# General series

## 40i model

## 20i model

## 10i model

## Common characteristics, Gereral series

*These models provide multi-purpose solutions, because they may be adapted to applications as different as auxiliary axes, metrology, woodworking machines, etc.*

# General specifications
## of all Fagor Automation DRO's

■ **Preset function**
For the operator to enter values into the DRO and save them in its memory and recall them when needed.

■ **Axis coupling**
Parallel axes may be combined so a single axis display shows the addition/subtraction of both axes.

■ **Easy setup**
The DRO detects the characteristics of the feedback system to which it is connected and sets its internal parameters automatically.

■ **Multi-point compensation**
Its 100 compensation points provide maximum efficiency and guarantee absolute precision. This point-to-point compensation minimizes possible machine errors.

■ **Display of maximum, minimum coordinates and the difference between them**

■ **Fine or coarse resolution, as needed**

■ **Connection to linear and angular axes**

■ **Software travel limits**
These limits do not cancel the ones already set by the travel limits of the machine, but offer the operator the chance to add other limits between the main ones.

■ **40i models: USB connection**
USB connection for uploading/downloading data from/to a PC or pendrive.

■ **40i models: Innova DRO**
Also, the Innova 40i offers the operator the advantage of working with a color TFT screen.

# 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).
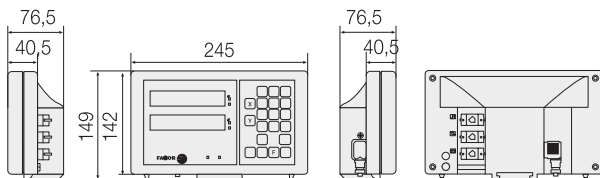Plus, 1 Vpp and SSI on the 40i models

**Maximum feedback frequency**
250 KHz
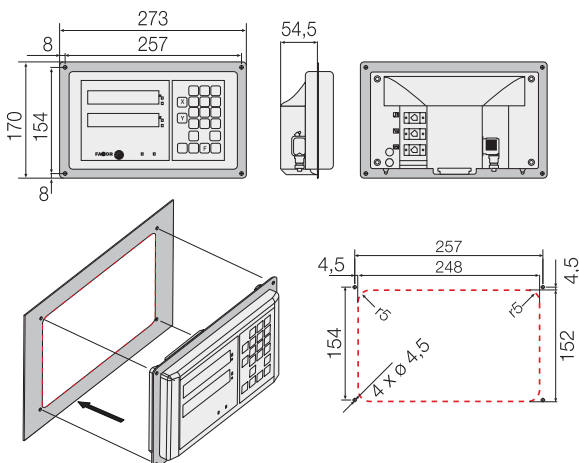
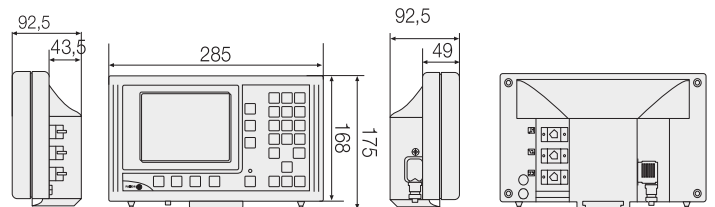# Dimensions in mm

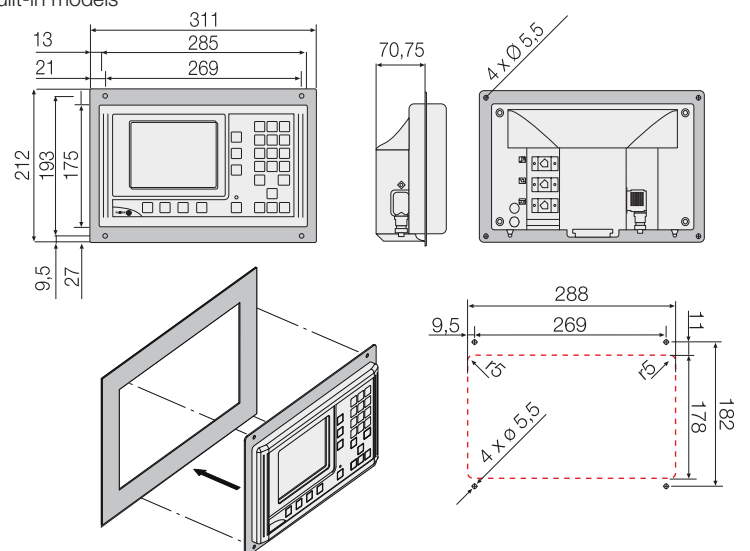## 10i, 20i, 30i models

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)