

DC - 3000

032 - 679 - 3957

016 - 283 - 7370

<http://tesatool.com>

:http://

DC - 3000

一. KEY

1.1

1.2

1.3 key

1.4 Linear scale connector

1.5 Rs232 connector .

1.6 Foot switch Edge Detector

1.7 Printer port connector

二. DC-3000

2.1

2.2 Edge / Crosshairs Mode, / mode

2.3

2.4

2.5 program

2.6

2.7

2.8

2.9 measure Easy

2.10 , ,

2.11

三.

3.1

3.2

3.3

3.4 /

3.5 /

3.6 /

3.7 Edge/Crosshairs

3.8 /

3.9

3.10

3.11

3.12 Print

四.

4.1

4.2

4.3

4.4

五.

5.1

5.2

5.3

5.4

5.5

5.6 Measure Easy

5.7 (skew)

5.8

六.

6.1

6.2

6.3

6.4

6.5

6.6

6.7

6.8

6.9

七.

7.1

7.2

7.3

7.4

7.5

7.6 Measure Easy

7.7 , ,

7.8 ‘ ’

7.9 Backward Annotation Mode

7.10 Forward Annotation Mode

7.11

7.12

7.13

7.14

7.15 zero

7.16 Encoder Resolution

7.17

7.18 Linear error

7.19 Segment Linear Error

7.20 Program

7.21 Prescale

7.22 Print port

7.23 RS232

7.24 RS232

八. ,

8.1

8.2

8.3

九.

9.1 Packed BCD Code

9.2 ASC Character

9.3 Print

A.

B.

DC - 3000

0.1 DC - 3000

- (1) , 0~40 .
- (2) , , .
- (3) Linear scale cable 가 .
- (4) 가 , , , 가 .
- (5) , .

0.2 DC - 3000

- (1) 가 , .
- (2) , Linear scale .
- (3) DC - 3000

0.3

- (1) .
- (2)
- (3) .
- (4) .

0.4

DC - 3000 가 , , .

1.3 Key

	Key	Key Name	
1	Xo Yo Qo		
2	1/2		2
3	INC/ABS	,	INC/ABS
4	INCH/MM	Inch /mm	Inch / mm
5	POL/CART	,	,
6	EDGE / +	Edge, Crosshair	Edge, Crosshair
7	AUTO / MAN	,	,
8	PROG		
9	PRESET		
10	STORE		
11	RECALL		
12	PRINT		
13	SETUP		
14	ENTER/YES		
15	CANCEL/NO		
16	FINISH		
17	QUIT		
18	0 - 9		
19	.		
20	+/-	+/-	+/-
21		Scroll	
22	MORE	More	.
23	ORG		()
24	POINT	Point	
25	LINE	Line	
26	CIRCLE	Circle	
27	DIST	Distance	
28	ANGLE	Angle	
29	SKEW	Skew	

Key DC-3000 panel .

1. 4 Linear scale connector

1) 9pin

PIN NO		Cable color
1	+5V	
2	OV	
3	A+	
4	B+	
5	ABS+	
6	NC	
7	NC	
8	NC	
9	FG	Shield

2) 15pin (Optional)

PIN NO		Cable color
1	+5V	
2	OV	
3	A+	
4	B+	
5	NC	
6	FG	Shield
7-14	NC	
15	ABS+	

3) 7pin (Optional)

PIN NO		Cable color
1	OV	
2	NC	
3	A+	
4	B+	
5	+5V	
6	ABS+	
7	FG	Shield

1.5 RS232 pin

PIN NO		Cable color
1	NC	
2	TXD	
3	RXD	
4	NC	
5	GND	
6	NC	
7	NC	
8-9	NC	

1.6 Foot Switch Edge detector

PIN NO			
1	FT1-1		Foot Switch ENTER ON OFF .
2	FT1-2		
3	FT2-1		2. Foot Switch FINISH .
4	FT2-2		
5	EXTO-PLUS		3. Edge detector (Isolated .
6	EXTO-RTN		
7	EDGE-PS		4. Edge detector . (TTL Level)
8	EDGE-GND		
9	NC		

1.7Printt port pin

15pin , 25pin optional

15pin outlet

PIN NO		Cable color
1	STROBE	
2	DO	
3	D1	
4	D2	
5	D3	
6	D4	
7	D5	
8	D6	

9	D7	
10	ACK	
11	BUSY	
12 - 15	GND	

25pin (Optional)

PIN NO		Cable color
1	STROBE	
2	D0	
3	D1	
4	D2	
5	D3	
6	D4	
7	D5	
8	D6	
9	D7	
10	ACK	
11	BUSY	
12	GND	
13 - 17	NC	
18 - 25	GND	

二. DC-3000

2.1

(1) (Incremental)/ (Absolute)

(Absolute Coordinate)

가 .

(Incremental Coordinate)

가 .

(2) (Polar)/ (Cartesian Coordinate)

(x, y) 가 .

(,) 가 .

: “Current Position” .

X 1.000 .

Y 2.125가 .

가 (1.000, 2.125) ,

(2.349, 64.799) .

:

(1) .

(2) .

2.2 Edge / Crosshairs Mode, / mode

Crosshairs Mode , X, Y

Update ,

Edge mode Optical Edge Detector가

, X, Y

Update .

DC-3000

Edge mode (Auto) mode

DC-3000

Enter

가 , DC-3000

Enter

2.3

가 가 , Forward Annotation Backward Annotation .

Forward Annotation

Backward Annotation

. Forwarde Annotation

Backward Annotation

2.4

가 가 , 가 가 .

가 , 가

DC-3000 10 _____ a0-a9 100 _____ 00-99
 a0가 _____
 a0 a1 _____ 가 _____ a9 _____

 _____ a0 가

2.5

DC-3000 _____
 DC-3000 E²PROM _____ 가 10 _____
 _____ 0-9 _____ 1000 가 _____
 0-999 _____

 10

2.6

, Enter Quit
 Cancel
 Enter

2.7

DC-3000 _____

 X Y 가 _____
 가 X Y _____

2.8

DC-3000 _____

 : (1)
 (2) Linear scale

2.9 Measure Easy

DC-3000 Measure Easy Measure Easy가

- 가
- 1. Finish
 - 2. 2 Finish
 - 3. 가 3 ,
 - 가
 - 4. 7.6

2.10

DC-3000 3 DC-3000

가
가 Linear scale
가
(
가

2.11

1. :
- (1) X, Y
- : “a0 Point X/Y”가
- | | |
|---|-------|
| X | 1.000 |
| Y | 1.000 |
- a0 (1.000, 1.000)
- (1.414, 45.000)
- (2) X
- : “a1 Point r/a”
- | | |
|---|--------|
| X | 1.414, |
| Y | 45.000 |
- a1 (1.414, 45.000) ,

(1.000, 1.000)

MORE key “+T...”가

X 0.030

(+T)가 0.030

2.

