TRACTIAN

Instruction Manual
Smart Receiver Pro

Index

About your Smart Trac Receiver Pro

TRACTIAN System

By monitoring assets online and in real time, the TRACTIAN system guarantees solutions to optimize daily maintenance management.

The system integrates vibration and temperature sensors with mathematical models, generating alerts that avoid unwanted shutdowns and high costs resulting from unexpected failures.

Fault detection

TRACTIAN's unique analysis system enables accurate fault detection. The algorithms are constantly trained based on feedback from field analysis, always under the supervision of our vibration specialists. Thousands of spectra are collected daily in a system that pinpoints asset failures before they happen.

Real-time data

Collections and analyses are displayed intuitively on TRACTIAN's online platform, which is easily accessible from a computer or cell phone, enabling integrations with other systems.

The platform also allows for complete maintenance control with hour meters, energy consumption and automatic calculation of asset indicators.

Smart Receiver Pro

The Smart Receiver Pro is a transmitter responsible for receiving sensor data and sending it to TRACTIAN's platform. The data is sent via the 2G, 3G and 4G/LTE mobile network via the best available operator in the region, selected automatically. If necessary, data can be sent via a Wi-Fi network.

Installation

Smart Receiver Pro supports up to 100 sensors within a radius of 100 meters (330 feet) with obstacles and 1 kilometer (0.62 mile) in the open field, depending on the topography of the plant.

To install more sensors or cover greater distances, more receivers are required. It is recommended to position the receiver in an elevated location, centered in relation to the sensors.

DO NOT place the device on surfaces that reach a temperature above 230°F.

DO NOT clean the device with solvents such as Acetones, Hydrocarbons, Ethers or Esters.

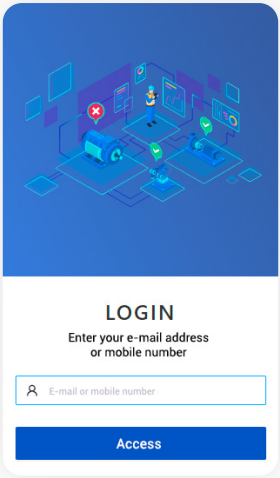
DO NOT subject the device to submersion.

DO NOT subject the device to excessive mechanical impact, dropping, crushing or friction.

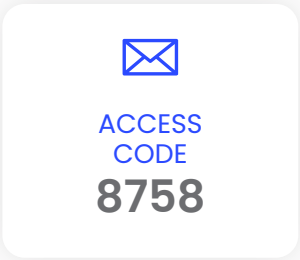
TRACTIAN doesn't take responsibility for damages caused by the use of devices outside the standards defined in this manual.

Activation

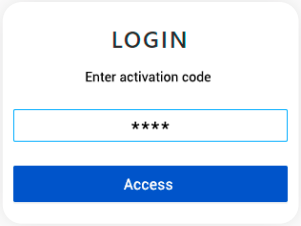
Before installing the devices,
activate your access to the platform as follows:



Go to
app.tractian.com
and fill in your e-mail.



Check the code
sent to your e-mail.

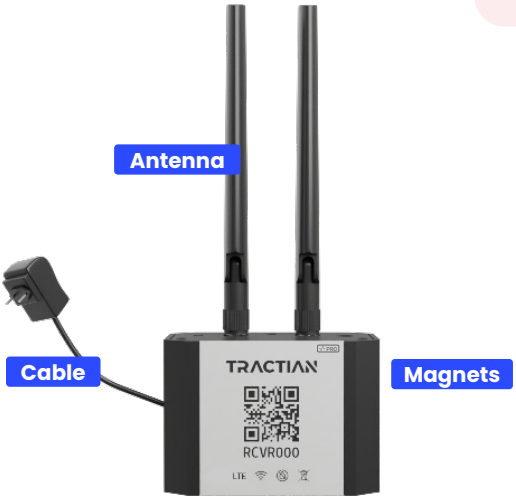


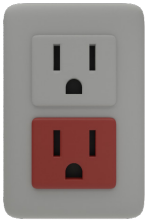
Go back to the
website and use the
code to unlock access
to the platform.

