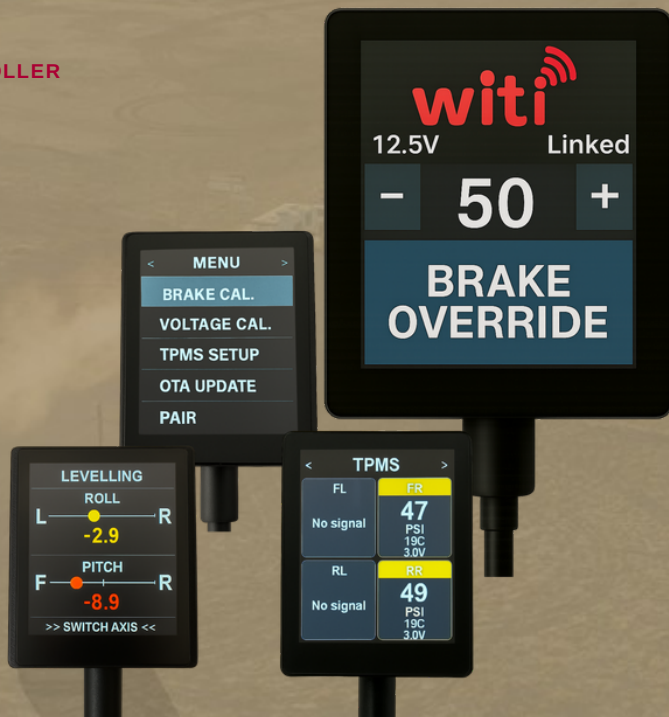


OPERATIONAL & INSTALLATION GUIDE

SAFETOW BRAKE CONTROLLER



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Specifications

Parameter	Value
Operating Voltage	5 V
Operating Current	38 mA
Operating Temperature	−20°C to 60°C
Display	2.8" colour touchscreen
Connectivity	Encrypted Wi-Fi link to WiTi Anti-Theft System
Power Input	USB powered (USB-C connector)
Firmware	V3 Production (OTA updateable)
Weight	45 g

In the Box

- WiTi SafeTow Brake Controller
- 0.5m USB-A to USB-C power lead

Warnings & Safety Instructions

Do not operate the WiTi SafeTow Brake Controller unless you have read and understood this manual and the unit is installed as per the instructions below.

- The SafeTow Brake Controller requires the WiTi Anti-Theft System (SKU 480, April 2026 or later) to be installed in the caravan or trailer. The Brake Controller pairs with the Anti-Theft System over an encrypted Wi-Fi link — it cannot operate as a standalone unit.
- Always read and understand the complete installation and operational guide before use.
- Do not use the Brake Override feature other than for brake testing or emergency braking — sustained activation may cause brake wear.
- Perform Brake Calibration on level ground with the rig completely stationary. Calibrating on a slope or while moving will result in incorrect braking behaviour.
- Do not power off the controller during a firmware (OTA) update — this may corrupt the firmware.
- Inspect wiring connections before each trip. Damaged wiring must be replaced before towing.

How It Works

The WiTi SafeTow Brake Controller is a proportional brake controller. It applies braking force to the caravan or trailer in proportion to the rate of deceleration of the tow vehicle — the harder the tow vehicle brakes, the harder the trailer brakes. Two additional features go beyond standard proportional control:

Hill Descent Control

Standard proportional brake controllers rely on inertia to trigger braking. When descending a steep hill the driver typically feathers the brakes to maintain speed, generating little or no inertia. This means little or no braking is applied to the trailer and the trailer pushes the tow vehicle down the hill.

Hill Descent Control eliminates this problem by measuring the angle of descent via the gyro sensor in the WiTi Anti-Theft System. Trailer brakes are applied relative to the gain setting — the steeper the descent, the more braking is applied — resulting in a safer, more controlled descent.

Brake Smoothing

Brake Smoothing eliminates the sharp jolting that can occur with conventional brake controllers. The output signal to the trailer's electric brakes is measured and smoothed electronically, delivering a more comfortable towing experience and reducing wear on the trailer's braking system.

