

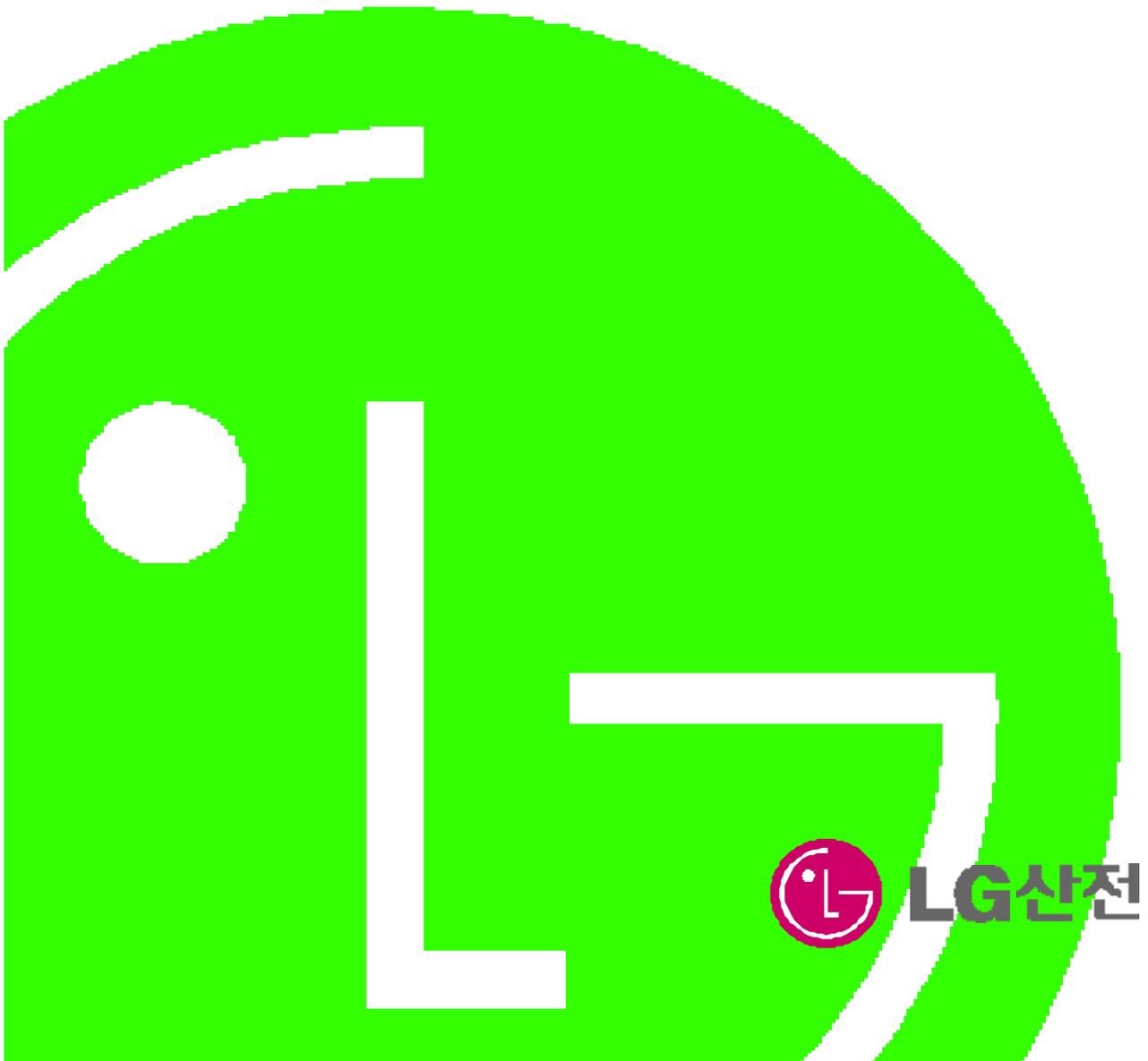
LG

***GLOFA***  
***MASTER-K***

G3F – AD4A

G3F – AD4B

G4F – AD2A





<b>1</b> .....	<b>1-1 ~ 13</b>
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<b>1.1</b> .....	<b>1 - 1</b>
<b>1.2</b> .....	<b>1 - 2</b>
1.2.1      - A.....	1 - 2
1.2.2      - D .....	1 - 2
1.2.3 .....	1 - 3

<b>2</b> .....	<b>2-1 ~ 226</b>
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<b>2.1</b> .....	<b>2 - 1</b>
<b>2.2</b> .....	<b>2 - 2</b>
<b>2.3</b> .....	<b>2 - 3</b>
1) G3F-AD4A .....	2 - 3
2) G4F-AD2A .....	2 - 5
3) G3F-AD4B .....	2 - 6
<b>2.4</b> .....	<b>2 - 7</b>
2.4.1 G3F-AD4A .....	2 - 8
1) .....	2 - 8
가) DC -10 10V .....	2 - 8
) DC -5 5V .....	2 - 9
2) .....	2 - 10
3) , .....	2 - 11
2.4.2 G4F-AD2A .....	2 - 12
1) .....	2 - 12
가) DC -10 10V .....	2 - 12
) DC -5 5V .....	2 - 13
2) .....	2 - 14
3) , .....	2 - 15
2.4.3 G3F-AD4B .....	2 - 16
1)      (DC 1 5V) .....	2 - 17
2) .....	2 - 17

3)		.....	2 - 18
4)		.....	2 - 18
2.4.4	/	(G4F-AD2A ).....	2 - 19
1)		.....	2 - 19
2)		.....	2 - 19
2)	/	.....	2 - 20
	(1) G3F-AD4A /	.....	2 - 20
	(2) G4F-AD2A /	.....	2 - 22
<b>2.5 A/D</b>		.....	2 - 24
2.5.1		.....	2 - 24
2.5.2		.....	2 - 25
2.5.3		.....	2 - 25

<b>3</b>	<b>3-1 ~ 34</b>
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<b>3.1</b>	.....	3 - 1
3.1.1	.....	3 - 1
3.1.2	.....	3 - 1
<b>3.2</b>	.....	3 - 2
3.2.1	.....	3 - 2
3.2.2	.....	3 - 2
1)	G3F-AD4A.....	3- 2
2)	G4F-AD2A.....	3- 3
3)	G3F-AD4B.....	3- 4

<b>4</b>	<b>4-1 ~ 46</b>
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<b>4.1 GMWIN A/D</b>	.....	4 - 1
<b>4.2</b>	.....	4 - 2
4.2.1	(G3F-AD4A:AD4INI, G4F-AD2A:AD2INI, G3F-AD4B:AD4BINI).....	4 - 2
4.2.2	_Array (G3F-AD4A:AD4ARD, G4F-AD2A:AD2ARD, G3F-AD4B:AD4BARD).....	4 - 3
4.2.3	_ (G3F-AD4A:AD4RD, G4F-AD2A:AD2RD, G3F-AD4B:AD4BRD).....	4 - 3
<b>4.3</b>	.....	4 - 4
4.3.1	(G3F-AD4A:ADR4INI, G4F-AD2A:ADR2INI, G3F-AD4B:ADR4BINI).....	4 - 4
4.3.2	(G3F-AD4A:ADR4RD, G4F-AD2A:ADR2RD, G3F-AD4B:ADR4BRD).....	4 - 5
<b>4.4</b>	.....	4 - 6

**5 GM ..... 5-1 ~ 5-9**

5.1 A/D (G3F-AD4A, G3F-AD4B)..... 5 - 1  
5.2 A/D BCD (G3F-AD4B)..... 5 - 6  
5.3 I/O A/D (G4F-AD2A).....5 - 8

**6 ... ..... 6-1 ~ 6-11**

6.1 ..... 6 - 1  
6.1.1 G3F-AD4A ..... 6 - 1  
6.1.2 G3F-AD4B ..... 6 - 2  
6.1.3 G4F-AD2A ..... 6 - 3  
6.2 .....6 - 4  
6.2.1 .....6 - 4  
6.2.2 ..... 6 - 4  
6.2.3 ..... 6 - 5  
6.2.4 .....6 - 6  
6.2.5 .....6 - 7  
6.2.6 / .....6 - 8  
6.2.7 / .....6 - 9  
6.2.8 SET .....6 - 9  
6.2.9 ..... 6 - 10  
6.2.10 .....6 - 10  
6.2.11 ..... 6 - 11

**7 ( / ) ..... 7-1 ~ 7-4**

7.1 ..... 7 - 1  
7.1.1 (GET, GETP ) ..... 7 - 1  
7.1.2 (PUT, PUTP ) ..... 7 - 2  
7.2 ..... 7 - 3  
7.2.1 (RGET ) ..... 7 - 3  
7.2.2 (RPUT ) ..... 7 - 4

**8 MK ..... 8-1 ~ 8-7**

8.1 ..... 8 - 1  
8.1.1 G3F-AD3A, G4F-AD3A ..... 8 - 1  
8.1.2 G3F-AD3B ..... 8 - 2  
8.2 ..... 8 - 3  
8.2.1 ..... 8 - 3  
8.2.2 A/D BCD ..... 8 - 5  
8.2.3 I/O A/D ..... 8 - 7

**9 ..... 9-1 ~ 9-3**

9.1 ..... 9 - 1  
9.1.1 RUN LED ..... 9 - 1  
9.2 ..... 9 - 1  
9.2.1 RUN LED가 ..... 9 - 1  
9.2.2 RUN LED ..... 9 - 2  
9.2.3 A/D CPU ..... 9 - 2  
9.2.4 A/D ..... 9 - 3  
9.2.5 가 ..... 9 - 3  
9.2.6 A/D ..... 9 - 3

**10 ..... 10-1 ~10-2**

10.1 G3F-AD4A, G3F-AD4B ..... 10 - 1  
10.2 G4F-AD2A ..... 10 - 2



G3F-AD4A/G3F-AD4B/G4F-AD2A

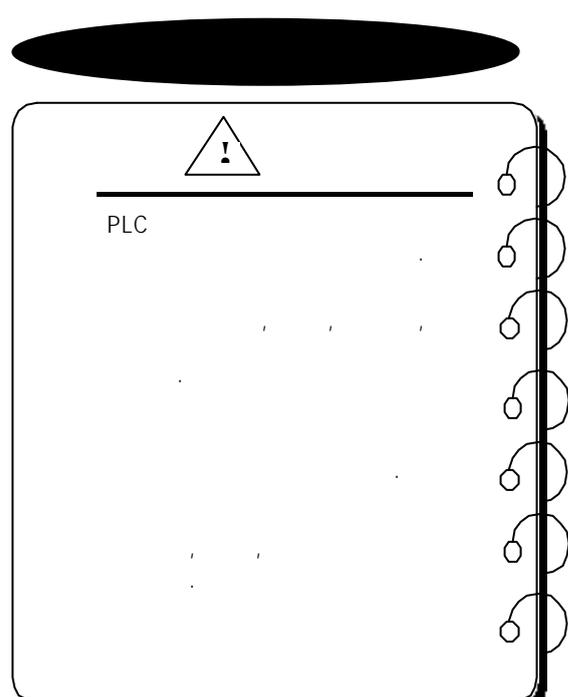
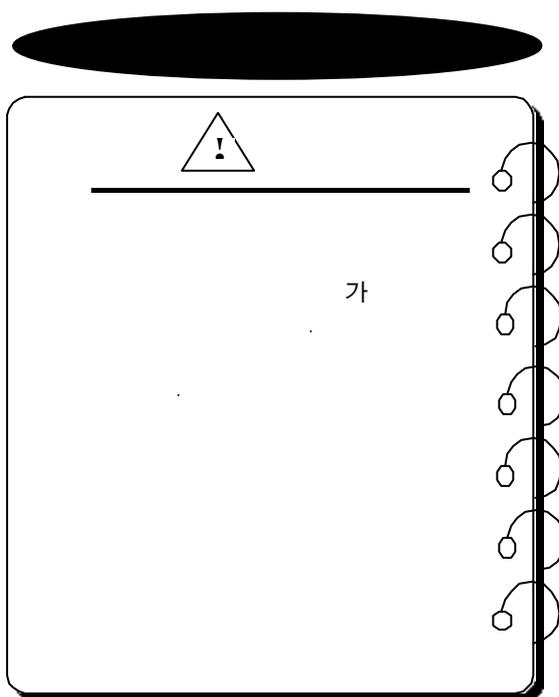
PLC  
K200S/300S/1000S CPU

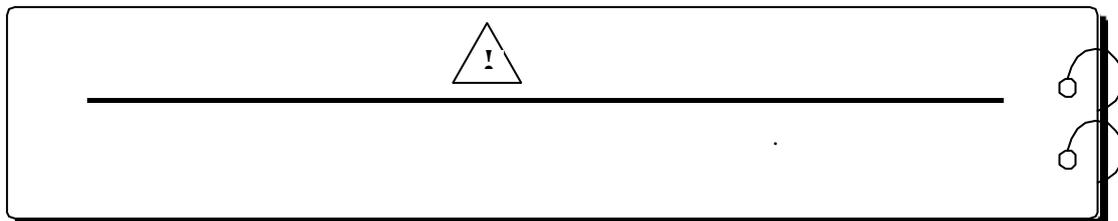
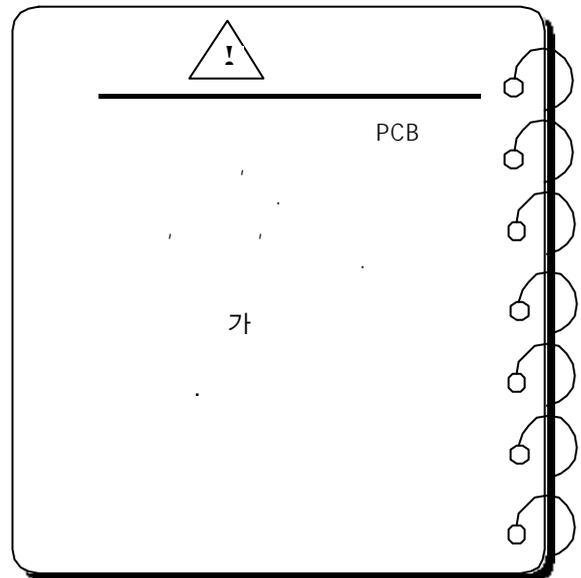
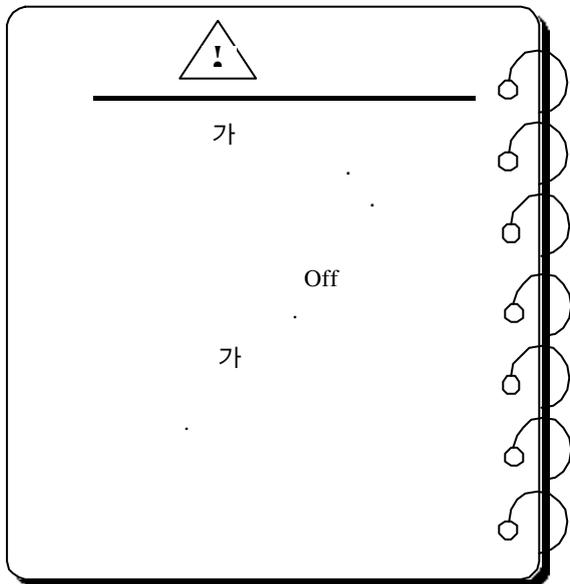
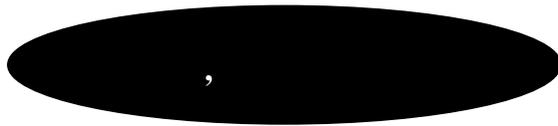
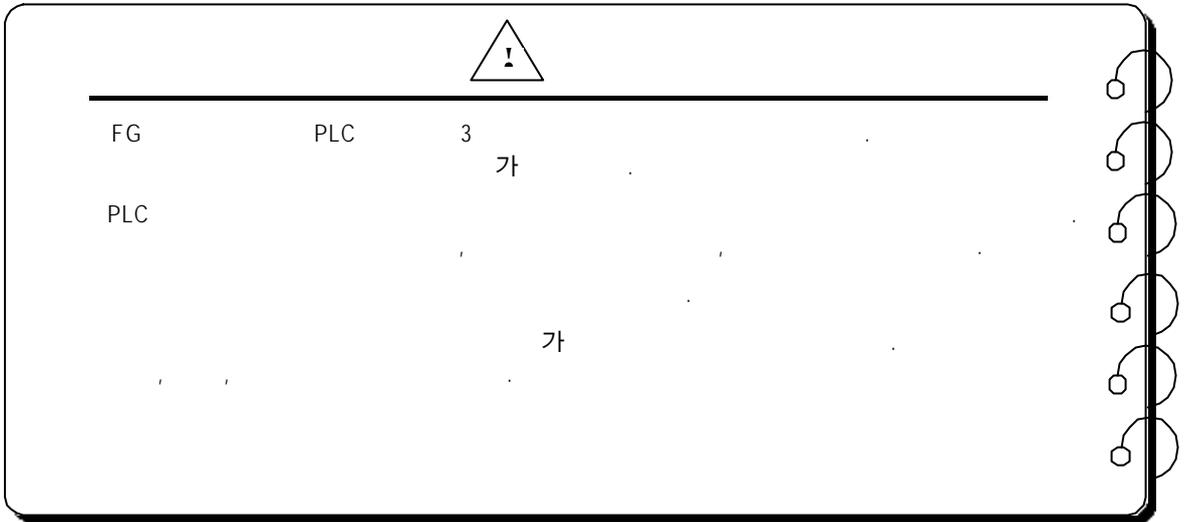
GLOFA GM3/4

MASTER-



2 가





1

	GLOFA PLC GM1/2/3/4	MASTER-K300S/1000S CPU	/
	GM1/2/3 K1000S	G3F-AD4A G3F-AD4B, GM4	K300S G4F-AD2A(
A/D	)		
A/D	PLC	( )	가 14

1.1

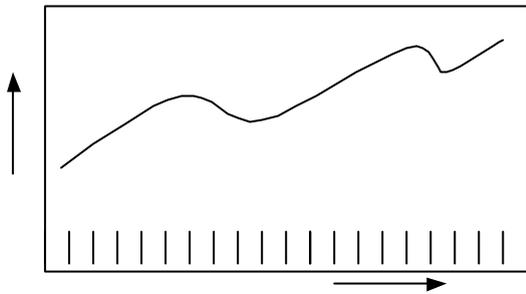
1.1.1 G3F-AD4A/G3F-AD4B

- 1) 1 16 A/D 가  
G3F-AD4A/G3F-AD4B 1 16 A/D
- 2) 1/16000  
1/16000
- 3)

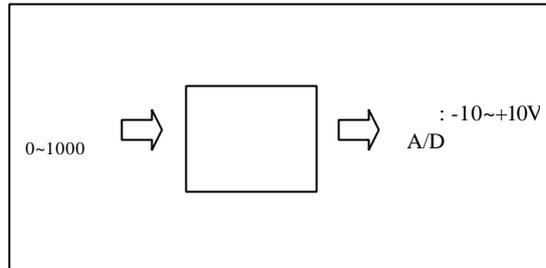
1.1.2 G4F-AD2A

- 1) 1 4 A/D 가  
G4F-AD2A 1 4 A/D
- 2) 1/16000  
1/16000
- 3)

1.2.

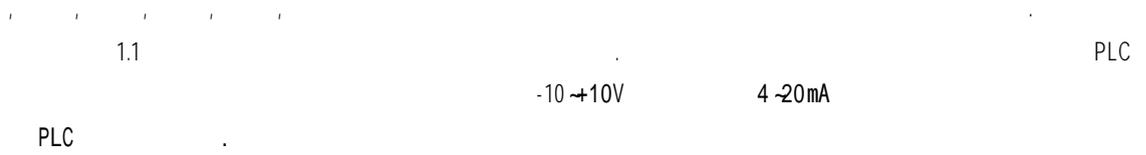


[ 1.1]

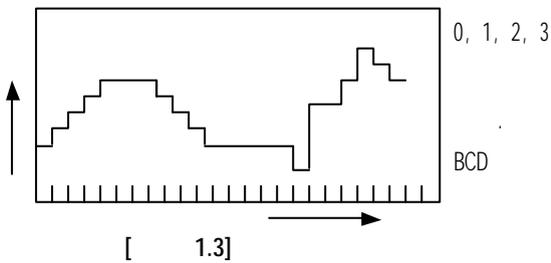


[ 1.2]

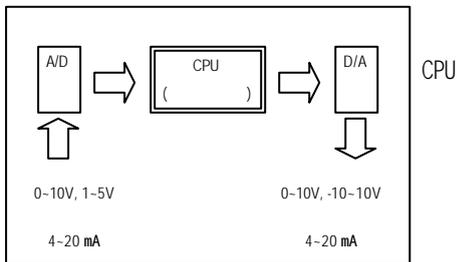
1.2.1 - A



1.2.2 - D



[ 1.3]



[ 1.4] PLC



2.1

GLOFA GM

MASTER-K

2.1

No.							
1		0 ~ 55°C					
2		-25 ~ +70 °C					
3		5 ~ 95%RH,					
4		5 ~ 95%RH,					
5					-	X, Y, Z 10	IEC61131-2
			가				
		10 ≤ f < 57Hz	-	0.075mm			
		57 ≤ f ≤ 150Hz	9.8m/s <sup>2</sup> {1G}	-			
			가				
		10 ≤ f < 57Hz	-	0.035mm			
		57 ≤ f ≤ 150Hz	4.9m/s <sup>2</sup> {0.5G}	-			
6		<ul style="list-style-type: none"> <li>가 : 147 m/s<sup>2</sup>{15G}</li> <li>가 : 11ms</li> <li>: (X, Y, Z 3 3 )</li> </ul>				IEC61131-2	
7		± 1,500 V				LG	
		: 4kV ( )				IEC61131-2 IEC1000-4-2	
		27 ~ 500 MHz, 10 V/m				IEC1131-2, IEC1000-4-3	
		/		(24V )	(24V )	IEC1131-2 IEC1000-4-4	
		2kV	1kV	0.25kV			
8		가 , 가					
9		2,000m					
10		2					
11							

1) IEC(International Electrotechnical Commission : )  
 : 가  
 2)  
 : 2 ,

2.2.

