IN CAB WARNING SYSTEM

AUDIBLE AND VISUAL ALARMS FOR TRUCK AND TRAILER DUMP BOX

USER MANUAL

TP-4

TIP TRONIK

WIFI GPS

SMART

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10TH ANNIVERSARY

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TipTRONIK TP4

Introducing Our TipTRONIK TP4, Generation II - Truck and Dump Trailer Alarm.

You are about to Install an innovative, easy-to-use and quick to install TipTRONIK TP4 cordless raised body alarm and warning system. In the TP4 version, we took the time to listen to our customers and focused our development on the ease of use of the system with the introduction of a multi-Colour LED push button operating switch. This novelty allows you to know in a few seconds if the system is powered and functional with a simple yellow/green/red Colour code!! We have also simplified and improved wireless programming for all our systems as well as black box reading. A brand-new non-contact magnetic sensor has been tested for more than a year, it is compatible with our old systems and allows an operating distance 8x greater than our first version.

Our TP2 wired dump truck system is now replaced by the TP4 which can also be installed with a wire while having the advantages of the 2nd generation WIFI wireless system.

Our best-selling truck and trailer system, the TP3 with wireless installation, has also been replaced by the TP4. There are several advantages to using a wireless system for trucks and trailers. Without a doubt, not adding an extra wire between the truck and the trailer is the main advantage. There is also the great versatility of the system that allows a really quick installation in trucks. There is no limit to the number of trucks or trailers for a fleet, plus you can also sync with any other equipment from any other company that owns our products! There are also automatic detection methods to prevent a truck driver from not using the system, as well as a really simple self-diagnosis method of the system and communication.

We are confident that you will be satisfied with the system and these new features. Please note that it is possible to design tailor-made systems for your application and requests. It is also possible to modify the functionality of the product as well as it's programming to adapt it to your particular needs. Several options including programmable inputs and outputs, displays, USB-C communication ports can be integrated into the circuit but are not currently used. This will allow us to offer an impressive array of improvements and innovation in the future.

TP4 Main Components (TP4-G Kit Shown)

Control Module	Mounts in cab and controls all operating functions
Operating Switch with Multi –Colour LED Indicator	Mounts on or in dash in view of driver. Facilitates operator interface and provides system status. Provides visual alarm.
Operating Switch Harness	Connects Operating switch to Control Module
Alarm Buzzer	Provides audible alarm Integrated into Operating switch harness
Dump Sensor	Indicates the dump position (raised or lowered) to control module.
Sensor Mounting Bracket	Facilitates mounting of dump sensor
Sensor Harness	Connects dump sensor to control module
Power Harness & Fuse Link	Provides power to TP4 System Connects to Ignition-On circuit
GPS Unit	Communicates vehicle movement to Control Module
Decals	Documents serial number and regulatory conformance

Basic Operation for TipTRONIK TP4

- **Operating Switch with Multi-Colour LED Display:**

Dash Mount Version

The operating switch is used for multiple purposes and depending upon the colour of its LED display, allows you to determine the state of your system within seconds by simply looking at the colour of the LED and/or the flashing code.

LED Lights:	System Status:
Yellow	Powered but not communicating with any sensors
Green	Powered and communicating with a sensor
Red	Fault Detected, Use the flashing code to identify problem
Blue	Powered and connected to 2 Sensors
White	Powered and in programming mode

- **Syncing Truck and Trailer Wirelessly:**

Perform this sequence only when connecting to a trailer for the first time or when changing trailers. Once this setup is completed, the system will maintain the settings in memory

1. Press the operating switch on the console three times quickly.
   The red light will flash code 41 and system will search for trailer to sync.

2. Wait a few seconds
   Audible jingle will play to confirm truck and trailer are synced together

- **Synchronization Truck Trailer By Cable:**

Simply connect the 7-Core Cable to your trailer and the system automatically detects the sensor.

- **Disconnecting a Wired or Wireless Trailer:**

When the trailer is disconnected, system communication is lost. **This forces a fault mode** where the red LED will flash code 23 (trailer 1) or 33 (trailer 2).

