provide years of service.

DISCLAIMER: BMPRO accepts no liability for any loss or damage which may occur from the improper or unsafe use of its products. Warranty is only valid if the unit has not been modified or misused by the customer.

ABOUT THE BC300 AND COMMLINK

The BMPRO BC300 External Shunt and CommLink devices provide wireless battery monitoring for high current BatteryPlus35 and J35 systems.

The addition of the BC300 External Shunt and CommLink to BP35 and J35 systems allows high current loads to be directly connected to the battery via the BC300 External Shunt. This enhances the system behavior with temperature monitoring of the battery for greater protection. It also maintains Time Remaining and State of Charge determination of the battery even at high currents and with directly connected loads.

The BC300 External Shunt is designed for 12V batteries up to 800Ah in capacity. The shunt is rated for ±240A of continuous current and transmits monitored data wirelessly.

The BC300 External Shunt monitors the following battery properties:

- Voltage
- Charging/discharging current
- Energy usage (Ah)
- Temperature

NOTE: When installing the BC300 External Shunt a direct connection to the battery is required.

The CommLink provides wireless reception of the battery data transmitted by the BC300 External Shunt. Data received by the CommLink is forwarded to the CAN communication bus for reception by a BatteryPlus35 or J35. The CAN communication bus also provides operating power for the CommLink.

The CAN communication bus can also be used to connect to a BMPRO Battery Monitor, such as the BMPRO Odyssey or Trek3.

DESCRIPTION OF PARTS

BC300 EXTERNAL SHUNT

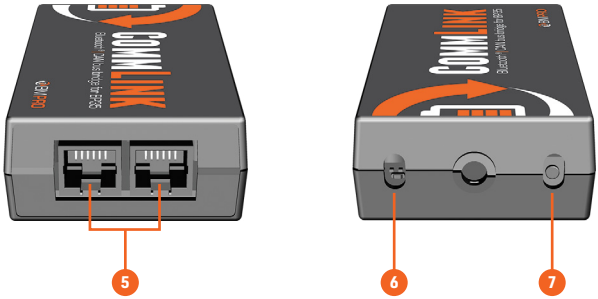
1. NEGATIVE BATTERY CONNECTION
2. NEW NEGATIVE TERMINAL CONNECTION

Connects to the load.

NOTE: This terminal has flat sides.

3. '+' POSITIVE FLYING LEAD AND TEMPERATURE SENSOR
4. LED STATUS INDICATOR

COMMLINK

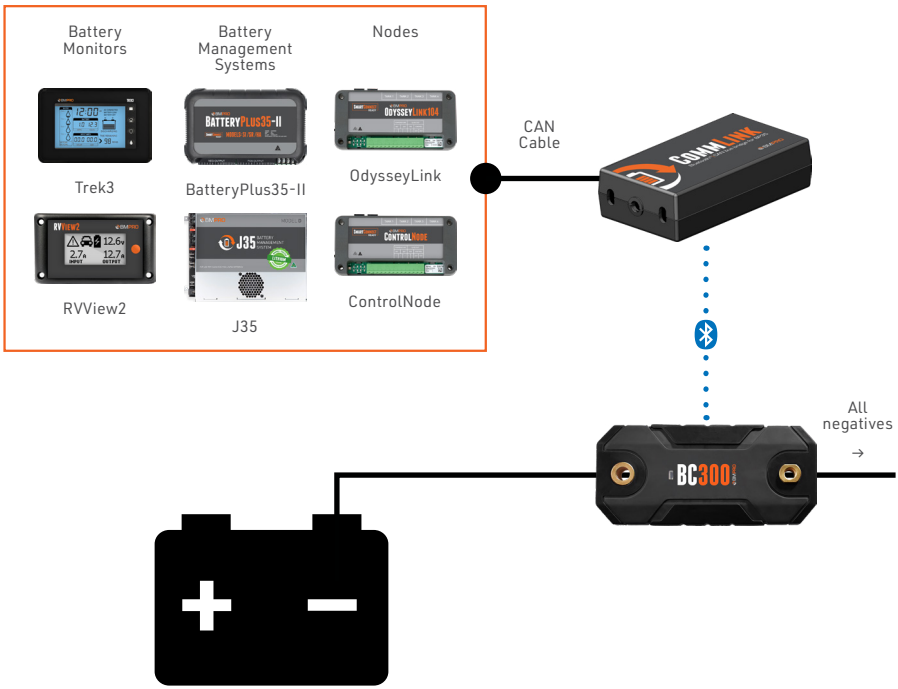


5. CAN BUS SOCKETS

Used to connect to other BMPRO devices, such as the BatteryPlus35 or J35, or BMPRO Battery Monitors such as the BMPRO Odyssey or Trek3.

