COSWORTH

CLU - Central Logger Unit

Cosworth's next gen single box solution for motorsport logging and control, superseding the extremely successful Sigma system. Using the latest hardware, software and Cosworth's in-house electronics expertise, the CLU provides class-leading memory capacity, bandwidth and logging rates.

Inputs & Outputs
Equipped to instrument vehicles through to the highest levels of motorsport with **32 analogue inputs**, of which 8 are compatible with resistor based temperature sensors (PT100, PT1000).

Wheel speed (including DF11i support), lap beacon and PWM inputs are supported by **8 high frequency digital inputs**.

Simplified circuit fault detection with use of **16 sensor supplies**, reducing the need for shared circuitry.

Low current devices such as driver drinks pumps and oval racing weight jackers can be driven by **4 high side drivers**.

Extra I/O is available through use of additional EtherCat expansion modules.

Logging & Channels
High quality data is produced by continuous logging speeds of up to **1KHz**. High rate **burst logging** coming soon.

Reduced need to compromise the number and rate of channels logged with internal storage of up to **16GB**. Fast data offload with **1GBit Ethernet**.

Able to execute fully customisable control strategies, driver aids and alarms with **on-box maths channel capability**.

Communication
Send and receive large quantities of data to and from other devices with up to **8 CAN ports**. Define CAN streams with **DBC file import**.

Connect to **LIN spec devices** including the popular motorsport WDA (Wiper Driver Actuator).

Software
Single software, **Pi Toolset**, used for firmware updates, setup and data offload for all Omega devices; CLU, IPS32, IPS48, ICD and L2.

Market leading data analysis software, **Pi Toolbox**, used for detailed data analysis.

Design, simulate and upload custom control strategies onto hardware with Cosworth's new state of the art control strategy software, **Autocoding**, utilising MATLAB® Simulink®.

Physical & Operating
12V or 24V systems compatible with logging continuation in the event of low battery with a voltage operating range of 5V – 33V. Battery issues are more easily diagnosed.

Housed in an **Aluminium enclosure**, designed and manufactured to **IP65** the unit is protected against infiltration of dust with a high level of water protection.

One of the most compact and lightweight solutions on the market with a footprint of **130 x 102 x 34 mm** and weight of **470g**.

Logger Feature Matrix

		L2			CLU		
Platform (Omega)							
Variant		PLUS	PRO	ULTRA	PLUS	PRO	ULTRA
Part Number		01L-301000-L2	01P-301000-Pro	01P-301000-Ultra	01L-650001	01P-650001-Pro	01P-650001-Ultra
Logging	Capacity (MB)	512	1,024	2,048	2,048	8,192	16,384
	Bandwidth (bytes/sec)	20,000	35,000	50,000	100,000	250,000	500,000
	Cont. Sampling Rates (Hz)	200	500	1000	1000	1000	1000
	Burst Sampling Rates (Hz)	N/A	N/A	N/A	2000	5000	TBD
	Total no of Channels	1,024	1,024	1,024	2,048	8,192	16,384
Maths	User Configurable Maths	100	100	100	200	500	1,000
I/O	Analogues	6 (12-bit)	12 (12-bit)	16 (12-bit)	16 (16-bit)	24 (16-bit)	32 (16-bit)
	Digital Inputs	3	6	6	8	8	8
	Outputs (HSD)	-	2	2	4	4	4
Comms	CAN Ports	2	2	2	4	6	8
Physical	Weight (g)	269			470		
	Dimensions (mm)	112 x 105 x 36			130 x 102 x 34		

For more information or to discuss further please contact the Electronics team.

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