MITSUBISHI
PROGRAMMABLE CONTROLLERS

FX$_0$-10LDR PROGRAM LOADER USER'S GUIDE

Introduction

The FX$_0$-10LDR program loader connects to an FX$_0$-series PC and is designed to transfer programs between the EEPROM built into the FX$_0$ and an FX-series memory cassette installed on the FX$_0$-10LDR.

- The FX$_0$-10LDR can be use with either a memory cassette or the units own EEPROM memory.

- The program is transferred into the memory cassette if installed, and into the EEPROM of the FX$_0$-10LDR if no memory cassette is installed.

- The direction of transfer is either writing (from FX$_0$-10LDR memory to FX$_0$ memory) or reading (from FX$_0$ memory to FX$_0$-10LDR memory).
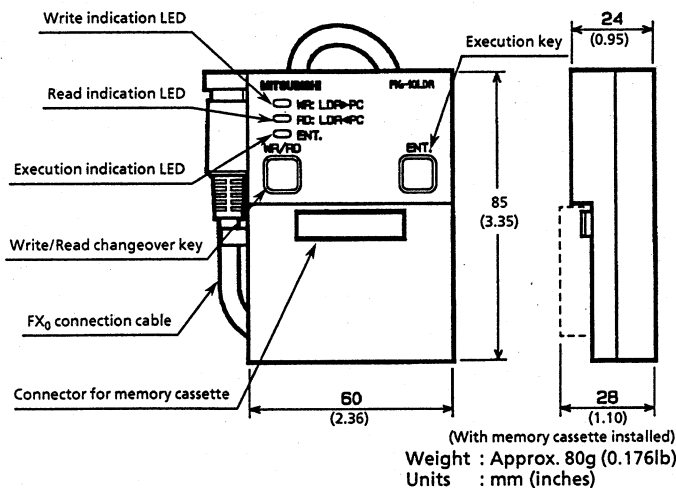
List of applicable functions

FX$_0$-10LDR memory type \ PC running state \ Transfer direction	FX$_0$ STOP Write (WR)	FX$_0$ STOP Read (RD)	FX$_0$ RUN Write (WR)	FX$_0$ RUN Read (RD)
Without memory cassette (internal EEPROM)	√	√	×	√
FX-EEPROM-4, 8, 4C installed — Protect OFF	√	√	×	√
FX-EEPROM-4, 8, 4C installed — Protect ON	√	×	×	×
FX-EPROM-8 installed	√	×	×	×
FX-RAM-8, 8C installed	×	×	×	×

√ : Possible × : Not possible

General specifications

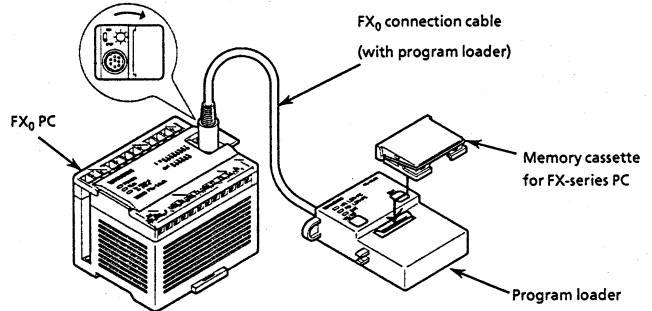| Item	Specification
Supply voltage	DC 5 V ± 5 % (supplied from FX$_0$ PC)
Current consumption	Max. 180 mA (during transfer from FX$_0$ to FX-EEPROM-8)
Operating ambient temperature	0 to 40 ℃
Operating ambient humidity	35 to 85 % RH (with no condensation)
Vibration resistance	Conforming to JIS C0911; 10 to 55 Hz, 0.1 mm (max. 1 G), 2 hours each along 3 axes
Impact resistance	Conforming to JIS C0912; 10 G, 3 times each along 3 axes
Ambient atmosphere	Free from corrosive gas and excessive dust particles

Overall dimensions and panel surface construction

Write indication LED
Read indication LED
Execution indication LED
Write/Read changeover key
FX$_0$ connection cable
Connector for memory cassette
Execution key

24 (0.95)
85 (3.35)
60 (2.36)
28 (1.10)

