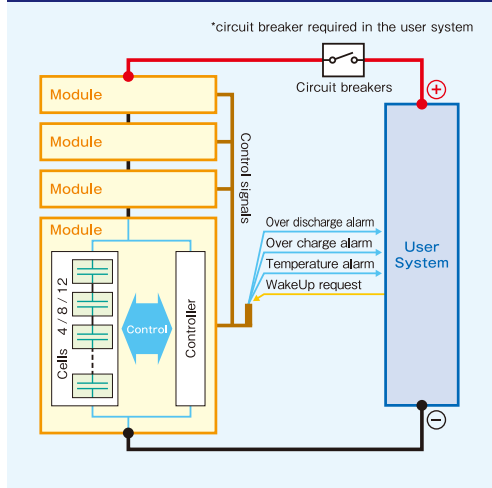
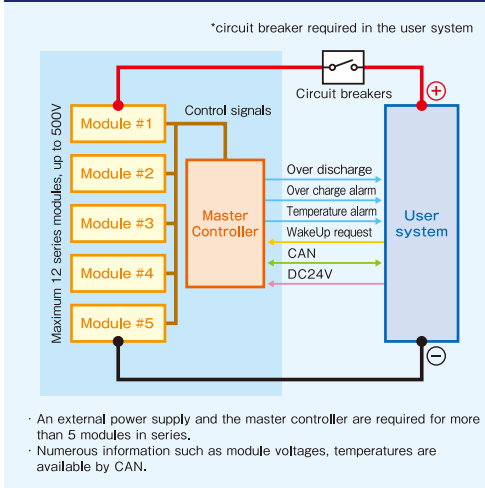


- Series connected high capacity/High power cells (4/8/12 cells)
- Maximum 500 V available by series connected modules up to 12
- Applicable for high current by the parallel module connection
- Large current rapid charge/discharge available. Maximum instantaneous charge/discharge current is more than 500A
- High reliability, high durability, high safety
- Automatic cell voltage balancing function (inter-cells, inter-modules)
- No external power required
- Low power consumption < 20 μ A

Example (1 to 4 modules in series)



Example (more than 5 modules in series)



Laminate cell module



Prismatic cell module

Fundamental characteristics

□: An alphabet describes cell type

Model name	Cell-type	Cell counts	Voltage ratings V	Capacitance F	DC-IR m Ω	Dimensions in mm			Weight kg
						W	H	D	
MLB15G275□	Laminate	4	8.8~15.2	275	6	152	105	267	3
MLB30G138□	1100F	8	17.6~30.4	138	12	152	142	267	4
MLB45G92□		12	26.4~45.6	92	17	152	180	267	5
MPA15G575□	Prismatic	4	8.8~15.2	575	4	169	127	113	3
MPA30G288□	2300F	8	17.6~30.4	288	8	169	127	187	5
MPA45G192□		12	26.4~45.6	192	12	169	127	261	6
MPA15G825□	Prismatic	4	8.8~15.2	825	6	169	127	113	3
MPA30G413□	3300F	8	17.6~30.4	413	11	169	127	187	4
MPA45G275□		12	26.4~45.6	275	16	169	127	261	6

Specifications

Charge/discharge current	60A (continuous)	Ambient temperature at 25°C 2300F unforced cooling.
Maximum charge/discharge current	more than 500A (< 5 seconds)	Depends on using conditions. Please consult us.
Power consumption	Less than 20 μ A	Under sleep condition.
Maximum module count in series	Up to 12 modules (maximum limit at 500V)	A master controller required for 5~12 modules in series connection.
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	AC2000V 50Hz 1 minute	
Balancing scheme	Resistive discharge	

Functionalities

Cell monitor	Each cell voltages Cell temperature (at the center of a module)	Detection of abnormality	Signal output	Over charge alarm Over discharge alarm Temperature alarm Error output (Simultaneous issuing of above alarms)
Automatic voltage balancing	Cell voltage balancing Inter-module voltage balancing			
Information communication	Module voltages and temperatures are available via CAN communication when a master controller in use	Control inputs	WakeUp request	

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

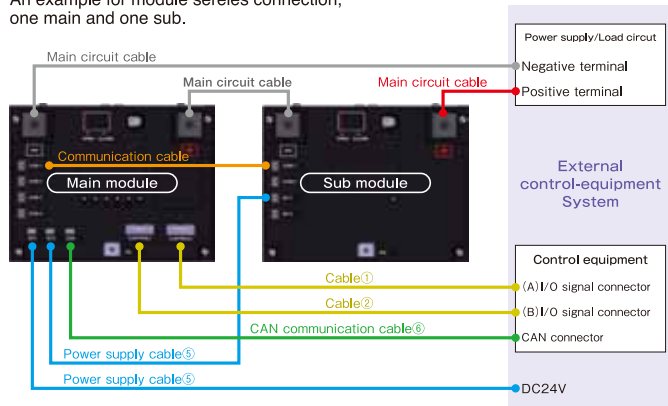
Contact

Standard cable table

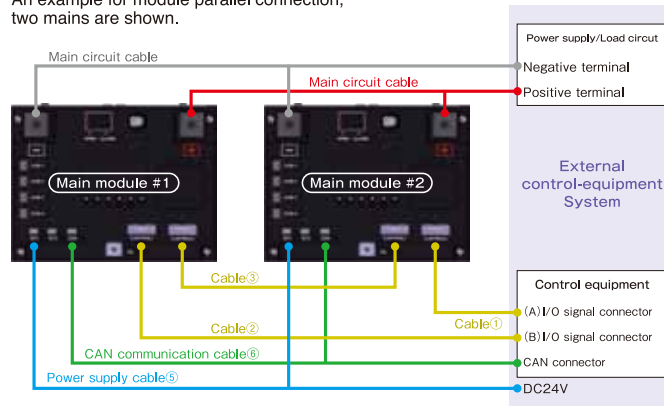
□: An alphabet describes cable revision

	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.



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