

DIGITAL INDICATOR

SI 3100



●
Sewha cnm



가



가



:

가



:



:

, E - mail

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(1)

(2)

(3)

가

1

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6 COMMAND MODE

- 6-1 READ COMMAND
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1

1-1

(SI3100)

가

1-2

가

가 (가) 가

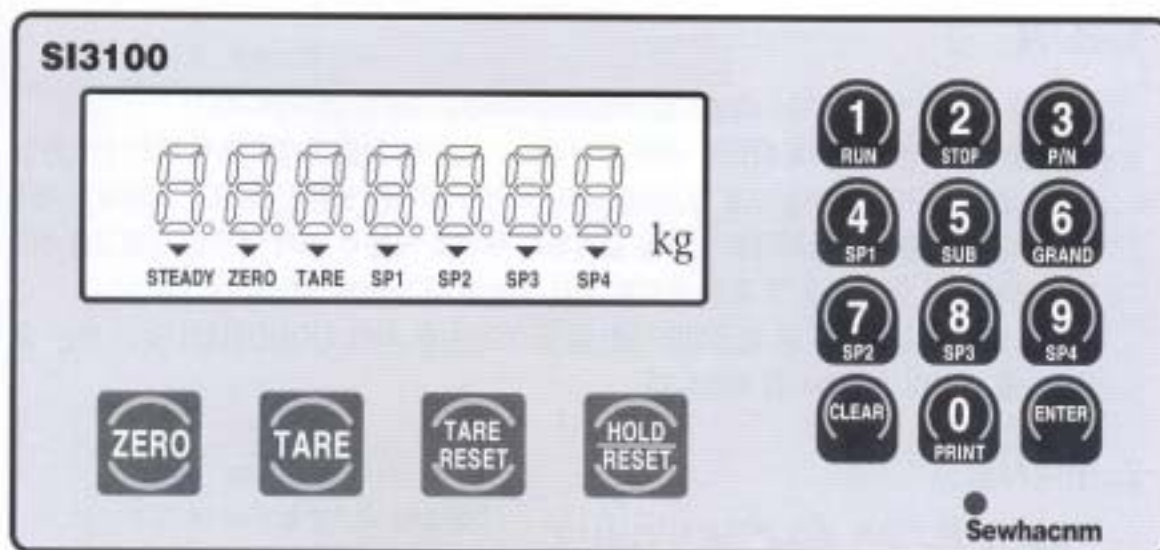
1-3

- (Watch-dog)
- (4 : F11)
- Photo-Coupler Noise
- (Back-Up : F02)
- Polycarbonate Film
- RS-232C Current Loop
- Option (, 5)
 - PRINTER Interface Centronics Parallel (OPTION 01)
 - ANALOG OUT (0 ~10 V, 0 ~ 5V) Interface (OPTION 02)
 - ANALOG OUT(4 ~20 mA) Interface (OPTION 03)
 - RS-422 Serial Interface (OPTION 04)
 - BCD OUT Interface (OPTION 05)

1-4

- : 1
- FUSE : 2 (250V 1A, ϕ 5.25 , 20mm)
- Connector : 1 (N16-05)
- : 1
- Option Connector
- 9pin D-SUB Connector (male) : 1
- 9 PIN : 1

1-5 (Display Keyboard) Key



(▼)

- STEADY : . (F03)
- ZERO : " 0 " . (F04,05)
- TARE : . (F09)
- SP1 : SP1 Relay ON .
- SP2 : SP2 Relay ON .
- SP3 : SP3 Relay ON .
- SP4 : SP4 Relay ON .

** SP = Set Point

KEY



.(F08)

(CAPA) 2%, 5%, 10%, 20%

(F08)



(LOAD CELL)

“0”

10%, 20%, 50%, 100%

.(F09)



(peak-hold).

(sample-hold)

(hold)



Packer Mode (F21-1)

key



Packer Mode (F21-1)

key



(Part /Number)



3

가



가



(1 ~ 50

가)



SP1



SP1



SP1

:



,SP1



, 3

SP1



SP1



SP1



Print I/F



Data가

F-Function F-43

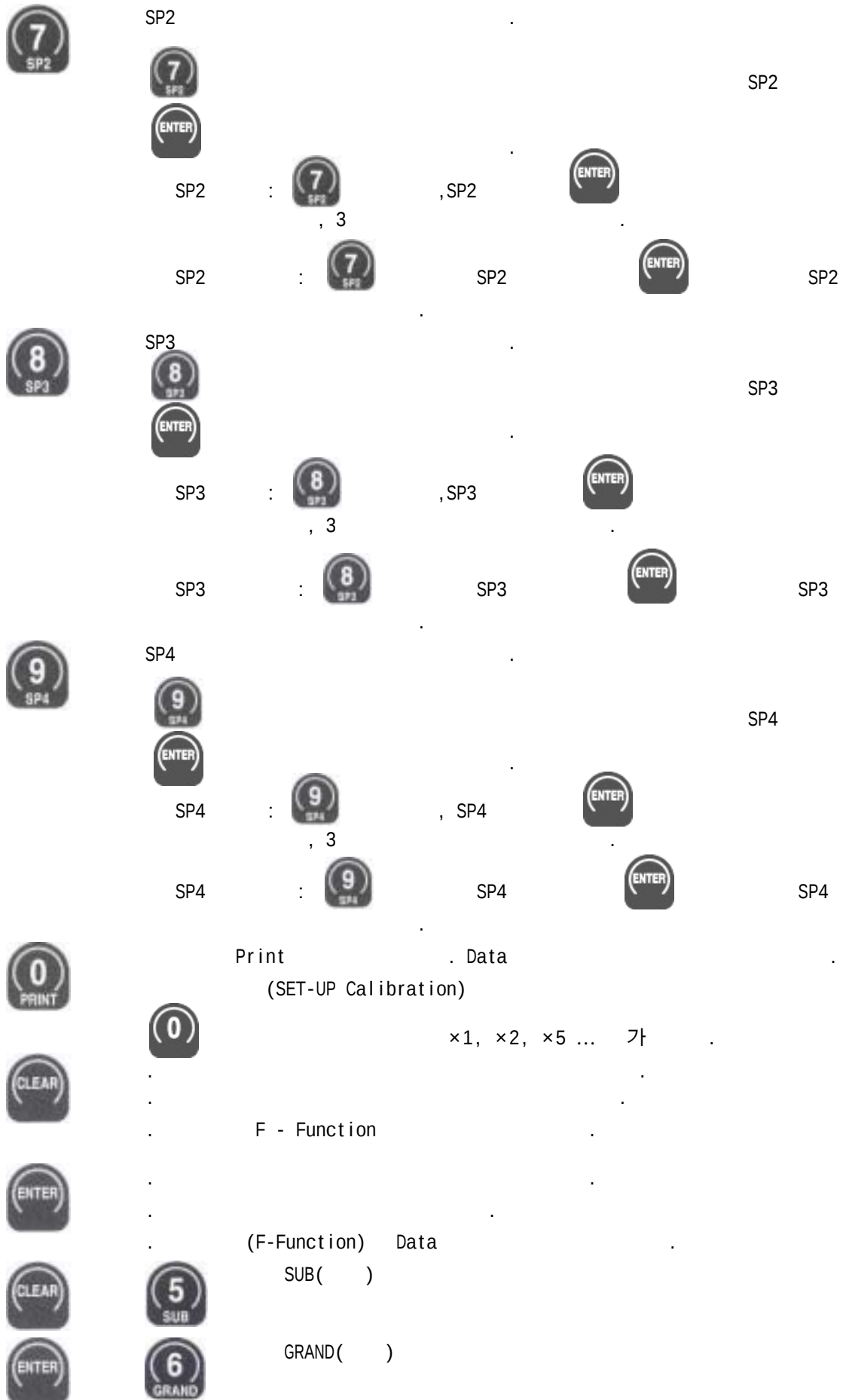


Printer I/F



Data가

F-FUNCTION F43



1-6 (Specification)

• Analog Input & A/D Conversion

	0.45 μ V / D
	- 0.6mV + 42.0mV
가	DC 10V (- 5V + 5V)
	32mV
	: ± 20 PPM / SPAN : ± 20 PPM /
NOISE	$\pm 0.6\mu$ V P.P
IMPEDANCE	10M Ω
A/D	
A/D	65,000 Count(16bit)
A/D	60 / Sec
	0.01% FS
	1/10,000

• Digital Part

		7-Segment 7 digit :12.7(H) $\times$ 7.0(W)mm
		$\times 1$, $\times 2$, $\times 5$, $\times 10$, $\times 20$, $\times 50$
		+500,050
		"-" (Minus)
	STEADY, ZERO, TARE, SP1 SP2, SP3, SP4	" ▼ " Lamp
K e y	Key	Key, Key 16

•

	AC110/220V ($\pm 10\%$), 50/60Hz 30VA
	0 40
	85% Rh ()
	200(W) $\times$ 105(H) $\times$ 165(L)mm
(Net)	Appr. 2.3 kg
(Gross)	Appr. 3.0 kg

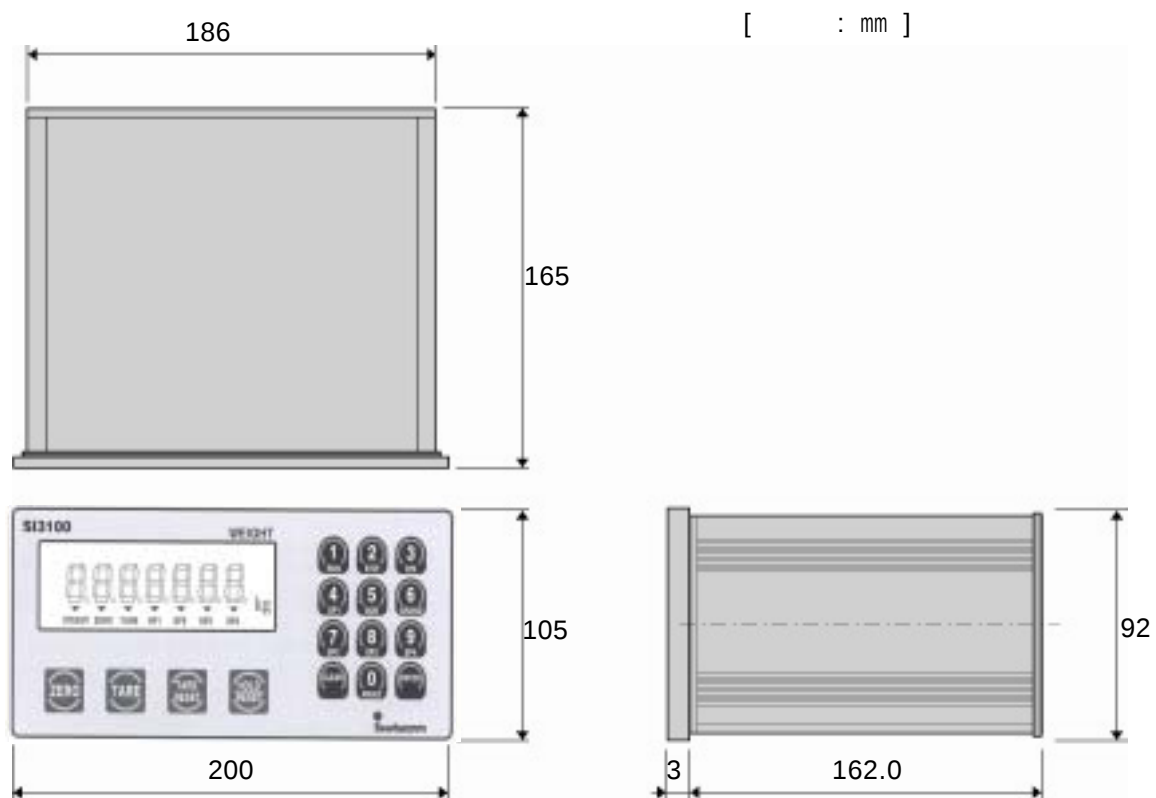
1-7 OPTION

OP1	Printer I/F : Centronics Parallel
OP2	Analog Out : V - out(0 10V)
OP3	Analog Out : I - out(4 20mA)
OP4	Serial I/F : RS 422, RS 485
OP5	BCD Output

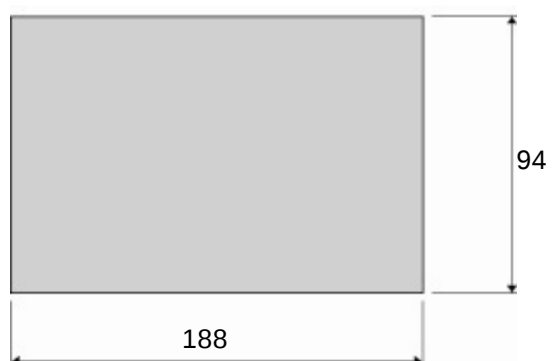
- SERIAL INTERFACE RS-232C, Current Loop .