AD

2.2

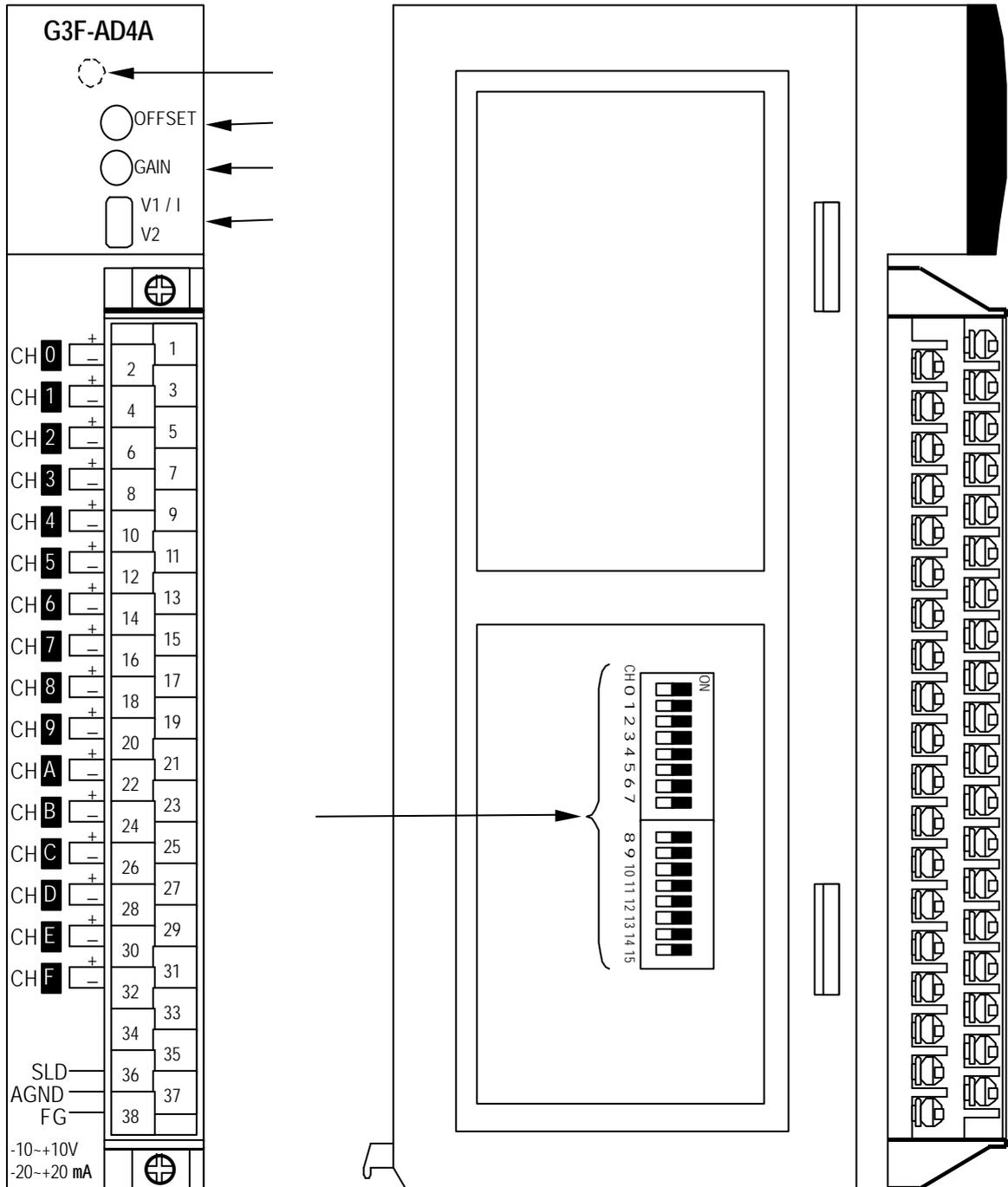
		G3F-AD4A	G4F-AD2A	G3F-AD4B
		16		
		DC-5 5V ( 560k $\Omega$ ) DC-10 10V ( 560k $\Omega$ )		DC 1 5V ( 600k $\Omega$ )
		DC-20 20mA ( 250 )		DC 4 20mA ( 250 )
	/	(On: , Off: )  V1/I	( V I . )	(On: , Off: )  ( : IN_SEL) ( 0: , 1: )
		16 ( : 14 ) [DATATYPE] 가 "0" :-192 16191, "1" :-8192 8191		16 ( : 14 ) "0" : 0 16000, "1" :-8000 8000
	DC 1 5V	-		0.25mV (1/16000)
	DC-5 5V	0.625mV (1/16000)		
	DC-10 10V	1.25mV (1/16000)		
	DC 4 20mA	-		1.0 $\mu$ A (1/16000)
	DC-20 20mA	2.5 $\mu$ A (1/16000)		
		$\pm 0.5\%$ [ (Full Scale)] ( 가 25 $\pm 0.3\%$ )		
		3.0ms/	5.0ms/	3.0ms/
		: $\pm 12V$ , : $\pm 25mA$		
		16 /1	4 /1	16 /1
		PLC ( )		
		38	20	38
		670mA	400mA	540mA
		630g	360g	560g

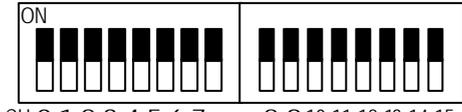
[ 2.2]

A/D		/

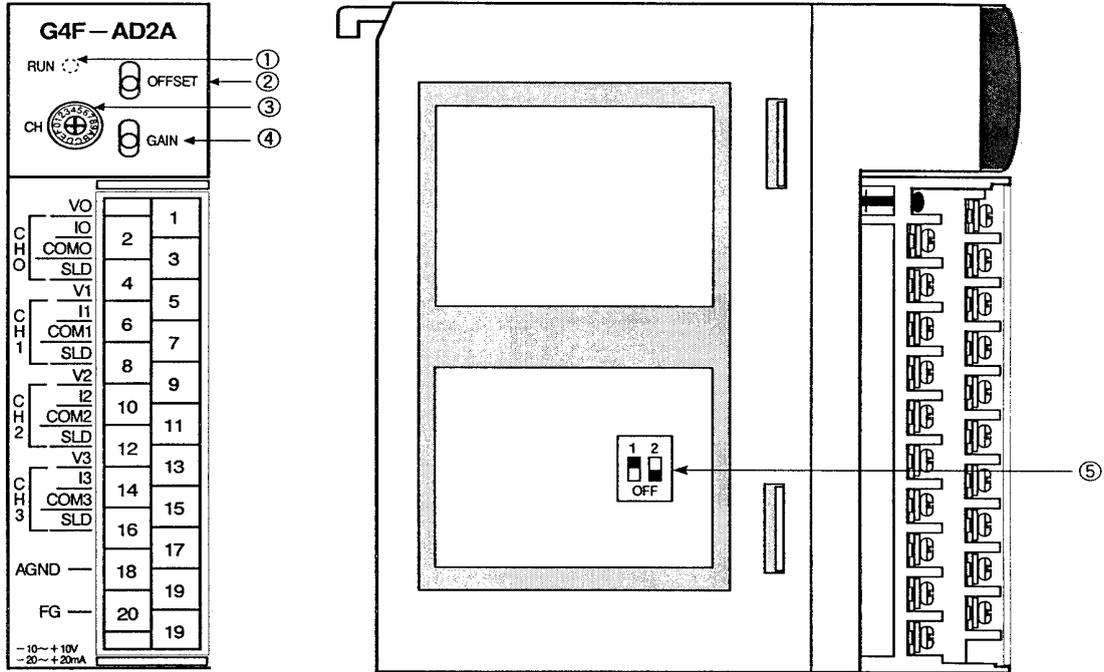
2.3

1) G3F-AD4A



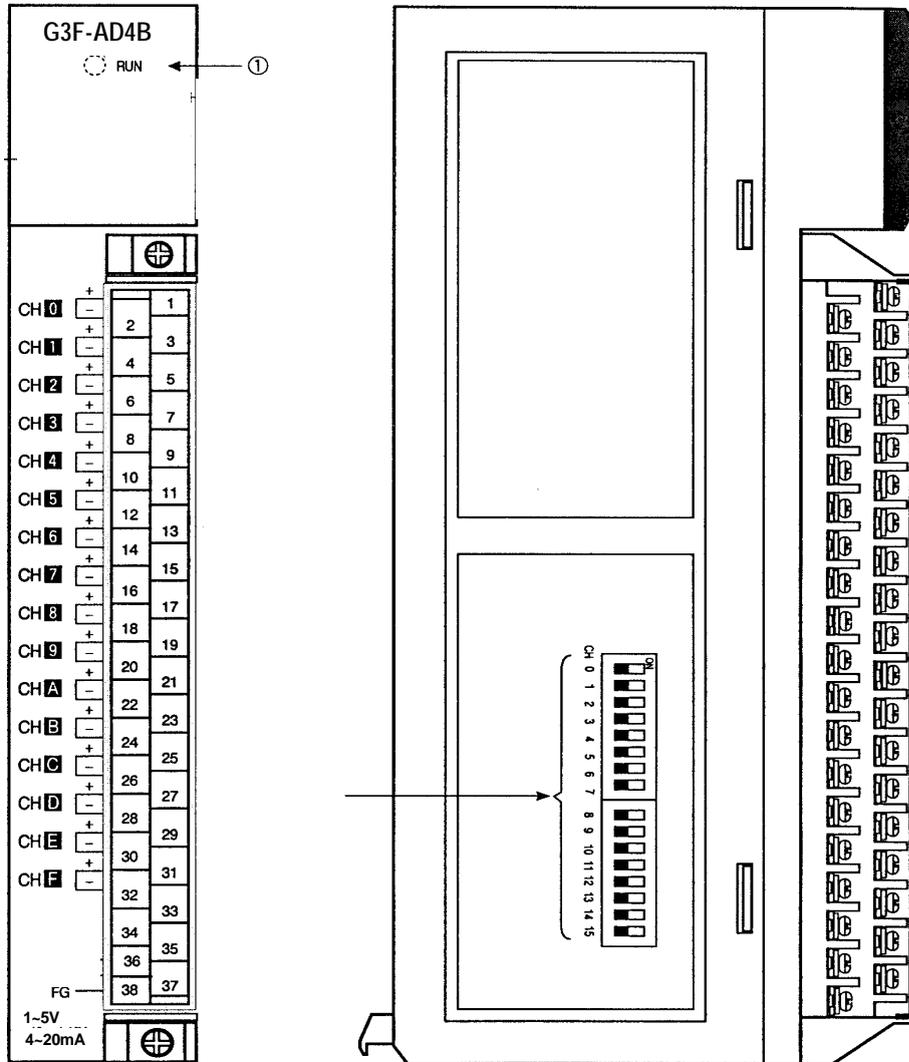
	<p>RUN LED</p> <p>G3F-AD4A</p> <p>: : ( 6.1 ) : DC 5V , G3F-AD4A</p>
	<p>(1)</p> <p> ↑ V1 : -5 V ~5V</p> <p> ↓ V2 : -10 V ~10V</p> <p>(2)</p> <p> ↑ I : -20 mA ~20 mA</p> <p> ↓ : 가</p>
	<p>(0~F) ( )</p> <p>- : Off - :0n</p> <p>. [ (Dip) On ]</p>  <p>CH 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15</p>

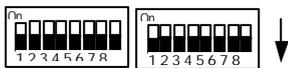
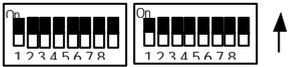
2) G4F-AD2A



<p>RUN LED</p>								
<p>G4F-AD2A</p> <p>(Normal) : 가 "4~F</p> <p>- :</p> <p>- : ( )</p> <p>- : DC 5V , G4F-AD2A</p> <p>(Test) : 가 "0~3</p> <p>- : / 가 ( )</p> <p>- (1.0 ) : /</p> <p>- (0.2 ) :</p>		<table border="1" data-bbox="917 1467 1404 1724"> <tr> <td data-bbox="917 1467 1173 1534">DC -10 ~10V</td> <td data-bbox="1173 1467 1404 1534">  </td> </tr> <tr> <td data-bbox="917 1534 1173 1601">DC -5 ~5V</td> <td data-bbox="1173 1534 1404 1601">  </td> </tr> <tr> <td data-bbox="917 1601 1173 1724">DC -20 ~20 mA</td> <td data-bbox="1173 1601 1404 1724">  </td> </tr> </table> <p data-bbox="1077 1769 1189 1825">  </p> <p data-bbox="1284 1769 1396 1825">  </p>	DC -10 ~10V		DC -5 ~5V		DC -20 ~20 mA	
DC -10 ~10V								
DC -5 ~5V								
DC -20 ~20 mA								
<p>( 가 "0~3 )</p>								

3) G3F-AD4B



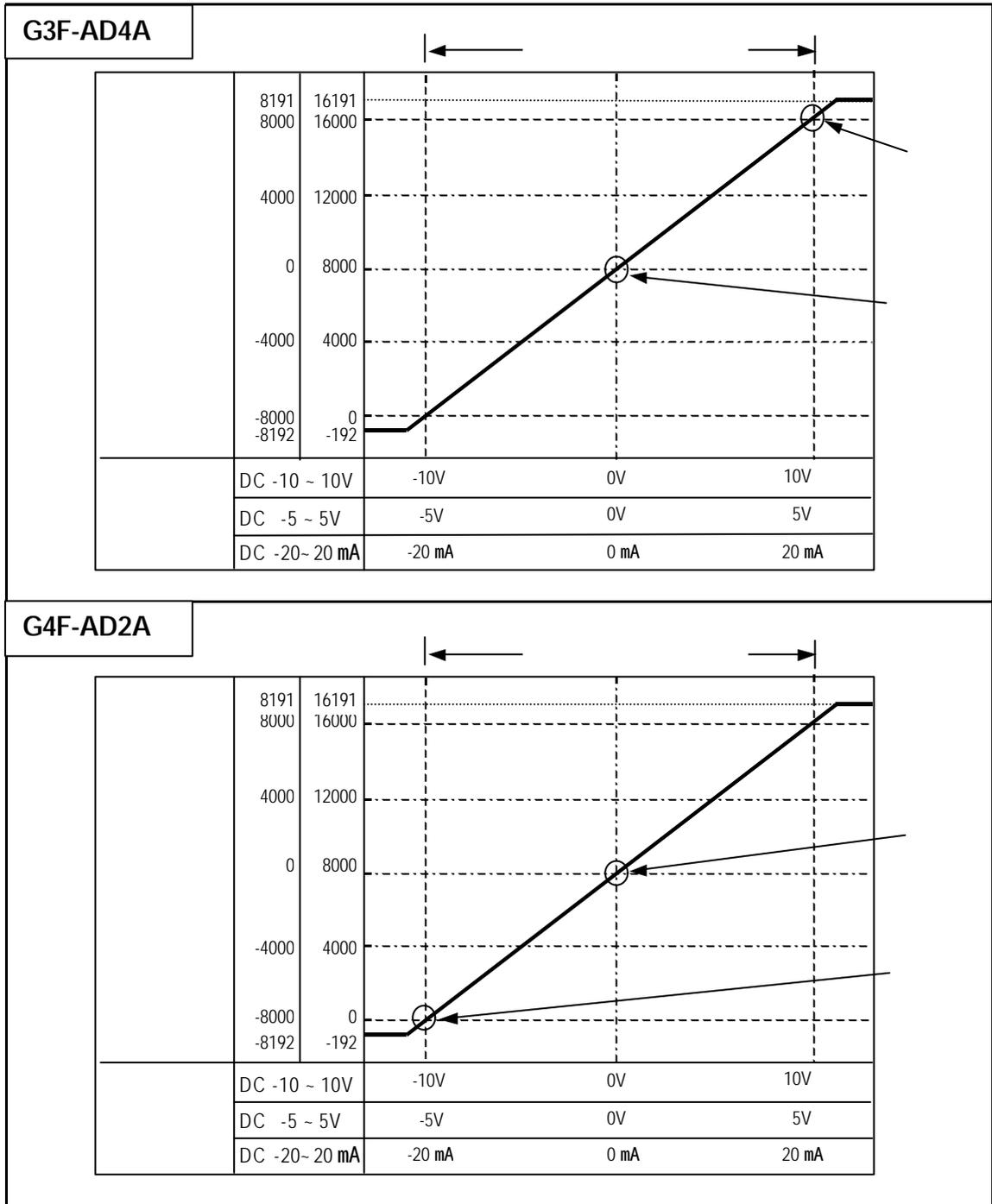
①	<p>RUN LED</p> <p>G3F-AD4B</p>
②	<p>/</p> <p>1)</p>  <p>Off</p> <p>2)</p>  <p>On</p>

2.4

PLC

( )

A/D



2.4.1 G3F-AD4A

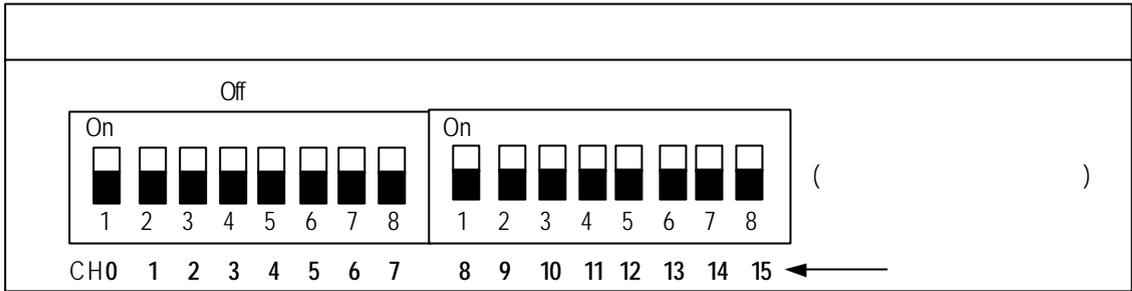
G3F-AD4A

/ 가 /

16

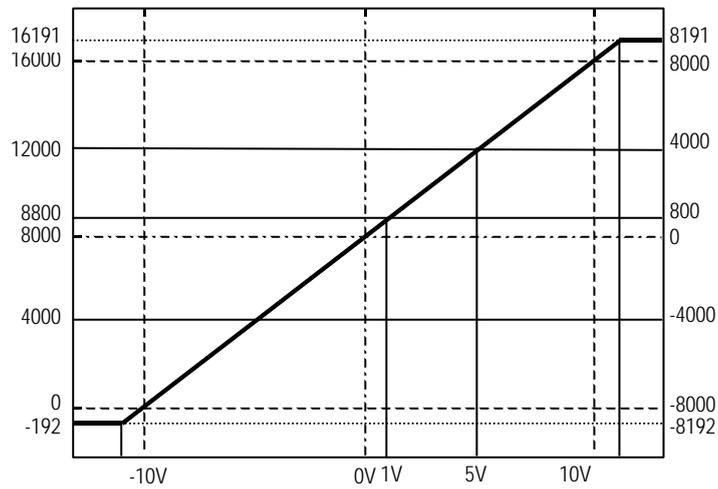
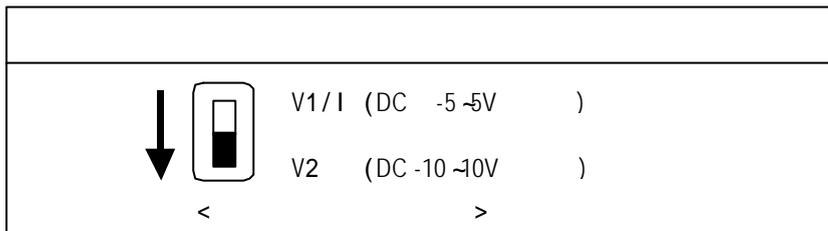
1)

Of



가) DC -10 ~10V

(V2)

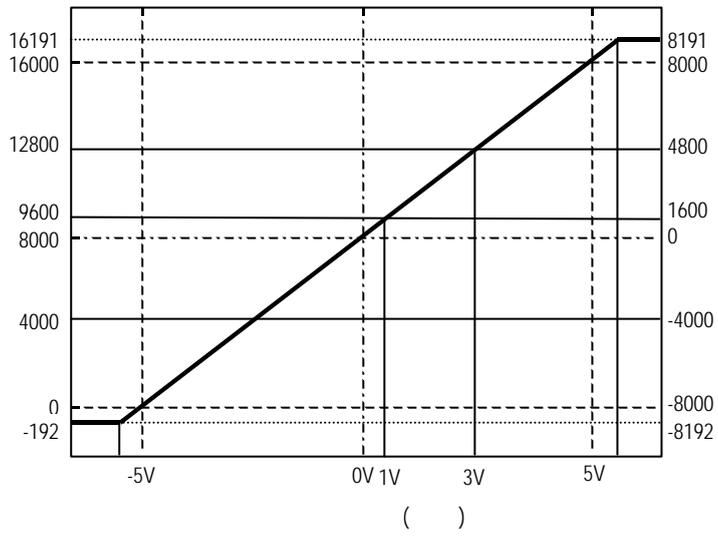
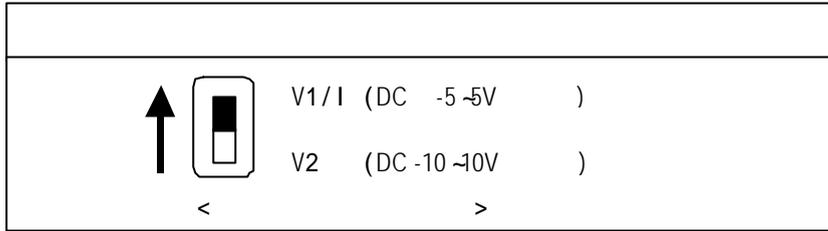


( )

	(V)						
	-10.24	-10	-5	0	5	10	10.24
-192 ~ 16191	-192	0	4000	8000	12000	16000	16191
-8192 ~ 8191	-8192	-8000	-4000	0	4000	8000	8191

) DC -5 ~5V

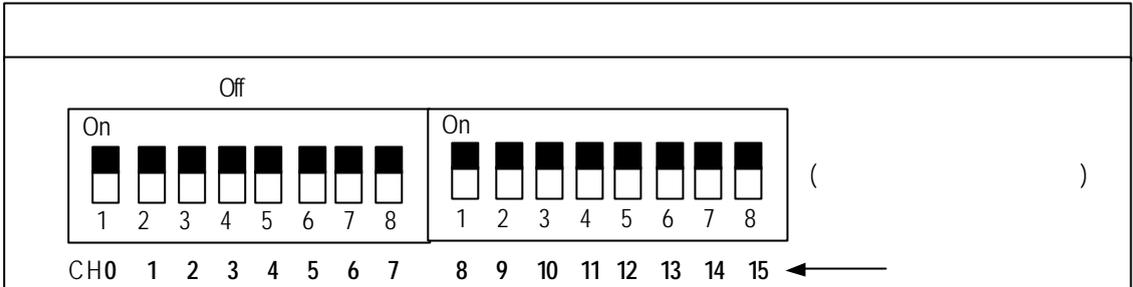
(V1/I)



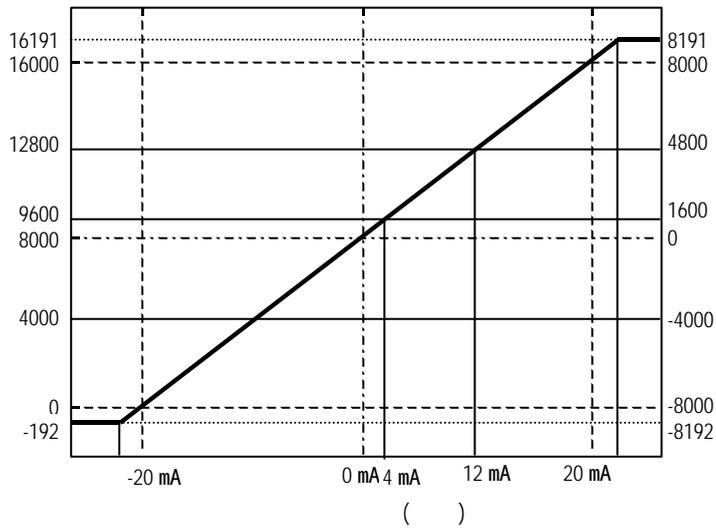
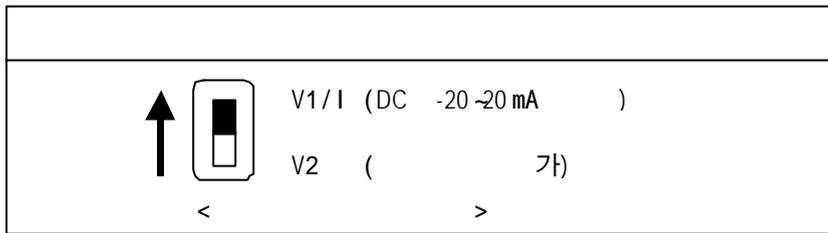
	(V)						
	-5.12	-5	-2.5	0	2.5	5	5.12
-192 ~ 16191	-192	0	4000	8000	12000	16000	16191
-8192 ~ 8191	-8192	-8000	-4000	0	4000	8000	8191

2)

On



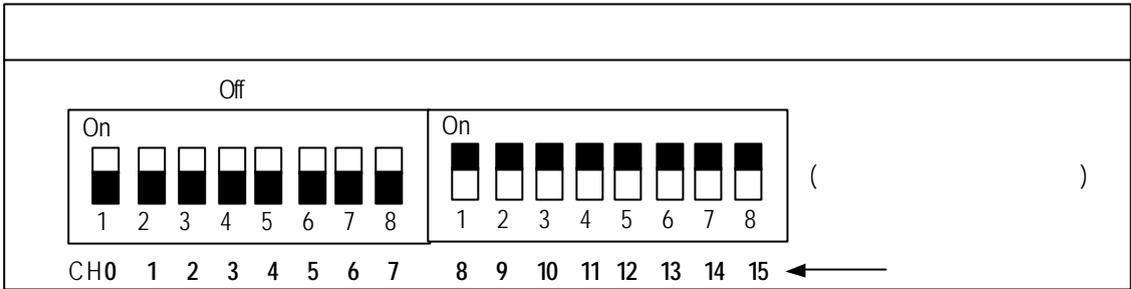
(V1/I)



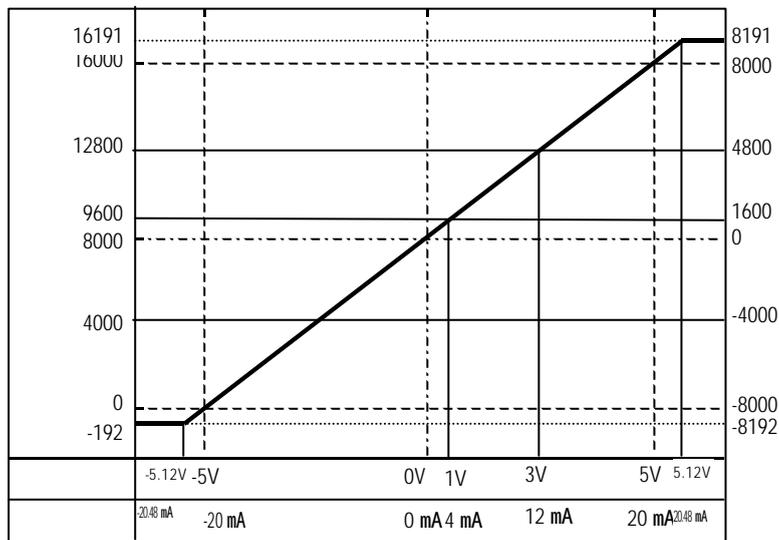
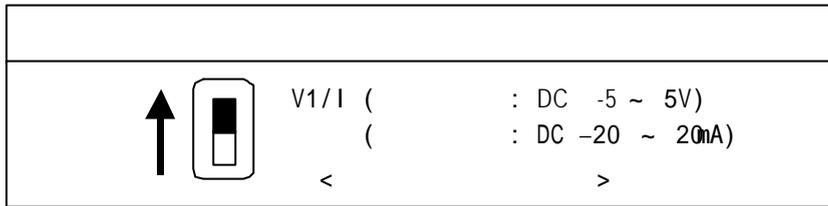
	(mA)						
	-20.48	-20	0	4	12	20	20.24
-192 ~ 16191	-192	0	8000	9600	12800	16000	16191
-8192 ~ 8191	-8192	-8000	0	1600	4800	8000	8191

3)

) : 0 ~ 7 : 8 ~ 15



(V1/I)



	(mA)						
	-5.12V	-5V	0V	1V	3V	5V	5.12V
	-20.48mA	-20mA	0mA	4mA	12mA	20mA	20.48mA
-192 ~ 16191	-192	0	8000	9600	12800	16000	16191
-8192 ~ 8191	-8192	-8000	0	1600	4800	8000	8191

2.4.2 G4F-AD2A

1)

