



English version 1.0
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CALYPSO

instruments

www.calypsoinstruments.com

CALYPSO ULTRASONIC Portable Solar & Mini Developer Manual

Notes:

- Firmware versions compatible: 2.0 and above
- All the measures are referenced to the orientation mark, in the side of the device. The mark is orientated to the bow of the boat.
- The device enters in low power mode at values <20% of the battery level
- The device enters in sleep mode at values <10% of the battery level
 - o Only Bluetooth advertising

Device Information Service

Service UUID: 0x180A

0x2A29 Manufacturer Name String (Calypso)

0x2A24 Model Number String (UP10)

0x2A25 Serial Number String (Not used)

0x2A27 Hardware Revision String (Not used)

0x2A26 Firmware Revision String (0.47)

0x2A28 Software Revision String (Not used)

Data Service

Service UUID: 0x180D

Principal Characteristic: Notify

Characteristic: UUID: 0x2A39

Wind Speed	Wind Direction	Battery level
39-02	CE-00	09
☒		
☒		
Hex to Decimal	Hex to Decimal	Hex to Decimal
569		9
☒		
/100		X10
5.69 m/s	206°	90%
0-40m/s (0.01m/s)	0-360° (1°)	0%-100% (100%)

Status Characteristic: Read

UUID: 0xA001

0x00-> Sleep Mode, Only Advertising
0x02-> Normal Mode, All data rate and sensors availables

Environmental Calculations: Notify & Read

UUID: 0x181A

Apparent Wind Speed

UUID: 0x2A72

Apparant Wind Direction

UUID: 0x2A73

Environmental Sensing Service

(UUID 0x181A)

Apparent Wind Speed (UUID 0x2A72)

2 bytes little endian, unsigned short (uint16).

Wind speed in m/s *100

(example: 39 02 => 569 => 5.69m/s)

Apparent Wind Direction (UUID 0x2A73)

2 bytes little endian, unsigned short (uint16).

Wind direction in degrees * 100

(example: 78 50 => 20600 => 206°)
(example: f8 75 => 30200 => 302°)

Battery Service

(UUID 0x180F)

Battery level (UUID 0x2A19)

1 byte, battery level 0 to 100%



Devices

SCAN



SCANNER

BONDED

ADVERTISER

No filter



ULTRASONIC

DC:67:0E:12:32:2D

NOT BONDED

-59 dBm ↔ N/A

CONNECT



Wireless by Nordic



☰
Devices
DISCONNECT DFU ⋮

BONDED
ADVERTISER
ULTRASONIC ×
DA:72:D5:76:76:AA

CONNECTED
CLIENT
SERVER ⋮

Generic Access
 UUID: 0x1800
 PRIMARY SERVICE

Generic Attribute
 UUID: 0x1801
 PRIMARY SERVICE

Secure DFU Service
 UUID: 0xFE59
 PRIMARY SERVICE

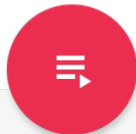
Nordic UART Service
 UUID: 6e400001-b5a3-f393-e0a9-e50e24dcca9e
 PRIMARY SERVICE




Device Information
 UUID: 0x180A
 PRIMARY SERVICE


Battery Service
 UUID: 0x180F
 PRIMARY SERVICE


Environmental Sensing
 UUID: 0x181A
 PRIMARY SERVICE

Heart Rate
 UUID: 0x180D
 PRIMARY SERVICE




Devices
DISCONNECT  






BONDED
ADVERTISER
ULTRASONIC DE:76:51:14:17:29 

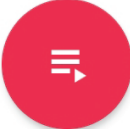
CONNECTED
NOT BONDED
CLIENT
SERVER 



PRIMARY SERVICE

Nordic UART Service
 UUID: 6e400001-b5a3-f393-e0a9-e50e24dcca9e
 PRIMARY SERVICE

Device Information
 UUID: 0x180A
 PRIMARY SERVICE

- Manufacturer Name String** 
 UUID: 0x2A29
 Properties: READ
- Model Number String** 
 UUID: 0x2A24
 Properties: READ
- Serial Number String** 
 UUID: 0x2A25
 Properties: READ
- Firmware Revision String** 
 UUID: 0x2A26
 Properties: READ
- Software Revision String** 
 UUID: 0x2A28
 Properties: READ

Battery Service 
 UUID: 0x180F
 PRIMARY SERVICE

☰
Devices
DISCONNECT DFU ⋮

BONDED
ADVERTISER
ULTRASONIC X

CONNECTED
CLIENT
SERVER ⋮

Generic Attribute
 UUID: 0x1801
 PRIMARY SERVICE

Secure DFU Service
 UUID: 0xFE59
 PRIMARY SERVICE

Nordic UART Service
 UUID: 6e400001-b5a3-f393-e0a9-e50e24dcca9e
 PRIMARY SERVICE

Device Information
 UUID: 0x180A
 PRIMARY SERVICE

Battery Service
 UUID: 0x180F
 PRIMARY SERVICE


Battery Level ↓ ↓↓
 UUID: 0x2A19
 Properties: NOTIFY, READ



Descriptors:


Client Characteristic Configuration ↓
 UUID: 0x2902

Environmental Sensing
 UUID: 0x181A
 PRIMARY SERVICE


Apparent Wind Speed ⋮
 UUID: 0x2A72
 Properties: NOTIFY, READ


Devices

 DISCONNECT  

BONDED
ADVERTISER
ULTRASONIC


DE:76:51:14:17:29

CONNECTED
CLIENT
SERVER


NOT BONDED

UUID: 0x180F
 PRIMARY SERVICE

Environmental Sensing

UUID: 0x181A
 PRIMARY SERVICE

Apparent Wind Speed

UUID: 0x2A72
 Properties: NOTIFY, READ

Descriptors:

Client Characteristic Configuration

UUID: 0x2902

Characteristic User Description

UUID: 0x2901



Apparent Wind Direction

UUID: 0x2A73
 Properties: NOTIFY, READ
 Value: 129.00°

Descriptors:

Client Characteristic Configuration

UUID: 0x2902

Value: Notifications enabled

Characteristic User Description

UUID: 0x2901

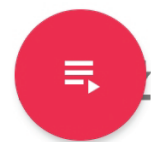










Heart Rate



UUID: 0x180D
 PRIMARY SERVICE


Heart Rate Control Point


UUID: 0x2A39




Devices
DISCONNECT 

BONDED
ADVERTISER
ULTRASONIC 
DC:67:0E:12:32:2D

CONNECTED
CLIENT
SERVER 
NOT BONDED

Heart Rate

UUID: 0x180D

PRIMARY SERVICE

Heart Rate Control Point

UUID: 0x2A39

Properties: NOTIFY, READ

Descriptors:

Client Characteristic Configuration 

UUID: 0x2902

Unknown Characteristic

UUID:

0000a001-0000-1000-8000-00805f9b34fb

Properties: READ

Unknown Characteristic

UUID: 0000a002-0000-1000-8000-00805f9b34fb

Properties: READ, WRITE

Unknown Characteristic

