



TIERRA
|TELEMATICS DESIGN|

AM53

REMOTE ASSET MANAGEMENT



CE FC ECE-R10 N26968



Topcon Tierra's compact, rugged, remote asset management devices

Need a reason to put the World's first choice in Remote Asset Management to work on your machines?

Tierra's AM53 device provides users with utilization tracking, preventive maintenance, notifications, reporting and - of course - asset and data mapping.

Integrated in the device there is an industry-proven processor with significant memory allowing high logging capability of all parameters, a GPS receiver, and an internal cellular communication system all in a low profile, compact enclosure that simplifies installation and provides greater reliability.

Taking advantage of full remote machine control using GSM/HSPA+ and CDMA technologies ensures that you have clear visibility to all of your remote assets 24/7 anywhere in the world.

The Tierra® Web application is a versatile tool for gathering remote machine location, operating hours and machine information.

The Tierra® solution allows managers to make more informed decisions, and eliminates slow, inaccurate, and labor intensive data gathering regimens.

Tierra® goes well beyond gathering large amounts of raw machine data. Tierra® sifts through all that data and provides immediate alerts and useful reports. This allows managers to focus on the things that are actionable, with minimal effort required to uncover those important pieces of information.

The concept is pretty simple. We have designed Tierra® to immediately receive useful information for your job. You will also be informed on situations that need your attention, allowing you to take immediate steps to improve them.



The Tierra® Applications Difference

The Tierra® Web and Mobile applications have been designed, track, and report all of the information you need to stay on top of your business. And best of all, the Tierra® solution affords you the opportunity to realize savings, efficiencies and higher customer retention almost immediately.

Tierra's Features include:

- Intuitive, easy to use web-based application
- User defined home page & settings
- User Privilege & Profile management
- Email alert notification
- New release notification
- Help screens and tutorials
- Multilanguage support
- Data protected in its secure network & archived to preserve access to historical records

Preventive maintenance

- Productivity & equipment Utilization, Fuel consumption on CAN bus machines, Alarms
- Digital Inputs, Maintenance History, Job Costing
- Ability to export data to Excel or PDF

Vehicle & Site Management

- Configuration assignment by asset, group or fleet
- Manage multiple job sites & vehicle groups
- Instant view of machine location details
- Engine on/off & motion detection
- Accurate idling detection
- Define customer sites for time at location reporting
- Active GeoFence boundary & Curfew monitoring
- Power management & configuration

Cost & Staff Management

- Lower insurance costs through improved safety and accurate activity reports
- Use reporting tools to lower cost of service
- Use actual hours of assets on each job for job costing
- Reduce labor intensive data gathering regiments

Specifications	AM53 Standard	AM53 Version A
Microprocessor	ARM CORTEX M3 NXP LPC1776	ARM CORTEX M3 NXP LPC1776
Memory		
RAM	32MB	32MB
Flash NAND	256MB	256MB
Ports & Connectors		
Serial Port ^[1]	RS232 (1x)	RS232 (1x)
CAN Bus	2x	1x
Connector	Deutsch 12R pin	GNSS =SMA & CELLULAR = TNC
Real Time Clock	Yes	Yes
GSM/HSPA+ and CDMA multi mode modem	<ul style="list-style-type: none"> • Five-Bands UMTS/HSPA+ (WCDMA/FDD) (800/850/900/1900/2100 MHz) UMTS / HSPA+, 3GPP release 6 / 7 Rx-Diversity with Equalizer (Type 3i) Enhanced F-DPCH, DTX, DRX, SCH-IC • Quad-Band GSM (850/900/1800/1900 MHz) GSM / GPRS / EDGE, 3GPP release 99 / 4. Improved SAIC • Triple Band CDMA2000, Bands: BC0/BC1 & BC10 subclass 2+3 (800/1900MHz), 3GPP2: 1xAdvanced, EV-DO Rev. A, QLIC, Rx-Diversity, Equalizer 	
Antennas (External)	GNSS & CELLULAR	GNSS & CELLULAR
GNSS Receiver		
Frequency	GPS L1 1575.42 MHz GLONASS READY	GPS L1 1575.42 MHz GLONASS READY
Channels	20-channel, speed information	20-channel, speed information
Tracking Sensitivity	-159dBm (with active antenna)	-159dBm (with active antenna)
Accuracy	Position: <10m(95%) without S/A	Cold start: <35 sec / Warm start: <35 sec / Hot start: <3 sec
Motion Sensor	3-Axis Accelerometer	3-Axis Accelerometer
Input/Output		
Input Device ^[2]	Digital/Analog/Frequency (software configurable): 2x	Digital/Analog/Frequency (software configurable): 4x
Output Devices	1x swithc to ground (short circuit protected) - 36 V max - 0.5 A max	
Power Supply	- Ground and battery (KL30) - Voltage: 9 to 36V (pin1 and pin12) - Switched power (KL15) or Alternator W (pin 2) - Voltage: 9 to 36V	
Batteries	NiMH Battery	Charging time: 10 hours
		Voltage: 2.4V/Capacity: 2000 mAH
Remote Capabilities		
Configuration	Yes	Yes
Firmware Update ^[3]	Yes (OTA)	Yes (OTA)
Environmental^[4]		
Ruggedness	Yes	Yes
Water/Dust Resistance	IP67	IP67
Operating Temperature Range ^[5]	Normal operation: -30°C to +85°C	Restricted operation: -40°C to +95°C
Humidity	5 to 95% RH	5 to 95% RH
Vibration	25 Grms from 20 to 2000Hz	25 Grms from 20 to 2000Hz
Shock Resistance	45 Grms	45 Grms
Physical		
Dimensions	L: 135 mm x W:118,8 mm x H: 35,8 mm	L: 135 mm x W:118,8 mm x H: 35,8 mm
Weight (with internal batteries)	285 grams	285 grams

[1] Debug Software or firmware customization.

[2] Up to 6x with firmware customization (the serial port can possibly be turned into 2 additional inputs).

[3] With the exception of downloading time, updates are performed during normal usage.

[4] Totally protected against dust and the effect of immersion between 5.9055" & 39.3701" (15cm & 1m) with IP67 antenna connectors and harness.

[5] With the exception of battery recharging process.