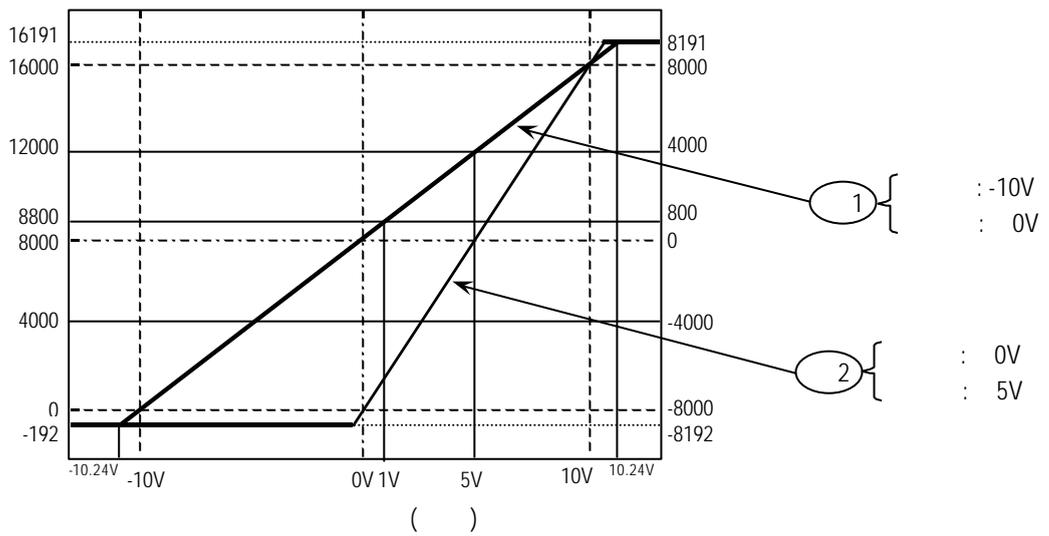
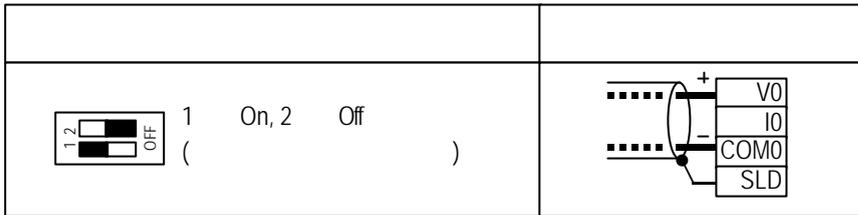
G4F-AD2A

/ 가 /

DC -5 -5V

DC -10 -10V

가) DC -10 -10V

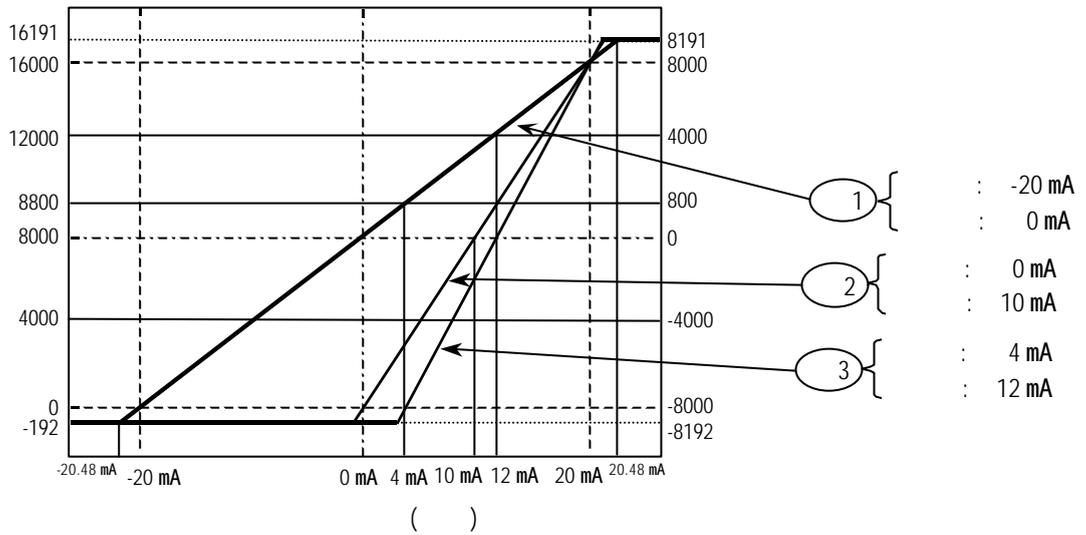
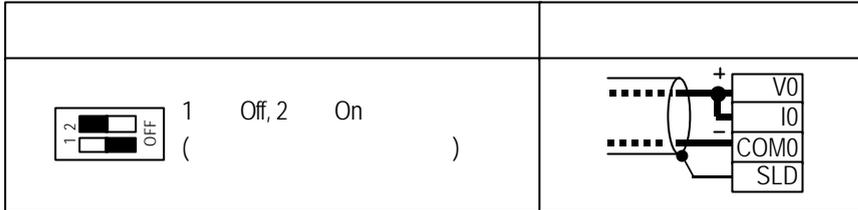


/

				(M)					
				-10	-5	0	3	5	10
①	-192 ~	-10V	0V	0	4000	8000	10400	12000	16000
②	16191	0V	5V	-192	-192	0	4800	8000	16000
①	-8192 ~	-10V	0V	-8000	-4000	0	2400	4000	8000
②	8191	0V	5V	-8192	-8192	-8000	-3200	0	8000



2) (DC -20 ~ 20 mA)



/

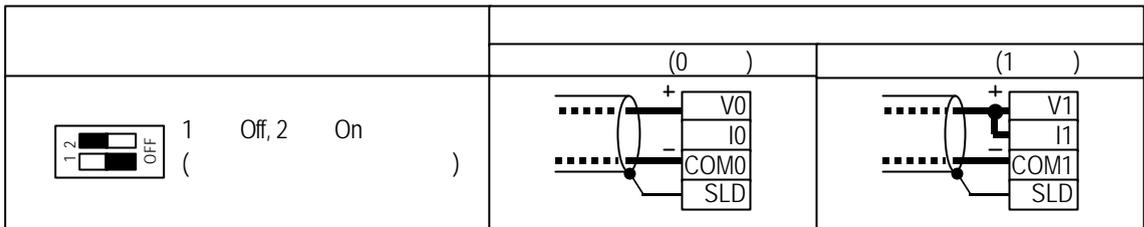
				(mA)					
				-20	0	4	10	12	20
①	-192	-20mA	0mA	0	8000	9600	12000	12800	16000
②	~	0mA	10mA	-192	0	3200	8000	9600	16000
③	16191	4mA	12mA	-192	-192	0	6000	8000	16000
①	-8192	-20mA	0mA	-8000	0	1600	4000	4800	8000
②	~	0mA	10mA	-8192	-8000	-4800	0	1600	8000
③	8191	4mA	12mA	-8192	-8192	-8000	-2000	0	8000

3)

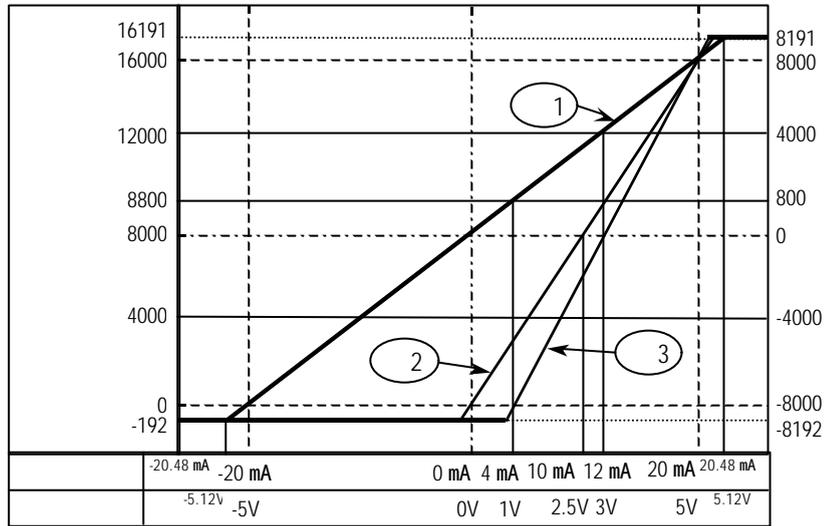
DC -5-5V (1 Off,

2 On)

) : 0 : 1



DC -5-5V



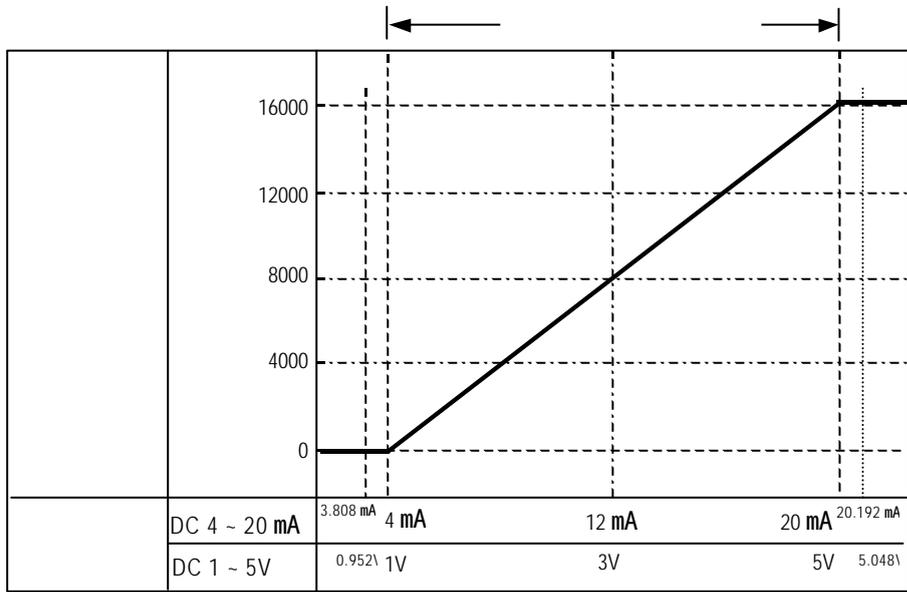
		(V)	(mA)	(V)	(mA)	-5V	0V	1V	2.5V	3V	5V
					-20mA	0mA	4mA	10mA	12mA	20mA	
1	-192	-5	-20	0	0	0	8000	9600	12000	12800	16000
2	~	0	0	2.5	10	-192	0	3200	8000	9600	16000
3	16191	1	4	3	12	-192	-192	0	6000	8000	16000
1	-8192	-5	-20	0	0	-8000	0	1600	4000	4800	8000
2	~	0	0	2.5	10	-8192	-8000	-4800	0	1600	8000
3	8191	1	4	3	12	-8192	-8192	-8000	-2000	0	8000

1.	가 -192 ~ 16191	16191	-192
		16191	-192
	가 -8192 ~ 8191	8191	-8192
		8191	-8192
2.	±15V,	±25mA	
3.	G4F-AD2A	/	

2.4.3 G3F-AD4B

PLC ( )

A/D / 가 /

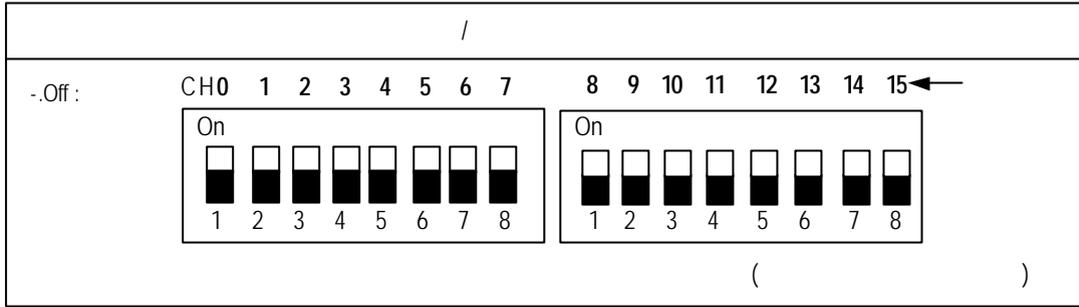


1.	16000	0
	16000	0
2.	+15V,	+25mA

1) (DC 1 ~5V)

IN\_SEL "1"

Of

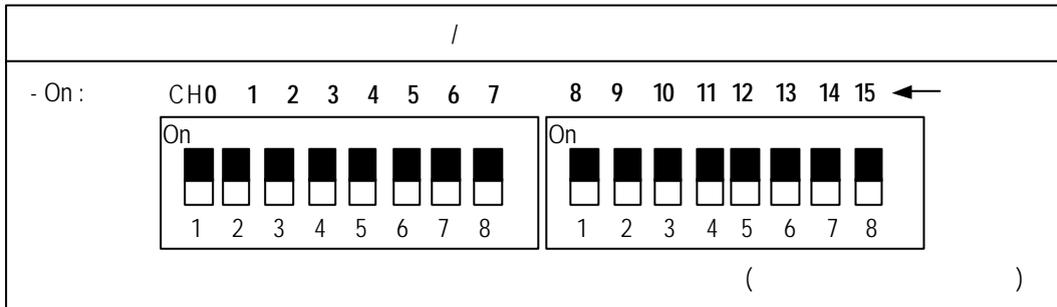


	(V)						
	1	1	2	3	4	5	5
	0	0	4000	8000	12000	16000	16000

2)

IN\_SEL "0"

On



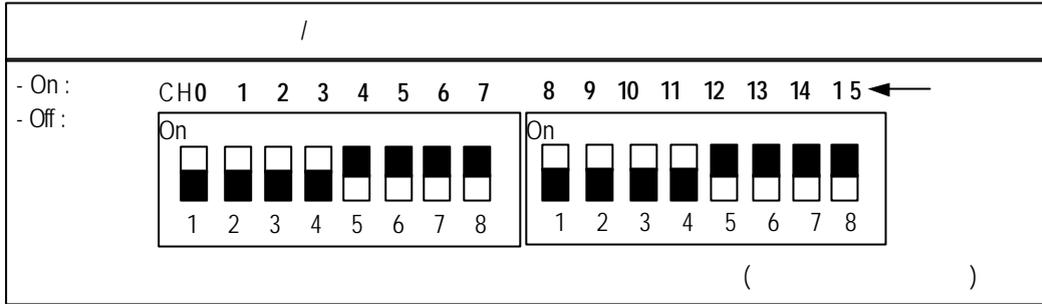
	(mA)						
	4	4	8	12	16	20	20
	0	0	4000	8000	12000	16000	16000

3)

"1" / Off IN\_SEL

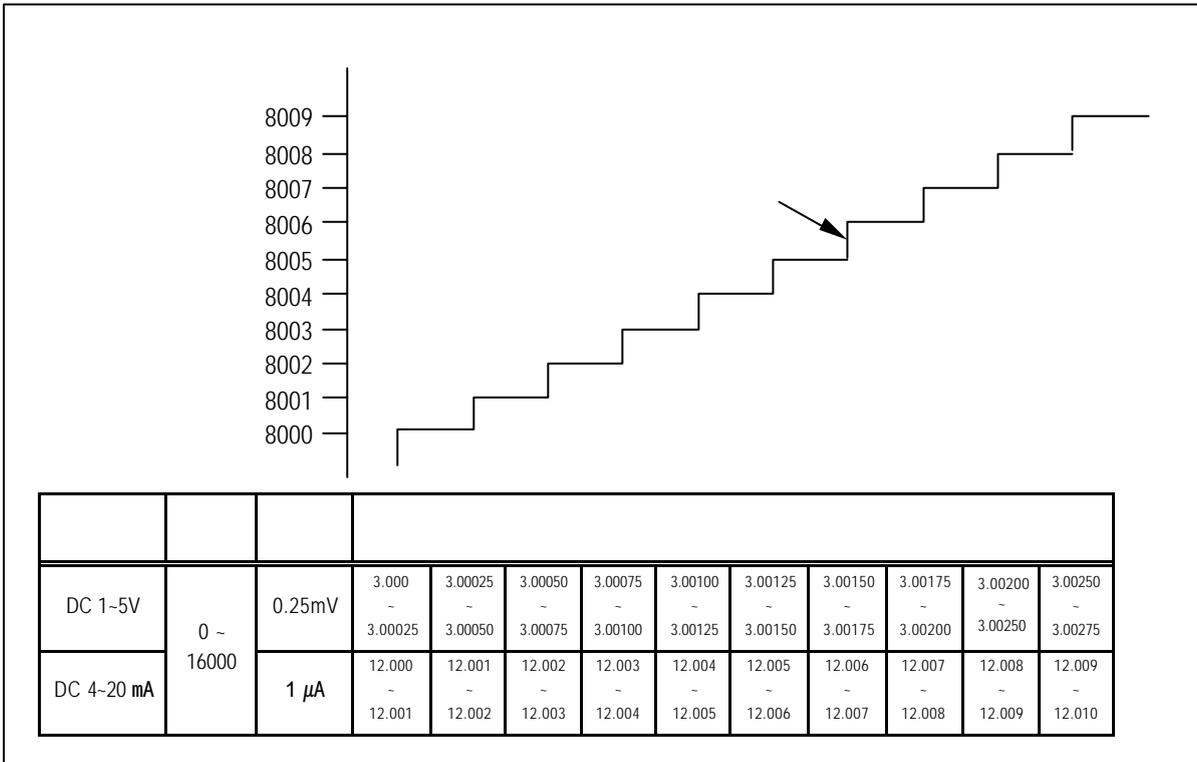
"0" / On IN\_SEL

) : 0~3, 8~11 : 4~7, 12~5



	1-5V	1	1	2	3	4	5	5
	4-20mA	4	4	8	12	16	20	20
		0	0	4000	8000	12000	16000	16000

4)



2.44 / (G4F-AD2A )

1)

(1)

$$= \frac{-}{8000} \times 1000(\text{mV})$$

)

$$\begin{aligned} &: 0\text{V} \quad \quad \quad : -10\text{V} \\ &= \frac{0 - (-10)}{8000} \times 1000(\text{mV}) = 1.25(\text{mV}) \end{aligned}$$

(2)

$$= \frac{-}{8000} \times 1000(\mu\text{A})$$

)

$$\begin{aligned} &: 0\text{mA} \quad \quad \quad : -20\text{mA} \\ &= \frac{0 - (-20)}{8000} \times 1000(\mu\text{A}) = 2.5(\mu\text{A}) \end{aligned}$$

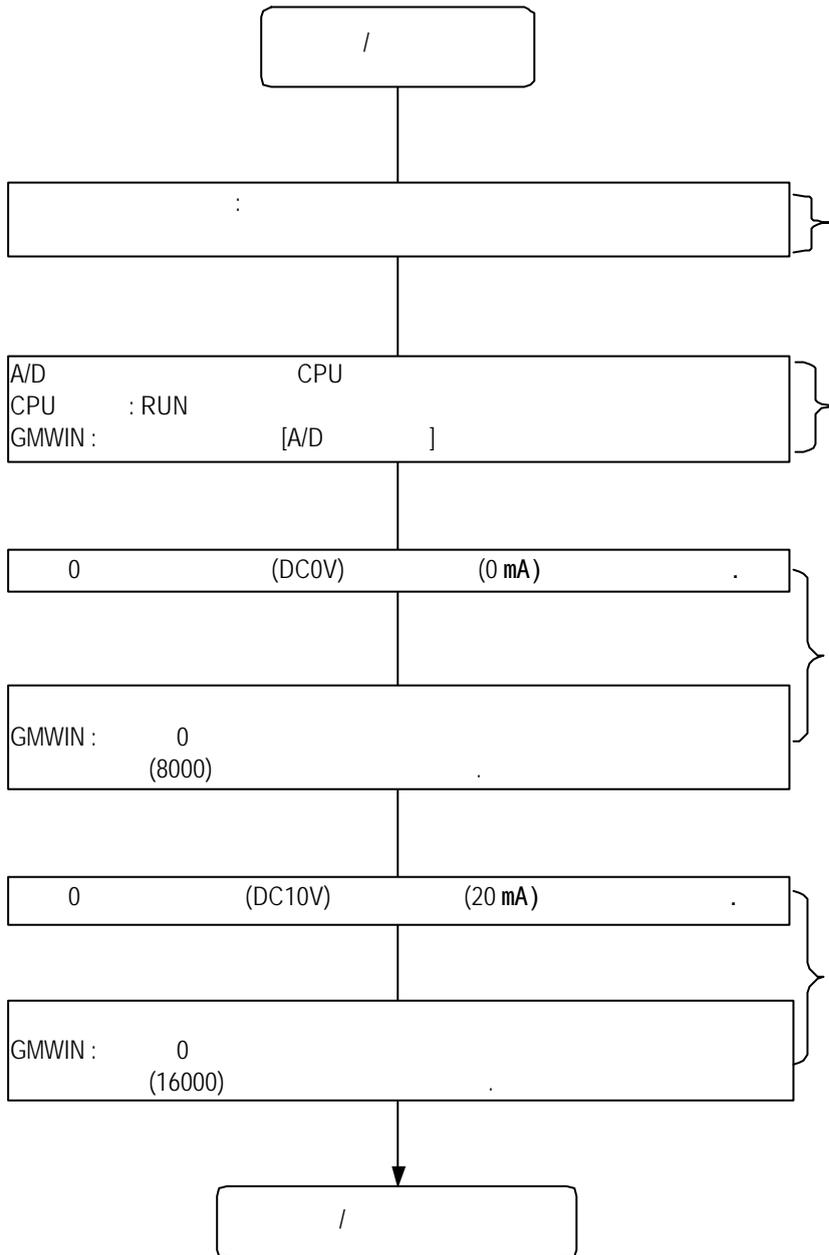
2)

/

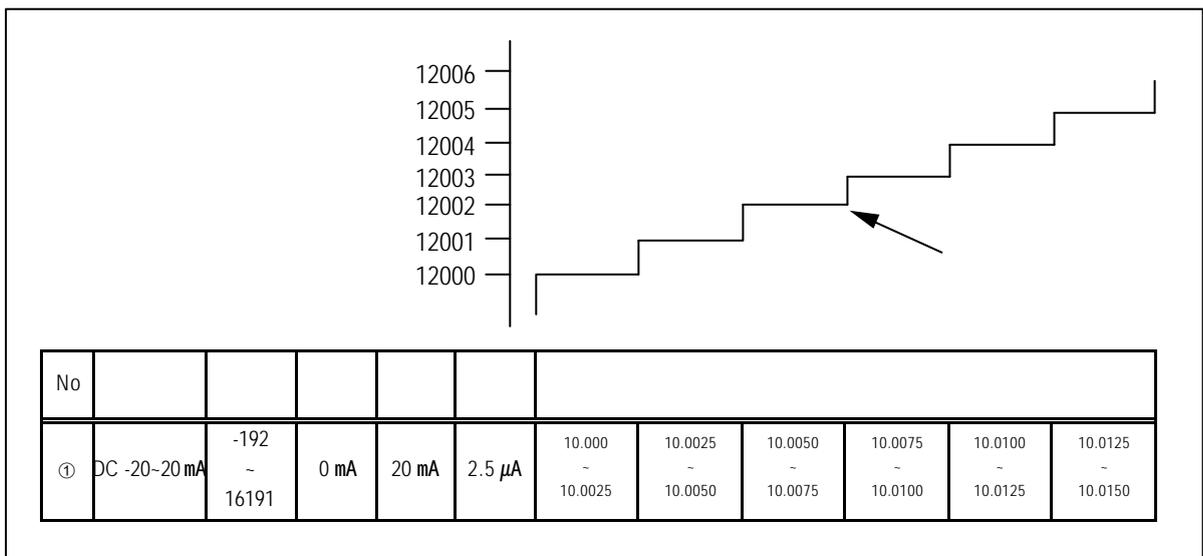
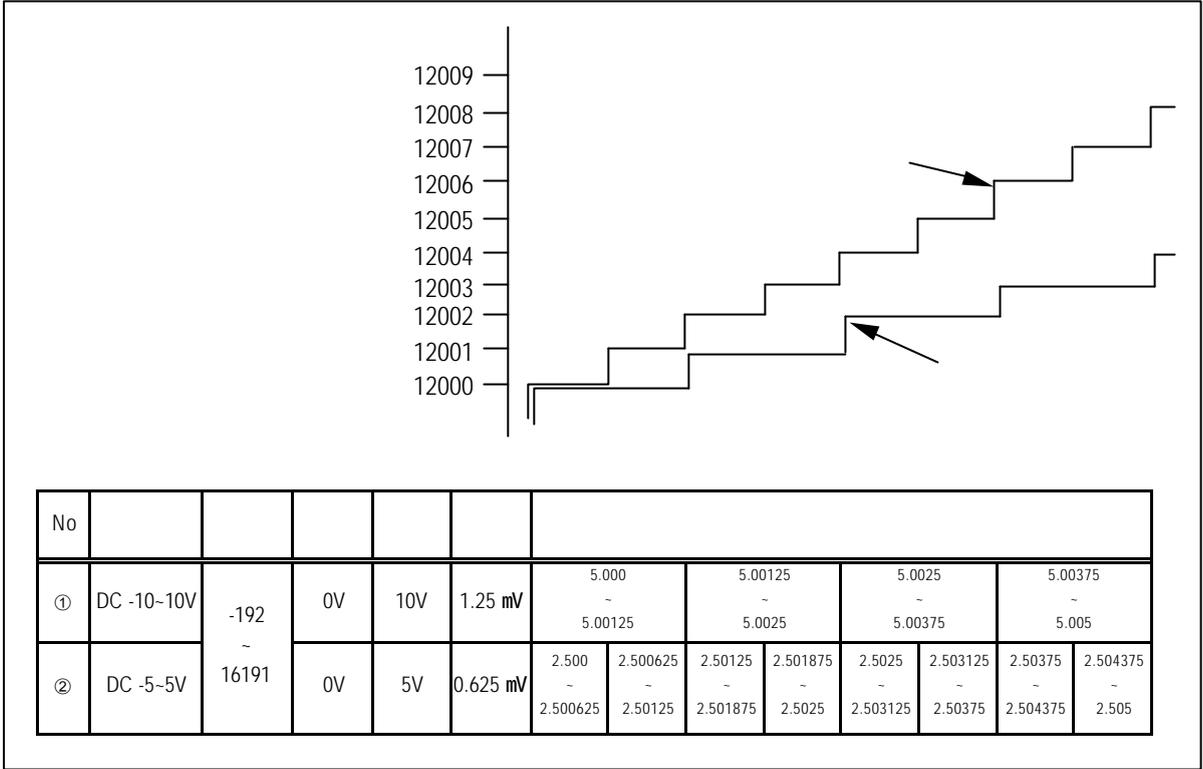
1

$$\frac{-}{8000} \leftarrow$$

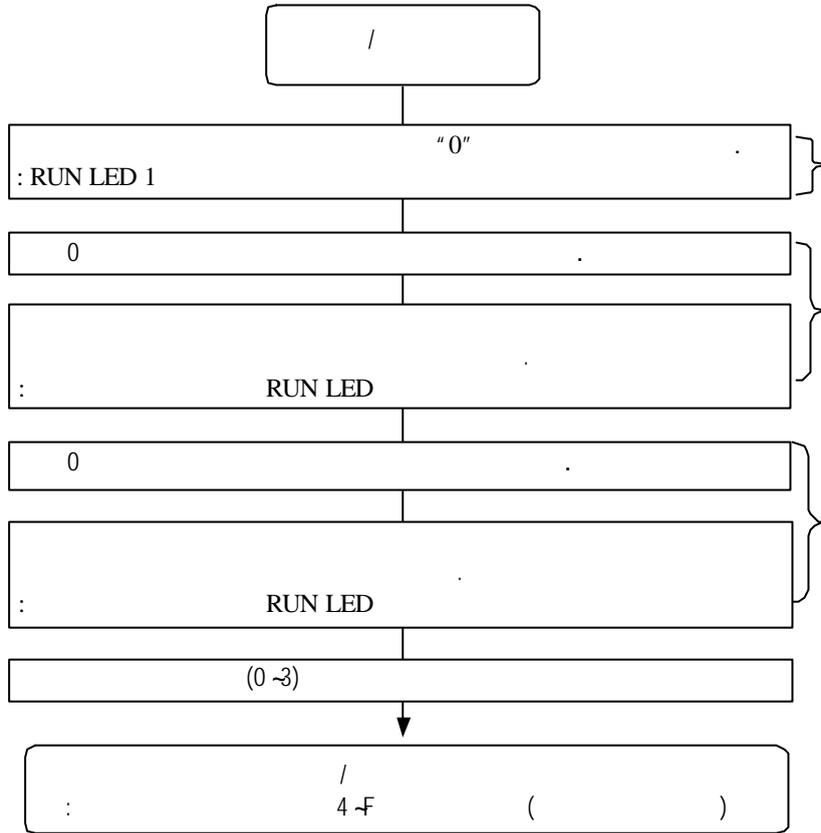
- 3) /  
 (1) G3F-AD4A /  
 가) /  
 / 16 .