To deactivate the alarm, press and hold the operating switch until you hear two beeps or press the option button on the box three times quickly. This conveys to the system that the trailer has been unplugged intentionally and the system is not faulty. This will stop the alarm from ringing. If you reconnect the same trailer, it will resynchronize automatically

- **Operating Switch – Additional Features :**

Use the operating switch to perform these additional functions by Pressing and holding the switch down until you hear one or more small beeps. Monitor the number of beeps until reaching the desired function then release switch.

Beep Number	Meaning
2 Beeps	Reset system, memory erase (used when unplugging trailer)
3 Beeps	Temporarily silenced for 30 minutes during an alarm (mutes the sound but not flashing light)
4 Beeps	Forced programming

- **Operating Mode and Fault Code System:**

The TP4 indicates operating mode status and diagnostic fault codes through an audible / visual code system.

Structure	1st Series flashes/beeps	Pause	2nd Series flashes/beeps	Pause	3 Rapid Flashes/Beeps	Repeat
Meaning	First Digit of Code	Pause	Second Digit of Code	Pause	End of Code	Repeat
Code 21	2 Flashes	Pause	1 Flash	Pause	End of Code	Repeat

Operating Mode and Fault Code Table

LED Colour	Flash Code	Meaning	Possible Cause
Red	21	Dump sensor #1 activated	Raised Body, Sensor Ill-Adjusted or Defective, Cut Wire
Red	22	Dump sensor #1 disconnected	Sensor Defective or disconnected, wire cut,
Red	23	Dump Sensor #1 communication	Loss of power or significant interference to wifi signal
Red	31	Dump sensor #2 activated	Raised Body, Sensor Ill-Adjusted or Defective, Cut Wire
Red	32	Dump sensor #2 disconnected	Sensor Defective or disconnected, wire cut,
Red	33	Dump sensor #2 communication	Loss of power or significant interference to wifi signal
Red	41	Dump system detected but not synchronized	Dump detected, vehicle in motion for more than 30 minutes, (trailer following the truck is out of sync)
Red	42	Enabling Synchronization	The vehicle is looking for a trailer to synchronize

- **Electrical Specifications**

Description:	Technical details:
Operating voltage	10 to 16 volts DC
Operating Temperature	-40° to 75° Celsius (-40° to 167° Fahrenheit)
Power consumption:	Main power supply: 12 Volt DC Sleep Mode: 0 MA Operational mode: 150 Ma (max) (without optional load)
Inputs and output main connector:	Grounded Input (7) PTO + Input (1)
Programmable input:	Grounding input: 500 Ma (2)
Optional outputs:	Positive Output: 500Ma (2)
Power consumption:	Main power supply: 12 Volt DC Sleep Mode: 0 MA Operational mode: 150 Ma (max) (without optional load)

Warning!

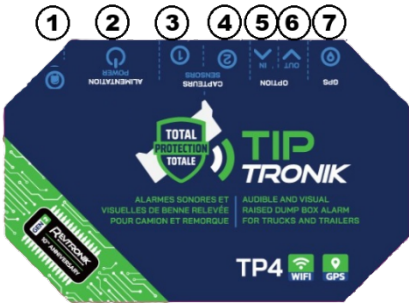
To ensure the proper operation of the product, please follow the installation and electrical hook-up instructions. Pay particular attention to the safety instructions and protection of the components as well as their electrical wiring by proceeding with a meticulous installation of all the components.

The installer must have an understanding of electrical and electronic systems to ensure proper and safe installation. It is essential to check and test the operation of the system once the installation is complete.

Please note that the non-contact sensor can be installed in several different ways, however a horizontal installation is always the most efficient installation

Technical Information

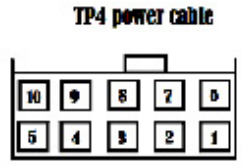
- **TP4 Control Module**



Reference	Description
1	Power Indicator (Green LED)
2	Power Supply and Main Connector
3	Dump Sensor 1
4	Dump Sensor 2
5	2 Programmable Inputs
6	2 Outputs (optional)
7	GPS Connection

