THE POWER OF REDARC®

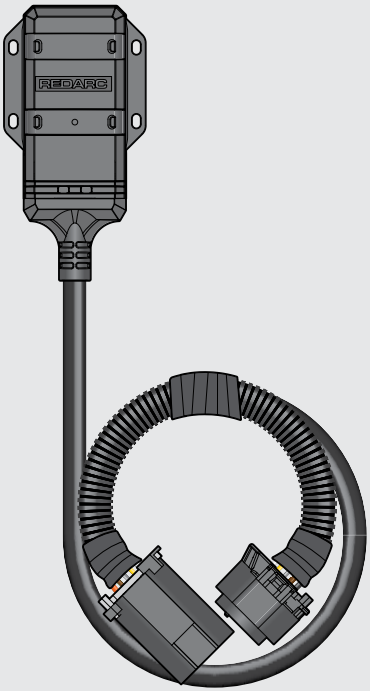
INSTALL GUIDE

# TOW-PRO LINK™

Electric Trailer Brake Controller Main Unit

**MODELS:**

- **EBRHX-MU-NA**




AUSTRALIAN MADE®

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## LOOKING FOR MORE INFORMATION?

This Install Guide includes safety information and installation instructions relating to the Tow-Pro Link **Main Unit only** (EBRHX-MU-NA)**.** 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**

# 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.

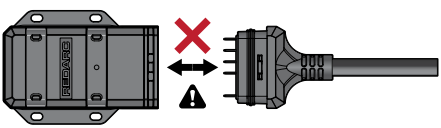
⚠ **CAUTION:** Indicates a potentially hazardous situation which may result in moderate or minor injury to the operator or to bystanders.

**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 unit will result in poor or no operation.

### 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.

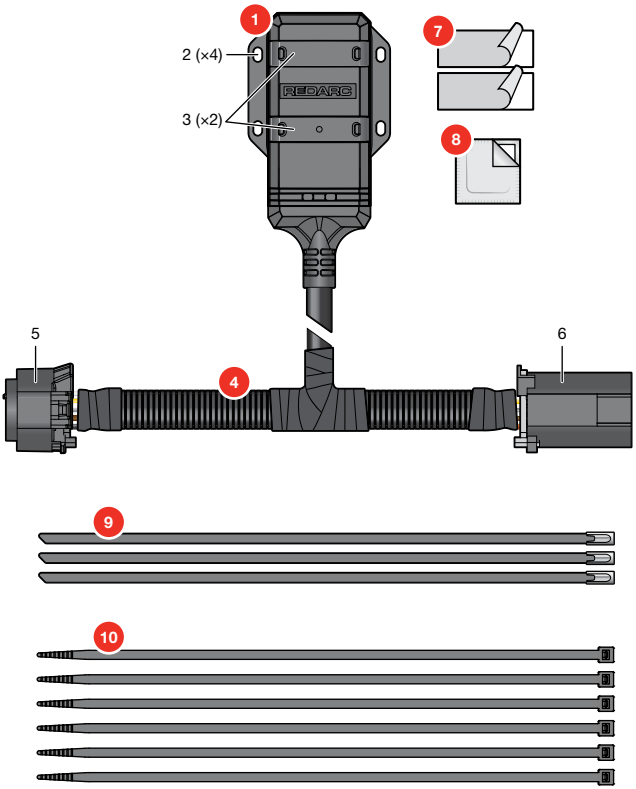


# OVERVIEW

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

It has a standard USCAR 7-way connector for simple plug-and-play installation to most vehicles.

## PARTS




1. **MAIN UNIT**
2. Mounting Holes (×4)
3. Cable Tie Recesses (×2)

4. **WIRING LOOM**
5. USCAR 7-way Socket
6. USCAR 7-way Plug

7. **ADHESIVE TAPE** (×2)

8. **ALCOHOL SWAB**

9. **STEEL CABLE TIES** (×3)

10. **NYLON CABLE TIES** (×6)

# 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.

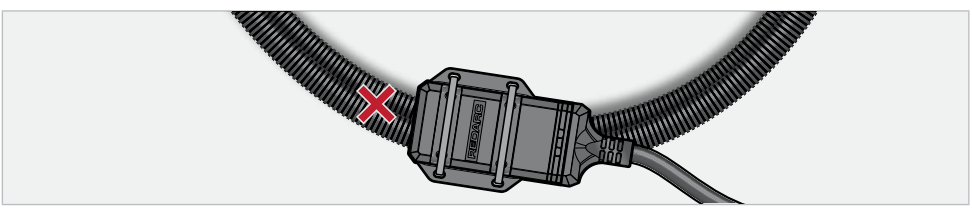
**NOTICE:** Do NOT modify the plastic housing or mounting holes in any way. Modification to the unit will void the warranty.