(With memory cassette installed)
Weight : Approx. 80g (0.176lb)
Units : mm (inches)

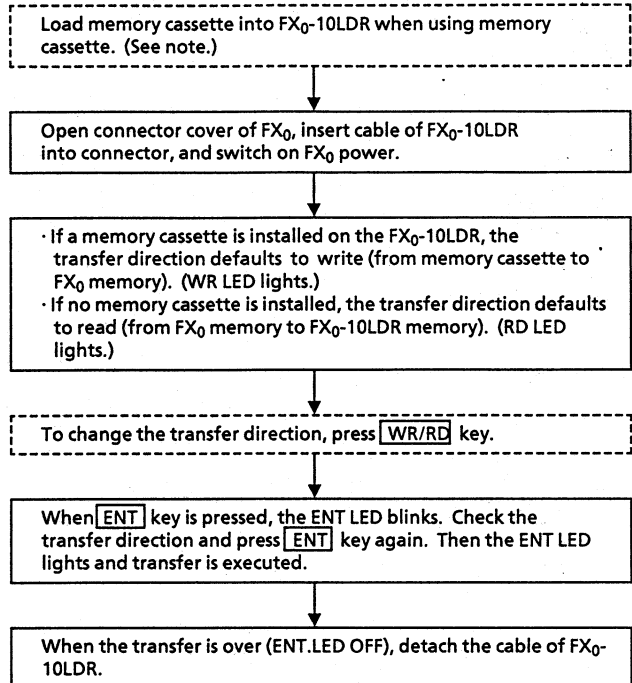## Functions of keys and LEDs

WR/RD key·· To change the transfer direction (alternating between write and read each time it is pushed)
ENT key·· To confirm the transfer, execute, or clear error display.
WR LED·· Lit when the transfer direction is write. ⎫ Blink when the transfer
RD LED·· Lit when the transfer direction is read. ⎬ confirmation indicates
ENT LED·· Lit while transfer is being executed. ⎭ an error.

Connection Diagram

FX$_0$ connection cable (with program loader)
FX$_0$ PC
Memory cassette for FX-series PC
Program loader

Transfer operation procedure

Load memory cassette into FX$_0$-10LDR when using memory cassette. (See note.)

↓

Open connector cover of FX$_0$, insert cable of FX$_0$-10LDR into connector, and switch on FX$_0$ power.

↓

· If a memory cassette is installed on the FX$_0$-10LDR, the transfer direction defaults to write (from memory cassette to FX$_0$ memory). (WR LED lights.)
· If no memory cassette is installed, the transfer direction defaults to read (from FX$_0$ memory to FX$_0$-10LDR memory). (RD LED lights.)

↓

To change the transfer direction, press WR/RD key.

↓

When ENT key is pressed, the ENT LED blinks. Check the transfer direction and press ENT key again. Then the ENT LED lights and transfer is executed.

↓

When the transfer is over (ENT.LED OFF), detach the cable of FX$_0$-10LDR.

Note : Do not load or unload the memory or remove the cable, while transfer is being executed. i.e.while "ENT" LED is lit.

Error display

Displayed while transfer is being executed. The error display can be cleared by pressing ENT key. LED's blink.

		LED display	Cause	Remedy
Write	Write disabled	WR, RD, ENT.	FX$_0$ is running	Stop FX$_0$.
Write	Write disabled		FX-RAM-8, 8C installed in FX$_0$-10LDR.	RAM memory cannot be used. Change memory.
Write	Write faulty	WR, RD, ENT.	Verification results indicate no match.	Check FX$_0$ PC and connection cable for abnormality.
Write	Write faulty		Communication with FX$_0$ is defective.	
Read	Read disabled	WR, RD, ENT.	EPROM cassette is installed in FX$_0$-10LDR.	Cannot read to EPROM. Change memory.
Read	Read disabled		EEPROM installed in FX$_0$-10LDR with write-protect switch on.	Switch off write-protect switch.
Read	Read disabled		FX-RAM-8, 8C installed in FX$_0$-10LDR.	RAM memory cannot be used. Change memory.
Read	Read faulty	WR, RD, ENT.	Verification results indicate no match.	Check FX$_0$ PC and connection cable for abnormality.
Read	Read faulty		Communication with FX$_0$ is defective.	