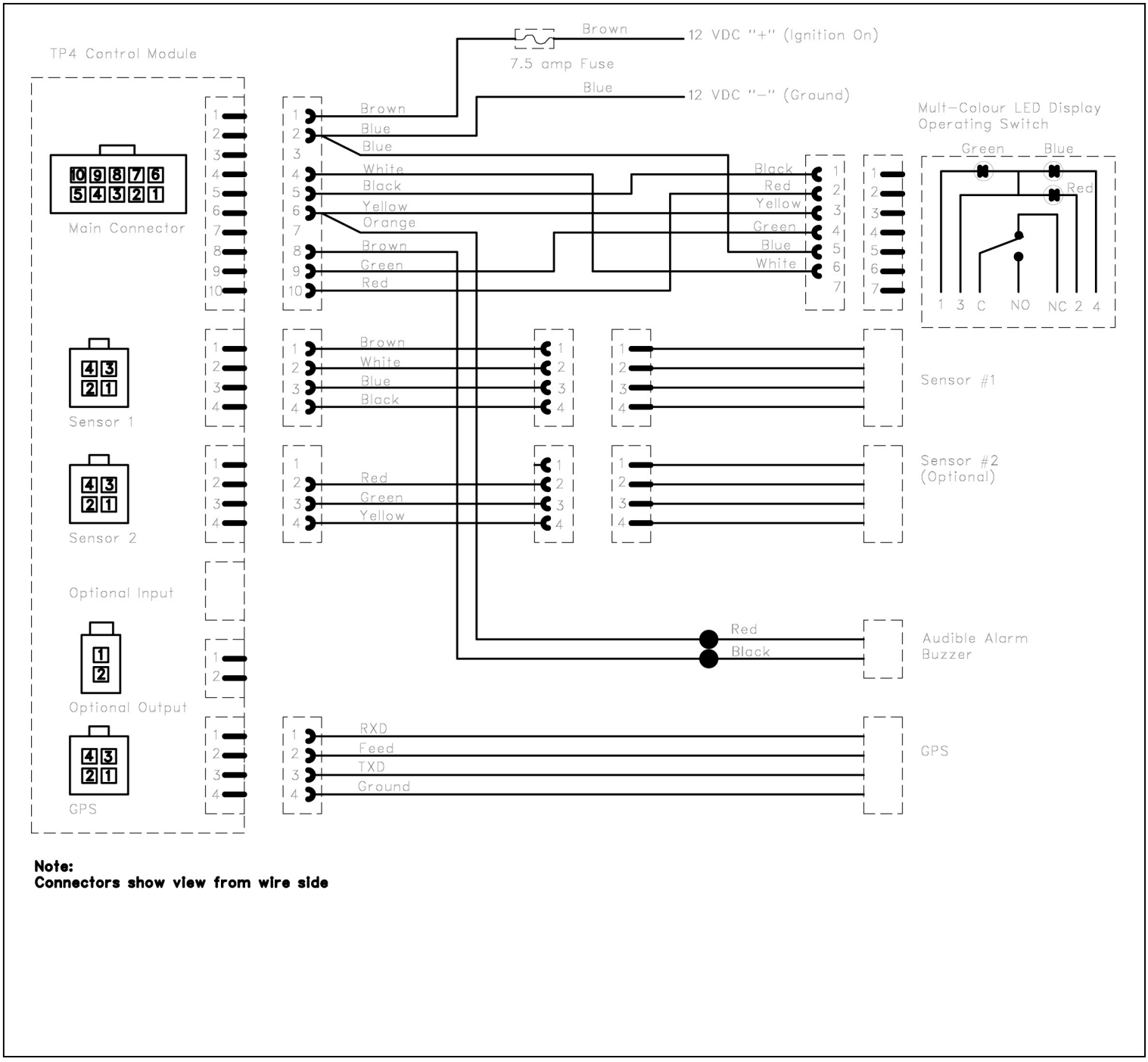
- **Power Supply and Main Connector (Reference 2)**

The 10-Pin main connector performs several functions. It facilitates power supply connection as well as the connection of optional, light, switch and external audible alarm.



