

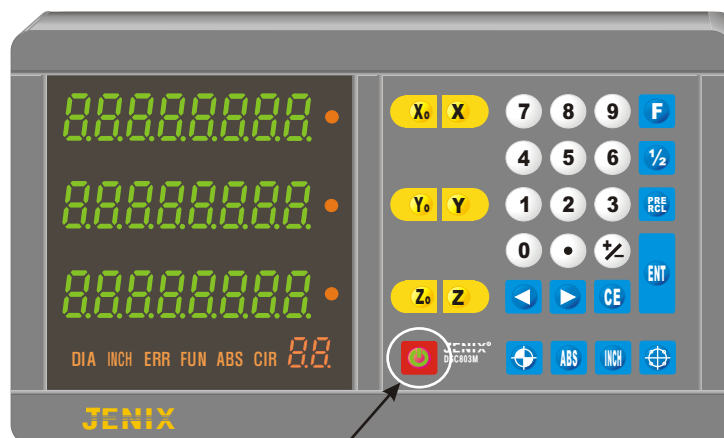
Power ON / OFF

For general use, leave the main switch always ON,
use ON/OFF switch of the front side.
System will be on after 3 seconds of turning on.

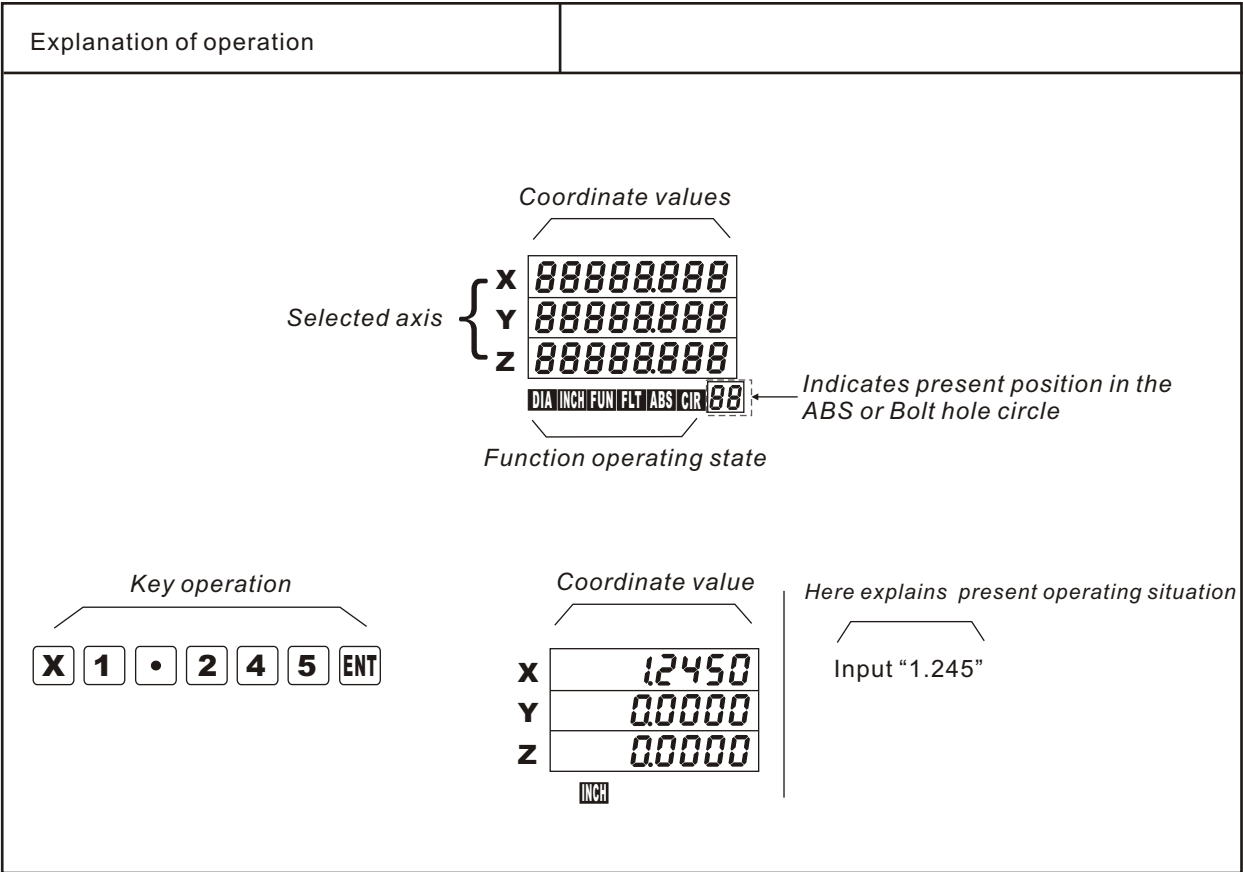
- Main switch of the rear side



- ON/OFF switch of the front side



ON/OFF switch. If the switch of rear side is on,
inside circuit is still working even when this switch is off.



1. Preset

X → Input value → ENT	To input any value and to use the value repeatedly.						
<p>Ex. Input value is 1.245 and use it repeatedly.</p> <div style="text-align: center; margin: 10px 0;"> </div> <div style="display: flex; justify-content: space-between; align-items: flex-start; margin-top: 10px;"> <div style="margin-right: 20px;"> X 1 . 2 4 5 ENT </div> <div style="margin-top: 10px;"> <table style="border-collapse: collapse;"> <tr><td style="border: 1px solid black; padding: 2px 5px;">X</td><td style="border: 1px solid black; padding: 2px 10px; text-align: right;">1.2450</td></tr> <tr><td style="border: 1px solid black; padding: 2px 5px;">Y</td><td style="border: 1px solid black; padding: 2px 10px; text-align: right;">0.0000</td></tr> <tr><td style="border: 1px solid black; padding: 2px 5px;">Z</td><td style="border: 1px solid black; padding: 2px 10px; text-align: right;">0.0000</td></tr> </table> <div style="text-align: center; font-size: small; margin-top: 2px;">INCH</div> </div> </div>	X	1.2450	Y	0.0000	Z	0.0000	<p>Input "1.245"</p>
X	1.2450						
Y	0.0000						
Z	0.0000						

2. Recall preset values

X → PRE RCL	To recall preset values, and use it repeatedly																		
<p>Ex. To make 3 holes with the interval of "10.0000"</p> <div style="text-align: center; margin: 10px 0;"> </div> <div style="margin-top: 10px;"> X 1 0 ENT </div> <div style="margin-top: 20px;"> <p>Move X-axis to 0.0000</p> </div> <div style="margin-top: 10px;"> X PRE RCL </div>	<div style="margin-top: 10px;"> <table style="border-collapse: collapse;"> <tr><td style="border: 1px solid black; padding: 2px 5px;">X</td><td style="border: 1px solid black; padding: 2px 10px; text-align: right;">10.0000</td></tr> <tr><td