2

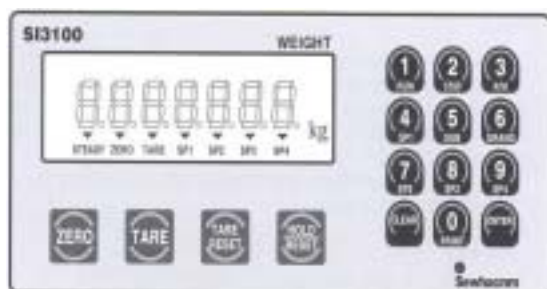
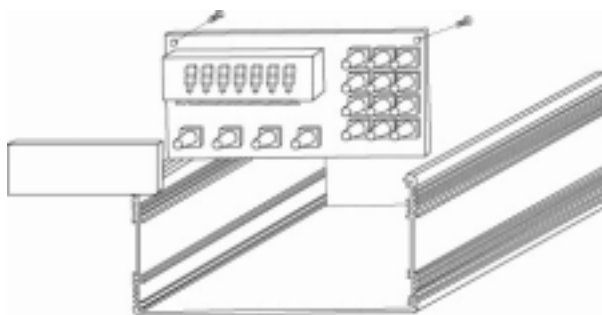
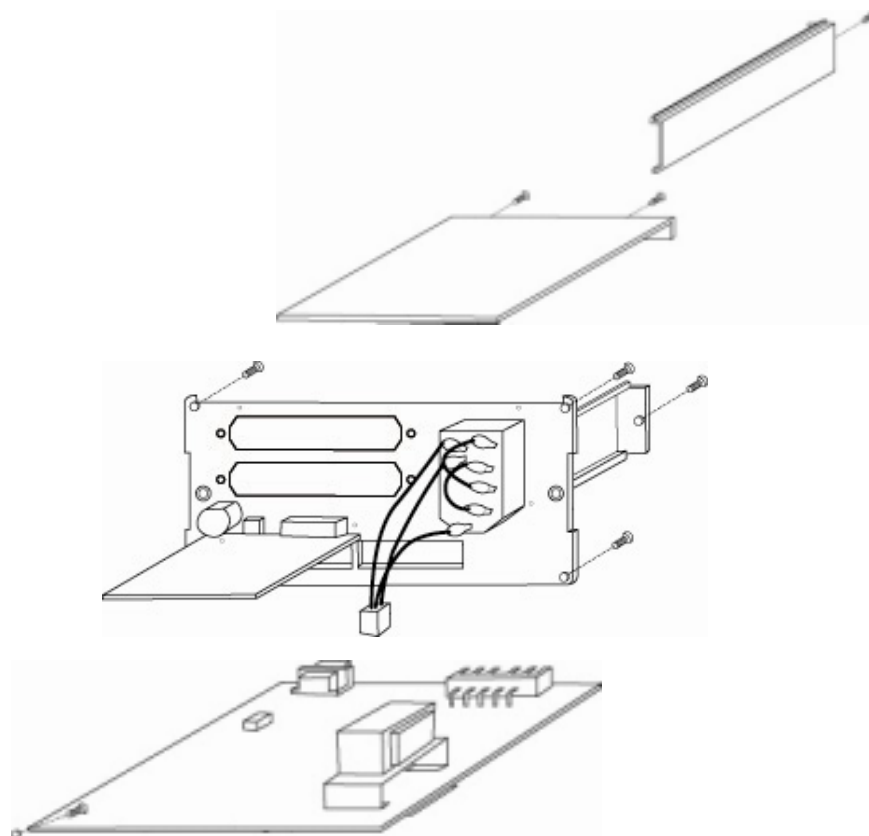
2-1. Cutting Size



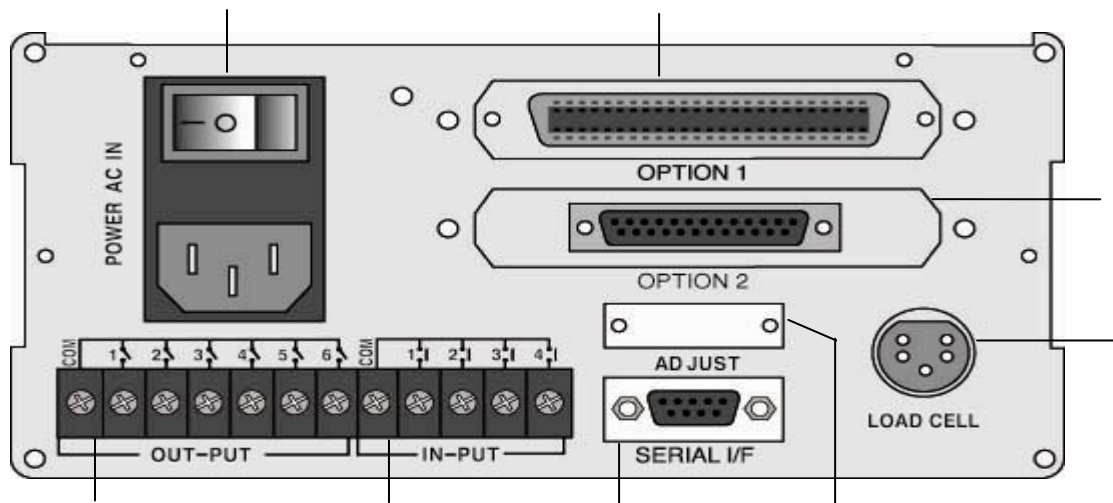
Cutting Size



2-2.



2-3.



POWER AC IN

- : ON/OFF
- : AC250V / 1A , ϕ 5.25 , 20mm
- AC IN : AC 110/220V 가 .
AC 220V ,
Transformer Connector .

OPTION 1

OPTION 2

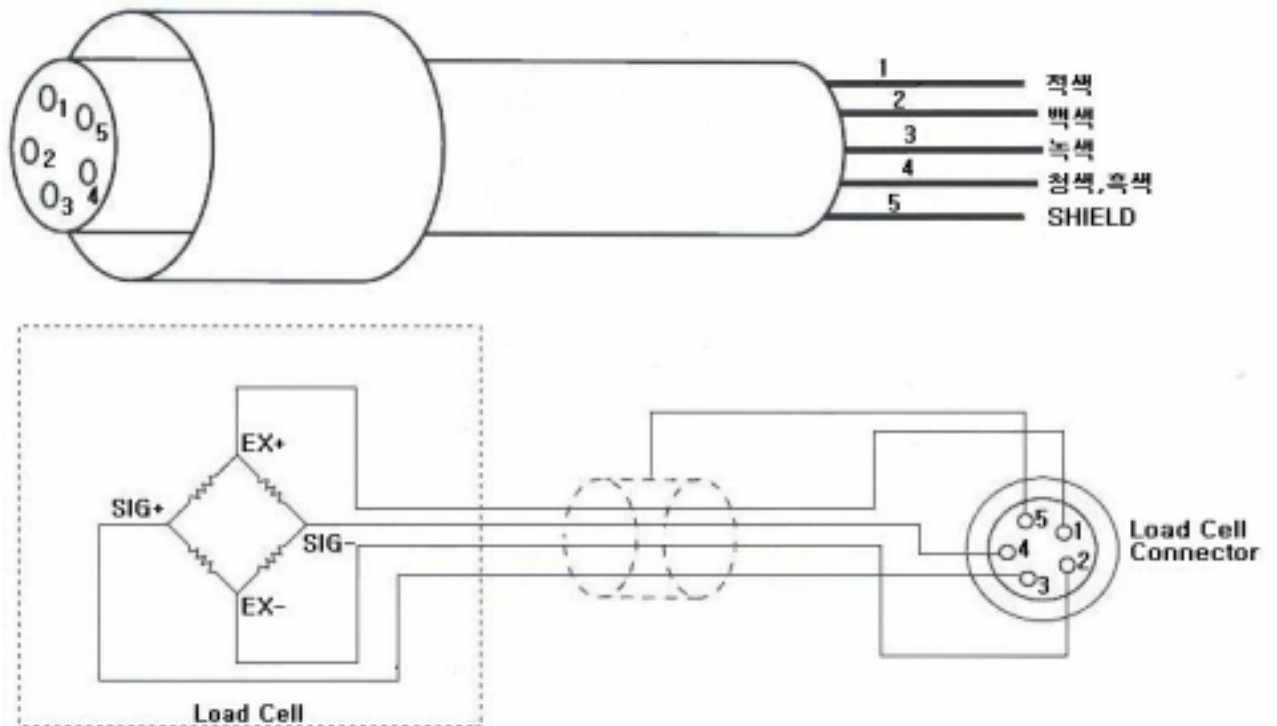
- OPTION Board I/F Connector가 .
- BCD out, Printer I/F ANALOG out, Serial I/F ... etc

ADJUST : SPAN DIP

(1 6 : , 7 8 : SPAN)

LOAD CELL Connector (N16-05)

- EX + (+5V) PIN1 ()
- EX - (-5V) PIN2 ()
- SIG+ PIN3 ()
- SIG - PIN4 (,)
- SHIELD(GND) PIN5 ()



SERIAL I/F

RS-232C / CURRENT LOOP (9P-D-TYPE Female)

(External Input) :

F-Function F11

Relay OUTPUT

- 6 (Relay A) : Relay F-Function F21

2-4

(, , ..)

