

BECK-O-TRONIC 5

Version: Centronic

en

Assembly and Operating Instructions

Door control unit

Important information for:

• Fitters / • Electricians / • Users

Please forward accordingly!

These instructions must be kept safe for future reference.

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General

This control unit is a high-quality product with many features and advantages:

- simple, convenient connection
- easy to handle and highly flexible
- modular system with plug-in remote control
- for optical and electric safety edges

Please observe these Assembly and Operating Instructions when installing and setting the equipment.

Explanation of pictograms

	CAUTION	CAUTION indicates a hazardous situation which, if not avoided, could result in injury.
	ATTENTION	ATTENTION indicates measures that must be taken to avoid damage to property.
		Denotes user tips and other useful information.

Warranty

Structural modifications and incorrect installation which are not in accordance with these and our other instructions can result in serious injuries, e.g., crushing of limbs. Therefore, structural modifications may only be carried out with our prior approval and strictly in accordance with our instructions, particularly the information contained in these Assembly and Operating Instructions.

Any further processing of the products which does not comply with their intended use is not permitted.

The end product manufacturer and fitter have to ensure that all the relevant current statutory, official and, in particular, EMC regulations are adhered to during utilisation of our products, especially with regard to end product manufacture, installation and customer advice.



Safety instructions

The following safety instructions and warnings are intended to avert hazards and to prevent property damage and personal injury.

Please keep the instruction manual safe!



Caution

- **Work on the electrical equipment may only be carried out by a qualified electrician.**
- **The relevant safety and accident prevention regulations for the specific application must be observed when carrying out assembly, installation, commissioning, testing and maintenance of the control unit. The following regulations in particular must be observed (not an exhaustive list):**
 - **Machinery Directive 2006/42/EC**
 - **EN 12453 (safety in use of power-operated doors, requirements)**
 - **EN 12445 (safety in use of power-operated doors, testing methods)**
 - **EN 12978 (safety devices for power-operated doors, requirements and testing methods)**
 - **EN 60335 (safety of electrical devices for household or similar purposes)**
 - **Fire prevention regulations**
 - **Accident prevention regulations ASR A1.7 (power-operated windows, doors and gates)**
- **The engineer responsible for fitting the system must ensure proper installation, instruction of the operator in its use and issue of the CE mark.**
- **The operator must ensure that the system is only operated in perfect condition and that the safety devices are checked regularly by an expert to ensure they are in full working order.**
- **A damaged mains connecting cable must be replaced immediately by a qualified electrician.**

- **If there is no fixed stop, e.g., when using roller doors, the customer must ensure that the roller shutter curtain is protected and cannot cause any dangerous situations, e.g., by overrunning a limit position.**
- **The control unit is designed to have a service life of 100,000 operating cycles.**
- **Drives with a H05VV-F connecting cable may only be used indoors. If the cable is installed outdoors, it must be placed in a protective conduit.**
- **The person who installs, connects, commissions and maintains this control unit must have read, understood and observed these Assembly and Operating Instructions. The manufacturer will not accept liability for damage, consequential damage or malfunctions resulting from non-compliance with these Assembly and Operating Instructions.**
- **Before working on the control unit, it must be disconnected from the power supply and measures must be taken to ensure it cannot be inadvertently switched back on.**
- **Following installation and commissioning, all users must receive instruction in the functions and operation of the system. All users must be briefed on the dangers posed by the system, as well as the risks and their testing obligations as users. Documentation of these points is recommended.**
- **Operating personnel who have not received instruction or children must not operate the door control unit.**
- **Persons, animals or objects must not be within the movement range of the door when opening or closing it.**
- **As the setting options are many and varied, it is also possible to make settings for the specific system being operated that are obviously illogical, impermissible or even dangerous. This is not due to a fault or defect at**



the control unit. In light of this, the installer / person responsible for the system must carefully check the settings made and modify them as necessary.