style="border: 1px solid black; padding: 2px 5px;">Y</td><td style="border: 1px solid black; padding: 2px 10px; text-align: right;">0.0000</td></tr> <tr><td style="border: 1px solid black; padding: 2px 5px;">Z</td><td style="border: 1px solid black; padding: 2px 10px; text-align: right;">0.0000</td></tr> </table> <div style="text-align: center; font-size: small; margin-top: 2px;">INCH</div> </div> <p>Input "10.0000"</p> <div style="margin-top: 10px;"> <table style="border-collapse: collapse;"> <tr><td style="border: 1px solid black; padding: 2px 5px;">X</td><td style="border: 1px solid black; padding: 2px 10px; text-align: right;">0.0000</td></tr> <tr><td style="border: 1px solid black; padding: 2px 5px;">Y</td><td style="border: 1px solid black; padding: 2px 10px; text-align: right;">0.0000</td></tr> <tr><td style="border: 1px solid black; padding: 2px 5px;">Z</td><td style="border: 1px solid black; padding: 2px 10px; text-align: right;">0.0000</td></tr> </table> <div style="text-align: center; font-size: small; margin-top: 2px;">INCH</div> </div> <p>Move X-axis table until 0.0000 dispalyed</p> <div style="margin-top: 10px;"> <table style="border-collapse: collapse;"> <tr><td style="border: 1px solid black; padding: 2px 5px;">X</td><td style="border: 1px solid black; padding: 2px 10px; text-align: right;">10.0000</td></tr> <tr><td style="border: 1px solid black; padding: 2px 5px;">Y</td><td style="border: 1px solid black; padding: 2px 10px; text-align: right;">0.0000</td></tr> <tr><td style="border: 1px solid black; padding: 2px 5px;">Z</td><td style="border: 1px solid black; padding: 2px 10px; text-align: right;">0.0000</td></tr> </table> <div style="text-align: center; font-size: small; margin-top: 2px;">INCH</div> </div> <p>Recall "10.0000" to use it repeatedly</p>	X	10.0000	Y	0.0000	Z	0.0000	X	0.0000	Y	0.0000	Z	0.0000	X	10.0000	Y	0.0000	Z	0.0000
X	10.0000																		
Y	0.0000																		
Z	0.0000																		
X	0.0000																		
Y	0.0000																		
Z	0.0000																		
X	10.0000																		
Y	0.0000																		
Z	0.0000																		