Pin Number	Colour	Signal	Description
1	Brown	+12 VDC	TP4 Power - Positive Supply
2	Blue	-12 VDC	TP4 Power - Negative Supply
3	N/A	+12 VDC	Positive PTO Input
4	White	-12 VDC	Input Button – Negative Supply
5	Black	-12 VDC	LED Green, Negative Supply, 25 ma
6	Yellow/Orange	+12 VDC	Piezo and LED 140 ma – Positive Supply
7	N/A	-12 VDC	Optional – Negative Supply
8	Brown	-12 VDC	Piezo, 140 ma - Negative Supply
9	Green	-12 VDC	LED White, Negative Supply, 25 ma
10	Red	-12 VDC	LED Red, Negative Supply, 25 ma

- **TP4 Wiring Diagram**



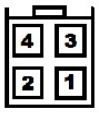
Note:
Connectors show view from wire side

- **Dump Sensor 1 (Reference 3)**

Dump Sensor 1 is the dedicated input to the system when there is a single sensor plugged directly into the TipTRONIK TP4. If you have only 1 sensor and it is plugged into input 2, the system will not work, it must be plugged into Dump input 1.

Pin #	Colour	Description
1	Brown	+12 VDC – Positive Supply
2	White	Negative signal connected sensor
3	Blue	-12 VDC – Negative Supply
4	Black	Negative signal for raised dump body 1

View from wire side

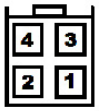


- **Dump Sensor 2 (Reference 4)**

Sensor input 2 is used to read the status of the second sensor. This input is often not plugged into a standard 10 – 12-wheel truck. When it comes to a semi-truck truck, there will be wires plugged into the connector. When the system is turned on, if there is no sensor 2 plugged in and in the correct position, the system will automatically diagnose a defect in sensor 2. Simply bypass it by pressing and holding the operating switch to go to the reset option (2 consecutive beeps). The system will be reset and deactivate the alarm. It will automatically reactivate when the system detects the presence of a sensor.

Pin #	Colour	Description
1	N/A	N/A
2	Red	Negative signal connected sensor
3	Green	Negative signal trailer connected
4	Yellow	Negative signal for raised dump body 2

View from wire side



- **Programmable Inputs (Reference 5)**

Currently Vacant (Future Expandability)

Pin #	Description
1	Input signal - Negative
2	Input signal - Negative

View from Wire Side

- **Optional Outputs (Reference 6)**

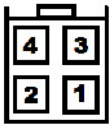
Currently Vacant (Future Expandability)

Pin #	Description
1	Output signal - Positive 500ma
2	Output signal - Positive 500ma

View from Wire Side

- **GPS Connection (Reference 7)**

The GPS is waterproof and magnetic. The preferred mounting location is the dashboard near the front window of the vehicle. Make sure it's pointing in the right direction, the small, engraved logo should point to the sky.

Pin #	Description	View from wire side
1	RXD	
2	Feed	
3	TXD	
4	Ground	

- **Non-Contact Sensor TP-SR154M**

Our new non-contact magnetic sensor can withstand temperatures of -40° Celsius. They are waterproof and weatherproof with a sealed Deutsch connector. A light is also integrated to easily adjust the detection distance of the sensor. The new sensor is compatible with the older TP2 – TP3 system and allows for greater flexibility with an 8x larger scan distance than the previous generation, which makes it much easier to install and requires far fewer adjustments.

Reference	Pin #	Colour	Description	View from wire side
TP-SR154M	1	Brown	+12 VDC – Positive Supply	
TP-SR154M	2	Black	Negative signal for raised dump sensor	
TP-SR154M	3	Blue	Negative signal	
TP-SR154M	4	White	Negative signal connected sensor	

Wi-Fi Wireless Connection To Your TP4 From An Electronic Device

The new TipTRONIK TP4 allows you to do **Firmware Updates** & **Black Box Downloads** using a Wi-Fi wireless connection.

To enter in programming mode, press and hold the operating switch for up to 4 beeps and release it, the LED will flash white.

Phone / Electronic Device Setup :

Option #1: Scan this QR code and enter the TP4-Config Wifi signal and enter password: *revtronik*