***Note:** Hill Descent Control and Brake Smoothing are both active in normal proportional braking mode. They are disabled when Brake Override is being used manually.*

Pairing the Brake Controller to the Anti-Theft System

Before use, the SafeTow Brake Controller must be paired with the WiTi Anti-Theft System installed in the caravan or trailer. Pairing only needs to be performed once — the two units will reconnect automatically each time they are powered on within range of each other.

Pairing Procedure

1. Ensure the WiTi Anti-Theft System is powered on and within 10 metres of the SafeTow Brake Controller.
2. On the WiTi Anti-Theft System, press and hold the PAIR button.
3. While holding the PAIR button, press the RESET button for half a second then release the RESET button — continue holding PAIR.
4. When the RESET button is released, the red LED will flash rapidly while the amber LED remains solid. Release the PAIR button. The Anti-Theft System is now in PAIRING mode and will search for a Brake Controller for five minutes.
5. Turn the ignition on in the tow vehicle. Ensure the SafeTow Brake Controller is powered via USB. Select the Menu by pressing > on the top right of the screen. Press PAIR. The screen displays "Pairing" and searches for the Anti-Theft System for 60 seconds.
6. On successful pairing, the controller screen displays "Pairing Successful" for five seconds, then returns to the Home screen. The battery voltage and Linked icon will now appear.
7. On the Anti-Theft System, both LEDs will flash simultaneously for five seconds to confirm successful pairing, then return to normal operation. Both the amber and red LEDs will remain illuminated while the Brake Controller is within wireless range.

Pairing Failure

If the Anti-Theft System did not detect a pairing partner, the red and amber LEDs will flash alternately for five seconds, then the unit will return to normal operation with only the amber LED illuminated.

If the controller did not detect a pairing partner, the display will show "Pairing Timeout" followed by "Pairing Failed". Ensure both units are powered and within range, then repeat the pairing procedure.

Re-Pairing via the Menu

To pair with a new trailer unit, go to Menu → PAIR. The controller restarts in pairing mode and the pairing procedure above is repeated from Step 2.

Navigation Overview

The SafeTow Brake Controller uses a 2.8" colour touchscreen. Most screens share a common navigation bar at the top of the display.

Navigation Bar Touch Zones

Touch Zone	Action
< (top-left corner)	Go to previous screen
> (top-right corner)	Go to next screen
Centre logo area	Tap to cycle backlight brightness (3 levels)

Screen order (left → right):

Home → TPMS → Levelling → Home

1. Home Screen

The Home screen is the main operating screen, displayed during normal towing.

Display Layout

Area	Content
Top bar	Battery voltage (left) · Link status — "Linked" or "No Link" (right)
Centre	WiTi logo
Gain display	Current brake gain setting (0–100) with – and + buttons either side
Brake bar	Live brake output %. Green (0–50%) · Orange (50–75%) · Red (75–100%)
Bottom button	BRAKE OVERRIDE — full-width red button

Adjust Brake Gain

Tap – or + to decrease or increase brake sensitivity. Higher values mean more braking force for the same tow vehicle deceleration. Experiment with settings to find the ideal balance for your trailer weight and driving conditions.

Brake Override

Press and hold the BRAKE OVERRIDE button to manually activate the trailer brakes — for example, during a brake test or to hold position on a hill. The brakes remain active while the button is held.

Note: Hill Descent Control and Brake Smoothing are disabled during manual Brake Override.

Adjust Backlight Brightness

Tap the centre of the WiTi logo to cycle through three brightness levels:

Level	Brightness	Recommended Use
Full	100%	Normal daylight use
Medium	~60%	Reduced glare at dusk or in low light
Dim	~20%	Minimal light for night driving

Open Menu

Tap the top-right corner of the logo area to open the Menu screen.

Alerts

Alerts appear as flashing banners in the centre of the screen and take priority over all other content.

Alert	Meaning	Action
TPMS Pressure Alert	A tyre pressure is outside the configured thresholds. Affected wheels are shown (e.g. FL RR).	Tap the banner to acknowledge and clear.
Short Circuit Alert	A wiring fault has been detected on the brake or lights circuit.	Tap the banner to acknowledge and clear.

Note: A "No Link" status means the controller cannot communicate with the trailer unit. Check the wireless connection before towing.

2. Menu Screen

Access the Menu from the Home screen by tapping the top-right corner of the logo area. Tap a row to select it. Tap either arrow or navigate away to exit the menu without making a change.