Intended use

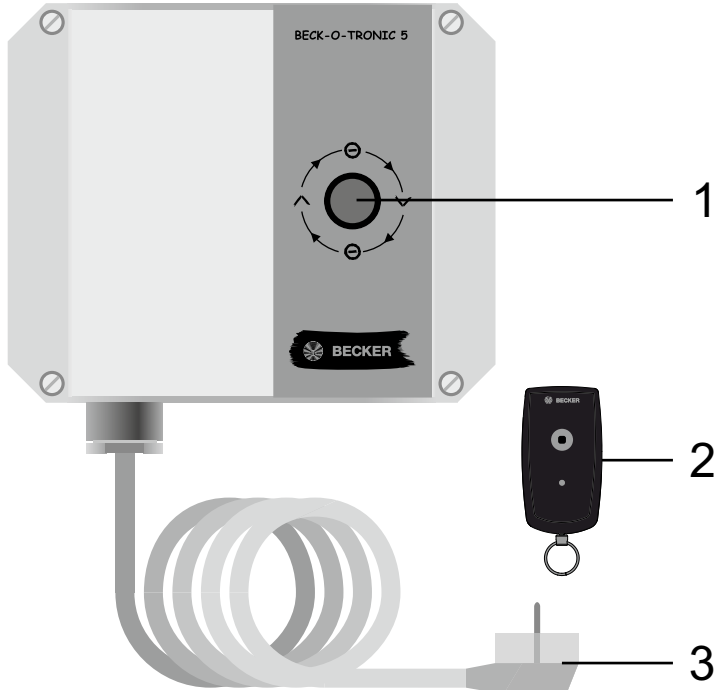
The type of control unit described in these instructions may only be used for the operation of tubular drives in roller doors which have fixed stops at the limit positions or a cover on the barrel (EN 12453). For travel in the DOWN direction in maintained operation, a closing edge safety device is necessary.

This type of control unit must not be used in potentially explosive areas.

Other applications, uses and modifications are not permitted in order to protect the safety of the users and others, since these actions can impair the system's safety and carry the risk of personal injury and property damage. The manufacturer does not accept liability for damage or injury arising from such actions.

Always observe the information in these instructions when operating or repairing the system. The manufacturer does not accept liability for damage or injury resulting from improper use.

Product overview



1. "Impulse" button (IMP)
2. Hand-held transmitter
3. Mains plug

Mains plug

The control unit is disconnected from the power supply by removing the mains plug. Door movement is no longer possible.



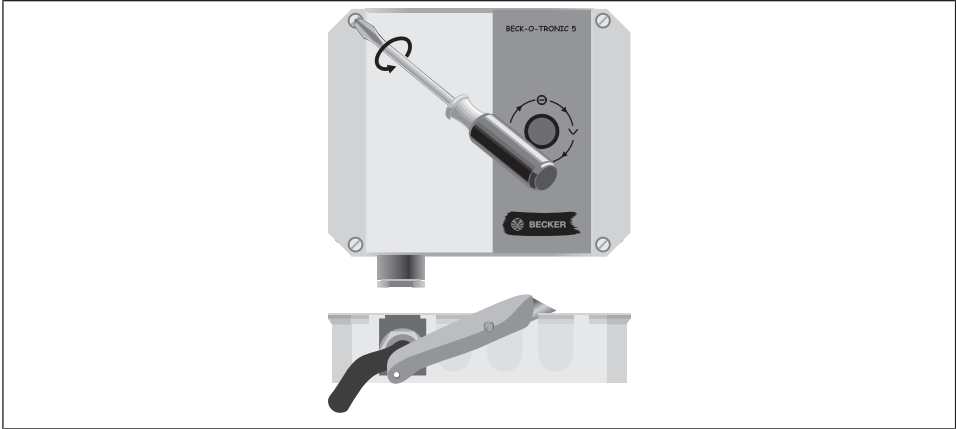
Caution

Work on the electrical equipment may only be carried out by a qualified electrician.



Installation

Check that the transmitter and receiver are functioning perfectly prior to installation in the desired location. Open the cover of the control unit. Unplug and remove the “pulse” button from the control unit and carefully place the cover to one side. Remove the required cut-outs in the bottom part of the housing.



i Cut in at the edges to make the cut-outs easier to remove.

