THE POWER OF REDARC®

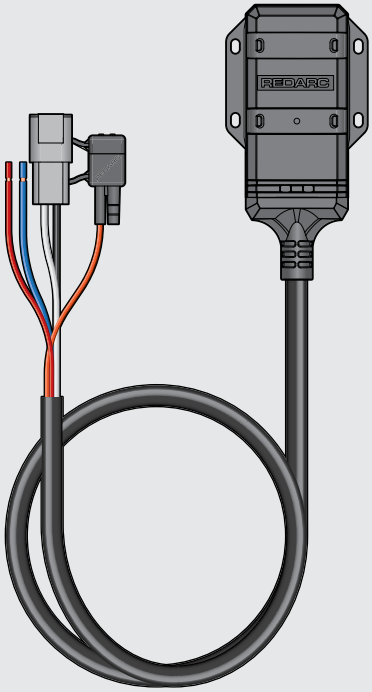
INSTALL GUIDE

TOW-PRO LINK™

Electric Trailer Brake Controller Main Unit

MODELS:

- **EBRHX-MU**



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CONTENTS

LOOKING FOR MORE INFORMATION?

This Install Guide includes safety information and installation instructions relating to the Tow-Pro Link **Main Unit only** (EBRHX-MU)**.** For installation instructions for your Remote, refer to the Install Guide supplied with the Remote.

For operation instructions, refer to the User Manual.

For the latest version of this document and any available translations, visit the REDARC website:
www.redarcelectronics.com/downloads

WARNINGS AND SAFETY INSTRUCTIONS

SAVE THESE INSTRUCTIONS — This manual contains important safety instructions.

Do not operate the product unless you have read and understood this manual. REDARC recommends that the products referenced in this manual be installed by a suitably qualified person.

Disclaimer: REDARC accepts no liability for any injury, loss or property damage which may occur from the improper or unsafe installation or use of its products.

SAFETY MESSAGE CONVENTIONS

Safety messages in this manual include a signal word to indicate the level of the hazard as follows:

⚠ **WARNING:** Indicates a potentially hazardous situation which could result in death or serious injury to the operator or to bystanders.

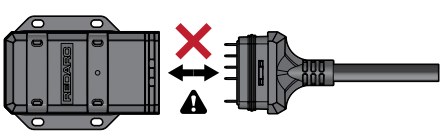
⚠ **CAUTION:** Indicates a potentially hazardous situation which may result in moderate or minor injury to the operator or to bystanders.

NOTICE: Indicates a situation that may cause equipment damage.

⚠ WARNING

1. **RISK OF EXPLOSIVE GASES**: Working in vicinity of a Lead-Acid battery is dangerous. Batteries generate explosive gases during normal operation. For this reason, it is of utmost importance that you follow the instructions when installing and the Tow-Pro Main Unit.
2. **NEVER** smoke or allow a spark or flame in vicinity of battery or engine, this may cause the battery to explode.
3. Before installing the Tow-Pro Main Unit, isolate all batteries connected to the vehicle. There is a risk of personal injury and damage to the vehicle and batteries.
4. All installation components (wiring and parts) must be suitably rated to supply the required current to simultaneously operate the trailer electric brakes and stop lamps. Failure to do so may result in reduced or total loss of trailer braking.
5. Any attempt to disassemble/reassemble the Tow-Pro Link, or make unapproved repairs or modifications will void the warranty and the user's authority to operate the Tow-Pro Link.

   Do not attempt to disconnect the cable from the Main Unit; this connection is permanent and will damage the unit irreparably and will void the warranty if it is disconnected.



⚠ CAUTION

6. The system should not be used by persons under the age of 18, or those with reduced physical, sensory or mental capabilities or lack of experience and knowledge.
7. Tow-Pro Link Main Unit must be mounted firmly so that it cannot move when travelling. Movement of the Main Unit will affect calibration, causing inaccurate braking-force measurement and incorrect trailer braking.
8. It is the installers responsibility to ensure that the Tow-Pro installation complies with local Federal and State laws related to trailer weights and brake controllers.
9. Do not route cables over hot surfaces or sharp objects, near the fuel system or brake lines, or over/through parts of the vehicle that move during operation or maintenance.
10. The Tow-Pro Link does not act as a trailer lights voltage converter. If the trailer brake lights operate on a different voltage, damage to the vehicle, trailer and/or Tow-Pro Link and associated wiring may result. This may also result in reduced or total loss of trailer braking.

NOTICE

11. Ensure that a suitable grounding point is used. Vehicles often have ungrounded metal reinforcements under the dash and ungrounded chassis. These points are not suitable grounds. Bad grounding of the Remote will result in poor or no operation.
12. In the case of a dual-battery setup, make sure the vehicle's trailer stop lamp voltage does not exceed the vehicle's start battery voltage to avoid the Tow-Pro Main Unit from entering limp mode.

PERSONAL SAFETY PRECAUTIONS:

To assist with the safe installation of the Tow-Pro:

a. Wear complete eye protection and clothing protection. Avoid touching eyes while working near a battery.