6. RECESSED STATUS INDICATOR

7. RECESSED PAIR BUTTON



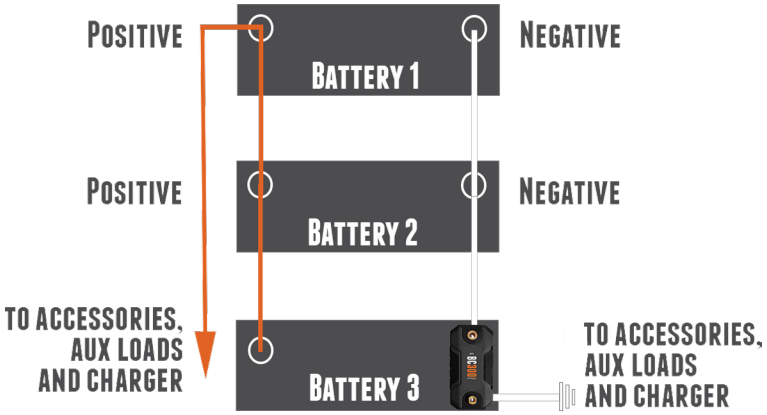
INSTALLING THE BC300 AND COMMLINK

MOUNTING THE BC300

The BC300 External Shunt has two mounting terminals. Using these terminals, the BC300 External Shunt is wired in series with the negative terminal of the battery being monitored and the negative battery loads.

The '+' flying lead provides a connection to the positive terminal of the battery to power the BC300 External Shunt. This lead is also used to measure the battery temperature and voltage and must be directly connected to the positive terminal of the battery.

You must ensure that all loads connected to the battery are disconnected or turned off before beginning the installation to avoid sparks being generated.



CONNECTING THE BC300 AND COMMLINK

To connect the BC300 External Shunt and CommLink:

1. Remove all the connections to the battery.
2. Connect the CommLink to the BatteryPlus35 or J35 CAN bus with the provided CommLink data cable.

   The data cable can be plugged into either CAN bus socket on the CommLink.
3. Connect the negative battery connection to the battery negative terminal using the connector provided or directly to the battery.

   NOTE: It is important that the correct terminal on both the battery and the BC300 External Shunt is used.
4. Connect all negative load connections to the new negative terminal connection on the BC300 External Shunt.
5. Connect all positive load connections including the BC300 External Shunt's positive flying lead to the battery positive terminal.

Once these connections are made the BatteryPlus35 or J35, the BC300 External Shunt and CommLink will be powered and will enter pairing mode.

For information on pairing the BC300 External Shunt with the Commlink, refer to **Pairing the BC300 with the CommLink**.

Connecting the BC300 to a Parallel Battery Installation

When connecting the BC300 to a parallel battery installation, the earth strap that links the batteries together must remain on the battery terminals, and must be located on the negative battery connection side of the BC300.

The new negative terminal connection side is for loads and charge sources only.

PAIRING THE COMMLINK WITH THE BC300

Once all positive load connections, including the BC300 External Shunt's positive flying lead have been connected to the battery positive terminal, the BC300 External Shunt will enter pairing mode, shown with a flashing **blue** LED.

Pairing mode will last for two minutes after it has been powered. The BC300 External Shunt and CommLink must be paired together in this time.

NOTE: If the CommLink status indicator is flashing **green** at 5 second internals, it is already paired and is receiving data from the BC300 External Shunt. No further action is required.

To pair the BC300 External Shunt with the CommLink:

1. With a pen or similar make a short press on the CommLink pair button.

   This will initiate the pairing between the CommLink and the BC300 External Shunt.

2. The CommLink status indicator will start flashing **blue**. Watch the CommLink status indicator while the pairing is occurring.

   It may take up to one minute for the pairing to complete.

If the pairing is successful the CommLink status indicator start flashing **green** at 5 second intervals. The CommLink is now paired with the BC300 External Shunt and is receiving data.

