

# [Specification]

## Li-ion Battery Pack

Model Name : LC-MOTOR-25V-58AH-X2-FAN

Option Code : /Wire51A/Handle

Industrial purposes (Robot, AGV, Motor Drive, etc.)

It is assembled with Li-ion 18650 cylindrical battery cells and BMS  
(Battery Management Systems).

### 1. Protection by BMS installed

#### ◇ Overcurrent Protection (Charging and Discharging Current Limitation)

The input and output currents are limited to the set values (refer to the model specifications) by the battery's protection circuit (BMS). This function prevents the battery from outputting excessive current and protects the battery safely.

#### ◇ Short Circuit Output Cut-off Control: Resumes Normal Operation After Short Circuit is Cleared

In case of a short circuit between the output terminals due to careless handling, the protection circuit (BMS) immediately cuts off the output. Once the short circuit is cleared, the output is resumed to normal operation.

#### ◇ Overvoltage Protection (OVP)

The voltage of each group of lithium-ion battery cells is monitored by the battery's protection circuit (BMS). During charging, if the voltage of each cell group exceeds the specified voltage, charging is stopped and resumes only after the voltage returns to the specified level.

#### ◇ Undervoltage Protection (UVP)

The voltage of each group of lithium-ion battery cells is monitored by the battery's protection circuit (BMS). If the voltage of each cell group falls below the specified voltage, discharging is stopped and resumes only after the voltage returns to the specified level.

#### ◇ Overtemperature Protection (OTP)

The battery cell temperature and the temperature of the control circuit components themselves are detected, and if they exceed the allowable temperature, charging and discharging are automatically cut off. After a certain period of time, if the temperature drops below the allowable level, the cut-off is automatically released and the battery can be used.

If the battery temperature rises above a certain level, the cooling system (FAN) automatically operates.

#### ◇ Cell Balancing Monitoring Function

The voltage of each cell connected in series in the battery pack is measured individually, and if the voltage of any cell reaches or exceeds the allowable level, charging is immediately cut off to prevent overcharging.

#### ◇ Automatic cooling fan operation when it is over around 40°C.

## 2. Specifications

Model Name		LC-MOTOR-25V-58AH-X2-FAN
Li-ion Battery Cell		LG Chem, Li-ion cell 18650 cylindrical , 2.9Ah/cell
Rated:	Rated Voltage	25.8V
	Rated Current Capacity	58Ah
	Rated Max. Energy	1,460Wh
Voltage Range	Over Voltage Protection by BMS	29.4V
	Permitted Max. Charging Voltage	29V
	Permitted Min. Discharging Voltage	23V
	Under Voltage Protection by BMS	19.6V
Discharging Current	Permitted Max. Discharging Current (at Room Temperature of around 20°C)	Max.86A
	Short Current Protection by BMS	Available
Charging Current	Rated	Max. 43A
Dimension	Dimension ( L X W X H ) mm	380 X 168 X 142
	Weight	9.5Kg
Power Terminal Screw		M6
Recommended Power Cable Size		More than 25 mm2

