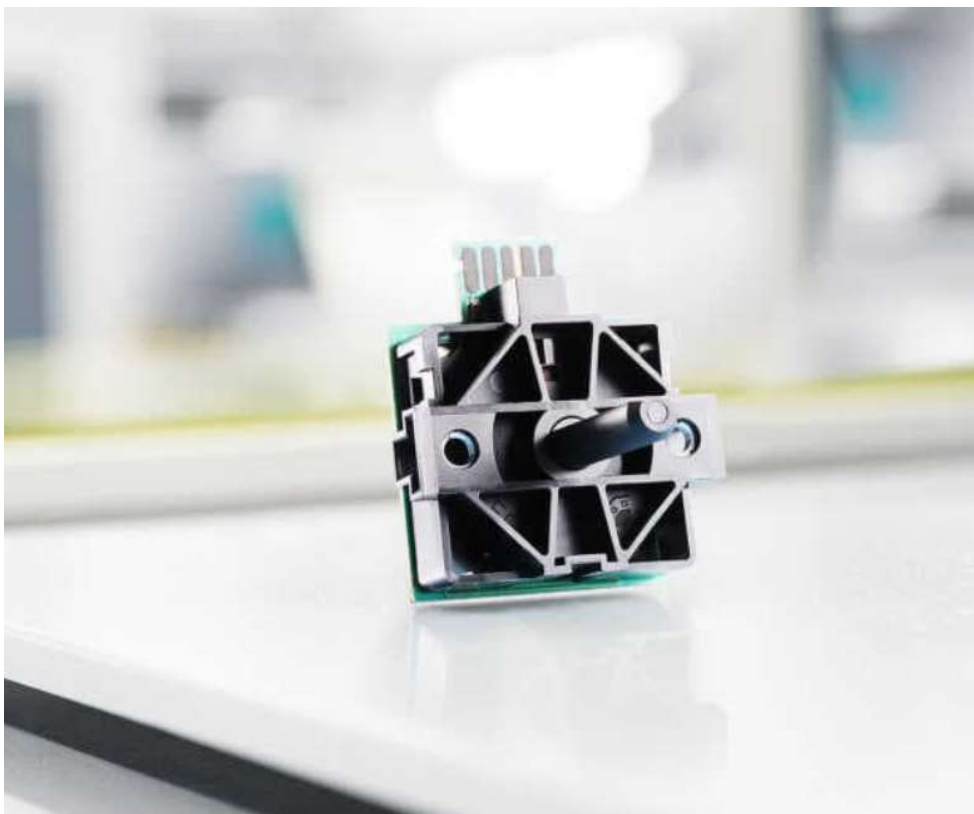

Operating Instructions



Code switches 44.xxxxx.xxx

90.60178.235-002-00-A

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1 About these operating instructions

1.1 Validity

These operating instructions are for the code switches with number range

- 44.xxxxx.xxx

1.2 Handling with these operating instructions

These operating instructions are part of the product and describe the intended use of the product.

- ▶ Read these operating instructions, especially the safety instructions, carefully before use.
- ▶ Observe all other applicable documents.
- ▶ Keep these operating instructions during the product lifetime.
- ▶ Make sure, that these operating instructions are always available completely and legibly.
- ▶ Pass these operating instructions to each subsequent owner or user of the product.

1.3 Revisions





Date	Version	What is new?
22.06.2022	01	Initial version

Tab. 1: Revisions

1.4 Other applicable documents

- Type drawing
- Specification

1.5 Symbols and markings

Symbols	Meaning
✓	Requirement of an action
▶	One-step action
▷	Measure to avoid a hazard in a warning
1.	<ul style="list-style-type: none">Step within a multi-step action listKeep order
↪	Final result of an action
	Tip for easier work
 DANGER!	Hazardous situation that will lead to death or serious injuries, if the safety measures are not followed.
 WARNING!	Hazardous situation that can lead to death or serious injuries, if the safety measures are not followed.
 CAUTION!	Hazardous situation, that can lead to minor injuries, if the safety measures are not followed.
NOTICE!	Hazardous situation, that can lead to property damage if the safety measures are not followed.

Tab. 2: Symbols and markings

2 Safety

2.1 Intended use

EGO Code Switches are used to regulate and control hotplates for household hobs and domestic ovens. Any other use requires the written consent of E.G.O.. EGO Code Switches are only intended for supervised operation [according to EN60335-1].

Intended use also includes the following points:

- Compliance with the permissible operating conditions according to the type drawing and specification.
- Observance of these operating instructions.

2.2 Staff qualification

These operating instructions are intended for the following staff / staff groups:

Staff	Required qualification
Production staff of the electrical appliance manufacturer	Has received instruction for the required activity from the electrical appliance manufacturer. .
Qualified electrician	<ul style="list-style-type: none">• Knows the relevant standards and regulations for electrical installation.• Has experience in using the relevant tools and aids for electrical installation.• Has knowledge of electrical appliances.• Has received a training from the electrical appliance manufacturer.

