

## General Description

Mentor Ranger® is a water resistant<sup>1,2</sup> WinCE device that is equipped with color Touchscreen display, compact flash, and USB host<sup>8</sup> / device port. Application software can be custom designed making it adaptable to a wide variety of applications. It has an optional internal wireless modem for GPRS and 1xRTT networks. It can be used for vehicle navigation, AVL (Automatic Vehicle Location) and/or Computer aided dispatch systems for fleet applications. When used in conjunction with the Mentor BBX, Ranger can connect to a wide variety of wireless networks.

## Standard Features

- 512Mb of Flash (64 MB)
- 1024Mb of SDRAM (128 MB)
- USB Host<sup>8</sup> / Device Port
- Built in odometer signal conditioner
- 2 Digital Input / Open Drain Output with software selectable pull up or pull down
- 6 Button Keypad
- 1W Stereo Speakers
- TFT Color Display with Touchscreen
- External Type I Compact Flash Port
- Covert Microphone
- RS-232 Com Port
- External Microphone and Speaker Connection
- Internal ISO 7816 Contact Smart Card Reader

## Compliance and Testing

- FCC Class A Part 15
- IEC 60950 3<sup>rd</sup> Edition (2000)
- ISO 7637-1 Load Dump Transient
- MIL STD 810F: General Vibration and Shock
- IP54: Environmental, Dust and Water exposure<sup>7</sup>

## Optional Features

- Taximeter
- ISO 7811 Magnetic card reader
- ISO 14443 Contactless<sup>3</sup> Smart Card Reader
- Internal Compact Flash Socket
- Internal 16 Channel GPS – Requires Active GPS Antenna
- Internal Wireless Data Modems<sup>3</sup> (GPRS, 1xRTT)
- LCD heater – Recommended for operating environments below 0°C
- Handset and/or Handsfree Voice Calls

## Key Specifications

- Supply Voltage
 

Typical	12 V
Min	9 V
Max	32 V

- Current Consumption

Voltage Input (V)	Current Draw (mA)		
	Standby	LP2 <sup>4</sup>	Typical <sup>5</sup>
9	66	164	860
13.8	50	121	572
24	34	84	343
30	30	73	283

Maximum<sup>6</sup> 2.5A

- Operating Temperature
 

Min	-30 °C
Max	65 °C
- Storage Temperature
 

Min	-30 °C
Max	70 °C
- Size 8.25 x 2.0 x 5.75"  
210 x 51 x 146 mm
- Weight 2.0 lbs / 0.9 kg
- 5%-95% relative humidity non-condensing

- 1 Ranger is designed to be splash resistant. It's not designed to be immersed in water.
- 2 Ranger may not be water resistant when some of the options are specified.
- 3 Contactless Smart Card and Wireless Modem options cannot be specified at the same time.
- 4 Low Power Mode 2: Display is off, Unit Idle without GPS, modem, or heater options.
- 5 Unit Idle with full backlight without GPS, modem, or heater options.

- 6 This is an absolute maximum which includes an installed modem and all peripheral devices. Actual current draw will depend on system design.
- 7 Unit is IP54 rated for water without Internal GPS/Modem, Magnetic Swipe, Taximeter, or Handset Options.
- 8 USB 1.1 Full Speed; Presently no support for Isochronous transfers (i.e. Streaming audio or video)

## NOTE

Mentor Engineering Inc. reserves the right to change circuitry and specifications without notice at any time. Please ensure you have the most recent revision of this document.

## NOTE

Operation at temperatures outside the recommended ranges is not recommended.

## NOTE

Only use Mentor Engineering Inc. approved cables for installation purposes. Refer to cable section of the Hardware Installation Manual for additional information.