) /

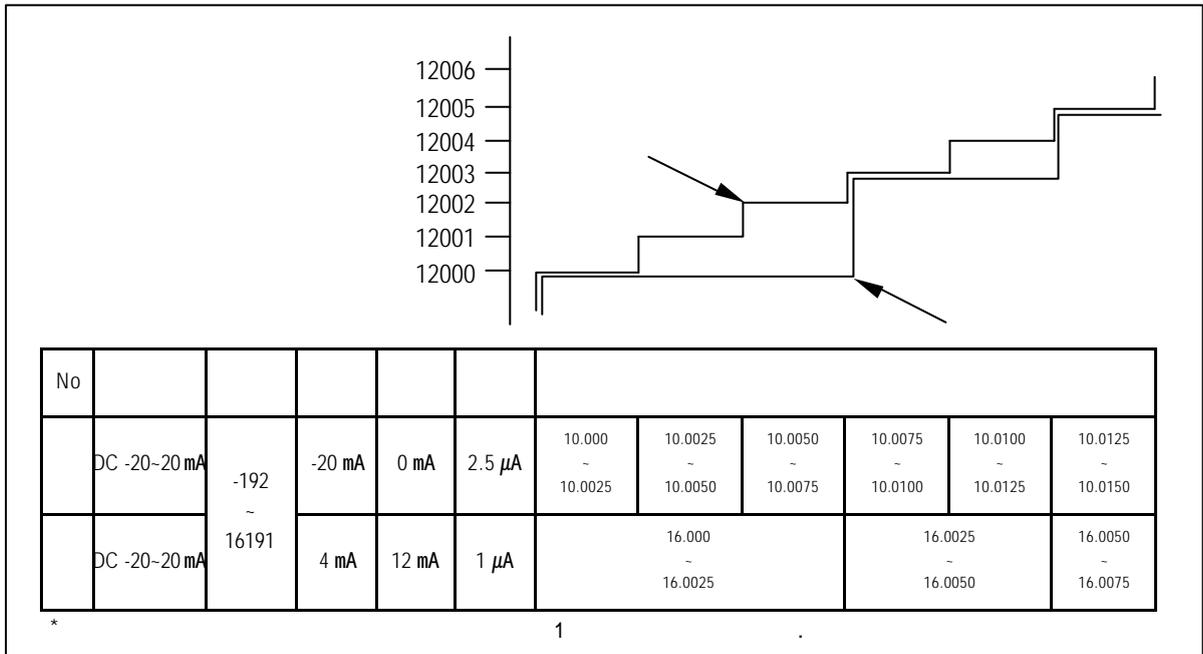
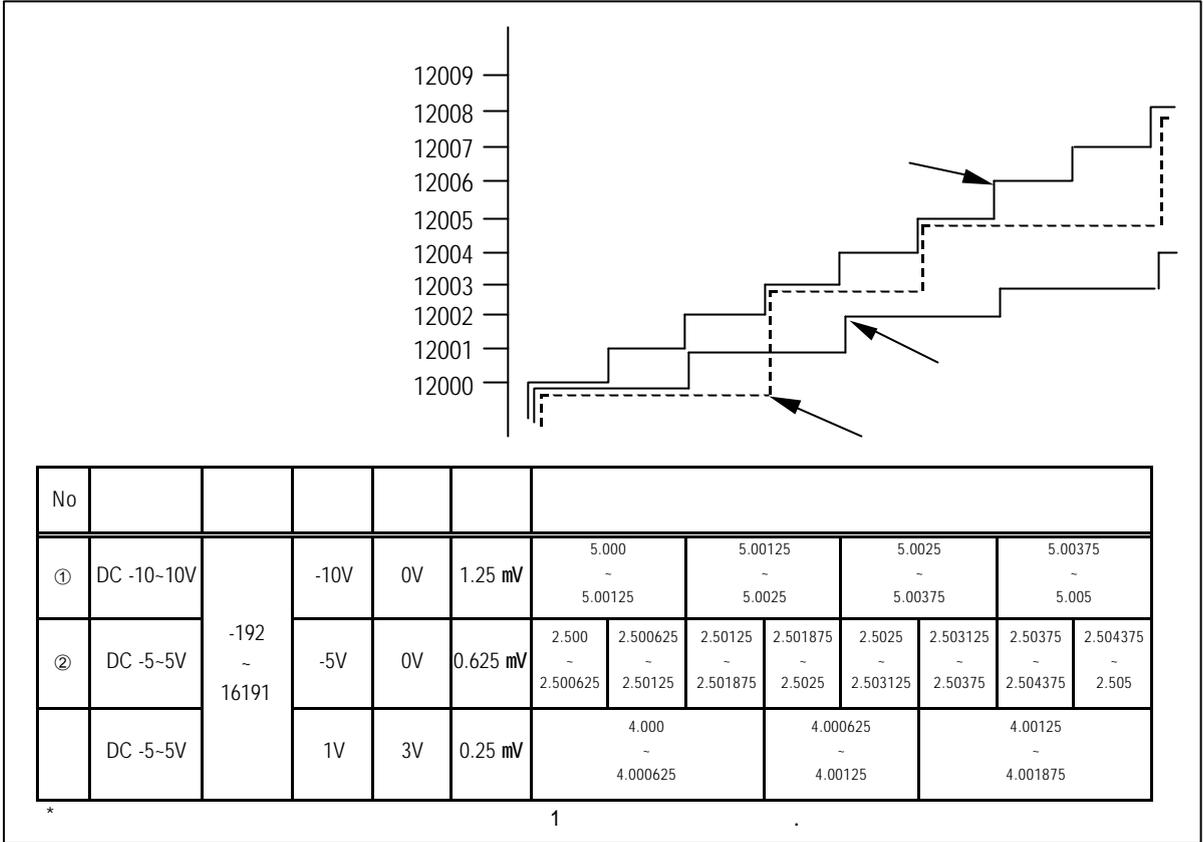


(2) G4F-AD2A /  
 가) /  
 /

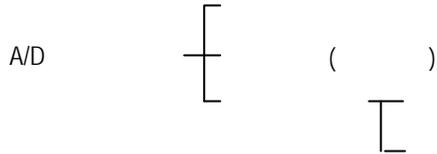


1.			
2.		G4F-AD2A	Of
3.	(Test)		AD
4.	/	DC-10 ~0 ~10V	DC -20 ~0 ~20mA
5.			/ 가
6.	3.2.2 *5		( → → )
	/		

) /



2.5 AD



2.5.1

( )

$$PVfn = (1-\alpha) \times PVn + \alpha \times PVfn_{-1}$$

- PVfn :
- PVn : A/D
- PVfn<sub>-1</sub> :
- α : (0.01 ~0.99)

1 ~99

1) G3F-AD4A/G4F-AD2A

- : DC-10V, : DCOV  
( : DC-10 ~ 10V, : -192 ~16191)
- -10V @ -5V @ 0V @ 5V , α

a					
0.01	0	3960	7960	11960	1%
0.5	0	2000	5000	8500	50%
0.99	0	40	120	239	99%

2) G3F-AD4B

- : DC1 ~5V, : 0 ~16000
- 1V @ 2V @ 3V @ 4V , α

a					
0.01	0	3960	7960	11960	1%
0.5	0	2000	5000	8500	50%
0.99	0	40	120	239	99%

A/D

A/D

A/D

2.5.2 ( )  
AD

( )=( )X( )  
가 3  
 •G3F-AD4A(G3F-AD4B) : 3( ) X 3( ) = 9(ms)  
 •G4F-AD2A : 3( ) X 5( ) = 15(ms)

2.5.3

1)

2)

(1)

가)

- G3F-AD4A(G3F-AD4B) : 96 ~12,000(ms)
- G4F-AD2A : 40 ~20,000(ms)

)

가

$$= \frac{\quad}{X}$$

)

- 4, 120ms
- G3F-AD4A(G3F-AD4B) :  $120 \div (4 \times 3) = 10$
  - G4F-AD2A :  $120 \div (4 \times 5) = 6$

) ( X ) 가  
( X + 1 )

) 4, 150ms

- G3F-AD4A(G3F-AD4B) :  $150 \div (4 \times 3) = 12 + 6 \rightarrow 13$
- G4F-AD2A :  $150 \div (4 \times 5) = 7 + 10 \rightarrow 8$

(2)

가)

- G3F-AD4A(G3F-AD4B, G4F-AD2A) : 2 ~4,000( )

)

= X X

) 4, 가 50

- G3F-AD4A(G3F-AD4B) :  $50 \times 4 \times 3 = 600ms$
- G4F-AD2A :  $50 \times 4 \times 5 = 1000ms$

3

3.1

3.1.1

가

1)

- 가
- 가
- 가
- 가
- 가 0-55

2)

- 가 PLC 가 가
- (Panel)
- 50mm
- 

3.1.2

A/D

1)

2)

PCB

3)

가

4)

3.2

3.2.1

1) A/D

2)

AWG22(0.3mm<sup>2</sup>)

3)

가

4)

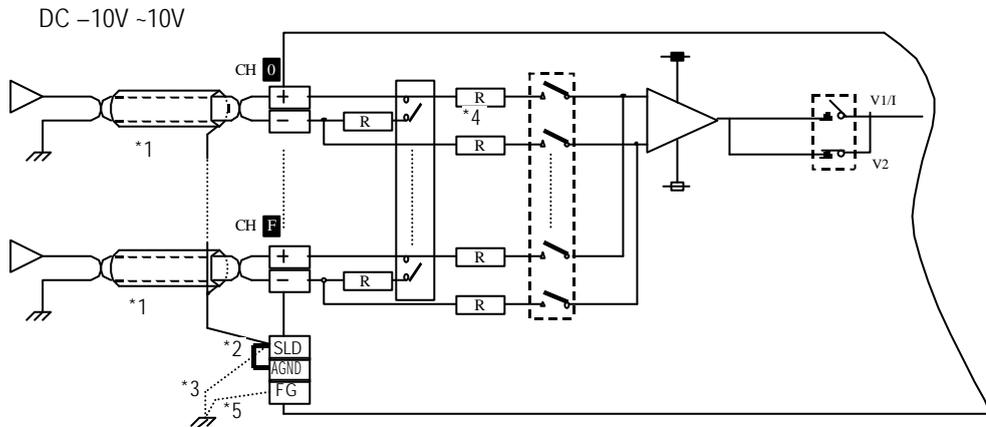
가

5)

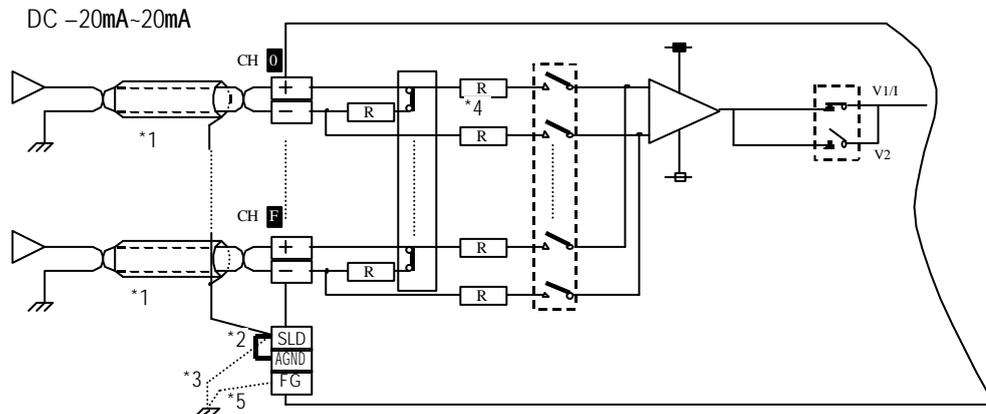
3.2.2

1) G3F-AD4A

(1)



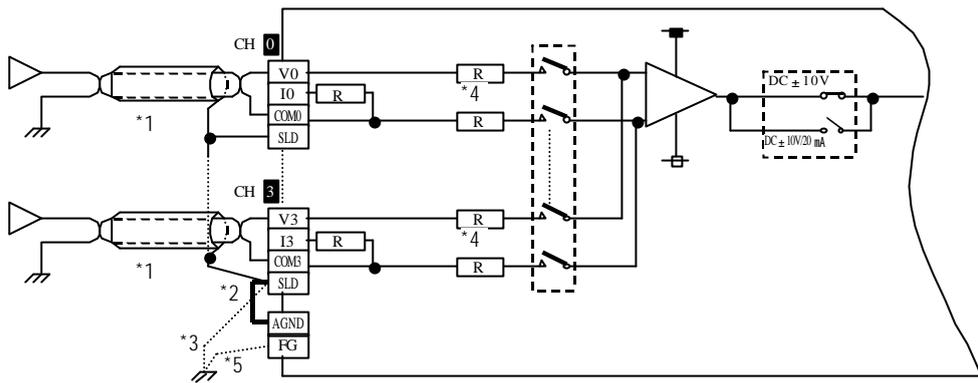
(2)



2) G4F-AD2A

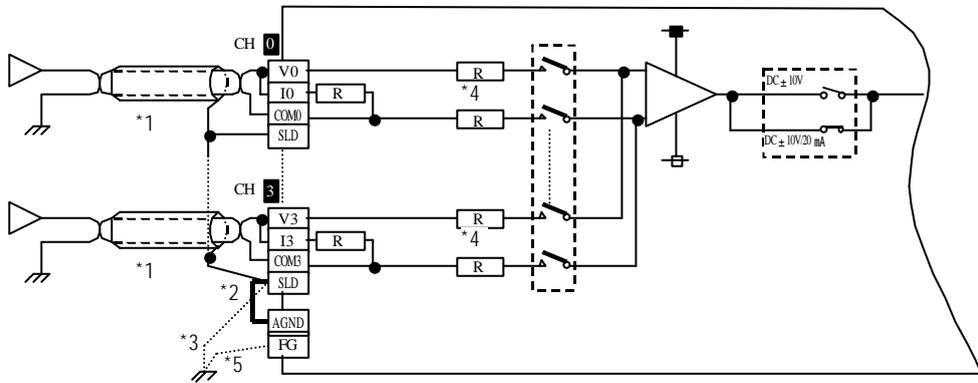
(1)

DC -10V ~10V



(2)

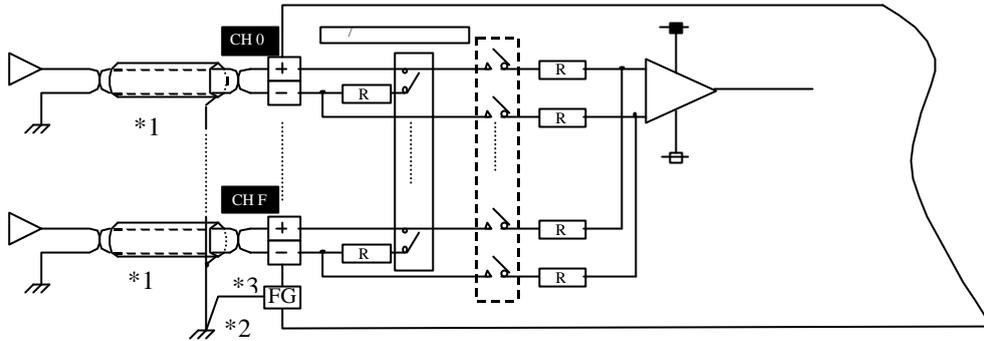
DC -20mA~20mA



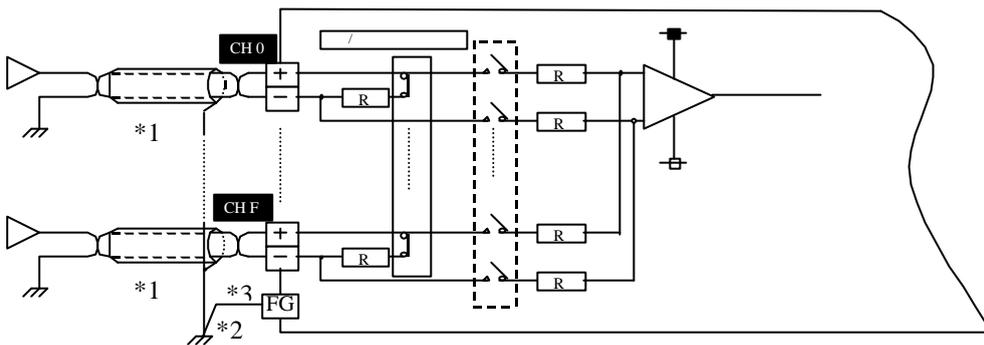
- \*1 : 2
- \*2 : SLD            AGND
- \*3 : 가                SLD            FG
- \*4 :
- \*5 : 가                FG                    가

## 3) G3F-AD4B

(1)



(2)



\*1 : 2

\*2 : 가

\*3 : 가

FG

4

GMWIN

A/D

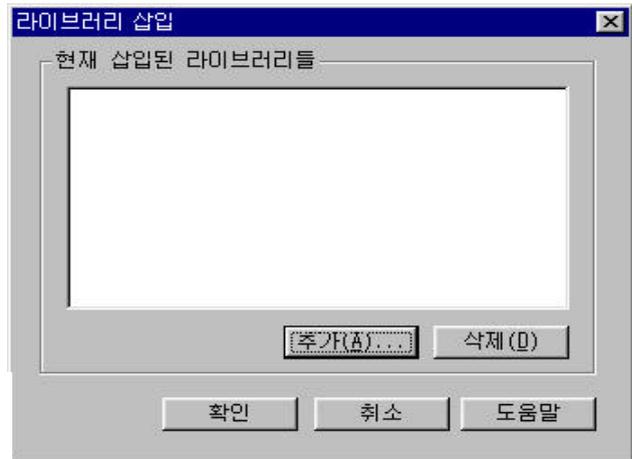
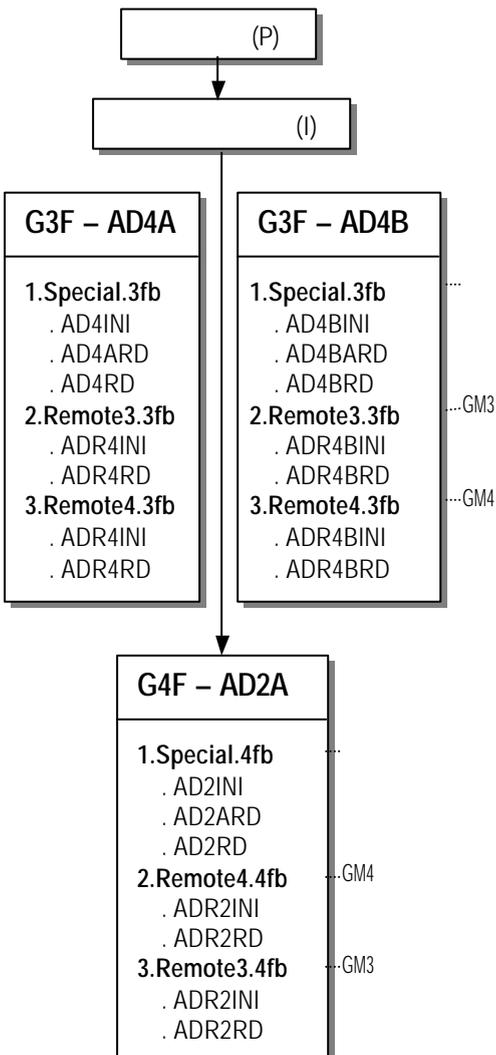
No	G3F-AD4A		G4F-AD2A		G3F-AD4B		
1	AD4INI	ADR4INI	AD2INI	ADR2INI	AD4BINI	ADR4BINI	
2	AD4ARD	ADR4RD	AD2ARD	ADR2RD	AD4BARD	ADR4BRD	A/D ( )
3	AD4RD	-	AD2RD	-	AD4BRD	-	A/D ( )

4.1 GMWIN A/D

GMWIN

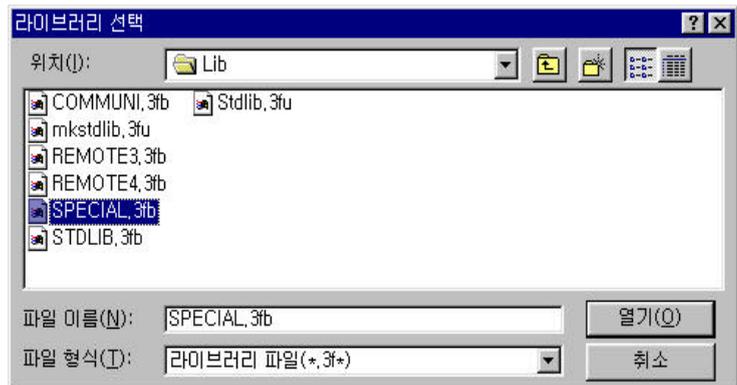
가

가



가(A)

GMWIN 3.1 (G3F-AD4A )



4.2

4.2.1 (G3F-AD4A : AD4INI , G4F-AD2A : AD2INI, G3F-AD4B : AD4BINI)

A/D

A/D

Data Type,

			Datatype	
<b>G3F-AD4A</b> <b>(G4F-AD2A)</b> [ AD4INI (AD2INI) - REQ DONE - BASE STAT - SLOT ACT - CH - DATA TYPE - FILT _EN - FILT _VAL - AVG_ EN - AVG_ SEL - NUM/ TIME                 ]		REQ	BOOL	"0" "1"
		BASE	USINT	A/D : GM1 (0 31), GM2 (0 7), GM3/4 (0 3)
		SLOT	USINT	A/D : 0 7
		CH	BOOL [Array] <sup>1</sup>	"0" "1"
		IN_ SEL <sup>3</sup>	BOOL [Array]	"0" "1" ( / )
		DATA TYPE	BOOL [Array] <sup>1</sup>	"0" "1" 가 -192 16191 (G3F-AD4B : 0 16000) 가 -8192 8191 (G3F-AD4B : -8000 8000)
		FILT _EN	BOOL [Array] <sup>2</sup>	"0" "1" 가
		FILT _VAL	USINT [Array] <sup>2</sup>	: 1 99
		AVG_ EN	BOOL [Array] <sup>2</sup>	"0" "1" 가
		AVG_ SEL	BOOL [Array] <sup>2</sup>	"0" "1"
		NUM/ TIME	USINT [Array] <sup>2</sup>	AVG_SEL ( ) (ms) : 2 4000 : G3F-AD4A/G3F-AD4B [ 96 12,000(ms) ] G4F-AD2A [ 40 20,000(ms) ]
		DONE	BOOL	"0" 가 "1" 가 "1"
		STAT	USINT	가
		ACT	BOOL [Array] <sup>1</sup>	"0" "0"

1 : Array	G3F-AD4A : 16, G3F-AD4B: 16, G4F-AD2A : 4	가
2 : Array	G3F-AD4A : 4, G3F-AD4B: 16, G4F-AD2A : 4	
G3F-AD4A	[0] 0, 1, 2, 3	
	[1] 4, 5, 6, 7	
	[2] 8, 9, 10, 11	
	[3] 12, 13, 14, 15	
G4F-AD2A	가	
3 : G3F-AD4B	: Array 16	가

