

NEXUS 8 HD

Multiplexer for ROV and survey applications



The MacArtney NEXUS 8 is a multiplexer capable of multibeam sonar, gigabit ethernet, HD video, and, additional sensors that are carried over one single-mode optical fibre via CWDM (Coarse Wavelength Division Multiplexing).

The power switching is software controlled by a computer with at least one real or external USB com port.

The API (Application Programming Interface) is open source and can be integrated into customer software for monitoring purposes. The included software continuously monitors power consumption, sensor voltage, telemetry link and, leak alarm. Programmable eFuses protects all sensor power outputs.

The multiplexer has a Ground Fault Indicator (GFI) to detect ground faults on the sensor interfaces.

The GFI and system software can be used to locate a fault source by turning on and off external sensors to shorten the time spent on failure analysis.

As standard, the subsea housing is manufactured from hard anodised aluminium. Connectivity interfaces include SubConn® anodised aluminium connectors, SubConn® coax (HD video) connectors and a MacArtney OptoLink fibre optical connector. Options include 6,000 MSW depth rating and pressure housings manufactured from titanium or high tensile duplex steel.

Features and benefits

- Interfaces most standard survey sensors
- Software controlled power switching for sensors
- Interface for Gigabit Ethernet based multibeam sonar
- Three HD video interfaces (full broadcast quality)
- Three light outputs (0-10V or RS485 control)
- Operates on one single mode optical fibre
- FOCAL™ inside

Applications

- ROV/ROTV multiplexer for HD video and multibeam sonar survey sensor setup
- Cable trencher systems
- Drop camera systems
- Towed camera and sensor systems
- Seabed monitoring applications including landers and observatory systems

Options

- Customised subsea controls
- Titanium or high tensile duplex steel housing for the subsea unit
- 6,000 m depth rating



Specifications - topside unit

| | | | |
|--------------------|----------------------------|------------------------------------|--|
| Mechanical | | Various: | LEDs for link status indication |
| Dimensions: | 19" rack mount 2 U high | Monitoring: | LEDs for status indication Focal Diagnostics software |
| Electrical | | Transport | |
| Supply voltage: | 85-265 VAC, 50/60 Hz | Delivered in Peli™ hard shell case | |
| Power consumption: | 50 W | | |

Specifications - subsea unit

| | | | |
|--------------------|--|--------------------------------------|--|
| Mechanical | | Electrical | |
| Dimensions: | OD 180 mm, total length including connectors approx. 680 mm | Supply voltage: | 100-250 VAC 50/60 Hz (400 Hz optional) 140-370 VDC |
| Depth rating: | 3,000 m (6,000 m optional) | Output voltage: | 48 VDC/600W 24 VDC/450W 12 VDC/150W AC (input voltage level) Other voltages on request |
| Material: | Hard anodised aluminium (7075 T6 standard) | Fibre optic | |
| Weight in air: | Approx. 27 kg | Fibre type: | Single mode 9/125 |
| Weight in water: | Approx. 10 kg | Number of fibres required: | 1 |
| Multiplexer | | Flux budget: | > 18 dB |
| Serial: | 4 configurable (RS232, RS485 or RS422) 1 fixed for camera/light control (RS485) | Control and monitoring | |
| Triggers: | 2 bi-directional (Buffered TTL level) | Control: | Power switching Programmable eFuses |
| Ethernet: | 3 x 10/100/1000BaseT 5 x 10/100BaseT (Ethernet bandwidth 2.4Gbps) | Monitoring: | Leak Ground fault Voltages and current draw Temperature Power on/off feedback status Optical loss |
| HD Video: | 3 x HD-SDI (SMPTE-292M) | Transport | |
| Light interfaces: | LED lights (RS485 or analogue controllable) | Delivered in custom made flight case | |