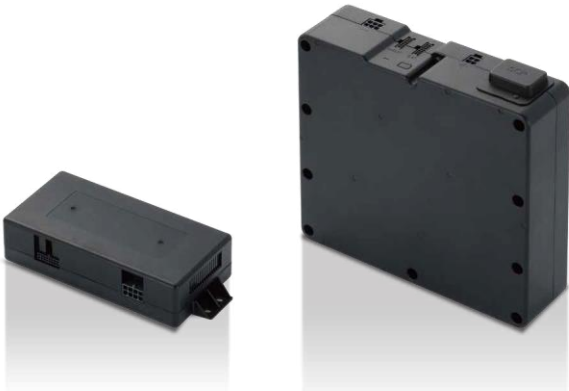


Separate type



- Up to 2S10P (total 20 Battery Modules) With 1BMU.
- This module is suitable for applications such as low-height AGVs.

Items	Separate type
Model Name	LIPY032WWPCSY6(Battery Module) LIA1020WWPACSY6(BMU)
System configuration	Battery Module+BMU
Nominal Voltage / Capacity (per module)	25.6V / 24Ah / 614Wh
Max Discharge Current	50A / 40A / 30A (5sec / 25sec / cont.)
Max Charge Current	24A (1C)
Module Max Configuration	2s10p
Battery Communication I/F	CAN Bus (Murata original format)
Dust and Water proof	Not supported
Safety regulation	IEC/UL62133 CE(EMC, RoHS)
Dimension (module)	259(L) x 71(W) x 245(H) (mm)
Weight (module)	7.3kg (Module)

All-in-one type



- Size compatible with lead-acid batteries
- BMU function is included

Items	Separate type
Model Name	LIPY041WWPCSY6
System configuration	All-in-one(BMU function is included)
Nominal Voltage / Capacity (per module)	25.6V / 21Ah / 537Wh
Max Discharge Current	100A / 80A / 60A (5sec / 25sec / cont.)
Max Charge Current	42A (2C)
Module Max Configuration	2s10p
Battery Communication I/F	CAN Bus, U-art (Murata original format)
Dust and Water proof	IP54 rating
Safety regulation	IEC/UL62133, IEC62619 UL2271 CI( EMC, RoHS )
Dimension (module)	195(L) x 132(W) x 180(H) (mm)
Weight (module)	6.5kg (Module)

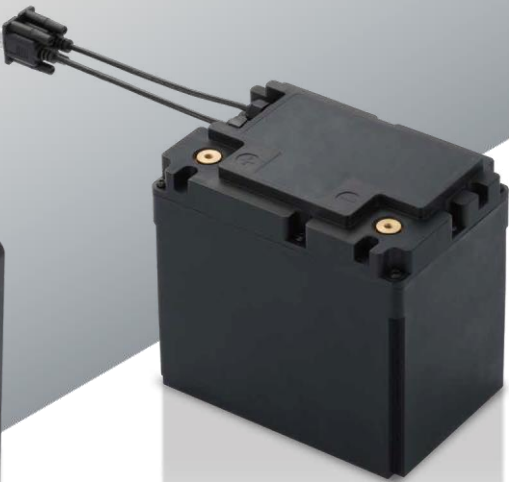
# FORTELION

## 24V Battery Module

Separate type



All-in-one type



Size compatible with lead-acid batteries  
BMU function is included

  
**High Safety**

  
**Long life**

  
**Fast charging**

  
**Accurate remaining capacity calculation**



Please read the instruction manual carefully before use for safety.

• Specifications and appearance may be changed without prior notice for improvement.  
• Due to printing condition, actual product color can be different from the product image in this catalog.  
**Trademark**  
• "muRata", "FORTELION" and **FORTELION** are Registered trademark of Murata Manufacturing Co., Ltd.  
• Company and product names in this catalog are the trademarks or registered trademarks of their respective owners. TM and ® mark are not specified in the text.  
**Recycle**  
• Lithium-ion battery pack is a recyclable product. Please follow the rules in your region to dispose the used battery pack.