-
- 가
- 가
- . (Noise)
- 가 가
- . (110V/220V $\pm$ 10% 50/60HZ, 220V)
- ()
- SET-UP

2-5 LOAD CELL

• LOAD CELL

- 8 LOAD CELL 가 . (350Ω)
-
- 2 LOAD CELL Summing Box
- LOAD CELL
- LOAD CELL 가
- LOAD CELL 가
- LOAD CELL
- (Earth) LOAD CELL

• LOAD CELL

- Connector LOAD CELL
- 8 LOAD CELL 가 . (350Ω)
- LOAD CELL Connector : N16 - 05
- LOAD CELL LOAD CELL

• LOAD CELL

	EXC+	EXC -	SIG+	SIG -	SHIELD
CNM					
, ,TMI ,AND					()
MNC					
BLH					
INTERFACE					
KYOWA					
P.T					
SHOWA					
SHINKOH					
TML					
TEAC					
HUNTLEIGH					

2-6

	1) 2) 3) 4) Summing Board	1) , 2) 3) Summing Board	1) -EXC +EXC 350Ω~450Ω 2) -EXC -SIG 350Ω 3) 100MΩ
가 가	1) 2)	1) 2)	
(-)	(SIG+,SIG-)		
"UN PASS"		: 5,000	
"OL" " UL" (OVER LOAD)	1) 2) 3) 4) 5)	1) 2) 3) 4) 5,000	

3 (Calibration)

(Calibration) ?
(LOAD CELL) 가
. LOAD CELL

3-1.

(LOAD CELL) 가 "0"
. (LOAD-CELL)

" tEst 1" 가 "5,000" (2,000 9,000)
(DIP 1 6)

OFF  ON " test_ _ "
가  " tEst_ _1 " ADJUST
DIP 1 6 가 5,000

EX



ON

“tEst”

“tEst_1”

가

가

가 “5,000”

DIP

1 6

DIP

1 6

ON

OFF

3-2.

(DIP Switch)

(

ADJUST

)



	1	2	3	4	5	6		
1	ON	ON	ON	ON	ON	ON	0	0
2	OFF	ON	ON	ON	ON	ON	1	- 800
3	ON	OFF	ON	ON	ON	ON	2	- 1,600
4	OFF	OFF	ON	ON	ON	ON	3	- 2,400
5	ON	ON	OFF	ON	ON	ON	4	- 3,200
6	OFF	ON	OFF	ON	ON	ON	5	- 4,000
.	.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.	.
62	OFF	ON	OFF	OFF	OFF	OFF	61	- 48,800
63	ON	OFF	OFF	OFF	OFF	OFF	62	- 49,600
64	OFF	OFF	OFF	OFF	OFF	OFF	63	- 50,400

ADJUST COVER

DIP

1 6

5,000

DIP

7,8

SPAN(AMP GAIN)

))

가 29,800

DIP

1 6

ON

5,000

?

)

DIP

“1”

OFF

가 - 800

DIP

DIP	1	2	3	4	5	6
	- 800	- 1,600	- 3,200	- 6,400	- 12,800	- 25,600

DIP 1,2,3,4,5,6 OFF - (800 + 1,600 + 32,000 + 6,400 + 12,800) =
-24,800 29,800-24,800=5,000 가 5,000

3-3. (Calibration)

“0”

ON “tEst” 가
“St. CAL.”
“ d__ xx “가

EX

OFF

ON --> “ tEst __ “

--> “ St. CAL. “

--> “ d_ _ XX ”

7

. 1

d_ _ xx

()

“d” Division

“ () ”

“xx”

(0)

“01- 02- 05- 10- 20- 50”

가 , “ ”

“ ”

. 2

CAPA

(CAPA)

“CAPA” Capacity

가

가

Key Board

Key

**

10,000 / 10,000
Error message “ Err 01 “ 10,000

. 3

4835

가 5,000 (2,000 9,000)



가 9,000

. 4

SPAN

“SPAN”

가
(CAPA) 10%

가 2

CAPA



. 5

UP

“UP”



**

/

5,000

10%
20%

, 5,000

-

-

10%

Error Message “Err 04”가
Error Message “Err 05”가

. 6

1.02033

Span

가

0.50000 ~ 1.50000

0.50000 ~ 1.50000

ADJUST COVER

DIP

7, 8

. 7

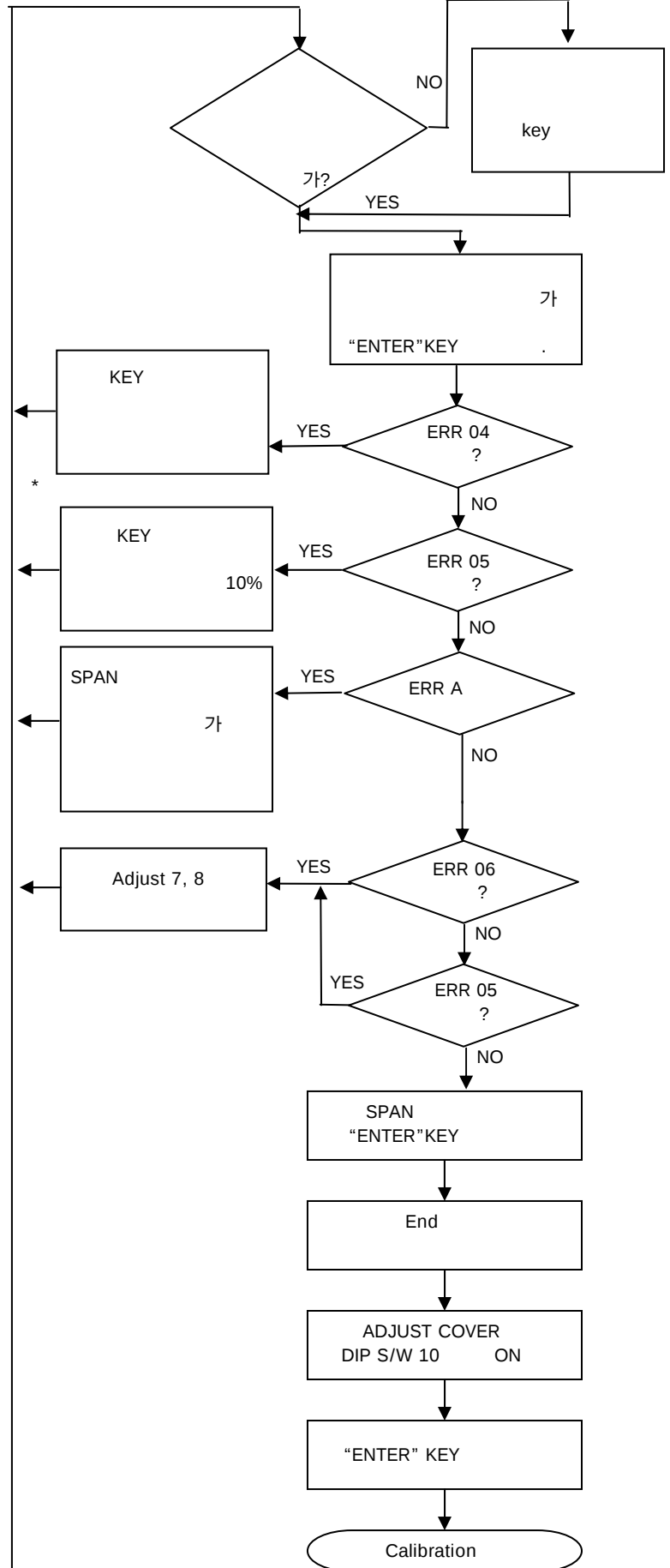
End

SPAN 가
, End가



가

가



3-5. Error

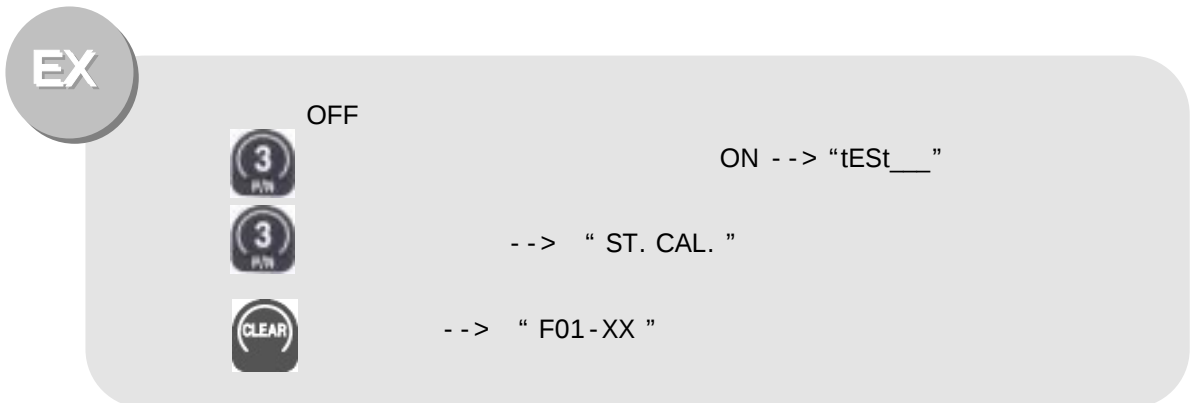
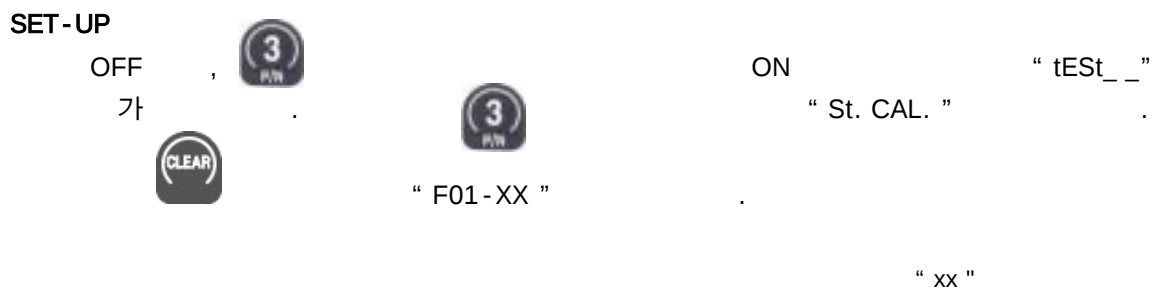
1	Err 01	/ 10,000	- / 10,000 가
2	Err 02	(Dead Load)가 10,000	- ADJUST COVER 1 6 2,000 9,000
3	Err 03	(Dead Load)가 1,000	- ADJUST COVER 1 6 2,000 9,000
4	Err 04		- Key
5	Err 05	10%	- Key 10%
6	Err 06	Amp, Gain	- ADJUST COVER 7, 8 (7 ON 8 ON 7,8 ON)
7	Err 07	Amp, Gain	- ADJUST COVER 7, 8 (7 OFF 8 OFF 7,8 OFF)
8	Err 08	F-Function	-
9	Err A	Calibration	-

4 (Set-up)

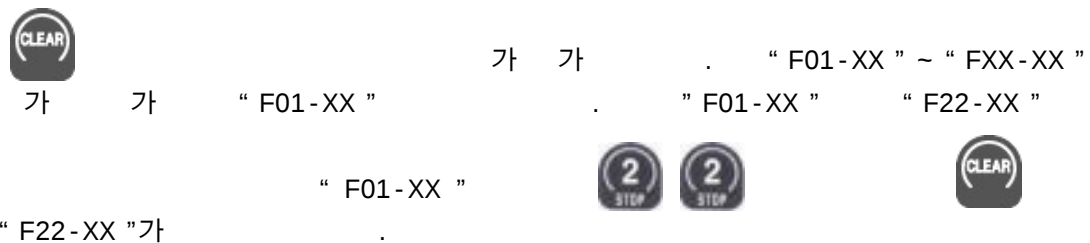
4-1. Set-up

- F-Function 가

• Set-up



F-FUNCTION



EX

--> " F01-XX "



--> " F02-XX "



--> " F03-XX "



가

" F01-01 "

" F32-XX "

--> " F01-01 "



