HEIDENHAIN

Override Controller OC 310

Mounting Instructions

English (en)
02/2024

1 Basic information

1.1 OC 310 override controller

The OC 310 override controller is an endlessly rotating digital input device that includes the following functions:

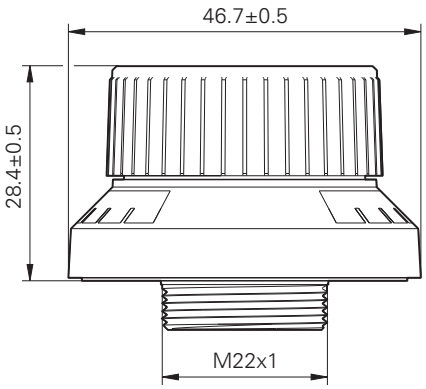
- Use the dial to manipulate the feed rate and/or rapid traverse
- Start NC programs with the integrated **NC Start** key that is backlit in green
- Use breakpoints to define conditional stops
- Resume the NC program by increasing the override
- Override scale with colored LEDs for indicating the override value
- Receive tactile feedback through vibrations

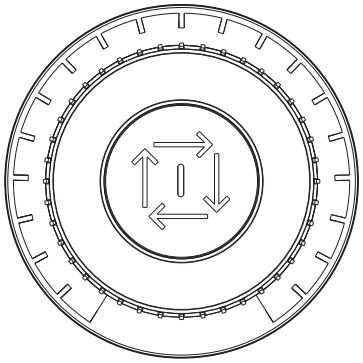
  For example:
  - Minimum feed rate
  - Maximum feed rate
  - 100% feed rate
  - Occurrence of conditional stop
- "Panic function": the OC 310 detects a sudden turning off and automatically sets the override value to 0%

The basic functions and operation of the OC 310 override controller are described in the **Setup and Program Run** User's Manual of the TNC7.

Dimensions

mm
Tolerancing ISO 8015
ISO 2768:1989-mH
≤ 6 mm: ±0.2 mm





1.2 Hardware requirements

	NC software	Keyboard unit	ID	Machine operating panel	ID
TNC7	81762x-18 and later	TE 350	1370209-02 and later	MB 350	1372719-xx
		TE 350 FS	1370220-02 and later	MB 350 FS	1374704-xx
		TE 361	1313011-03 and later		
		TE 361 FS	1326583-03 and later		
TNC7 basic	817621-18 and later	TE 340	1320800-02 and later	MB 340	1388531-xx
		TE 340 FS	1352798-02 and later	MB 340 FS	1388532-xx

2 Safety precautions and general information

2.1 Meaning of the symbols used in this manual

⚠ DANGER

Danger indicates hazards for persons. If you do not follow the avoidance instructions, the hazard **will result in death or severe injury.**

⚠ WARNING

Warning indicates hazards for persons. If you do not follow the avoidance instructions, the hazard **could result in death or serious injury**.

⚠ CAUTION

Caution indicates hazards for persons. If you do not follow the avoidance instructions, the hazard **could result in minor or moderate injury.**

NOTICE

Notice indicates danger to material or data. If you do not follow the avoidance instructions, the hazard **could result in property damage**.

The information symbol indicates a **tip**.

A tip provides important additional or supplementary information.

The book symbol indicates a **cross reference**.

A cross reference leads to external documentation for example the documentation of your machine manufacturer or other supplier.

The gear symbol indicates a function that **depends on the machine**.
The function described depends on the machine if, for example:

- A certain software or hardware option is required on your machine
- The behavior of the functions depends on the configurable machine settings

2.2 General information

NOTICE

Caution: risk of property damage

IP54 degree of protection cannot be guaranteed because components are missing. Damage due to ingress of liquids or dust is possible.

- Missing components must be replaced without delay

NOTICE

Caution: risk of property damage

Incorrect cleaning agents and incorrect cleaning procedures can damage the keyboard unit or parts of it.

- Use permitted cleaning agents only
- Use a clean, lint-free cleaning cloth to apply the cleaning agent

The OC 310 override controller can be installed in any standard 22 mm hole.

3 Installation and removal

3.1 Initial installation, or replacement in the event of servicing

Depending on whether you wish to install an OC 310 override controller in the keyboard unit for the first time or whether you have to replace an OC 310 override controller in case of servicing, the work steps differ slightly.

Initial installation

- Choose any free 22 mm hole and remove the dummy cap

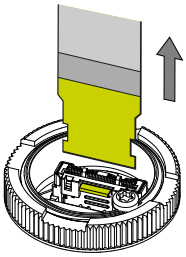
  or

- Remove the override potentiometer you wish to replace with the OC 310 override controller

Replacement in the event of servicing

- First remove the OC 310 override controller to replaced

3.2 Removing the OC 310 override controller



To disconnect the OC 310 override controller:

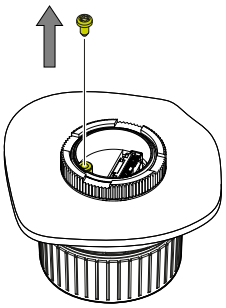
- Carefully press the lock (green in the figure) of the flat cable (FFC: Flexible Flat Cable) down with a small flat-tip screwdriver (or a similar tool)
- Carefully pull the flat cable out of the connector

NOTICE

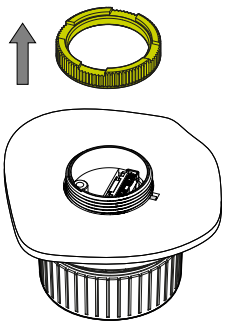
Caution: risk of property damage

If the lock is not released when disconnecting, the flat cable (FFC: Flexible Flat cable) may incur damage.