TROUBLESHOOTING

CommLink Does Not Pair with the BC300 External Shunt

If pairing with the BC300 External Shunt fails, the CommLink status indicator will return to flashing **orange**. If this happens:

1. Disconnect the BC300 External Shunt's positive flying lead from the battery positive terminal.
2. Reconnect the BC300 External Shunt's positive flying lead from the battery positive terminal.
3. Repeat the pairing process.

If you have multiple pairing failures, try installing the CommLink closer to the BC300 External Shunt, or identify possible interference sources. This may require a longer data cable to locate the CommLink closer to the BC300 External Shunt.

CommLink Status Indicator is Flashing Red

If the CommLink Status Indicator is flashing red, it is paired to a BC300 External Shunt but is not receiving data. The CommLink must be re-paired.

1. Hold down the CommLink pair button with a pen or similar.
2. Wait for the status indicator to change from red to orange. This should take 5 seconds.
3. Pair the CommLink with the BC300 again.

BC300 EXTERNAL SHUNT BATTERY INDICATORS

LED COLOUR	STATUS
	Available for pairing
	Normal operation
	One or more battery fault conditions detected: ▣ Voltage below 8V or above 16V ▣ Battery current exceeding ±300A ▣ Battery temperature outside -20°C to 70°C range ▣ BC300 External Shunt temperature outside operating limits

COMMLINK STATUS INDICATORS

LED COLOUR	STATUS
	Not paired
	Pairing
	Normal operation
	Not receiving data from the BC300 External Shunt

SPECIFICATIONS

BATTERY MONITORING SPECIFICATIONS	
Voltage Range	8V to 16V
Voltage Resolution	<20mV
Current Resolution	<200mA
Current Range	240A continuous
Overload Protection (100ms without damage)	± 800A
Temperature Range (Battery Terminal)	-20 to 70°C
Temperature Resolution	3°C
Capacity Range	7 to 800Ah

GENERAL SPECIFICATIONS	BC300 EXTERNAL SHUNT	COMMLINK
Input Voltage	8V to 16V	
Quiescent Current Drain (average)	<10mV	<20mV
Operating Temperature	-20 to 70°C	
Humidity Operating	≤ 85% RH non-condensing	
Humidity Non-operating	≤ 95% RH non-condensing	
Dimensions (Approx.)	140 x 65 x 18.6mm	92 x 52 x 25mm
Weight (Approx.)	1kg	150g
IP Rating	IP54	IP30

WARRANTY TERMS AND CONDITIONS (AUSTRALIA)

Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and for compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

This warranty is provided by BMPRO Pty Ltd (59 646 354 127) ("BMPRO") for its products. Warranty benefits are applied along with any rights and remedies required by Australian State and Federal legislation that cannot be excluded. No part of this warranty excludes, restricts or modifies any State or Federal legislation relating to the supply of goods and services which cannot be excluded, restricted or modified.

Warranty

BMPRO warrants that the product will be free from any faults in materials and workmanship beginning from the original date of purchase under standard application, installation, use and service conditions, subject to the exclusions and limitations detailed below. The warranty period of the product is two years.

If, before the warranty period has ended, a fault occurs with the product and BMPRO finds the product is defective in materials or workmanship, BMPRO at its discretion will subject to further rights accorded by the Australian Consumer Law to either:

- Repair the defective product
- Replace the defective product
- Provide a refund to the purchaser for the price paid at purchase for the defective product.

Warranty Claims

Refer to your manual before using the product. Most BMPRO products are designed to be installed by a suitably qualified installer. The products should be carefully inspected by you or your installer before installation for any visible manufacturing faults. If a product has been installed incorrectly, BMPRO accepts no responsibility on top of our consumer guarantee obligations.

1. If a fault covered by warranty occurs, the purchaser must either contact the dealer where the product was purchased within 7 days, or BMPRO at the contact details listed.
2. All warranty claims must include: (a) proof of purchase of the product; (b) complete details of the alleged fault; (c) any relevant documentation related to the fault (such as photographs or maintenance records); (d) return material authorisation (RMA) number.
3. The product must be made available to BMPRO or its authorised installer for inspection and testing within 14 days of contacting BMPRO or the dealer.
4. The reasonable cost of delivery and installation of any products or components of products that have been repaired or replaced to the place of purchase notified to BMPRO is covered by the warranty provided by BMPRO, along with the reasonable costs of removal and return of any products determined by BMPRO to be defective.
5. If, on return to BMPRO or on investigation by BMRPO, inspection and testing determines there is no fault in the product, the purchaser must pay BMPRO's reasonable costs of testing and investigating the product, as well as transportation and shipping costs.

