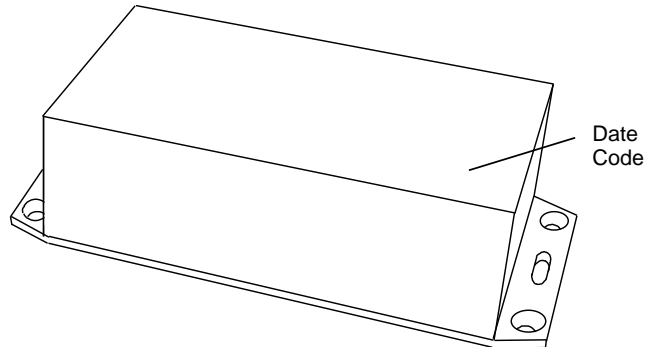# Rechargeable Battery
IC690RBT001

The IC690RBT001 Rechargeable Battery Module provides an extended memory backup time compared to that of the standard memory backup batteries for Series 90-30, Series 90-70, and PACSystems CPUs. The rechargeable battery module replaces the standard CPU RAM backup battery in your control system.

Related Documents

Series 90-30 Installation Manual, GFK-0356
Series 90-70 Installation Manual, GFK-0262
PACSystems RX3i System Manual, GFK-2314
PACSystems RX7i Installation Manual, GFK-2223
Battery Charger Datasheet, GFK-2712

Date Code

Specifications

Parameter	Specification
Battery capacity	7.0 Amp-hours
Battery construction	3-Cell, Nickel-metal hydride
Output voltage	3.3 Volts
Physical dimensions	6.902" long x 3.150" wide x 1.819" high (175.3 x 80.0 x 46.2 mm)
Case material	Black, flame-retardant ABS plastic
Connection	2.0' (0.6 meter) twisted red/black lead with female 2-pin connector
Compatibility	Compatible with battery connectors on Series 90-30 power supplies, Series 90-70 CPUs, and PACSystems CPUs
Operating temperature range	0 to +50ºC
Nominal shelf life	3 years
Operating life @ 50ºC	12 months or 60 charge-discharge cycles
Compatible Charger	IC690CRG001

Nominal Battery Life

The nominal battery life at 50ºC is 12 months or 60 charge/discharge cycles. Battery life is negatively affected by higher temperatures, and can be significantly improved by operating closer to room temperature (25ºC). When deciding where to mount the battery, consider how the mounting location will affect the battery temperature. For most industrial installations, mounting the battery below the PLC rack will result in a temperature closer to 25ºC and will help improve battery life. Do not operate the battery at less than 0ºC or greater than 50ºC.

The battery will continue to operate after 12 months or 60 charge/discharge cycles, but the battery capacity will decline and the times listed in the "Nominal Memory Backup Time" chart will no longer be valid.
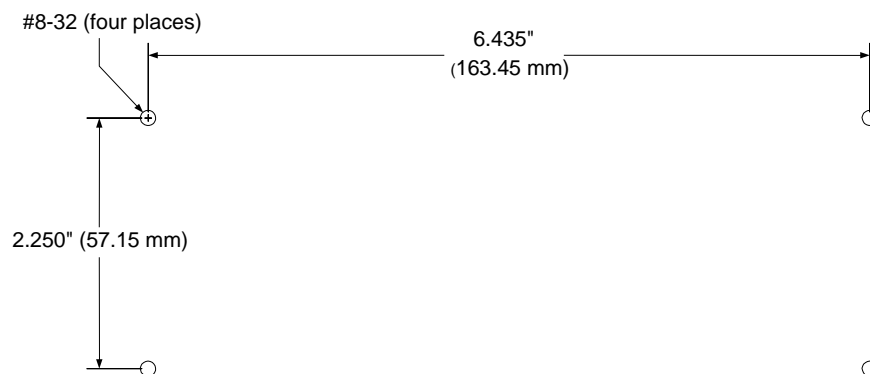
Nominal Memory Backup Time

CPU Model	50°C

Series 90-30
    IC693CPU311, IC693CPU313,
    IC693CPU323, IC693CPU350,
    IC693CPU360, IC693CPU363,
    IC693CPU366, IC693CPU367
	12 months

Series 90-30
    IC693CPU370, IC693CPU372,
    IC693CPU374, IC693NIU004
	6 months

Series 90-70 All CPUs	12 months
PACSystems RX3i IC695CPU310, IC695CMU310, IC695NIU001	3 months
PACSystems RX3i IC695CPU315, IC695CPU320, IC695CRU320	2 weeks
PACSystems Rx7i IC698CPE010, IC698CPE020, IC698CRE020	3 months

