

Bluetooth Data from OpenWind

1. Wind Data

Wind Service UUID	CC90		
Wind Data UUID	CC91	N	Write True to enable notification
Data	Type	Datatype	Value (Unit)
[0]			Always 0x01
[1] LSB	Apparent Wind Angle	uint16	AWA *= 0.1; (°)
[2] MSB			
[3] LSB	Apparent Wind Speed	uint16	AWS *= 0.01; (Knot)
[4] MSB			
[5] LSB ¹	YAW	int16	Yaw = Yaw * 1/16 -90; (°) if(Yaw < 0) Yaw += 360;
[6] MSB ¹			
[7] LSB ¹	ROLL	int16	Roll * 1/16 * -1 (°) if(Roll >= 180) Roll = Roll - 360;
[8] MSB ¹			
[9] LSB ¹	PITCH	int16	Pitch *1/16 (°)
[10] MSB ¹			
[11] ¹	MOV Calibration Status	uint8	[1-0] Magnetometer [4-2] Accelerometer [6-5] Gyroscope 0 or 1- Not Calibrated 2 - Normal 3 - Fully Calibrated
Wind Offset UUID	CC92	R/W	Fine Tuning
Data	Type	Datatype	Value (Unit)
[0] ²			Always 0x01
[1] MSB ²	AWA Offset	int16	AWA_OFF *=0.1 °
[2] LSB ²			
[3] MSB ²	AWS Offset	int16	AWS_OFF *=0.1 °

[4] LSB ²			
[5] MSB ²	YAW Offset	int16	YAW *=1/16 °
[6] LSB ²			
[7] MSB ²	ROLL Offset	int16	ROLL *=1/16 °
[8] LSB ²			
[9] MSB ²	PITCH Offset	int16	PITCH *=1/16 °
[10] LSB ²			
[11] ²			Always 0x47
Wind Config UUID	CC93	W	Write any value to set Wind 0°

¹ Only for Firmware Version equal or above 1.25 (Movement Sensor has to be enabled)

² Only for Firmware Version equal or above 1.27

2. Movement Data

Movement Service UUID	AA80		
Movement Data UUID	AA85	R	Read Movement Data
Data	Type	Datatype	Value (Unit)
[0] MSB	Yaw	int16	Yaw = Yaw * 1/16 -90; (°) if(Yaw < 0) Yaw += 360;
[1] LSB			
[2] MSB	Roll	int16	Roll * 1/16 * -1 (°) if(Roll >= 180) Roll = Roll - 360;
[3] LSB			
[4] MSB	Pitch	int16	Pitch*1/16 (°)
[5] LSB			
Movement Config UUID	AA82	W	Write 0x2C to enable Movement Sensor
Movement Pitch UUID	AA88	W	Write any value to set Pitch 0°
Movement Roll UUID	AA89	W	Write any value to set Roll 0°
Calibration Status UUID	AA90	R	[1-0] Magnetometer [4-2] Accelerometer [6-5] Gyroscope 0 or 1- Not Calibrated 2 - Normal 3 - Fully Calibrated

3. Battery Data

Battery Service UUID	BB90		
Battery Data UUID	BB91	R	Read Battery Information
Data	Type	Datatype	Value (Unit)
[0] MSB	Battery Percentage	uint16	Percentage (%)
[1] LSB			
[2] MSB	Current Consumption	int16	Consumption (mA)
[3] LSB			
[4] MSB	Remain Capacity	int16	Remain Capacity (mAh)
[5] LSB			
[6] MSB	Battery Voltage	uint16	Voltage (mV)
[7] LSB			
[8] MSB	Battery Temperatur	int16	Temperatur (°C)
[9] LSB			
[10] MSB	Total Capacity	uint16	Total Capacity (mAh)
[11] LSB			

4. Device Info

Device Info Service UUID	180A		
Serial Number UUID	2A25	R	Read Device Information
Data	Type	Datatype	Value
Byte[]	Serial Number	*String	Serial Number
Firmware Version UUID	2A26	R	Read Device Information
Data	Type	Datatype	Value
Byte[]	Firmware Version	String	Firmware Version

*Number is a 6-Byte String until version 1.26, all newer version it is a 6-Byte hexadecimal number

5. Broadcast Data

Manufacturer Specific Data	Advertising Data	0xFF	Value (Unit)
Company ID LSB	[0]	uint16	ID: 0x000F
Company ID MSB	[1]		
Apparent Wind Angle MSB	[2]	uint16	Angle*1/10 (°)
Apparent Wind Angle LSB	[3]		
Apparent Wind Speed MSB	[4]	uint16	Speed*1/100 (Knots)
Apparent Wind Speed LSB	[5]		
Movement Yaw MSB	[6]	int16	Yaw*1/16 -90 (°) if(Yaw <0) Yaw += 360;
Movement Yaw LSB	[7]		
Movement Roll MSB	[8]	int16	Roll * 1/16 * -1 (°) if(Roll >= 180) Roll = Roll - 360;
Movement Roll LSB	[9]		
Movement Pitch MSB	[10]	int16	Pitch*1/16 (°)
Movement Pitch LSB	[11]		
Battery Percentage MSB	[12]	uint16	Percentage (%)
Battery Percentage LSB	[13]		
Battery Temperatur MSB	[14]	int16	Temperature = (Temperatur * 0.1) -273 (°C)
Battery Temperatur LSB	[15]		
Battery Voltage MSB	[16]	uint16	Voltage (mV)
Battery Voltage LSB	[17]		
Battery Remain Capacity MSB	[18]	uint16	Remain Capacity (mAh)
Battery Remain Capacity LSB	[19]		
Battery Design Capacity MSB	[20]	uint16	Total Capacity (mAh)
Battery Design Capacity LSB	[21]		
Battery Average Current MSB	[22]	int16	Current Consumption (mA)
Battery Average Current LSB	[23]		

Manufacturer Specific Data	Advertising Data	0xFF	Value (Unit)
Company ID LSB	[0]	uint16	ID: 0x00D0
Company ID MSB	[1]		
Same as ID 0x000F but without Total Capacity			
Battery Design Capacity MSB	[20]	int16	Current Consumption (mA)
Battery Design Capacity LSB	[21]		

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