

## Chapter 4. PROGRAMMING

### 4.1 I/O Signals

The followings explain the I/O signals for the A/T module used in the MK series.

The K7F-AT4A occupies 32 I/O points and the K4F-AT3A occupies 16 I/O points.

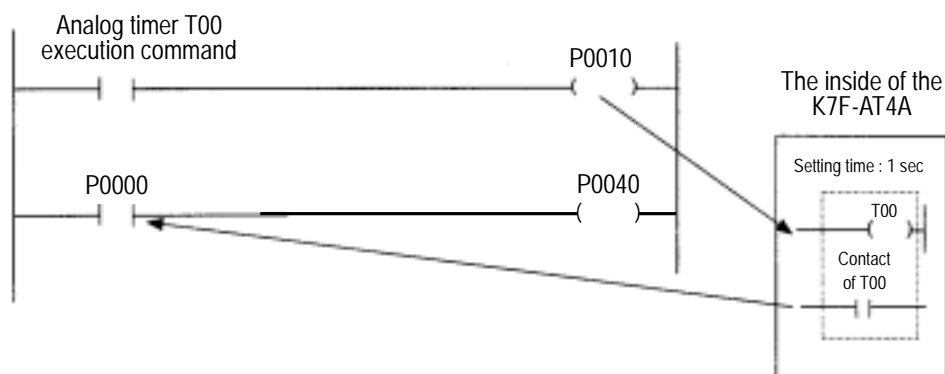
#### 4.2.1 K7F-AT4A ( N means the I/O Word No. of the A/T module)

Input Signal	Contents	Output Signal	Contents
P(N)0	Contact of the analog timer T00	P(N+1)0	Coil of the analog timer T00
P(N)1	Contact of the analog timer T01	P(N+1)1	Coil of the analog timer T01
P(N)2	Contact of the analog timer T02	P(N+1)2	Coil of the analog timer T02
P(N)3	Contact of the analog timer T03	P(N+1)3	Coil of the analog timer T03
P(N)4	Contact of the analog timer T04	P(N+1)4	Coil of the analog timer T04
P(N)5	Contact of the analog timer T05	P(N+1)5	Coil of the analog timer T05
P(N)6	Contact of the analog timer T06	P(N+1)6	Coil of the analog timer T06
P(N)7	Contact of the analog timer T07	P(N+1)7	Coil of the analog timer T07
P(N)8	Contact of the analog timer T08	P(N+1)8	Coil of the analog timer T08
P(N)9	Contact of the analog timer T09	P(N+1)9	Coil of the analog timer T09
P(N)A	Contact of the analog timer T10	P(N+1)A	Coil of the analog timer T10
P(N)B	Contact of the analog timer T11	P(N+1)B	Coil of the analog timer T11
P(N)C	Contact of the analog timer T12	P(N+1)C	Coil of the analog timer T12
P(N)D	Contact of the analog timer T13	P(N+1)D	Coil of the analog timer T13
P(N)E	Contact of the analog timer T14	P(N+1)E	Coil of the analog timer T14
P(N)F	Contact of the analog timer T15	P(N+1)F	Coil of the analog timer T15

## 4.2.2 K4F-AT3A (N means the I/O Word No. of the A/T module)

Input Signal	Contents	Output Signal	Contents
P(N)0	Contact of the analog timer T00	P(N)8	Coil of the analog timer T00
P(N)1	Contact of the analog timer T01	P(N)9	Coil of the analog timer T01
P(N)2	Contact of the analog timer T02	P(N)A	Coil of the analog timer T02
P(N)3	Contact of the analog timer T03	P(N)B	Coil of the analog timer T03
P(N)4	Contact of the analog timer T04	P(N)C	Coil of the analog timer T04
P(N)5	Contact of the analog timer T05	P(N)D	Coil of the analog timer T05
P(N)6	Contact of the analog timer T06	P(N)E	Coil of the analog timer T06
P(N)7	Contact of the analog timer T07	P(N)F	Coil of the analog timer T07

## 4.2.3 Example for Executing the Analog Timer T00 by Program. (The A/T Module is mounted onto the Slot 0)



- 1) If the output P0010 is turned On, the coil of the analog timer T00 turns On and it starts its operation.
- 2) After one second from the turning-on of the output P0010, the contact of the analog timer T00 will turn On and the input contact turns On.

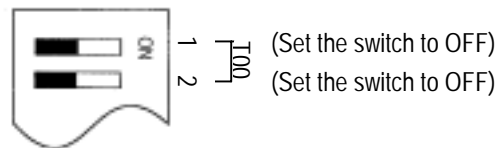
### 4.3 Program for Comparing and Outputting the Setting Times of Analog Timers.

#### 4.3.1 System Configuration

Slot 0		Slot 1	
K4S-122S	K4P-15AS	K4F-AT3A	K4Y-203S

#### 4.3.2 Initial Settings

- 1) Time setting range : 0.1 to 1.0 sec
- 2) Used timer : T00

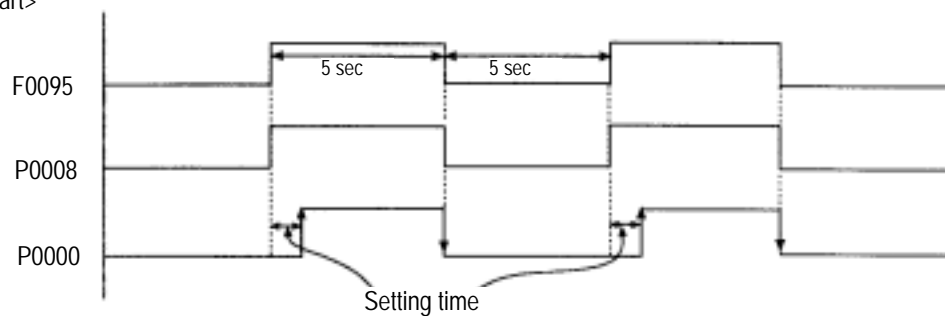


#### 4.3.3 Program Description

The setting times can be adjusted by the adjustment volume of the A/T module without changes of the program even in the RUN state of the CPU Module.

- (1) The coil of the timer T00 turns off and on with 10 sec cycle. (P0008)
- (2) When the F0095 turns on, the CPU Module timer T200 starts its operation. When the signal of contact P0000 turns on after setting time, the current time of the T200 is stored to the D0000.
- (3) If the T200 is more than 980 msec the P0010 is set to On. If less, the P0011 is set to On.
- (4) If the T200 is set to On, the M0021 will be reset in order that the T200 starts a new operation.

<Timing Chart>



## 4.3.4 Program

