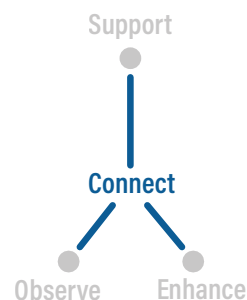# Beluga

Ethernet & Serial Communications Extender

A compact standalone device that adds BelugaLink technology to myriad long-distance cabled applications. Use Beluga to transmit high-bandwidth Ethernet, serial data and power to at least 2 km on a single 2-conductor cable.

The Beluga will simplify and enhance your subsea monitoring infrastructure.

Used in pairs or with products having integrated BelugaLink technology, this compact device is an essential component of View Into The Blue® underwater observatories.

The Beluga is available in a submersible housing or as an OEM module. It's plug-and-play for virtually any long-distance cabled application.

Support

Connect

Observe   Enhance

Link Length
To ≥2 km w/ VITB cable

Ethernet
1-2 ports, 90 Mbps

Serial
RS-232, RS-485 or UART
Up to 115k baud

Power Input
9-76 VDC, 10A
Pass-through to tail unit

Power Output
5, 12 or 24 VDC, 2.5 A
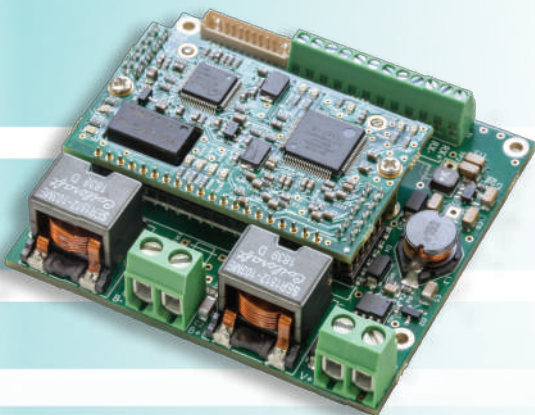or pass-through input

Power Usage
1.5 W/unit

Housing
Acetal - 150 m depth
Al. bronze - 600 m depth

Features

- Long-distance Ethernet extender
- Flexible power input and output
- Efficient two-conductor cabling
- Transparent serial data interface
- Hybrid powerline communication
- Depth rated to 150 or 600m

SEACEPTION
engineering

Beluga

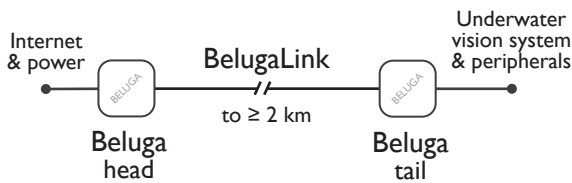## Ethernet & Serial Communications Extender

Specifications

The Beluga provides end-to-end digital connectivity over cables runs up to at least 2 km, in air or in water. Used in pairs, the head and tail units immediately establish a BelugaLink that supports high-bandwidth Ethernet and transparent serial communications over an inexpensive two-conductor cable.
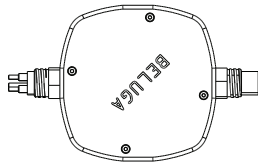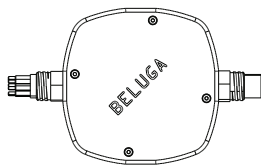
The Beluga accepts flexible input power, passing up to 10 A of current between units. Each unit provides up to two Ethernet ports, a user-selectable regulated power output, transparent serial comms, and accommodates up to two additional bulkhead connectors. Chain together up to five BelugaLinks for longer distances.

Protocol	BelugaLink hybrid 2-conductor power/comms
Ethernet	1 port per unit standard, +1 w/add'l connector 90 Mbps total bandwidth
Serial	RS-232, RS485 or UART User-configurable up to 115,200 baud Transparent serial or discoverable on TCP/IP
Power Input	9 - 76 VDC, 10 A Pass-through input power at tail end Must supply +3V greater than desired output Optional head/tail power isolation
Power Output	Pass-through input power, up to 10 A Or, select with jumper: 5, 12 or 24 VDC, 2.5 A
Power Usage	1.5 W/unit
Connectors	MCBH-2F/M for the BelugaLink MCBH-8M/F at each end (standard configuration) Optional: up to 2 additional connectors/unit
Housing	Acetal, 150 m depth, 10.3x10.3x4.4 cm Aluminum bronze, 600 m depth, 10.3x10.3x6.0 cm
Mounting	Back - four M6x1 fasteners Sides - two M6x1 fasteners
OEM Board	59x64x14 mm

Typical Usage

Internet & power — Beluga head — BelugaLink to ≥ 2 km — Beluga tail — Underwater vision system & peripherals

Dimensions

Standard Configuration

Beluga Head Unit				
Micro Circular 8 Male			Micro Circular 2 Female	
1	Black	Ethernet Tx+	1	Black	Beluga Link -
2	White	Ethernet Tx-	2	White	Beluga Link +
3	Red	Etherent Rx+			
4	Green	Etherent Rx-			
5	Orange	DC Pwr +			
6	Blue	Common			
7	White/Black	RS232 Tx			
8	Red/Black	RS232 Rx			

Beluga Tail Unit				
Micro Circular 8 Female			Micro Circular 2 Male	
1	Black	Ethernet Tx+	1	Black	Beluga Link -
2	White	Ethernet Tx-	2	White	Beluga Link +
3	Red	Etherent Rx+			
4	Green	Ethernet Rx-			
5	Orange	Regulated DC +			
6	Blue	Common			
7	White/Black	Serial Tx			
8	Red/Black	Serial Rx			