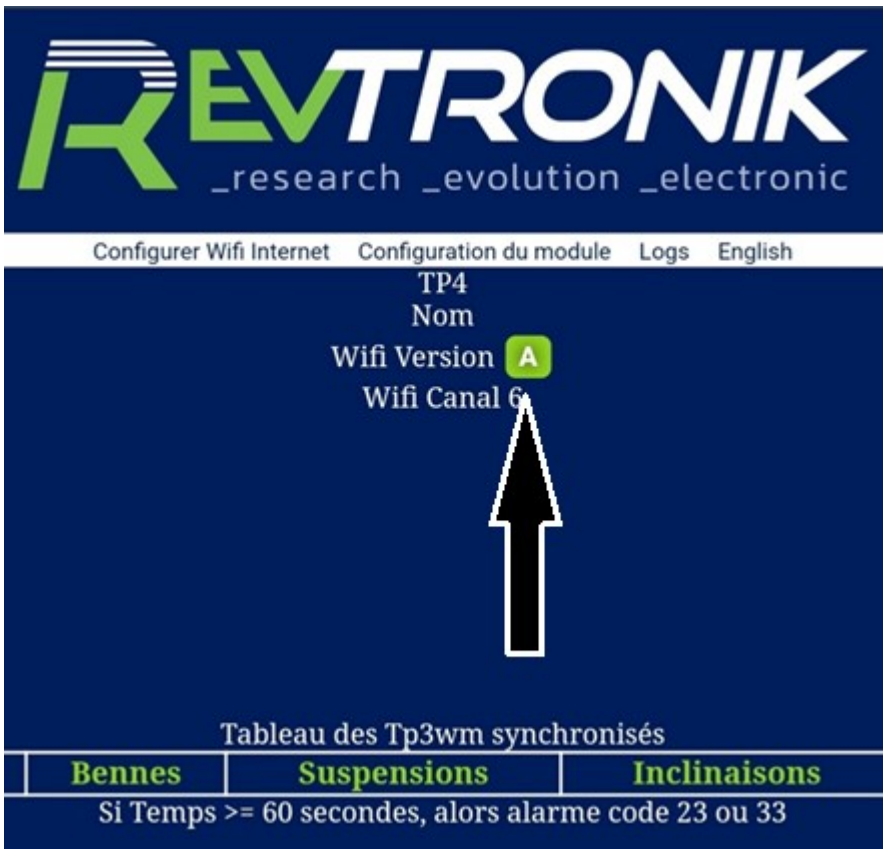
Option #2 : Go directly to Wifi icon on phone or on your computer and click on TP4-Config and enter password : *revtronik*

Update TP4

If you want to update the TipTRONIK TP4, you need to go to the correct IP address that will allow you to click on the schedule button. In the TP4 version you can now download the program to your electronic device (phone, tablet or computer) and download it directly into the TipTRONIK without an internet connection if you have downloaded the new program to your electronic device.

- Once you are linked to TP4, you can use this QR code to go to the TP4 programming page.
- If you prefer, you can go directly to the IP address 192.168.24.1 from your browser but you must be linked.
- The procedure to do the update is the same as for a TP3, you press the version button but since you are in special mode, you don't ask for a validation code for the update and you therefore don't need an internet connection anymore which could cause several problems with the firewalls, etc...

You will open on this page and you will be able to update the available version simply by tapping on the version and download the new available version even if you do not have access to the internet (if you have downloaded the new version beforehand).



Reading and Downloading The Black Box

You can now consult the event report directly from your phone, tablet, or computer. The event report can help you diagnose an intermittent problem, review trailer connection history, etc. With GPS, you can review dump activities (Date, Time, and Location). The GPS provides a date, a time and a geographical positioning for each recorded event.

UTC Time	GPS Coordinates	Description
2024-02-19T13:55:06Z		Dump Lowered
2024-02-19T13:55:06Z		PTO Operation
2024-02-19T13:55:06Z	45.872906N,72.51875W	GPS Time
2024-02-19T13:55:06Z	45.872906N,72.51875W	GPS Ready

Duration	GPS Coordinates	Description
0.3 s		Vehicle Start Mode=1

UTC Time	GPS Coordinates	Description
2024-02-19T13:55:54Z		Vehicle Start Mode=1
2024-02-19T13:55:54Z	45.872913N,72.51876W	GPS Time
2024-02-19T13:55:54Z	45.872913N,72.51876W	GPS Ready
2024-02-19T13:55:54Z	45.872913N,72.51876W	Dump Lowered
2024-02-19T13:55:54Z	45.872913N,72.51876W	PTO Operation

Duration	GPS Coordinates	Description
0.3 s		Vehicle Start Mode=1

UTC Time	GPS Coordinates	Description
2024-02-19T13:56:27Z		Vehicle Start Mode=1
2024-02-19T13:56:27Z	45.872906N,72.51874W	GPS Time
2024-02-19T13:56:27Z	45.872906N,72.51874W	GPS Ready
2024-02-19T13:56:27Z	45.872906N,72.51874W	Dump Lowered
2024-02-19T13:56:27Z	45.872906N,72.51874W	PTO Operation

Product Installation

- **Serial Number**

In each TP4 Kit, two heavy-duty stickers are provided to install on your vehicle and trailer. This allows the government agents to quickly verify that your equipment is equipped with an audible and visual alarm system when the truck or trailer body is in the raised position.