Install the control unit at a height suitable for operation (at least 1500 mm above the ground). Mount the housing with 4 screws (max. diameter of screw head 7.5 mm) inserted through the holes provided in the corners. Plug the cable from the cover back on and set the DIP switch on the motherboard according to your requirements. You can now close the control unit.

Wiring

Connect the individual pieces of equipment as shown in the connecting diagram.



Caution

Electrical work may only be carried out by qualified electricians or trained personnel. Always disconnect the safety mains plug before connecting the equipment. The connection to the building wiring system must be established in accordance with the Machinery Directive using an adequately sized mains disconnection device. This can be done by using a plug connection or lockable main switch. The control unit is protected by a 2 AT, 5 x 20 mm fuse located below the shock-hazard protection cover. Switch the operating voltage off before replacement!



First, pull the insert sleeves over the connecting cable and then push the insert sleeves into the bottom part of the housing once all of the wires have been connected. The control and drive lines must not exceed a max. length of 30 m! This does not apply to the power line. Always route the power line, drive and control lines in separate cables at a distance from one another. Non-compliance with the above can lead to malfunctions!

Settings

Using the 3 DIP switches on the motherboard, you can configure the control unit according to your requirements:

DIP 1: Switching the terminating resistance of the safety contact rail from 1K2 to 8K2.

DIP 2: Switching from a safety contact rail (SKS) to an optical safety edge (OSE)

DIP 3: Changing the running time from 30 seconds to 60 seconds

Closing edge safety device

Electric safety edges with terminating resistance 1K2 or 8K2 can be connected to the SKS terminals, or optical safety edges from Fraba can be connected to the OSE terminals.

If the safety edge is activated during downward movement, the door is stopped instantly and moved clear of the obstruction.





Caution

In order to operate a roller door in maintained operation, the system must be equipped with a closing edge safety device. Please ensure that main and auxiliary closing edges are sufficiently protected and the permitted closing edge forces are not exceeded!

Outdoor light

The light is switched on for 2 minutes at every door movement. The outdoor light (bulb) is connected according to the wiring diagram.

External control sensor (IMP)

An external control sensor, e.g. key-operated push-button, can be connected to the IMP terminals. This control sensor has the switching sequence: Up, Stop, Down, Stop etc.

Light barrier (LS)

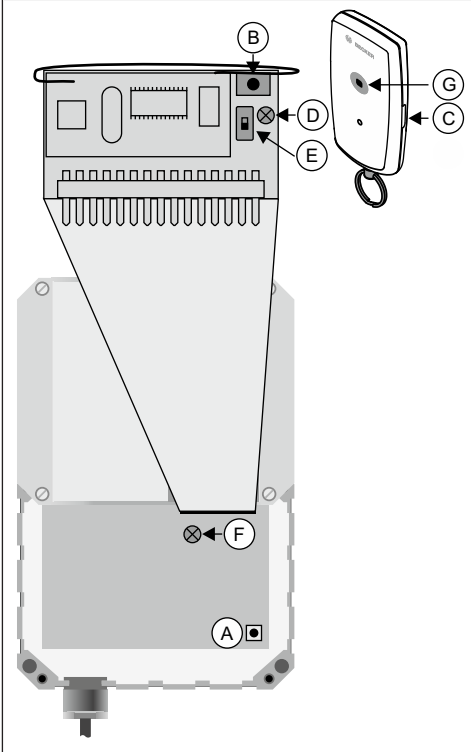
The potential-free relay contact (break contact) of the light barrier can be connected to the LS terminals. If the light barrier is activated, the door is stopped and travels upwards briefly (reverse travel).

The light barrier only serves as object protection in accordance with EN12453.

Emergency Stop

At the Emergency Stop terminals, an anti-unrolling device and external safety limit switches, for example, can be connected in series.

Explanation of displays and buttons



- A)** Radio PRG button
- B)** Programming button on the radio receiver
- C)** Programming button on the transmitter
- D)** LED
- E)** DIP switch (must be set to OFF)
- F)** LED
- G)** Control button



Programming the remote control



Caution

If a radio control system is used, the person operating the door must have full view of the door and its surroundings while the door is moving and ensure that he/she is clear of all hazardous areas.



