



S1 Wearable Personal Safety Wristwatch

Stylish wristwatch for dementia sufferers, elderly persons and lone workers!



- GSM phone in a analog wristwatch
- GPS/GLONASS location
- Long battery life
- Location and battery alarms
- Industry benchmark safe zone functionality
- No movement alarm
- Wearer activity statistics

NAVIGIL S1 wristwatch is designed for persons suffering from dementia or Alzheimer's disease, persons with long term conditions, persons with learning difficulties and those working alone.

Easy to deploy

Navigil S1 comes with a SIM card pre-installed - simply select appropriate end user profile and configure the phone numbers and Navigil S1 is ready to go. Navigil S1 has profiles for various type of end users. Tracking profile with automatic location alarms is for persons suffering from dementia. Auto, easy and full profiles all feature single button help request calls. Richness of the user interface in each profile is matched to the dexterity and capabilities of the end user. Easy and full profiles feature speed dial calls. All profiles are enabled to receive phone calls.

Long battery life

Due to advanced power saving modes of the hardware and intelligent power management of the firmware, Navigil S1 can operate up to a week on a single charge while being always registered to the GSM network. In tracking mode location reporting interval is adaptive based on detected

end user activity level. Navigil S1 can be easily charged even by persons with poor dexterity using a charging dock.

Intelligent embedded firmware

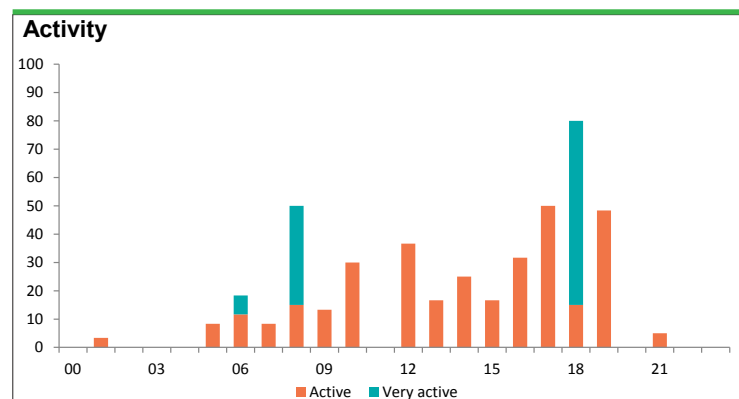
Navigil S1 can be easily tailored to match a particular use case by changing parameter values. Firmware, profiles, configuration, parameters, speed dial lists can be upgraded and changed over-the-air. Statistics reports include information on user's time in very active, active and non-active states as well as user's whereabouts room by room during a day.

Navigil S1 firmware has industry benchmark safe zone functionality. Safe zones can be defined as polygons with up to 4.000 corners or as circles. Each safe zone can be associated with a validity period. For example a small area around a home is always considered safe, a larger area safe during day time and an even larger area safe once per week to visit an event. A safe zone can include several areas.

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Industry benchmark footprint and functionality

Mobile comms	Modem type	Quad band GSM/GPRS/EDGE
	Communication	SMS, FTP, HTTP, TCP, UDP, USSD
GNSS	Receiver type	GPS/GLONASS receiver, SBAS WAAS/EGNOS/MSAS support
	Sensitivity	Acquisition -148 dBm, navigation -162 dBm
	A-GPS	A-GPS assistance (up to 28 days)
Short range comms	BTLE	Bluetooth Low Energy communication with home and mini beacons
MCU	Processor	ARM Cortex-M3, 512 kbytes (total code memory)
	RAM & flash	64 kbytes (total RAM), 8 Mbytes (total data flash)
Audio	Microphone / speaker	Adjustable gain and volume control
User interface	Wearer profiles	Tracking (dementia), auto, easy and full profiles
	Adjustable UI	Selected profile enables/disables UI features
	Watch	Analog watch, two discretely software controllable hands
	Buttons	Crown, emergency call, speed dial and yes/no/up buttons
	LEDs	3 user interface / status LEDs
	Other	Two row OLED display, speaker, vibrator
Charging		Easy to use integrated charging dock in the home beacon
Sensors	Onboard	3D accelerometer, temperature
Battery	Li-ion	500 mAh
Operation time	GSM always on	Typical 2 - 7 days, depending on use profile and conditions
	GSM on when required	Up to 50 days, depending on use profile and conditions
Software features	Data communication	SMS, USSD and GPRS with message buffering on data flash
	Over-the-air updates	Configuration, parameters, safe zone, firmware and boot loader
	Safe zone functionality	Polygon or circle safe zones with validity time attributes
	User initiated phone calls	To alarm call centre and up to 8 speed dial numbers
	Receiving phone calls	Automatically or by user accepted calls, white list access control
	Location alerts	Automatic location alerts for dementia person leaving home beacon
	Alarms	Home beacon out of range, safe zone breach, battery, no movement, man down
	Activity statistics	Wearer statistics including duration of very active, active, little movement, at home by area, out of home periods
Temperature range	Operation	Use: -20°C - +60°C, S1 charging 0°C - +45°C
	Certifications	RoHS, CE, 99/5/EC
Available versions	S1	EU GSM/2G, several wristwatch and strap designs
Enclosure	S1	Water protected (brief submersion), standard strap, 22 mm interface
Dimensions	S1	Diameter 48 mm, thickness 17 mm, weight 65 gr. (normal strap)
Home beacon	Charging	Easy to use charging dock
	Mini beacons	Provide location and statistics information indoors



Key features are:

- Aesthetically pleasing wristwatch with normal hour and minute hands
- 3D-accelerometer, support for wireless sensors
- Activity statistics for level of activity and at home by area