가 가

: “a1 Line X/Y”

X 1.000

Y -1.000

a1

가 가 가

(1.000, -1.000),

(1.414, 315.000)가

MORE key “<...”

X 45.000

가 45.000°

MORE key “+T/-T...”

X 0.020

Y 0.010

(+T)

(-T)

3.

: “00 Circle R/D”가

X 2.000 ()

Y 4.000 ()

2.000 , 4.000

MORE key “X/Y”가

X 1.000 (X)

Y 1.000 (Y)

가

(1.000, 1.000) ,

(1.414, 45.000)

More Key “+T/-T...”

X 0.030

Y 0.020

(+T)

(-T)

4.

가 .

: “00 Dist X/Y/D”가 .

X 1.000 .

Y 1.000 .

Z 1.414가 .

0 , X offset value 1.000 , Y

offset Value 1.000, Z .

MORE key , “00 Near X/Y/D”가 .

X 1.000 .

Y 1.000 .

Z 1.414가 .

0 가 가 , X offset value 1.000,

Y offset value 1.000, Z .

More key , “00 Fart X/Y/D”가 .

X 1.000 .

Y 1.000 .

Z 1.414가 .

0 가 , X offset value 1.000, Y

offset value 1.000, Z .

: , , .

()

5.

가 .

: “02 Angle <12” .

X 45.000 . <1, .

Y 135.000가 . <2, .

0 , 45° , 135.000° .

MORE key , “02 Angle <34...”가 .

X 225.000 . <3, + 180. .

Y 315.000 . <4, 360- .

0 가 . X 180.00 + <1 = 225.000 ,

Y 360.000 - <1 = 315.000 .

MORE key “02 Angle X/Y”가 .

$X = 0.243$,
 $Y = 1.007$.
 0, 가 (0.243, 1.007).



1. display:
 “Current Position” (“Last Edge Cross”)가 .

3.1

, DC-3000
 X Segment Linear Error Compensation , “Move Near X R
 ..” , Linear Scale R 가 Enter ,
 “Search X R ...” . Linear Scale R “R Found...”가
 , X R . Y Segment Linear Error
 Compensation , DC-3000

- A.
B. ABS/INC
C. MM/INCH
D. CART / POL
E. EDGE/+
F. Auto/Man
G. DC -3000 skew

3.2 Clear (Zero)

DC-3000 , 가 0 .

1. ;

2. Xo Key , X 0 .

Yo Key , Y 0 .

Qo Key , Q 0 .

- : (1) DC-3000 0 .
- (2) INC/ABS 가 0 .
- (3) ABS가 0 , INC 0 , INC가 0 , ABS 0
- ..

3.3

- 2 . , 0 .
- :
- 1.
 2. Optical Edge Detector X , Xo key ;
 3. Optical Edge detector 1/2 Key ,
“Axis to Half”가 ;
 4. Xo key , X 가 .;
 5. X 0.000 가 ,
: Y Q 5 Yo Qo .

3.4 /

- : 가 “ABS”() “INC”() .
- :
- 1.
 2. INC/ABS .
: (1) DC-3000 .
(2) 가 “INC”()

3.5 MM/INCH

- “mm” “inch” .
- :
- 1.
 2. Inch / mm .
: (1) DC-3000 ,
(2) 가 “inch” .

3.6 /

“CART”() “POL”() .
:

1. .

2. POL/CART , .

: (1)DC -3000

(2) 가 “POL”() .

3. 7 Edge Mode, Crosshairs Mode

“+”(Crosshairs Mode) “EDGE” .
:

1. .

2. EDGE/+ , .

: (1) DC -3000

(2) , “EDGE” .

3. 8 ,

“MAN”() “AUTO”()
:

1. .

2. AUTO/MAN .

: (1) DC -3000

(2) “AUTO” .

(3) DC - 3000 “AUTO” “EDGE”

DC -3000 “+”(Crosshairs) “MAN”

3. 9

:

1. .

2. key key LCD X , Y 가

: DC -3000

“NO, FEATURE”

3.10

:
: a1 12
:
1.
2. **STORE** “Store:00” ;
3. 1, 2, **ENTER** 1, 2 ;
ENTER “Select Source...”가
가 : “a0 Line X/Y”, X Y
가
4. LCD X , Y a1 가
5. **ENTER** a1
: (1) DC-3000
(2) 2, 5

3.11

: a0
: 12 a0
:
1.
2. **RECALL** “Recall:00” ;
3. 1, 2 1 2 ;
4. **Enter** , LCD X , Y
a0 가
: (1) DC-3000
(2) 2
(3) Recall a0

3. 12 Print

print .

1 : print .

:

1. .

2. PRINT "Print Prog"가 ;

3. "Print Feats?"가 print

.

4. ENTER print가 .

2 : program print .

1. .

2. PRINT , "Print Prog"가 .

3. ENTER "Prg Num:" .

4. 1 print .

5. ENTER , print가 .

四.

:

.

:

1. , , Annotation , Forward Annotation

2.

3.

4.1

:

1. mm inch 가 가 . 가

3. 5 mm/inch .

2.

3. 4 / .

3.

3. 6 /

X, Y

X, Y

4. Probing()

Crosshairs Edge , Optical
edge detector Crosshairs

3.7 Edge/Crosshairs

3.8 /

5. Forward Backward annotation

Forward Backward annotation :

(1). SETUP

(2). "Annotation..."

(3). ENTER "Back Annotation"

(4). "Forward Annotation"

(5). ENTER , " "가 , Forward Annotation
, Backward annotation

(6) FINISH , QUIT

6.

(1). SETUP

(2). " Angle Type..."

(3). ENTER , "DMS Angle"(, ,)

(4). "DD Angle"()

(5). ENTER , " " , DD

, DMS

(6) FINISH QUIT

7.

가 Forward annotation ,

(1) SETUP , 가 , "Clear..."

(2) "Annotation..."

(3) ENTER "Back Annotation"

FINISH , Forward Annotation **FINISH** 가 , “X
(Y) Axis Skewd”가 , ,
가 () .