Tab. 3: staff qualification

2.3 Residual risks

2.3.1 Installation with voltage applied

- ▶ The code switch may only be installed or replaced by qualified personnel.
- ▶ The power supply to the cooking appliance must be completely switched off before any installation or replacement work is carried out on a code switch.

2.3.2 Insufficient grounding

Inadequate grounding can cause electric shock to people. Please note the electrostatics and the ESD requirements according to IEC 61340-5-1:2007.

- ▶ The code switch must be correctly connected and integrated into the grounding of the application (e.g., via the housing of the device).
- ▶ Observe the regional regulations.

2.3.3 Wrong connection

Inadequate electrical contacts have the following causes, among others:

- Mixing up the insertion position of the connection cable.
- Improper outlet or wire material.

- ▶ Observe the regional regulations.
- ▶ The code switch must be connected in accordance with the operating instructions and its type drawing.
- ▶ All information in these operating instructions regarding cables, sockets and ferrules must be observed.

2.3.4 Incorrect cable routing

Improper cable routing, e.g., directly behind the code switch, can damage the cable insulation.

- ▶ Never lay cables directly behind the code switch.

2.3.5 Moisture / parts inside

Code switches are not waterproof and do not have an IP protection class (IP100).

Contamination and penetrating foreign bodies can lead to malfunctions.

- ▶ Make sure that the code switch cannot meet liquids.
- ▶ Code switches in the cooking device must be installed in such a way that they are protected from dust, moisture and accessibility of the electrical connections.
- ▶ Observe the regional regulations.

2.3.6 Insufficient air and creepage distances

- ▶ Maintain minimum air and creepage distances when connecting the code switch.
- ▶ Observe the applicable standards and regional regulations.

2.3.7 Sharp edges

Packaging material and code switch parts can have sharp edges. People can cut their hands or fingers.

- ▶ Wear safety gloves during transport and installation.

2.3.8 Use of the code switch outside of the intended use

EGO Code Switches are not hazardous substances within the meaning of the EU directive for the classification, packaging and labelling of hazardous preparations (1272/2008/EG) or the Hazardous Substances Ordinance (GefStoffV) and therefore do not require labelling. The use of code switches outside of the intended use may lead to risks or dangers that are not described in this information sheet. Additional specifications can be found in the respective type drawing.

- ▶ Only use code switches in accordance with these operating instructions.
- ▶ E.G.O. is not liable for the risks caused by improperly modified code switches.

2.3.9 Use of damaged code switches

If code switches are damaged (e.g., corrosion, housing damage, cracks), live parts can be made accessible.

- ▶ Do not use a damaged code switch.

2.3.10 Live parts

Live parts suddenly become accessible due to mechanical damage.

- ▶ Do not use code switches that are damaged.

2.3.11 Deformation

Mechanical deformation can lead to malfunctions and even destruction of the code switch, e.g., when using fastening screws that are too long. If deformation occurs during assembly, the code switch must be sorted out.

- ▶ Observe the maximum screw-in depth of the fastening screws.
- ▶ Do not use code switches that are defective.

2.3.12 Excessive force when attaching or removing the knob

Excessive force when attaching or removing the knob can damage the code switch and cause malfunctions. The use of knobs that do not meet the specifications of the type drawing can result in the basic insulated metal spindle axis being exposed.

- ▶ Knobs made of insulating material with a maximum push-on force of 80 N and a pull-off force of ≥ 50 N for metal axles and ≥ 30 N for plastic axles.

2.3.13 Evaporation

Plastic parts can produce toxic fumes if the permissible temperatures are exceeded.

- ▶ Risk of poisoning from evaporation.
- ▶ Do not heat plastic parts above the specified maximum temperatures. These can be found in the specification.

2.3.14 Electrochemical corrosion

Electrochemical corrosion due to different material pairings or aggressive media (acids, alkalis, etc.) can lead to malfunctions and even destruction of the code switch.

- ▶ Therefore, when selecting fastening parts, please note the electrochemical voltage series of the materials used.

2.3.15 Exceeding the maximum switching capacities

- ▶ The switching capacity noted in the specification for the respective code switch series must not be exceeded.

2.3.16 Falling below the minimum switching capacity

Falling below the minimum switching capacity can lead to malfunctions in the switching function.

- ▶ Make sure that the switching capacity noted in the specification for the respective code switch series is not undershot.

2.3.17 Exceeding the maximum number of switching cycles

Exceeding the maximum number of switching cycles can lead to malfunctions.

- ▶ Make sure that the number of switching cycles noted in the specification for the respective code switch series is not exceeded.

2.3.18 Too high temperatures

Exceeding the maximum permissible ambient temperature both at the code switch and in the area of the housing can lead to malfunctions and even destruction of the code switch.

- ▶ When designing the application, observe and comply with the maximum ambient temperature noted in the type drawing and the specification.
- ▶ Observe the corresponding required constructions.

2.3.19 Too low temperatures

Falling below the minimum permissible ambient temperature can lead to malfunctions and even destruction of the code switch.

- ▶ When designing the application, observe and comply with the minimum permissible ambient temperature specified in the type drawing.