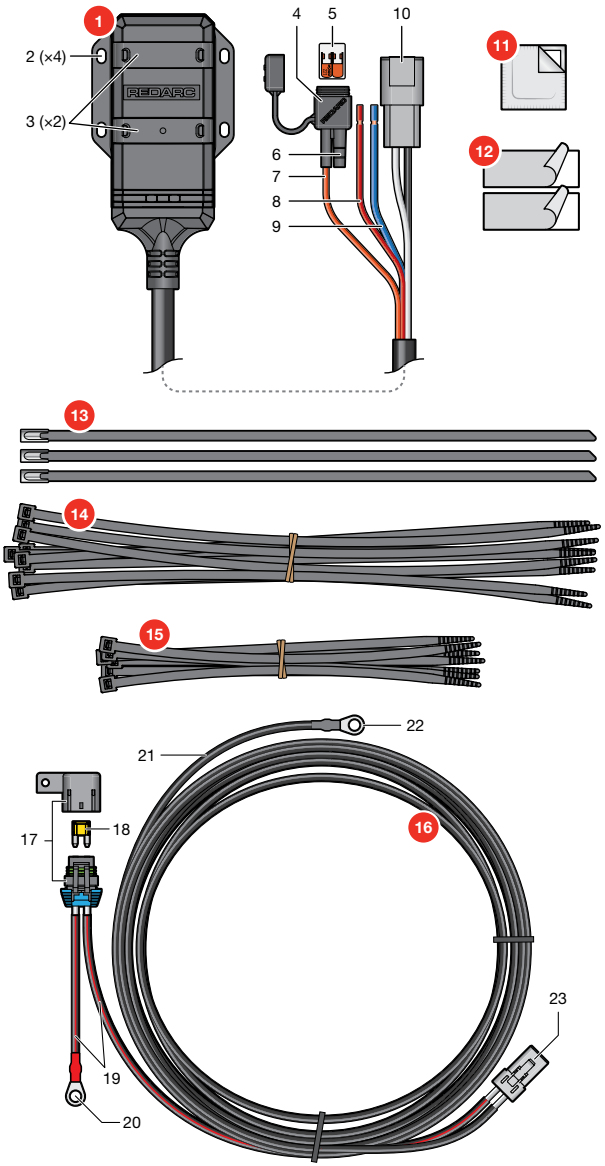
b. If battery acid contacts your skin or clothing, remove the affected clothing and wash the affected area of your skin immediately with soap and water. If battery acid enters your eye, immediately flood the eye with running cold water for at least 10 minutes and seek medical assistance immediately.

c. Use Personal Protective Equipment (PPE). Wear complete eye protection and clothing protection, especially when operating power tools.

OVERVIEW

The EBRHX-MU Main Unit wirelessly connects to the Tow-Pro Link Remote.

PARTS



1. **MAIN UNIT**
2. Mounting Holes
3. Cable Tie Recesses
4. Wago® Boot
5. Wago® Splice Connector
6. Leg accepts wire up to 2.7 mm/0.3"
7. Orange Wire to vehicle stop lamp signal
8. Red Wire to trailer stop lamp
9. Blue Wire to electric trailer brake
10. Power Connector (receptacle)
    Amphenol ATP Series receptacle
    (Deutsch DTP compatible)

11. **ALCOHOL SWAB**

12. **FOAM ADHESIVE TAPE**

13. **STEEL CABLE TIES** (300 mm / 12")

14. **NYLON CABLE TIES, LONG** (300 mm / 12")

15. **NYLON CABLE TIES, SHORT** (200 mm / 8")

16. **WIRING LOOM** (7 m / 23')
17. In-line Fuse Holder
18. 25 A Blade Fuse
19. Positive Cable
20. Red-insulated Lug (8 mm / 5/16")
21. Negative Cable
22. Black-insulated Lug (8 mm / 5/16")
23. Power Connector (plug)
    Amphenol ATP Series plug
    (Deutsch DTP compatible)

INSTALLATION — MOUNTING

⚠ **CAUTION:** Tow-Pro Link Main Unit must be mounted firmly so that it cannot move when travelling. Movement of the Main Unit will cause inaccurate braking-force measurement and incorrect trailer braking.

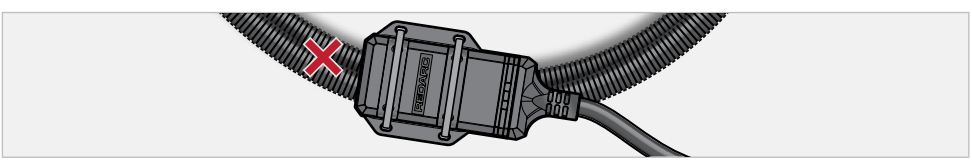
NOTICE: Do not modify the Main Unit plastic housing or mounting holes. Modification will void the warranty.