## MOUNTING CHECKLIST — BEFORE YOU BEGIN

The Tow-Pro Link Main Unit is intended to be mounted near the trailer socket, 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 plug, 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.
- ❑ **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.
- ❑ **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

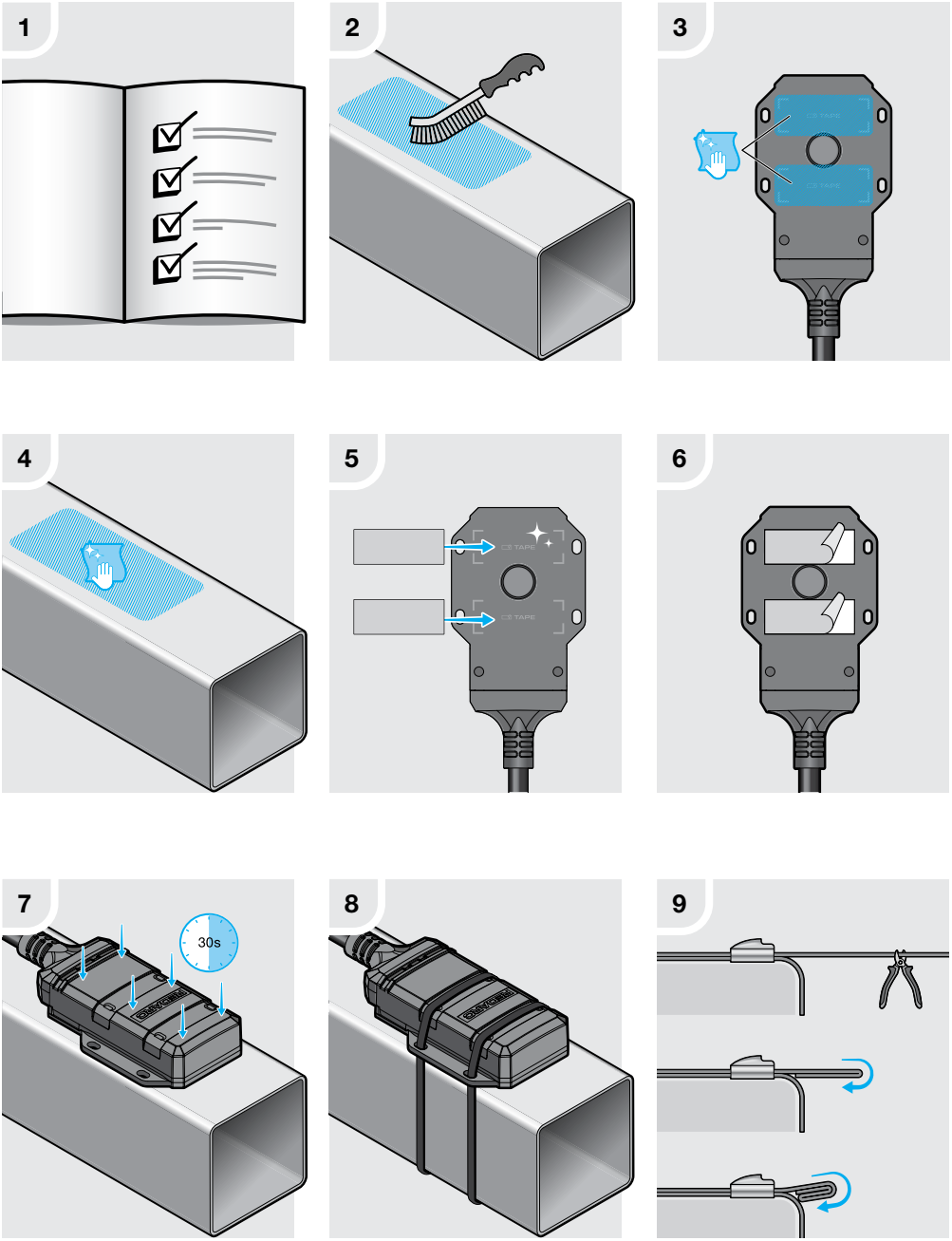
## MOUNTING STEPS

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.


