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

<table>
<thead>
<tr>
<th>Feature</th>
<th>Type 8361</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depth Rating</td>
<td>Housings available for up to 4,000 m operation</td>
</tr>
<tr>
<td>Data Rate</td>
<td>2.5–10 Megabits per second</td>
</tr>
<tr>
<td>Optical Communication Range</td>
<td>Up to 75 m</td>
</tr>
<tr>
<td>Materials</td>
<td>Anodized aluminium or titanium</td>
</tr>
<tr>
<td>Supply Voltage</td>
<td>24–36 V DC</td>
</tr>
<tr>
<td>Communications Interface</td>
<td>10/100 Base-T Ethernet (static IP address)</td>
</tr>
<tr>
<td>Command Interface</td>
<td>Graphical user interface or Ethernet UDP command set</td>
</tr>
</tbody>
</table>

### Receiver Unit

- **Receive Wavelength**: UV (band pass filter blocking visible light)
- **Receive Angle**: 180° (omni-directional)
- **Receive 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

---

Copyright © Sonardyne UK Limited 2019. All rights reserved. Sonardyne (Head Office) T. +44 (0) 1252 872288 F. +44 (0) 1252 876100 E. sales@sonardyne.com www.sonardyne.com

Specifications subject to change without notice - 01/2019