MOUNTING CHECKLIST — BEFORE YOU BEGIN

The Tow-Pro Link Main Unit is intended to be mounted near the trailer socket of the towing vehicle, however it can be mounted anywhere on the vehicle provided it meets the below criteria. If it is mounted a long way from the trailer socket, a trailer harness extension cable may need to be added.

The Main Unit should only be mounted and operated in a location that meets the following criteria:

- ❑ **ORIENTATION** — The Main Unit can be mounted in any orientation except with the cable facing upwards.
- ❑ **ON THE TOWING VEHICLE** — Mount on the towing vehicle to ensure the system maintains proper power supply and communication with the Main Unit.
- ❑ **FLAT** — Only mount on a flat surface. Do not mount on a curved or uneven surface.
- ❑ **PROTECTED** — Mount in an area that is not subject to flying road debris; as a guide, mount near the centreline of the vehicle where it's typically more protected than the area behind the wheels.
  - Do not mount at or below the departure angle of the vehicle, or anywhere that shows evidence of excessive wear. This usually includes surfaces that face directly backwards from the vehicle.
  - Do not mount in the exposed rear impact/crumple zone.
  - Do not mount directly behind wheels or mud-flaps.
- ❑ **PREVENT SALT-WATER SUBMERSION** — Do not mount the Main Unit and wiring where it may become submerged or easily subjected to salt-water. Mount higher up if possible.
- ❑ **SECURE** — The Main Unit must be mounted using all four mounting points — Do not mount using only adhesive tape. See 'Mounting with Fasteners' (page 8) or 'Mounting with Cable Ties' (page 6) for detailed information on how to safely mount the Main Unit using your chosen mounting method.
- ❑ **FIXED** — The Main Unit must be mounted in a fixed location so that it **cannot move or change orientation during operation**. Movement of the unit will affect system calibration and braking amplitude.
- ❑ **CLEARANCE** — Make sure the Main Unit is not mounted in a tight location that causes the cable to be bent sharply. Make sure the Main Unit is not installed where it is exposed to heat from the exhaust/tail pipe or muffler.
- ❑ **STRUCTURAL** — Mount to fixed panels only. Do not mount on any movable panels, cables or wiring looms, exhaust brackets, exhaust hangers or any other part of the exhaust system.



MOUNTING WITH CABLE TIES

MOUNTING STEPS

1. Confirm that your chosen mounting location meets all criteria listed in 'Mounting Checklist — Before You Begin' (page 5).
2. Inspect the mounting surface; if there is flaking paint, clean it away with a wire brush to prepare the surface.
3. Make sure the Main Unit is clean and dry — carefully clean off any grease or dust using the supplied Alcohol Swab.
4. Using the same Alcohol Swab, wipe the mounting surface clean to prepare it for the Adhesive Tape.
5. Peel the backing paper off of one side of the Foam Adhesive Tape, then position it carefully within the marked area on the back of the Main Unit. Press firmly all over to ensure good adhesion. Repeat with the second piece of tape.
6. Peel the backing paper off both pieces of tape.
7. Carefully position the Main Unit in its final position then press-and-hold, applying pressure firmly all over for 30 seconds to ensure good adhesion.
8. Slide Cable Ties (300 mm / 12") through the mounting holes and around the mounting bar/structure. Firmly tighten the cable ties until the Main Unit can not move. Movement of the Main Unit will affect system calibration.

   > ⚠ **CAUTION:** Do not use the Nylon Cable Ties to mount the Main Unit if the mounting location is in an area exposed to any flying road debris which can cause the Cable Ties to break. This may result in the Main Unit coming off during travel. In this case, use the Steel Cable Ties.
   >
   > If mounting on the tow-bar beam/hitch Steel Cable Ties must be used.