It is only possible to operate the control unit with one transmitter when a safety device is connected. A programmed transmitter is indicated by flashing of the LED (D) on the radio receiver.

Operate the programming button on the transmitter using a suitable cylindrical tool (e.g. a ballpoint pen).

Transmitters with a timer cannot be programmed. It is not possible to program intermediate positions. Automatic timer control functions are not executed via the transmitter. A central command must be programmed into the control unit separately.

Programming the first transmitter (master transmitter)

Press the programming button on the radio receiver (B) for 3 seconds.

- ▶ The LED (D) flashes and the radio receiver goes into programming mode for 3 minutes.

Then press the programming button on the transmitter (C) for 3 seconds.

- ▶ The LED on the hand-held transmitter lights up for 3 seconds and the LED (D) goes out.
- ▶ Programming is thereby completed and the control unit switches back to the normal operating status.

Now close the cover of the control unit again using the four cover screws.

Programming additional transmitters



In addition to the master transmitter, up to 7 further transmitters can be programmed in the radio receiver.

Press the programming button (C) of the master transmitter for 3 seconds.

- ▷ The LED (D) lights up once to confirm.

Now press the programming button of a new transmitter which has not yet been programmed in the tubular drive for 3 seconds. This activates the programming mode of the radio receiver for a new transmitter for 3 minutes.

- ▷ The LED (D) lights up once to confirm.

Now re-press the programming button of the new transmitter you wish to program for 3 seconds.

- ▷ The LED (D) lights up twice to confirm.
- ▶ The new transmitter has now been programmed.

Deleting transmitters

Deleting individual transmitters



The programmed master transmitter cannot be deleted. It can only be overwritten.

Press the programming button (C) on the master transmitter for 3 seconds.

- ▷ The LED (D) lights up once to confirm.

Now press the programming button of the transmitter to be deleted for 3 seconds.

- ▷ The LED (D) lights up once to confirm.

Then press the programming button of the transmitter to be deleted again for 10 seconds.

- ▷ The LED (D) lights up twice to confirm.
- ▶ The transmitter has now been deleted from the radio receiver.



Deleting all transmitters (except the master transmitter)

Press the programming button (C) on the master transmitter for 3 seconds.

- The LED (D) lights up once to confirm.

Press the programming button (C) on the master transmitter again for 3 seconds.

- The LED (D) lights up once to confirm.

Press the programming button (C) on the master transmitter again for 10 seconds.

- The LED (D) lights up twice to confirm.
- ▶ All transmitters (except the master transmitter) have now been deleted from the radio receiver.

Overwriting the master transmitter

Press the programming button on the radio receiver (B) for 3 seconds.

- The LED (D) flashes and the radio receiver goes into programming mode for 3 minutes.

Now press the programming button of the new master transmitter for 10 seconds.

- This is confirmed by the LED (D) going out.
- ▶ The new master transmitter has now been programmed and the old master transmitter overwritten.

Status display

Meaning	LED (F)
Normal operation	Steady light
Program hand-held transmitter	Continuous flashing
Light barrier (LS) activated	1 flash
Safety edge (SKS) activated	2 flashes
Emergency Stop opened	3 flashes
SKS input defective	4 flashes

Maintenance

This control unit is maintenance-free.

Cleaning

Only clean the outside of the housing with a suitable cloth. Do not use cleaning agents, as these may damage the plastic.

