



Oculus MD-Series

Impulse MCIL-6 Cabling and Connections

Guide

Oculus Cabling Connections

Power Supply

The Oculus sonar requires DC power from a regulated and electrically noise free power supply capable of supplying a 50W load. Check the product label for exact voltage requirements (usually 12V-32V for 'Standard Voltage' models), but due to the voltage-drop across cabling at higher power loads the use of a 24V DC power supply is recommended.

For cable lengths exceeding 20m (up to 50m maximum), the use of 16AWG power conductors is recommended to avoid excessive power supply voltage-drop across the cable length.

Ethernet Communications

Oculus sonars use 100Base-T ethernet communications. They are supplied ready to connect to a network using a DHCP provided ethernet address or will fall back to a randomly assigned APIPA IP address (starting with 169.254.x.x) should a DHCP server not be present.

The IP address can be statically assigned using tools in the ViewPoint software application, which can also identify any Oculus sonars connected to a network.

Connection to a PC

For 'out-of-the-box' operation, the Oculus sonar is supplied with an Ethernet-to-USB adapter that should install with the default settings required to communicate with the sonar. However, the first time the Ethernet-to-USB converter is connected to a Windows PC, it may need to install drivers before functions correctly. If Windows has a network connection it will usually install the driver automatically, or installation instructions will be shown on the display.

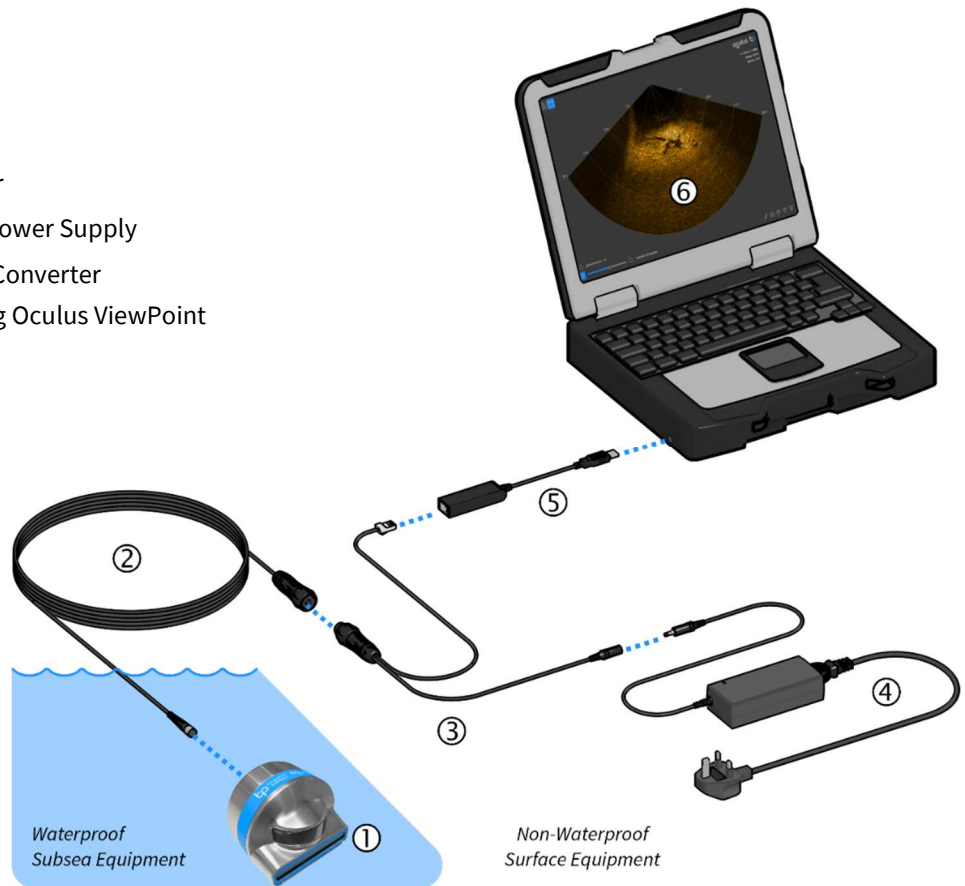
- Plug Ethernet-to-USB Adapter (Item 5) into an available USB port on the PC (item 6).
- Plug Oculus Deck Lead Splitter Cable (Item 3) into an Oculus Deck Lead Cable (Item 2).
- Plug the RJ45 connector from the Oculus Deck Lead Splitter Cable (Item 3) into the Ethernet-to-USB Adaptor (Item 5).
- Plug Oculus Deck Lead (Item 2) into Oculus Sonar (Item 1).
- Apply power to the Oculus Sonar via the 2.1mm DC jack (Item 3) using the Oculus 24v Power Supply (Item 4).
- Run the ViewPoint software application to connect to the sonar, display imagery or configure the unit.