3. Reset (Display Zero)

X₀ Y₀ Z₀	To make each axis zero
<p>Ex.</p> <p>X₀ Y₀ Z₀</p> <p>X 00000 Y 00000 Z 00000 INCH</p>	

4. 1 / 2 Function (dividing into a half)

X → 1/2	To divide a value into a half
<p>Ex. To divide "1.2400" into a half</p> <p>Input or recall "1.2400"</p> <p>X 12400 Y 00000 Z 00000 INCH</p> <p>X 1/2</p> <p>X 6.2000 Y 00000 Z 00000 INCH</p>	

5. Changing from "mm" to "inch" or "inch" to "mm"

INCH	To change from mm to inch
<p>Ex.</p> <p>1.0000 inch ↔ 25.4000 mm</p> <p>INCH</p> <p>X 10000 Y 00000 Z 00000 INCH</p> <p>X 25400 Y 0000 Z 0000</p>	<p>Input "inch" key then INCH lamp is on</p> <p>Push "inch"key to release, INCH lamp is off</p>

6. Changing from ABS to INC or INC to ABS

<div><div>ABS → [▶] } → ENT</div><div>[◀] }</div><div>Input ABS No.</div></div>	<p>To set absolute position. ABS number can be 0~99 (100). In ABS mode, Bolt hole circle is unavailable. ABS number appears in the subsidiary display. Search ABS no. using, [◀] [▶] keys.</p>
<div><div>1) Input ABS no.</div><div><div>ABS</div><div><div>X 0.0000</div><div>Y 0.0000</div><div>Z 0.0000</div><div>INCH ABS 0</div></div><div>← “Blinking”</div></div><div><div>Input a number</div><div><div>X 0.0000</div><div>Y 0.0000</div><div>Z 0.0000</div><div>INCH ABS 0</div></div><div>← Input one of 0~99</div></div><div><div>ENT</div><div><div>X 0.0000</div><div>Y 0.0000</div><div>Z 0.0000</div><div>INCH ABS 0</div></div></div><div><div>2) input ABS number using [◀] , [▶] key.</div><div><div>ABS</div><div><div>X 0.0000</div><div>Y 0.0000</div><div>Z 0.0000</div><div>INCH ABS 0</div></div><div>← “Blinking”</div></div><div><div>[▶] }</div><div>[◀] }</div><div><div>X 0.0000</div><div>Y 0.0000</div><div>Z 0.0000</div><div>INCH ABS 0</div></div></div><div><div>ENT</div><div><div>X 0.0000</div><div>Y 0.0000</div><div>Z 0.0000</div><div>INCH ABS 0</div></div></div></div></div>	

3) To find preset ABS coordinates in ABS mode

ABS mode (lamp on)



X 10000
Y 70000
Z 00000
INCH ABS 1



X 100000
Y -96800
Z 2.3584
INCH ABS 2

X 10000
Y 70000
Z 00000
INCH ABS 1

In ABS mode, pre saved ABS number can be found easily using ◀ ▶ keys.

4) To return to normal from ABS mode.

Normal state



X 2.4000
Y 88300
Z 399850
INCH



X 100000
Y -96800
Z 2.3584
INCH ABS 2



X 100000
Y -96800
Z 2.3584
INCH ABS 2



X 100000
Y -96800
Z 2.3584
INCH ABS 2

X 2.4000
Y 88300
Z 399850
INCH

Push key twice in the ABS mode, ABS lamp and number are off.

