

Series 90-30 Battery Module IC693ACC312-A

August 8, 2008

GFK-2520

The IC693ACC312 Battery Module provides an extended memory backup time compared to that of the standard memory backup batteries for Series 90-30. The Battery Module replaces the standard CPU RAM backup battery in your control system.

Compatibility

The IC693ACC312 battery can **only** be used with the following Series 90-30 power supplies:

IC693PWR321	IC693PWR325	IC694PWR330
IC694PWR321	BP693PWR326	IC693PWR331 version B or earlier
IC693PWR322	IC693PWR330	IC694PWR331 version B or earlier
HIC693PWR322	HIC693PWR330	IC693PWR332
IC693PWR324	CE693PWR330	HIC693PWR332

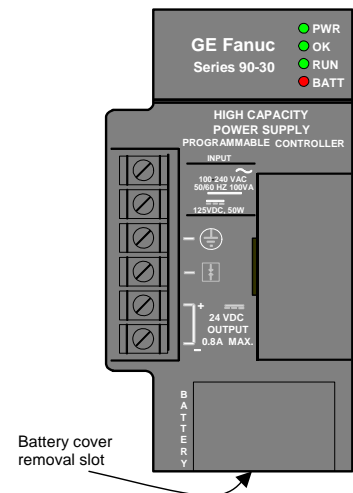
Installing the Battery

Warning

To avoid losing the contents of RAM memory, you can carefully perform the following steps with PLC power ON. This procedure should be performed only by qualified electrical personnel who are trained in applicable electrical safety rules and procedures. Failure to follow standard electrical safety practice can result in injury or death to personnel, damage to equipment, or both.

Note: Battery packs that have been in storage for several years (depending on the CPU type and how critical the application is) should be discarded because these units have a nominal shelf life of five years. To determine the age of the battery, refer to the manufacturer's date code, which is located on the product label on the front of the battery. To interpret the date code, refer to the manufacturer's web site.

1. Carefully insert the tip of a small pocket size screwdriver into the battery cover removal slot, located beneath the battery cover. Gently rotate the screwdriver to loosen the cover.
2. Remove the cover with fingers. The battery is mounted in a clip on the back of the cover.
3. Carefully reach into battery compartment with your fingers (do not use a metal object to do this) and unplug the battery connector.
4. Remove the old battery from the clip and set it aside.
5. Carefully reach into battery compartment with your fingers (do not use a metal object to do this) and plug in new battery connector.
6. Clip the new battery into the clip on the battery cover.
7. Snap the battery cover back onto the power supply.



Disposal

When this product has expended its useful life, dispose of it safely and in accordance with the manufacturer's Material Safety Data Sheet (MSDS) provided with the battery.

Specifications

<i>Parameter</i>	<i>Specification</i>
Battery capacity	1.45 Amp-hours
Physical dimensions	0.65" diameter x 1.46" cylinder
Connection	3.45 in lead with female 2-pin connector; Compatible with the battery connectors on Series 90-30 power supplies.
Operating temperature range	0°C to 85°C
Nominal shelf life	5 years

Nominal Battery Life

The IC693ACC312 Battery Module provides approximately 20% longer battery life compared to the IC693ACC301 Battery Module. ACC301 and ACC312 batteries that are used continuously (supplying current to memory circuits with PLC power off) at room temperature (25°C/77°F) have average life estimates as follows:

<i>Model</i>	<i>IC693ACC312 Estimated Average Life at 25°C/77°F</i>	<i>IC693ACC301 Estimated Average Life at 25°C/77°F</i>
CPU models 311, 313 and 323	2.4 years	2 years
CPU models 331—364	12 months	10 months
CPU model 374	1.4 months	1.2 months

Note: If your application requires greater backup capacity, an external IC693ACC302 Auxiliary Battery Module is recommended. For specifications, refer to the *Important Product Information* document, GFK-2124.

Related Documents

Series 90-30 Installation Manual, GFK-0356

Auxiliary Battery Module, GFK-2124C

This is a reproduction of the material safety data sheet provided by the battery vendor.

Product Information Sheet

Panasonic Batteries

Panasonic Industrial Company
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Toll Free: 877-726-2228
Fax: 847-637-4660
Internet: www.panasonic.com/batteries
e-mail: oembatteries@panasonic.com

Product: Poly-carbonmonofluoride
(BR Type) Lithium Batteries
Applicable models/sizes: All BR type
cylindrical and coin batteries

Revision: E, January 1, 2008

The batteries referenced herein are exempt articles and are not subject to the OSHA Hazard Communication Standard requirement. This sheet is provided as a service to our customers.

MSDS

Material Safety Data Sheets (MSDS) are a sub-requirement of the Occupational Safety and Health Administration (OSHA) Hazard Communication Standard, 29 CFR Subpart 1910.1200. This Hazard Communication Standard does not apply to various subcategories including anything defined by OSHA as an "article". OSHA has defined "article" as a manufactured item other than a fluid or particle; (i) which is formed to a specific shape or design during manufacture; (ii) which has end use function(s) dependent in whole or in part upon its shape or design during end use; and (iii) which under normal conditions of use does not release more than very small quantities, e.g. minute or trace amounts of a hazardous chemical, and does not pose a physical hazard or health risk to employees.

Because all of our batteries are defined as "articles", they are exempt from the requirements of the Hazard Communication Standard; hence a MSDS is not required.

