TTs Features & Specifications

TTs, a system that is available for both commercial and domestic recreational vehicle needs. The “Trailer Tracking System” is a fleet manager asset tracker based on the latest technology. TTs includes a list of standard features optional features and capabilities. The module is intended for both exterior and interior installation, all circuitry are protectively coated against moisture additionally the enclosure is weather resistant.

Together with MATCO’s multi-use multi-function highly intuitive Internet web application formulates a well rounded out tool for any discerning requirement.

The system utilizes low cost GSM GPRS or CDMA 1x data technology to move information back and forth from the module to the MATCO data system and vice versa. The system installs in less then 1-1/2 hours for a full implementation and less then 30 minutes for a basic installation. The system is an “Events” (Alerts) driven system with model specific optional Inputs and Outputs that can be labeled and operation configured over the air.

The system is a “Passive On” technology that takes advantage of true automotive OEM designed systems. Standby power is said to be the lowest in the industry for “Passive On” technology. Full time system monitoring and transmit on “Event” conserves maximum life of the onboard battery when not connected to a tractor or external power source. While connected to a tractor the system behaves as “Always On” technology. **Optional** accessories include RFID technology compliant with supply chain mandates and a variety of door sensors and multi-point temperature probes. The basic model includes up to six user assigned Inputs and two Outputs.

MATCO offers wireless plans for all of our products, from minimum usage users per month to high volume usage users.

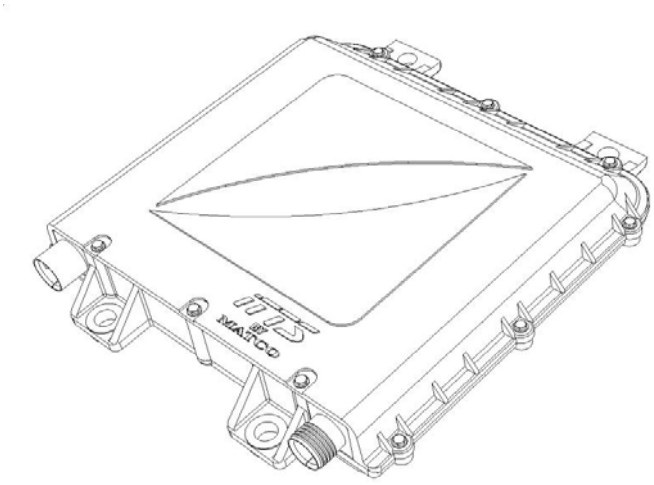

Figure 1, TTS Module, typical housing and cover assembly.

Summary of Features

- Automotive compliant, 12 or 24 VDC systems, negative ground.
- Meets or exceeds relevant SAE specifications.
- GSM Quad Band or CDMA version available.
- True “Event”, (Alerts) driven system.
- True Polygon Geo-Barrier capability, locked to Beo-Barrier or out of, selectable per Geo-Barrier.
- Full “Alerts” notification sent to user’s E-mail, Cellular Handphone, Pager any web enabled device and/or optional secure communication to user’s own monitoring alarm service.
- Standard multi plane motion detection.
- Optional RFID, ISO 18000-6, ISO 15693 and ISO 14443.
- Optional Thermal probes, internal and external temperature. Up to six sensors.
- Optional up to four port Serial Communication RS232C or USB 2.0.
- Optional BlueTooth expandability.
- Full time diagnostics, full reporting capabilities.
- Power miser circuitry, disconnect from tractor automatically reduces power to absolute minimum leaving essential passive powering only.
- Intelligent battery charging system maximizes life of onboard battery.
- Operation of up to sixty days from a full charged battery.
- Optional solar charger, (RVs and stationary assets).

Features, (over the air programming)

- Set notification contact(s) priority for “Events” Alerts,
- Optional, RFID Reporting Interval,
- Optional, Iridium Satellite reporting,
- Variable Reporting Time Interval,
- Variable High Speed Report Time Interval,
- Selectable Consumer or Domestic Mode,
- Motion Detection,
- True Polygon Geo-Barrier
- User Configurable Inputs and Outputs,
- Asset Status, (when attached to tractor or external power source for RVs),
- Module Reset.