- Press the lock down when disconnecting the flat cable
- Apply only slight force when pulling out the flat cable



- Unscrew the locking screw



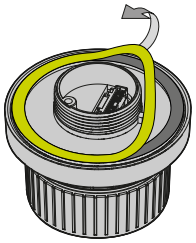
- Loosen the fastening nut
- Carefully push the OC 310 override controller out of the hole

The OC 310 override controller is fastened to the keyboard unit by a piece of adhesive tape.

However, the OC 310 can be removed easily by applying a little pressure.

3.3 Installing the OC 310 override controller

A tool is available for fastening the fastening nut. Please consult with your HEIDENHAIN contact person as needed.

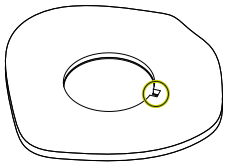


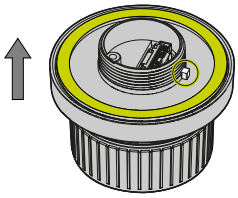
- Clean the area around the 22 mm hole

HEIDENHAIN recommends:

- Clean the mounting surface with isopropyl alcohol
- Let it air out for 5 minutes

- Peel off the protective film from the adhesive surface





- Insert the OC 310 override controller in the hole and press it down
- Please note the following information!

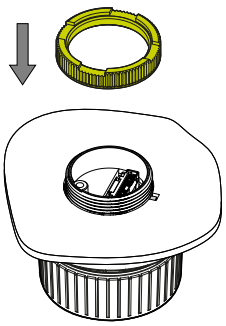
NOTICE

Caution: risk of property damage and malfunction

If the OC 310 override controller is incorrectly positioned, vibration feedback (haptic feedback) may be severely restricted.
The vibration feedback may be difficult to identify or may no longer be identifiable at all.
A change of position (twisting) of the OC 310 is no longer possible after pressing it down as this will damage the adhesive seal. Before installing the OC 310 again, the adhesive seal must be replaced.

The OC 310 override controller has a centering cone. The centering cone must not touch the sides of the groove in the keyboard unit hole!

- Position the centering cone of the OC 310 at the center of the hole groove
- Only then may you press down the OC 310

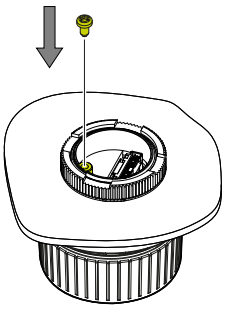


- Screw down the OC 310 override controller **slightly** with the fastening nut (**torque: 0.015 Nm**)

The following is important for haptic feedback (vibration) to work properly:

The fastening nut may be tightened only slightly.

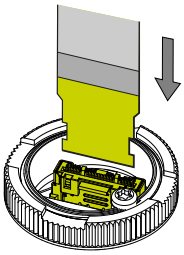
Tightening the fastening nut too much may affect the haptic feedback.



- Tighten the locking screw **finger-tight**

The locking screw prevents the fastening nut from loosening.

The fastening nut may be tightened only slightly.



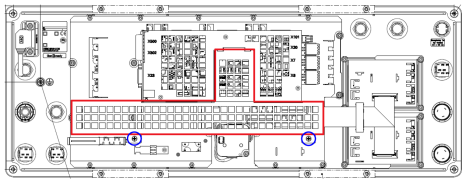
- Plug in the flat cable (FFC: Flexible Flat Cable)

Carefully insert the flat cable with its contact side facing the connector contacts.

There is no need to press down the lock (as opposed to disconnecting).

3.4 Additional steps during initial installation

- Remove the override potentiometer
- Install the OC 310 override controller as described above
- Connect the flat cable side (FFC: Flexible Flat Cable) facing away from the OC 310 override controller to the HSCI board of the keyboard unit as described below:



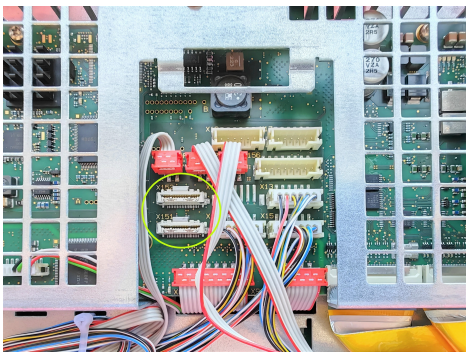
- Unscrew the two mounting screws (blue) from the metal cable duct and remove the metal cable duct.
- In the cable routing space provided for the OC 310 override controller, route the flat cable (FFC: Flexible Flat Cable) to the **X151** connection

NOTICE

Caution: risk of property damage

The flat cable may incur damage (breakage of conductor routes).

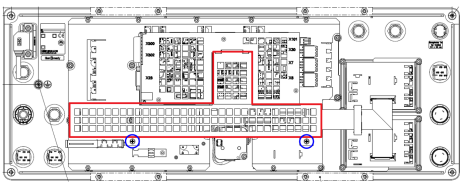
- Careful folding (180°) of the flat cable for proper routing is permitted
- The flat cable must not be bent over sharp edges and must not be pressed flat, however
- A bend radius of less than approx. 0.5 mm is not permitted
- Frequent flexing at the same point must be avoided



- Connect the flat cable, with its contact side facing the contacts, to **X151** (see the green circle) on the HSCI board in the same way as for installing the OC 310 override controller

There is no need to press down the lock (as opposed to disconnecting).

A second OC 310 override controller can be connected to **X152**.



- Re-assemble the cable duct in reverse order

NOTICE

Caution: risk of property damage

Wires and cables may be squeezed beneath the cable duct when installed carelessly.

- Install the cable duct carefully
- Position the wires and cables properly beneath the cable duct

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