9. Trim excess length off of the Cable Ties.

   If you have used the Steel Cable Ties, leave enough length to fold the trimmed end tightly twice to tension the cable tie and prevent exposure of the trimmed end which may be sharp.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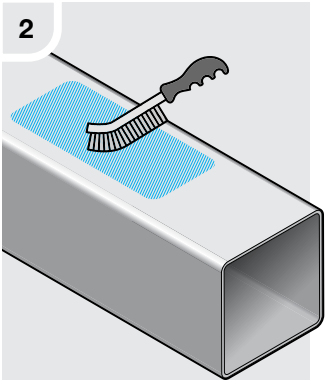
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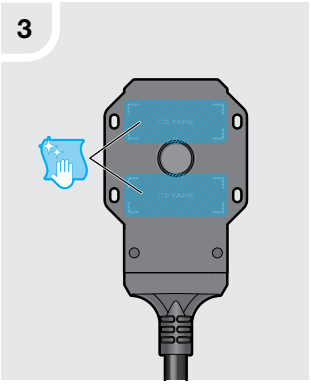
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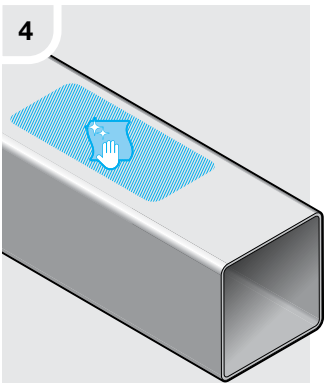
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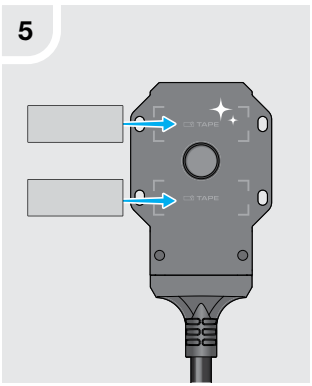
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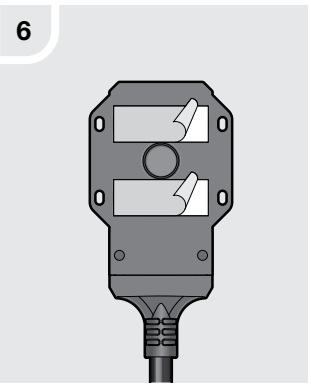
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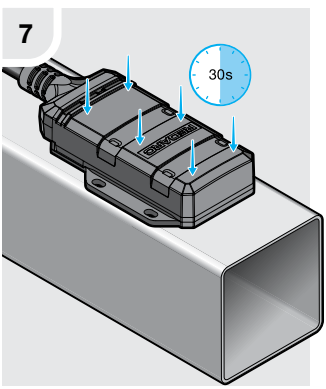
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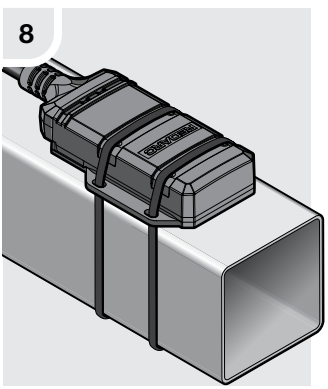
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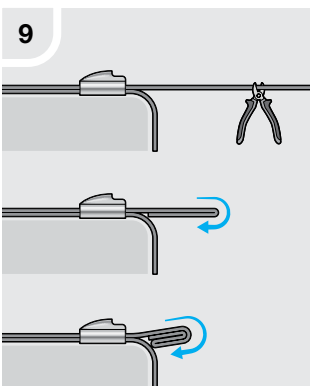
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MOUNTING WITH FASTENERS

RECOMMENDED FASTENERS

⚠ **CAUTION:** Do not use self-drilling or self-tapping screws to mount the Main Unit. These can become loose and may result in the Main Unit coming off during travel. Only use the recommended fasteners or equivalent.

Fasteners × 4: M4 (3/16" UNC)
Length is determined by the mounting surface thickness.

Nyloc Nut × 4: M4 (3/16" UNC)

Flat Washers × 4: M4 × 9 mm (3/16" UNC)

MOUNTING STEPS

The steps below explain how to mount the Main Unit using the recommended fasteners.

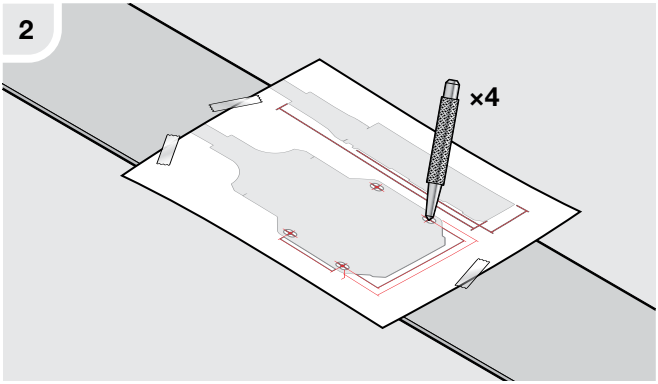
Optionally, you can use the supplied Foam Adhesive Tape to position the Main Unit in place to make mounting easier. If using, apply the tape after step 3.

1. Confirm that your chosen mounting location meets all criteria listed in 'Mounting Checklist — Before You Begin' (page 5).
2. Mark the centres of the mounting holes; you can use the mounting template on page 17.
3. Drill clearance/pilot holes. De-burr the holes and touch up any exposed bare metal surfaces with a rust-inhibitor.

   ⚠ **WARNING:** Use suitable Personal Protective Equipment (PPE) when operating power tools.

4. Fasten the Main Unit firmly in place so that it can not move. Movement of the Main Unit will affect system calibration.


1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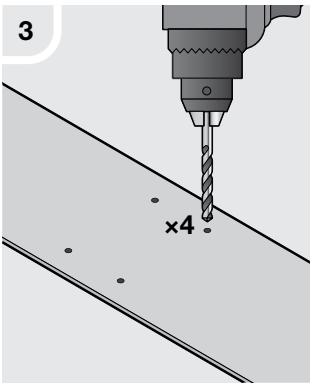
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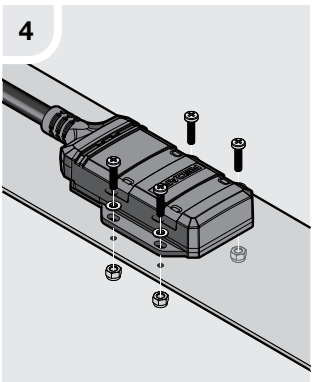
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INSTALLATION — WIRING

⚠ **CAUTION:** Do not route cables over hot surfaces or sharp objects, near the fuel system or brake lines, or over/through parts of the vehicle that move during operation or maintenance.