Specifications

Environmental & Electrical,

Parameter	Minimum	Typical	Maximum	Unit
Supply Voltage, J1, Pin 1, ($+V_{BATT}$)	9		36	V_{DC}
Operational Current, (I_{OPER})	40		$2{,}200_{(PEAK)}$	mA_{DC}
Quiescent Current, ($I_{O\ TYP}$)	2.5	6		mA_{DC}
Operating Temperature Range, (T_{OPER})	-20		+60	°C
Storage Temperature range, ($T_{STORAGE}$)	-30		+80	°C
Environmental, Humidity, Non-condensing at +40 °C, (RH_{NC})			95	%

RF Modem,

Parameter	Comment
Wavecom WISMO Quik 24 Series	World GSM Compliant,
Dual Band EGSM/GPRS module (EGSM 850/1800 MHz).	Designed for M2M Asset Applications
Compliant with ETSI GSM Phase 2+ Standard	
Class 4, 2W @ 850 MHz,	
Class 1, 1W @ 1800 MHz,	
Environmental,	See above

- CDMA is carrier specific, specifications for CDMA shall be provided upon request.

GPS Receiver,

Parameter	Minimum	Typical	Maximum	Unit
Channels, Parallel Tracking			12	Each
Operational Frequency, L1		1575		MHz
Position Accuracy				
Stand alone, (CEP, SA off)		3		Metre
Differential[1]		1		Metre
Time To First Fix				
Obscuration Recovery[2]		1		Seconds
Hot Start[3]		<3		Seconds
Warm Start[4]		<32		Seconds
Autonomous/Cold[5]		<60		Seconds
Power-off start[6]		varying		Seconds
Antenna Supply, Imax=50mADC	0.5		5.2	V_{DC}
Antenna Current Monitor, I_{ant}	9	16		mA_{DC}

1. Assumes a benign multi-path environment and differential corrections once per second.
2. The receiver's calibrated clock is not stopped, thus it knows precise time to the uSec level.
3. The receiver has estimates of time/date/position and valid almanac and ephemeris data.
4. The receiver has estimates of time/date/position and almanac.
5. The receiver has no estimates of time/date/position and no recent almanac.
6. Receiver is powered "Off", clock stops. Start-up depends on time to power-on and power-on location.

Electrical Input and Output Signals,

J1, Pin No.	Type	Assertion	Min	Max	Unit
1	Input	Positive Vehicle Power *Input*	9	36	V_{DC}
2	I/O	Positive Battery *Input Ground* ***(Internal)***	12.6	13.8	V_{DC}
3	PWR	Negative *Input Ground & Battery Ground (Minus)*			GND

J7, Pin No.	Type	Assertion	Min	Max	Unit
1	Input	Aux 1 Input Signal, *Active Lo*		1	V_{DC}
2	Input	Aux 2 Input Signal, *Active Lo*		1	V_{DC}
3	Input	Aux 3 Input Signal, *Active Lo*		1	V_{DC}
4	Input	Aux 4 Input Signal, *Active Lo*		1	V_{DC}
5	Input	Aux 5 Input Signal, *Active Lo*		1	V_{DC}
6	Input	Aux 6 Input Signal, *Active Lo*		1	V_{DC}
7	Output	Aux 1 Output Signal, Current Sink, *(Pulsed or Continuous)*		100	mA_{DC}
8	Output	Aux 2 Output Signal, Current Sink, *(Pulsed or Continuous)*		100	mA_{DC}
9	Output	Aux 3 Output Signal, Current Sink, *(Pulsed or Continuous)*[A]		100	mA_{DC}
10	Output	Aux 4 Output Signal, Current Sink, *(Pulsed or Continuous)*[A]		100	mA_{DC}
11	PWR	System Ground, *Ground*			GND

- J7 refers to the main module connector.
- Pin 7, 8, 9 & 10 Output Signals are configurable by user as continuous or pulsed.
- Listed above are the features available, certain features are model specific, "A" defines features included with Plus.

Mechanical,

Parameter	Specifics	Unit
Module Dimensions, (LxWxD)	360 x 240 x 55, (four point mounting)	mm
Module Weight	<2.9 (excluding wire harness and options).	kg
Module Housing, Engineered Plastic & Alloys	Custom designed and manufactured to MATCO Spec.	

Miscellaneous,

- Antenna(s), Cellular and GPS are incorporated to unit optional antenna available for interior installation.
- Motion detection is based on a single multi plane sensor.
- Unit shipped with mounting kit and instruction warranty booklet and installed SIM card.
- Automotive grade wiring is strongly recommended, wiring is not supplied by MATCO.
- Consult MATCO for all other possible configurations.

§ All information contained herein is subject to change without prior notification, please consult factory to verify latest information. Additionally all information was reviewed and correct at time of publication.

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