"FORTELION" is a lithium ion secondary battery with a cathode composed of olivine-type lithium iron phosphate, and has an expected life of 15 years or more with a high level of safety.  
"FORTELION" and **FORTELION** are Registered trademark of Murata Manufacturing Co., Ltd.  
"FORTELION" is a word created by combining the Italian word 「Forte (strong)」 and Li-ion. This name incorporates the meaning of 「stronger safety, stronger life, and stronger environmental performance」 with compared to typical lithium ion batteries.

# Our safe lithium-ion secondary batteries expand the range of applications.

This module is equipped with "FORTELION", Murata's proprietary lithium-ion secondary battery using olivine-type lithium iron phosphate as the cathode, provides and combines long life with an exceptionally high level of safety.

FORTELION 24V Battery Module is capable of monitoring each Battery Module's Voltage, Current, Temperature & Capacity Value through CAN communication. It is possible to customize voltage and capacity in order to meet the requirements of wide range of applications including Robot, AGV, etc.

"FORTELION"

- First in Japan to obtain the international standard 「UL9540A」 report



AGV

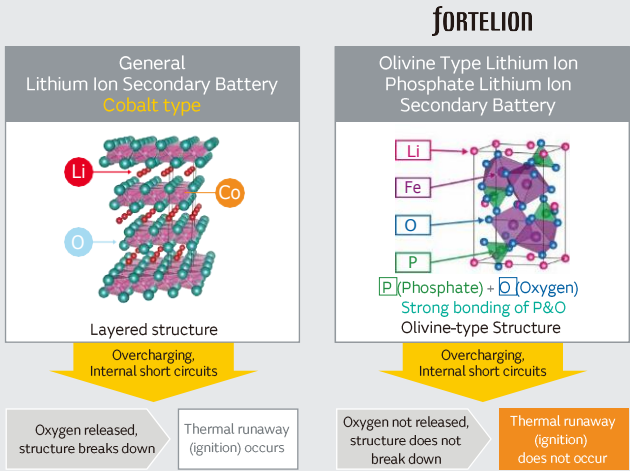


Robot



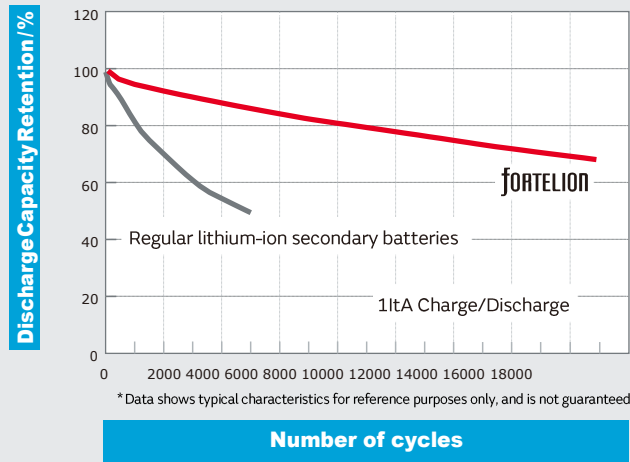
## High Safety

Thanks to the stable crystalline structure made possible by employing olivine-type lithium iron phosphate as the cathode material, "FORTELION" is less vulnerable to breakage, less likely to catch fire, even if subjected to a large impact or significant pressure, and maintains a reliable battery performance even under intense workloads.



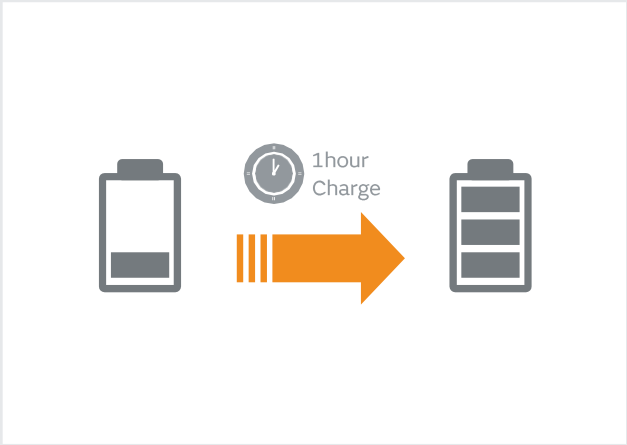
## Long life

"FORTELION" provides a much longer expected operating life than lead-acid batteries that typically require replacement around 500 cycles or regular lithium-ion secondary batteries that are capable of 2,000 to 3,000 cycles.



