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KCS TraceME TM-179

GPS / GPRS / SMS / RFID module OEM Version

The KCS GPRS/GPS range of modules enable you to remotely track & trace a variety of objects, e.g. cars, trucks, containers, (motor)cycles, lawnmowers, boats, people etc.
KCS TraceME TM-179 is the latest addition, targeted for personal use and any other application that need a minimum size, an extremely long battery life while maintaining the exact same options and server connection the full-size units have.
The TM-178/tm-179 products are designed to comply with all approvals for the North American market, and can be used in all countries of the world.

Key Features

- Quad-band GSM for worldwide coverage,
- Ultra low power consumption,
- Excellent GPS accuracy including full-size GPS antenna,
- 2.4 GHz short range radio (+-30 mtrs) for special functions and peripherals,
- All 3 RF antenna's are on the PCB itself,
- Optional additional on-board sensors like 3D magnetic compass, highly sensitive altimeter, 3D gravity detector and 3D accelerometer.
- Small, PCB is only 71 x 40 x 9 mm.
- Lightweight: 19 grams for the PCB, 14 grams for a 670mAh battery if needed.
- Wide operating temperature range
- Multiple watchdog levels for maximum stability
- Dual charge protection for voltages and temperature range.
- Membrane switch interface for buttons and LED's, user configurable.
- Remote configurable to fit any job (both firmware and configuration files can be updated over the air)
- Configuration can be both Server and Event driven, 300+ different events, over 4000 geozones.
- Runs local user scripts via .src files.
- Field upgradeable firmware via GPRS
- Supports multi server configuration
- User definable SMS commands
- Charged via docking station (TM179D) or charged via optional micro USB connector
- Optional audio with onboard microphone and speaker
- Designed to be used stand alone as well as with a charger/docking station with FR link.

Applications

- Personal tracking with SOS
- Object protection and tracking
- Logistics
- M2M
- Security and surveillance
- Remote control and diagnostics
- Vehicle immobilization
- Anti theft
- Asset monitoring

Product Summary

Equipped with a state-of-the-art GPS receiver, the KCS TraceME TM-179 module provide reliable and accurate navigational data.
All communication is handled rapidly and effectively by a GPRS/GSM modem (QUAD band version) through GPRS or SMS. In areas without network coverage, position-data and events are stored in memory (up to 55,000 positions). As soon as communication is restored, all information can be transmitted.
A new feature that makes the TM178/ TM179 products even more unique is the 2.4 GHz short range radio. It enables localization inside buildings and special power saving features for applications like Alzheimer's disease or security people.
Another useful feature is the user-configuration menu, which controls all actions like sending position-information, depending on all possible events.
All of the necessary server-side scripts to process and store data from these units are available, free of charge.
If you do not want to host data and maps yourself, we can do it for you, we have a redundant multi country multi server system in place you can use.

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Specifications KCS TraceME TM-178 OEM

Data communication

GPRS Modem	Telit GE865 QUAD band	
Frequency	850 / 900 / 1800 / 1900 Mhz	
RF Power	Class 4 (2W) @ 850 / 900 MHz Class 1 (1W) @ 1800 /1900 MHz	
Sensitivity	850/900 MHz GPRS 1800/1900 MHz GPRS	-107 dBm (typical) -106 dBm (typical)
Data	GPRS	Class 10
	Coding schemes	CS1 to CS4
SMS	Point-to-Point mobile originated & mobile terminated	
	Cell Broadcast	

RF Communication

Radio chip	Nordic nRF24L01+	
Frequency	Worldwide 2.4GHz ISM band, 126 channels	
RF Tx Power	0,-6,-12,-18 dBm	
RF Rx Sensitivity	2Mbps	-82dBm (typical)
	1Mbps	-85dBm (typical)
	250Kbps	-94dBm (typical)
Data rates	250Kbps, 1Mbps, 2Mbps	
Modulation	GFSK	
Ultra low power	13uA average current use at 1 RX/TX per second	

Navigation

GPS Receiver	65 channel Venus638LPx	
Frequency	L1 1574.42 MHz	
Acquisition Time (TTFF)	Hot start	< 1 sec
	Cold start	29 sec
Position Accuracy	2.5 meter (CEP)	
	2 meter (CEP with WAAS, EGNOS)	
Sensitivity	Cold start	-148 dBm
	Reacquisition	-155 dBm
	Tracking	-165 dBm
Antenna	Passive patch antenna 20x20mm	

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Electrical

Power supply	Maximum range: +4.3...+10 VDC Preferred power supply for charging: 5V+-10%, 500mA or up.
Charging Current	Max 450mA. Higher charging currents (for batteries with higher capacity) on request.
Power Consumption	35µW standby (typical): GPS off, hot start possible. GSM off. Processor monitors timer + pushbuttons + vibration sensor + I/O, watchdog on, brownout detection on. 8µW standby (typical): idem, but with GPS coldstart.
	Power per fix: < 1.3 mAh, including cold start of GPS, GSM power-up and transmission via GPRS or SMS.
	120 mW tracking: GPS always on, GPRS active, GPRS session open.
	Power consumption depends on amount of GPRS traffic and navigation parameters

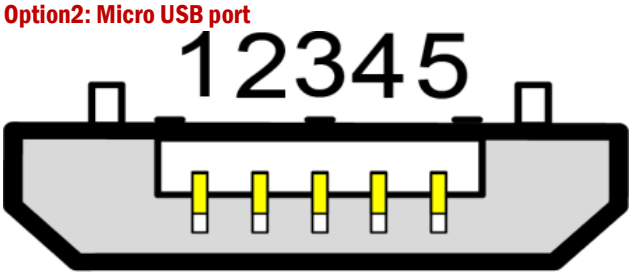
External connections

Option 1: Docking station

3 pins are used to transfer power and communication between ED500 and ED510

Pin	Signal	Type	Description
1	USB VCC	VCC	+4.5...+10VDC Charge input
2	Serial I/O	I/O	Serial input or digital input (2..31V for active high), 50K pulldown
	GND	GND	GND for charge and I/O

Option2: Micro USB port



Pin	Signal	Type	Description
1	USB VCC	VCC	+4.5...+10VDC Charge input
2	Serial IN	I	Serial input or digital input (2..31V for active high), 50K pulldown
3	Serial OUT	O	Serial or digital output, open collector (max 31V / 10 mA / 100mW)
4	Analog in	I	Analog Input 0..35V
5	GND	GND	GND for charge and I/O

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About KCS BV

KCS BV, founded in The Netherlands in 1984, develops and manufactures electronics in-house for industrial applications, medical purposes, broad- casting solutions, etc. Since 1999 KCS is ISO 9001-2008 and ISO 14001-2008 certified.

Support

Please visit our support page at http://www.trace.me

Final notes & certification

We certify that Kolff Computer Supplies BV, Dordrecht, The Netherlands does not make any hardware or IMEI modifications to the Telit GE864/865 devices as used in the TraceME track&trace device. All software modifications are restricted to official firmware upgrades as provided by Telit Communications PLC.

KCS is ISO 9001-2008 and ISO-14001 certified since 1999.

WARNING:
- The device should be turned off in vicinity of petrol pumps, chemical, flammable or hazardous environments where ignition of flammable atmospheres is possible.
- The GSM unit and antenna shall be operated at a distance greater than 20 cm from the human body.
- The device is to be operated in accordance with the user instructions or manufactured recommendations.

Disclaimer:

KCS BV reserves the right to make changes without further notice to any products herein to improve reliability, function or design. KCS BV does not assume any liability arising out of the application or use of any product or circuit described herein; neither does it convey any license under its patent rights, nor the rights of others.

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