PACSystems RX7i
    IC698CPE030, IC698CPE040,
    IC698CRE030, IC698CRE040
	2 weeks

Installation

1. With power removed from the equipment, drill four #29 (0.136") holes in the panel mounting surface, and tap for #8-32 threads, according to the hole pattern shown in the following figure. Use care to keep metal chips from falling into other equipment.
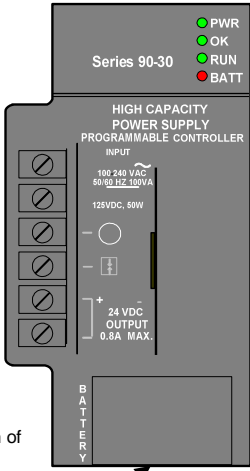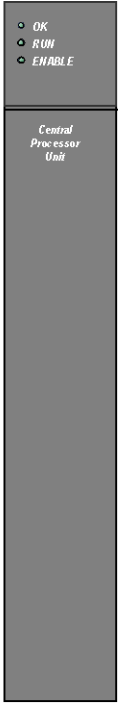

2. Securely attach the rechargeable battery module to the panel mounting surface using four #8-32 x ½" flat head machine screws.

Warning

***Explosion Hazard:* Do not connect or disconnect equipment unless the area is known to be non-hazardous.**

3. Connect the cable from the battery module to the battery connector on the PLC. (Note that the battery will begin to drain immediately unless power is applied. To maximize battery life, it is recommended that you install it after power is turned on.)

The battery connector is located on the power supply module in the CPU baseplate. The cable must be routed through the slot in the bottom of the battery compartment.

Series 90-30

The battery connector is on the CPU module. The cable must be routed out the bottom of the CPU module.

Series 90-70

The battery connector is on the CPU module. Run the battery cable into the notch at the bottom of the battery compartment and close the battery door.

PACSystems RX3i

The battery connector is on the CPU module. Run the battery cable through the slot on the battery door and reinstall the battery door.

An earlier version RX7i CPU may not have a notch in its battery door. For these CPUs replace the door (supplied with the IC698ACC701 replacement battery).

PACSystems RX7i

Slot in battery access door

> *Be careful not to pinch the battery cable when closing the battery compartment cover.*

4. Remove the standard memory backup battery from the system after installing the rechargeable battery.

Note: Refer to the PACSystems CPU Reference Manual, GFK-2222 for details on avoiding loss of PLC RAM contents when replacing a RAM battery. *The standard memory backup battery must be removed from the system when using the rechargeable battery.*

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WARNING
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Recharge battery only in a nonhazardous location. Explosion Hazard - Do not connect or disconnect the battery charger unless the area is known to be non-hazardous.

5. This rechargeable battery is only compatible with the optional IC690CRG001 charger. Insert the charging jack into the threaded connector on the side of the battery and hand-tighten the screw lock to secure it.

Agency Certifications

This product is a Listed Accessory for Series 90-30, Series 90-70, Rx3i, and Rx7i family of PLC's and has been evaluated to following standards for ordinary and hazardous location usage.

- **UL 2054:2004**
- **ANSI/ISA 12.12.0.1:2007 (UL File E157515)**
- **IEC62133:2002**
- **EN 60079-0:2006**
- **EN 60079-15:2005**

ATEX Marking and Information

$\mathcal{E}$ **II 3 G   Ex nA IIC T6**

Cert# - DEMKO 11 ATEX 1009183U

CPU Battery Low Indication

The rechargeable battery will not reliably provide the CPU with a battery low indication. User logic should not rely on any of the battery status bits when using this battery.

Date Code

The date code is located on the product label on the front of the rechargeable battery. The date code consists of four digits, such as 1234. The first two digits represent the year of manufacture in the 21st century; such as 12 for 2012. The last two digits indicate the fiscal week of manufacture; for example 34 stands for fiscal week 34.

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 shelf life of three years.

Diagnostics

Note: Any testing of this unit should be performed only by qualified personnel who are trained in electrical safety practices and procedures. This unit is not user-serviceable. The IC690RBT001 contains a self-resetting thermal protection device that disconnects the battery when the cell temperature exceeds 90ºC.

Disposal

| **Warning** |

The battery used in this device may present a risk of fire or chemical burn if mistreated. Do not crush, disassemble, or dispose of in fire. Use of a battery not specified by the manufacturer may present a risk of fire or explosion

Once this product has lived its useful life, dispose of it safely according to the battery manufacturer's Material Safety Data Sheet (MSDS) that is included with this product.