

Solution: Anybus Gateways
Country: Japan
Company: NEC Energy Solutions
Summary: Anybus X-gateway CANopen enables any PLC to communicate with lithium ion batteries.



Effects:

- Monitoring of lithium-ion battery is made possible
- Connection between battery and master devices such as PLCs

“Customers who are using AGVs want to detect movement towards the charging station or any abnormalities at an early stage by monitoring information such as the remaining battery level, voltage, current, and temperature. We can meet this request thanks to the Anybus X-gateway CANopen from HMS Networks. This is a great advantage.”

Timothy Hurd
Sales General Manager,
NEC Energy Solutions

Lithium-ion batteries can communicate with the help of Anybus gateways

NEC ALM is a series of lithium-ion batteries for industrial applications. They are superior to lead-acid batteries as they provide longer operation times, lower weight and better operation at low temperatures. In recent years, there has been an increased need to connect these batteries to PLCs as robotics and Automated Guided Vehicles (AGVs) have high demands for communication and monitoring. Anybus gateways enable the batteries to communicate with PLCs.

Connectivity to industrial networks drives entry into new markets

“As lithium-ion batteries become more widely used in the industrial field, there is an increased need for communication with other devices such as PLCs,” says Timothy Hurd Sales General Manager at NEC Energy Solutions.

“For mobile and robot applications such as AGVs, data needs to be collected from the ALM series. Customers who are using AGVs want to detect movement towards the charging station or any abnormalities at an early stage by monitoring information such as the remaining battery level, voltage, current, and temperature. We can meet this request thanks to the Anybus X-gateway CANopen from HMS Networks. This is a great advantage.”

ALM series lithium-ion secondary battery

The ALM series brings high performance, high output, and quick charging. It has best-in-class battery life and can be used even in harsh industrial environments, while also providing high safety. It is ideal for industrial use and supports a wide temperature range. The ALM12V35i series, which has an internal BMS (Battery Management System), can check the internal state of the battery and is very suitable for AGVs and robots.

Uses CANopen to communicate

ALM12V35iHPCAN operates using CANopen. By using CANopen and connecting to a master device such as a PLC via Anybus X-gateway CANopen, it is possible to enable communication between the battery and the PLC.

No need to change PLC program

By using Anybus X-gateway CANopen, it is possible to import CANopen data to PLC without changing the PLC program. This product operates as a slave function for the upper side such as PLC and as a CANopen master function for the battery side. Settings are made from a PC using the setting tool available free of charge from anybus.com and the Ixxat USB-to-CAN module (also from HMS, sold separately). Since it does not involve programming, it can be connected in a short period of time.

Supports 10 industrial networks

EtherCAT (AB7300)	EtherNet/IP (AB7306)
Modbus-TCP (AB7308)	PROFINET IO (AB7307)
PROFINET IRT (AB7329)	CANopen (AB7304)
ControlNet (AB7303)	DeviceNet (AB7302)
Modbus RTU (AB7305)	PROFIBUS (AB7301)

The ALM series are available via NEC distribution channels. Shinko Shoji Co., Ltd., the Japanese distributor of the ALM series, as well as dealers, lend out batteries for checking operation and provide questions and answers. We also provide necessary materials and information such as user's guides on batteries and CANopen EDS files.

Hokusho's **HART500**

which uses ALM battery (ALM12V35iHPCAN)

Anybus X-gateway CANopen enables communication with PLC



Anybus X-gateway CANopen



For more details, visit www.anybus.com/