(4) **POINT**
, **ENTER** (P1).
Forward Annotation (Backward Annotation
FINISH),
“a0 Point X/Y”가
가 X, Y . **MORE**

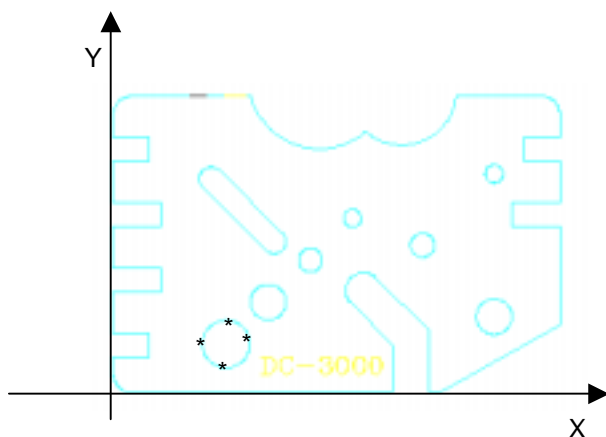
(5) **ORG** , “Select
Point”가 , “No
Feat Selected”가 , ☐ ☐

(6) **ENTER** .
:
1. “SKEW” **SKEW** 3 .
2. 가 , **SKEW** .
SKEW .

4.3

3~50 가 . Backward
Annotation 가 .
3
가 . Forward Annotation
가 3 가
. Forward Annotation
:

(1) **CIRCLE** , “Probe Circle” , Forward Annotation
, 가
. **CIRCLE**
가 가 .
Forward Annotation



가
가 ,

(2) , ENTER 가 X, Y
 , 가

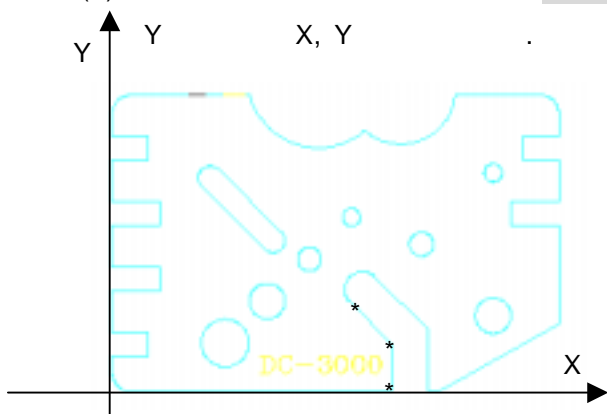
(3) Forward Annotation 2
 ENTER Backward Annotation
 FINISH 가 ,
 “a0 Circle R/D”가 a0 , R
 D가 X, Y

(4) MORE “a0 Circle X/Y”가 , X, Y
 MORE , “a0 Circle +T/-T”가 , X,
 Y +T -T

4.4

: 1) 3
 ; 2)
 1. 3
 가 180

(1) ANGLE
 “Probe Angle”
 (2) POINT ANGLE 3
 “Probe 3Points”
 (3) ENTER , X,
 Y X, Y “1 Pts Probed”가



(4) , ENTER
 ENTER 3
 (5) FINISH 3
 “a0 Angle < 12...”가 , (<1) X
 (<2) Y

(6) MORE

2. 가

1 가 180

(1) ANGLE POINT

“Probe First Line”

Forward Annotation

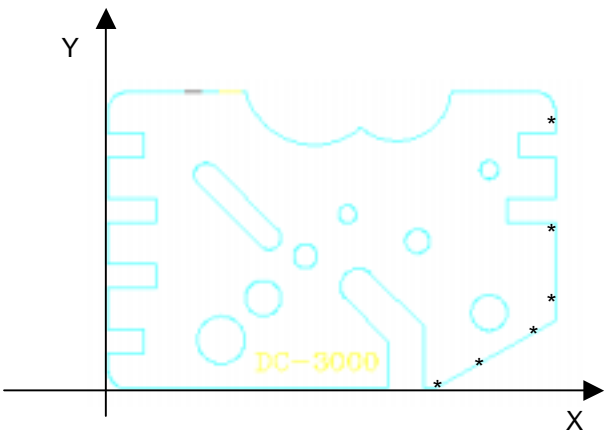
3

Backward Annotation

가

“Probe 01”

“Probe Line 03”



(2)

ENTER

Forward Annotation

“02 More Point”가

2

Backward Annotation

“Probe 02”

2

(3)

(2)

Forward Annotation

(Backward Annotation

“FINISH”

),

가

“Second Line”

(4) (2), (3)

Forward Annotation

(Backward Annotation

FINISH

),

“a0 Angle <12...”가

MORE

五.

:
Forward Annotation Backward
Annotation 가

5.1

a. Forward Annotation

:
1.
2. POINT “Probe Point n”(n)
,
3. Linear scale ENTER “n More
Points”(, N , N ENTER
1).
4. 3 CANCEL
, POINT , 1 가
5. “a0 Point
X/Y”가 , X X 가 , Y Y 가

:
(1) QUIT
(2) 2 n . (7.10).
(3) POINT 가
(4) FINISH

b. Backward Annotation

:
1.
2. POINT “Point 01” ,
3. Linear Scale ENTER “Point n”
, n ENTER
1 가).

4. 3 . CANCEL

5. , FINISH .
“a0 Point X/Y”가 , X X 가 , Y
Y 가 .

(1) QUIT .

(2) Backward Annotation 가 Forward Annotation
. (7.8, 7.9)

5.2

a. Forward Annotation

1. .
2. LINE . , “Probe Line n” (n
) .
3. Linear Scale ENTER . , “n More Points”
, (, n , ENTER 1
) .
4. 3 . CANCEL ,
, LINE 가 .
5. . “a0 Line
X/Y”가 , X 가 가 X , Y
Y .
:

(1) QUIT .

(2) Backward Annotation 가 Forward Annotation
. (7.9)

5.3

a. Forward Annotation

1. .
2. CIRCLE . , “Probe Circle n” (n),
. .
3. Linear Scale , ENTER . , “n More

- Points”가 (n , ENTER
1).
4. 3 . CANCEL ,
- CIRCLE 가 .
5. “a0
Circle X/Y”가 , X X 가 , Y Y 가
.
:
- (1) QUIT .
- (2) 2 n .
- (3) CIRCLE 가 (7.12).
- (4) FINISH .

b. Backward Annotation

- :
1. .
2. CIRCLE , “Point 01” .
3. Linear Scale ENTER , “Point n”
.(, n , ENTER , 1
가).
4. 3 . CANCEL
5. FINISH .
“a0 Circle X/Y”가 , X X 가 , Y
Y 가 .
:
- (1) QuiT .
- (2) Backward Annotation 가 Forward Annotation .

5. 4

a. Forward Annotation

- :
1. .
2. DIST , “Probe Offset 02”가 ,

3. Linear Scale , ENTER , “n More Points”가 .(, n ENTER , 1).
4. 3 . CANCEL , DIST 가 .
5. “a0 Offset X/Y”가 , X X , Y Y . : (1) QUIT .