## Fast charging

"FORTELION" can be charged to 90% of its full capacity in about one hour, allowing devices equipped with this battery to be charged during standby mode.



## Accurate remaining capacity calculation

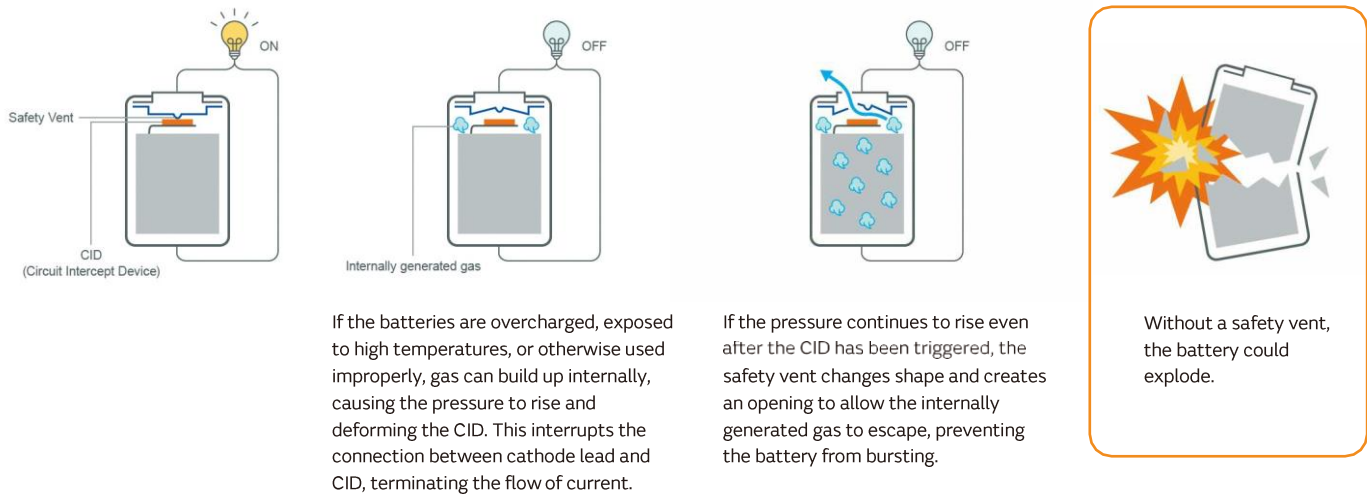
The battery's remaining capacity via CAN communication is accurately indicated as percentage (%) using Murata's unique arithmetic processing technology based on the company's knowhow developed with PCs, mobile phones, and other electronic devices.



## Equipped with a safety mechanism and subjected to demanding safety testing in recognition of the risk of accidents and natural disasters

The batteries are equipped with a safety mechanism. They are also subjected to demanding safety testing that anticipates accidents and natural disasters such as building collapse (crushing of the batteries) and nearby fires (overheating of the batteries).

### Safety Mechanism



### Safety Testing

#### Battery damage testing anticipates circumstances such as building collapse.

A metal spike is driven into the battery, shorting its internal electrodes.



A patented technology utilizing lithium iron phosphate, which prevents the battery from igniting even when its internal temperature rises, is combined with a safety mechanism that prevents explosion.

#### Testing that anticipates nearby fire.

Gas release mechanism that prevents explosion.



#### Testing that anticipates the effects of a tsunami.

Current cutoff mechanism that prevents ignition even if the battery is penetrated by electrically conductive saltwater.