4.2.2 Array (G3F-AD4A : AD4ARD, G4F-AD2A : AD2ARD, G3F-AD4B : AD4BARD)

A/D		A/D		DATA
			Datatype	
G3F-AD4A (G3F-AD4B, G4F-AD2A)  AD4ARD (AD4BARD, AD2ARD) [ REQ DONE BASE STAT SLOT ACT CH DATA ]	REQ	BOOL		"0" "1"
	BASE	USINT	A/D	: GM1 (0 31), GM2 (0 7), GM3/4 (0 3)
	SLOT	USINT	A/D	: 0 7
	CH	BOOL [Array] <sup>1</sup>	"0" "1"	
	DONE	BOOL		"1" 가 "1"
	STAT	USINT		가 1.1.3
	ACT	BOOL [Array] <sup>1</sup>	"0" "0"	"1"
	DATA	INT [Array] <sup>1</sup>	A/D	

1 : Array G3F-AD4A : 16, G3F-AD4B : 16, G4F-AD2A : 4 가

4.2.3 Array (G3F-AD4A : AD4ARD, G4F-AD2A : AD2ARD, G3F-AD4B : AD4BRD)

A/D		A/D		DATA
			Datatype	
G3F-AD4A (G3F-AD4B, G4F-AD2A)  AD4RD (AD4BRD, AD2RD) [ REQ DONE BASE STAT SLOT ACT CH DATA ]	REQ	BOOL		"0" "1"
	BASE	USINT	A/D	: GM1 (0 31), GM2 (0 7), GM3/4 (0 3)
	SLOT	USINT	A/D	: 0 7
	CH	USINT		G3F-AD4A/G3F-AD4B : 0 15, G4F-AD2A : 0 3
	DONE	BOOL		"1" 가 "1"
	STAT	USINT		가 1.1.3
	DATA	INT	A/D	

4.3

4.3.1. (G3F-AD4A : ADR4INI, G4F-AD2A : ADR2INI, G3F-AD4B : ADR4BINI)

A/D

I/O

, A/D

Data Type,

		Datatype	
<b>G3F-AD4A</b> <b>(G4F-AD2A)</b> ADR4INI (ADR2INI) [REQ NDR NET_NO ERR ST_NO STAT BASE ACT SLOT CH DATA TYPE FILT_EN FILT_VAL AVG_EN AVG_SEL NUM TIME]	REQ	BOOL	Edge "0" "1" (  Edge)
	NET_NO	USINT	: 0 7
	ST_NO	USINT	I/O : 0 63
	BASE	USINT	A/D : 0 3
	SLOT	USINT	A/D : 0 7
	CH	BOOL [Array] <sup>1</sup>	"0" "1"
	IN_SEL <sup>3</sup>	BOOL [Array]	"0" ( / ) "1"
	DATA TYPE	BOOL [Array] <sup>1</sup>	"0" 가 -192 16191 (G3F-AD4B : 0 16000) "1" 가 -8192 8191 (G3F-AD4B : -8000 8000)
	FILT_EN	BOOL [Array] <sup>2</sup>	"0" 가 "1" 가
	FILT_VAL	USINT [Array] <sup>2</sup>	: 1 99
	AVG_EN	BOOL [Array] <sup>2</sup>	"0" 가 "1" 가
	AVG_SEL	BOOL [Array] <sup>2</sup>	"0" "1"
	NUM/TIME	USINT [Array] <sup>2</sup>	AVG_SEL ( ) (ms) : 2 4000 : G3F-AD4A/G3F-AD4B [ 96 12,000(ms) ] G4F-AD2A [ 40 20,000(ms) ]
	<b>G3F-AD4B</b> ADR4BINI [REQ NDR NET_NO ERR ST_NO STAT BASE ACT SLOT CH IN_SEL DATA TYPE FILT_EN FILT_VAL AVG_EN AVG_SEL NUM TIME]	NDR	BOOL
ERR		BOOL	가 "1" 가 "0" 가
STAT		USINT	1.13 가
ACT		BOOL [Array] <sup>1</sup>	"0" "0" "1"

1 : Array G3F-AD4A : 16, G3F-AD4B: 16, G4F-AD2A : 4 가  
 2 : Array G3F-AD4A : 4, G3F-AD4B: 16, G4F-AD2A : 4  
 G3F-AD4A [0] 0, 1, 2, 3  
 [1] 4, 5, 6, 7  
 [2] 8, 9, 10, 11  
 [3] 12, 13, 14, 15  
 G4F-AD2A 가  
 3 : G3F-AD4B : Array 16 가

4.3.2. (G3F-AD4A : ADR4ARD, G4F-AD2A : ADR2ARD, G3F-AD4B : ADR4BARD )

A/D

A/D

DATA

		Datatype	
G3F-AD4A (G3F-AD4B, G4F-AD2A)  ADR4ARD (ADR4BRD, ADR2ARD) REQ      NDR NET_      ERR NO        STAT ST_N      ACT O         DATA SLOT CH	REQ	BOOL	Edge "0" "1" (  Edge)
	NET_NO	USINT	: 0 7
	ST_NO	USINT	I/O : 0 63
	BASE	USINT	A/D : 0 3
	SLOT	USINT	A/D : 0 7
	CH	BOOL [Array] <sup>1)</sup>	"0" "1"
	NDR	BOOL	"0" "1" "1"
	ERR	BOOL	가 "1" "0" 가
	STAT	USINT	가 1.1.3
	ACT	BOOL [Array] <sup>1)</sup>	"0" "0" "1"
DATA	INT [Array] <sup>1)</sup>	A/D	

1 : Array      G3F-AD4A :16, G3F-AD4B: 16, G4F-AD2A : 4 ,      가

4.4

STAT

STAT					
				Array	
0					
1		가			(4.2 )
2		H/W			A/S
3		가			A/D
4		A/D			A/D
5		A/D			A/D
6		가			
7		A/D H/W			A/S
8		A/D			A/S
9					
10		(Test)			(G4F-AD2A )
11					1 99
17		/			[ :2 4000 , :G3F-AD4A, G3F-AD4B (96 12,000ms)/G4F-AD2A(40 20,000ms)]
128		H/W			
129		가			(4.2 )
131		가			A/D
133		A/D			A/D
135		A/D H/W			A/S
136		A/D			A/S
137					
138		(Test)			(G4F-AD2A )
144					1 99
145					[ :2 4000 , :G3F-AD4A, G3F-AD4B (96 12,000ms)/G4F-AD2A(40 20,000ms)]

## 5 GM

### 5.1 A/D

1)

GM3-PA1A	GM3-CPUA	G3F-AD4A	G3Q-RY4A
----------	----------	----------	----------

2)

- (1) : 0, 2, 4
- (2) Data Type : -192 ~ 16191( 0, 2, 4)
- (3) : 0
- (4) : 0 = 50
- (5) : 2, 4
- (6) : 2 = 100
- (7) : 4 = 200 ms
- (8) :

3)

- (1) 0 12,000 %Q0.1.0 On
- (2) 2 13,600 %Q0.1.1 On
- (3) 4 12,000 13,600 %Q0.1.2 On
- (4) 4 12,800 %Q0.1.3 On

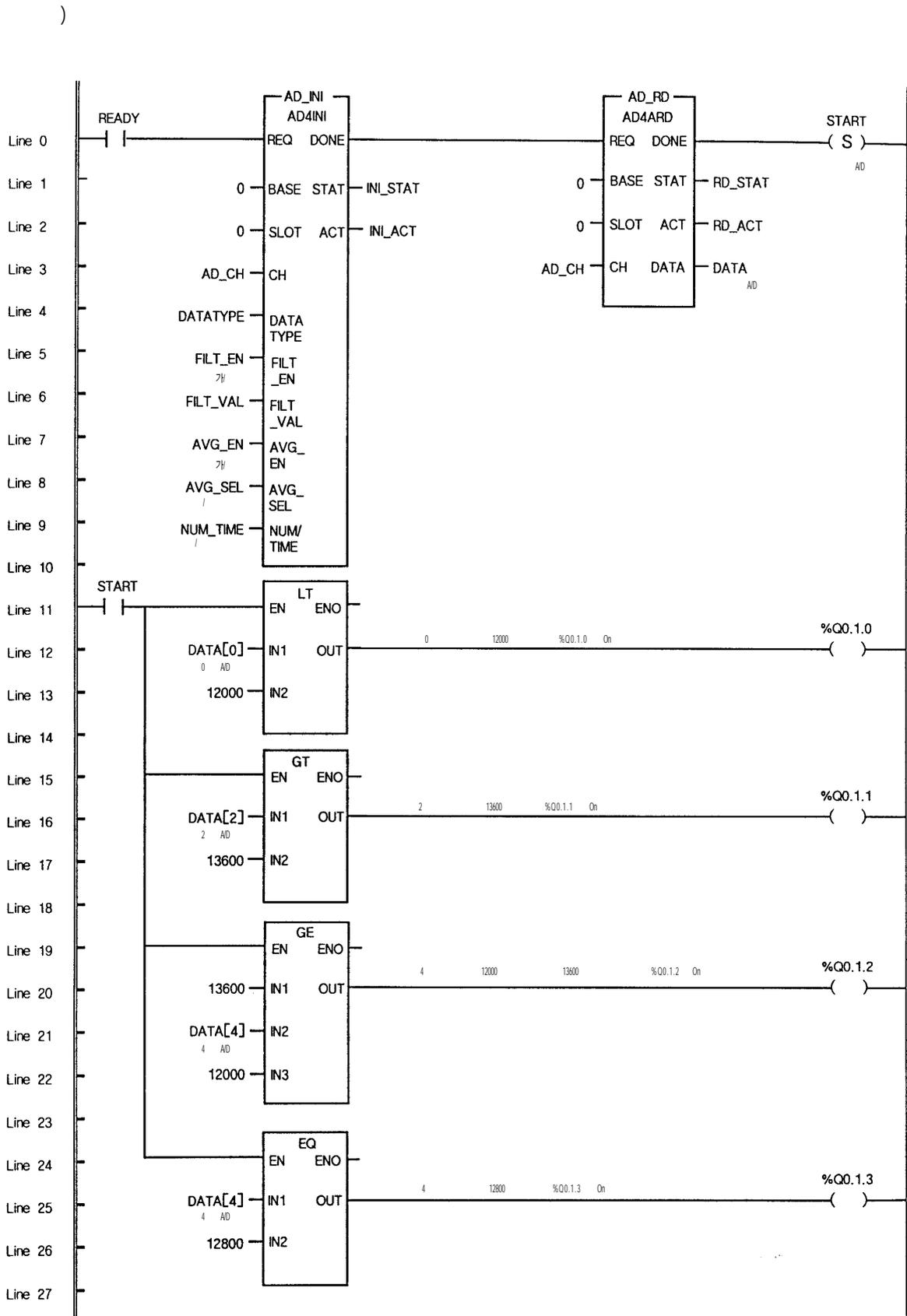
4)

(1)G3F-AD4A  
가)

<b>G3F-AD4A</b>			
1) (3)	0	0 ~ 3	가
2) (4)	0	0 ~ 3	가 50
3) (5)	2 4	0 ~ 3, 4 ~ 7	가 가
4) (6)	2	100	0 ~ 3 가 100
5) (7)	4	200 ms	4 ~ 7 가 200 ms

)

Variable Name	Var_Kind	Data Type	(AT Address) (Initial Value)
AD_CH	: VAR	: ARRAY [0..15] OF BOOL	:= { 1,0,1,0,1,0,0,0,0,0,0,0,0,0,0 }
AD_INI	: VAR	: FB instance	
AD_RD	: VAR	: FB instance	
AVG_EN	: VAR	: ARRAY [0..3] OF BOOL	:= { 1,1,0,0 }
AVG_SEL	: VAR	: ARRAY [0..3] OF BOOL	:= { 0,1,0,0 }
DATA	: VAR	: ARRAY [0..15] OF INT	
DATATYPE	: VAR	: ARRAY [0..15] OF BOOL	:= { 0,0,0,0,0,0,0,0,0,0,0,0,0,0,0 }
FILT_EN	: VAR	: ARRAY [0..3] OF BOOL	:= { 1,0,0,0 }
FILT_VAL	: VAR	: ARRAY [0..3] OF USINT	:= { 50,0,0,0 }
INI_ACT	: VAR	: ARRAY [0..15] OF BOOL	
INI_STAT	: VAR	: USINT	
NUM_TIME	: VAR	: ARRAY [0..3] OF UNIT	:= { 100,200,0,0 }
RD_ACT	: VAR	: ARRAY [0..15] OF BOOL	
RD_STAT	: VAR	: USINT	
READY	: VAR	: BOOL	
START	: VAR	: BOOL	



(2)G3F-AD4B

가)

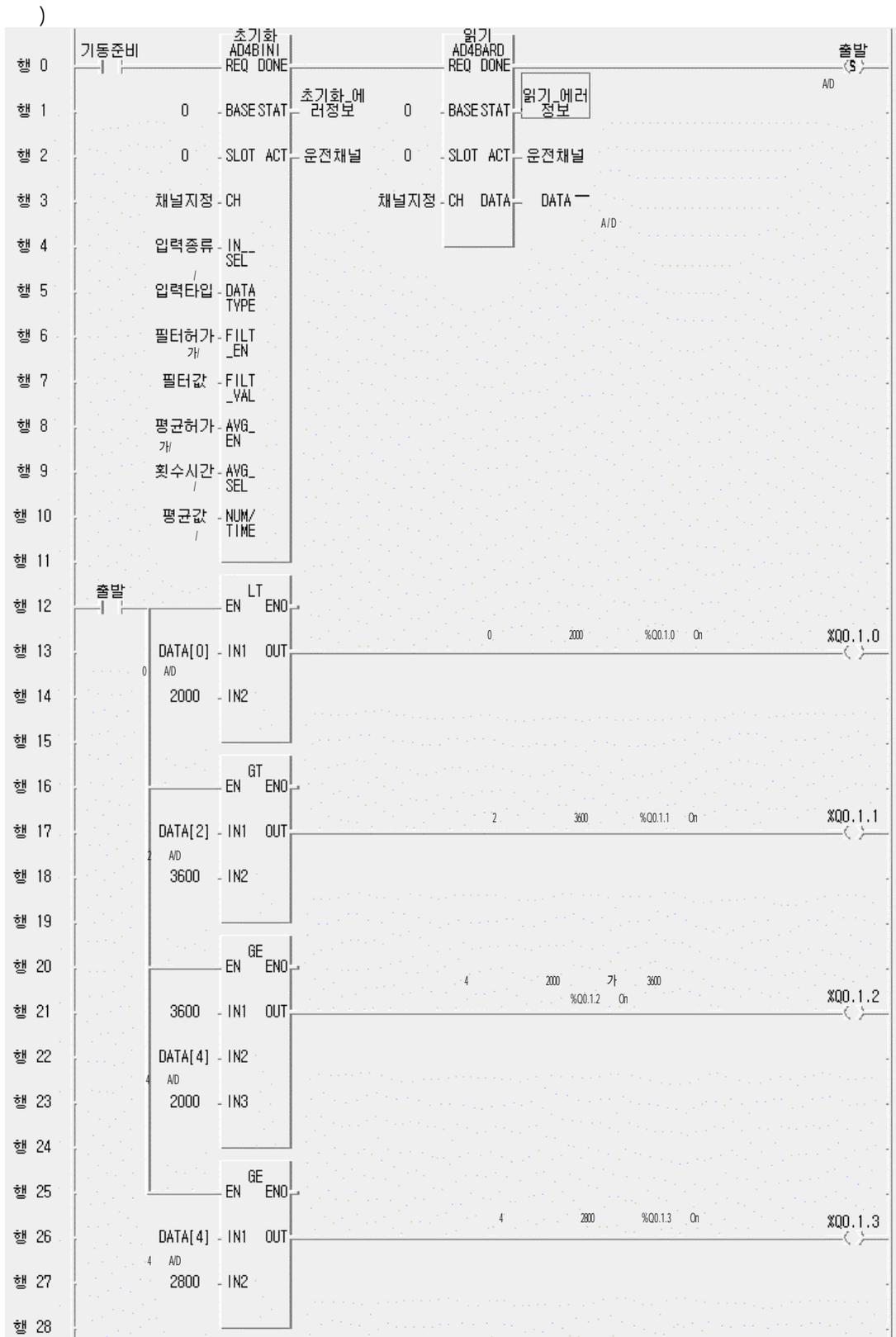
Variable Name	Var_Kind	Data Type	(AT Address) (Initial Value)
	: VAR	: BOOL	
	: VAR	: ARRAY [0..15] OF BOOL	
	: VAR	: FB instance	
-	: VAR	: USINT	
	: VAR	: ARRAY [0..15] OF BOOL	: = { 0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0 }
1	: VAR	: ARRAY [0..15] OF BOOL	: = { 0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0 }
	: VAR	: ARRAY [0..15] OF BOOL	: = { 0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0 }
	: VAR	: FB instance	
-	: VAR	: USINT	
	: VAR	: BOOL	
2	: VAR	: ARRAY [0..15] OF USINT	: = { 0,0,100,0,200,0,0,0,0,0,0,0,0,0,0,0,0 }
가	: VAR	: ARRAY [0..15] OF BOOL	: = { 0,0,1,0,1,0,0,0,0,0,0,0,0,0,0,0 }
	: VAR	: ARRAY [0..15] OF USINT	: = { 50,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0 }
가	: VAR	: ARRAY [0..15] OF BOOL	: = { 1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0 }
6	: VAR	: ARRAY [0..15] OF BOOL	: = { 1,0,1,0,1,0,0,0,0,0,0,0,0,0,0,0 }
DATA	: VAR	: ARRAY [0..15] OF INT	

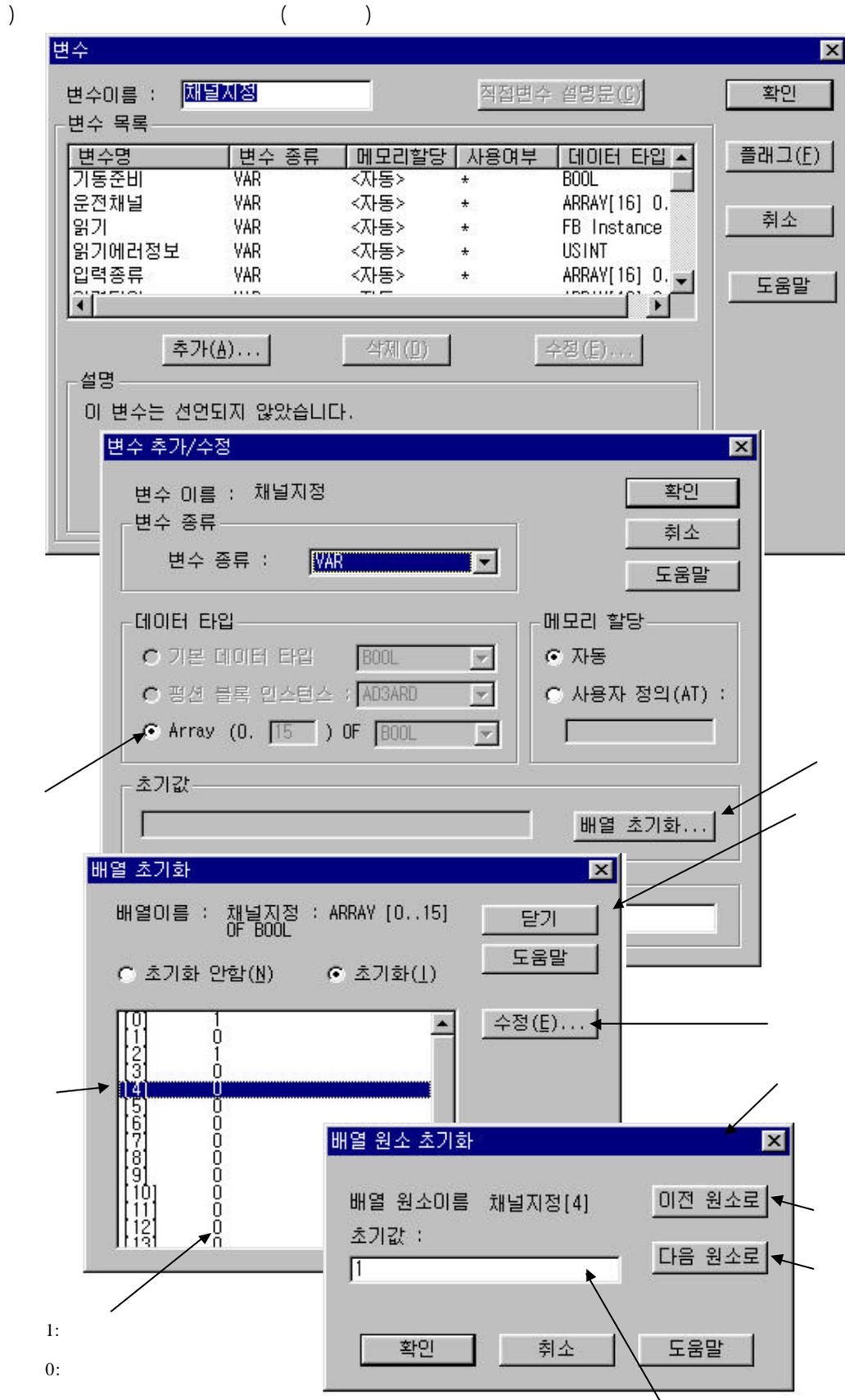
) G3F-AD4A G3F-AD4B

가

1 G3F-AD4B  
 2, 3, 4, 5, 6  
 G3F-AD4A 4  
 G3F-AD4B

		G3F-AD4A		G3F-AD4B		
			Data Type		Data Type	
1	IN_SEL	-	-		ARRAY [0..15] OF BOOL	G3F-AD4B
2	FILT_EN	FILT_EN	ARRAY [0..3] OF BOOL	가	ARRAY [0..15] OF BOOL	
3	FILT_VAL	FILT_VAL	ARRAY [0..3] OF USINT		ARRAY [0..15] OF USINT	
4	AVG_EN	AVG_EN	ARRAY [0..3] OF BOOL	가	ARRAY [0..15] OF BOOL	
5	AVG_SEL	AVG_SEL	ARRAY [0..3] OF BOOL		ARRAY [0..15] OF BOOL	
6	NUMTIME	NUMTIME	ARRAY [0..3] OF USINT		ARRAY [0..15] OF USINT	



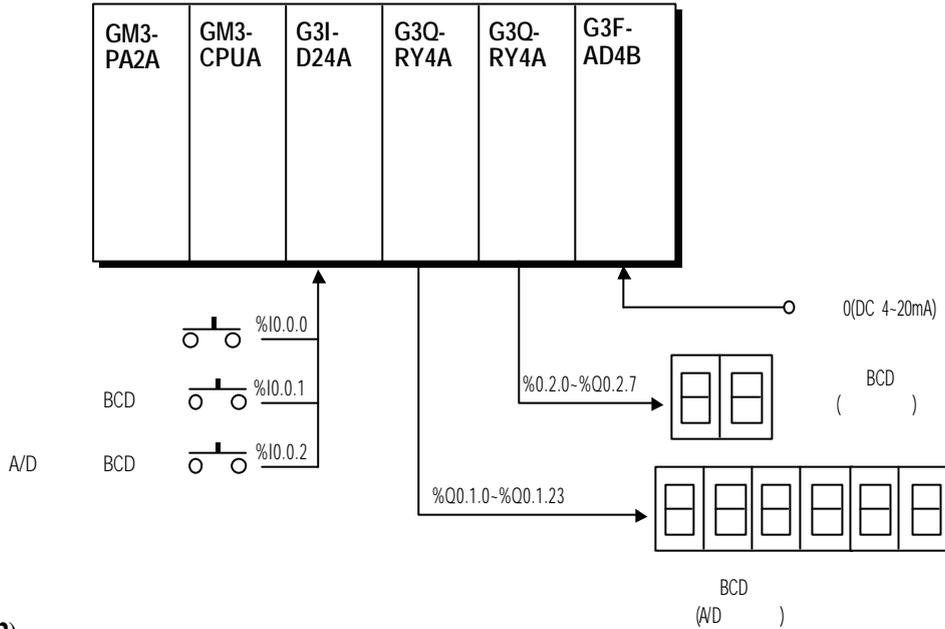


16

1:  
0:

5.2 A/D BCD

1)