← Blinking

← Blinking

Normal state



To assign "10.0000" to the ABS no. 5 of X-axis

Normal mode

X 3952 10
Y -80650
Z 18000
INCH

ABS

X 3952 10
Y -80650
Z 18000
INCH ABS 0

▶
◀
OR
5

X 40762
Y 160 10
Z -32500
INCH ABS 5

ENT

X 123784
Y 96000
Z -24000
INCH ABS 5

X 1 0 ENT

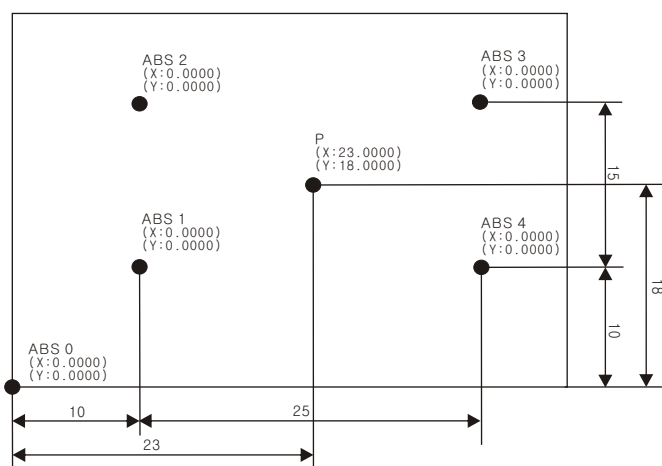
X 100000
Y 96000
Z -24000
INCH ABS 5

← Blinking

To find ABS no.5, move ◀ ▶ or directly input 5.

Type "10.0000"

Ex. To assign each point(coordinates) to each ABS number.



<PIC. 1>

Normal state

X₀ **Y₀** **Z₀**

ABS

[▶] }
 [◀] }
 OR
 [0]

ENT

X₀ **Y₀**

X -20.9450
 Y 13800
 Z 306.12
 INCH

X 00000
 Y 00000
 Z 00000
 INCH

X -20.9450
 Y 13800
 Z 306.12
 INCH ABS 0

X -20.9450
 Y 13800
 Z 306.12
 INCH ABS 0

X 00000
 Y 00000
 Z 00000
 INCH ABS 0

X 00000
 Y 00000
 Z 00000
 INCH ABS 0

X 10.0000
 Y 10.0000
 Z 00000
 INCH ABS 0

Initial preset value from ABS no.0~99 is "0.0000"

Make each axis zero even in the normal mode.

Changing from Normal to ABS mode

← "Blinking"

Move to "0" using [◀] [▶] keys, or type "0"

Move worktable until 10.000 displayed in the X and Y axis window. (see ABS.1 of <PIC.1>)



X₀ Y₀

X 10.0000
Y 10.0000
Z 0.0000
INCH ABS 1

1) Define ABS no.1

Move to "1" using

X 0.0000
Y 0.0000
Z 0.0000
INCH ABS 1

Move worktable until "15.000" displayed in the Y-axis window (ABS no.2 in the <PIC.1>)



Y₀

X 0.0000
Y 15.0000
Z 0.0000
INCH ABS 1

1) Define ABS no.2

Move to "2" using

X 0.0000
Y 15.0000
Z 0.0000
INCH ABS 2

X 0.0000
Y 0.0000
Z 0.0000
INCH ABS 2

Move worktable until "25.000" displayed in the X-axis window (ABS no.3 in the <PIC.1>)



X₀

X 25.0000
Y 0.0000
Z 0.0000
INCH ABS 2

1) Define ABS no.3

Move to "3" using

X 25.0000
Y 0.0000
Z 0.0000
INCH ABS 3

X 0.0000
Y 0.0000
Z 0.0000
INCH ABS 3

Move worktable until "-15.000" displayed in the Y-axis window (ABS no.4 in the <PIC.1>)