WHAT YOU WILL NEED

Before you begin, make sure you have everything you need ready, including:

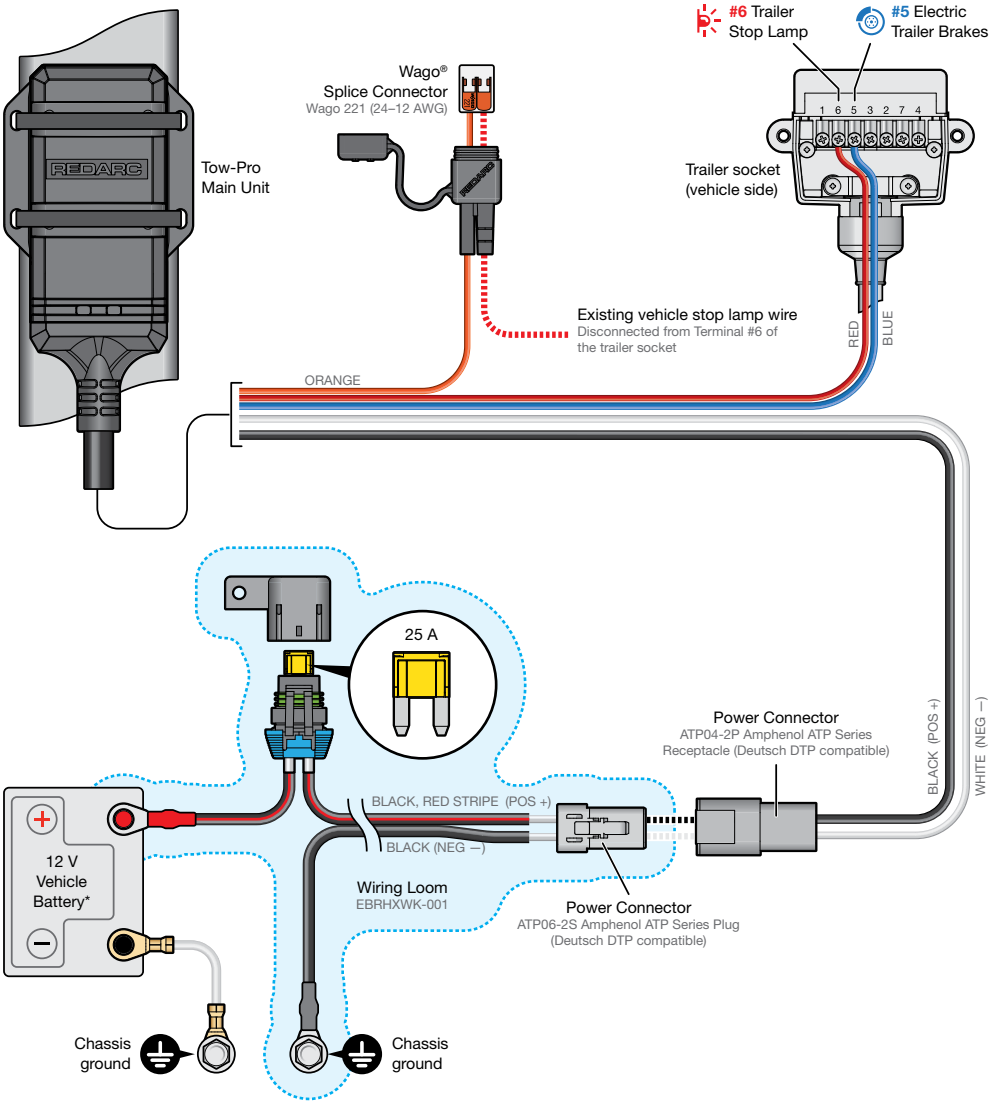
- The Tow-Pro Link Main Unit, mounted (supplied)
- Wiring Loom (supplied)
- Tools and consumables (not supplied)

TOOLS AND CONSUMABLES

The following items may be required depending on your installation:

- Screwdriver set
- Spanner set
- Pliers
- Side/Cable cutters
- Heat gun
- Cable lug crimping tool
- Lugs/Ring terminals
- Heat shrink
- Electrical Tape
- Cable ties
- Conduit/Split tubing
- P-clips

