

# DRS CENSE User Guide



DRS CENSE is a simple GPS device that displays your current position to better than 5 metres accuracy. This can be transcribed quickly and easily onto any form for later data capture.

## Getting started

Unpack the device carefully, and if required attach the supplied lanyard by slipping the loop through the slot in the top right corner, and then passing it through to secure it.

Fit three AAA batteries by opening the flap at the back. *If rechargeable batteries are used these **must** be 1.5v.* Ensure that the positive (+) terminals are correctly aligned with the markings. The device will start up – if it not to be used immediately, switch it off to save power. *A set of high quality alkaline batteries will last for approximately 15 hours of continuous use; since **the device is not designed to operate indoors**, remember to switch it off when it is not needed to save power! DRS CENSE will turn off automatically after 5 minutes if the GPS signal is lost, but may for instance continue to operate if left on a car dashboard.*

To switch on, press the power button. To switch off hold the power button until the display goes blank.

## The DRS CENSE display



1	Satellite tracking indicator	Flashes until satellites have been located, or if satellite data is being downloaded
2	Fix precision indicator	Shows <b>approximate</b> precision of fix: 0 bars – very poor – accurate within 50 metres 1 bar – poor – accurate within 20 metres 2 bars – fair – accurate within 15 metres 3 bars – good – accurate within 10 metres 4 bars – excellent – accurate within 5 metres
3	Battery level	15 hours maximum – each segment shows about 3 hours
4	Latitude	Decimal degrees North or South of the equator
5	Longitude	Decimal degrees East or West of the meridian

*Note that the display may be difficult to see through polarised sunglasses!*

## **COLD and WARM start**

**COLD START** When the batteries are first inserted and the device activated outdoors, it will seek out satellites and download information. This "Time To First Fix" will typically take up to 5 minutes, but can take considerably longer (possibly up to 30 minutes) in poor conditions. *Note that if the device is unused for several months a cold start may be required even if the batteries are left in.*

**WARM START** This will usually take 2 seconds in an optimum clear sky. New satellite data is downloaded on an incremental basis.

## **Conditions and accuracy**

The accuracy of the device will depend on the conditions in which it is operating. "Good conditions" means that the device can "see" most of the sky, and satellites are positioned for optimal triangulation.

Accuracy can be affected by buildings or trees which can block satellite signals, but is not affected by weather conditions or cloud cover.

DRS CENSE uses a cutting edge GPS chip, the Fastrax UP500. The key GPS receiver specifications are:

General:	L1 frequency, C/A code (SPS) 14 independent tracking channels
Update rate:	1 fix/s (user configurable, up to 5 fix/s)
Accuracy:	Position: 1.8m (CEP95)
Sensitivity:	Acquisition (cold): -146dBm Navigation: -159dBm Tracking: -159dBm
Protocol:	NMEA 0183, 9600 baud
Chip set:	MediaTek MT3318

## **DRS CENSE specifications**

Accuracy:	Better than 5 metres		
Battery life:	15 hours continuous with supplied high quality alkaline batteries		
Weight:	115g	Dimensions:	87 x 70 x 26mm
Operating temp:	0 to +40°C	Display update:	1Hz (once a second)
Storage temp:	-10 to +40°C		
Cold start:	Typically <5 minutes depending on conditions		
Warm start:	Usually 2 seconds in an optimum clear sky		
Environmental:	Splash proof	Colour:	White

*DRS CENSE is subject to continuous improvement leading to changes in this specification*

DRS Data Services Limited, 1 Danbury Way, Linford Wood, Milton Keynes MK14 6LR, England

Tel: +44(0)1908 666088  
Fax: +44(0)1908 607668

enquiries@drs.co.uk  
www.drs.co.uk