

11.5 FX3U-32BL (Battery)

The main unit of the PLC has a built-in battery.
When the battery voltage drops, the BAT LED lights, and the special auxiliary relay (M8005 or M8006) turns on. In this case, replace the battery FX3U-32BL.

11.5.1 Specifications

Item	Specifications
Nominal voltage	3V

Battery voltage can be monitored with PLC data register D8005.

11.5.2 Battery Purpose

1. The battery is required to retain (backup) program memory and "keep device" data and maintain clock operation in the event of a power outage.

	Data Retained By Backup Battery
Program memory	Internal RAM parameters, programs, device comments, file registers
Device memory	<ul style="list-style-type: none"> • Auxiliary relay, state (for annunciator included), timer (cumulative type), counter, data register keep device • Extended register • Sampling trace result
Current time	Current time clock

2. Battery Handling

When the battery voltage is low, a "BAT" LED lights (red) while the power is ON, and M8005 and M8006 are switches ON.

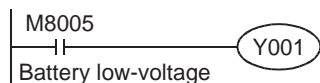
Although the battery will continue to function for approximately 1 month after the "BAT" LED switches ON, a replacement battery should be ordered and installed as soon as possible.

→ For the replacement procedures, refer to Subsection 12.4.3.

11.5.3 Special "battery low-voltage" device & notification program example

Prepare a system which allows constant external monitoring of the battery status, using an indicator lamp, etc.

- M8005



Y001 is output when a battery low-voltage condition occurs.

- M8006
Battery low-voltage is latched.
- D8005
Battery voltage can be monitored.

11

Memory
Cassette/Battery

12

Test Run,
Maintenance,
Troubleshooting

A

Version
Information

B

Performance
Specifications

C

Special Devices
(M8000 - D8000 -)

D

Instruction List

E

Character-code

F

Discontinued
models

G

Precautions for
battery
transportation

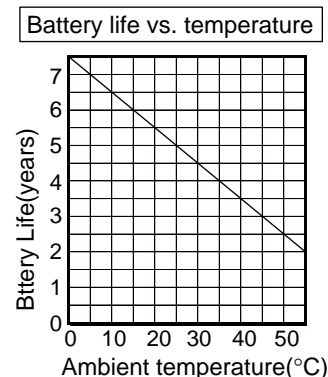
H

Handling of
batteries in EU
member states

11.5.4 Battery life & replacement guidelines

FX₃U-32BL battery life: Approx. 5 years (ambient temperature: 25°C(77°F))

The life of the battery changes with respect to ambient temperature. When planning for battery replacement, please estimate the battery life according to the graph to the right and order the replacement batteries in advance.



11.5.5 Battery-Free Operation

FX₃UC series operation is possible without a battery (PLC's internal battery removed) when the following conditions are satisfied.

→ Refer to the FX₃U/FX₃UC Programming Manuals for details concerning battery-free operation.

- A memory cassette must be installed.**
- The following devices must not be used as "keep" devices.**
Auxiliary relays, state (for annunciator included), timers (cumulative type), counters, data register "keep" device, extended registers.
- The sampling trace function must be disabled.**
- The clock function must be disabled.**

11.5.6 Differences between main unit's internal battery and the optional battery

Although the optional battery (FX₃U-32BL) serves as the same as the main unit's internal battery, they differ in the ways described below.

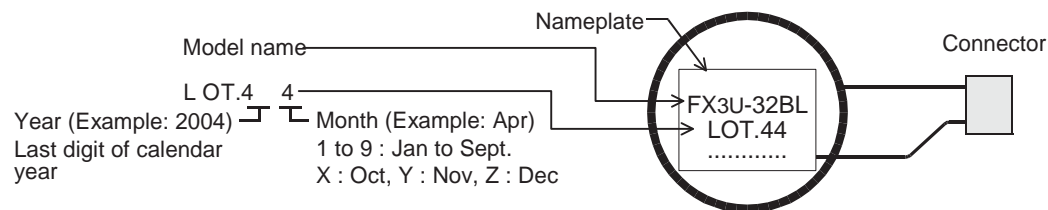
They may also have different external colors due to dates of manufacture.

	Main Unit Internal Battery	Optional Battery (Spare)
External appearance		<p>A nameplate label indicating the product model and lot No. is affixed.</p>

11.5.7 Reading the date of manufacture

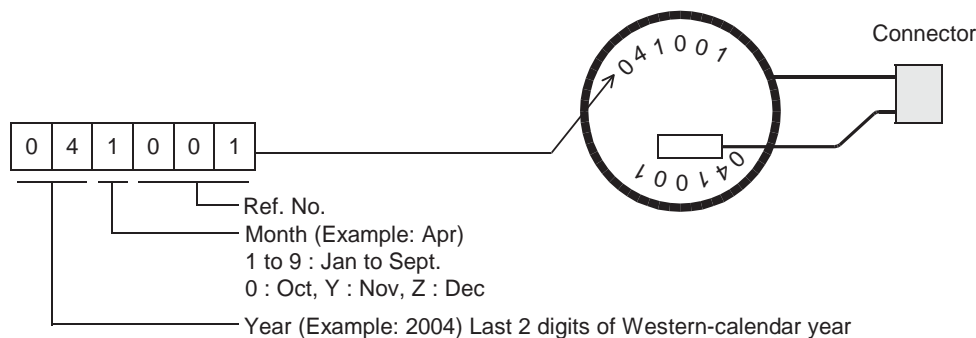
1. Reading the optional battery's lot No.

Batteries with affixed nameplate labels are optional batteries.



2. Reading the battery's year/month of manufacture [main unit's internal battery]

Batteries without affixed nameplate labels (refer to item 1. above) are main unit internal batteries.



11.5.8 Battery Related Precautions

- 1) The FX3UC series uses a different battery type than those used for the FX2N (F2-40BL) and FX2NC (FX2NC-32BL) series.
- 2) When performing battery-free operation, the clock stops when the main unit power is turned OFF.

11

Memory
Cassette/Battery

12

Test Run,
Maintenance,
Troubleshooting

A

Version
Information

B

Performance
Specifications

C

Special Devices
(M8000 -D8000 -)

D

Instruction List

E

Character-code

F

Discontinued
models

G

Precautions for
battery
transportation

H

Handling of
batteries in EU
member states