WIRING DIAGRAM

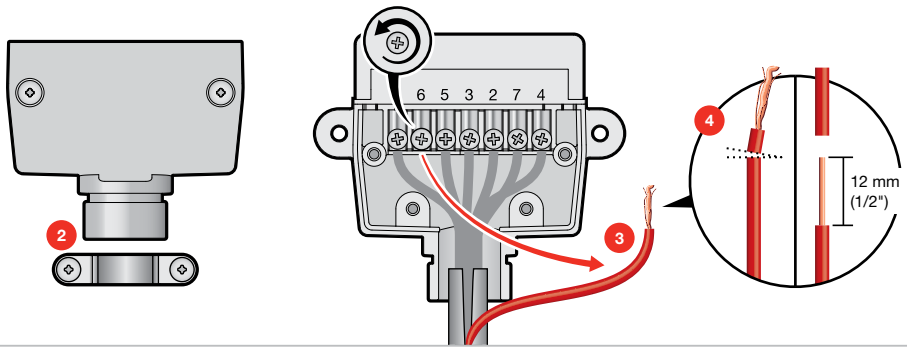


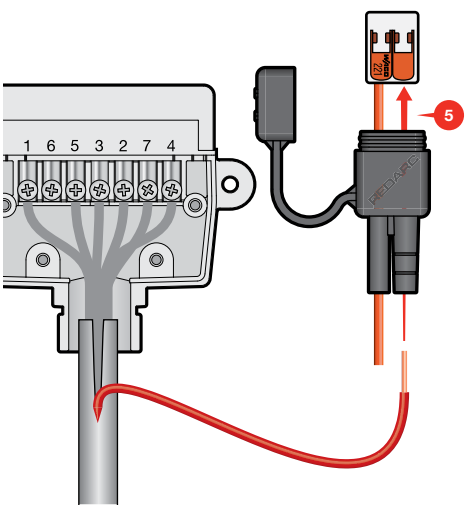
* Only connect the Tow-Pro Link Main Unit to the Vehicle Battery of the vehicle it is mounted on. This to ensure that the system maintains proper power supply and communication with the Main Unit. Do not connect it to an auxiliary battery.

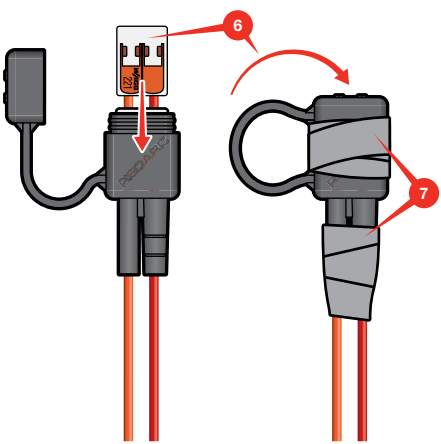
WIRING STEPS

VEHICLE STOP LAMP (ORANGE WIRE)

1. Isolate all batteries connected to the vehicle.
2. Remove the cover and cable clamp from the trailer socket.
3. Loosen the screw at terminal #6 of the trailer socket and pull out the existing wire.
4. Trim the end of the wire and then re-strip 12 mm (1/2") of insulation to create a tidy end.
5. Unlock the terminal lever on the Wago® Splice then route the stripped wire though the spare Leg of the Wago® Boot and into the terminal on the Wago® Splice. The Leg can be trimmed to fit larger thicker wire up to 2.7 mm/0.3" in diameter (10 AWG / 5.26 mm²). Lock the terminal lever on the Wago® Splice.
6. Push the Wago® Splice into the Wago® Boot and close the lid.
7. Wrap electrical tape around the wire entry in the legs to protect against water entry, and around the main body to secure the lid.



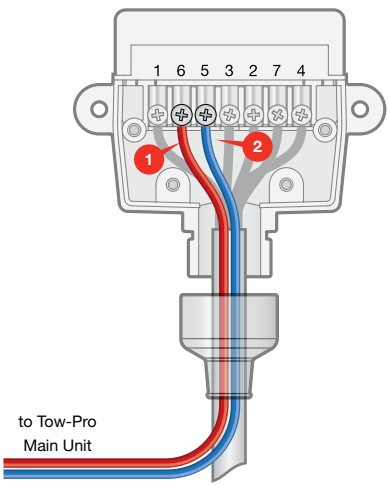


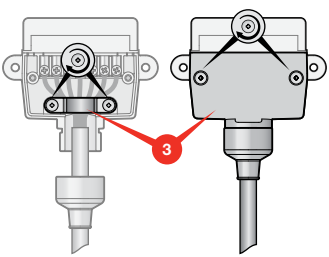


TRAILER STOP LAMP & BRAKES (RED & BLUE WIRE)

The Red and Blue Wires on the Main Unit are supplied pre-stripped. If you need to trim them, cut the wire with side cutters then strip 12 mm (1/2") of insulation from the end of the wire before inserting into the trailer socket terminals.

1. Insert the Tow-Pro Red Wire into terminal #6 of the trailer socket (vehicle side), then tighten the terminal screw.
2. Loosen the screw at terminal #5 on your vehicle's trailer socket, then insert the Tow-Pro Blue Wire and tighten the terminal screw.
3. Refit the cable clamp and cover to the trailer socket.