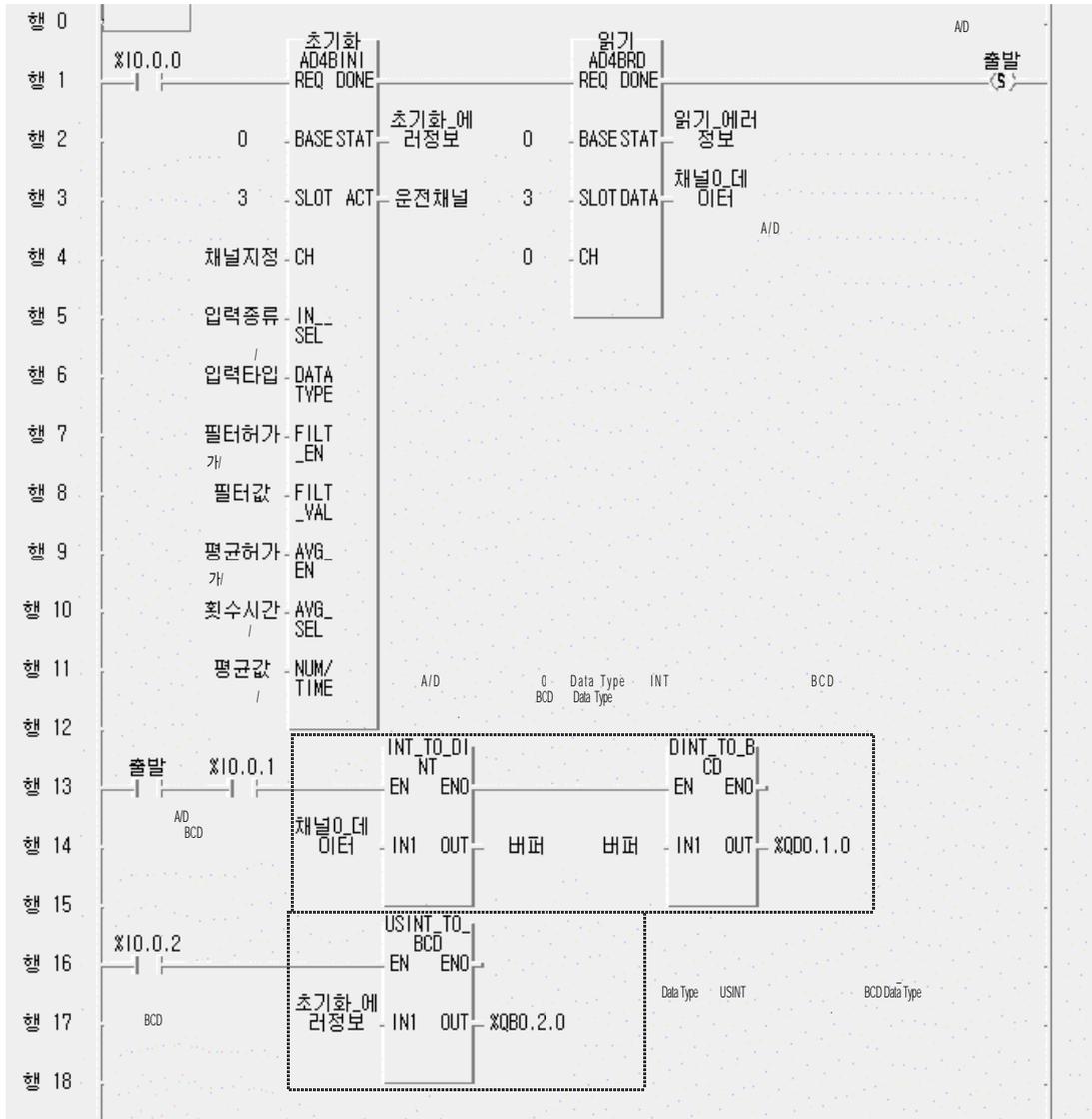
2)

- (1) : 0
- (2) :
- (3) : 50

3)

- (1) %I0.0 Ch AD
- (2) %I0.1 Ch AD BCD (%Q0.1.0-%Q0.1.23)
- (3) %I0.2 Ch BCD (%Q0.2.0-%Q0.2.7)

4)

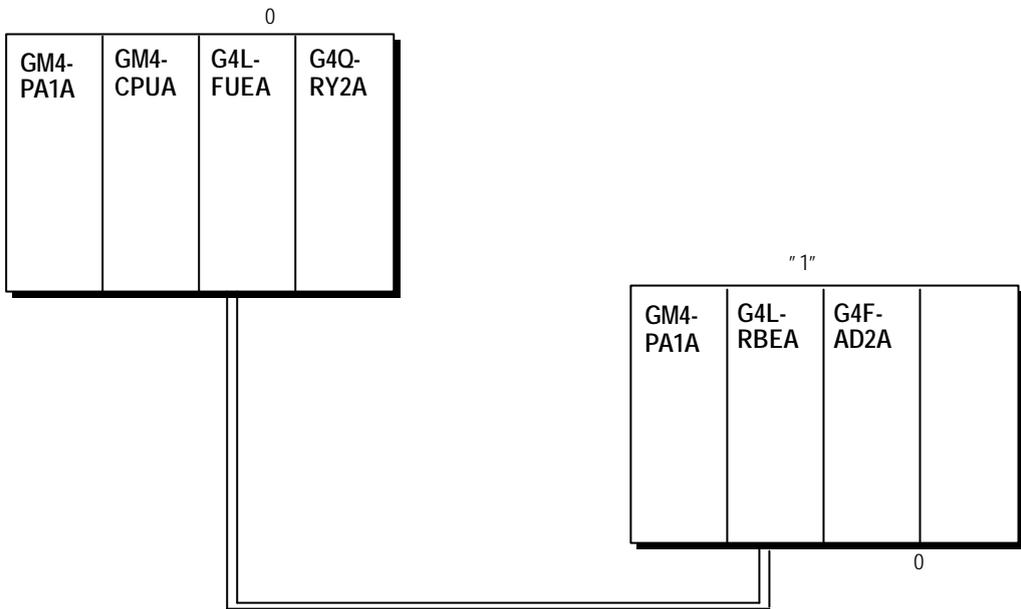


5)

Variable Name	Var_Kind	Data Type	(AT Address) (Initial Value)
	: VAR	: DINT	
	: VAR	: ARRAY [0..15] OF BOOL	
	: VAR	: FB instance	
-	: VAR	: USINT	
	: VAR	: ARRAY [0..15] OF BOOL	: = { 0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0 }
	: VAR	: ARRAY [0..15] OF BOOL	: = { 0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0 }
0_	: VAR	: INT	
	: VAR	: ARRAY [0..15] OF BOOL	: = { 1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0 }
	: VAR	: FB instance	
-	: VAR	: USINT	
	: VAR	: BOOL	
	: VAR	: ARRAY [0..15] OF USINT	: = { 0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0 }
가	: VAR	: ARRAY [0..15] OF BOOL	: = { 1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0 }
	: VAR	: ARRAY [0..15] OF USINT	: = { 50,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0 }
가	: VAR	: ARRAY [0..15] OF BOOL	: = { 0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0 }
	: VAR	: ARRAY [0..15] OF BOOL	: = { 0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0 }

**5.3 I/O A/D**

1)



2)

- (1) A/D 가 : 0
- (2) : -192 ~16191
- (3) : 0 ( : 100 ms)

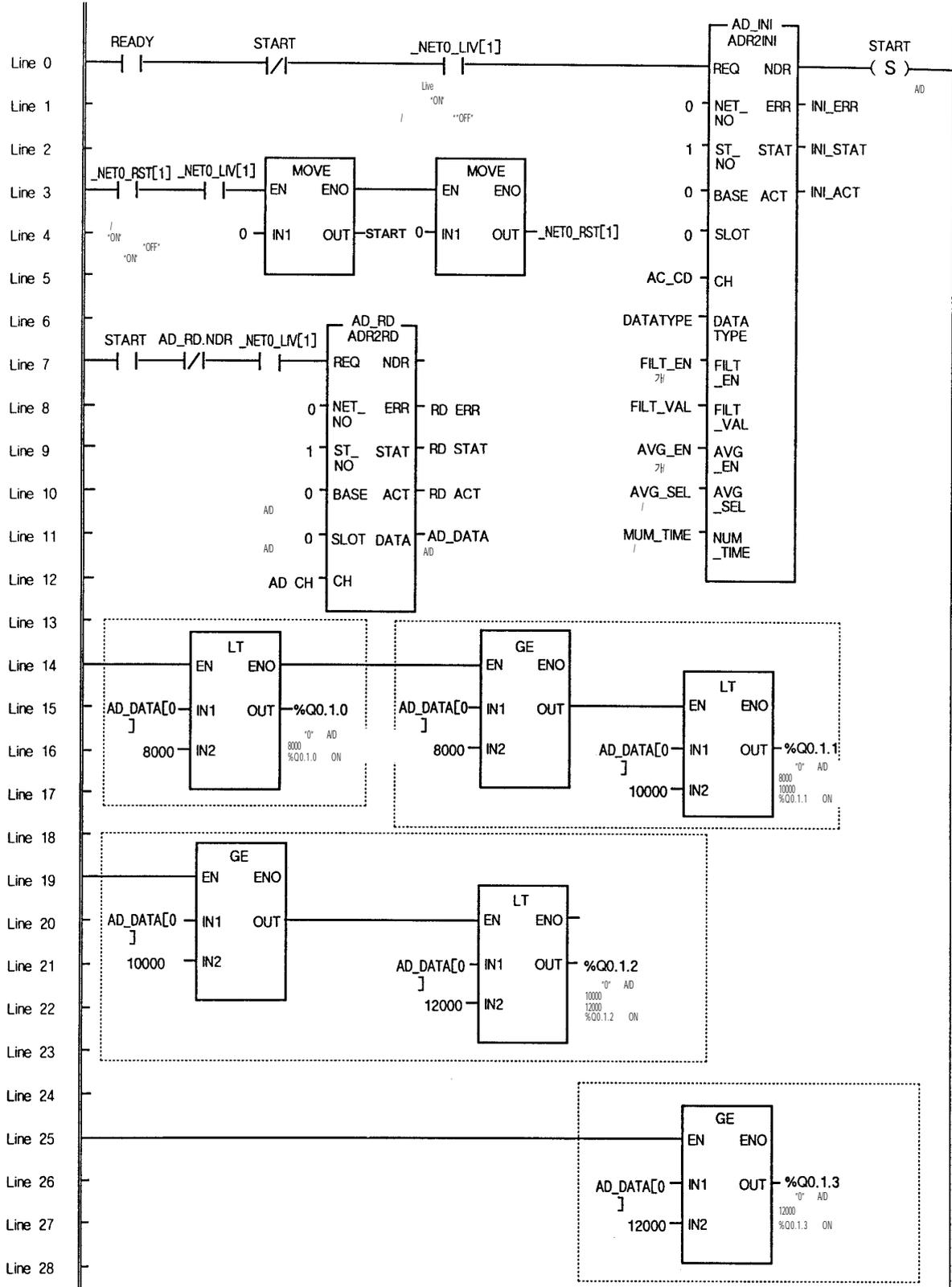
3)

- (1) 0 A/D 8,000 %Q0.1.0 On
- (2) 0 A/D 8,000 10,000 %Q0.1.1 On
- (3) 0 A/D 10,000 12,000 %Q0.1.2 On
- (4) 0 A/D 12,000 %Q0.1.3 On

4)

Variable Name	Var Kind	Data Type	(AT Address) (Initial Value)
AD_CH	: VAR	: ARRAY [0..3] OF BOOL	: = {0,0,0,0}
AD_DATA	: VAR	: ARRAY [0..3] OF INT	
AD_INI	: VAR	: FB Instance	
AD_RD	: VAR	: FB Instance	
AVG_EN	: VAR	: ARRAY [0..3] OF BOOL	: = {1,0,0,0}
AVG_SEL	: VAR	: ARRAY [0..3] OF BOOL	: = {1,0,0,0}
DATATYPE	: VAR	: ARRAY [0..3] OF BOOL	: = {0,0,0,0}
FILT_EN	: VAR	: ARRAY [0..3] OF BOOL	: = {0,0,0,0}
FILT_VAL	: VAR	: ARRAY [0..3] OF USINT	: = {0,0,0,0}
INI_ACT	: VAR	: ARRAY [0..3] OF BOOL	
INI_ERR	: VAR	: BOOL	
INI_STAT	: VAR	: USINT	
NUM_TIME	: VAR	: ARRAY [0..3] OF UINT	: = {1000,0,0,0}
RD_STAT	: VAR	: ARRAY [0..3] OF BOOL	
RD_ERR	: VAR	: BOOL	
RD_STAT	: VAR	: USINT	
READY	: VAR	: BOOL	

5)



6

A/D

PLC CPU

가

6.1

6.1.1 G3F-AD4A

(10 )				
0		On(1) : , Off(0) :		/ 가
1		On(1) : -8192 ~ 8191 Off(0) : -192 ~ 16191	가 -192 ~ 16191	
2		On(1): , Off(0):		
3	0, 1, 2, 3	: 1 ~ 99	"1"	
4	4, 5, 6, 7			
5	8, 9, 10, 11			
6	12, 13, 14, 15			
7		On(1): , Off(0):		
8	/	On(1): , Off(0):		
9	0, 1, 2, 3 /	: 96 ~ 12000 ms : 2 ~ 4000	"96"	
10	4, 5, 6, 7 /			
11	8, 9, 10, 11 /			
12	12, 13, 14, 15 /			
13	SET	On(1): 0 ~ 12 Off(0): 0 ~ 12		
14	0 A/D	-	-	가
15	1 A/D			
16	2 A/D			
17	3 A/D			
18	4 A/D			
19	5 A/D			
20	6 A/D			
21	7 A/D			
22	8 A/D			
23	9 A/D			
24	10 A/D			
25	11 A/D			
26	12 A/D			
27	13 A/D			
28	14 A/D			
29	15 A/D			
30		On(1): , Off(0):	-	
31	0, 1, 2, 3	0 : 16 : 17 : /	-	
32	4, 5, 6, 7			
33	8, 9, 10, 11			
34	12, 13, 14, 15			

612G3F-AD4B

(10 )				
0		On(1) : , Off(0) :		/ 가
1		On(1) : , Off(0) :		
2		On(1) : - 8000 ~ 8000, Off(0) : 0 ~ 16000	0 ~ 16000	
3		On(1) : , Off(0) :		
4	0		"1"	
5	1			
6	2			
7	3			
8	4			
9	5			
10	6			
11	7			
12	8			
13	9			
14	10			
15	11			
16	12			
17	13			
18	14			
19	15			
20		On(1) : , Off(0) :		
21	/	On(1) : , Off(0) :		
22	0 /		"96"	
23	1 /			
24	2 /			
25	3 /			
26	4 /			
27	5 /			
28	6 /			
29	7 /			
30	8 /			
31	9 /			
32	10 /			
33	11 /			
34	12 /			
35	13 /			
36	14 /			
37	15 /			
38	SET	"0" On(1) : , "0" Off(0) :		
39	0 A/D		-	가
40	1 A/D			
41	2 A/D			
42	3 A/D			
43	4 A/D			
44	5 A/D			
45	6 A/D			
46	7 A/D			
47	8 A/D			
48	9 A/D			
49	10 A/D			
50	11 A/D			
51	12 A/D			

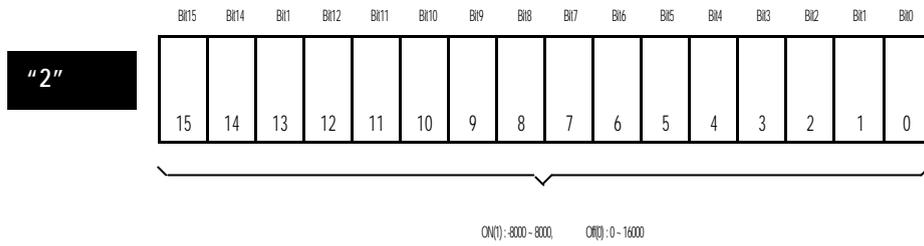
(10 )				
52	13 A/D			가
53	14 A/D			
54	15 A/D	On(1): , Off(0):		
55		On(1): , Off(0): 0: 16: 17: /		
56	0			
57	1			
58	2			
59	3			
60	4			
61	5			
62	6			
63	7			
64	8			
65	9			
66	10			
67	11			
68	12			
69	13			
70	14			
71	15			

6.13. G4F-AD2A

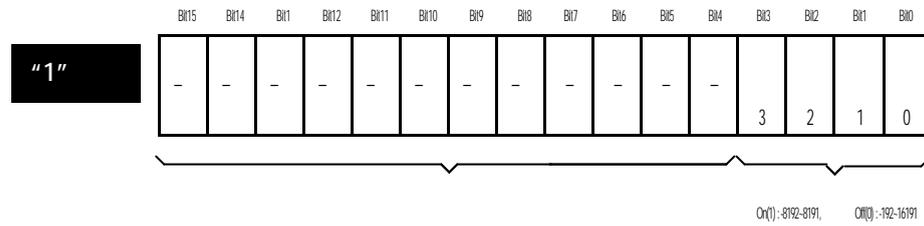
(10 )				
0		On(1): , Off(0):		/ 가
1		On(1): -8192 ~ 8192, Off(0): -192 ~ 16191	-192 ~ 16191	
2		On(1): , Off(0):		
3	0	: 1 ~ 99	"1"	
4	1			
5	2			
6	3			
7		On(1): , Off(0):		
8	/	On(1): , Off(0):		
9	0 /	: 40 ~ 20,000 ms : 2 ~ 4000	"40"	
10	1 /			
11	2 /			
12	3 /			
13	SET	On(1): 0 ~ 12 Off(0): 0 ~ 12		
14	0 A/D	-	-	가
15	1 A/D			
16	2 A/D			
17	3 A/D			
18		On(1): , Off(0):	-	
19	0	0: 16: 17: /	-	
20	1			
21	2			
22	3			



(2) G3F-AD4B



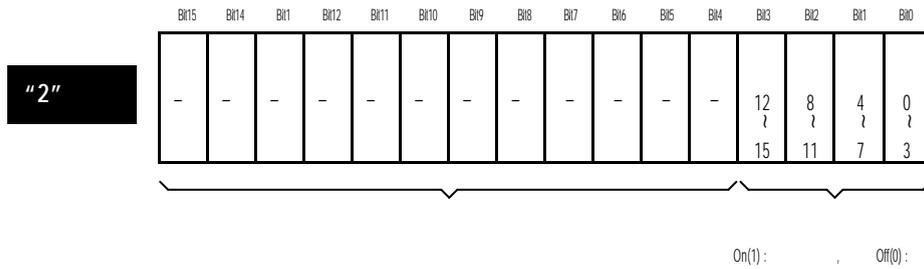
(3) G4F-AD2A



6.2.3

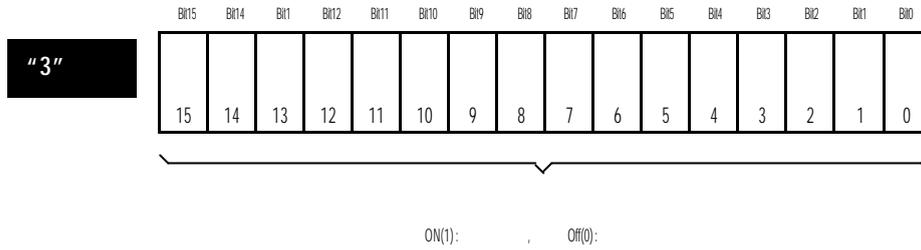
- 1) 가/ G3F-AD4A 4 , G3F-AD4B G4F-AD2A
- 2) 가
- 3)

(1) G3F-AD4A

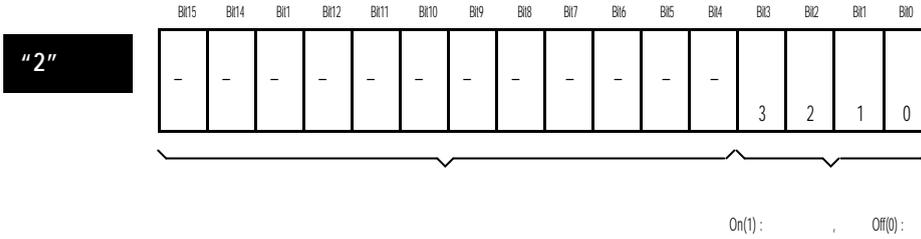


- 가) (Bit) "4" 4
- B0: 0, 1, 2, 3 가/
- B1: 4, 5, 6, 7 가/
- B2: 8, 9, 10, 11 가/
- B3: 12, 13, 14, 15 가/
- ) 4 가/
- ( : 0 1 )

(2) G3F-AD4B



(2) G4F-AD2A



6.2.4 (G3F-AD4A, G4F-AD2A : 3 ~ 6 , G3F-AD4B : 4 ~ 19 )

- 1) G3F-AD4A 4 , G3F-AD4B, G4F-AD2A
- 2) 1 ~ 99
- 3) 16
- 4) ,AD :1:
- 5)

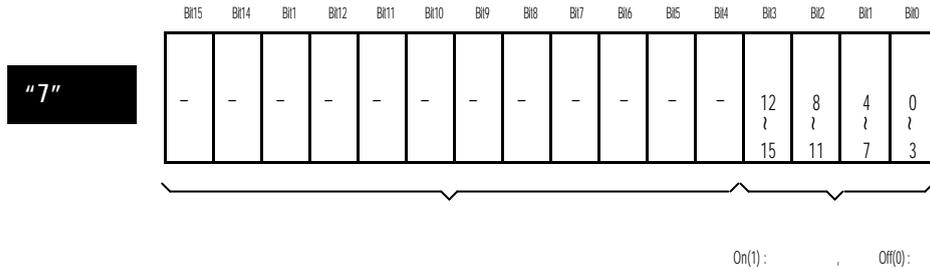
	G3F-AD4A	G4F-AD2A
3	0, 1, 2, 3	0
4	4, 5, 6, 7	1
5	8, 9, 10, 11	2
6	12, 13, 14, 15	3

가 가

6.2.5

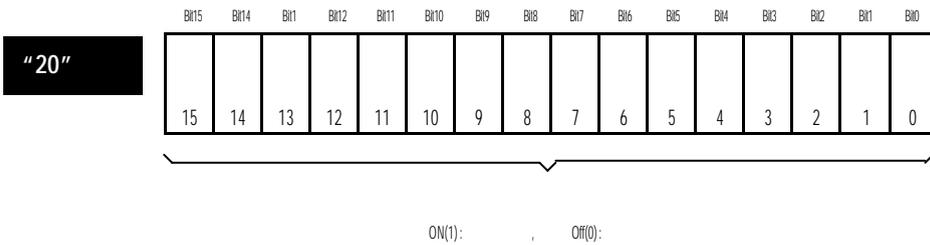
- 1) 가) G3F-AD4A 4 , G3F-AD4B, G4F-AD2A
- 2)
- 3)

(1) G3F-AD4A

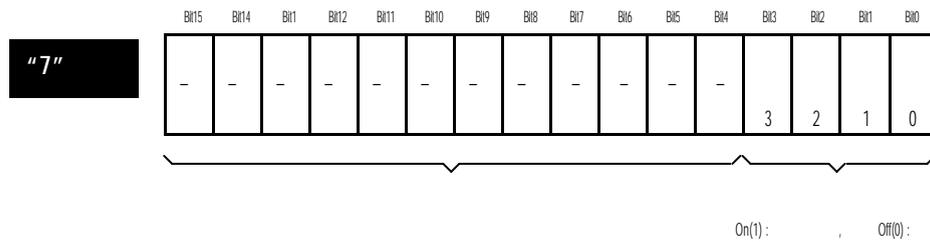


- 가) (Bit) "4" 4
- B0: 0, 1, 2, 3 가)
- B1: 4, 5, 6, 7 가)
- B2: 8, 9, 10, 11 가)
- B3: 12, 13, 14, 15 가)
- ) 4 가)
- ( : 0 1 )

(2) G3F-AD4B



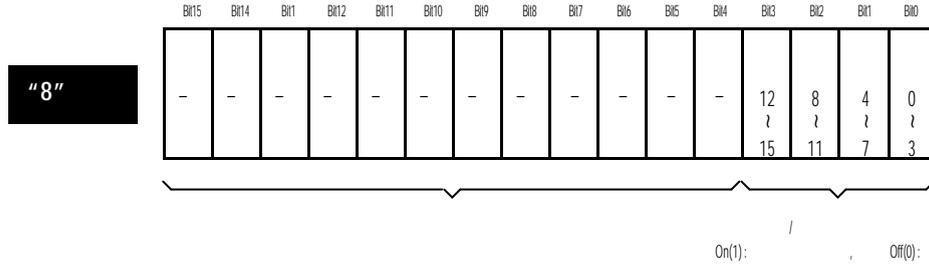
(3) G4F-AD2A



6.2.6 /

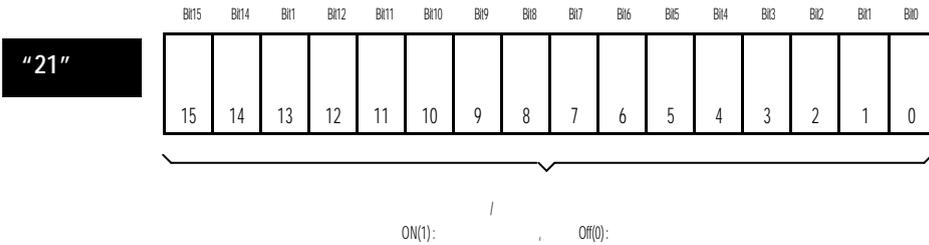
- 1) 가 가 G3F-AD4A 4  
 , G4F-AD2A / G3F-AD4B
- 2) /
- 3)

(1) G3F-AD4A

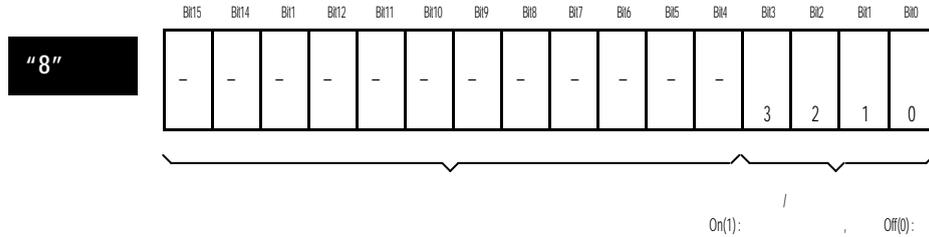


- 가) (Bit) "4" 4 /
- B0: 0, 1, 2, 3 / 가/
- B1: 4, 5, 6, 7 / 가/
- B2: 8, 9, 10, 11 / 가/
- B3: 12, 13, 14, 15 / 가/
- ) 4 / 가/
- .( : 0 1 )