- **Sensor Installation (Truck & Trailer)**

The operation of the sensor is easy to understand and makes its installation much easier. With the magnetic sensor, you now need to install the magnetic part on the dump body. The magnet used is strong, comes with a sticker and there is a hole in the middle to put a screw or pop rivet to the needs. We have several sensors installed and we currently only use double-sided stickers and we have not lost any magnets. Of course, please prepare the surface properly. A light is incorporated into the sensor to facilitate its adjustment. The magnet's sensing distance is plus or minus 2.5 inches, so it provides, plus or minus, 8x more distance for detection. It is resistant to extremely cold temperatures, vibrations and bad weather. The installation is the same on a truck or trailer.

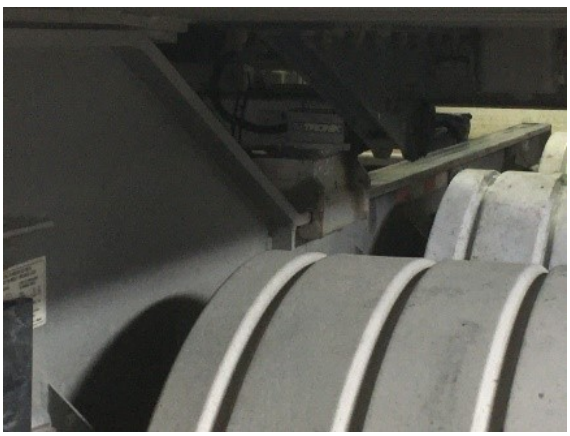
According to the installation tests carried out, virtually all inspected vehicles have a metal bracket either in H beam or square tube for the installation of the master cylinder in the center of the front body. The best installation done, as simply and quickly as possible is to aim our adjustable aluminum bracket at the side of the H beam and use the threads on the sensor to get as close as possible to the front of the bed in the horizontal position.

With approximately 2.5 inches of detection, the new magnetic sensor can be used in all positions. Vertical or horizontal installation!!

For trailers, some installers will install the sensor on the front of the trailer, others will install it between crossmembers under the trailer.

- **<u>In some cases (bi-train trailer), you can also use the sensors horizontally to read the side of a pivot or a support!</u>**

When installing on a Bi-Train trailer, it is common for the front trailer to move on the chassis, from the front to the rear of the trailer. It therefore becomes more problematic to install the sensor efficiently so as not to have a false alarm. After several tries, we discovered a simple way to avoid having a false alarm. Simply place and adjust the sensor to read the rear hinge of the trailer, so you can follow the movement of the trailer without having to adjust the sensor! In this case, on some trailers, it is easier to start the sensor on the rear socket (TC) than on the front socket (TK). This can in some cases avoid using a really long sensor extension to follow the sprocket inside the trailer and back to the back of the trailer afterwards!



- **Installing the TP4 Control Module**

Install the TP4 Control Module anywhere in the console or under the vehicle's dashboard. Ideally, avoid fixing it behind a metal plate or tangling everything in the electrical wiring if you plan to use the Wifi features. Metal and wiring can cause interference and decrease signal quality.

- **Installation inside the dashboard or other location.**

To comply with Quebec regulations, you must install the light button in the upper part of the vehicle's dashboard and in the driver's field of vision.

- **TipTRONIK Power Supply**

Connect the power wire of the TipTRONIK into a 12 VDC ignition-on power source. This allows the system to have zero consumption when the vehicle is not in operation. All programming and recordings are in flash memory that will remain in memory even without power!

- **GPS**

The GPS is waterproof and magnetic. The preferred mounting location is the dashboard near the front window of the vehicle. Make sure it's pointing in the right direction, the small engraved logo should point to the sky.