--> " F01-03 "



--> " F01-32 "



--> " F32-XX "

F-Function
F-Function
Memory

Key
Key



EX

" F01-01 " " F01-03 "



--> " F01-03 "



Memory

4-2. F-Function List

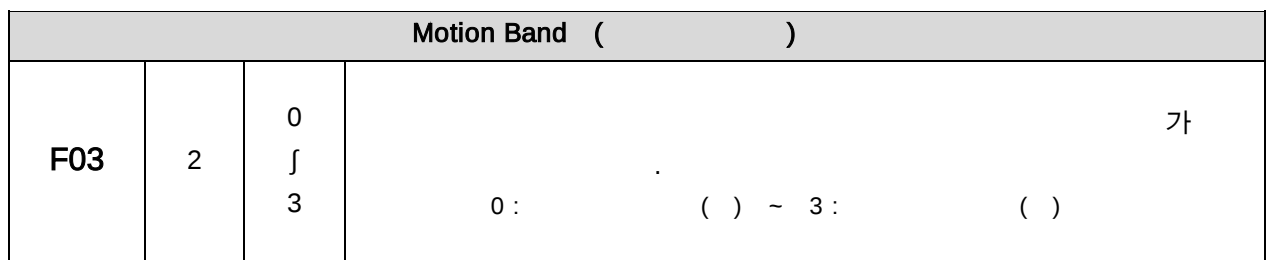
F-Function		
F00	Set-Up & Calibration	 
F01		0, 0.0, 0.00, 0.000
F02	(Weight Back-up)	Normal, Back - UP
F03	MOTION BAND ()	0 ~ 3
F04	ZERO TRACKING	0 ~ 3
F05	AUTO ZERO	00 99
F06		0 9
F07	ZERO, TARE Key	(0), (1)
F08	ZERO Key	2%(0), 5%(1), 10%(2), 20%(3)
F09	TARE Key	10%(0), 20%(1), 50%(2), 100%(3)
F10		0, 1
F11		0, 1, 2, 3, 4, 5
F21		1, 2, 3, 4, 5
F22	REALY	0.0 ~ 9.9 sec
F23	REALY ON	0.1 ~ 9.9 sec
F24	REALY	0.1 ~ 9.9 sec
F25	REALY ON	0.1 ~ 9.9 sec
F30	Serial : Parity bit	0, 1, 2
F31	Serial :	0, 1, 2, 3, 4, 5
F32		0, 1, 2
F33		0, 1
F34		0 ~ 99
F35	DATA FORMAT	0, 1, 2
F36	CHECK-SUM	0, 1
F40		0, 1, 2
F41		0, 1
F42		0: , 1:
F43	,	0, 1
F44		0 ~ 9
F45		0 ~ 9
F46	,	0, 1
F47	PRINT	0: , 1:
F50	BCD OUT-PUT	0: , 1:
F52	TARE() Key	0, 1
F80	(EMPTY)	X X X X X X
F89	Calibration SPAN	X . X X X X X
F90	(, ,)	X X . X X . X X
F91	(, ,)	X X . X X . X X

$$\left(\bullet \right)$$

(Weight Back-up)			
F02	●	0	Normal Mode
		1	Back-up Mode

ON

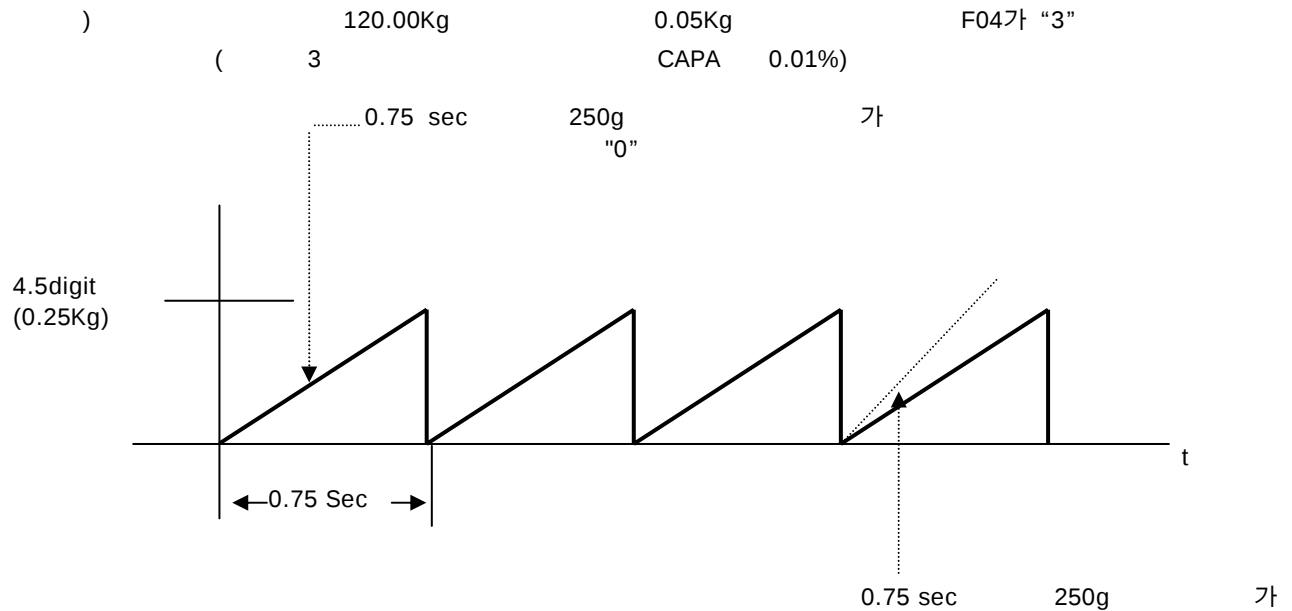
가



가

Motion Band

Zero Tracking			
F04	2	0 ∫ 3	(. . .)



Auto - Zero			
F05	05	00 ∫ 99	"0"



) 10.000 Kg , 0.001 Kg F05

30 ±(0.001 0.030Kg)

(STEADY LAMP ON) "0.000 Kg"

Digital Filter					
F06	2	0 ∫ 9	↓	↓	More Sensitive
					Less Sensitive

- ()

-

ZERO, TARE Key			
F07	•	0	 Key가 .
		1	가  Key가 .

ZERO Key			
F08		0	(CAPA) 2%  key가
		1	(CAPA) 5%  key가
	•	2	(CAPA) 10%  key가
		3	(CAPA) 20%  key가

TARE KEY			
F09		0	(CAPA) 10%  key가
		1	(CAPA) 20%  key가
	•	2	(CAPA) 50%  key가
		3	(CAPA) 100%  key가

F10	•	0	 Key IN - PUT HOLD (Peak - HOLD)
		1	 Key IN - PUT HOLD (Sample HOLD)

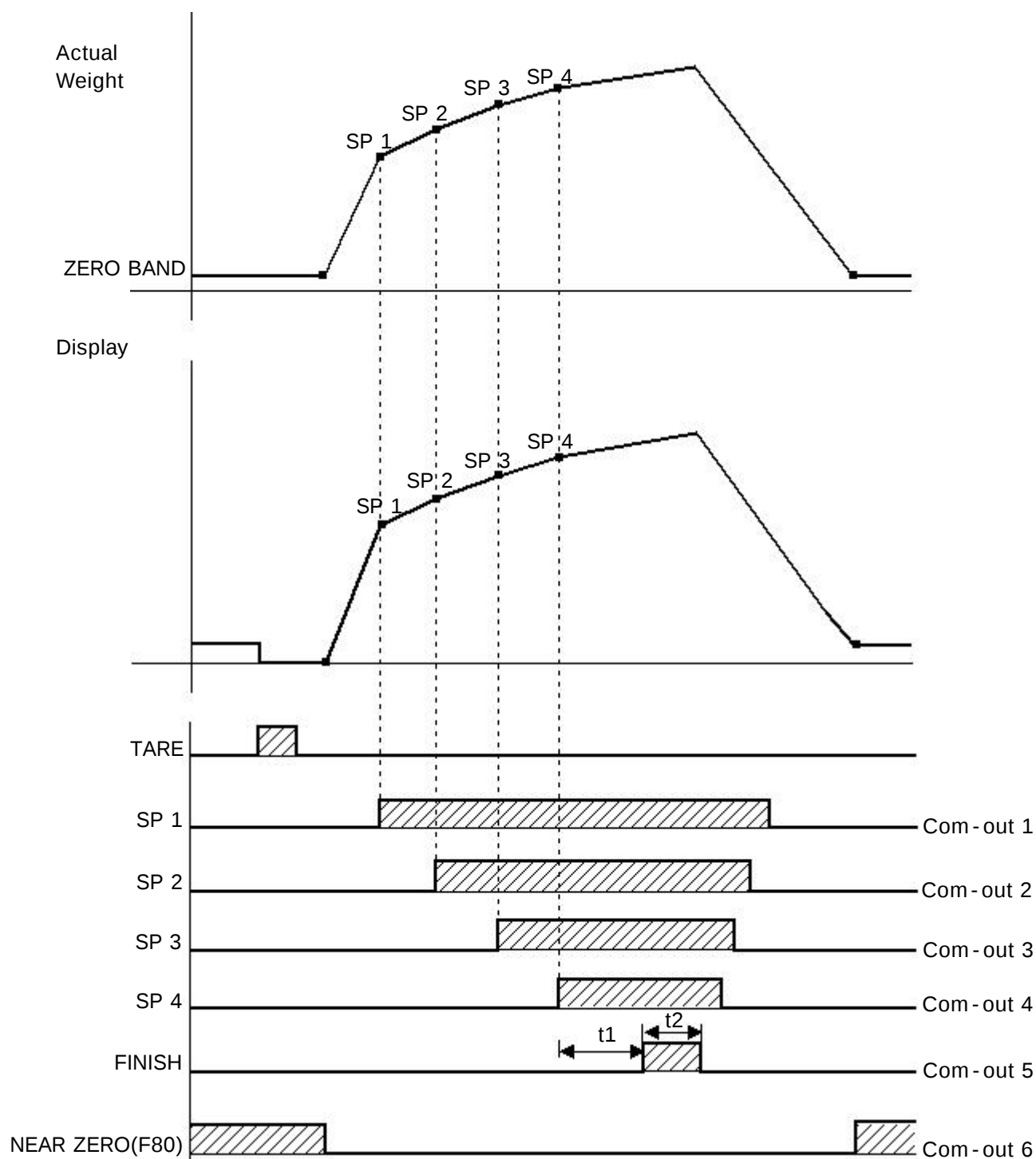
F11			IN1	IN2	IN3	IN4
	•	0		/	/	
		1	/	/		
		2				
		3				
		4				
		5				