Y₀

X 0.0000
Y -15.0000
Z 0.0000
INCH ABS 3

1) Define ABS no.4

Move to "4" using

X 0.0000
Y -15.0000
Z 0.0000
INCH ABS 4

X 0.0000
Y 0.0000
Z 0.0000
INCH ABS 4

Ex. To find the coordinates of ABS no.1 as in the <pic.1>,

Normal mode

X 230000
Y 180000
Z 00000
INCH

ABS

X 00000
Y 00000
Z 00000
INCH ABS 4

▶
◀
OR
1

X 130000
Y 80000
Z 00000
INCH ABS 1

ENT

X 130000
Y 80000
Z 00000
INCH ABS 1

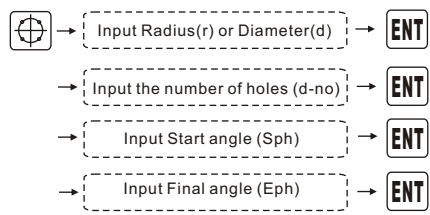
X 00000
Y 00000
Z 00000
INCH ABS 1

← "Blinking"

Move to "1" using ◀ ▶ keys, or type "1"

ABS no.1 can be found by moving X-axis and Y-axis worktables until 0.0000 displayed each window.

7. Bolt hole circle



There are 4 factors for Bolt hole circle.

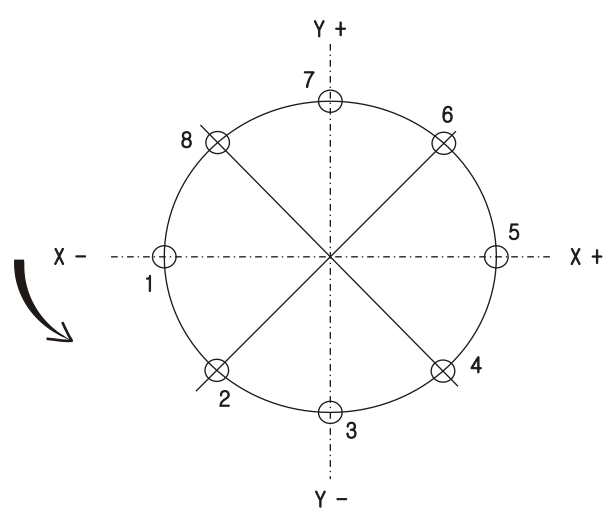
- 1) Radius (R), or Diameter(d)
- 2) The number of holes: d-no
- 3) Start angle: Sph
- 4) Final angle: Eph

Details for 4 factors (imputable range)

Factors	Available range
Radius(r) or diameter(d)	±8000.999mm or ±400.9998inch
The number of holes	2 ~ 99 holes
Start angle (Sph)	0.000 ~ 359.999
Final angle (Eph)	0.001 ~ 999.999


Ex. An example of a bolt hole circle

Axis setting = X & Y axis
Radius(r) = 10.0
The number of holes = 8
Start angle = 0°.0"
Final angle = 360°.0"



Normal mode

X₀ Y₀ Z₀



1 0

X	12460
Y	-98450
Z	30 100

INCH

X	00000
Y	00000
Z	00000

INCH

X	c 1r rAd
Y	00000
Z	00000


INCH CIR



X	c 1r rAd
Y	100000
Z	00000

INCH CIR

Note

Before setting for bolt hole circle, a datum point should be defined.

Input 4 factors → move worktable → X & Y-axis window display "0.000" → find next hole by pushing  key.

By using   keys, the position (or ABS no.) of previous or next hole can be found easily.

Bolt hole circle is unavailable in the 1-axis display unit

Please do not move worktable during inputting factors.

ENT

X d-no
Y 1
Z 0.0000
INCH CIR

4

X d-no
Y 8
Z 0.0000
INCH CIR

ENT

X SPH
Y 0.0000
Z 0.0000
INCH CIR

ENT

X EPH
Y 360.0000
Z 0.0000
INCH CIR

ENT

X 10.0000
Y 0.0000
Z 0.0000
INCH CIR

Input the number of holes, "8".

Push ENT key as the start angle is "0°".





Final angel will be 360°, as the start angle is 0°.
Final angle = start angle + 360°

This is the position of first hole.

