

# NEXUS MK C

## Customised multiplexer solutions



The MacArtney NEXUS MK C is a plug-and-play multiplexer for ROVs. This built-to-order multiplexer is intended to be the main multiplexer for a work class ROV or similar vehicle. It can be fitted to new ROVs or as an upgrade to existing systems.

The multiplexer is easy to install and can handle data for ROV set-ups that require multiple cameras, sonars, attitude sensors, manipulators, cable or pipe trackers, etc. It is based on the Focal 907 series multiplexer boards in combination with MacArtney minicontroller and specialised interface boards.

The topside unit is a 19" rack unit which has indicator LEDs on the front panel showing status of all data channels. On the back panel, a number of D-sub or RJ-45 connectors are installed for serial data and digital I/Os. BNC connectors are used for video and multibeam output.

Camera function and sensor power control is provided through a software interface which also includes monitoring of power interfaces. The control protocol is open (ASCII based) and can be integrated in a larger control system if needed.

One subsea bottle houses the corresponding multiplexer boards, power supplies and control electronics. The bottle can be made in several materials including anodized aluminium, high tensile duplex steel and titanium for depths down to 6,000 metres.

Multi conductor harness cables can be routed to an oil filled junction box for additional sensor interfaces, if required.

The fibre optic telemetry takes advantage of the CWDM technology (coarse wavelength division multiplexing) combining several wavelengths on one fibre.

The NEXUS MK C is built to customer requirements and is not a stock item.

### Features and benefits

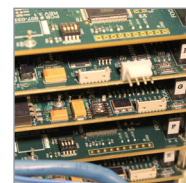
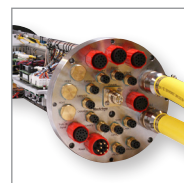
- Interfaces to all standard survey sensors and cameras
- Supplies power to sensors and cameras
- Control software for topside control of power switching and video control
- Operates on one single- or multi-mode fibre

### Applications

- ROV/ROTV multiplexer
- Survey sensor package multiplexer
- Multiplexer for geotechnical subsea rigs and other UUVs

### Options

- Anodised aluminium, titanium or high tensile duplex steel housing for the subsea unit
- Sensor junction box
- Customised subsea controls
- Gigabit Ethernet interface
- HD video interface



**Specifications - topside unit (example)**

<b>Mechanical</b>		<b>Transport</b>	
Dimensions:	19" rack mount, 4 U high	Delivered in Pelicase	
<b>Electrical</b>			
Supply voltage:	230 VAC, 50/60 Hz (default) 120 VAC, 50/60 Hz (option)		
Power consumption:	50 W		

**Specifications - subsea unit (example)**

<b>Specifications</b>		62.2/125	
Material:	Anodised aluminium/ acrylic switches	Number of fibres required:	1 or 2
Weight dry:	9.4 kg (excl. oil)	Flux budget:	20-30 dB
Weight wet:	-0.2 kg (excl. oil)	<b>Control Unit channels</b>	
Electrical:		Digital down:	24 (8 used for zoom and focus control for two cameras, and 16 used for power switching of sensor power supplies)
Supply voltage:	85-132 and 180-264 VAC	Digital up channels:	24 feedback for digital
Output voltage:	24 VDC and switched mains voltage	Analogue down:	8 (hard wired)
<b>Multiplexer</b>		Analogue up:	2 (1 is used for power monitoring). All 8 analogue uplinks are available serially
RS 232:	16 full duplex at 115 kbps (1 used by micro controller)	<b>Transport</b>	
Arcnet (Tritech):	1	Delivered in flightcase	
RS 485/422:	3 full duplex at 115 kbps		
Ethernet (option):	1 (RS 232 speed will be reduced to 57.6 kbps)		
PECL:	2 uplink only at 125 mbps		
Video channels:	8 using single-mode fibre 8 switched to 4 using multi-mode fibre		
Format:	NTSC, PAL, S-video (Y/C), RGB		
<b>Fibre optic</b>			
Fibre type:	Single-mode 9/125 or multi-mode 50/125 -		