Relay Output

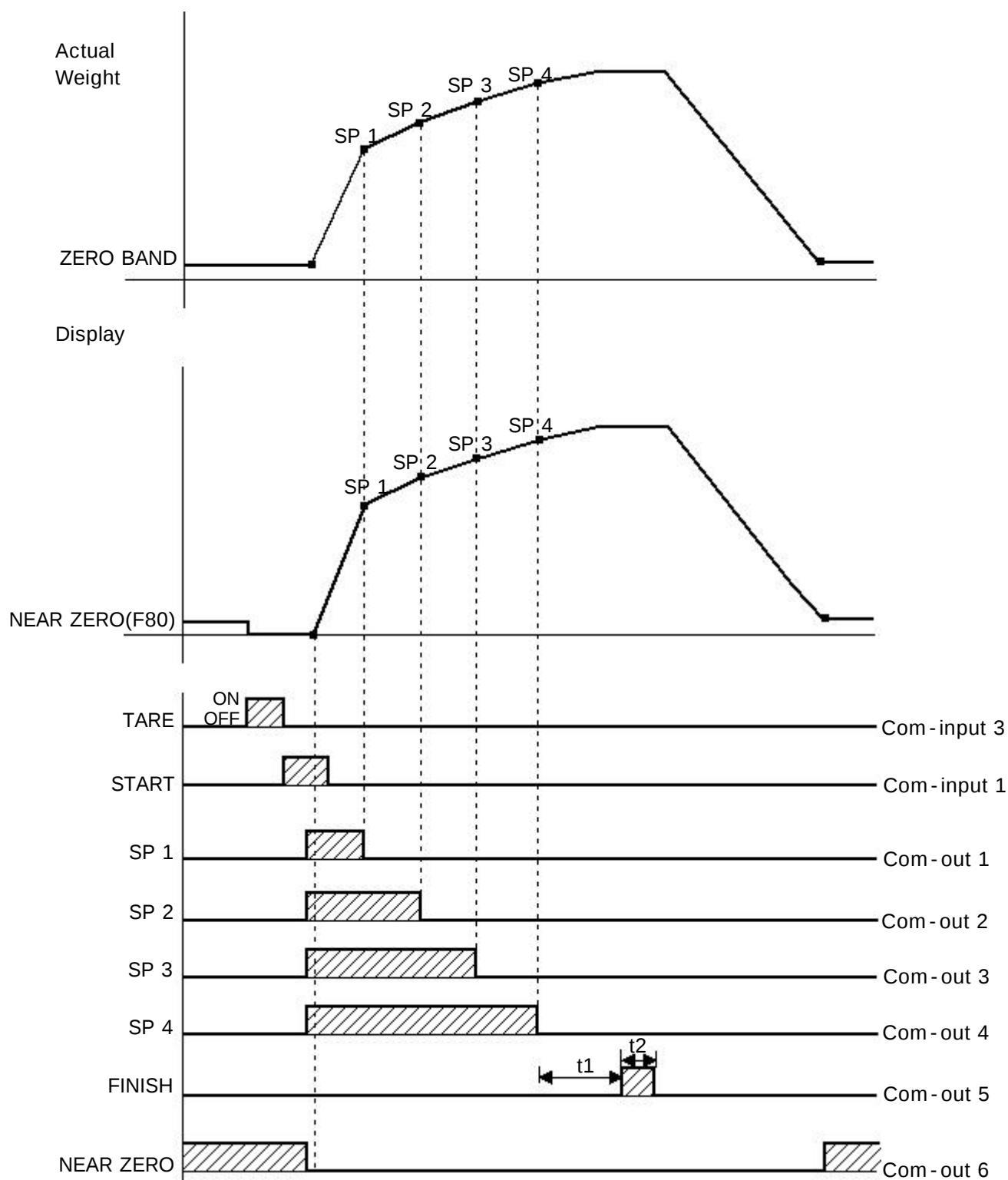
F21	•	1	Relay Output Mode 1 (LIMIT) - - Set Point ON
		2	Relay Output Mode 2 (PACKER)
		3	Relay Output Mode 3 (CHECKER 1)
		4	Relay Output Mode 4 (CHECKER 2)
		5	Relay Output Mode 1 (LIMIT) - - Set Point OFF

Mode							
		OUT 1	OUT 2	OUT 3	OUT4	OUT5	OUT6
1	LIMIT	SP1 on	SP2 on	SP3 on	SP4 on		
2	PACKER	SP1	SP2	SP3	SP4		
3	CHECKER1	SP1	SP2	SP3	SP4	SP5	
4	CHECKER2	SP1	SP2	SP3	SP4	SP5	
5	LIMIT 1	SP1 off	SP2 off	SP3 off	SP4 off		

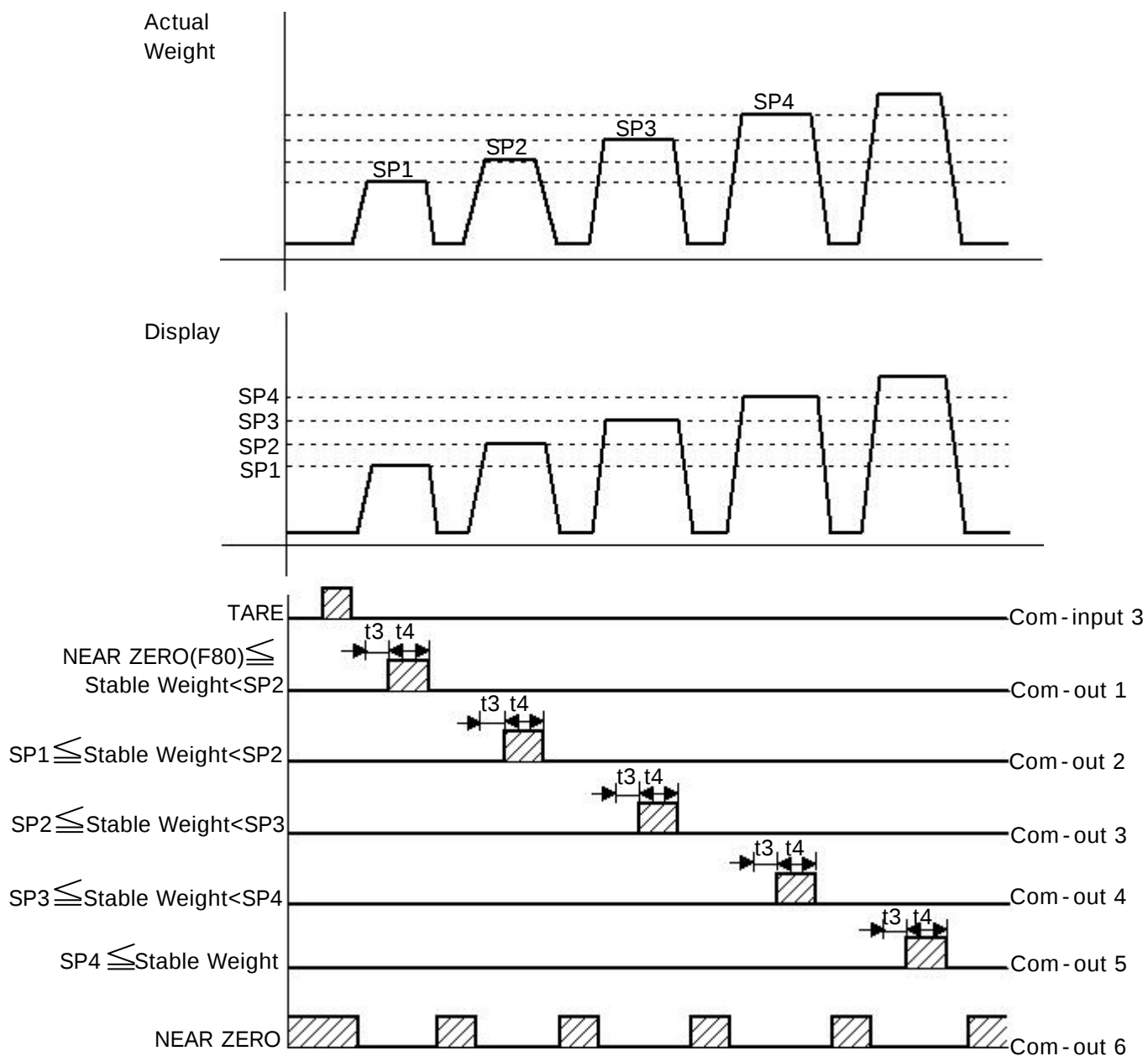
1. Out Mode 1: Normal Batching(Limit Mode)



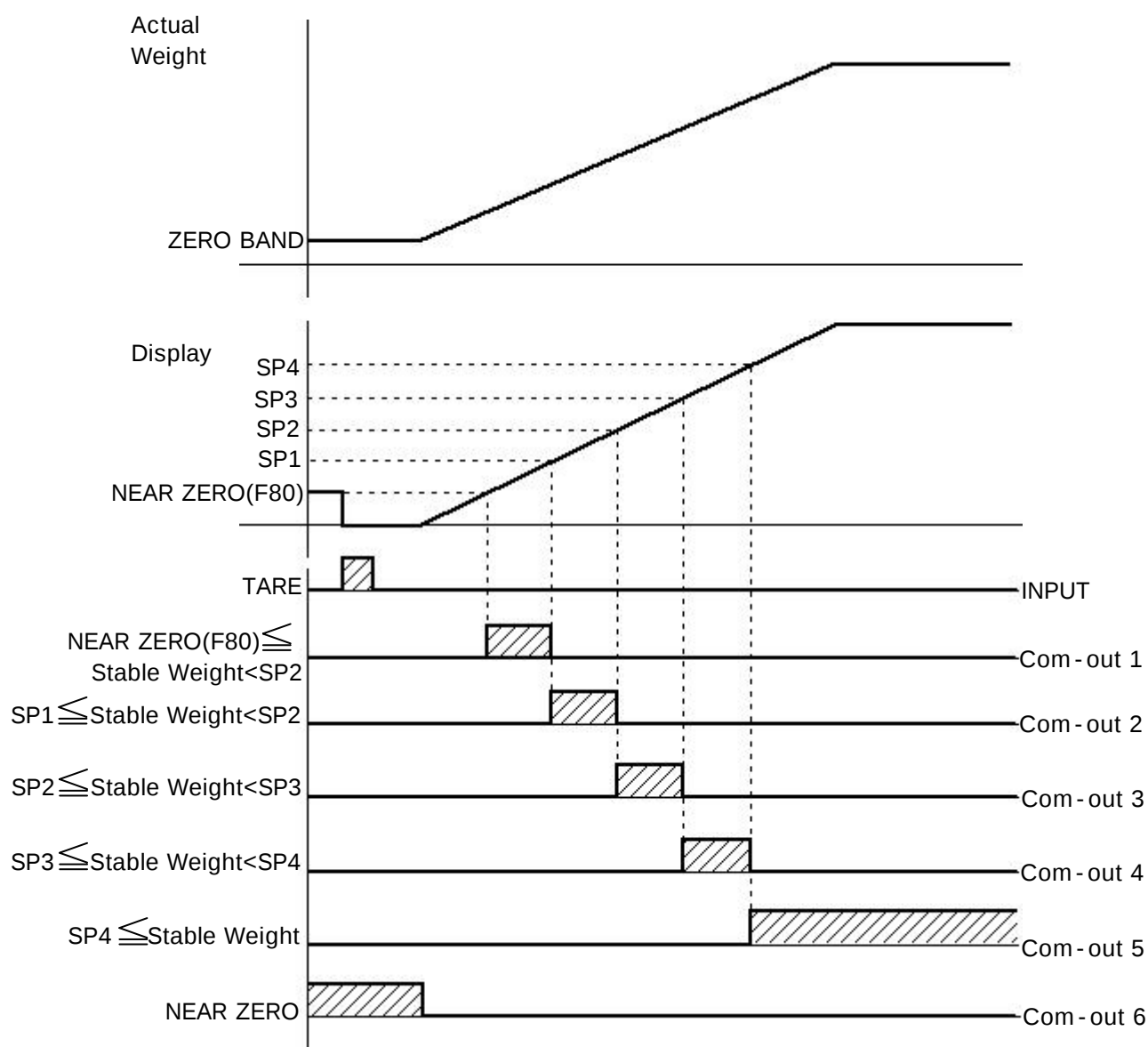
2. Out Mode 2: Programming Batching (Packer Mode)



