The CEEPULSE™ is CEE HydroSystems™ entry level black box survey grade echo sounder. Using the experience we gained from the development of the CEESCOPE™ high definition echo sounder, the CEEPULSE™ offers a true 0.3-100 m (0.98-328.1 ft) depth capability.

This compact unit has a membrane interface that was designed to be simple to use and features 6 LEDs to display current system status.

The CEEPULSE™ configurable echo sounder modes include auto, shallow auto and manual.

The CEEPULSE™ is capable of up to 20 Hz ping rate and matching data output. Data outputs include industry standard NMEA DBT, NMEA DBS, DESO 25, ODOM, CEESTAR™ and CEEPULSE™. Echo sounder data can be output via RS232, RS422 and Bluetooth.

The unit has been designed and manufactured using high quality components and is environmentally sealed. It has extremely low power consumption and a wide input voltage range.

The user friendly CEEPULSE™ PC software configures the unit via Bluetooth or RS232.
# General Specifications

## Physical
- **Dimensions**: 18 x 9 x 4 cm (L x W x D)
- **Display**: Status LEDs
- **Weight**: 450 g (1 lbs)
- **Colour**: Black
- **Connectors**: LEMO 1K

## Environmental
- **Operating temperature**: -5°C – 50°C (32°F – 122°F)
- **Humidity**: 95% non condensing
- **Ingress protection rating**: IP68

## Power
- **Power consumption**: 1.8 watts
- **Power supply**: Nominal 12.0 VDC @ 1A (12-24 VDC range)

## Data Output
- **Formats**: NMEA DBT, NMEA DBS, DESO 25, ODOM, CEESTAR, CEEPULSE
- **Baud rate**: 9600 – 115200 (RS232, RS422)

## Connectivity
- **RS232**: Serial data cable
- **Bluetooth***: Baud rate 9600 – 57600, 10 m range (internal antenna)
- **RS422**: Serial data cable (optional)

## Echo Sounder
- **Mode**: Auto, Shallow auto and Manual
- **Frequency**: High band: 190 kHz – 210 kHz
- **Output Power**: High: 200 kHz – 172 W RMS max
- **Resolution**: 1 cm
- **Accuracy**: 0.01 m +/- 0.1% of depth @ 200 kHz
- **Depth range**: 0.3 – 100 m (0.98 – 328 ft) @ 200 kHz
- **Sound Velocity**: 1350 – 1750 m/s (Resolution 1 m/s)
- **Transducer Draft Setting**: 0 – 10 m (1 cm increments)
- **Index Offset**: 0 – 10 m
- **Blanking**: 27 – 300 cm
- **Ping rate**: 10 Hz (20 Hz optional)
- **Pulse length**: 200 kHz 1-30 cycles
- **TVG**: None, LOG 10, LOG 20
- **Manual gain**: 30 – 100%
- **Detection threshold**: 10 – 50%

## Transducer Options
- **Standard 200 kHz**: 200 kHz, 9° beam width @-3dB
- **Narrow Beam 200 kHz**: 200 kHz, 3° beam width @-3dB

* Line of sight
  - Specifications are subject to change
  - Visit www.ceehydrosystems.com for the complete list of specifications
  - v15127