
Datasheet

BlueComm[®] 200 – Optical Communications System



Description

BlueComm 200 provides subsea wireless optical communications up to 10 Mbps at ranges up to 150 metres.

The system is most effective in low ambient light conditions such as deep water or shallow water night-time operations. It is capable of data transmission rates from 2.5–10 Megabits per second (Mbps), enabling a range of application options including wireless telemetry from several concurrent video cameras and tether-free subsea vehicle control.

BlueComm 200 uses an array of high power light emitting diodes (LEDs) that are rapidly modulated to transmit data. Highly sensitive receivers detect the extremely small light signals in order to decode this data and to present it to the user via an Ethernet link.

BlueComm 200 uses time division multiple access (TDMA) methods to providing a bi-directional high speed low latency link that supports TCP/IP based network protocols. Allocation of bandwidth ratios in each direction is user selectable and fully flexible.

The allocation of bandwidths is ideal for applications where high-speed data transfer is mostly required in only one direction such as for extraction of large data volumes from seafloor instrumentation or sensors.

Optional integrated acoustic positioning and communications provide methods for locating the device, waking it up and managing the optical link. Once a connection is established, BlueComm 200 will immediately begin transferring buffered data.

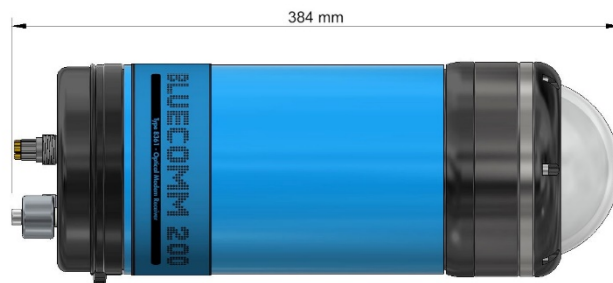
Optical data transmission is highly efficient, enabling more than nine gigabytes of data to be transferred using only the energy contained in a single Lithium D sized battery cell.

Key Features

- 2.5 to 10 Mbps at ranges up to 150 metres
 - Suitable for moderate to low turbidity dark water, (>200 m depth or night-time) applications
 - Highly energy efficient communications provides long battery life
 - Data recovery by AUV, ROV or surface deployed dunker system
 - Up to 4,000 m depth operation
 - Additional white light emitter available for video illumination
 - ROV/AUV Remote Control
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Specifications

BlueComm[®] 200 – Optical Communications System



BlueComm 200
Receiver



BlueComm 200
Emitter

6 Holes:
M5x0.8 - 19 mm thread
Ø107 Pitch

Features	Type 8361
Depth Rating	Up to 4,000 m operation
Data Rate	2.5–10 Megabits per second
Optical Communication Range	Up to 150 m
Materials	Anodized aluminium or titanium
Supply Voltage	24–36 V DC
Communications Interface	10/100 Base-T Ethernet (static IP address)
Command Interface	Graphical user interface or Ethernet UDP command set
Receiver Unit	
Receive Wavelength	Broadband visible light
Receive Angle	180° (omni-directional)
Receiver Weight in Air/Water*	7.3/3.1 kg
Power Consumption	10 W
Emitter Unit	
Optical Transmit Power	6 W (Radiated light)
Optical Wavelength Options	450 nm (royal blue), 400–800 nm (white)
Emitter Beam Pattern	180° (omni-directional)
Power Consumption	15 W (bandwidth allocation dependant)
Emitter Weight in Air/Water*	3.6/2.6 kg
Environmental and Dimensions	
Operating Temperature Range	-5 to 40°C
Storage Temperature Range	-20 to 55°C
Dimensions (Length x Diameter)	Receiver 384 x 136 mm Emitter 199 x 136 mm

*Estimated Weights.