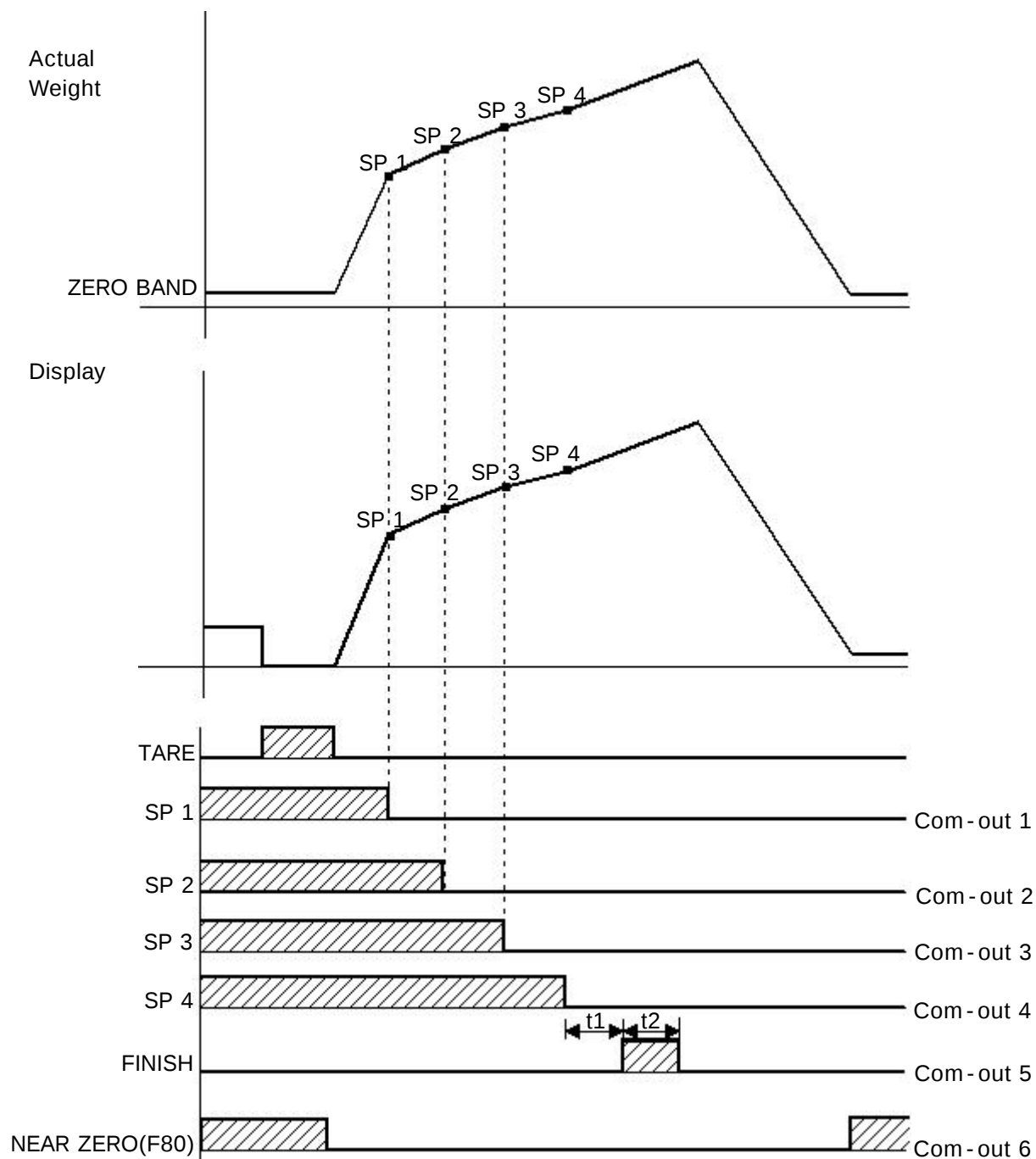
3. Out Mode 3 : Comparison Mode 1 (Checker Mode)



4.Out Mode 4 : Comparison Mode 2 (Checker Mode)



5. Out Mode 5 : Out mode 1, Normal Batching



F22	10	00 ∫ 99	SP4 RELAY 원료출력 Com-out 5 00 : relay 01 : 0.1 RELAY 99 : 9.9 RELAY

RELAY ON (F21-01 02)			
F23	10	01 ∫ 99	RELAY ON 원료출력 Com-out 5 01 : 0.1 Relay ON 99 : 9.9 Relay ON

Relay (CHECKER 1)			
F24	10	01 ∫ 99	Relay 판정 안정점 t3:지연시간 01 : 0.1 Relay 99 : 9.9 Relay

Relay ON (CHECKER 1)			
F25	10	01	Relay ON t4:ON 시간
		∫	
		99	
		01 : 0.1 Relay ON	
99 : 9.9 Relay ON			

SERIAL I/F

Serial : Parity bit			
F30	•	0	No Parity
		1	Odd Parity
		2	Even Parity

Serial :			
F31	•	0	9,600 bps
		1	4,800 bps
		2	2,400 bps
		3	1,200 bps
		4	19,200 bps
		5	38,400 bps

(F33 0)			
F32	•	0	Stream Mode :
		1	Mode : DATA
		2	Key DATA

(Communication Mode)			
F33	•	0	Mode
		1	Command Mode

F34	•	0	.
		1	.

F35	•	0	Data Format 1
		1	Data Format 2 ()
		2	Data Format 3 (CAS Format)

CHECK-SUM (F33 1)			
F36	•	0	Data Error
		1	Data Error

· Serial I/F

CENTRONICS PARALLEL OUT (PRINTER I/F)

F40	•	0	Kg
		1	g
		2	t (ton)

F41	•	0	F80 () 가 가
		1	가 OFF 가 ON

Print			
F42	•	0	:
		1	:

SUB(), GRAND()			
F43	•	0	SUB() :  Key  Key
			GRAND() :  Key  Key
		1	SUB(), GRAND()가

F44	1	0 f 9	1 Count 가 1 가

F45	1	0 ∫ 9	1 1 Count 가 1 가.

F46	•	0	:  KEY
		1	: (LAMP) 1

PRINT			
F47	•	0	
		1	

Parallel I/F (BCD OUT)

BCD Out put			
F50	•	0	
		1	

TARE () Key			
F52	•	0	 Key, INPUT  Key, INPUT
		1	Key . ( --> --> )

(Empty)			
F80	X.XXX	) 0.000 : 가 "0" 0.010 : 가 "10" 0.190 : 가 "150"	Relay Relay Relay



Calibration Span	
F89	SET - UP    Key SPAN SPAN  Key , SPAN  Key  Key . *注 : SPAN 가 가 SPAN) 100Kg, 105Kg, SPAN 1.23456 : (÷) X SPAN = 100 ÷ 105 X 1.23456 = 1.17577 SPAN 1.23456 1.17577 100 Kg 100Kg
(, ,)	
F90	
(, ,)	
F91	

5 INTERFACE

CPU 가 LSI

TTL

가

RS-232,

RS-422, RS-485, CURRENT LOOP가

5-1. RS-232C & Current Loop

• RS-232C Interface

RS-232C .

Noise

Shield Coaxial Cable

15m

- : F-Function(F30 F36)

Signal Format

Type : EIA-RS-232C

Method : (Half-Duplex), (Full Duplex)

Baud-rate : 1200, 2400, 4800, 9600, **19200** , **38400** 가

Data bit : 7 or 8 (no Parity)

Stop bit : 1

Parity bit : Even, Odd, no Parity 가

Code : ASCII

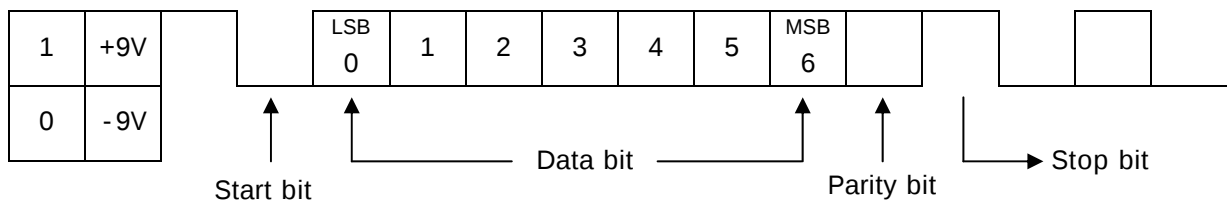
STX 02H

ETX 03H

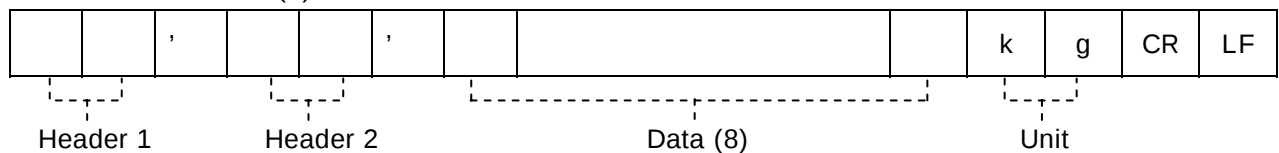
CR 0DH

LF 0AH

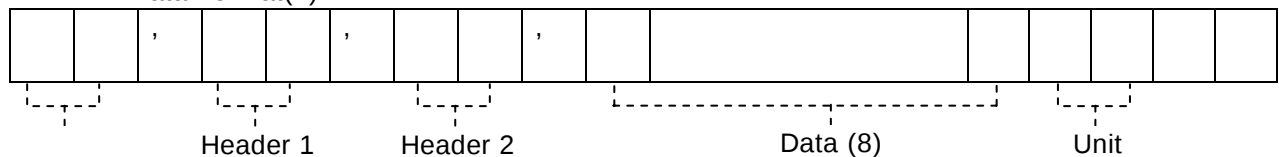
Check Sum (F36)



Data format(1)



Data Format(2)



Header 1

- OL : OVER LOAD, UNDER LOAD
- ST :
- US :

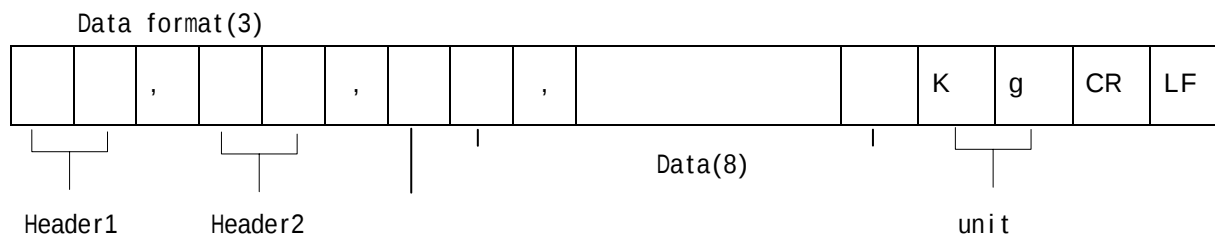
Header 2

- NT : NET WEIGHT ()
- GS : GROSS WEIGHT ()

Data

- 2B(H): " + " Plus
- 2D(H): " - " Minus
- 2O(H): " " Space
- 2E(H): " , " Decimal point