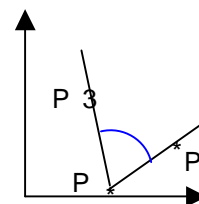
b. Backward Annotation

1. .
2. DIST , “Point 01” , .
3. Linear Scale , ENTER , “Point 02”가 . (, 2).
4. ENTER . “a0 Offset X/Y”가 . X X , Y Y , Z , Z 가 . : (1) QUIT .
- (2) Backward Annotation 가 Forward Annotation . (7.9, 7.10)

5.5

- 가 : 1)
- , 2) 가 ,

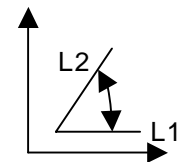
- 1) 3 .
1. .
2. ANGLE “Probe Angle” .
3. POINT “Probed 3 Points”가 , P1



4. Linear Scale ENTER , “1st Pts
Probed”가
5. , 4
P2 ENTER
6. P2
- ENTER
6. 3 FINISH “a0 Angle <12...”

2)

가



- 1.
2. **ANGLE**
3. **POINT** “Probe Line”
4. L1 ()
5. L2 ()
6. “a0 Angle <12”가

1)

가 180

2)

1)

180

3)

4.4

5.6 Measure Easy

Measure Easy

Measure Easy

7.8

Measure Easy

가

Measure Easy

1.

2.

3. 3

1. .
2. 가 , ENTER “ Measure Easy”가 .
3. ENTER , “2 Pts Probed”가 2
4. 2 FINISH
5. “Measure Easy OK” ,

1. Measure Easy ,
 2. 가 ENTER , “Measure Easy” ,
 3. 가 CANCEL
 4. 가 QUIT
 5. Measure Easy , POINT , 가
- 가 LINE CIRCLE
- POINT

5.7 (SKEW)

- 가 (edge), 가
- 가 가
1. .
 2. SKEW SKEW .
 3. () 가
 4. , “Axis Skewed”가 , SKEW
- 0

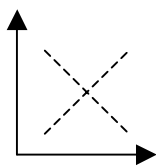
- (1) , “Not Skew”가 .
- (2) SKEW (,) 2 :
- A. SKEW , DC - 3000 SKEW 가 (SKEW가)
- B. SKEW SKEW . , SKEW 가 SKEW 3 가 , SKEW SKEW .

5.8

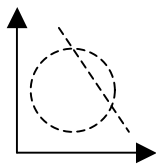
:

.

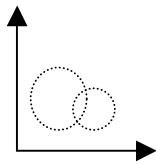
1. :
- (1) 1 (Point) key



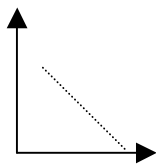
POINT 1 2



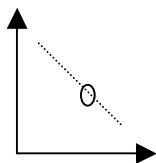
POINT



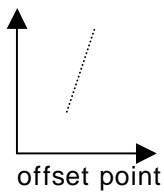
POINT 1 2



POINT 1 2

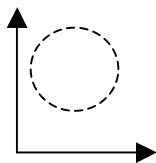


POINT

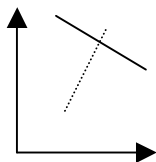


offset point

POINT



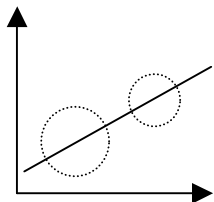
POINT



POINT

(2) 1

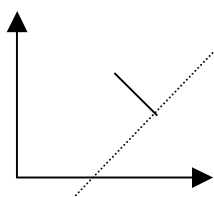
(line)



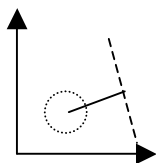
LINE

1

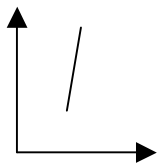
2



LINE

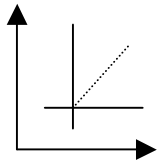


LINE



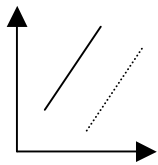
LINE

1 2

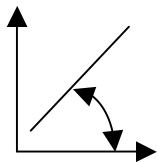


LINE

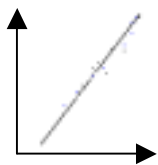
1 2



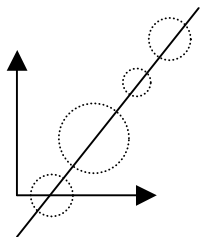
LINE



LINE



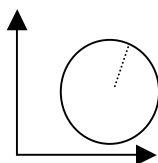
LINE



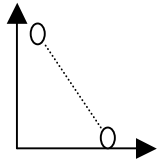
LINE

(3) 1

(circle)

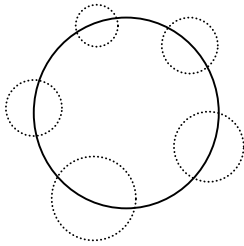


CIRCLE



Offset

CIRCLE



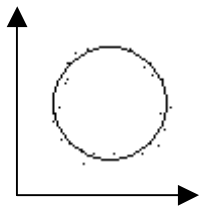
()

(1) CIRCLE , Porbe Circle .

(2) , ENTER .

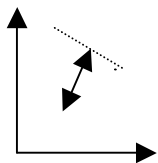
(3) 2 , FINISH .

(4) “a0 Circle R/D”가 가 .

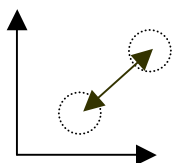


CIRCLE

(4) (Distance)



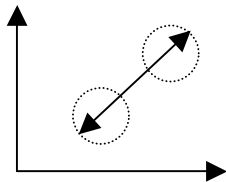
DIST



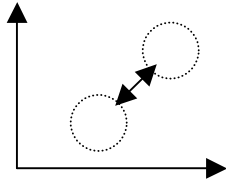
DIST

1 2

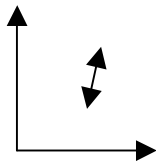
:



가



가 가



1.

2. 가

가

3. 가 가

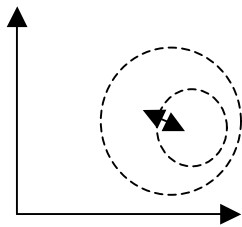
, 가

가 가

4. , , 가 .

