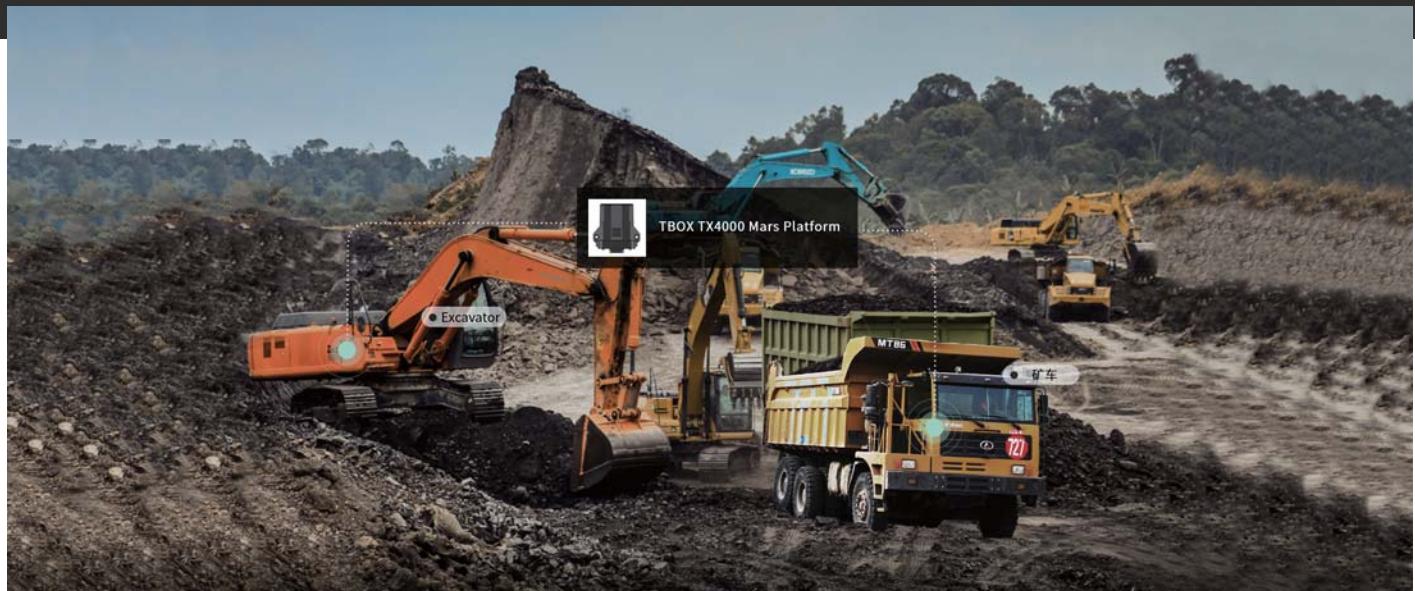




ABOUT NVR | NORTH VALLEY RESEARCH

North Valley Research (NVR) is a professional electronic control system and IoT service provider for off-road vehicles. Control systems are widely used in construction equipment, aerial work platform, agricultural machine, mining equipment and etc. NVR also provides telematics service to stakeholders such as fleet manager, rental company, OEM, financer, and etc. NVR now has operations in the China, USA and UK.



TBOX TX4000 Mars Platform

TBOX-TX4000 Mars platform is a multi-functional telematics terminal, with satellite positioning (support Beidou/GPS/GLONASS), CAN communication data acquisition, signal acquisition, control output and other functions, and built-in lithium battery, support no signal storag. It conforms to the Chinese emission standard T4 fo Nonroad and T6 for onroad vehicles. All drives have a short-circuit protection function, and the controller can provide fault diagnosis; CAN bus can be connected with other bus devices to exchange data.



Key Features



Device Standby

Built-in high-capacity lithium battery for longer standby



Positioning

Precise positioning with GPS/BD/Base station positioning



Data Exchange

4G network to upload vehicle monitoring information in real time



Data Storage

Built-in mass storage for signalless data storage



External Antenna

For more stable signal



Online monitoring

Online vehicle status monitoring, remote fault diagnosis



Battery monitoring

Support battery voltage monitoring



Remote Lockup

Remote one-click lockup for abnormal usage



OTA

To keep updating device SW online

Main Configuration

- ▲ 32 bit automotive-grade processors
- ▲ 4G communication module
- ▲ Built-in lithium battery (600mAh/1800mAh Opt)
- ▲ 2 * Analog input
- ▲ High-speed data storage chip
- ▲ 1 * CAN interface
- ▲ Power over-voltage protection circuit
- ▲ 2 * digital input/output

Customized Part

- ▲ Input / Output number and type
- ▲ SW function like: Geo-Fence、SMS alarm、Hour statistics
- ▲ 2 * optional configurable Input / Output
- ▲ 1 * optional configurable communication interface
- ▲ Optional Accelerometer
- ▲ Optional Open Cover Detection
- ▲ Optional encryption module

Electrical Parameters

Rated Parameters

- Voltage: 9~36V
- Max Current: 30mA @ 24V DC
(Non charging)
150mA @ 24V DC
(Charging)
- Standby Current: <150uA
- Analog Input: Voltage: 0~36V
- Switch Input: High: 24V (2~24V)
Low: 0V (0~1V)
- Operation Temperature: -30~70°C
(Battery -20-50°C)
- Storage Temperature: -40~85°C

Environmental Parameters

- IP Rate: IP65
- Vibration Resistance: Random Vibration:
Execution Standard IEC 60068-2-64
- Impact Resistance: Mechanical shock:
Execution Standard IEC 60068-2-27
- Moisture resistance: IEC 60068-2-30
- Salt Spray: IEC 60068-2-52

Communication

- CAN 2.0 A/B
- CAN SAE J1939
- UART TTL

EMC Characteristics

- Radiation immunity: ISO 11452-2/-4
- Conduction immunity: ISO 7637-2
- ESD: ISO 10605
- Pulsegroup immunity: IEC 61000-4-4

Attention

This product can be used across EU member states.