UNIT - Kg, g, t



Header 1

- OL : OVER LOAD, UNDER LOAD
- ST :
- US :

Header 2

- NT : NET WEIGHT ()
- GS : GROSS WEIGHT ()

: F34

: ON, OFF

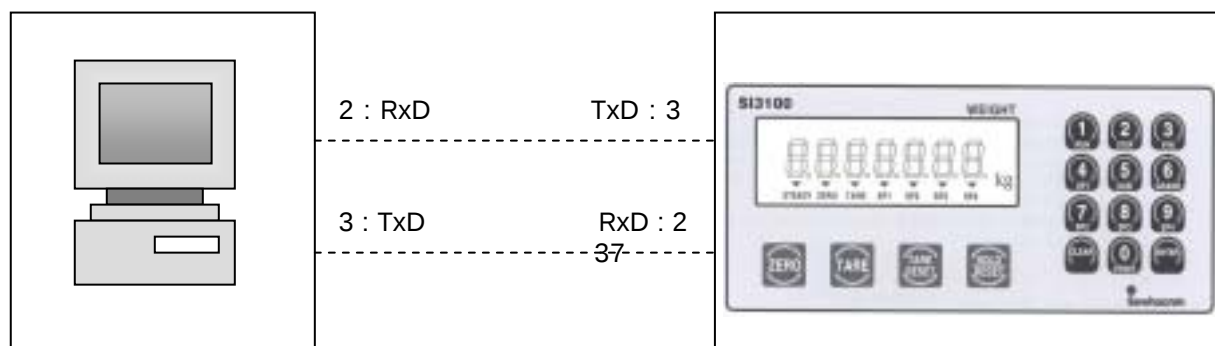
bit7	bit6	bit5	bit4	bit3	bit2	bit1	bit0
1		1					

Data

- 2B(H): " + " Plus
- 2D(H): " - " Minus
- 2O(H): " " Space
- 2E(H): " , " Decimal point

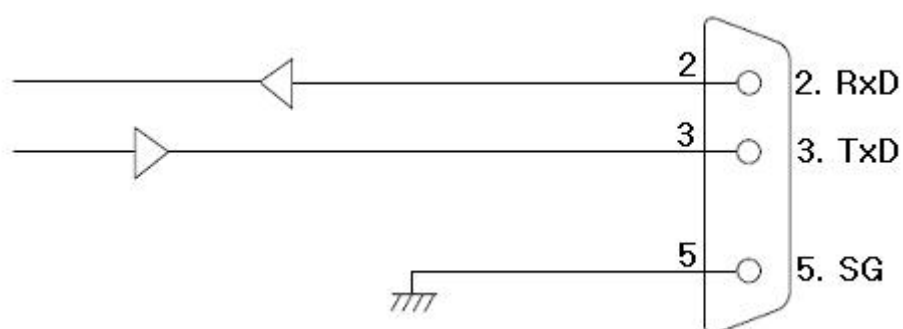
UNIT - Kg, g, t

PC (Personal Computer)



5 : SG SG :

RS-232C Circuit



• Current Loop Interface

Current Loop

Noise

. (Shield

100 M

RS-232C

500Ω

RS-232C

.)

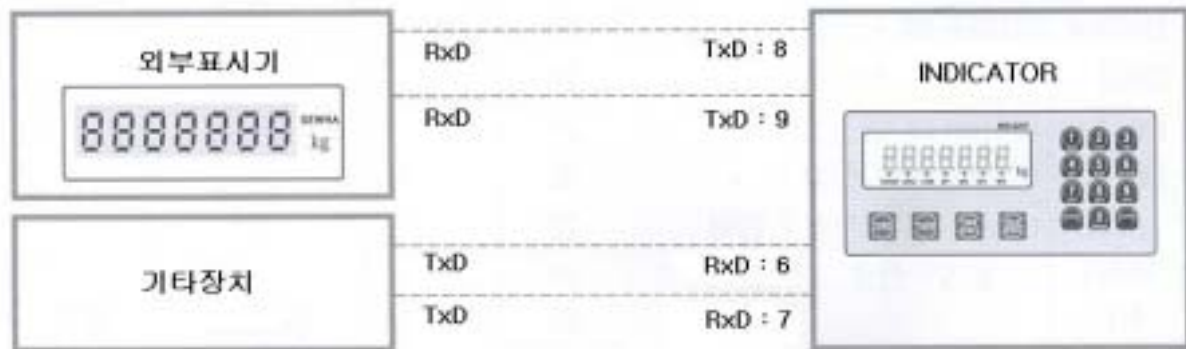
Transmission Mode

RS-232C

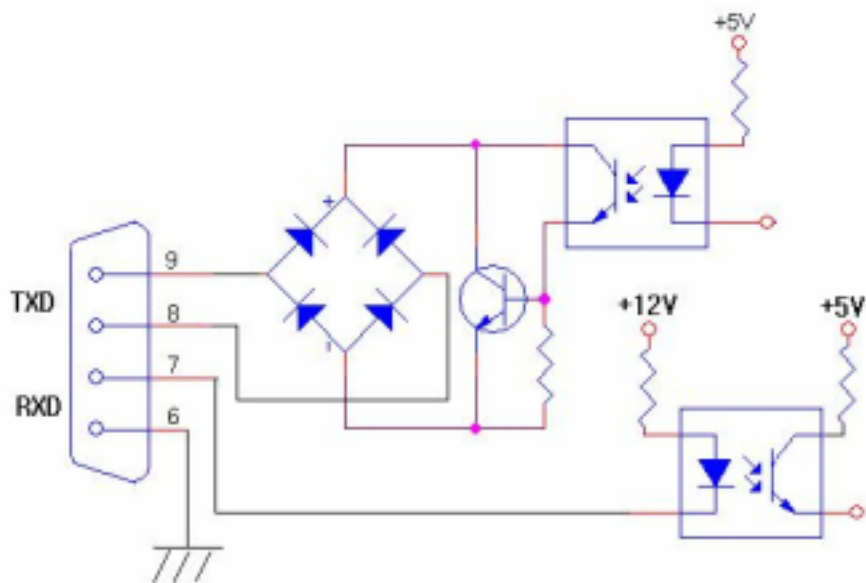
Signal Format
RS-232C

1	20 mA
0	0 mA

Data Format
RS-232C



Current Loop Circuit Schematic



5-2 PRINTER INTERFACE (Option 01)

Centronics Parallel Interface

Print Format

SE7200, SE7300

Printer Programming

가 Printer

Connector Pin Assignment

Pin No.			
1	STROBE	STROBE	
2	DATA0	(bit 0)	"
3	DATA1	(bit 1)	"

Pin No.			
14	N.C		
15	N.C		
16	N.C		

DIGITAL INDICATOR
SI3100

4	DATA2	(bit 2)	"
5	DATA3	(bit 3)	"
6	DATA4	(bit 4)	"
7	DATA5	(bit 5)	"
8	DATA6	(bit 6)	"
9	DATA7	(bit 7)	"
10	$\overline{\text{ACK}}$		
11	BUSY	BUSY	
12,13	N.C		

17	N.C		
18	GND	GROUND	
19	GND	"	"
20		"	"
21		"	"
22		"	"
23		"	"
24		"	"
25	GND	GROUND	

* 25 Pin D-type Female Connector

Interface Specification

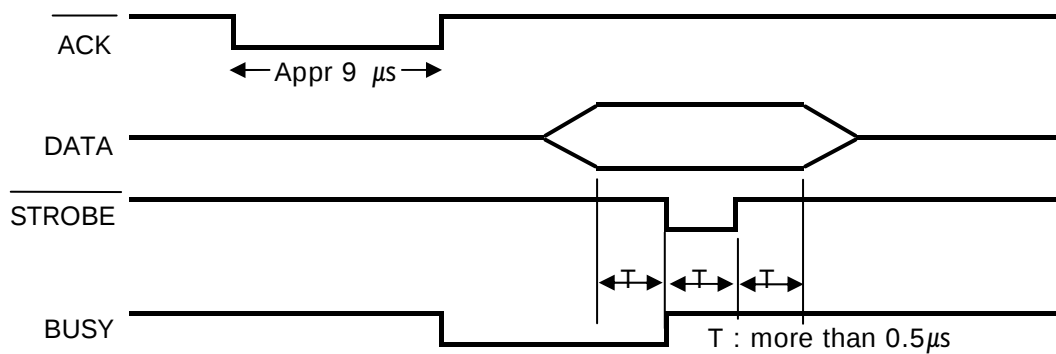
Data transfer rate : 1,000 to 6,000 characters/sec.

Synchronization : STROBE Pulses

Handshaking : $\overline{\text{ACK}}$ and BUSY Signals

Logic Level : Compatible with TTL level

Interface Timing



Typical Interface Circuit

Signal Name		Circuit Example
INPUT	$\overline{\text{BUSY}}, \overline{\text{ACK}}$ (From Printer)	
OUTPUT	Data ϕ ~ Data 7 (To Printer) STROBE (To Printer)	

PRINT FORMAT ()

날개 프린트

날	짜 :	2005/01/10
시	간 :	12:25:52
품번	순번	중량
01	1	50.00 g
=====		
날	짜 :	2005/01/10
시	간 :	12:25:52
품번	순번	중량
01	2	50.00 g
=====		
날	짜 :	2005/01/10
시	간 :	12:25:52
품번	순번	중량
01	3	50.00 g
=====		
날	짜 :	2005/01/10
시	간 :	12:25:52
품번	순번	중량
01	4	50.00 g
=====		

연속 프린트

날	짜 :	2005/01/10
시	간 :	12:25:52
품번	순번	중량
01	1	50.00 g
01	2	50.00 g
01	3	50.00 g
01	4	50.00 g
01	5	50.00 g
01	6	50.00 g
01	7	50.00 g
01	8	50.00 g
01	9	50.00 g
01	10	50.00 g
=====		

소계 프린트

소 계		
날	짜 :	2005/01/10
시	간 :	12:28:34
품	번 :	04
계량횟수 :	10	
중	량 :	499.80 kg

총계 프린트

총 계		
날	짜 :	2005/01/10
시	간 :	12:28:04
품번	순번	중량
01	10	500.00 kg
02	10	499.80 kg
03	11	549.78 kg
04	10	499.80 kg
총	품번 :	04
총	횟수 :	41
총	중량 :	2049.38 kg

날개 프린트

DATE :	2005/01/10
TIME :	12:25:52
PART SERIAL WEIGHT	
01 1	50.00 g
=====	
D A T E :	2005/01/10
T I M E :	12:25:52
PART SERIAL WEIGHT	
01 2	50.00 g
=====	
D A T E :	2005/01/10
T I M E :	12:25:52
PART SERIAL WEIGHT	
01 3	50.00 g
=====	
D A T E :	2005/01/10
T I M E :	12:25:52
PART SERIAL WEIGHT	
01 4	50.00 g
=====	

연속 프린트

DATE :	2005/01/10
TIME :	12:25:52
PART SERIAL WEIGHT	
01 1	50.00 g
01 2	50.00 g
01 3	50.00 g
01 4	50.00 g
01 5	50.00 g
01 6	50.00 g
01 7	50.00 g
01 8	50.00 g
01 9	50.00 g
01 10	50.00 g
=====	

소계 프린트

SUB-TOTAL	
DATE :	2005/01/10
TIME :	12:28:34
PART :	04
T-COUNT :	10
T-WEIGHT :	499.80 kg

총계 프린트

GRD-TOTAL	
DATE :	2005/01/10
TIME :	12:28:04
PART SERIAL WEIGHT	
01 10	500.00 kg
02 10	499.80 kg
03 11	549.78 kg
04 10	499.80 kg
T-PART :	04
T-COUNT :	41
T-WEIGHT :	2049.38 kg

