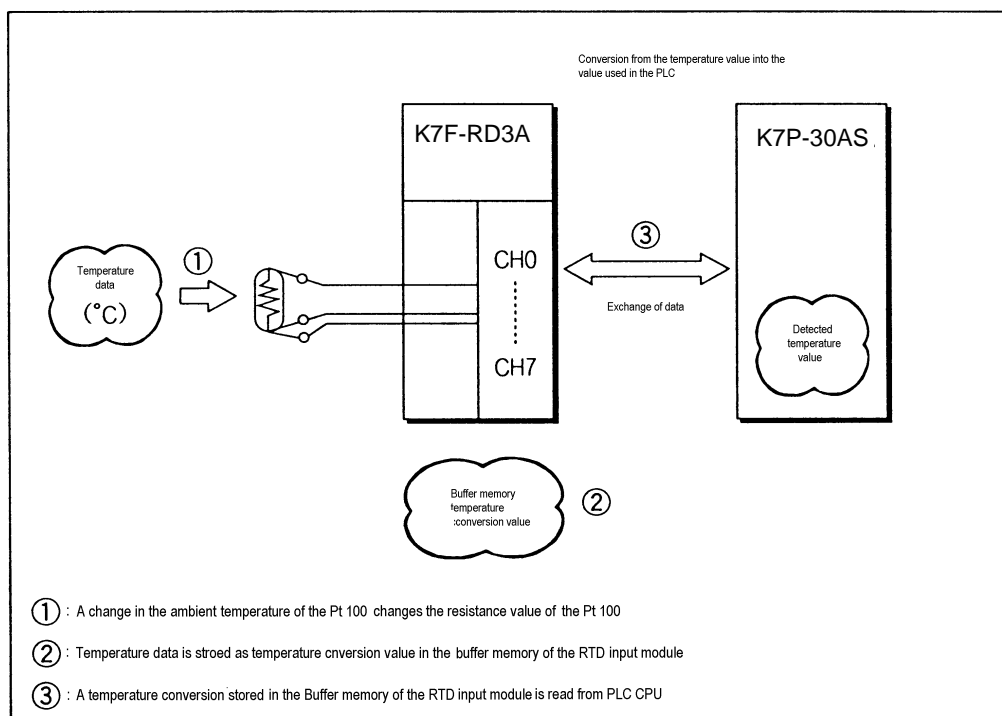


Chapter 1. INTRODUCTION

These two units are called K7F-RD3A and K4F-RD2A. The K7F-RD3A is an Pt input module used with the CPU of MASTER-K PLC MK1000S, and the K4F-RD2A is used with the CPU of MK300S series. Hereafter, the two units are called the RTD input module

The RTD input module is a module that converts the temperature data(°C) input by the Pt (Pt100 or JPt100) into a signed 16 bit digital binary data and outputs it.

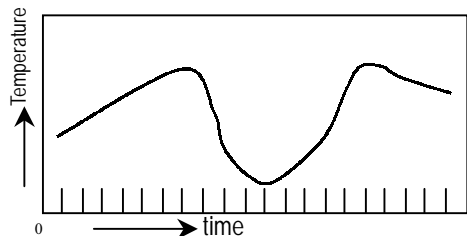
1.1 Features



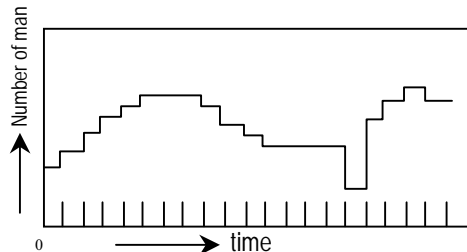
- 1) With direct connection of the RTD input module, the temperature data(°C) can be converted into a digital value to be processed in the PLC.
- 2) The temperature data(°C) input can be processed to one digit after the point as a digital value.
- 3) One module can be connected to K7F-RD3A 8-point or K4F-RD2A 4-point Pt100 or JPt100.
- 4) The RTD input module has Pt100, Jpt100 or cable burn-out function at their every channel.
- 5) The RTD input module detects the out-of-range temperature that is input by Pt100 or JPt100.

1.2 Glossary

1.2.1 A - Analog Value



[Fig 1.1] Analog Value

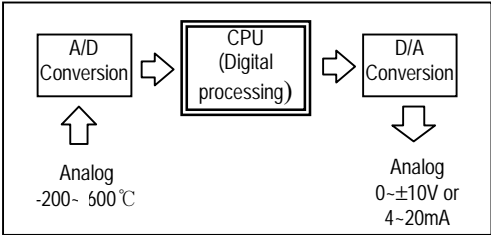


[Fig 1.2] Digital Value

The continuous changeable value such as voltage, current, temperature, velocity, pressure and flow is called analog value. For example, temperature changes continuously with time as shown in Fig. 1.1. The PLC can process that continuous changeable temperature by use of the RTD input module.

1.2.2 D - Digital Value

In Fig.1.2, the number of man can be counted as 0, 1, 2, 3. The non-continuous changeable value as such is called a digital value. On and Off signals can be denoted as a digital value 0 and 1, respectively.



[Fig 1.3] Processing in the PLC

Analog value cannot be directly input to the CPU module for digital processing. Therefore, analog value should be converted into a digital value to be input to the CPU module. In addition, for external output of analog value, digital value of the CPU module should be converted into analog value.

1.2.3 Pt

This is a sensor that detects temperature as the type of resistance.

The Pt 100 outputs the resistance value of 100.00 Ω for the temperature of 0 °C

1.2.4 Burn-out Detection Function

If a part of the connected RTD or cable is disconnected, the out-of-range voltage is input by the internal burn-out detection circuit and the connection or disconnection is detected.