Register a Warranty or Repair with BMPRO

To register a warranty or repair with BMPRO:

1. Lodge a support request via teambmpro.com/technical-support or email customerservice@teambmpro.com
2. If agreed with the BMPRO Product Specialist team, register a warranty claim or repair via teambmpro.com/warranty-claim or email customerservice@teambmpro.com to obtain a Return Material Authorisation (RMA) number.
3. Package and send the product to the BMPRO Warranty Department. The BMPRO Product Specialist team will advise you where to send the product. Please mark RMA details on the outside of the packaging.
4. Ensure your package also includes a copy of the proof of purchase, a complete description of the fault and your contact details including phone number and return address.

Exclusions

This warranty will not be applicable where: (a) the product has been altered, modified or repaired by someone other than BMPRO, an authorised installer or a qualified auto electrician; (b) the product has not been installed properly by either the user or manufacturer; (c) BMPRO cannot establish a fault in the product after inspection and testing; (d) the product has been used for purposes other than that for which it was designed; (e) the fault in the product has occurred due to a failure by the purchaser to ensure proper use and maintenance of the product according to BMPRO's instructions, recommendations and specifications (including maintenance); (f) the product has been subjected to abnormal conditions, such as environmental, temperature, water, fire, humidity, pressure, stress or similar; (g) the fault has been caused by abuse, misuse, neglect or accident; (h) the fault has been caused by a power surge or other kind of fault in the supply of electricity; (i) unauthorised parts or accessories have been used on or in relation to the product; (j) the appearance of the Product has deteriorated; or (k) the fault is a result of common wear & tear.

Limitations

No express warranties or representations are made by BMPRO other than what is set out in this warranty. The absolute limit of BMPRO's liability under this express warranty is the repair or replacement of the product or part of the product.

Contact

BMPRO's contact details for warranty claims are:

Phone: (03) 9763 0962
Email: **customerservice@teambmpro.com**

Warranty Claim and Product Repair Form:
https://teambmpro.com/warranty-claim/

Registering your BMPRO product is an important step to ensure that you receive all the benefits you are entitled to.

Please complete the online registration form at **https://teambmpro.com/product-registration/** for your new product today.

LIMITED WARRANTY TERMS AND CONDITIONS (USA)

Registering your BMPRO product is an important step to ensure that you receive all the benefits you are entitled to. Please visit **teambmpro.com** to complete the online registration form for your new product today.

What this Limited Warranty Covers

This warranty covers any defect or malfunction in your BMPRO product. Under this warranty you are entitled to have such goods replaced, repaired or refunded.

What this Limited Warranty Does Not Cover

- This warranty does not extend to product failures or defects caused by, or associated with, but not limited to:
- Failure to install or maintain correctly, unsuitable physical or operating environment, accident, acts of God, hazard, misuse, unauthorized repair, modification or alteration, natural disaster, corrosive environment, insect or vermin infestation and failure to comply with any additional instructions supplied with the product.
- BMPRO may seek reimbursement of any costs incurred when a product is found to be in proper working order or damaged as a result of any of the warranty exclusions listed above.
- BMPRO will not be liable for any costs, charges or expenses incurred in the process of returning a product to initiate a warranty claim.

How Long the Warranty Lasts

BMPRO warrants products against defects for a period of two years, commencing from the original date of purchase.

Claims Process

Proof of purchase is required before the product can be deemed to be within the warranty period.

To enquire or make a claim under this warranty, please follow these steps:

A. Prior to returning a BMPRO product, please email **service@teambmpro.com** to obtain a Return Material Authorisation (RMA) number.

B. Package and send the product to:

BMPRO WARRANTY DEPARTMENT
UNIT 1 821 E WINDSOR AVE
ELKHART IN 46514

Please mark RMA details on the outside of the packaging.

C. Please ensure the package also includes: a copy of the proof of purchase, a detailed description of the fault and your contact details including phone number and return address.

How State Law Applies

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

COMPLIANCE

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna,
- Increase the separation between the equipment and receiver,
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected,
- Consult the dealer or an experienced radio/TV technician for help.

Warning: Any changes or modifications not expressly approved by BMPRO could void the user's authority to operate this equipment.

POWERING YOUR ADVENTURES.

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