DIGITAL INDICATOR
SI3100

(RECORDER, PLC,

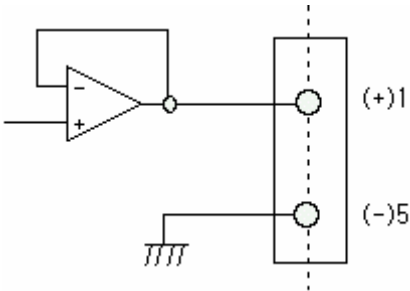
)

Voltage out

SPECIFICATIONS

	0~10V DC
	1/1,000 ~ 1/4,000

CONNECTOR (9P D-TYPE Female) Circuit



ANALOG (0 ~10V)

ADJUST

가 0 0V,

10V가

DIGITAL MULTI-METER

INDICATOR ANALOG OUT PCB VR 1(), VR 2(SPAN)

注 : ANALOG OUT (DATA)

D/A CONVERTER ANALOG

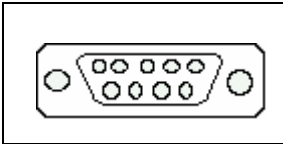
D/A CONVERTER 1/4000

1/3000 1/3000 가

Cable Cable

Shield Coaxial Cable

CONNECTOR



9 Pin D-TYPE Female Connector

1 : HI(+)

5 : Lo(-)

0~5V DC , 1~5V DC

5-4. ANALOG OUT(4~20mA) INTERFACE (Option 03)

Option Analog signal (Recorder, P.L.C etc.)
Current out Option .

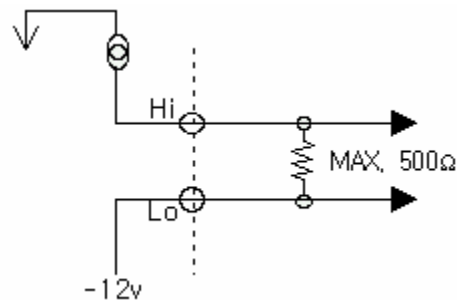
SPECIFICATIONS

	4~20mA , 2~22mA
	1/1,000 ~ 1/4,000
	0.01%
	500Ω MAX.

가 0 4mA, 가 (Full Capa)
20mA가 .

Lo(-) 가 GND가 GND Line Body GND,

* 가

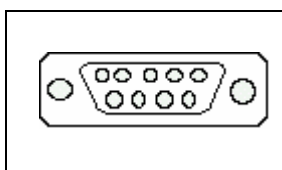


ADJUST

가 0 4mA, 20mA가
DIGITAL MULTI-METER
INDICATOR ANALOG OUT PCB VR (), VR (SPAN)

注 : ANALOG OUT (DATA)
D/A CONVERTER ANALOG
D/A CONVERTER 1/4000
1/3000 가
Cable Cable
Shield Coaxial Cable

CONNECTOR



9 Pin D-TYPE Female Connector
1 : HI(+)
5 : Lo(-)

(Parallel) BCD

BCD

, PLC(Programmable Logic Contoroller)

Photo-Coupler

BCD

10 M

- BCD 2 10 10 2 4

PIN ASSIGNMENT

PIN NO.	SIGNAL
1	GROUND(GND)
2	1×10^0
3	2×10^0
4	4×10^0
5	8×10^0
6	1×10^1
7	2×10^1
8	4×10^1
9	8×10^1
10	1×10^2
11	2×10^2
12	4×10^2
13	8×10^2
14	1×10^3
15	2×10^3
16	4×10^3
17	8×10^3
18	1×10
19	2×10
20	4×10
21	8×10
22	1×10^5
23	2×10^5
24	4×10^5
25	8×10^5

PIN NO.	SIGNAL
26	HI := Net LOW := Gross
27	
28	
29	
30	
31	
32	
33	
34	
35	
36	
37	EX. Vcc
38	
39	EX. Vcc
40	
41	
42	Hi : Positive Polarity
43	Hi : Decimal Point 10^1
44	Hi : Decimal Point 10^2
45	Hi : Decimal Point 10^3
46	Hi : OVER LOAD
47	
48	
49	BUSY
50	$\overline{\text{HOLD}}$ (INPUT)

50 PIN CONNECTOR : CHAMP 57-40500(Amphenol) (Female)

STANDARD ACCESSORY-57-30500(Amphenol) (Male)-1EA : Mating Connector

TTL OPEN-COLLECTOR OUTPUT

6-1. READ COMMAND

* :

TO → SI3100		SI3100
STX ID NO. RTIM ETX		DATA(6) -STX ID NO. RTIM 000000 ETX
STX ID NO. RDAT ETX		DATA(6) -STX ID NO. RDAT 000000 ETX
STX ID NO. RSNO ETX		DATA(6) -STX ID NO. RSNO 000000 ETX
STX ID NO. RPNO ETX		DATA(2) -STX ID NO. RPNO 000000 ETX
STX ID NO. RTAR ETX		DATA -STX ID NO. RTAR 000000 ETX
STX ID NO. RCWT ETX		-STX ID NO. RCWT DATA1 ETX
STX ID NO. RSUB ETX		-STX ID NO. RSUB P/N COUNT(6) TOTAL WEIGHT(8) UNIT ETX
STX ID NO. RGRD ETX		-STX ID NO. RGRD P/N COUNT(6) TOTAL WEIGHT(8) UNIT ETX
STX ID NO. RFIN ETX		DATA (.) -STX ID NO. RFIN 00000.0 ETX
STX ID NO. RCWD ETX		DATA (.) -STX IN NO. RCWD DATA2 ETX
STX ID NO. RSP1 ETX	SP1	SP1 -STX ID NO. RSP1 0001000 ETX
STX ID NO. RSP2 ETX	SP2	SP2 -STX ID NO. RSP2 0002000 ETX
STX ID NO. RSP3 ETX	SP3	SP3 -STX ID NO. RSP3 0003000 ETX
STX ID NO. RSP4 ETX	SP4	SP4 -STX ID NO. RSP4 0004000 ETX

REQUEST FORMAT

STX (1)	ID.NO. (2)	COMMAND (4)	BCC (1)	ETX (1)
---------	------------	-------------	---------	---------

RESPOND FORMAT

STX (1)	ID.NO. (2)	COMMAND (4)	RESPOND DATA	BCC (1)	ETX (1)
---------	------------	-------------	--------------	---------	---------

- RESPOND DATA FORMAT -1(14 byte)

1	2	3	4	5	6	7	8	9	0	1	2	3	4
HEADE1	HEADE2											UNIT	

- RESPOND DATA FORMAT -2(44 byte)

STX (1)	ID.NO. (2)	COMMAND (4)	DATE (6)	TIME (6)	PART NO (2)	S/N (6)	(7)	(7)	(2)	ETX (1)
---------	------------	-------------	----------	----------	-------------	---------	-----	-----	-----	---------

6-2. WRITE COMMAND

TO → SI3100		SI3100
STX ID NO. WTAR ETX		STX ID NO. WTAR ACK ETX or STX ID NO. WTAR NAK ETX
STX ID NO. WZER ETX		STX ID NO. WZER ACK ETX or STX ID NO. WZER NAK ETX
STX ID NO. WTRS ETX		STX ID NO. WTRS ACK ETX or STX ID NO. WTRS NAK ETX
STX ID NO. WPRT ETX		STX ID NO. WPRT ACK ETX or STX ID NO. WPRT NAK ETX
STX ID NO. WSPR ETX		STX ID NO. WSPR ACK ETX or STX ID NO. WSPR NAK ETX
STX ID NO. WGPR ETX		STX ID NO. WGPR ACK ETX or STX ID NO. WGPR NAK ETX
STX ID NO. WDAT ETX Ex) STX ID NO. WDAT 000000 ETX		STX ID NO. WDAT ACK ETX or STX ID NO. WDAT NAK ETX
STX ID NO. WTIM ETX Ex) STX ID NO. WTIM 000000 ETX		STX ID NO. WTIM ACK ETX or STX ID NO. WTIM NAK ETX
STX ID NO. WSNO ETX Ex) STX ID NO. WSNO 000000 ETX	(SERIAL)	STX ID NO. WSNO ACK ETX or STX ID NO. WSNO NAK ETX
STX ID NO. WPNO ETX Ex) STX ID NO. WPNO 000000 ETX	(B/N)	STX ID NO. WPNO ACK ETX or STX ID NO. WPNO NAK ETX
STX ID NO. WHOL ETX	ON	STX ID NO. WHOL ACK ETX or STX ID NO. WHOL NAK ETX
STX ID NO. WHRS ETX	OFF	STX ID NO. WHRS ACK ETX or STX ID NO. WHRS NAK ETX
STX ID NO. WSTC ETX	CLEAR	STX ID NO. WSTC ACK ETX or STX ID NO. WSTC NAK ETX
STX ID NO. WGTC ETX	CLEAR	STX ID NO. WGTC ACK ETX or STX ID NO. WGTC NAK ETX
STX ID NO. WSTR ETX	START KEY	STX ID NO. WSTR ACK ETX or STX ID NO. WSTR NAK ETX
STX ID NO. WSTO ETX	STOP KEY	STX ID NO. WSTO ACK ETX or STX ID NO. WSTO NAK ETX
STX ID NO. WSP1 ETX Ex) STX ID NO. WSP1 0001000 ETX	SP1	STX ID NO. WSP1 ACK ETX or STX ID NO. WSP1 NAK ETX
STX ID NO. WSP2 ETX Ex) STX ID NO. WSP2 0002000 ETX	SP2	STX ID NO. WSP2 ACK ETX or STX ID NO. WSP2 NAK ETX
STX ID NO. WSP3 ETX Ex) STX ID NO. WSP3 0003000 ETX	SP3	STX ID NO. WSP3 ACK ETX or STX ID NO. WSP3 NAK ETX
STX ID NO. WSP4 ETX Ex) STX ID NO. WSP4 0004000 ETX	SP4	STX ID NO. WSP4 ACK ETX or STX ID NO. WSP4 NAK ETX

ACK(06h) = (), NAK(15h) = ()

REQUEST FORMAT

STX (1)	ID.NO. (2)	COMMAND (4)	REQUEST DATA	BCC (1)	ETX (1)
---------	------------	-------------	--------------	---------	---------

RESPOND FORMAT

STX (1)	ID.NO. (2)	COMMAND (4)	DATA	BCC (1)	ETX (1)
---------	------------	-------------	------	---------	---------

1. 1
- 2.
- 1
-
-
-
-
-
- 3.
-

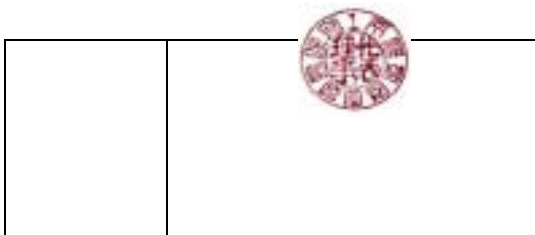
 **Sewhacnm**

가 60-4
310 (:153-801)

TEL : 02-868-0701 FAX : 02-868-0705

: www.sewhacnm.co.kr

e-mail : sewhacnm@sewhacnm.co.kr



	DIGITAL INDICATOR
	SI3100
	20

()	