

EN

Parametric

QUICKSTART GUIDE

LoRaWAN™ Radar Traffic Counter

TCR-LS
TCR-HS



Setup

You can open the device to access the USB configuration port to change device settings.

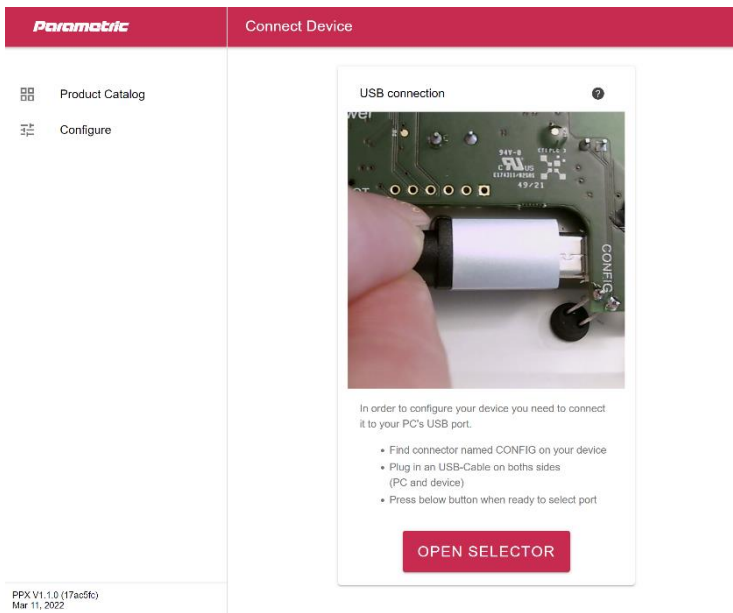


- Remove the four screws from the casing to gain access to the device.
- Carefully open the enclosure while making sure not to yank the cables connecting the two electronic parts in the top and the bottom of the casing.



- Connect the sensor to your Computer with a USB Cable using the Config Port.
- Use the TCR Command line interface to set your LoRa keys:
[parametric.ch/docs/tcr/tcr_cli_v10x](https://www.parametric.ch/docs/tcr/tcr_cli_v10x)

Open PPX Setup Tool



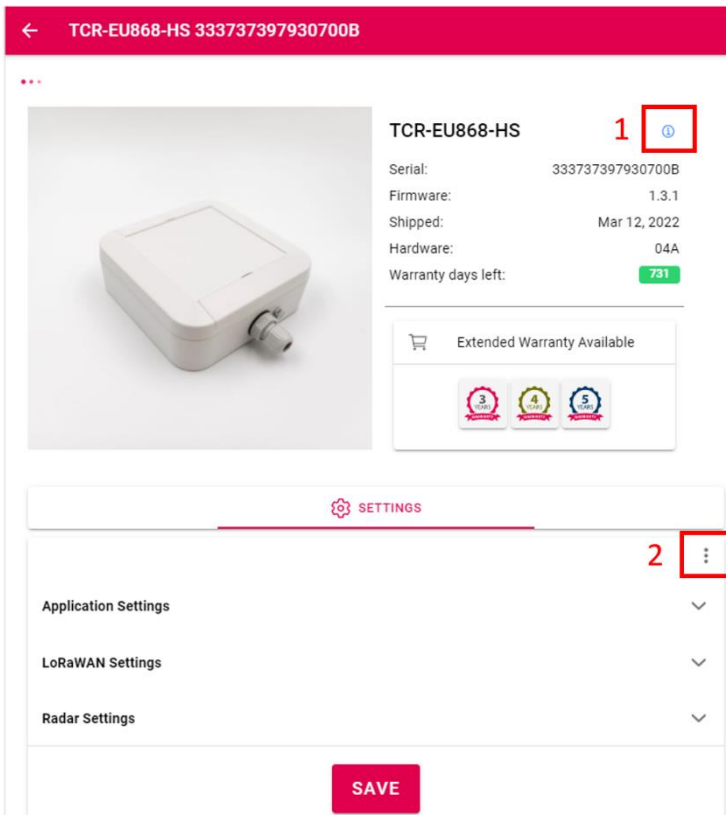
Open the free Parametric Product Explorer (PPX) Tool by opening the following URL:

<https://ppx.parametric.ch/connect>

In order to configure your device you need to connect it to your PC's USB port.

- Find connector named CONFIG on your device
- Plug in an USB-Cable on both sides (PC and device)
- Press "Open Selector" button when ready to select port

Overview PPX Configurator Tool



Start the PPX Configurator tool. After some seconds you will see the device information and settings.

Device information includes: sensor type, serial number, firmware, shipping date, hardware, and warranty days left.

Clicking the "Information" icon (1) leads to the device's product catalogue page where you can find the device documentation.

Clicking the three dots (2) sets the default settings.

Extended Warranty Available leads you to the Parametric Store to upgrade your device's warranty.

Always press 'Save' after changing settings.

Settings

Overview of Application Settings

Operation Mode	Timespan
Trigger Hold Off [s]	0
Uplink Interval [min]	10

Operation Mode

Timespan – count objects and send sum after interval.

NotZero – Same as Timespan but does not send if counters are 0 (zero).

Trigger – Send on every detection. Use Hold Off Time to prevent sending on every event.

CapacityAlert – Set limit on how many people may enter a shop.

Trigger Hold Off [s]

Time to re-arm trigger.

0...600s (0 = no suppression).

Uplink Interval [min]

Set the sending interval in minutes (1...1440 minutes). During this time, all persons will be counted and sums are transferred. After transfer, counters will be reset.