Smart Receiver Ultra

TRACTIAN's Smart Receiver Pro requires an external power supply. So make sure there are electrical connections near the installation site.

DO NOT set up the Smart Receiver Pro inside metal electrical panels, because these may block the receiver's signal. As for other types of electrical panels, such as plastic ones, there is no risk to receivers.





Power Source
127 / 220 V

Range & Reach

The receiver supports a maximum distance of 100 meters (330 feet) from the sensors with obstacles and 1 kilometer (0.62 mile) in the open field. It can communicate with up to 100 sensors, depending on the case.

For this reason, to obtain the best results in places with a large number of assets, it is recommended to use more receivers in the same area.

Installation

This device must be professionally installed.

The number of receivers to be installed depends on the number of sensors installed and plant topology.

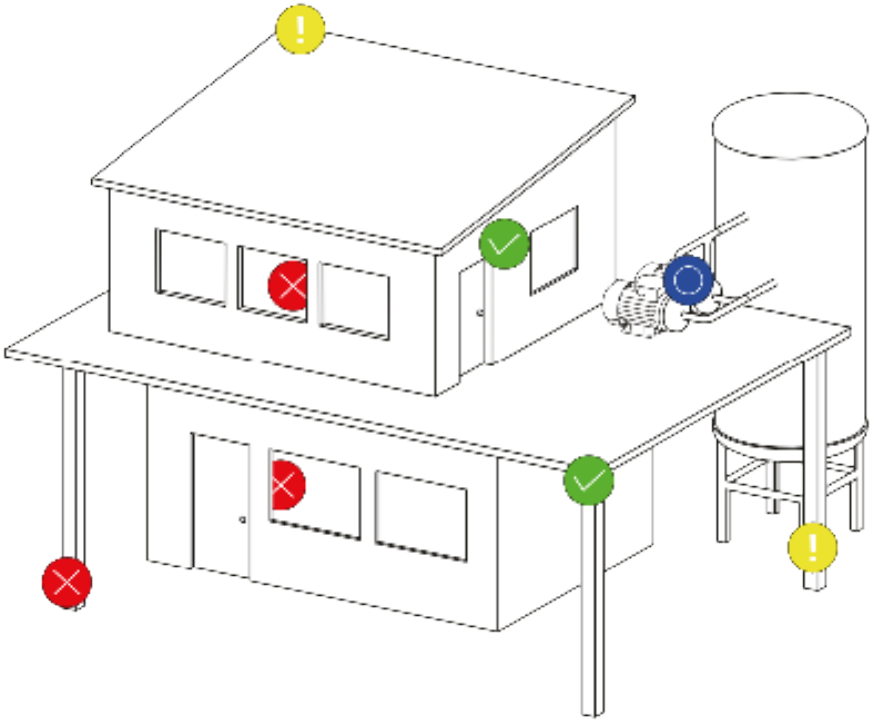
Only use the antenna that is provided with the device.

In a open field, it is necessary a direct view between the sensor and the receiver.

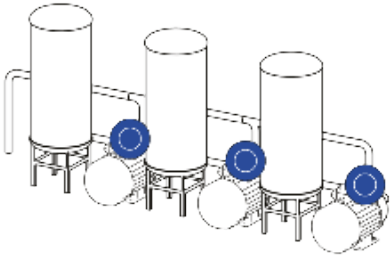
This device is designed and tested for industrial environments.

Installation Site

For best results, set up the receiver only in elevated places with the antenna in front of the sensors. Also note areas with no obstacles between the sensors and receiver.



- Ideal
- Not ideal, but acceptable
- Inadequate position
- Smart Trac Pro Sensor



Connection

Mobile Network

The Smart Receiver Pro connects automatically to the best available LTE/4G network in your region.

