
Datasheet

BlueComm[®] 200 UV – Optical Communications System



Description

BlueComm 200 UV provides subsea wireless optical communications up to 10 Mbps at ranges up to 75 metres. Enabling a range of application options including wireless telemetry from several concurrent video cameras and tether-free subsea vehicle control.

The standard BlueComm 200 is optimized for maximum ranges up to 150 m, the range is however limited by ambient light which is seen as noise. The UV based system has a lower maximum range but a much higher tolerance to ambient light, designed for high ambient light operations closer to the surface or ROV operations.

The system uses a UV band pass optical filter to achieve better performance in high ambient light conditions.

BlueComm 200 UV 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 UV 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 UV will immediately begin transferring buffered data.

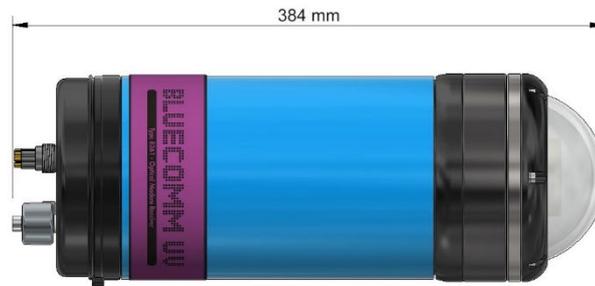
BlueComm 200 UV has a highly efficient optical data transmission, enabling more than 2 gigabytes of data to be transferred using only the energy contained in a single Lithium D sized battery cell.

Key Features

- 2.5 to 10 Mbps at ranges up to 75 metres
- Suitable for moderate to low turbidity water and high ambient visible light conditions
- Data recovery by AUV, ROV or surface deployed dunker system
- Up to 4,000 m depth operation
- ROV/AUV Remote Control

Specifications

BlueComm[®] 200 UV – Optical Communications System



BlueComm 200 UV
Receiver



BlueComm 200 UV
Emitter

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

Features	Type 8361
Depth Rating	Housings available for up to 4,000 m operation
Data Rate	2.5–10 Megabits per second
Optical Communication Range	Up to 75 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	UV (band pass filter blocking 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	405 nm (ultra violet)
Emitter Beam Pattern	180° (omni-directional)
Power Consumption	30 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
	Emitter 199 x 136