1
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30s
8
9

# 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.

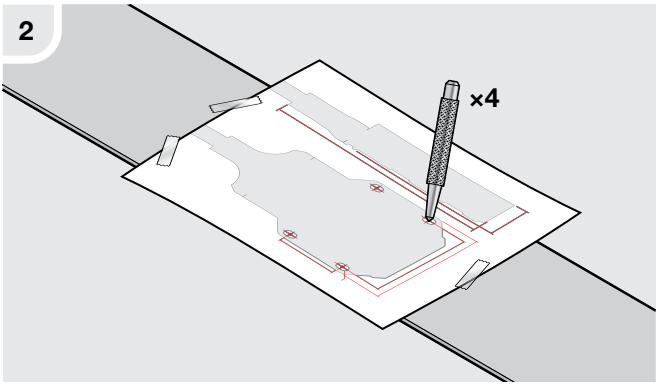
Optionally, you can use the supplied Foam Adhesive Tape to position the Main Unit in place to make mounting easier. If using, apply the tape after step 3.

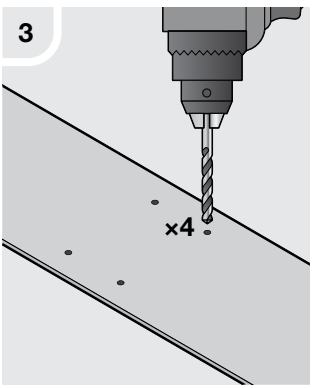
1. Confirm that your chosen mounting location meets all criteria listed in 'Mounting Checklist — Before You Begin' (page 5).
2. Mark the centres of the mounting holes; you can use the mounting template on page 13.
3. Drill clearance/pilot holes. De-burr the holes and touch up any exposed bare metal surfaces with a rust-inhibitor.

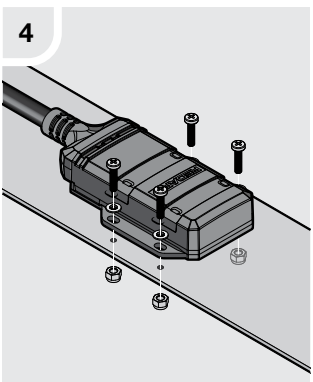
   > ⚠ **WARNING:** Use suitable Personal Protective Equipment (PPE) when operating power tools.