DIST

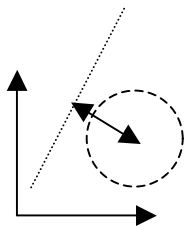
1 2



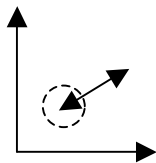
DIST

1 2

Nearest/Farthest



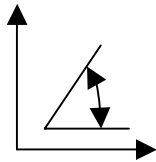
DIST



DIST

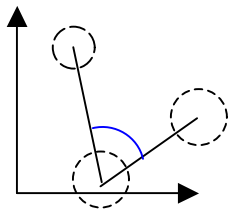
1. , Nearest / Farthest

2. LED . 2.10
(5) (ANGLE)



ANGLE

1 2



ANGLE

1, 2 3

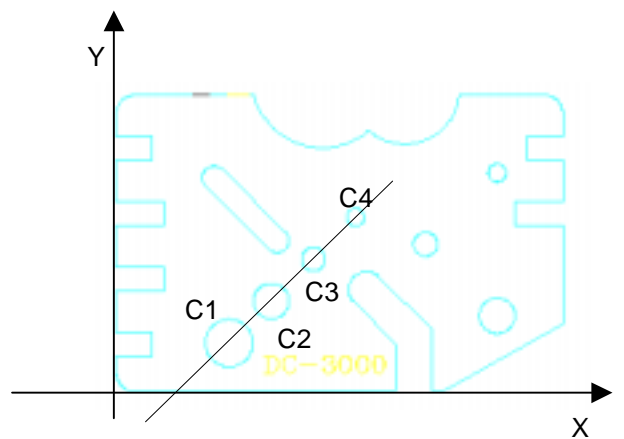
:
가 ,

1 ; a1 a5가

1.
2. POINT "Point 01"
3. "a0 Point X/Y"가
4. "a1 Point X/Y"가
5. ENTER 가 a1

6. "a5 Line X/Y"가
7. ENTER , "a0 Point X/Y"가
가

(1) 2 Backward
Annotation ,



Forward Annotation “Probe Point n” 가 (n).

(2) 3, 4, 6 a0, a1, a5 ,

(3) , 가 , .

2 : 4 C1, C2, C3, C4 . 4

1. .

2. CIRCLE . 5.3 .

3. 2 3 C2, C3, C4 .

4. LINE , “Point 01” .

5. “a0 Circle R/D”가 가 .

6. ENTER 가 “ ” , 가

7. 5 6 .

8. FINISH , “a0 Line X/Y”가 .
가 L1 .

3 : C1, C2 , :

1. CIRCLE C1 . 5.3 .

2. 1 C2 .

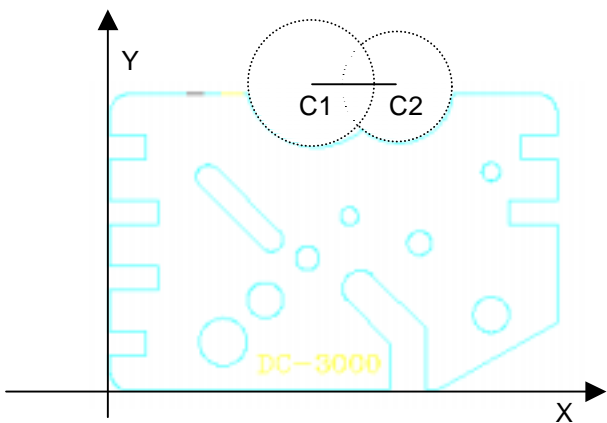
3. DIST “Probe Offset 02”가

4. “a0 Circle R/D”가
C2 .

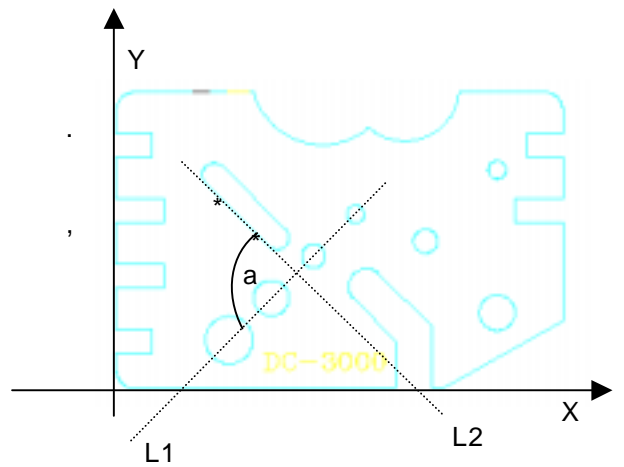
5. ENTER 가
“ ”

6. 4 5 C2 .

7. FINISH .
“a0 Distance X/Y”가 .



- 4 : L1 4 L2
- 2 L1 L2 <2 :
1. L1 , 2
 2. L2 , 5.2
 3. **ANGLE** . **POINT**
 4. L1, L2
 5. **FINISH** , “a0 Angle <12...”



六. (Preset Feature)

6.1

- :
- 1.
 2. **PRESET** , “Axis to Preset”
- :

6.2

- : DC-3000 ,
- : X 12.324
- :
- 1
 2. **PRESET** , “Axis to Preset”
 3. **X0**
 4. 1, 2, ., 3, 2, 4, +/-
 5. **ENTER** , X 가
- :
- (1) **CANCEL**
- QUIT**
- (2) Y Q , 3 **Y0** **Q0**

6.3

:
 : (1.234, -5.678).
 :
 1.
 2. **PRESET** , “Axis to Preset”
 3. **POINT** , “X 0.000”
 4. 1, ., 2, 3, 4
 5. **ENTER** , “Y 0.000”가
 6. 5, ., 6, 7, 8, +/-
 7. **ENTER** , “a0 Point X/Y”가 , X 1.234가 , Y
 -5.678

6. 4

:
 : (1.234, -5.678) , 45
 :
 1.
 2. **PRESET** , “Axis to Preset”
 3. **LINE** , “X 0.000”
 4. 1, ., 2, 3, 4
 5. **ENTER** , “Y 0.000”
 6. 5, ., 6, 7, 8, +/-
 7. **ENTER** , “<: 0.000”
 8. 4, 5
 9. **ENTER** , “a0 Line X/Y”가 . X 1.234가 , Y
 5.678

:
 (1) DC-3000 X, Y
 (3 5), , DC-3000
 , 가 가
 (2) , **MORE**

6.5

:
 : (1.234, -5.678) , 2.000
 :
 1.
 2. **PRESET** , “Axis to Preset”
 3. **CIRCLE** , “R: ”
 4. 2
 5. **ENTER** , “X 0.000”
 6. 1, . , 2, 3, 4
 7. **ENTER** , “Y 0.000”
 8. 5, . , 6, 7, 8, +/-
 9. **ENTER** , “a0 Circle X/Y”가 , X 1.234가 , Y
 -5.678
 :
 (1) , **MORE** / 가