Wi-Fi

In case there is no mobile network available or you would rather connect it to a Wi-Fi network, the connection is possible. When plugged into the power outlet, the receiver will turn on a white light and generate its own network that can be found in the Wi-Fi settings of nearby devices (such as smartphones or computers). By connecting your device to the receiver's temporary network, you will see a form that must be filled out with your company's Wi-Fi information so the receiver can connect to it.

Awaiting Connection (continuous white)

Settings Page

The receiver's own network will be generated 10 seconds after it is plugged in. If no device connects within 1 minute, the receiver will search for the best available mobile network.

Searching for Connection (blinking blue)

Sending data (blinking green)

Connected (continuous green)

Not connected (blinking red)

Damaged device (continuous red)

Smart Receiver Pro
Technical Specifications

Connections	
Physical input	Power supply and external antennas (Mobile and Wi-Fi)
Physical output	LED indicates operating status
Wireless Communication	
Frequency	915 MHz ISM and 2.4GHz ISM
Protocol	IEEE 802.15.4g and IEEE 802.11 b/g/n
Bands	2.4 GHz: 14 frequency channels, dynamically defined
Sensor connectivity	Up to 100 sensors within a 100m (330 feet) radius with obstacles or 1km (0.62 miles) in the open field
Host Network Commun.	
Mobile	LTE (4G), WCDMA (3G) e GSM (2G)
Mobile Frequencies	LTE B1/B2/B3/B4/B5/B7/B8/B28/B66/B40 WCDMA B1/B2/B5/B8 GSM 850/900/1800/1900 MHz
Wi-Fi Network	802.11 b/g/n, 2.4 GHz, WPA2-Personal and WPA2-Enterprise
Wi-Fi Configuration	
Wi-Fi network setup	Captive Portal through a smartphone or a computer
Physical Characteristics	
Dimensions	86mm / 3.4in (W) x 61mm / 2.4in (H) x 35mm / 1.4in (D), excluding power supply and antennas
Attachment	Attached by magnets
Weight	180g or 6.35oz, excluding power supply
External Material Building	Makrolon 2407

Smart Receiver Pro
Technical Specifications

Environmental Characteristics	
Operation Temperature	From –10°C to +60 °C (14°F to 140°F)
Humidity	Maximum 95% of relative humidity
Hazardous Area Rating	Safe areas only. For zone 2 (gas) and zone 22 (dust), ask our team of experts for the Smart Receiver Ex.
Power Source	
Power supply Input	127/220V, 50/60Hz
Power supply Output	5V DC, 15W
Other	
RTC (Real Time Clock)	Yes
Receiver firmware update	Yes
Sensor firmware update	Yes, when associated with a receiver
Certification	
FCC ID	2BCIS-SR-PRO
IC ID	31644-SRPRO
ANATEL	06239-23-14488
IFT	TRTRSM23-29726
Antenna	
Type	Dipole antenna with SMA connector (50 ohm)
Model/Manufacturer	ANT-LTE-WS-SMA/TE
Peak Gain	4.1 dBi(698 to 803 MHz), 3.4dBi(791 to 960 Mhz), 5.0dBi(1553 to 1609 MHz),5.9 dBi(1710 to 2200 MHz), 3.1 dBi(2300 to 2400 MHz), 4.1(2496 to 2690 MHz)

Smart Receiver PRO
Regulatory Compliance

FCC Class A Information

This device complies with Part 15 FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference

2. This device must accept any interference received, including interference that may cause undesired operation

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

The radiated output power of this device meets the limits of FCC radio frequency exposure limits. This device should be operated with a minimum separation distance of 20 cm (8 inches) between the equipment and a person's body.