The setup assumes that both the Ethernet-to-USB Adapter and Oculus sonar are configured as DHCP clients, but no DHCP server will be present on the private link. Both devices will use an automatically assigned IP address in the APIPA range. (169.254.x.x) and this will allow both devices to communicate with each other.

Once a connection is established, the sonar's IP address and subnet mask can be changed using settings from the ViewPoint software application.

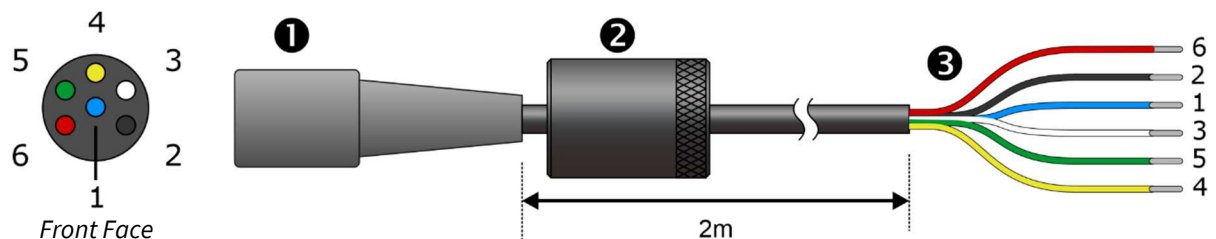
The following diagram summarises the connection setup...

- ① Oculus Sonar
- ② Deck Lead
- ③ Deck Lead Splitter
- ④ Mains to 24V DC Power Supply
- ⑤ Ethernet-to-USB Converter
- ⑥ Computer running Oculus ViewPoint software.



Oculus MD-Series Impulse MCIL-6-FS 2m Unterminated Whip (P/N BP01871)

Oculus MCIL-6 MD series sonars are fitted with an Impulse MCIL-6-MBH bulkhead connector – cables that connect to the sonar should be terminated with an MCIL-6-FS (or similar) 6-way inline connector. Oculus MCIL-6 MD series sonars are supplied with the following unterminated cable whip:



Item	Qty	Description	Manufacturer Part Number
① (⑤)	1	Impulse MC Series MCIL-6-FS Connector moulded onto 2m cable. (Cable is a 6.5mm outside diameter, with PU jacket, UL94-V-2 Flame Retardant, Halogen Free construction.)	Impulse: MCIL-6-FS
②	1	MC-Series Delrin Locking Sleeve & Retaining Clip (Female)	Impulse: MCDLS-F

Impulse Plug ① Pin	Cable ③ Wire Colour	Signal
6	RED	POWER IN
2	BLACK	POWER GROUND
1	BLUE	ETHERNET TX- ★
3	WHITE	ETHERNET TX+ ★
5	GREEN	ETHERNET RX- ★
4	YELLOW	ETHERNET RX+ ★

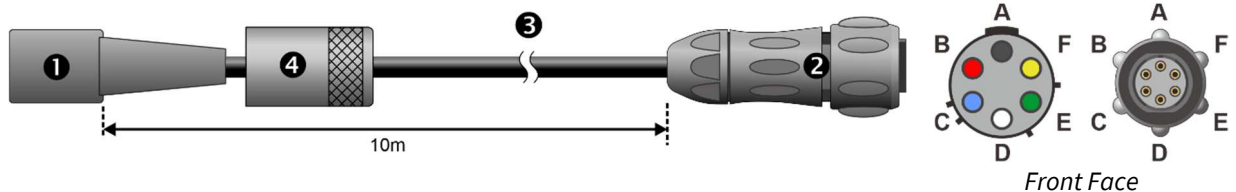


Notes

1. Check voltage against sonar specifications (12V-32V for 'Standard Voltage' models)
2. Ethernet signal directions given with respect to the sonar, and naming derived from MDI style-wiring on the sonar.
3. Wire pairs 3/4 and 5/6 are twisted to Cat 5e cabling specifications (100Ω ±15Ω characteristic impedance @ 100MHz).
4. Auto MDI/MDI-X is supported by the sonar hardware.

Oculus MD-Series Impulse MCIL-6-FS 10m Deck Lead (P/N BP01869)

Deck leads are terminated with a 6-way Souriau UTS6JC106P inline male-plug connector (mating with a UTS1JC106S 6-way inline female-receptacle). Cable is a 6.5mm outside diameter, with PU jacket, UL94-V-2 Flame Retardant, Halogen Free construction.



Impulse Socket ① Pin	Cable ③ Wire Colour	Souriau ②	Signal
		Pin	
2	BLACK	A	GROUND
6	RED	B	POSITIVE
1	BLUE	C	ETHERNET TX- ★
3	WHITE	D	ETHERNET TX+ ★
5	GREEN	E	ETHERNET RX- ★
4	YELLOW	F	ETHERNET RX+ ★



Notes

See above