The following components are found in a Panasonic Poly-carbonmonofluoride (BR) Lithium battery:

Cylindrical Cell Components	Material	Formula
Positive Electrode	Poly-carbonmonofluoride	(CF) _n
Negative Electrode	Lithium	Li
Electrolyte	y-Butyrolactone -Solvent	C ₄ H ₆ O ₂
	1,2 Dimethoxyethane-Solvent	C ₄ H ₁₀ O ₂
	Lithium Tetrafluoroborate-Salt	LiBF ₄
Coin Cell Components	Material	Formula
Positive Electrode	Poly-carbonmonofluoride	(CF) _n
Negative Electrode	Lithium	Li
Electrolyte	y-Butyrolactone -Solvent	C ₄ H ₆ O ₂
	1,2 Dimethoxyethane-Solvent	C ₄ H ₁₀ O ₂
	Lithium Tetrafluoroborate-Salt	LiBF ₄

DISPOSAL

Lithium batteries are neither specifically listed nor exempted from the Federal Environmental Protection Agency (EPA) hazardous waste regulations as promulgated by the Resource Conservation and Recovery Act (RCRA). The only metal of possible concern in a lithium battery is lithium that is not a listed or characteristic toxic hazardous waste. Waste lithium batteries can be considered a reactive hazardous waste if there is a significant amount of unreacted, or unconsumed lithium remaining in the spent battery. The key to disposing of a lithium battery as a non-hazardous waste is to guarantee that it is fully or mostly discharged. Once it is discharged it can be disposed of as non-hazardous waste. You can dispose of a fully charged or partially discharged lithium battery as a hazardous waste after they are first neutralized through an approved secondary treatment. The need for a secondary treatment prior to disposal is a requirement of the U.S. Land Ban Restrictions of the Hazardous and Solid Waste Amendments of 1984. A secondary treatment center can only receive these batteries as manifested hazardous waste. The waste code for charged lithium batteries is D003, reactive. **In either case, button cell batteries contain so little lithium that they never qualify as a reactive hazardous waste. These batteries are safe for disposal in the normal municipal waste stream.**

Notice: The information and recommendations set forth are made in good faith and are believed to be accurate at the date of preparation. Panasonic Industrial Company makes no warranty expressed or implied.

Disposal of large quantities of undischarged lithium batteries should be performed by permitted, professional disposal firms knowledgeable in Federal, State and local hazardous materials and hazardous waste transportation and disposal requirements. As always, households are exempt from the RCRA hazardous waste guidelines. In California, packages that contain CR lithium coin cells and the Owners/Operating Instructions of products that contain CR lithium coin cells must include the following statement: "Perchlorate Material – special handling may apply, See www.dtsc.ca.gov/hazardouswaste/perchlorate". The effective date for this Perchlorate label is July 1, 2006 for non-consumer products and January 1, 2007 for consumer products.

TRANSPORTATION

All Panasonic lithium batteries when transported by ground are not subject to the requirements of the Department of Transportation (DOT) Subchapter C, Hazardous Materials Regulations if they shipped in accordance with all of the applicable provisions of Special Provision 188.

All Panasonic lithium batteries are exempt from the other requirements of the International Civil Aviation Organization (ICAO) and the International Air Transport Association (IATA) dangerous goods regulations if they are transported in accordance with all of the applicable provisions of Special Provision A45.

All Panasonic lithium batteries are exempt from the other requirements of the International Maritime Organization (IMO) dangerous goods regulations if they are transported in accordance with all of the applicable requirements of Special Provisions 188 and 230.

If you build any of our lithium cells into a battery pack, you must also assure that they are tested in accordance with the UN Model Regulations, Manual of Test and Criteria. Part III, subsection 38.3.

Effective December 29, 2004, the DOT requires that the outside of each package that contains primary lithium batteries, regardless of size or number of batteries, be labeled with the following statement: "**PRIMARY LITHIUM BATTERIES- FORBIDDEN FOR TRANSPORT ABOARD PASSENGER AIRCRAFT**". The labeling requirement covers shipments via highway, rail, vessel or cargo-only aircraft and covers all shipments inside, into or out of the US. The label must be in contrasting color and the letters must be 12 mm (0.5 in) in height for packages weighing more than 30 Kg and 6 mm (0.25 in) in height for packages weighing less than 30 Kg.

If you plan on transporting any untested prototype battery packs contact your Panasonic Sales Representative for regulatory information.

First Aid

If you get electrolyte in your eyes, flush with water for 15 minutes without rubbing and immediately contact a physician. If you get electrolyte on your skin wash the area immediately with soap and water. If irritation continues, contact a physician. If a battery is ingested, call the National Capital Poison Center (NCPC) at 202-625-333 (Collect) or your local poison center immediately.

General Recommendations

CAUTION: Risk of fire, explosion and burns. Do not recharge, crush, heat above 212°F (100°C) or incinerate.

Fire Safety

In case of fire, you can use a Class "D" fire extinguisher or other smothering agent such as Lith-X, copper powder or dry sand. If you use water, use enough to smother the fire. Using an insufficient amount of water will only make the fire worse. Cooling the exterior of the batteries will help prevent rupturing. Burning of these batteries will generate toxic and corrosive lithium hydroxide fumes. Fire fighters should use self-contained breathing apparatus.

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