- NOTE -

- * Processing direction is counterclockwise.
- * Final angle should be added 360 to the start angle.

$$\text{Final angle (°)} = \text{Start angle} + 360$$

		<div> <div> <div>X</div> <div>100000</div> </div> <div> <div>Y</div> <div>00000</div> </div> <div> <div>Z</div> <div>00000</div> </div> <div> <div>INCH</div> <div>CIR</div> <div>1</div> </div> </div>	► An example of bolt hole circle
	Move worktable until 0.000 displayed in the X-axis window.	<div> <div> <div>X</div> <div>00000</div> </div> <div> <div>Y</div> <div>00000</div> </div> <div> <div>Z</div> <div>00000</div> </div> <div> <div>INCH</div> <div>CIR</div> <div>1</div> </div> </div>	1st hole
		<div> <div> <div>X</div> <div>-29290</div> </div> <div> <div>Y</div> <div>70710</div> </div> <div> <div>Z</div> <div>00000</div> </div> <div> <div>INCH</div> <div>CIR</div> <div>2</div> </div> </div>	1) Execute hole processing
	Move worktable until 0.000 displayed in the X & Y-axis window.	<div> <div> <div>X</div> <div>00000</div> </div> <div> <div>Y</div> <div>00000</div> </div> <div> <div>Z</div> <div>00000</div> </div> <div> <div>INCH</div> <div>CIR</div> <div>2</div> </div> </div>	2nd hole
		<div> <div> <div>X</div> <div>-70710</div> </div> <div> <div>Y</div> <div>29290</div> </div> <div> <div>Z</div> <div>00000</div> </div> <div> <div>INCH</div> <div>CIR</div> <div>3</div> </div> </div>	2) Execute 2nd hole processing
	Move worktable until 0.000 displayed in the X & Y-axis window.	<div> <div> <div>X</div> <div>00000</div> </div> <div> <div>Y</div> <div>00000</div> </div> <div> <div>Z</div> <div>00000</div> </div> <div> <div>INCH</div> <div>CIR</div> <div>3</div> </div> </div>	3rd hole
		<div> <div> <div>X</div> <div>-70710</div> </div> <div> <div>Y</div> <div>-29290</div> </div> <div> <div>Z</div> <div>00000</div> </div> <div> <div>INCH</div> <div>CIR</div> <div>4</div> </div> </div>	3) Execute 3rd hole processing
	Move worktable until 0.000 displayed in the X & Y-axis window.	<div> <div> <div>X</div> <div>00000</div> </div> <div> <div>Y</div> <div>00000</div> </div> <div> <div>Z</div> <div>00000</div> </div> <div> <div>INCH</div> <div>CIR</div> <div>4</div> </div> </div>	4th hole
		<div> <div> <div>X</div> <div>00000</div> </div> <div> <div>Y</div> <div>00000</div> </div> <div> <div>Z</div> <div>00000</div> </div> <div> <div>INCH</div> <div>CIR</div> <div>4</div> </div> </div>	4) Execute 4th hole processing



X -2.9290
Y -70710
Z 0.0000
INCH CIR 5

5th hole

Move worktable until 0.000 displayed in the X & Y-axis window.

X 0.0000
Y 0.0000
Z 0.0000
INCH CIR 5

5) Execute 5th hole processing



X 2.9290
Y -70710
Z 0.0000
INCH CIR 6

6th hole

Move worktable until 0.000 displayed in the X & Y-axis window.

X 0.0000
Y 0.0000
Z 0.0000
INCH CIR 6

6) Execute 6th hole processing



X 70710
Y -2.9290
Z 0.0000
INCH CIR 7

7th hole

Move worktable until 0.000 displayed in the X & Y-axis window.

X 0.0000
Y 0.0000
Z 0.0000
INCH CIR 7

7) Execute 7th hole processing



X -70710
Y 2.9290
Z 0.0000
INCH CIR 8

8th hole

Move worktable until 0.000 displayed in the X & Y-axis window.

X 0.0000
Y 0.0000
Z 0.0000
INCH CIR 8

8) Execute 8th hole processing

8. Axis setting for Bolt hole circle

1). Setting as X & Y-axis

F

→

▶

→

ENT

→

ENT

Only available in 2, 3 and 4-axis display unit.

F

▶

ENT

ENT

X 1L A t E

Y 00000

Z 00000

INCH/FUN

X 2. c 1 r c L E

Y 00000

Z 00000

INCH/FUN

X 1 A H 1 5 H Y

Y 00000

Z 00000

INCH/FUN

X 00000

Y 00000

Z 00000

INCH

1). Setting as X & Z-axis

F

→

▶

→

ENT

→

▶

→

ENT

Only available in DSC-803(3-axis), 804(4-axis) display unit.