2.3.20 Blocking of the switching mechanism

Blocking of the switching mechanism can lead to malfunctions.

- ▶ Never change the switching mechanism.

3 Transport and storage

3.1 Transport

- ▶ Use suitable packaging to prevent damage to the product.
- ▶ Do not stack pallets.
- ▶ Temperature range of -20 °C - +50 °C, maximum 98% relative humidity must be maintained. Condensation must not form.
EGO Code Switches are not classified as hazardous substances in the sense of the EU-classification directive Packaging and labeling of dangerous preparations (1272/2008/EG) or the Hazardous Substances Ordinance (GefStoffV) and therefore not subject to labelling.
- ▶ Observe the regulations for transport testing for unpackaged (IEC 68-2-31) and packed components (IEC 68-2-32) as well as the vibration test for unpacked components (IEC 68-2-6) and regional guidelines.

3.2 Storage

- ▶ Comply with the following storage conditions:
 - Temperature from -20 – +50 °C.
 - Dry storage in a closed room (hygroscopic insulating material) according to DIN IEC 60068-2-3 and DIN 50017.
 - Protection against corrosion and pollution.
 - For block storage: stack a maximum of 2 code switch pallets on top of each other. The maximum load on the code switch is its own weight.

In addition, it is recommended that EGO Code Switches are stored in containers suitable for electrical switching devices.

4 Installation and commissioning

Before starting up the system, make sure that there is no condensation on the electronics. An air humidity test of the code switch must be carried out a maximum of 40 °C.

4.1 Mechanical installation

The code switches must be installed in accordance with the specific instructions of the device manufacturer. Installation may only be carried out by qualified personnel. Only use suitable cables, plugs, cable lugs, etc. during installation. The way in which they are used must correspond to the use / application. Choose suitable screws, consider the maximum length of the screw.

- ▷ Do not overtighten the screw.

4.1.1 Ambient temperature

The ambient temperature is limited to ensure the functionality of the code switches in the system. The design of the application must ensure that the ambient temperature permitted for the respective switch is not exceeded. All data can be taken from the type drawing and the specification.

Ensure that the ambient temperature is not exceeded under any circumstances.

4.1.2 Installation of the knobs

To protect the code switch from damage, the forces on the knobs must be limited.

- ▷ The compressive forces for installing a knob in the axle must not exceed 80 N.

4.1.3 Uninstalling the knobs

The knob is firmly mounted on the axis of the code switch and must not be removed.

To ensure permanent installation of the knob on the axis, the corresponding pull-off forces are defined as follows:

- ▷ For code switches with a metal axis, the pull-off force must be ≥ 50 N.
- ▷ For code switches with a plastic axis, the pull-off force must be ≥ 30 N.

4.1.4 Actuating forces / torques

Before the torque test, the code switch must be actuated 2-3 times over its possible turning range. The information on our type drawings and specifications applies. The values given in the type drawing and specification must not be exceeded.

Tightening torques

Torque from zero position:

Code switch	6 detent steps	16 Ncm \pm 2 Ncm
	12 detent steps	15 Ncm \pm 2 Ncm
	16 detent steps	13 Ncm \pm 2 Ncm
	22 detent steps	13 Ncm \pm 2 Ncm
	24 detent steps	6 Ncm \pm 2 Ncm
	Induction G4	18 Ncm \pm 3 Ncm

Torque in the working range (from the detent position):

Code switch	6 detent steps	6 Ncm \pm 2 Ncm
	12 detent steps	6 Ncm \pm 2 Ncm
	16 detent steps	6 Ncm \pm 2 Ncm
	22 detent steps	6 Ncm \pm 2 Ncm
	24 detent steps	6 Ncm \pm 2 Ncm
	Induction G4	4 Ncm \pm 3 Ncm

4.2 Electrical connection

4.2.1 Basic information on the electrical connection

- ▶ Observe the corresponding type drawing before connecting the code switch.
- ▶ Observe the cross section, insulation material and wiring diagram according to the type drawing.
- ▶ Observe national standard information on the electrical connection, e.g., DIN EN 60730.
- ▶ Make sure that the shape and position of the electrical connection are not changed.
- ▶ Ensure a permanent connection with low resistance.
- ▶ Maintain a sufficient clearance and creepage distance to conductive housing parts.
- ▶ Make sure that the code switch is properly and permanently connected to the earth potential (if required).
- ▶ Observe the applicable national guidelines.

5 Maintenance

EGO Code Switches are maintenance free and are not subject to any specific maintenance intervals. The service life of our devices is limited to the values that are stored in the specification. Exception to maintenance: Built-in EGO Code Switches are subject to repair or service case the maintenance instructions of the associated customer application. The maintenance is only to be carried out by competent and trained personnel. EGO Code Switches cannot be repaired.

- ▶ A damaged code switch must be replaced with a completely new code switch.

6 Disposal

- ▶ Do not dispose of the code switch in household waste.
- ▶ Dispose of the code switch in accordance with the locally applicable regulations.

7 Specifications

For further details please refer to the type drawing and / or specification.

8 Contact

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