(2) G3F-AD4B



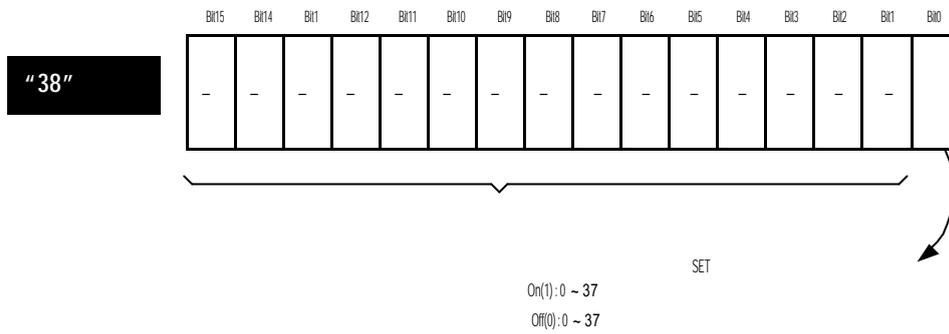
(2) G4F-AD2A



/
가/
가



(2) G3F-AD4B

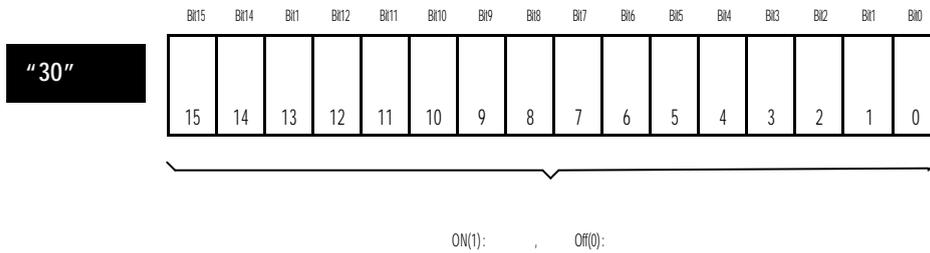


6.2.9 (G4F-AD2A : 14~17 , G3F-AD4A : 14~29 , G3F-AD4B : 39~54 )

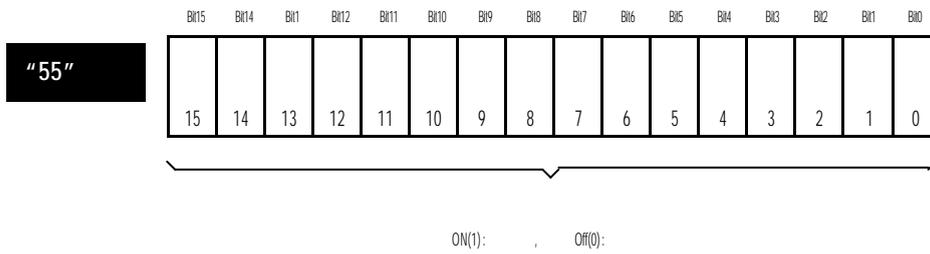
- 1)
- 2)

6.2.10

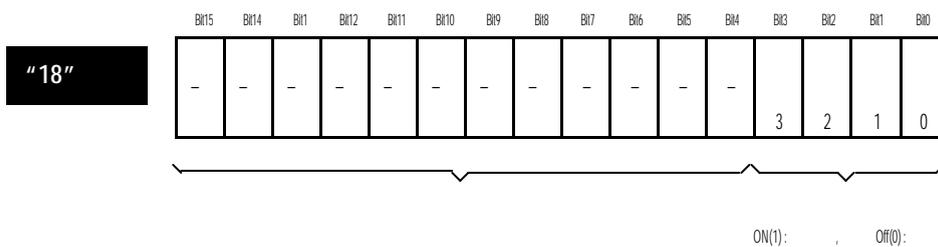
(1) G3F-AD4A



(2) G3F-AD4B



(3) G4F-AD2A



6.2.11 (G4F-AD2A : 19~22 , G3F-AD4A : 31~34 , G3F-AD4B : 56~71 )

1)

0		
16		RUN LED 0.6
17	/	"

2)

가

17, 16

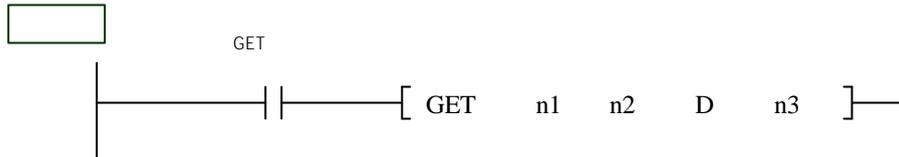
3)

G3F-AD4A					G4F-AD2A	
31	0,	1,	2,	3	19	0
32	4,	5,	6,	7	20	1
33	8,	9,	10,	11	21	2
34	12,	13,	14,	15	22	3

7 ( / )  
 AD 16

7.1

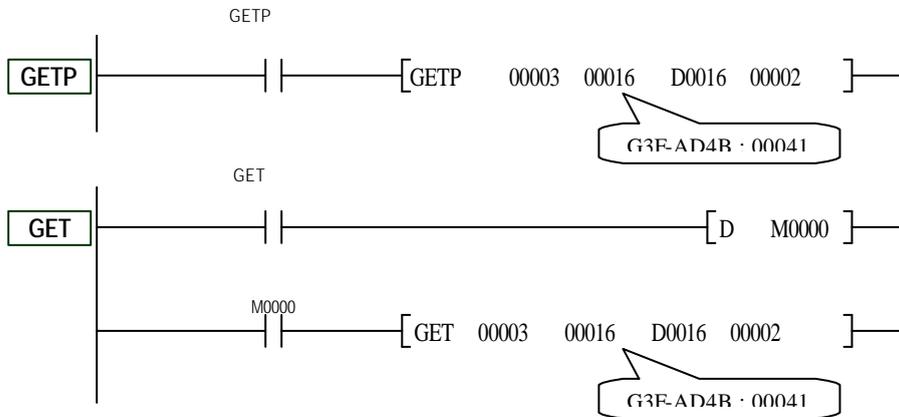
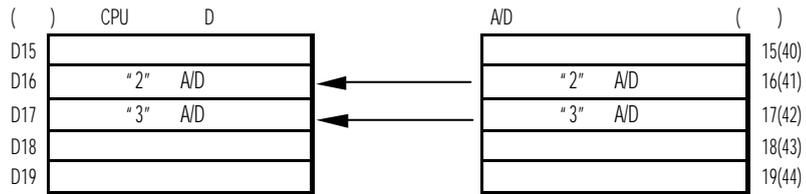
7.1.1 - GET, GETP



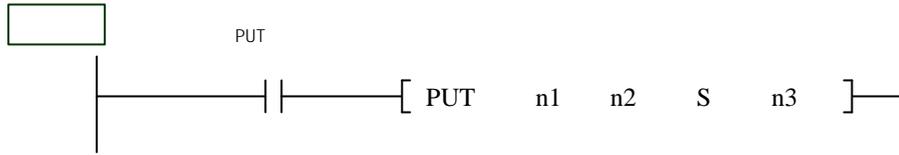
n1		
n2	Read	
D	Read Device	M, P, K, L, T, C, D, #D
n3	Read	



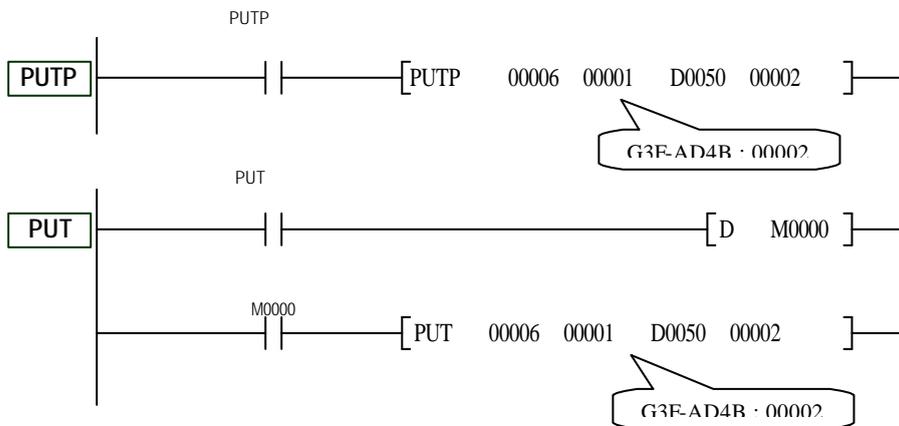
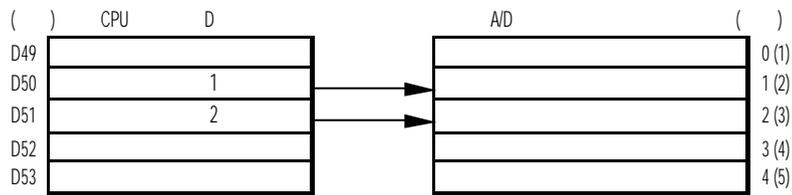
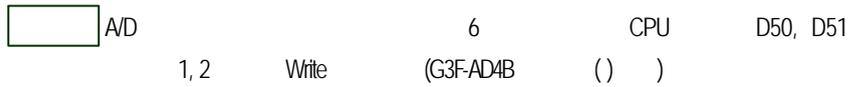
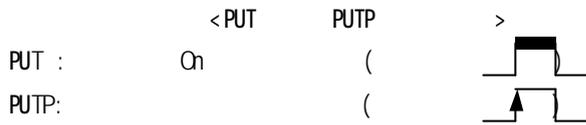
A/D CPU D16, D17 Read (G3F-AD4B) 3 16, 17 ( )



7.1.2 - PUT, PUTP



n1		
n2	Write	
S	Write 가 Device	M, P, K, L, T, C, D, #D,
n3	Write	

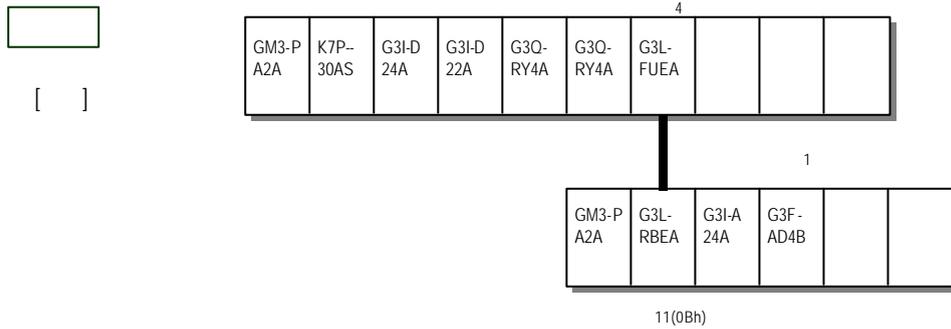


7.2

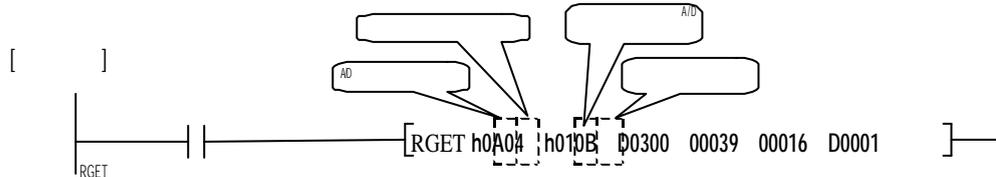
7.2.1 - RGET



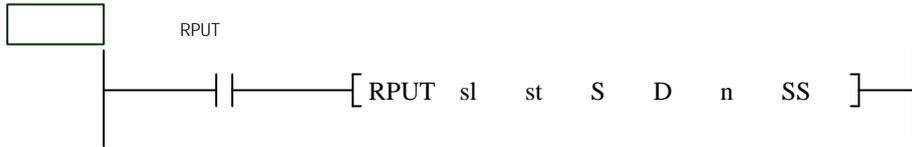
sl	<table border="1"> <tr> <td>AB</td> <td>CD</td> </tr> </table> (8bit) (8 bit)	AB	CD	(AB):AD G3F-AD4A:00h, G3F-AD4B:0Ah, G4F-AD2A:80h (CD): (FUEA) : 0 ~7	
AB	CD				
st	<table border="1"> <tr> <td>EF</td> <td>GH</td> </tr> </table> (8bit) (8 bit)	EF	GH	(EF): AD : 0 ~31 (GH): (FUEA) : 0 ~63	
EF	GH				
D	Read	Device	M,P,K,L,T,C,D,#D		
S	Read				
n	Read		,D		
SS			M,P,K,L,T,C,D,#D		



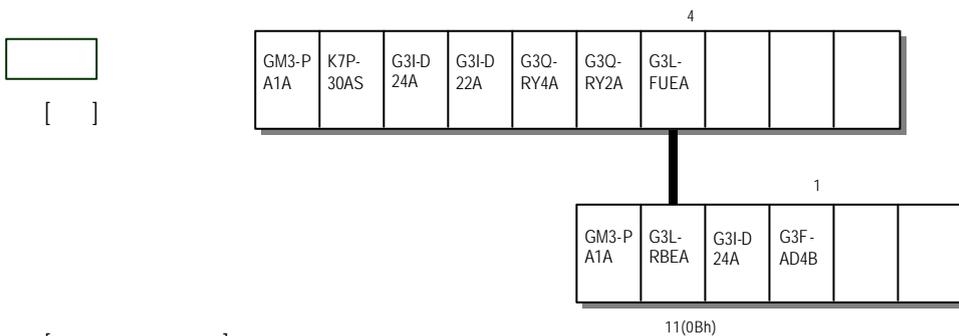
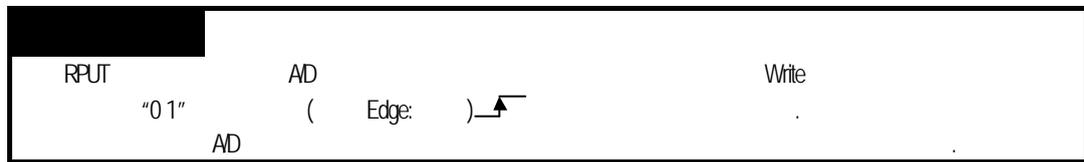
- 1) AD
  - 2) AD
  - 3) AD
- AD D0300
- D0001
- 39 ~ 54 (16 )



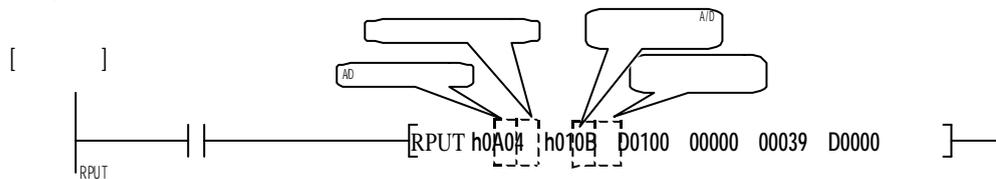
7.2.2 - RPUT



sl	<table border="1"> <tr> <td>AB</td> <td>CD</td> </tr> </table> (8bit) (8 bit)	AB	CD	(AB):AD G3F-AD4A:00h,G3F-AD4B:0Ah,G4F-AD2A:80h (CD): (FUEA) : 0 ~7	
AB	CD				
st	<table border="1"> <tr> <td>EF</td> <td>GH</td> </tr> </table> (8bit) (8 bit)	EF	GH	(EF): AD : 0 ~31 (GH): (FUEA) : 0 ~63	
EF	GH				
S	Write	7} Device	M,P,K,L,T,C,D,#D		
D	Write				
n	Write		,D		
SS			M,P,K,L,T,C,D,#D		



- 1) CPU Device D100 ~ D138(39)
- 2) AD 0 ~ 38 Write
- 3) D0000

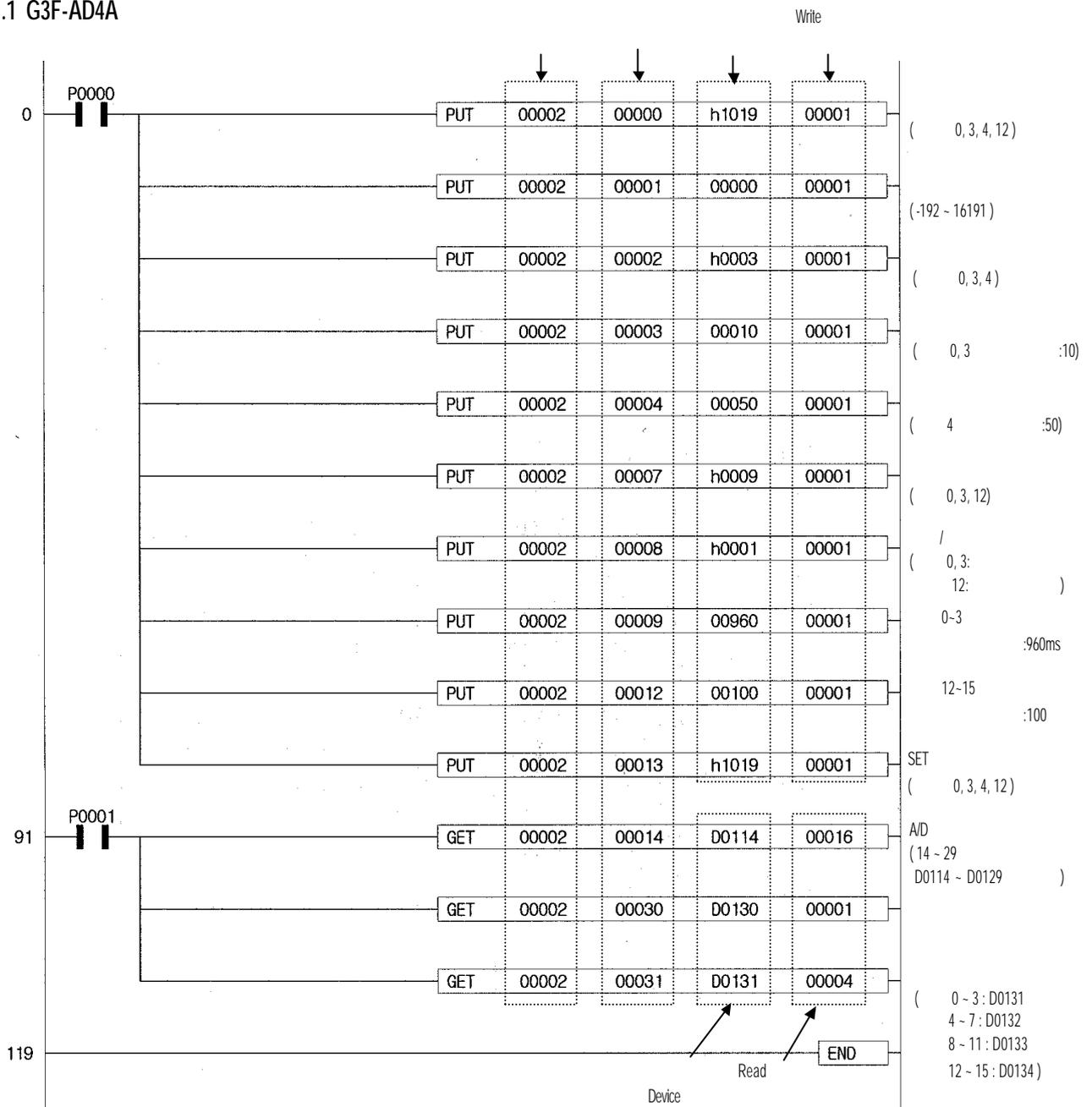


8 MK

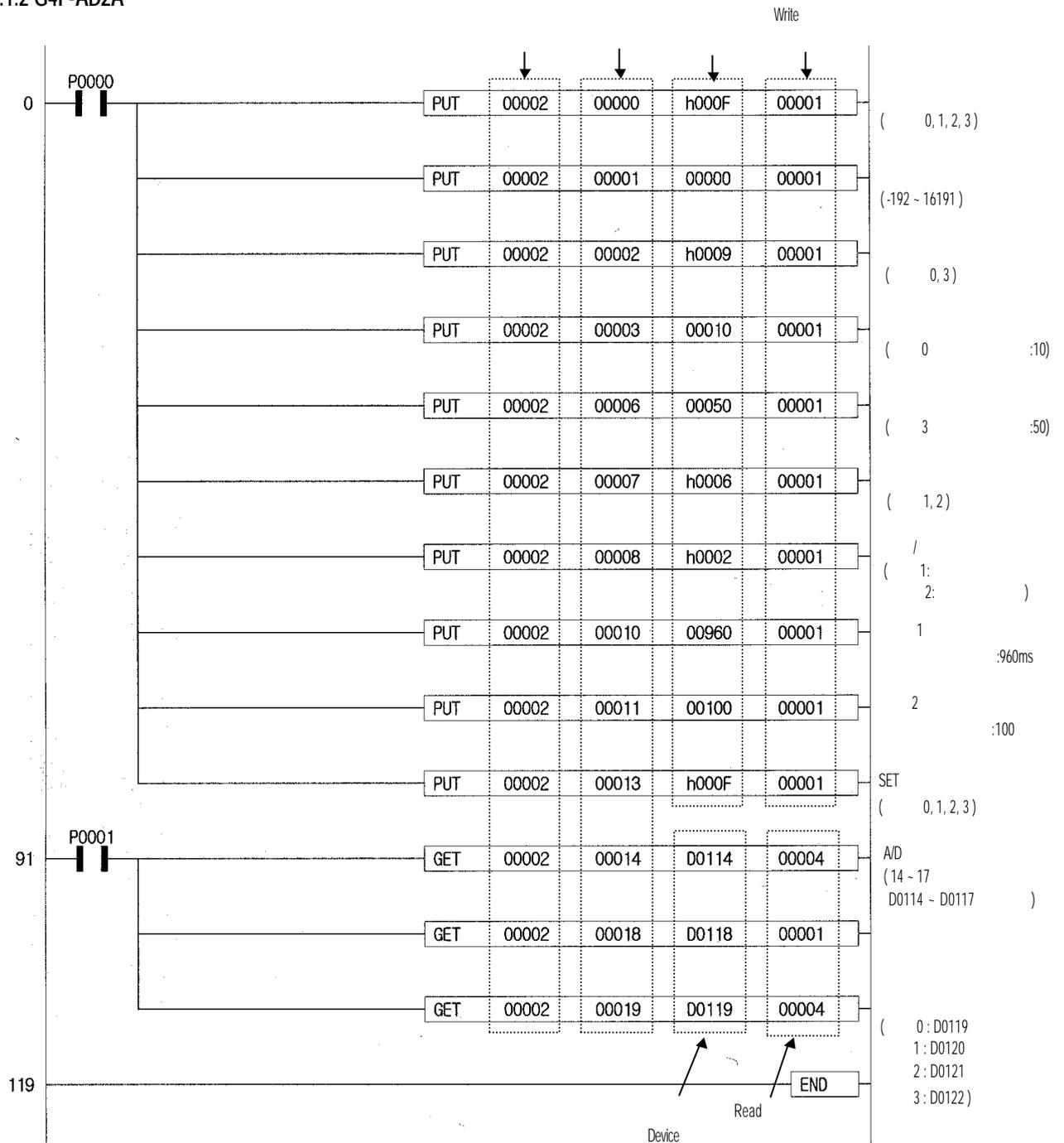
8.1

-AD  
 -AD 2  
 -AD 16  
 - 1 AD

8.1.1 G3F-AD4A



8.1.2 G4F-AD2A



CMP, CMPP, DCMP, DCMPP	A/D	Unsigned
LOAD =, LOAD >, AND =		.( )

8.2

8.2.1 A/D

1)

GM3-PA1A	K7P-30AS	G3F-D22A	G3F-AD4A	G3Q-RY4A
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2)

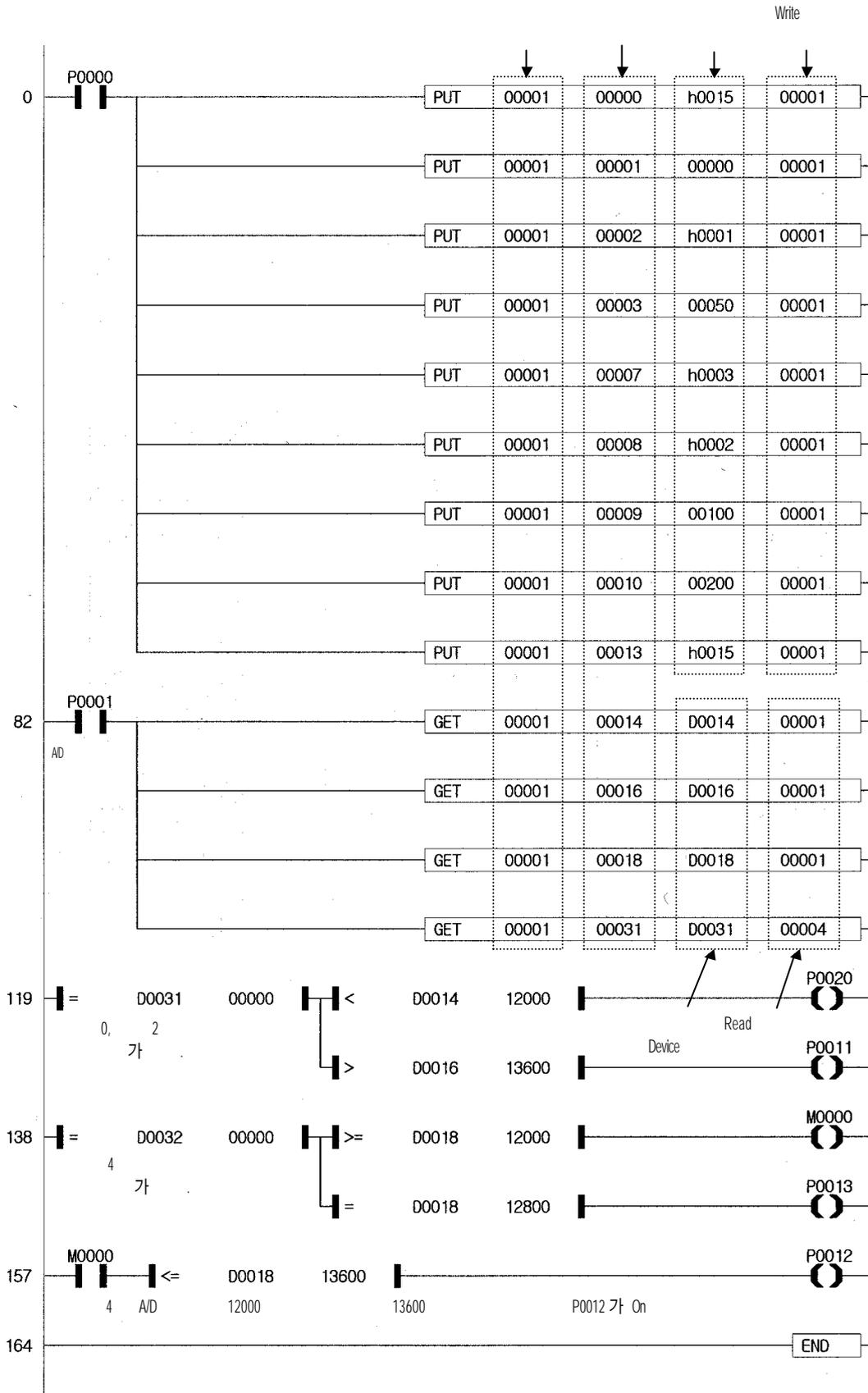
				Write		
1		0, 2, 4	0	'h0015'	'00021'	
2		-192 - 16191	1	'h0000'	'00000'	
3		0	2	'h0001'	'00001'	
4		50	3	'h0032'	'00050'	
5		2, 4	7	'h0003'	'00003'	2: 0 On 4: 1 On
6	/	: 2 : 4	8	'h0002'	'00002'	2: 0 Off 4: 1 On
7	/	: 100	9	'h0064'	'00100'	
		: 200ms	10	'h00C8'	'00200'	
8		(DC-20-20mA)	-	-	-	
	SET	-	13	'h0015'	'00021'	