Menu Item	Function
BRAKE CAL.	Calibrates the gyro sensor. Place the tow vehicle and trailer on level ground, then select. Keep the trailer completely still during calibration (approx. 10 seconds).
VOLTAGE CAL.	Calibrates the voltage reading. Measure the actual battery voltage with a multimeter, then adjust the displayed value to match.
OTA UPDATE	Opens the firmware update screen (see Section 5 — OTA Update).
PAIR	Restarts the controller in pairing mode to link with a new trailer unit.

3. TPMS Screen

Displays live tyre pressure, temperature, and battery data from up to four wireless WiTi TPMS Sensors (sold separately — Coming Soon).

Navigate here by tapping the top-left arrow on the Home screen, or the top-right arrow on the Levelling screen.

Wheel Tile Layout

Tile Position	Wheel
Top-left	Front Left (FL)
Top-right	Front Right (FR)
Bottom-left	Rear Left (RL)
Bottom-right	Rear Right (RR)

Each tile shows: pressure (PSI or kPa), temperature (°C), and sensor battery percentage.

Tile Border Colours

Tile Border Colour	Meaning
Red	Critical pressure — below the critical threshold
Orange	Warning pressure — below the warning threshold
Grey	Pressure OK, or no sensor paired

Sensor Battery Indicator Colours

Battery Colour	Meaning
White	Battery ≥ 40%
Orange	Battery 20–40%
Red	Battery < 20% — replace sensor battery soon

Pairing a Sensor

1. Tap the tile for the wheel you want to pair.
2. A countdown timer is shown. Inflate the tyre slightly — this causes the sensor to begin advertising.
3. The controller auto-pairs when it detects the sensor. The tile updates with live data once pairing is complete.

Note: If the countdown expires without pairing, try inflating the tyre again or check that the sensor is correctly fitted.

Unpairing a Sensor

Press and hold the tile for the paired wheel for approximately 1.5 seconds. The tile returns to the "Tap to Pair" state.

TPMS Settings

Tap the SETTINGS button at the bottom of the TPMS screen to adjust pressure thresholds.

Setting	Description
Units	Toggle between PSI and kPa
Crit	Critical pressure threshold — tile turns red below this value
Warn	Warning pressure threshold — tile turns orange below this value
Max	Maximum pressure threshold — tile turns red above this value

Use the – and + buttons to adjust each threshold. Tap SAVE to apply. Tap the back arrow to discard changes.

Note: Critical must be less than Warning, and Warning must be less than Maximum.

4. Levelling Screen

Displays the current pitch and roll of the trailer using the built-in gyro sensor in the WiTi Anti-Theft System. Use this screen to confirm the trailer is correctly hitched and level before departure.

Navigate here by tapping the top-right arrow on the TPMS screen.

Display Layout

Section	Content
ROLL	Left/Right tilt. Bubble indicator + degree value. L = leaning left, R = leaning right.
PITCH	Front/Rear tilt. Bubble indicator + degree value. F = nose down, R = rear down.

Bubble Indicator Colours

Bubble Colour	Meaning
Green	Less than 1° — level
Yellow	1–5° — slight tilt
Red	More than 5° — significant tilt

Switch Axis Button

The Trailer Unit may be mounted facing forwards or backwards, tap >> SWITCH AXIS << at the bottom of the screen to correctly display tilt information. This flips the roll and pitch display to compensate. The setting is saved and persists across power cycles.

5. OTA Firmware Update

Use this screen to update the controller firmware over Wi-Fi without removing the unit.

Navigate here: Menu → OTA UPDATE

Update Procedure

1. On the OTA screen, the controller starts a Wi-Fi access point.
2. On your phone or laptop, connect to the Wi-Fi network:
Network: WITI-BC-Update
Password: WiTi-Update
3. Open a web browser and go to: **192.168.4.1**
4. Select the firmware .bin file provided by WiTi, then tap Upload.
5. The progress bar fills as the file uploads. When complete, the screen shows "Done! Rebooting..." and the controller restarts automatically.

Status Messages

Status Message	Meaning
Waiting for connection...	Access point is running — no device connected yet
Uploading...	File transfer in progress — do not power off
Done! Rebooting...	Update successful — controller is restarting
Upload failed — retry	Transfer error — try uploading the file again

To exit without updating, tap either the < or > arrow. The controller will reboot.

