

# The Reefer

## Functional Flow Diagram

Magnet is used to engage reed switch

### Report

Past data display state. Used at end of dive to read back heading and depth information. Also used to display charge state.

Magnetometer

Saved magnetometer reading is displayed

Pressure

Saved pressure reading is displayed

Reed Switch



### Off

Ultra-low power consumption state. All devices turned off, MSP set to low power mode.

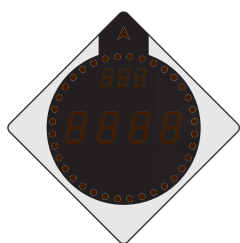
Magnetometer

Magnetometer is disabled

Pressure

Pressure Sensor is disabled

Reed Switch



Magnet is removed

Device is taken out of water

Device is submerged

### On (Flux)

Instantaneous depth state. Used when device is in transit from boat to dive location and back.

Magnetometer

Reading is displayed directly on main display, and is not saved.

Pressure

Reading is displayed directly on main display, and is not saved.

Reed Switch



Heading is maintained for >1 minute

### On (Stable)

General use state. Used when device is permanently seated in place. Device should be in this state for all images.

Magnetometer

Reading is time averaged over ~3 mins, displayed and saved for later display in report mode.

Pressure

Reading is displayed and saved for later display in report mode.

Reed Switch



Robert Barlow and Dan Sturm

Heading is disrupted by ~30 degrees