6.6

:
 : , X 1.234, Y -5.678
 :
 1.
 2. **PRESET** , “Axis to Preset”가 ,
 3. **DIST** , “X 0.000” , X
 4. 1, . , 2, 3, 4
 5. **ENTER** , “Y 0.000” Y
 6. 5, . , 6, 7, 8, +/-
 7. **ENTER** , “a0 Offset X/Y”가 , X 1.234, Y -5.678
 , Z 가

6.7

1. : .
2. : , 45 .
3. : .
1. .
2. PRESET . , “Axis to Preset” , .
3. ANGLE . , “<: 0.000” .
4. 4, 5 . 45 .
5. ENTER “X 0.000000”가 , X
6. 1, . , 0 . X 1.000 .
7. ENTER “Y 0.000000”가 , Y
8. 0, . , 5, 6 , Y “0.56” .
9. ENTER . , “a0 Angle <12”가 , X 45.000, Y 315.000
10. : .
- (1) , 4 <1, <2, <3, <4 :
 <1
 $<2 = 180^\circ - <1$.
 $<3 = 180^\circ + <1$.
 $<4 = 360^\circ - <1$.
 가 $0^\circ - 360^\circ$, .
- (2) , MORE <12 <34, .

6.8

1. : .
2. : X 15 .
3. : .
1. .
2. PRESET . , “Axis to Preset” , .
3. SKEW . , “Skew: 0.000” .
4. 1, 5 .

5. **ENTER** . , PROGRAM , **SKEW**

- :
- (1) 45 , 90 Y
(90° -)
- (2) 90 , 135 Y
(-90°)
- (3) 135 , 180 X
(180° -)
- (4) 0 , 45 X
- (5) 180 0

6.9

: ()
;

:

- 1.
2. **ORG** . “Select a point”가 ,

3. a0 – a9 .

4. **ENTER** . , PROGRAM ,

- :
1. .() : ,

- ,
2. , , .

3. 가 “No Feature” .

七.

: Linear Scale DC-3000 , , .

:

1. , **QUIT**

.

2. :

Clear...

Clr Temp. Feat. ?

Clr Perm. Feats. ?

Clr All Prog. ? program

Clr Prog. ? program

Measure Easy...

Measure Easy : Ena Measure Easy

Measure Easy : Dis Measure Easy

Angle Type...

DMS Angle (Degree), (Minute), (Second) 가

DD Angle Decimal Degree

Annotation...

Back Annotation Back Annotation

Forw Annotation Forward Annotation

Point Pts 01? , Forward

Annotation

Line Pts 02? , Forward

Annotation

Circle Pts 03? , Forward

Annotation

Axis Derection...

Reverse X : NO X

Reverse Y : NO Y

Reverse Q : NO Q

Super...

Auto Setup Reset

Encode Res...

X Resolution? X Linear Scale Encode Resolution

Y Resolution?	Y	Linear Scale	Encode Resolution
Q Resolution?	Q	Linear Scale	Encode Resolution
Compensation...			
X Linear Comp.	X	Linear Compensation	.
X RI Mode : Low	X	RI Polarity	(Segment Linear Error Compensation)
X Segment Com.		Segment Linear Error Compensation	X
Y Linear Comp.		Linear compensation	Y .
Y RI Mode : Low	Y	RI Polarity	(Segment Linear Error Compensation)
Y Segment Com.		Segment Linear Error compensation	Y .
X Compensation?	X	Compensation	.
Y Compensation?	Y	Compensation	.
Q Compensation?	Q	Compensation	.
Prog Lock : NO		program	.
Prescale?		Prescale	.
Print I/F...			
Centronic			
RS232			
RS232 Format...		RS232	
ASC character		ASC Character	
Pack BCD Code		Pack BCD Code	
Baud Rate...		RS232	
4800			
9600			
14400			
19200			
28800			

7. 1

- :
1. .
 2. **SETUP** . , “Clear”가 , .

7. 2

- :
1. . “Clear” .

2. ENTER Clear list , “Clr Temp. Feat.?”가
 3. ENTER 가 “Are You Sure?”가
 4. ENTER “Completed”가 ,
 , program “Clr Temp. Feaat.?” list

7. 3

:
 1. “Clear”가
 2. ENTER Clear List , “Clr Temp. Feat.”가
 3. “Clr Perm. Feat. ?”가
 4. ENTER 가 가 , “Are You Sure?”가
 5. ENTER “Completed”가 ,
 Program “Clr Perm. Feaat.? list



7. 4 program

:
 1. “Clear”가
 2. Enter , “Clr Temp. Feat.?가
 3. “Clr All Prog.?”가
 4. Enter “Aire You Sure?”가
 5. Enter “Completed”가
 program “Clr All Prog.” List

7. 5 program

:
 :
 1. “Clear”가
 2. ENTER , “Clr Temp. Feat. ”가
 3. “Clr Prog. ?”가
 4. ENTER “PRG Num: ”가
 5. 2 2
 6. ENTER PROGRAM
 “Complete”가 , program “Clr Prog. ?” list

7. 6 Measure Easy

- :
1. SETUP
 2.   “Measure Easy...”가
 3. ENTER “Measure Easy : Dis”가
 4. ENTER “Measure Easy : Ena”가 “Measure Easy”가
CANCEL “Measure Easy :
Dis”가 , “Measure Easy”가
 5. FINISH QUIT





7. 7 D()M()S()

- :
- 1.
 2.   “Angle Type...”
 3. ENTER “DMS Angle”
 4.   “DMS Angle”
 5. ENTER 가 “ ” ,

7. 8 (Degree)

- :
- 1.
 2.   “Angle Type...”가
 3. ENTER “DMS Angle”
 4.   “DD Angle
 5. ENTER 가 “ ”

7.9 Backward Annotation

- :
- 1.
 2.   “Annotation...”
 3. ENTER , “Back Annotation”
 4.   “Back Annotation”
 5. ENTER , 가 “ ”가 , Annotation

7. 10 Forward Annotation

- :
- 1.
 2. "Annotation..."
 3. ENTER , "Back Annotation"
 4. "Forw Annotation"
 5. ENTER 가 " "가 , Annotation

7. 11 가





- : 3
- :
- 1.
 2. "Annotation..."
 3. ENTER , "Back Annotation"
 4. "Point Pts 01?"
 5. ENTER "Value:01"
 6. 3 가 3
 7. ENTER PROGRAM "Point Pts 03?" list

7. 12

- : 3
- :
- 1.
 2. "Annotation..."
 3. ENTER , "Back Annotation"
 4. "Line Pts 02?"가
 5. ENTER "Value:02"가
 6. 3 가 3
 7. ENTER Program "Line Pts 03?" list







7. 13 가

: 4





- 1.
 2.   “Annotation...”가 .
 3. ENTER . , “Back Annotation” .
 4.   “Circle Pts 03?” .
 5. ENTER . “Value:03” .
 6. 4 . 가 4 .
 7. ENTER . Program “Circle Pts 04?” list .
- : 가 . (6.1, 6.2, 6.3)

7. 14

: X







- 1.
 2.   “Axis Direction...” .
 3. ENTER . “Reverse X:YES” “Reverse X:NO”가 .
 4.   “Reverse X:YES” “Reverse X:NO”가 .
 5. 4 “Reverse X:YES”가 CANCEL .
 - 4 “Reverse X:NO”가 ENTER .
- : Y 4   “Reverse Y:YES” “Reverse Y:NO”가 .