Overview of LoRaWAN Settings

Modem Enabled	
Device Class	A
Confirmed Uplinks	
Link Check Interval	1440
DevEUI	333737397930700B
AppEUI	8CAE49CFFFFFFF01
AppKey	5ED3553AD10E5ADE41F44AA4E4823F0B
Channels	All

Confirmed Uplinks

Send uplinks with ACK requests.

LinkCheck Interval

After this interval, send LinkCheckReq with next uplink. Set to zero to disable Linkcheck completely.





DevEUI, AppEUI, AppKey

Enter your LoRaWAN Keys

Payload Type

Choose between Parametric and Cayenne LPP compatible payload formats.

Overview of Radar Settings

Radar Settings		^
Autotune		<input checked="" type="checkbox"/>
Left To Right Lane Distance	400	
Right To Left Lane Distance	800	
Speed Class 0		
Speed Class 1		
Speed Class 2		
Speed Class 3		
Beam Angle	80	
Sensitivity	95	
Mounting Angle	90	
Mounting Pitch	0	

Autotune

If enabled, the sensor will measure up to 20 objects passing by. Then the radar sensitivity will be set automatically.

Speed Class 0 ... 3

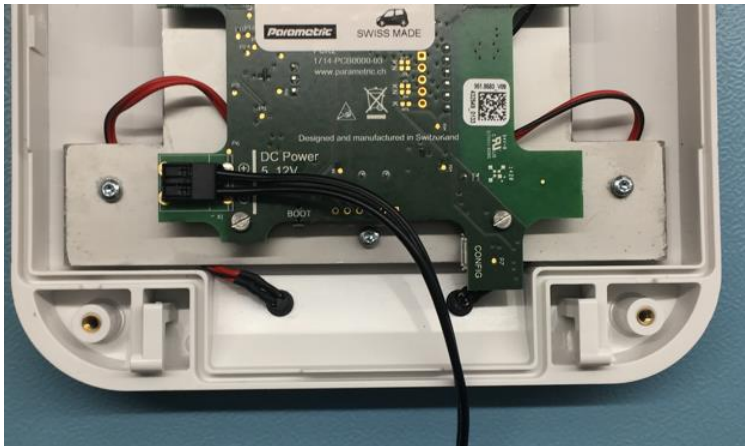
Adjustable speed classes ranging 80km/h ... 120km/h.

Radar Sensitivity [%]

You can set the radar module from 10% (sensitive) to 100% (very sensitive).

Electrical Installation

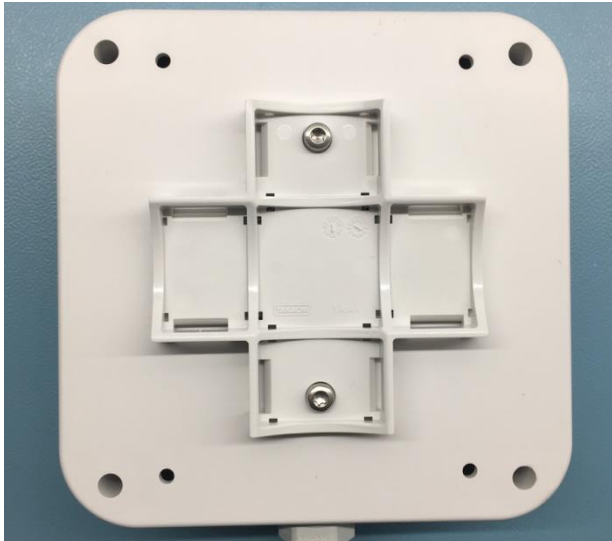
TCR devices can be powered by a 5-14V DC power supply or a battery (not included).



- Carefully check polarization
- Gently press terminals and push in wire.
- Wires should be 22 – 18 AWG (0.2 – 0.75mm²).



- Guide the cable through the cable gland.
- Before closing the casing, make sure that the two components are aligned as depicted.
- The cable gland is pointing downwards and should be fastened to ensure water protection.



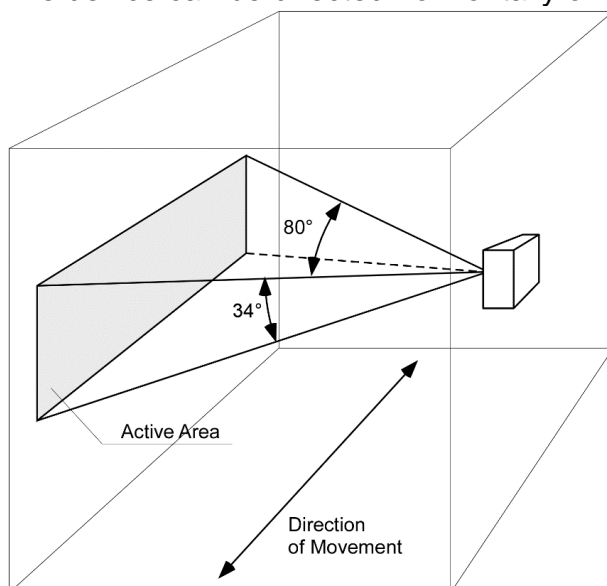
- WPMB Universal Mounting Bracket can be attached with 2 screws.



- Optional MT40 tiltable pole mount needs to be attached to the TCR-S.

Optimal Placement

TCR are 1D sensors measuring Traffic along a virtual line. The device can be directed horizontally or with a tilt up to -40.



Installation scenarios

Counting bicycles	Place at saddle height
Counting people:	Place at hips height
Counting cars:	Place at door handle height

Testing

Counting functionality can be checked by 2 direction leds.



- **RTL LED** **blinks when traffic detected from right**
- **LTR LED** **blinks when traffic detected from left**

If both LEDs are blinking, the device is trying to connect to the LPWAN.



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