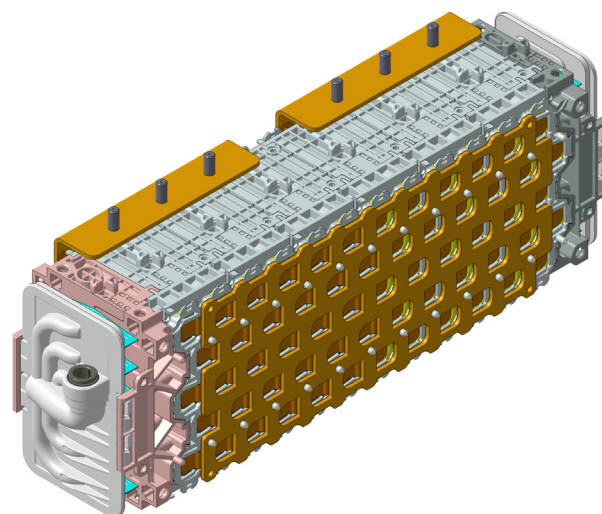


HIGH PERFORMANCE 4KWH MODULAR PACKS

PRODUCT INFORMATION

KEY FEATURES

- Scalable voltage and capacity
- Series and parallel connection
- NCA cell chemistry (other options available)
- Water glycol cooling system



HIGH AND LOW VOLTAGE OPTION

OVERVIEW

The Modular Pack is designed to provide Cosworth's customers with the flexibility to design and configure their own high performance battery systems. Utilizing advanced cell chemistry and leading edge thermal management techniques.

BENEFITS

Short lead-time, plug and play, cost effective for low volumes, transferrable technology, Integrated Cell Monitoring Unit and Cosworth EDS and BMU available to complete the system.

APPLICATIONS

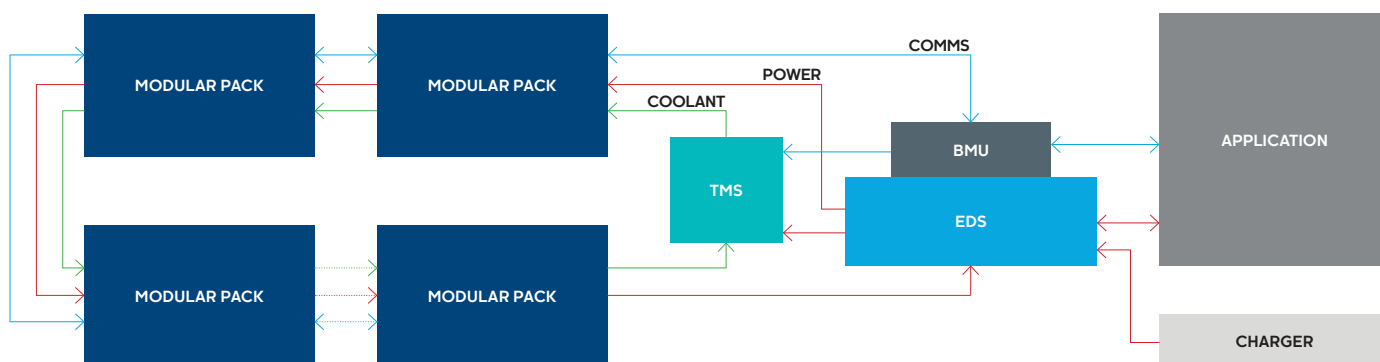
Any application requiring high power and energy as the main power source or part of a hybrid system. Suitable for off and on highway vehicles, marine, stationary and many other applications requiring a high-performance battery.

	Low Voltage	High Voltage
Nom Voltage (V)	43.2	86.4
Max Voltage (V)	50.4	100.8
Min Voltage (V)	30	60
Capacity (kWh)	4	4
Continuous Discharge (A)	600	300
Max Discharge 10s (A)	1500	750
Continuous Charge (A)	280	140
Max Charge 10s (A)	840	420
Energy Density (Wh/kg)	133	133
Power Density (W/kg)	864	864
Weight Dry (kg)	30	30
Dimensions (mm) L x W x H	720 x 130 x 220	720 x 130 x 220

Provisional datasheet, all data subject to change without prior notice.

Note: The Modular Pack is based on Cosworth's Cylindrical Scalable Module (CSM), shown above.

SYSTEM LEVEL OVERVIEW



Note: Modular Pack can be connected in series and parallel.
Thermal Management System (TMS) and Charger are not supplied by Cosworth directly, but options can be recommended.

Modules in Parallel	Low Voltage (20P)		Number of Modules in Series														
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	Voltage (Nom)	V	43	86	130	173	216	259	302	346	389	432	475	518	605	648	691
	Capacity	kWh	4	8	12	16	20	24	28	32	36	40	44	48	52	56	60
	Cont Discharge Power	kW	26	52	78	104	130	156	181	207	233	259	285	311	363	389	415
2	Voltage (Nom)	V	43	86	130	173	216	259	302	346	389	432	475	518	605	648	691
	Capacity	kWh	8	16	24	32	40	48	56	64	72	80	88	96	104	112	120
	Cont Discharge Power	kW	52	104	156	207	259	311	363	415	467	518	570	622	726	778	829
3	Voltage (Nom)	V	43	86	130	173	216	259	302	346	389	432	475	518	605	648	691
	Capacity	kWh	12	24	36	48	60	72	84	96	108	120	132	144	156	168	180
	Cont Discharge Power	kW	78	156	233	311	389	467	544	622	700	778	855	933	1089	1166	1244
4	Voltage (Nom)	V	43	86	130	173	216	259	302	346	389	432	475	518	605	648	691
	Capacity	kWh	16	32	48	64	80	96	112	128	144	160	176	192	208	224	240
	Cont Discharge Power	kW	104	207	311	415	518	622	726	829	933	1037	1140	1244	1452	1555	1659

Modules in Parallel	High Voltage (10P)		Number of Modules in Series											
			1	2	3	4	5	6	7	8	9	10	11	12
1	Voltage (Nom)	V	86	173	259	346	432	518	605	691	778	864	950	1037
	Capacity	kWh	4	8	12	16	20	24	28	32	36	40	44	48
	Cont Discharge Power	kW	26	52	78	104	130	156	181	207	233	259	285	311
2	Voltage (Nom)	V	86	173	259	346	432	518	605	691	778	864	950	1037
	Capacity	kWh	8	16	24	32	40	48	56	64	72	80	88	96
	Cont Discharge Power	kW	52	104	156	207	259	311	363	415	467	518	570	622
3	Voltage (Nom)	V	86	173	259	346	432	518	605	691	778	864	950	1037
	Capacity	kWh	12	24	36	48	60	72	84	96	108	120	132	144
	Cont Discharge Power	kW	78	156	233	311	389	467	544	622	700	778	855	933
4	Voltage (Nom)	V	86	173	259	346	432	518	605	691	778	864	950	1037
	Capacity	kWh	16	32	48	64	80	96	112	128	144	160	176	192
	Cont Discharge Power	kW	104	207	311	415	518	622	726	829	933	1037	1140	1244

Note: kW ratings are limited by the EDS, connectors and cables. Please discuss with Cosworth for further guidance.