

NEXUS MK VII HD

Highly versatile and configurable multiplexer



The MacArtney NEXUS MK VII is an advanced and versatile HD video, standard video, Ethernet, serial and multibeam sonar multiplexer based on Focal 907 telemetric technology. Providing a highly efficient link between surface and seabed, the NEXUS MK VII carries all signals over one single mode optical fibre via CWDM (coarse wavelength division multiplexing).

The NEXUS MK VII is highly configurable and allows for an easy upgrade/modification path when operational or applicational requirements change. Multiplexer options can be installed between jobs or even at sea without the need for an electronics workshop.

Power switching is software controlled via PC software or using a tablet which is online via LAN or WiFi. Sensor power status, telemetry link, leak alarm etc. is also continuously monitored by the software. Advanced features include programmable fuses and software enabled interface selection. The protocol is open and can be integrated into customer software for monitoring convenience. A touch screen display on the topside front panel allows for easy monitoring of selected parameters during set-up and operation.

As standard, the subsea unit housing is manufactured from hard anodised aluminium. Connectivity interfaces include SubConn® anodised aluminium connectors, SubConn® coax (HD video) connectors and a MacArtney OptoLink fibre optic connector.

Features and benefits

- Interfaces all standard survey sensors
- Interface for SeaBat 71xx, R2Sonic and Kongsberg multibeam sonar system (dual head)
- Full HD video interface
- Software controlled power switching for sensors (PC or tablet based)
- Highly versatile (several connectivity interfaces)
- Readily configurable for new applications
- On-site upgrade and modification
- Based on Focal 907 technology
- Operates on one single mode optical fibre
- 3,000 MSW depth rating as standard

Applications

- ROV/ROTV multiplexer for HD video and multibeam sonar survey sensor set-up
- Cable trencher systems
- Towed camera and sensor systems
- Seabed monitoring applications including landers and observatory systems
- Subsea instrumentation platform systems

Options

- 4 x HD-SDI (full broadcast quality)
- Video interface (6 x PAL/NTSC, 8/10-bit)
- Dual (P)ECL interface for SeaBat 81xx or EM 3002 multibeam sonar head
- Dedicated INS interface
- Titanium or high tensile duplex steel housing for the subsea unit



Specifications - topside unit

Mechanical

Dimensions: 19" rack mount, 3 U high
460 mm deep

Electrical

Supply voltage: 85-265 VAC, 50/60 Hz
Power consumption: 100 W

Various: 4.3" color touch display and LEDs for link status indication

Transport

Delivered in Pelicase

Specifications - subsea unit

Mechanical

Dimensions: OD 244 mm
(255 mm including POM protection ring)

Total length: Approx. 780 mm
(including connectors)

Depth rating: 3,000 m

Material: Hard anodised aluminium
(7075 T6 standard)

Weight in air: Approx. 49 kg

Weight in water: Approx. 15 kg

Electrical

Supply voltage AC: 85-264 VAC 50/60 Hz

Output voltage DC: 4 x 48 V/5 A (max 12 A total)
30 x 24 V/5 A (max 24 A total)
16 x 12 V/5 A (max 12 A total)
Max DC output power is de-rated to 60% at 110 VAC

Output voltage AC: 2 x 230 V / 2 A
(voltage dependent on input voltage)

Multiplexer base

Multibeam sonar: 2 x 10/100/1000Base-T
RS 232: 5
RS 485: 2 x (HD video and light control)

RS 232/485: 2 x (MB, software switchable)

RS 232/485/422/TTL: 2 x (software switchable)

Ethernet: 1 x 10/100/1000Base-T

1 x 10/100Base-T
(INS connector)

Fibre optic

Fibre type: Single mode 9/125

Number of fibres required: 1

Flux budget: > 20 dB

Control and monitoring

Control: Power switching with software fuse and interface selection (sensor level), PC software/tablet control

Monitoring: Optical budget and link status, leak sensor, voltage level and current consumption (sensor level), touch screen diagnostics

Transport

Delivered in flight case

Options

Multiplexer option - 907- Ser

RS 232: 4
RS 232: 3 x (INS)
TTL: 1 x (INS)

Multiplexer option - 907- Flex

HD video: 4 x HD-SDI (SMPTE-424M and SMPTE-292M)

Multiplexer option - 907V

Video: 6 x (PAL/NTSC, 8-bit)
RS 485: 1 x (video)

Multiplexer option - 907-ECL

(P)ECL: 2 x (125 Mbps)