

SECTION 9

Battery Maintenance

This section describes the maintenance of the battery that backs up memory in the CPU Unit, including the replacement procedure.

- 9-1 Battery Replacement
- 9-2 Battery Life
- 9-3 Replacement Procedure

9-1 Battery Replacement

The CPU Unit contains a CPM2A-BAT01 Battery Set that must be replaced when its effective life has expired. The effective life under normal conditions is approximately 5 years. The effective life will be reduced at higher temperatures.

A battery error will occur when the voltage of the battery starts to drop, causing the ERR/ALM indicator to flash, causing SR 25308 to turn ON, and generating a battery error message readable from Programming Devices. The battery must be replaced within one week after a battery error is indicated.

Caution Replace the battery within one week after the first indication that the battery requires replacement. Always keep a spare Battery Set on hand. It will be highly unlikely that you will be able to obtain a replacement Battery Set in time otherwise. If the battery is not replaced in time, the user program and other data may be lost.

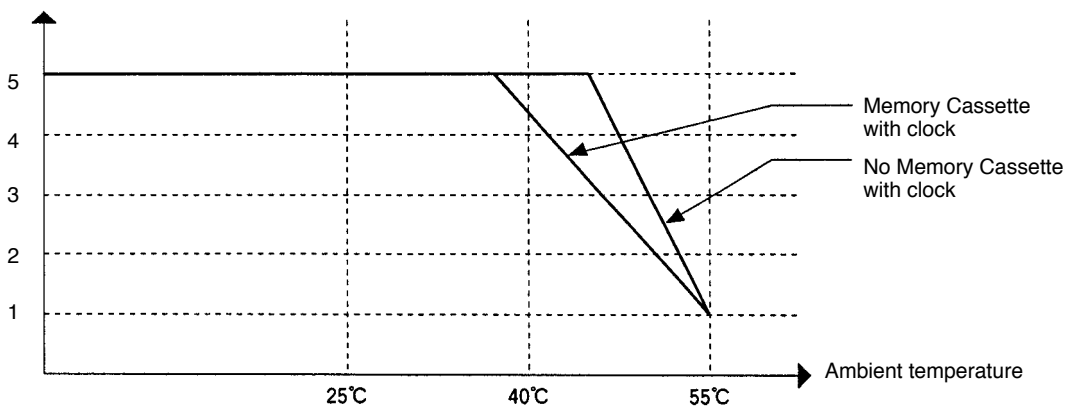
9-2 Battery Life

The built-in battery is used for retaining the status of the HR and DM areas, the user's program, and other specified status while power is not being supplied to the CQM1H. The total number of hours that the battery can provide backup power will vary as shown below, depending on the ambient temperature and whether or not a Memory Cassette with a clock is installed.

Memory Cassette with clock	Total hours with no current supplied	
	Guaranteed time (see note 1)	Actual capacity (see note 2)
No	11,000 h (Approx. 1 yr.)	43,000 h (Approx. 5 yr.)
Yes	9,700 h (Approx. 1 yr.)	

- Note**
1. Total hours with no current supplied, at an ambient temperature of 55°C.
 2. Total hours with no current supplied, at an ambient temperature of 25°C.

Total Time with No Current Supplied (in Years)



- Note**
1. The values in the above graph are reference values.
 2. The effective life of the battery is five years. Replace the battery every five years even if it could be used longer.

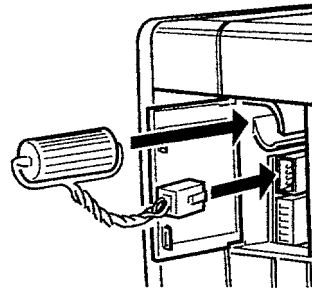
9-3 Replacement Procedure

Use the following procedure to replace the battery. You must complete this procedure within five minutes after turning OFF the power to the CQM1H to ensure memory backup.

- 1, 2, 3...**
1. Turn OFF the power to the CQM1H.
- or** If the CQM1H has not been ON, turn it ON for at least five minutes and then turn it OFF.

Note If power is not turned ON for at least five minutes before replacing the battery, the capacitor that backs up memory when the battery is removed will not be fully charged and memory may be lost before the new battery is inserted.

2. Open the compartment on the upper left of the CPU Unit and carefully draw out the battery.
3. Remove the battery connector.
4. Connect the new battery, place it into the compartment, and close the cover.



The battery error will automatically be cleared when a new battery is inserted.

! WARNING Never short-circuit the battery terminals; never charge the battery; never disassemble the battery; and never heat or incinerate the battery. Doing any of these may cause the battery to leak, burn, or rupturing resulting in injury, fire, and possible loss of life or property.