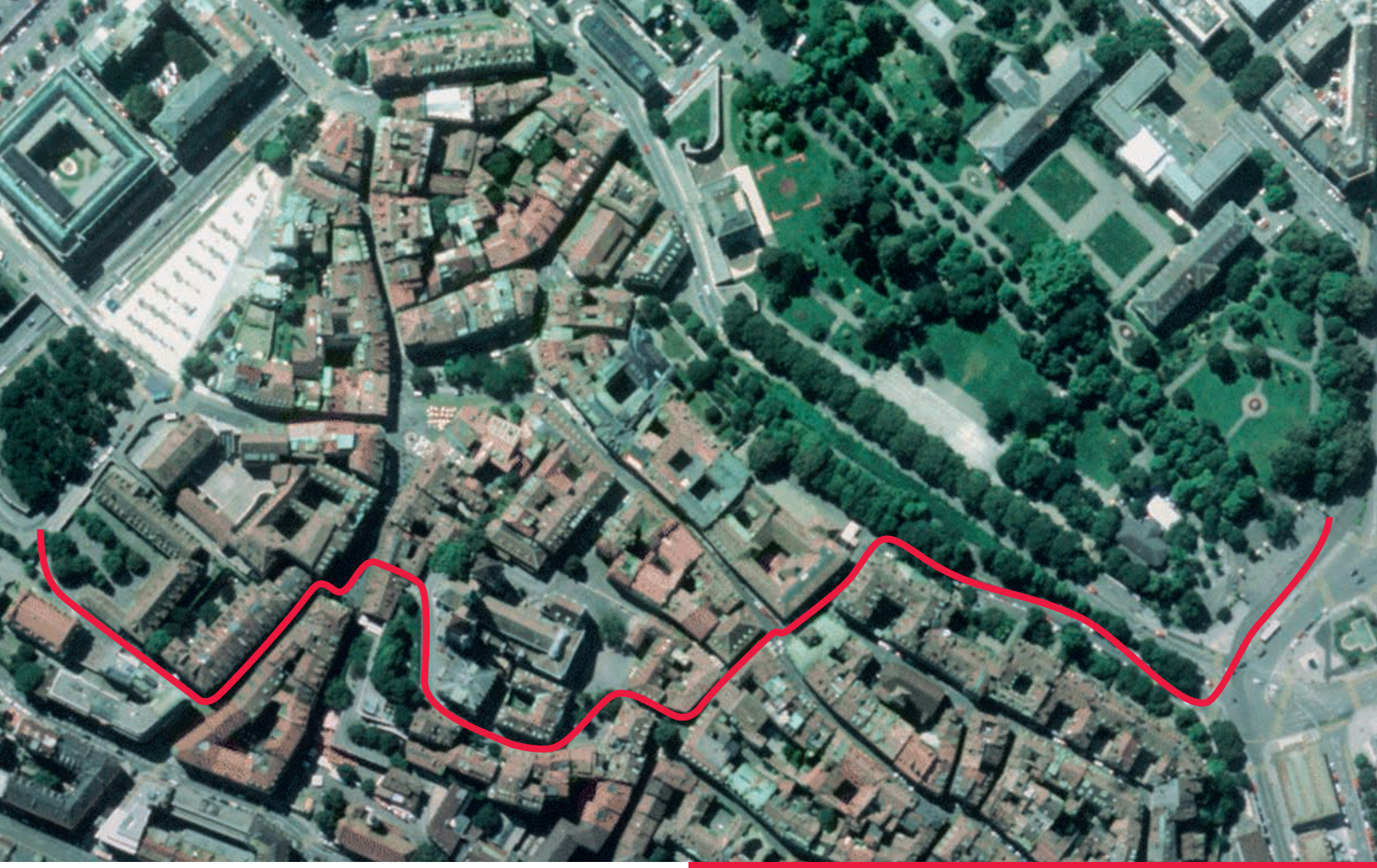


Position Yourself,
Anytime!

DRC

Dead Reckoning Compass

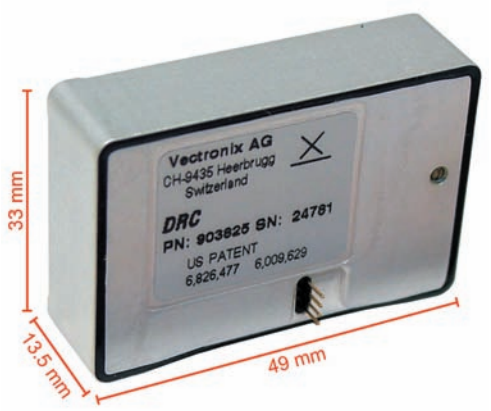
vectronix

Step by step

GPS has become the primary navigation tool. It is affordable and accurate, except where there is no GPS signal (urban canyons, caves, dense foliage, jamming, spoofing). These environments call for additional sensors, capable of bridging the dead zones.

The DRC Dead Reckoning Compass is built on Vectronix' proven Digital Magnetic Compass (DMC) technology. It utilizes magnetometers and accelerometers to detect position, heading and speed. Sophisticated embedded software provides for convenient calibration. The nitrogen-purged, watertight housing of the DRC presents well-defined mechanical and electrical interfaces for easy integration.

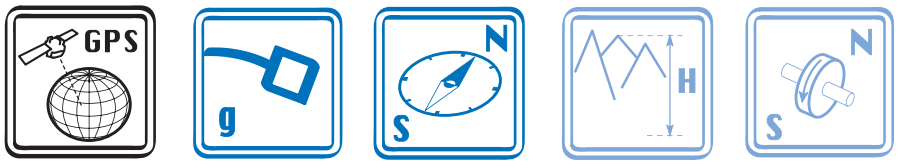
The Vectronix DRC is designed to complement all types of GPS in future personal navigation systems. These enhanced solutions are compact, cost-effective and therefore ideal for dismounted personnel.



Technical Data	
Dead reckoning	
Position accuracy, 2D	better than 5% of distance traveled (DT), 1σ for normal conditions, forward walking
Heading accuracy*	1.0° (1σ) within calibrated range of pitch/roll -45° to +45°, functional range: -80° to +80°, automatic detection of upright or prone position
Measurement rate	1Hz or after each step
Calibration procedures	
Alignment and step length	automatic when continous location data is available (GPS), manual user input possible
Magnetic	embedded 12 step soft-/hard- and 4 step hardmagnetic calibration for simple compensation procedures
Mechanical properties	
Weight	< 35g
Dimensions	49 x 33 x 13.5mm
Precision mechanical interface	3x mounting pad 2x positioning hole, 1.5mm 3x M2 threaded hole
Electrical properties	
Power supply	5V ± 5%
Power consumption	250mW max.
Connector type	4-pin, PCB connector, pitch 1.27mm, diameter 0.43mm
Serial interface	RS232, baud rate 9600 or 38400 CMOS voltage levels
Software interface	NMEA-183 and Vectronix format
Environmental conditions	
Temperature	
Operating	-32°C to +55°C
Storage	-55°C to +85°C
Shock, field	50g / 11ms, half sine
Vibration	0.04g²/Hz, 120 minutes each axis

*Accuracy reference: precision mechanical interface

Dead Reckoning Compass Further augmentation possible



3 accelerometers | 3 magnetometers | Barometer | Gyroscope

vectronix

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