F

▶

ENT

▶

ENT

X 1L A t E

Y 00000

Z 00000

INCH/FUN

X 2. c 1 r c L E

Y 00000

Z 00000

INCH/FUN

X 1 A H 1 5 H Y

Y 00000

Z 00000

INCH/FUN

X 2 A H 1 5 H Z

Y 00000

Z 00000

INCH/FUN

X 00000

Y 00000

Z 00000

INCH

3). Setting as Y & Z-axis

F

▶

ENT

▶

▶

ENT

Only available in DSC-803(3-axis), 804(4-axis) display unit.

F

X

1.1 R t E

Y

0.0000

Z

0.0000

INCH/FUN

▶

X

2.2 I r c L E

Y

0.0000

Z

0.0000

INCH/FUN

ENT

X

1.1 R H 15 H Y

Y

0.0000

Z

0.0000

INCH/FUN

▶

X

2.2 R H 15 H Z

Y

0.0000

Z

0.0000

INCH/FUN

▶

X

3.3 R H 15 Y Z

Y

0.0000

Z

0.0000

INCH/FUN

ENT

X

0.0000

Y

0.0000

Z

0.0000

INCH

4). Setting as Radius & Diameter

F

ENT



ENT

Only available in DSC-802, 803, 804 display unit.

F	X 1.1 R d E	Y 0.0000	Z 0.0000	INCH/FUN
	X 2.2 R d E	Y 0.0000	Z 0.0000	INCH/FUN
ENT	X 1.1 R d E	Y 0.0000	Z 0.0000	INCH/FUN
	X 2.2 R d E	Y 0.0000	Z 0.0000	INCH/FUN
	X 3.3 R d E	Y 0.0000	Z 0.0000	INCH/FUN
	X 4.4 R d E	Y 0.0000	Z 0.0000	INCH/FUN
ENT	X 0.0000	Y 0.0000	Z 0.0000	INCH

Changing radius ↔ diameter
(Bolt hole circle)

9. Error Message

	<p>Cable cut. Inaccurate operation due to dust or dirt. Scratch or crack of a glass scale. Push CE key, error message will disappear.</p> <p><Note> when new scale installed or repaired, push CE key before using, to clear Error message.</p>
<div data-bbox="225 461 269 506"></div> <div data-bbox="679 461 906 607"> <p>X 00000 Y 00000 Z 00000</p> <p>INCH FLT</p> </div> <p>There is no scale connected in X-axis of a display unit.</p> <div data-bbox="679 656 906 801"> <p>X --oPEr-- Y 00000 Z 00000</p> <p>INCH FLT</p> </div> <div data-bbox="679 828 906 974"> <p>X Err r 15 Y 00000 Z 00000</p> <p>INCH FLT</p> </div> <div data-bbox="225 1048 317 1106"> <p>Ex. </p> </div> <p>To remove error message, push CE key</p> <div data-bbox="225 1160 269 1205"></div> <div data-bbox="679 1160 906 1305"> <p>X Err r 16 Y 42.7150 Z 13600</p> <p>INCH FLT</p> </div> <div data-bbox="225 1330 269 1375"></div> <div data-bbox="679 1330 906 1476"> <p>X 20.7000 Y 42.7150 Z 13600</p> <p>INCH FLT</p> </div>	<p>This means cable of a scale is cut or disconnected.</p> <p>Measured value error due to dirt or foreign body in a scale.</p> <p>Measured value error due to damage or scratch of a glass scale</p> <p>Remove the error message by CE key</p>

Cause of Error and solution

Symptom	Cause	Solution
Inaccuracy	Foreign body in a scale. Lubrication oil in a scale. Loose connection of a scale. No ground. Lubrication in joint of extension cable. Wrong operation for Rate or Resolution. Breakdown of glass, reading head or flexible cable.	Remove the foreign body. Remove the lubrication oil. Tighten up the connectors. It needs grounding. Clean up the joint part. Operate "RATE" or "Resolution" Otherwise, contact your local service.
No counting	Electric shock from outside. Wrong operation for input "RATE".	Check the ground. Correct "RATE"
"OPEN" message	There is no connection. Wire is cut.	Make sure the connection and wire cut. Otherwise, contact your local service.