ISED Certification

This device complies with ISED Canada's licence-exempt RSSs. Operation is subject to the following two conditions:

1.This device may not cause interference; and

2.This device must accept any interference, including interference that may cause undesired operation of the device.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

The radiated output power of this device meets the limits of ISED Canada radio frequency exposure limits. This device should be operated with a minimum separation distance of 30 cm between the equipment

---

Certification ISDE

Le présent appareil est conforme aux CNR d'Industrie 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, et,

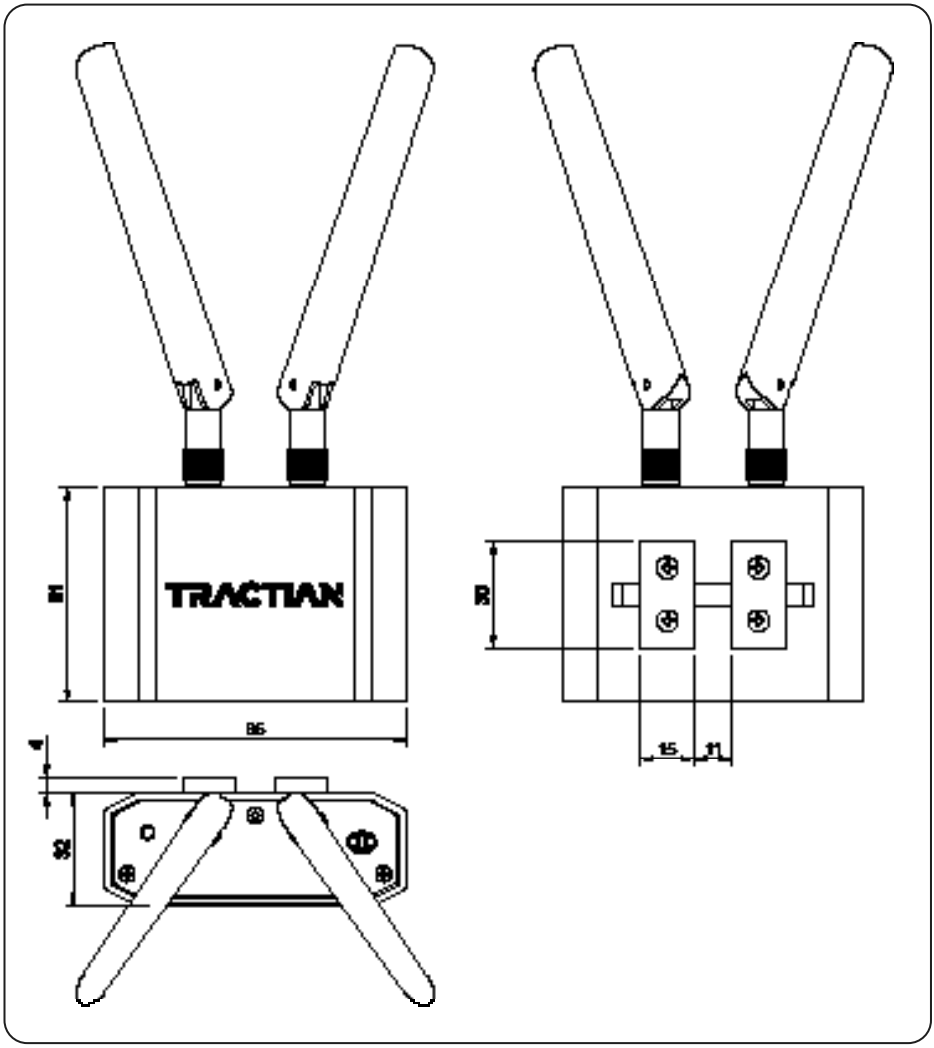
2. l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Les changements ou modifications non expressément approuvés par la partie responsable de la conformité peuvent annuler le droit de l'utilisateur à utiliser l'équipement.

Cet appareil numérique de classe A est conforme à la norme canadienne NMB-003.

La puissance de sortie rayonné de cet appareil est conforme aux limites de la FCC/ISDE Canada limites d'exposition aux fréquences radio. Cet appareil doit être utilisé avec une distance minimale de séparation de 30 cm entre l'appareil et le corps d'une personne.

2D Drawing



TRACTIAN

get@tractian.com

201 17th Street NW, 2nd Floor
Atlanta - GA, 30363