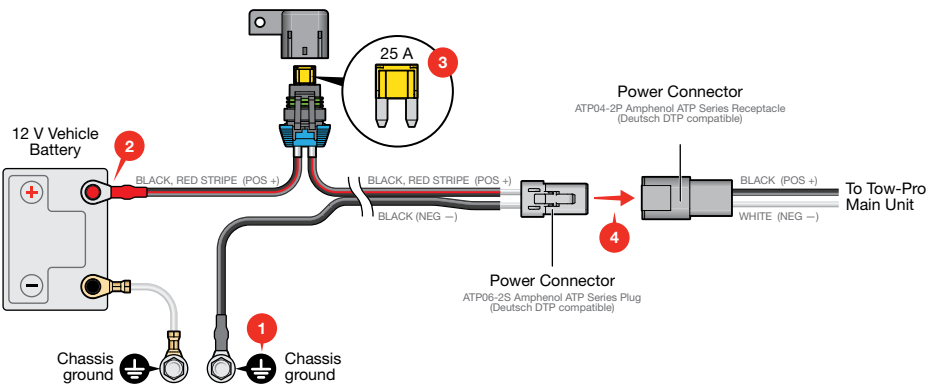


VEHICLE BATTERY CONNECTION

⚠ **CAUTION:** Ensure that a suitable grounding point is used. Vehicles often have ungrounded metal reinforcements under the dash and ungrounded chassis. These points are not suitable grounds. Bad grounding of the unit will result in poor or no operation.

NOTICE: In the case of a dual-battery setup, make sure the vehicle's trailer stop lamp voltage does not exceed the vehicle's start battery voltage to avoid the Tow-Pro Main Unit from entering limp mode.

1. Connect the Black-insulated Lug on the Wiring Loom to a suitable chassis ground point. Avoid connecting directly to the negative battery terminal of modern vehicles as this would bypass the vehicle's current sensing.
2. Connect the Red-insulated Lug on the Wiring Loom to the positive (+) terminal of the vehicle battery.
3. Confirm that the 25 A fuse is in place.
4. Plug the Power Connector on the Wiring Loom into the Power Connector on the Main Unit.
5. Reconnect all batteries that were isolated at the beginning of the installation.



STRAIN-RELIEF AND CABLE MANAGEMENT

Once all wiring is completed, do the following where applicable to protect and secure the cables:

- The main cable is rigid and difficult to bend. A tighter bend radius can be achieved, however a cable section must be bent tightly **only once.** Repeated bending of a section cable may cause internal wiring to fatigue and break.
- Ensure that cables and connectors are not subject to strain/tension during use. Excess cable should be neatly bundled by turning it back on itself in a convenient straight section — avoid multiple tight loops.
- Use the supplied cable ties to secure cables to fixed parts of the vehicle every 30 cm/1' or less, or as specified by local vehicle wiring standards.
- Flexible conduit (not supplied) can be used to manage and protect cables.

SYSTEM TESTING

It is important to check the system is functioning correctly before it is used on the road.

⚠ WARNING

Ensure that your trailer brakes are installed and are operating correctly:

- **Improperly installed and/or faulty trailer brakes can cause erratic vehicle or trailer behaviour with the potential to cause a road accident.** For this reason, it is of utmost importance that your trailer braking system be installed/maintained by a qualified installer.
- **Always check brakes at low speed each time a trailer is attached to your vehicle.**
- **Immediately after installation (to be done by a qualified installer),** test the installation/vehicle wiring. Testing your vehicle wiring is best done by connecting a test light (max. 21 W filament globe) to the brake output, pushing the manual override and having someone check that the test lamp illuminates.

OPERATION

For operation instructions, refer to the supplied User Manual.

The User Manual can be downloaded at: **www.redarcelectronics.com/downloads**

TROUBLESHOOTING

For troubleshooting information, refer to the supplied User Manual.

SPECIFICATIONS

GENERAL SPECIFICATIONS

Specifications shown are for the EBRHX-MU Tow-Pro Main Unit only. For specifications for your Remote, refer to the Install Guide supplied with the Remote.

