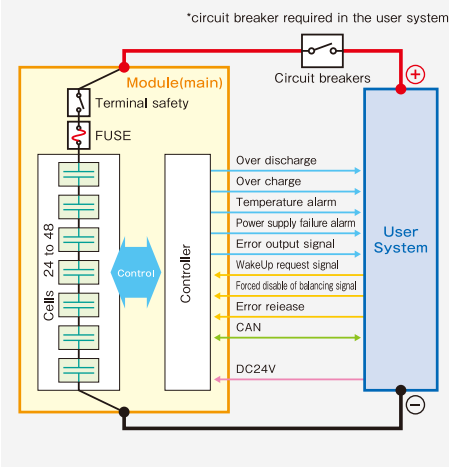


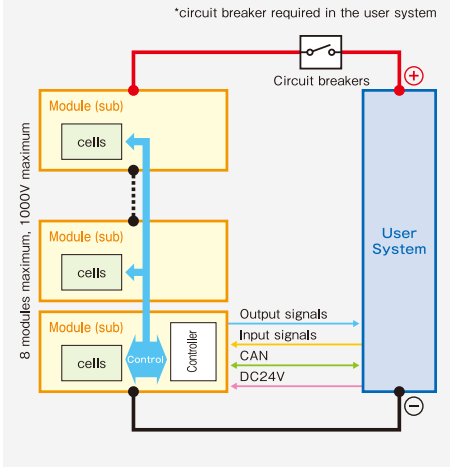
# ULTIMO Lithium Ion Capacitor

High Voltage Module

## Usage example (Single module use)



## Usage example (Series use)



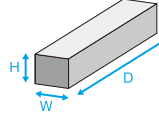
- Series connected high capacity/High power cells up to 48.
  - Maximum 1000V available by series connection of 8 modules
  - High current available by parallel connected module strings.
  - Large current rapid charge/discharge available.
  - Maximum instantaneous charge/discharge current is more than 500A.
  - Safety mechanism provides protection from electrical shock during installation.
  - Protection for abnormal charge/discharge by FUSE in main module
  - Standard-type and air-cooling-type available.
  - External fans can be attached to the air-cooling-type.
  - Detailed information such as cell voltages and temperatures are available by CAN communication.
  - High reliability, high durability, high safety.
  - Automatic cell voltage balancing function.
- (all cells in series connected modules)



## Fundamental characteristics / Standard type MPB series

Cell counts*	Prismatic 2300F		Prismatic 3300F		Voltage ratings V	Dimensions in mm			Weight kg	
	Capacitance F	DC-IR mΩ	Capacitance F	DC-IR mΩ		W	H	D	2300F	3300F
24	96	20	138	27	52.8~91.2	185	143	515	14	13
32	72	26	103	36	70.4~121.6	185	143	647	18	17
34	68	28	97	38	74.8~129.2	185	143	680	19	18
36	64	29	92	40	79.2~136.8	185	143	713	20	19
40	58	32	83	44	88.0~152.0	185	143	779	22	21
42	55	34	79	47	92.4~159.6	185	143	812	23	21
44	52	36	75	49	96.8~167.2	185	143	845	24	22
48	48	39	69	53	105.6~182.4	185	143	911	26	24

\*: Please contact us for other cell counts

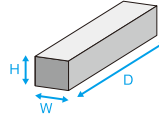


## Fundamental characteristics / Air-cooling-type MPC series

A 3mm gap is inserted between cells to increase cooling capability.

Cell counts*	Prismatic 2300F		Prismatic 3300F		Voltage ratings V	Dimensions in mm			Weight kg	
	Capacitance F	DC-IR mΩ	Capacitance F	DC-IR mΩ		W	H	D	2300F	3300F
24	96	20	138	27	52.8~91.2	185	143	561	14	13
32	72	26	103	36	70.4~121.6	185	143	709	18	17
36	64	29	92	40	79.2~136.8	185	143	783	20	19
40	58	32	83	44	88.0~152.0	185	143	857	22	20
44	52	36	75	49	96.8~167.2	185	143	931	24	22
48	48	39	69	53	105.6~182.4	185	143	1005	26	24

\*: Please contact us for other cell counts



## Specifications

Charge/discharge current	55A (continuous)	Ambient temperature at 25°C 2300F air-cooling-type unforced-cooling
Maximum charge/discharge current	more than 500A (< 5seconds)	Depends on using condition. Please consult us
Maximum module series counts	Up to 8 modules (maximum limit at 1000V)	1 main module and 7 sub modules
Environmental Conditions Operating temperature range	-30°C ~ 70°C (at cells)	Depends on usage. Please consult us
Storage temperature range	-40°C ~ 80°C (recommended to be between 0°C and 35°C)	Accelerated deterioration at higher temperature
Specified relative humidity range	20%Rh ~ 90%Rh (No dew condensation)	
Insulation voltage	AC2500V 50Hz 1minute	
Balancing scheme	Resistive discharge	
External power supply for controller	DC24V	
Safety feature	Terminal Safety Mechanism and FUSE	FUSE is equipped in the main module only

