M series

2, 3 and 4 axes

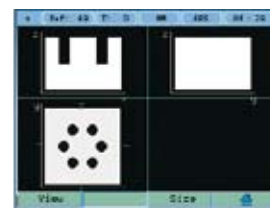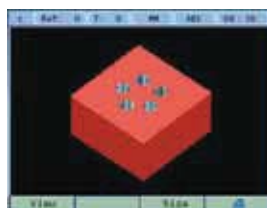
40i P model

40i model

Specific characteristics: 40i

Using the TFT screen of the Innova 40i, it is possible to select the X, Y, Z plane where the machining will take place, graphically see the steps to follow and simulate the end result in 3D.
All that in the intuitive and friendly way that only FAGOR can offer.
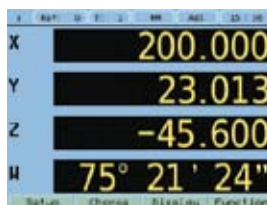

Graphic programming assistance:

• Bolt-hole drilling

• Linear drilling

• Grid pattern drilling

• Angle calculation in the plane

40i P model

The 40i P model includes the following features:

• **Part-program programming and backup**

• **X, Y, Z, W machining plane selection**

• Up to 4 feedback axes and display on the main screen

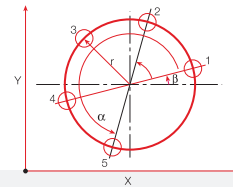• Independent linear and angular feedback, 4-axis display, slope of each axis

• Probe

Common characteristics, M series

Bolt-hole drilling

The position of the holes is calculated automatically by entering the values requested by the DRO.
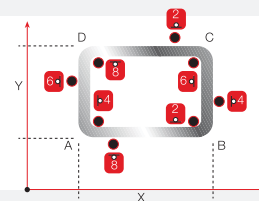

Linear drilling calculation

Calculates, memorizes the position and guides through the execution of linear drilling operations at any angle with respect to the axes.

Tool radius compensation

The tool radius is added to or subtracted from the position value when milling with a round tool depending on the machining direction.

Corner rounding/machining of arcs

To be used in simple corner rounding or curved surfaces in a plane defined by two linear axes.

Part centering

Simply touching two points of the part with the tool or with a probe and pressing a key, the DRO calculates the center of the part.

Part alignment

For measuring angles avoiding part misalignment and correct its inclination until the right position is obtained.

Multiple part-zeros (datum points)

It makes working with several origin points easier and may be used to save tool data and to position holes.

Comparison table

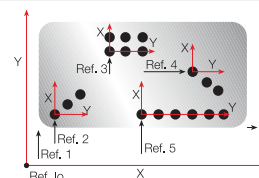|	M series milling machines and boring mills				T series lathes				E series EDM and grinders			General series general purpose applications		
	40i P	40i	30i M	20i M	40i TS	40i	30i T	20i T	30i E	20i E	10i E	40i	20i	10i
feedback														
connection to 1 Vpp and SSI encoders	4	3			4	3						3		
connection to TTL encoders	4	3	3	3	4	3	3	2	3	2	1	3	2	1
linear axes	•	•	•	•	•	•	•	•	•	•	•	•	•	•
angular encoders	•	•	•	•					•	•	•	•	•	•
incremental and distance-coded reference marks	•	•	•	•	•	•	•	•	•	•	•	•	•	•
linear axis sag compensation	•	•	•	•	•	•	•	•	•	•	•	•	•	•
multi-point compensation (points per axis)	100	100	40	40	100	100	40	40	40	40	40	100	40	40
1 Vpp signal monitoring	•	•			•	•						•		
travel limit alarm	•	•	•	•	•	•	•	•	•	•	•	•	•	•
display														
5.7" color TFT screen	•	•			•	•						•		
LED display			•	•		•	•	•	•	•	•		•	•
number of axes	4	3	3	2	4	3	3	2	3	2	1	3	2	1
radius or diameter display	•	•	•	•	•	•	•	•				•	•	•
mm/inch conversion	•	•	•	•	•	•	•	•	•	•	•	•	•	•
fine / coarse resolution	•	•	•	•	•	•	•	•	•	•	•	•	•	•
absolute / incremental feedback	•	•	•	•	•	•	•	•	•	•	•	•	•	•
"display off" mode	•	•	•	•	•	•	•	•	•	•	•	•	•	•
axis coupling	•	•	•	•	•	•	•	•	•	•		•	•	
functions														
zero setting of the axes	•	•	•	•	•	•	•	•	•	•	•	•	•	•
buzzer function	•	•	•	•	•	•	•	•	•			•		
number of references - part zeros	100	100	20	20					20	20	20	100		
number of tools	16	16			100	100	20	20				16/100		
axis preset	•	•	•	•	•	•	•	•	•	•	•	•	•	•
tool compensation	•	•	•	•					•	•	•	•		
axis feedrate display	•	•			•	•	•					•		
calculator	•	•	•	•	•	•	•	•	•			•		
easy setup	•	•	•	•	•	•	•	•	•	•	•	•		
electrode length compensation									•	•	•			
hysteresis factor			•	•			•	•	•	•	•		•	•
cycles														
part centering cycles	•	•	•	•					•	•	•	•		
bolt hole drilling (with the most recent data saved in memory)	•	•	•	•					•			•		
linear drilling	•	•	•	•					•			•		
grid pattern drilling	•	•										•		
EDM mode									•	•	•			
corner rounding / machining of arcs			•	•					•					
go to a particular position	•	•				•						•		
angle measuring	•	•	•	•					•			•		
taper calculation					•	•	•	•				•		
turning					•	•						•		
facing					•	•						•		
assisted threading (easy threading)						•						•		
on-screen guided help, with graphics	•	•			•	•						•		
storage of many part-programs	•													
others														
USB connection for copying data	•	•			•	•						•		
auto shut-off after 30-minute idle	•	•	•	•	•	•	•	•	•	•	•	•	•	•
digital inputs / outputs					15/11				4/6	4/6	4/6			
analog inputs / outputs					1/1									
probe	•	•				•						•		