### 3. Battery capacity and life cycle changes in accordance with the battery temperature and discharge rates

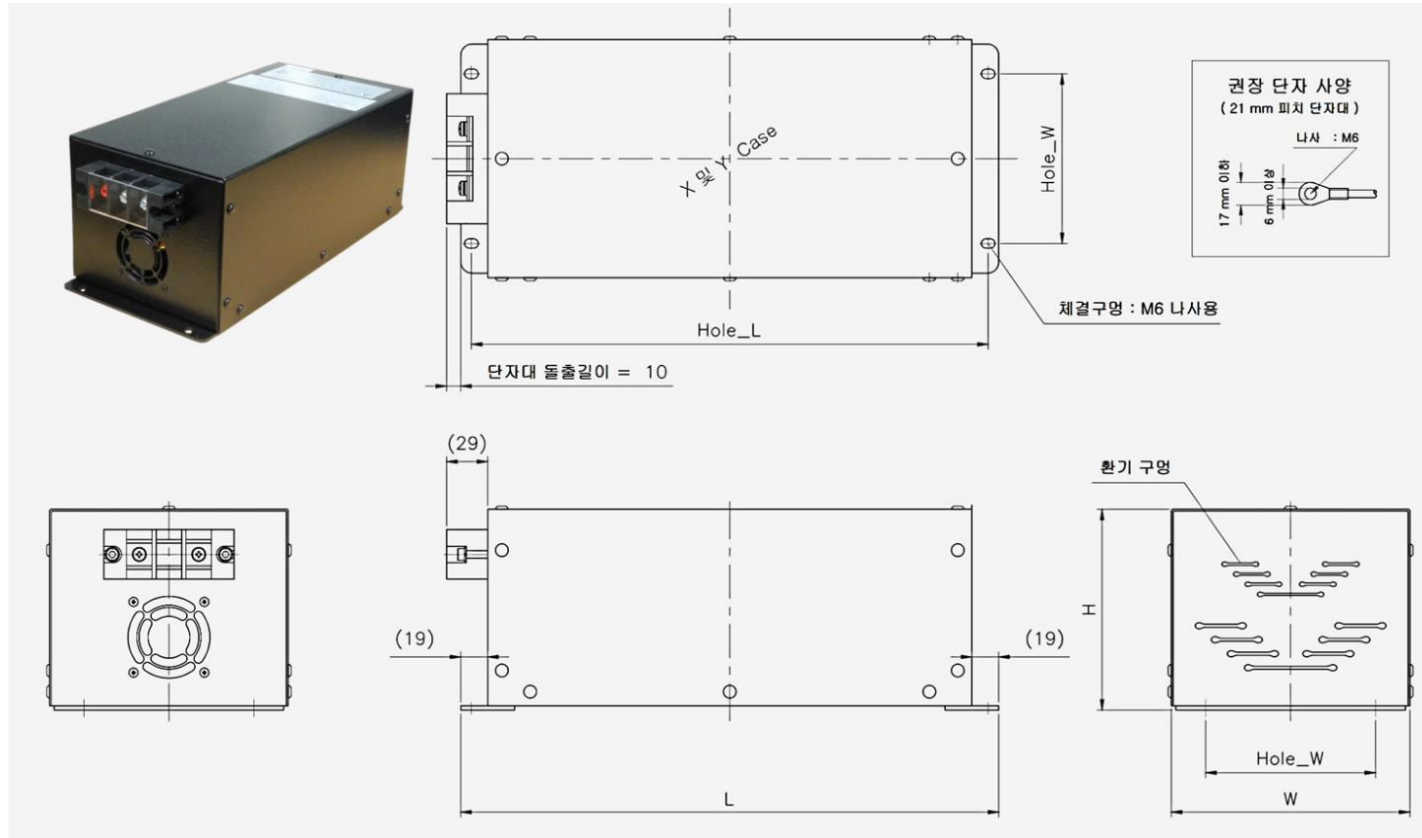
- ◇ Battery cell temperature rising must be managed during charging and discharging. Around or more than 60 ° C operation should be avoided so as not to decrease the battery life span and abnormal battery status.
- ◇ To enlarge the battery life span : It is to maintain the temperature of the battery cell to the room temperature state.

Items	Battery Cell Temperature		Contents
Charging or Discharging	Over 60°C	Disabled	BMS automatically disconnects the battery power when the battery cell temperature reaches over 60°C
Charging or Discharging	50°C ~ 60°C	Warning Condition	
Charging or Discharging	50°C ~ 0°C	Available	
ONLY Discharging	0°C ~ -10°C	Available	Discharging is permitted. Charging is NOT permitted.
ONLY Discharging	-10°C ~ -20°C	Selectively Available	Discharging C-Rate should be under 0.1C

### 4. Warnings

- ◇ Use the battery charger with Constant Current(CC) and Constant Voltage(CV) functions.
- ◇ Keep batteries cool or at room temperatures whenever possible.  
Sustained elevated temperatures are the primary reason for premature failure of batteries.
- ◇ Do not expose the battery to water, or allow it to get wet.
- ◇ Do not place the battery on or near fire, or heat the battery.
- ◇ Do not disassemble, pierce, strike or impact the batteries.

### 5. Drawings



Dimension ( L X W X H ) mm 380 X 168 X 142