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


1


2
×4


3
×4


4

# INSTALLATION — WIRING

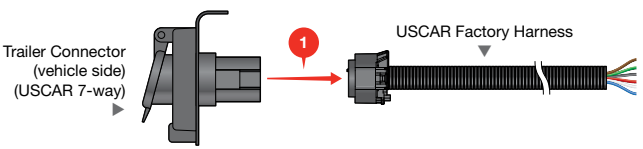
## WIRING STEPS

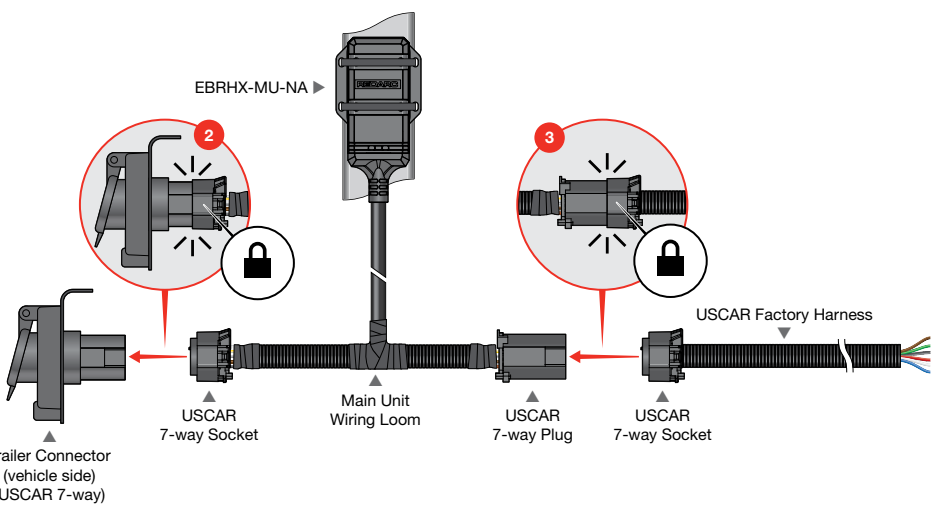
**⚠ CAUTION:** Do not route cables over hot surfaces or sharp objects, near the fuel system or brake lines, or over/through parts of the vehicle that move during operation or maintenance.

**⚠ WARNING:** Make sure all connectors are properly coupled and cannot come apart during operation, as this could cause a loss of braking.

1. Unplug the USCAR factory harness from the rear of the Trailer Connector.
2. Firmly connect the USCAR 7-way Socket of the Wiring Loom to the Trailer Connector.
3. Firmly connect the USCAR 7-way Plug of the Wiring Loom to the USCAR 7-way Socket of the USCAR factory harness.
4. Tidy up cables as needed — see 'Strain-Relief and Cable Management' (page 11) for more information.

