Figures

Tables

1.1 Compact

A Compact PLC has the processor, power supply and I/O all contained within one unit. Traditionally these were called Unitary (or Fixed) PLCs. They were small, cheap and had no facility for future expansion, so they were only suitable for tasks that would not change in the future. They were generally used for simple control tasks, usually mounted next to the machine / process they were controlling. Today's Compact PLCs are more powerful, and have some scope for expansion. Modern Compact PLCs still have a processor, power supply and I/O all contained within one unit. Extra I/O, communications, A/D, D/A or other specialised control would be performed via expansion units connected to the main unit. The most basic Compact PLCs may only accept one or two expansion units, while high end units can have a dozen or more additional units attached.

Figure 1: FX3U PLC (centre) with Special Adapters (left) and Special Function Blocks (right)

2.2.2 The FX3U and Special Adapters – Specification

Table 5: L-Series CPU and Special Adapters descriptions

Power Supply Specifications	FX3U AC Powered Models (FX3U-[]M[]/ES/ESS)
Power supply	100–240 V AC (+10 % / -15 %), 50/60 Hz
Inrush current at ON	30 A / <5 ms (at 100 V AC); 65 A / <5 ms (at 200 V AC)
Allowable momentary power failure time	10 ms
24V DC service power supply	FX3U-16/32MR/ES: 400 mA / FX3U-48/64/80/128MR/ES: 600 mA

Output Specifications			Transistor Models
Switching voltage (max.)		V	5–30 V DC
Max. output current	- per output	A	0.5
	- per group*	A	0.8
Max. switching current	- inductive load		12W
Response time		ms	< 0.2 (< 5μs for Y0–Y2)

All-in-one CPU, power supply and digital I/O. Dual system-bus promotes versatility. Expansion Boards and Special Adapters add functionality: communication, networking, analog, and positioning systems.

Figure 6: The FX3U CPU

FX3U-485ADP

Figure 7: Modbus module

The FX3U-485ADP-MB module enables communication between the PLC and other (RS485 enabled) devices. RS485 comms can be configured as one-to-many multidrop, parallel or peer-to-peer. This module also permits Modbus (RTU and ASCII).

The FX3G-CNV-ADP adapter allows special adapters (ADP) to be connected to the FX3U base unit.

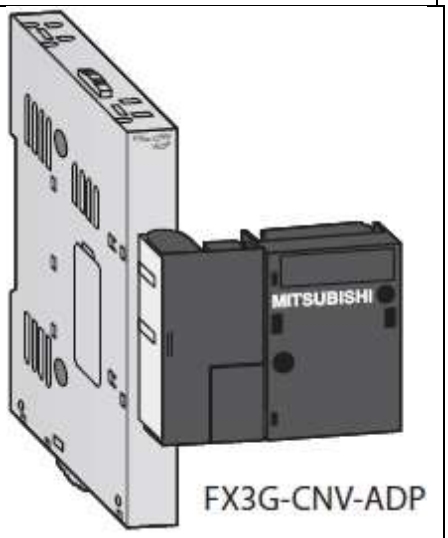

Figure 8: Adapter

Figure 9: Analogue I/P

Figure 10: Analogue O/P

Figure 11: Temperature control

The FX3U-4AD-ADP has four analogue input channels. Each channel can be configured for voltage or current.	The FX3U-4DA-ADP has four analogue output channels. Each channel can be configured for voltage or current.	The FX3U-4AD-PT-ADP has four analogu inputs for PT100