RF exposure information: The Maximum Permissible Exposure(MPE) level has been calculated based on a distance of d=20cm between the device and the human body. To maintain compliance with RF exposure requirement, use product that maintain a 20cm distance between the device and human body.

FCC Statement

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

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

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 important announcement

IC Statement

This device contains licence-exempt transmitter(s)/receiver(s) that comply 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.

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 brouillage est susceptible d'en compromettre le fonctionnement.

This equipment complies with Industry Canada radiation exposure limits set forth for an uncontrolled environment.

Cet équipement est conforme à l'exposition aux rayonnements Industry Canada limites établies pour un environnement non contrôlé.

Radiation Exposure Statement

This equipment complies with Canada radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

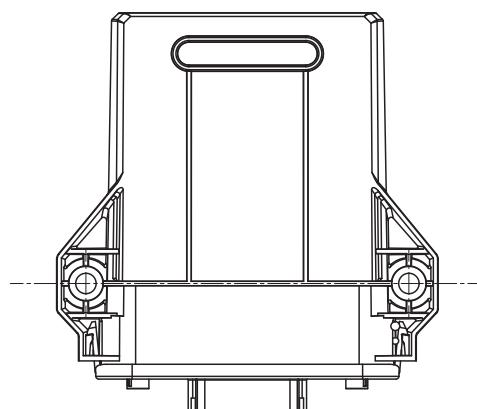
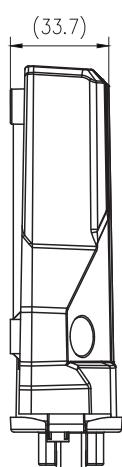
Cet équipement est conforme Canada limites d'exposition aux radiations dans un environnement non contrôlé.

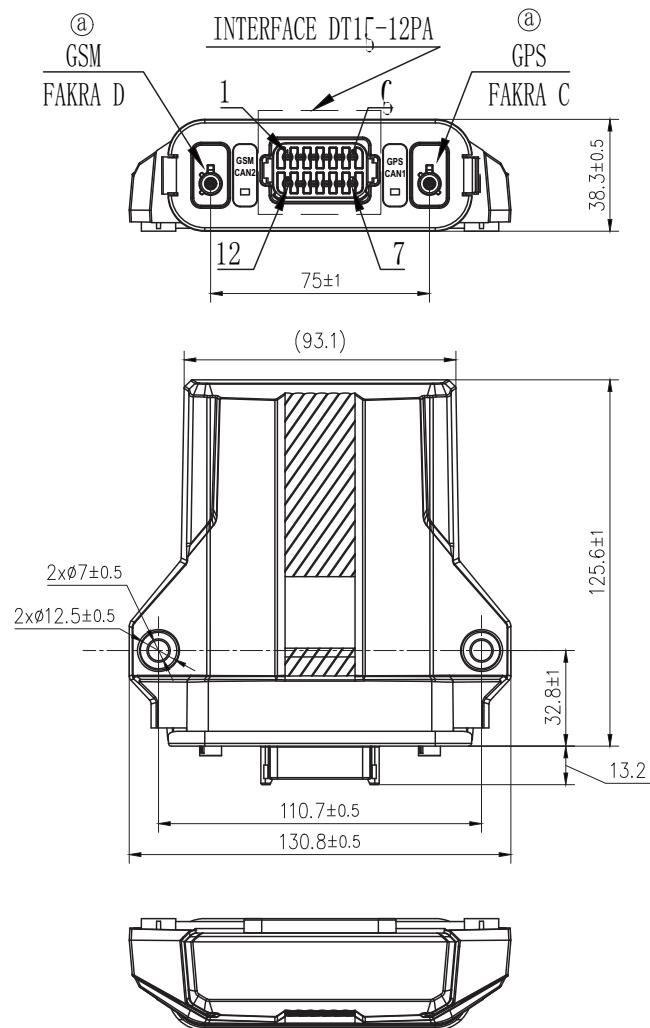
Cet équipement doit être installé et utilisé à distance minimum de 20cm entre le radiateur et votre corps.

CE Frequency bands	Max output power (dBm)
GSM 900	35.00
GSM 1800	32.00
WCDMA Band I	25
WCDMA Band V	25
WCDMA Band VIII	25
LTE Band 1	25
LTE Band 3	25
LTE Band 5	25
LTE Band 7	25
LTE Band 8	25
LTE Band 20	25
LTE Band 28A	25
LTE Band 28B	25
LTE Band 38	25
LTE Band 40	25
LTE Band 41	25
GPS/BDS/GLONASS/Galileo	/

FCC / IC Frequency bands	Max output power (dBm)
GSM 850	35.00
GSM 1900	32.00
WCDMA Band II	25
WCDMA Band IV	25
WCDMA Band V	25
LTE Band 2	25
LTE Band 4	25
LTE Band 5	25
LTE Band 7	25
LTE Band 12	25
LTE Band 13	25
LTE Band 25	25
LTE Band 26A	25
LTE Band 26B	25
LTE Band 38	25
LTE Band 41	25
GPS/BDS/GLONASS/Galileo	/

Dimensions





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