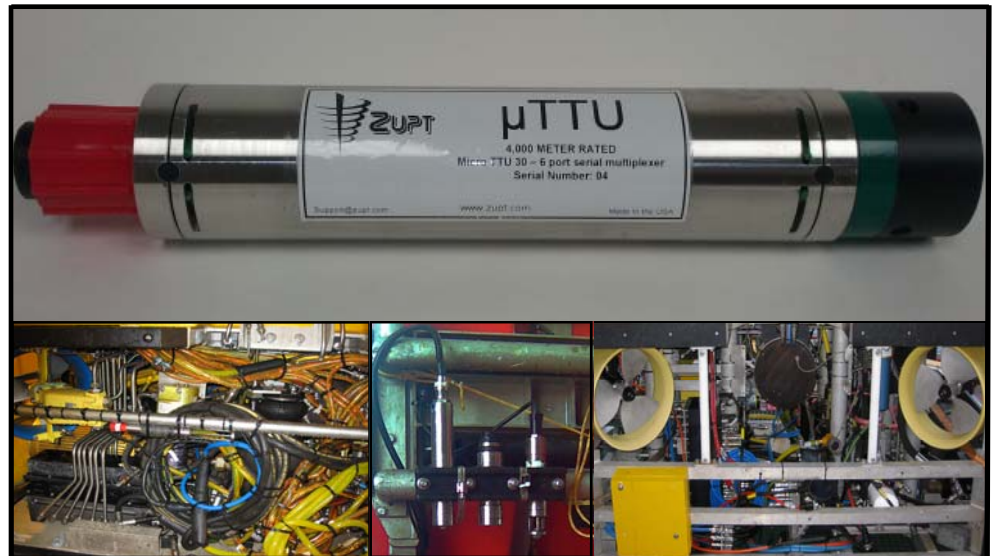




Solutions - Service - Support

**Never enough  
serial channels?**

**Serial Multiplexer** *subsea - compact*  
**microTTU ( $\mu$ -TTU)<sup>TM</sup>**



Zupt delivers operationally aware technologies to improve the productivity associated with high cost operations for oil and gas exploration and field development. These capabilities are offered and supported worldwide.

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## 6 Channel Subsea Serial Multiplexer ( $\mu$ -TTU)<sup>TM</sup>

$\mu$ -TTU<sup>TM</sup> (*microTTU*) a flexible, multi-port, precisely timed, subsea serial multiplexer specifically designed for the harsh environment of ROV operations.

**Quickly add additional RS232 or RS422/RS485 channels onto any ROV.**

All data multiplexed to the surface is available either on a physical COM port, or as a virtual COM port directly into other applications running on the same computer.

Each sensor port within the  $\mu$ -TTU is fully configurable from the surface and allows for direct, transparent control of the remote sensor deployed on the ROV. Each channel is independently configurable to the required baud rate and parity settings etc. All configuration is stored in NVRAM. Software and hardware "break" commands are available to access sensor configuration.

**Configure onshore for quick installation offshore.**

All sensor data can be appended with a precise time tag, or it can be exported in exactly the same form as the original sensor data. A data logging option is also supplied within the surface software to allow individual channels to be logged to separate files.

**\*Stocked for immediate delivery**

Part Numbers:    microTTU Serial Multiplexor (\*6-232)                     $\mu$ -TTU<sup>TM</sup>  
                          microTTU Serial Multiplexor (4-232,1-485)             $\mu$ -TTU<sup>TM</sup>

**Configuration options for  $\mu$ -TTU:**

The uplink to the ROV is normally configured for RS232. The uplink can be delivered as RS422/RS485 if the unit is to be used in a long, hard wired configuration.

Inside the  $\mu$ -TTU we have a total of six RS232 channels (3 wire Tx, Rx, SigGnd) and one RS422/RS485 channels (4 wire Tx+/- Rx+/-) available for connection to external sensors. The configuration of the  $\mu$ -TTU sensor interface is limited to 13 pins for serial comms. A 16 pin connector is used on the "Sensor" end of  $\mu$ -TTU, 3 of these pins are used for power. Signal grounds are shared. Galvanic isolation is available (option) with less channels through the end cap.

Standard  $\mu$ -TTU units are configured as below. Other options are available as special order:

**Standard configuration**—on the shelf

**Sensor interfaces**—serial and power:

6 RS232 ports  
24Vdc, up to 4A            12Vdc, up to 1A

**Uplink to ROV**

RS232 max 115,200 baud  
Input 16 to 30Vdc from ROV  
2W for  $\mu$ -TTU - max 100W output for sensor power

**Mechanical** - depth rated to 4,000m

Uplink bulkhead connector - 8 pin male - MCBH8M  
Sensor bulkhead connector - 16 pin female - MCBH16M

Length 305mm (12")    Diameter 50mm (2")  
Weight in air/water 2.6kg (5.6lb)/ 2kg (4.4lb)



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[www.zupt.com](http://www.zupt.com)

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