## WIRING DIAGRAM



## 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.

## 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

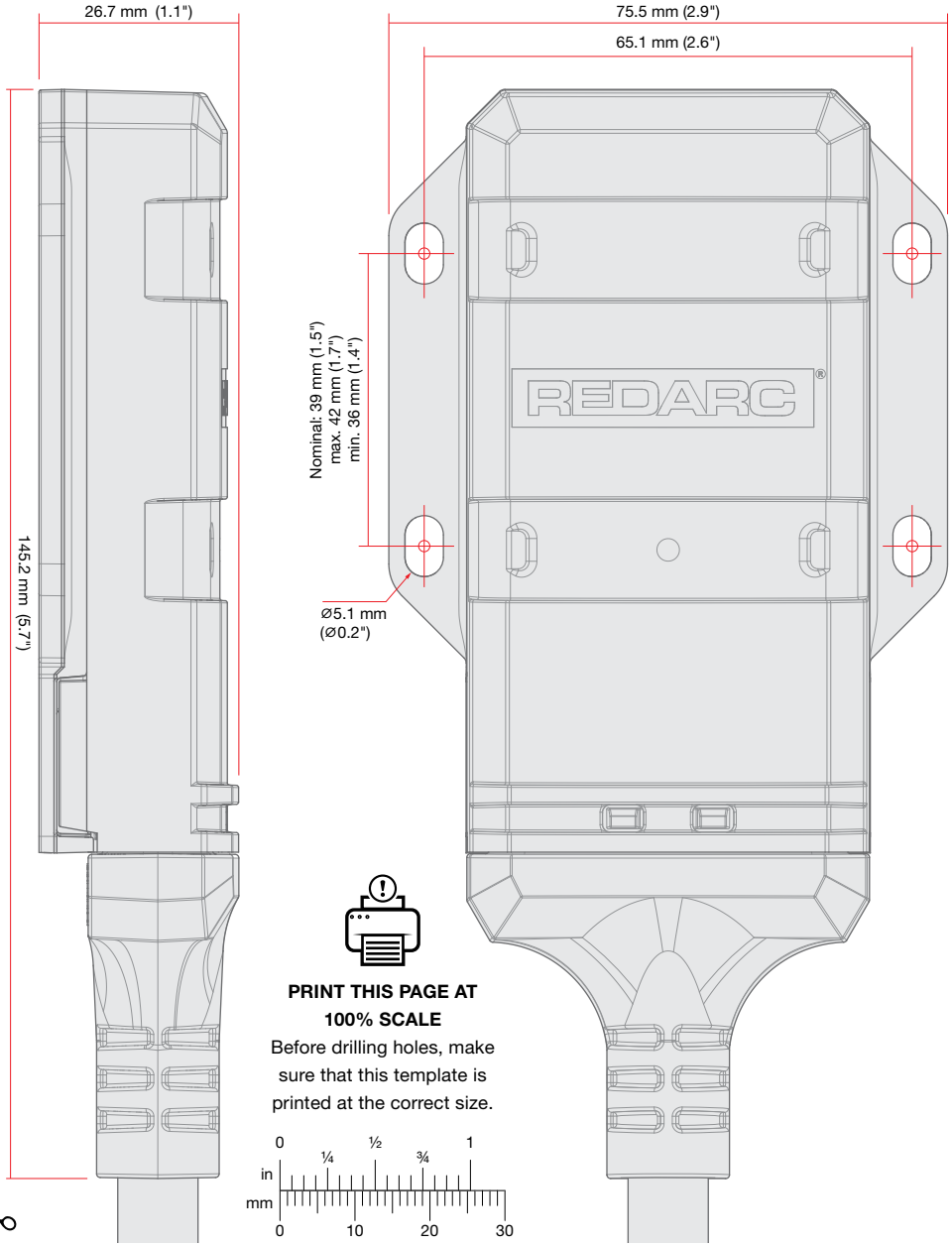
## GENERAL SPECIFICATIONS

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

| | **EBRHX-MU-NA** |
|---|---|
| **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** | USCAR 7-way plug-and-play |
| **Brake coil voltage*** | 12 V |
| **Maximum trailer axles** | 4 axles |
| **Nominal current draw** | 18 A |
| **Maximum rated current** | 25 A |
| **Standby current** | < 5 mA |
| **Operating temp** | –40°C to +85°C (–40°F to 185°F) |
| **Weight** | 417.5 g (14.7 oz) |
| **Remote Compatibility** | Adhesive Mounted USB Remote (EBRHX-ADH-RH)<br>Dash Mounted Remote (EBRHX-DMT-RH) |
| **Waterproof Main Unit** | Yes, IP57 |

* Voltages specified are ± 100 mV.

# DIMENSIONS / MOUNTING TEMPLATE




**PRINT THIS PAGE AT 100% SCALE**

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



# COMPLIANCE AND STANDARDS

| | |
|---|---|
| **Standards** | |
| **ICES** | CAN ICES-003 (B)/ NMB-003(B) |

## FEDERAL COMMUNICATIONS COMMISSION (FCC) STATEMENT

**FCC Statement — Class B**

**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.

This equipment complies with the FCC and ISED Canada radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 cm between the radiator and all persons during normal operation.

**WARNING:** Any changes or modifications not expressively approved by the grantee could void the user's authority to operate this equipment

FCC ID: 2BAH6-EBRHXMUNA

**Details of the Responsible party:**

REDARC Corporation, 1701 Northwest Highway, Suite 100, Grapevine TX, 76051, USA

Phone: +1 (704) 247 5150

## INDUSTRY CANADA (IC) COMPLIANCE NOTICE

This equipment complies with the FCC and ISED Canada radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 cm between the radiator and all persons during normal operation.

**ICES Statement — Intentional Transmitter**

This device complies with Part 15 of the FCC Rules and with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:

1. This device may not cause interference.
2. This device must accept any interference, including interference that may cause undesired operation of the device.

IC: 30290-EBRHXMUNA

## AVIS DE CONFORMITÉ D'INDUSTRIE CANADA (IC)

Cet équipement est conforme aux limites d'exposition aux rayonnements de la FCC et ISED Canada établies pour un environnement non contrôlé. Cet équipement doit être installé et utilisé avec une distance minimale de 20 cm entre le radiateur et toutes les personnes pendant le fonctionnement normal.

**Déclaration du CIEM — Émetteur intentionnel**

L'émetteur/récepteur exempt de licence contenu dans le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes:

1. L'appareil ne doit pas produire de brouillage.
2. L'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillardest susceptible d'en compromettre le fonctionnement

IC: 30290-EBRHXMUNA

# 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.

# NOTES

**PATENTS:** This product may have patent(s) granted and/or pending, design and eligible layout rights may also subsist.
Visit www.redarcelectronics.com/patent.

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**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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