Important: Always use a signed .bin file supplied by WiTi. Unsigned files will be rejected.

6. Calibration

Brake Calibration

Access: Menu → BRAKE CAL.

Calibrates the gyro sensor used to detect braking. The WiTi Anti-Theft System is factory calibrated, however re-calibration may be required if the installation is not level when hitched.

Procedure:

1. Ensure the SafeTow Brake Controller is paired and the Linked status is shown on the display.
2. Park the tow vehicle and trailer on a level surface.
3. Ensure the rig is completely stationary — any movement will prevent calibration.
4. Go to Menu → BRAKE CAL. and select it.

Result	Meaning
Calibration Successful	Calibration complete — ready to tow
Cal Failed — Movement	Movement detected during calibration. Try again on level, stable ground.
Cal Failed — Timeout	No response from the trailer unit. Check the wireless link and try again.

The screen returns to the Menu automatically after displaying the result.

Voltage Calibration

Access: Menu → VOLTAGE CAL.

Allows fine-tuning of the voltage reading displayed on the Home screen to match the actual battery voltage.

1. Measure the battery voltage with a multimeter.
2. Go to Menu → VOLTAGE CAL. The current displayed voltage appears.
3. Use the – and + buttons to adjust the displayed value until it matches the multimeter reading.

4. Tap CONFIRM to save and return to the Menu.

Adjustment range: 5.0 V – 18.0 V in 0.1 V steps.

Audio Indicators

Event	Sound
TPMS pressure alert active	Spoken "Tyre Pressure Warning" — repeated every 3 seconds while alert is active
Alert cleared or acknowledged	Audio stops immediately

Quick Reference — Screen Navigation

From	Tap	Goes to
Home	Top-left corner of logo	TPMS
Home	Top-right corner of logo	Menu
TPMS	< arrow	Levelling
TPMS	> arrow	Home
TPMS	SETTINGS button	TPMS Settings
Levelling	< arrow	Home
Levelling	> arrow	TPMS
Menu	BRAKE CAL.	Brake Calibration screen
Menu	VOLTAGE CAL.	Voltage Calibration screen
Menu	OTA UPDATE	OTA Update screen
Menu	PAIR	Restarts in pairing mode

Limited Warranty

If Leisure Technologies determines that you are covered by a warranty as set in the Australian Consumer Law, the company shall at its expense: (a) repair the product, or replace the product with a new unit (which may have used refurbished parts of similar quality); (b) ship the repaired or replaced unit back to you; (c) warrant the repaired or replaced product for a reasonable period; and/or (d) refund money paid for the product. The Company has the discretion as to which remedy applies.

Warranty Period

The warranty period starts on the date of purchase and ends 24 months later.

How to Get Warranty Service

During the warranty period, if you wish to return a defective product, contact us via witi.com.au. Return the defective product to the address given, accompanied by acceptable proof of purchase (a bill of sale or receipted invoice).

What is Not Covered

The limited warranty does not cover a product:

- For which you are not the original purchaser
- That is damaged by using in a way that was unreasonable or unintended
- That is returned after the applicable warranty period has expired
- That has been installed other than per the product installation guidelines
- That has been maintained, altered, modified, opened, or repaired other than by the company or an authorised service centre
- That has been physically damaged other than by the company or an authorised service centre

To the extent permitted by law, Leisure Technologies, its directors, officers, employees, suppliers and agents, shall not be liable for injury to persons or property, or for any indirect, special, incidental or consequential, punitive or exemplary damages and liability shall be limited to the amount you paid for the product.

Australian Consumer Law

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. The benefits under your warranty are in addition to other rights and remedies under the law in relation to the product.

Disclaimer

- WiTi products are designed for installation by reasonably competent consumers. Consumers are taken to have sufficient knowledge of the intended caravan or trailer unit and its appropriateness for the installation of any WiTi products.
- Installation of WiTi products may require consumers to have knowledge and experience using powered tools and electrical wiring. Consumers without such knowledge should consult their nearest WiTi specialist or qualified Auto Electrician.
- It is the consumer's sole responsibility to have WiTi products properly installed on their vehicle and/or trailer, along with any modifications necessary for proper installation.



SAFETOW WIRELESS BRAKE CONTROLLER



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