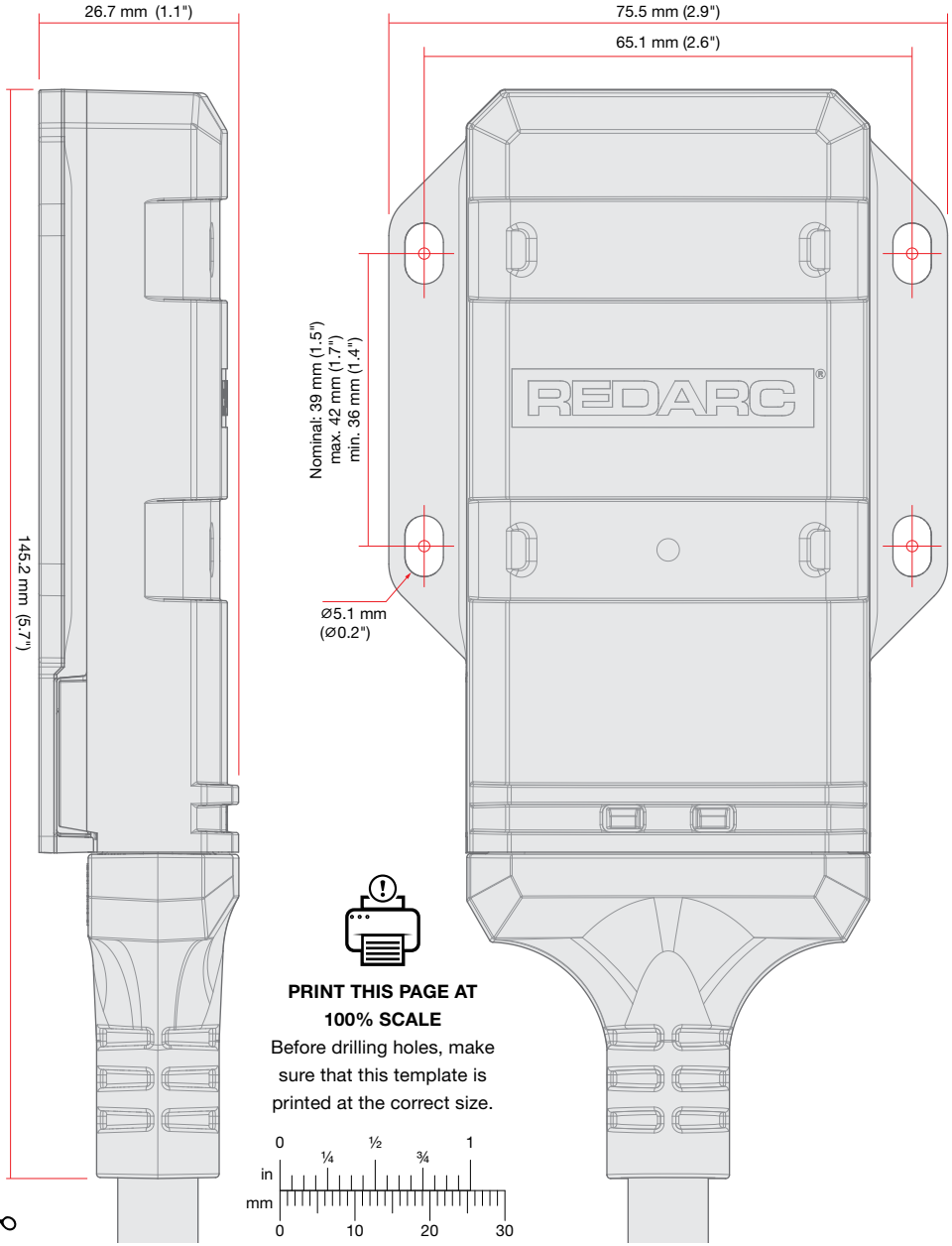
	EBRHX-MU
Operating voltage range*	9 to 16 V ⎓
Nominal input system voltage*	12 V ⎓
Brake input signal voltage*	OFF: 0 V | ON: +12 V nominal
Trailer connection type	Bare wires, wiring required (trailer connector not supplied)
Brake coil voltage*	12 V
Maximum trailer axles	4 Axles
Nominal current draw	18 A
Maximum rated current	25 A
Standby current	< 1 mA
Operating temp	–40°C to +85°C (–40°F to 185°F)
Weight	344.5 g (12.2 oz)
Waterproof Main Unit	Yes, IP57

* Voltages specified are ± 100 mV.

COMPLIANCE AND STANDARDS

Standards	

DIMENSIONS / MOUNTING TEMPLATE



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Before drilling holes, make sure that this template is printed at the correct size.

Cut out page to use as mounting template

REAR OF MOUNTING TEMPLATE

Cut out page to use as mounting template

WARRANTY

For full warranty terms and conditions, visit the Warranty page of the REDARC website at **www.redarcelectronics.com/warranty**.

Australia, New Zealand & Europe

REDARC Electronics Pty Ltd, 23 Brodie Road (North), Lonsdale SA 5160, Australia

Australia ..... +61 8 8322 4848
New Zealand ..... +64 9 222 1024
UK & Europe ..... +44 (0)20 3930 8109

North America

REDARC Corporation, c/o Shallco, Inc., 308 Component Dr., Smithfield, NC 27577, USA

USA ..... +1 (704) 247 5150
Canada ..... +1 (604) 260 5512
Mexico ..... +52 (558) 526 2898

CHECKING THE PRODUCT SERIAL NUMBER

The Product Serial Number is located on the back of the Main Unit and on the product packaging.

REDARC Electronics Pty Ltd | ABN 77 136 785 092
REDARC Electronics Pty Ltd, 23 Brodie Road (North), Lonsdale SA 5160, Australia

Tech Support
1300 REDARC (1300-733-272)

Australia
+61 8 8322 4848

New Zealand
+64 9 222 1024

UK & Europe
+44 (0)20 3930 8109

USA
+1 (704) 247-5150

Canada
+1 (604) 260-5512

Mexico
+52 (558) 526-2898

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