## Functionalities

Cell monitor	Each cell voltages Cell temperatures (1point in a module)	
Automatic voltage balancing	All cell balancing in a series connected modules	
Information communication	CAN communication available Detailed information such as cell voltages, temperatures, and alarm conditions are available	
Abnormality detection	Signal outputs LED display	Over charge alarm Over discharge alarm Temperature alarm Error output
Control inputs	WakeUp request Forced disable of balancing Error release	

\* The contents of this catalog are subject to change without notice.

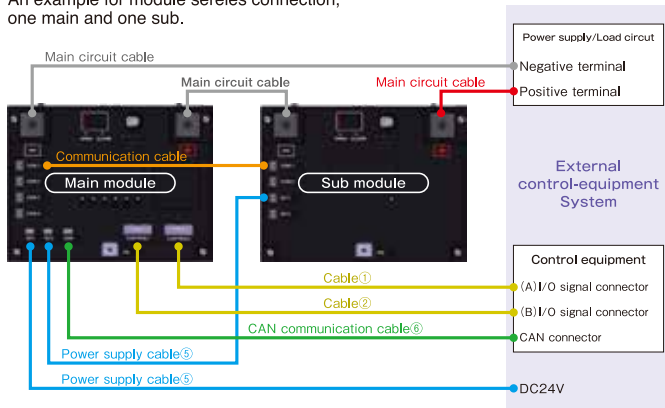
Contact

## Standard cable table

□: An alphabet describes cable revision

	Model Number	Model Name	Purpose (Connector type)	Symbols in the User's Guide			Length (mm)	Unit	Note
				Standard MD	Master Controller	High Voltage MD			
1	PCNM0016Z□	SLAVE-IF CABLE L500	Input/output signal (20pins - 20pins)	Cable ①, ② Inter-MDs  Cable ③ External host to a MD	Cable ①, ② Master controller to MD		500	pc	
2	PCNM0017Z□	SLAVE-MASTER CABLE L1000					1000	pc	
3	PCNM0018Z□	SLAVE-MASTER CABLE L3000					3000	pc	
4	PCNM0019Z□	MASTER-HOST CABLE L1000	Input/output signal (24pins - 24pins)		Cable ③, ④ External host and Master controller Inter-master controllers		1000	pc	
5	PCNM0020Z□	MASTER-HOST CABLE L3000					3000	pc	
6	PCNM0094Z□	CAN CABLE L500	CAN communication, Inter-Module communication, (3pins - 3pins)	CAN communication cable  Between external host and master controller		Communication cable ④ Between main MD and sub MD Between sub MD and sub MD	500	pc	
7	PCNM0021Z□	CAN CABLE L1000					1000	pc	
8	PCNM0095Z□	CAN CABLE L1500					1500	pc	
9	PCNM0097Z□	CAN CABLE L2000					2000	pc	
10	PCNM0022Z□	CAN CABLE L3000					3000	pc	
11	PCNM0023Z□	POW CABLE L1000	Power supply (2pins - none)			Power Supply cable ⑤ Between external host and main MD	1000	pc	
12	PCNM0024Z□	POW CABLE L3000					3000	pc	
13	PCNM0047Z□	POW CABLE L500	Power supply (2pins - 2pins)			Power Supply cable ⑤ Between main MD and sub MD	500	pc	
14	PCNM0053Z□	POW CABLE L1000					1000	pc	
15	PCNM0054Z□	POW CABLE L2000					2000	pc	
16	PCNM0117Z□	CABLE-SLAVE- IF-L500	Input/output signal (20pins - 20pins)			Input/Output signal cable ① and ③ Between external host and main MD	500	pc	No pins for number19 and number20. Input/output signal cable ① and ③ is identical.
17	PCNM0115Z□	CABLE-HOST- CONTROL2-L1000					1000	pc	
18	PCNM0118Z□	CABLE-HOST- CONTROL2-L3000					3000	pc	
19	PCNM0116Z□	CABLE-HOST- CONTROL1-L1000	Input/output signal (20pins - 20pins)			Input/Output signal cable ② Between external host and main MD	1000	pc	No pins for 7, 8, and 15 to 20.
20	PCNM0119Z□	CABLE-HOST- CONTROL1-L3000					3000	pc	

An example for module series connection,  
one main and one sub.



An example for module parallel connection,  
two mains are shown.