3)

(1)	0	12,000	P0010	On	
(2)	2	13,600	P0011	On	
(3)	4	12,000	13,600	P0012	On
(4)	4	12,800	P0013	On	

G3F-AD4A							
1) (3)	0		0 ~ 3	가			
2) (4)	0		0 ~ 3	가	50		
3) (5)	2	4	0 ~ 3,	4 ~ 7	가		
4) (6)	2	100	0 ~ 3	가	100		
5) (7)	4	200 ms	4 ~ 7	가	200 ms		

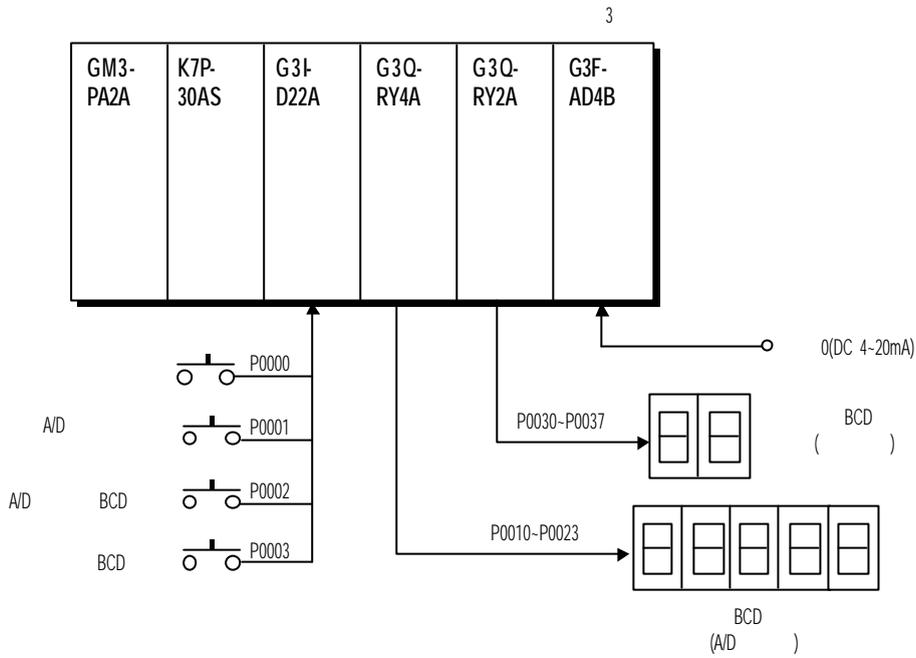
4)



8.2.2 A/D

BCD

1)



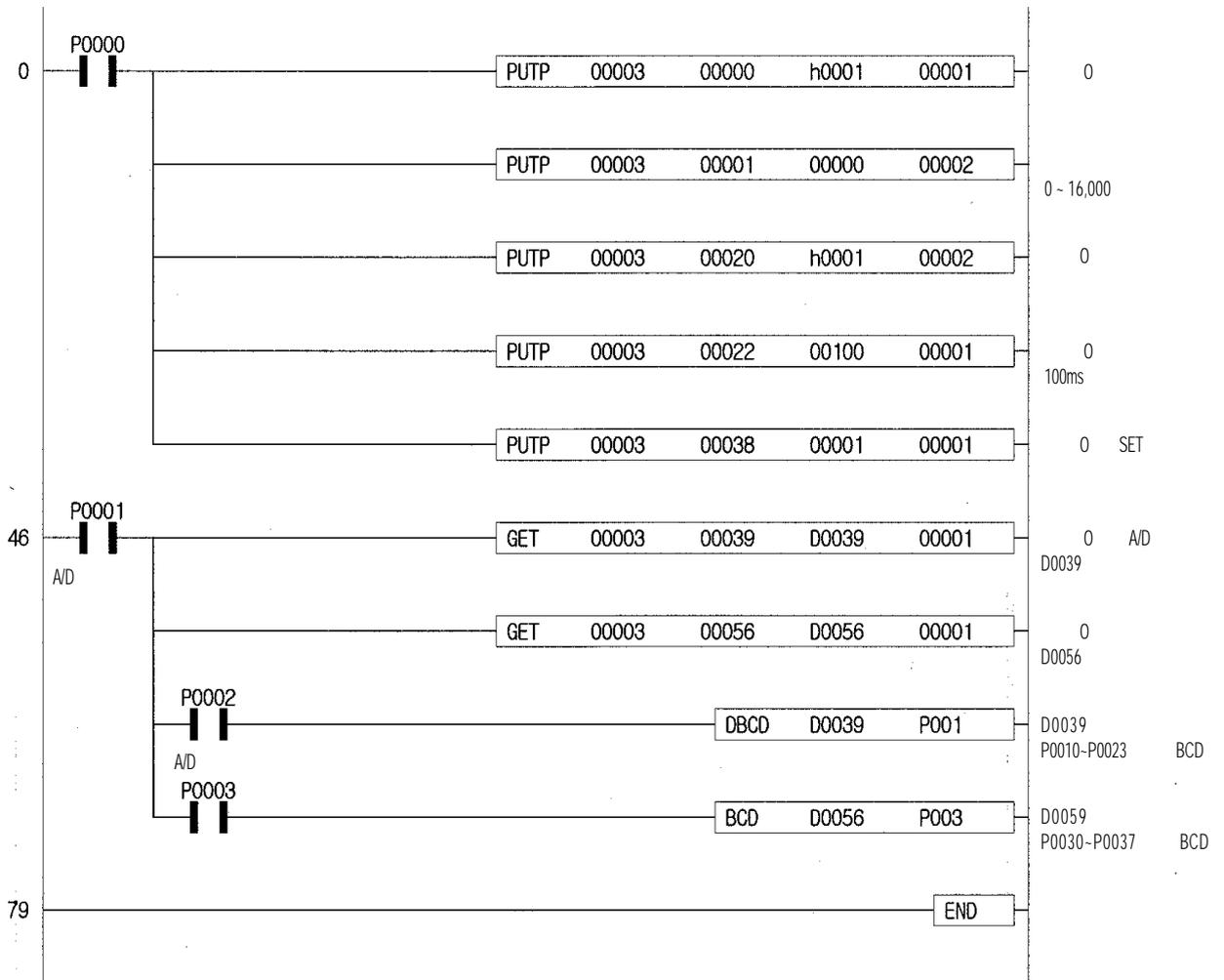
2)

- (1) : 0
- (2) : 100 ms
- (3) : 0 ~ 16,000
- (4) : (DC 4-20 mA)

3)

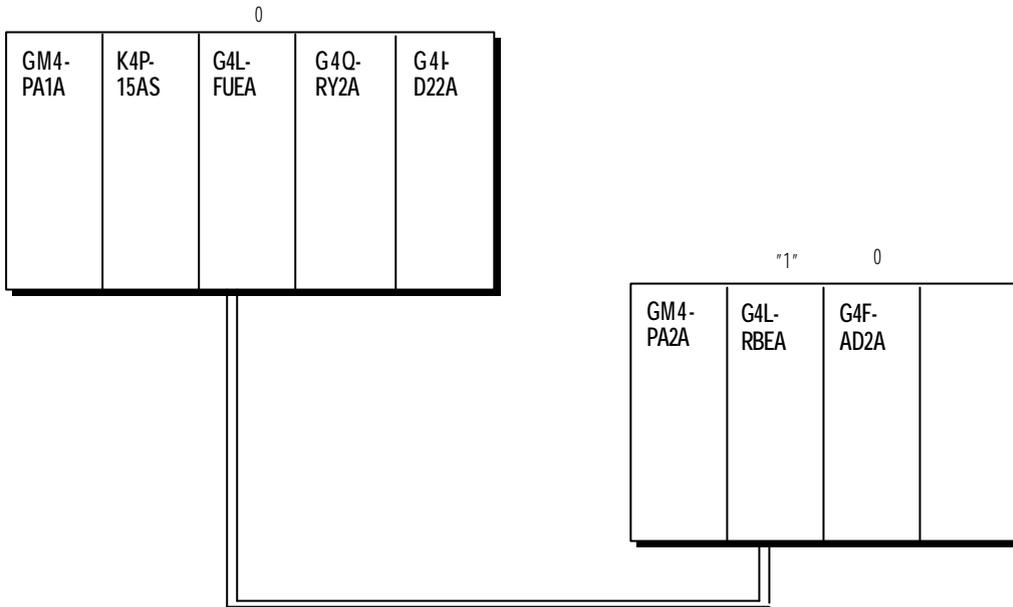
- (1) P0000 On A/D
- (2) P0001 On A/D D0039, D0056
- (3) P0002 On BCD (P0030 - P0037)
- (4) P0003 On A/D BCD (P0010 - P0023)

4)



8.2.3 I/O A/D

1)



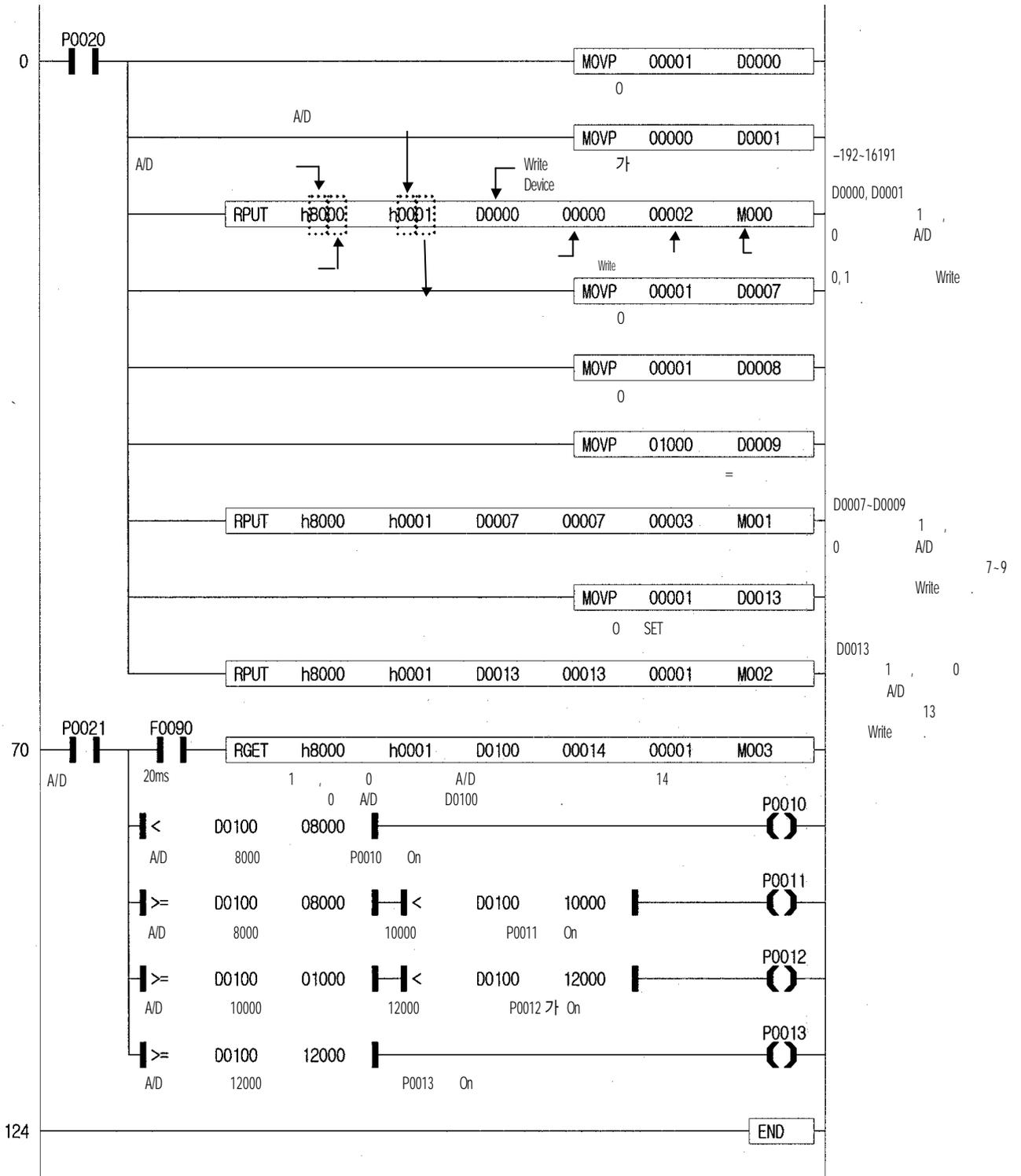
2)

(1) A/D 가 : 0  
 (2) : -192 ~ 16191  
 (3) : 0 ( : 100 ms)

3)

(1)	0	A/D	8,000	P0010	On		
(2)	0	A/D	8,000	10,000		P0011	On
(3)	0	A/D	10,000	12,000		P0012	On
(4)	0	A/D	12,000		P0013	On	

4)



9

A/D

9.1

9.1.1 RUN LED

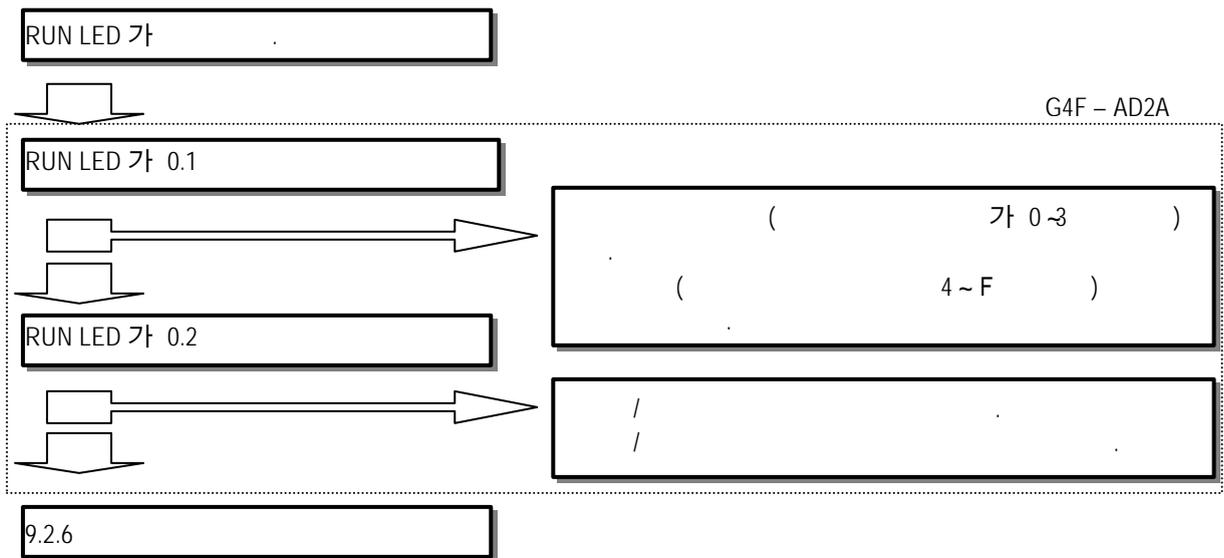
A/D

RUN LED가

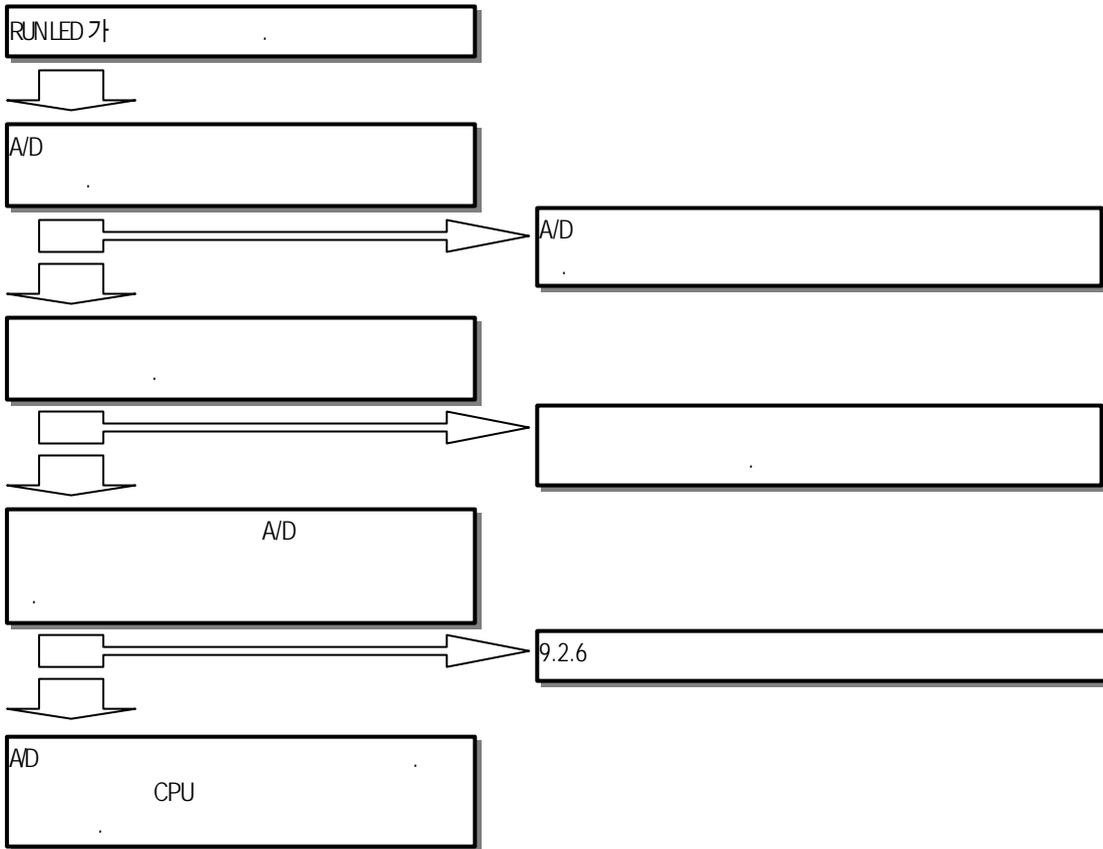
RUN LED		
0.1	WDT	
0.2		
	/	G4F-AD2A
0.6	A/D	

9.2

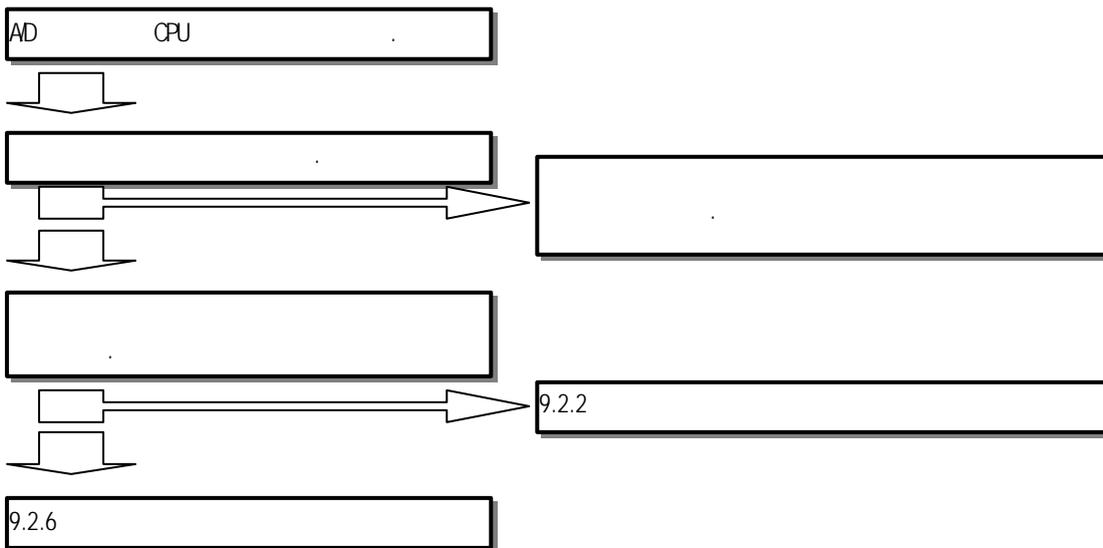
9.2.1 RUN LED가



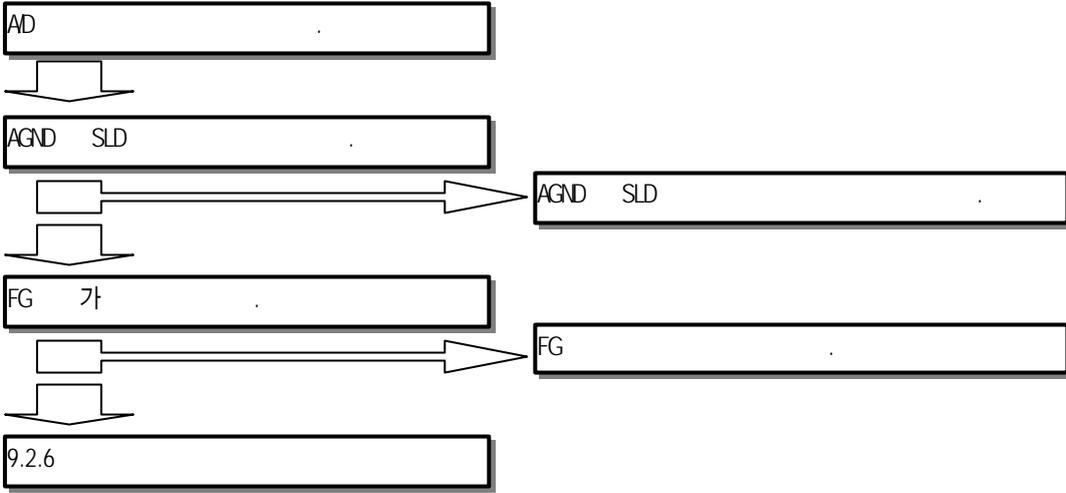
9.2.2 RUN LED가



9.2.3 A/D CPU

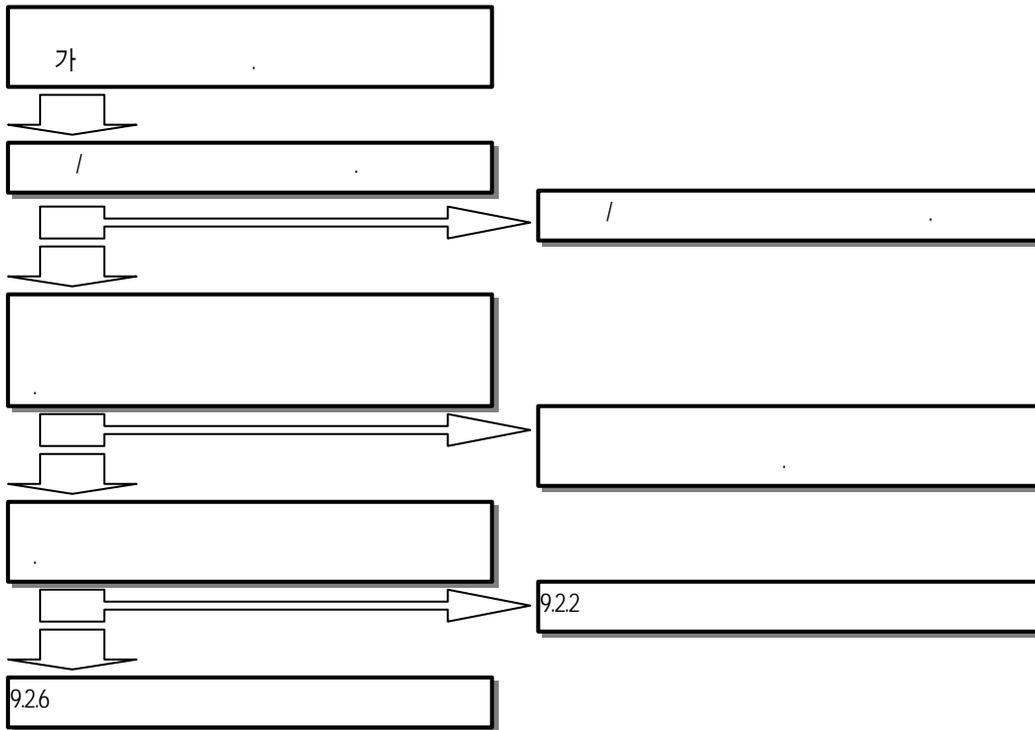


9.2.4 A/D



9.2.5

가



9.2.6 A/D

