

Datasheet

Origin E-Mux & Origin PowerPlus



Origin® E-Mux supports additional external sensors and external power to the Origin 600 ADCP, while Origin PowerPlus, connected as an addition to Origin E-Mux, offers extended power for longer deployments. Both products are rechargeable, significantly reducing long-term costs.

Origin E-Mux and Origin PowerPlus have a robust aluminium housing, including anodes for protection against corrosion and an ergonomic grip at the base. The housing on both models is depth rated to 150 m to accommodate most continental shelf operations and incorporates SubConn connectors to allow up to three devices to be combined in a daisy chain configuration for ultra-long deployments (i.e. 1x Origin E-Mux and up to 2x Origin PowerPlus).

Origin E-Mux and Origin PowerPlus extend Origin 600's battery life by 70 days continuous operation or 3.5 years with a typical currents duty cycle³.

The endcap of both devices includes one input connector to receive power and communications from an upstream battery via wet cable, one output connector to send power and communications to a downstream battery via wet cable, connectors to allow the internal batteries to be recharged, and a coloured LED to indicate the overall charge status of the pack.

Origin E-Mux and Origin PowerPlus also provide a monitoring interface to allow status reporting, including nominal capacity and remaining capacity. These charge status messages from each pack in the daisy chain are presented in the Origin 600 inbuilt web user interface (UI), Origin Portal, or in the desktop PC software application, Origin Topside (if connected acoustically).

As well as providing additional power to the ADCP, Origin E-Mux incorporates multiplexing capability, allowing ADCP data to be fused with data from up to four external sensors within Origin 600. It incorporates four SubConn connectors to allow ingestion of third-party sensor data over RS232/RS485 and can supply power to those third-party sensors if necessary. Origin Portal and Origin Topside both provide a traffic light style UI to quality check data from each sensor.

Data from third-party devices are logged directly to Origin 600 for later download. If using an Edge application on Origin 600, data from external sensors can be fused with the ADCP data. This data can then be extracted via the acoustic modem, supporting in-situ data harvesting and near real-time topside monitoring.

For a complete solution, Sonardyne offer a dedicated Origin Seabed Lander with space for an Origin 600 ADCP, an Origin E-Mux, 2x Origin PowerPlus external rechargeable batteries, mounting space for third party sensors, and space for dual redundant acoustic releases.

Key features

- Extend battery life of Origin 600 for longer deployments
- Rechargeable batteries
- Integrate up to four third-party sensors
- 150 m operational depth rating
- Complete solution available



Specifications

Origin E-Mux & Origin PowerPlus

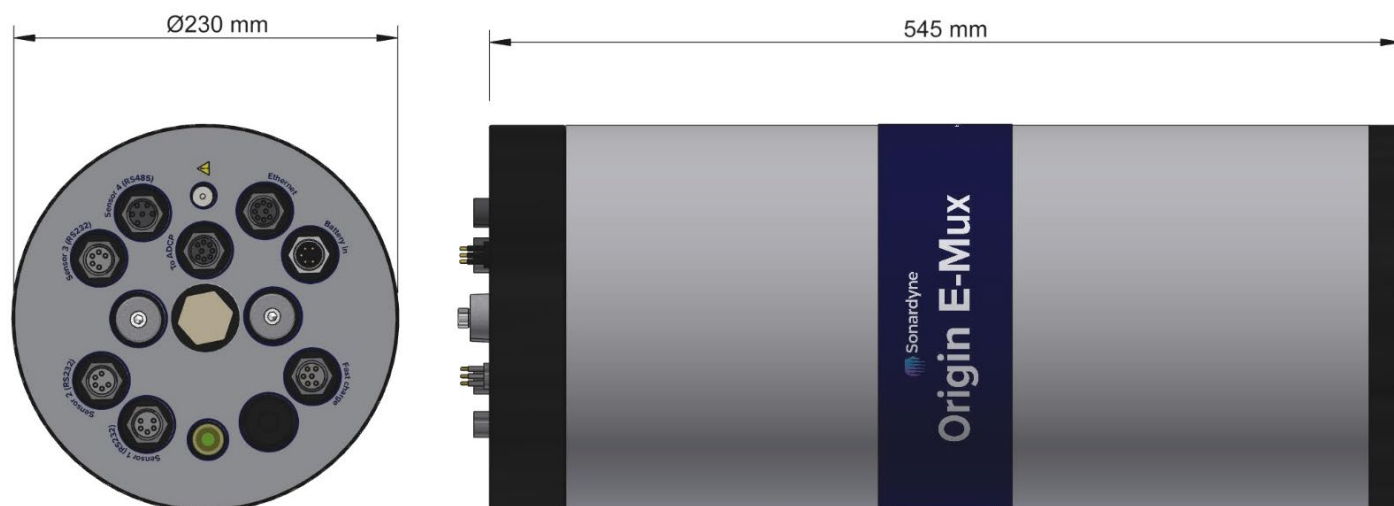


Diagram shows Origin E-Mux; dimensions for Origin PowerPlus are the same.

Features			Origin E-Mux	Origin PowerPlus
Connectivity	Third-party sensor connectivity		3x MCBH5F for power and RS232 1x MCBH6F for power and RS485 (all connectors restricted to 9600 baud)	n/a
	Ethernet		1x MCBH8F for carrying Ethernet to Origin 600 breakout box	n/a
	Battery recharge		1x MCBH6M (fast recharge port)	
	Power input		1x MCBH5M for ingesting Origin PowerPlus power	
	Power output		1x MCBH8F to distribute power to Origin 600	1x MCBH5F to distribute power to another Origin PowerPlus or Origin E-mux
Mechanical	Construction		Aluminium	
	Dimensions (height x max. diameter)		545 x 230 mm (height is 572 mm including connectors/connector covers)	
	Weight in air/water ¹		34/20 kg	33/19.3 kg
Electrical	Battery capacity		Li-Ion 3200 Wh ²	
	Battery recharge time		16 hr to 80% capacity, 24 hr to 100% capacity	
	Lifespan ³	Full	23 days	70 days ⁴ (1x Origin E-mux + 2x Origin PowerPlus)
		Scheduled	1.2 years	3.6 years ⁴ (1x Origin E-mux + 2x Origin PowerPlus)
		Standby	4.5 years	13 years ⁴ (1x Origin E-mux + 2x Origin PowerPlus)
Environmental	Depth rating		300 m survivable/150 m operational	
	Operating temperature		-5 to 55°C	
	Storage temperature		-20 to 55°C	
Software	Pre-deployment configuration		Origin Scheduler, Origin Portal, Origin Topside	
	In-situ status monitoring		Origin Portal, Origin Topside	

¹ Estimated weights.

² UN 38.3 certified for air transportation.

³ Lifespan calculated with 4 Hz continuous pinging (full), 4 Hz for 1 min & sleep for 14 min (scheduled), no pinging (standby).

⁴ Origin PowerPlus calculations assume one Origin E-Mux and two Origin PowerPlus batteries.