- **Additional Options**

An additional alarm may be practical when the TipTRONIK is installed inside a dashboard which reduces the alarm sound too much. You can also install an additional indicator light. For additional options such as PTO, etc., please refer to the electrical connection diagram earlier in the document.

- **Sensor Adjustment**

An LED has been incorporated into the non-contact sensor to facilitate the adjustment. Power the system, go to the sensor and simply use the bolts to bring the sensor closer to the magnetic source. When you are close enough, the light will turn on and the audible alarm will go off.

Verification Of The Installation And Operation - Dump Truck

1- Make sure the body is in the down position.
2- When the vehicle is switched off, no lights are illuminated on the TP4 Control Module

3- Activate the ignition on the vehicle. The red « power on » light must illuminate on the TP4 control module and the operating switch LED must light up Green to signal that everything is OK.

4- If a GPS is installed, confirm it is possible to pick up a signal (no obstruction such as a tin roof for example). The intensity of the light of the button will decrease and increase slowly. There can be a delay of about 1 to 2 minutes for a new system that has never been activated.

5- If you have a single sensor and a red code 33, you must bypass sensor 2 by pressing the option button until you hear 2 consecutive beeps.

6- Raise the dump body. The audible alarm as well as the flashing red light and dial code 21 should come on.
7- If you have a GPS and signal, it will remain on only 5 seconds but the light should keep flashing red and code 21.
8- Lower the dump body. The visual and audible alarms will go out and the light will turn green again.

9- Check the installation of the components one last time before using the system.

Verification Of The Installation And Operation - Truck Trailer Wired

1- Make sure the body is in the down position.
2- When the vehicle is switched off, no lights are illuminated on the TP4 Control Module

3- Plug the trailer into the vehicle.
4- Activate the ignition on the vehicle. The red »power on » LED must illuminate on the TP4 Control Module and the operating switch LED must light up Green to signal that everything is OK.

5- If a GPS is installed, confirm it is possible to pick up a signal (no obstruction such as a tin roof for example). The intensity of the light of the button will decrease and increase slowly. There can be a delay of about 1 to 2 minutes for a new system that has never been activated.
6- If you have a single sensor and a red code 33, you must bypass sensor 2 by pressing the option button until you hear 2 consecutive beeps.

7- Raise the dump body. The audible alarm as well as the flashing red light and dial code 21 should come on.
8- If you have a GPS and signal, it will remain on only 5 seconds but the light should keep flashing red and code 21.
9- Lower the dump body. The visual and audible alarms will go out and the light will turn green again.

10- Check the installation of the components one last time before using the system.

Verification Of Installation And Operation - Truck Trailer Wifi

1- Make sure the body is in the down position.
2- When the vehicle is switched off, no lights are illuminated on the TP4 Control Module.

3- Plug the trailer into the vehicle.
4- Activate the ignition on the vehicle. The red « power on » LED must illuminate on in the TP4 control module and the button should light up Yellow to signal that everything is OK.

5- If a GPS is installed, confirm it is possible to pick up a signal (no obstruction such as a tin roof for example). The intensity of the light of the button will decrease and increase slowly. There can be a delay of about 1 to 2 minutes for a new system that has never been activated.
6- Make sure that the red light of the TP4-WM on the trailer is flashing slowly.
    a. If the light is not flashing and the truck is in ignition-on mode, it means that the blue wire of the ABS you are using has no voltage and you are illegal. Some companies use blue wire for the 3-axle lift and it's illegal but it's your choice
    b. If you don't have power on the blue wire. You need to turn on your lights and the red light on the TP4-WM needs to flash slowly or you'll never be able to sync with the trailer. If the Wifi wireless electronic system is not powered, logically, it simply cannot work.

7- Once your truck and trailer are powered, you need to sync. Press the operating switch (which is currently yellow) three (3) times,

8- The TP4 will enter search mode, it will display code 42, as soon as it sees your trailer, a short jingle will be produced and your warning light will turn green.
9- Raise the dump body. The audible alarm as well as the flashing red light and dial code 21 should come on.
10- If you have a GPS and signal, it will remain on only 5 seconds but the light should keep flashing red and code 21.
11- Lower the dump body. The visual and audible alarms will go out and the light will turn green again.
12- Then check the installation of the components one last time before using the system.

NOTES:

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