Accessories

Support arm

• For mill   ARM 300 model, 300 mm long
             ARM 500 model, 500 mm long

• For lathe
   ARM-V-500 model
   500 mm long

Adapter plate

• For built-in model

Operating conditions

Power supply protected against AC mains outage
universal power supply with an input range between 85 VAC and 264 VAC. Frequency from 45 Hz to 400 Hz

Operating temperature
from 5 ºC to 45 ºC (from 41ºF to 113 ºF)

Storage temperature
from -25 ºC to 70 ºC (from -13 ºF to 158 ºF)

relative humidity
maximum 95% without condensation at 45 ºC (113 ºF)

Sealing
front panel IP54 and rear panel IP4X (DIN 40050)

Product in compliance with safety and electromagnetic compatibility regulations
EN-60204-1, EN-50081-2, EN 55011, EN-55022, EN-55082, EN- 610004-2, 3,4, 5,6,11. EN-V50140, EN-V50141, ENV 50204 and EC directives 73/23/ECC, 89/392/CEE, 89/336/ECC and 73/23/ECC

Type of feedback signals
TTL and differential TTL (EIA422).
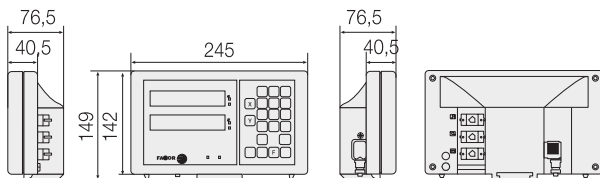Plus, 1 Vpp and SSI on the 40i models

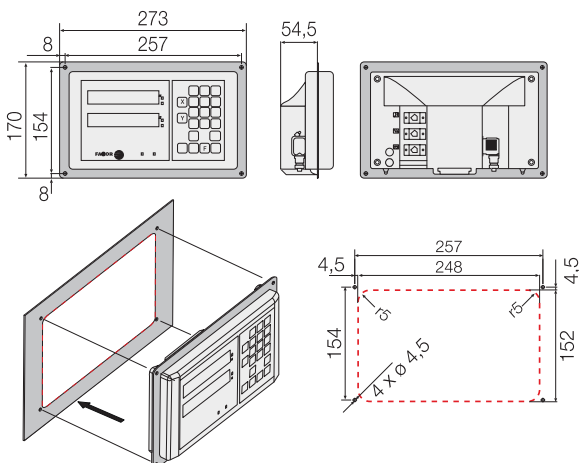**Maximum feedback frequency**
250 KHz

Dimensions in mm

10i, 20i, 30i models
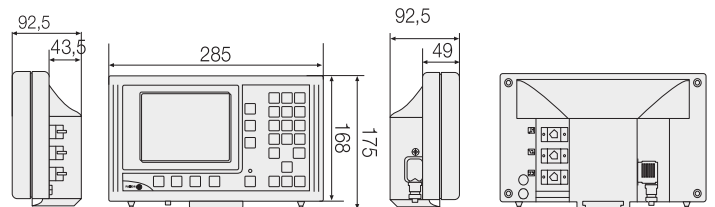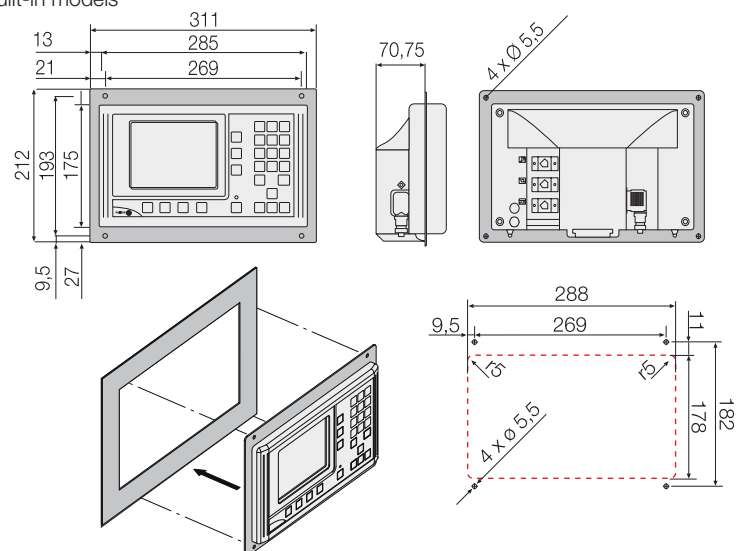
Tabletop models

Built-in models

(*) Built-in option: Add "B" to the model (for example: 20i-B)

40i models

Tabletop models

Built-in models

(*) Built-in option: Add "B" to the model (for example: 40i-B)