7. 15 Reset



- 1.
 2.   “Super...”가 .
 3. ENTER . “Password:”가 .
 4. “332” .
 5. ENTER .
 6.   “Auto Setup” .
 7. ENTER . “Password:”가 .
 8. .
 9. ENTER . , “Initial Starting”, “Please Waiting” . ,
- program “Auto Setup” list .

- : (1) Reset :
1. ABS
 2. INC
 3. X, Y Resolution 1μ , Q Resolution 10μ 0.01° 가 , Linear Compensation 0.000000 , Prescale 1.000000 .
 4. Printer Port Centronic, RS232 9600bps, DD Angle, Backward Annotation .
 5. X Y Linear Error Compensation .
 6. , program .

7. 16 Encode Resolution

- : X Encode Resolution 5μ .
- :
- 1.
 2.   “Super...”가 .
 3. ENTER . “Password”가 .
 4. “332” .
 5. ENTER .
 6.   “Encode Res...”가 .
 7. ENTER . “X Resolution?” .
 8.   “X Resolution” .
 9. ENTER . “Value:0.001000” .
 10. 0 , . , 0 , 0 , 5 . 0.005 .
 11. ENTER PROGRAM “X Resolution?” list .
- :
- (1) Y Q Encode Resolution , 8 “Y Resolution?” “Q Resolution?” .
- (2) X, Y Encode Resolution 0.1μ - 10μ (0.0001, 0.0002, 0.0005, 0.001, 0.002, 0.005, 0.01) , Q Encode Resolution 0.0001° - 0.1° 0.1μ - 100μ .

7. 17 Compensation

- X Segment Linear Error compensation
- :
- 1.
 2.   “Super...”가 .
 3. ENTER . “Password:”가 .

4. "332"
 5. ENTER
 6. "Compensation..."
 7. ENTER "X Linear Comp."가
 8. "X Segment Comp."가
 9. ENTER " X Segment Comp."가 ,
- : (1) Default Compensation Linear Compensation
- (2) Y Segment Linear Error compensation , 8
"Y Segment Comp."
- (3) Segment Linear Error Compensation , Segment
Linear Error Compensation()

7. 18 Linear

- : X Linear 0.00005
- :
- 1.
 2. "Super..."가
 3. ENTER "Password:"가
 4. "332"
 5. ENTER
 6. "Compensation..."
 7. ENTER , "X Comp."
 8. "X Compensation?"
 9. ENTER , "Value:0.000000"가
 10. 0 , 0 , 0 , 0 , 0 , 5 0.00005
 11. ENTER PROGRAM "X Compensation?"
- :
1. Linear Scale
 2. X Linear Error Compensation
 3. Y , 8 "Y Compensation?"
4. Linear :

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

7. 19 Segment Error Compensation

- : X Segment Error Compensation
- :
- 1.
 2. ☐ ☐ “Super...”가 .
 3. ENTER . “Password:”가 .
 4. “332” .
 5. ENTER .
 6. ☐ ☐ “Compensation...” .
 7. ENTER . “X Linear Comp.”가 .
 8. ☐ ☐ “X Compensation?” .
 9. ENTER . “Move Near RI”가 .
 10. Linear Scale RI 가 , ENTER . “Search RI...”가 .
 11. Linear Scale RI “RI Found”, “node 00:0.000” , .
 12. , 100 , 2 .
 13. , FINISH , “Finished...”가 ,
“X Compensation?” list .
- :
- (1) Linear Scale .
 - (2) X Segment Error Compensation .
 - (3) Y , 8 ☐ ☐ “Y Compensation?” .
 - (4) , .

7. 20 program

- : program
- :
- 1.
 2. ☐ ☐ “Super...”가 .
 3. ENTER . “Password:”가 .
 4. “332” .
 5. ENTER .
 6. ☐ ☐ “Prog Lock:NO”가 .



7. ENTER . “Prog Lock:YES”가 , program
:
- (1) 가 ,
,
- (2) :
1. 1~5 .
2. 6 “Prog Lock : YES”가 .
3. 7 Enter , CANCEL . , “Prog Lock:NO”
가 .

7. 21 Prescale

- : Prescale 1.00005
:
- 1.
 2. Super...”가 .
 3. ENTER “Password:”가 .
 4. “332” .
 5. ENTER .
 6. Prescale” .
 7. ENTER ”Value:1.000000” .
 8. 1 , , 0 , 0 , 0 , 0 , 5 1.00005 .
 9. ENTER , Program “Prescale?” .
:
 - (1) Prescale :
Prescale = _____

7. 22 Print Port

- : Print Port RS232
:
- 1.
 2. Printer I/F”가 .
 3. ENTER “Centronic” .
 4. RS232”가 .
 5. ENTER “ RS232”가 .

:
 1. 가 ,
 Panel
 : QUIT 가 , PANEL QUIT
 ,
 .
 .
 .
 2. options:
 (1) Finish Record? , 가 .
 ,
 (2) Quit Record? ,
 가 .
 ,
 (3) Run Prog? ,
 .
 (4) Finish? FINISH
 (5) Quit? QUIT
 (6) Cancel? CANCEL
 (7) Up? 
 (8) Down? 
 (9) Wait Enter? Panel ENTER
 .
 (10) Wait Finish? Panel FINISH
 .
 :
 1. options (1), (2), (3) , (3), (4), (5), (6), (7),
 (8), (9), (10)
 2. options (9), (10)
 .
 3. options (3)
 .
8. 1
 1 :
 0 , :
 n (n . Forward Annotation ,
 . Backward Annotation 가)

```

, 1 .

index :
0   Program
1   0
2   Point
3   Enter?
4   Enter?
5   Enter? ( index key 3 . n
        , n "Enter?"가 ).

6   Store
7   1
8   Enter
9   Enter
10  End
    :

1. .
2. PROG "Run Program?" .
3. "Record Program?" .
4. ENTER "Prg Num:" .
5. 0 0 .
6. ENTER , PROG .
    ( )

7. POINT , n ENTER , STORE , 1 , ENTER , ENTER .
8. PROG "Special Key?"가 .
9. ENTER "Finish Record?"가 .
10. "Finish Record?"가 .
11. ENTER 가 , PROG .
    , 0 .
    :
(1) 6 QUIT . 6 QUIT
    가 , QUIT
    . 8, 9, 10, 11
(2) 10 "Quit Record?" .

2:

```

1
n(n
), Forward Annotation
), 1, 2
, 0

Key Index :

1 Program
2 1
3 Line
4 Enter?
5 Enter?
6 Enter?(index key 3 , n “Enter?”가).

7. Store
8. 2
9. Enter
10. Enter
11. Program
12. 0
13. End

:
1.
2. PROG , “Run Program?”
3. “Record Program?”
4. ENTER “Prg Num:”
5. 1 1
6. ENTER ,
(가)
7. Line , n ENTER , STORE , 2 , ENTER , ENTER
8. PROG “Special Key?”가
9. ENTER , “Finish Record?”가
10. “Run Prog?”가
11. ENTER , “Prg Num:”
12. 0 0
13. ENTER
14. PROG “Special Key?”가
15. ENTER “Finish Record?”가

8.3

1. :
가 ENTER , FINISH
2. “Wait Key Enter”가 , 가
ENTER , “Wait Key Finish”가
가 FINISH
: 1
1.
2. PROG “Run Program?”
3. “Run Program?”
4. ENTER “Prg Num:”
5. 1 1
6. ENTER

九.

1. RS232 7.23(RS232)
2. PRINT
1. BAUD RATE : 9600bps (7.15 RS232)
2. No parity
3. 8 data bits
4. One start bit and One stop bit

9.1 BCD code

‘R’	DC-3000	DC-3000	‘R’	17bytes
	17bytes	:		
Byte 1 st :	Head =0x0fe (16)			
Byte 2 nd :	Bit 0: sign of the Y axis, 0	“+” 1	“-”	
	Bit 1: sign of the X axis, 0	“+” 1	“-”	
	Bit 2: sign of the Z axis, 0	“+” 1	“-”	

Bit 3: reserved

Bit 4: 0:mm 1:inch. (display length unit)

Bit 5-Bite7 : reserved

Byte 3rd: (error) bit

Bit 0: X , 0 OK, 1 ERROR.

Bit 1 : Y , 0 OK, 1 ERROR.

Bit 2 : Z , 0 OK, 1 ERROR.

Bit 3-7 : reserved

Byte 4th-7th : X BCD code ,

X-value = $B4 + B5 * 10^2 + B6 * 10^4 + B7 * 10^6$

: X -1.234

Byte 8th-11th : Y BCD code

Y-value = $B8 + B9 * 10^2 + B10 * 10^4 + B11 * 10^6$

Byte 12th-15th : Z BCD code ,

Z-value = $B12 + B13 * 10^2 + B14 * 10^4 + B15 * 10^6$

Byte 16th-17th : check (BCD code)

B17, B16 = $B2 + B3 + B4 + B5 + B6 + B7 + B8 + B9 + B10 + B11 + B12 + B13 + B14 + B15$

Byte 16 : LSB

Byte 17 : MSB

:

1. 가 . :

Byte 8th-11th X-value 4th-7th 12th-15th .

2. B4: 4 byte 가 , .

3. B4 B17 BCD code .

9. 2 ASCII

60 bytes X, Y, Z 20bytes . :

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
X	s	s	s	-	x	x	x	x	.	x	x	x	s	m	m	s	s	/r	/1
: X					-	3	0	.	0	5	3		m	m			/ R	/1	

:

1. X 0 19byte , Y 20 39byte , Z 40 59byte

.

2. X 14 15byte mm inch , Y 34 35byte, Z 54 55byte .

3. X X , x 8bite(bite), s

- . “\r” “ENTER” , “\1” X
18 19byte , Y 28 29byte, Z 58 59byte
4. X -30.053mm .
5. 가 DC-3000 “R” , DC-3000 “R” 60byte

9. 3 PRINT

“V”

X, Y, Z, R, D, <, T, A

“d”

“-”

“S”

1. PRINT

mm .

- a) mm

```

: 1 2 3 4 5 6 7 8 9 10 11 12 13 14
: v s s s s - d d d d . d d d
1: X 1 5 9 . 0 0 0
2: R - 1 . 4 6 7

```

- b) inch

```

: 1 2 3 4 5 6 7 8 9 10 11 12 13 14
: v s s s s - d d . d d d d d
1: X 0 . 6 2 5 9 8
2: R - 0 . 0 5 7 7 6

```

- 2.

DD

- a) DD

```

: 1 2 3 4 5 6 7 8 9 10 11 12 13 14
: v v s s s - d d d d . d d d
1: < 1 6 0 . 5 0 1
2: A 1 4 7 . 3 5 0

```

- b) DMS

```

: 1 2 3 4 5 6 7 8 9 10 11 12 13 14
: v v s s - d d d . d d . d d
1: < 1 6 0 . 3 0 . 0 3

```

2 : A 1 4 7 . 2 1 . 0 0

A.

- : Absolute Coordinate
- : Incremental Coordinate
- : Cartesian Coordinate
- : Polar Coordinate
 - : Crosshairs Mode
- : Edge Mode
- : Auto Mode
- : Manual Mode
- : Forward Annotation Mode
- : Backward Annotation Mode
 - : Temporary Feature
 - : Permanent Feature
 - : User Program
- : Coordinate Skew
- : Preset(Create)
- : Measure
- : Construct
- : Linear Error Compensation
- : Segment Linear Error Compensation
- 預放縮 : Prescale
- : Point Feature
- : Line Feature
- : Circle Feature
- : Distance Feature
- : Angle Feature
 - : Optical Edge Detector
- : Encoder Resolution
- : Special Key
 - : Record (User) Program (Create Program)
 - : Run (User) Program
 - : Edit (User) Program

	:	Data Format
BCD	:	Packed BCD code
ASCII	:	ASCII Character
	:	Communication
, ,	:	DMS(Degree, Minute, Second)
	:	DD(Decimal Degree)
	:	Foot Swicth
	:	The Part
	:	The Printer Port
	:	The Inveasing Direction(The Positive Axes)
	:	The Datum Point (Datum)

B.

	:	1360 g
	:	297mm x 184mm x 48mm (60mm)
	:	5.1V(DC) $\pm 5\%$
Linear Scale	:	TTL, 50KHz (Max)
RS232	:	9P D , <-5V('1'), >+5V('0')
Printer Port	:	Centro nix port
Edge Detector port	:	TTL Isolate-electric-current pulse
Foot Switch port	:	short-circuit contact