Technical data

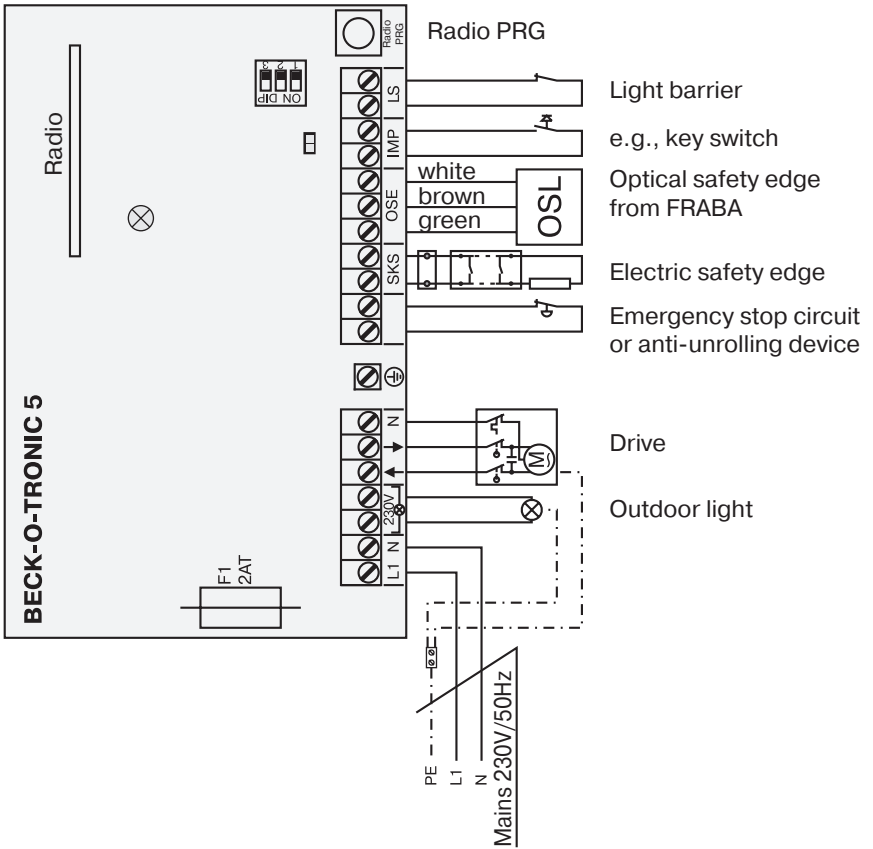
Dimensions of the housing (W x H x D)	155 x 130 x 50 mm
Housing material	PC
Degree of protection	IP20, only for installation indoors
Supply voltage	230 V / 50 Hz (connection type Y)
Input power	6 V A
Fuse	2 A slow-blow
Drive switching capacity	1 drive 230 V / 50 Hz maximum 360 V A
Light switching capacity	230 V / 50 Hz maximum 100 W
Temperature range	-10°C to +50°C
Radio frequency	868.3 MHz
Weight	approx. 0.5 kg (without connecting cable)



What to do if...?

Problem	Remedy
The door cannot be operated using the transmitter.	Check the safety devices. The control unit only reacts to the transmitter if all the safety devices are active and the door moves in maintained operation.
	The LED (D) flashes when the transmitter is operated. Press the radio PRG button (A) until the LED (F) flashes green. Now press the control button (G) on the transmitter within 15 seconds.
	The LED (D) does not flash when the transmitter is operated. Program the transmitter into the radio receiver.
	Set the DIP switch (E) to OFF.

Connecting diagram



Declaration of conformity

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– Original –

EU Declaration of conformity

We hereby declare that the following product series

Product designation: **Door control unit**
Type designation: **BECK-O-TRONIC 5**
Version: **Centronic**
From serial number: **from 1723001**

complies with the applicable regulations of the following Directives:

Directive 2006/42/EC (MD) L157, 09.06.06

Directive 2014/53/EU (RED) L153, 22.05.14

Directive 2011/65/EU (RoHs) L174, 01.07.11

Furthermore, the safety objectives of the **Low Voltage Directive 2014/35/EU L96, 29.03.14** as per Appendix I No.1.5.1 of Directive 2006/42/EC have been met.

Applied standards:


EN 60335-1:2012
EN 60335-2-103 + A11:2009
EN 61000-6 -1
EN 61000-6 -3
EN 61000-6 -4
EN 12453:2000 5.2
EN 300 220-2 V3.1.1 (2016-11)
EN 301489-3 V2.1.0 (2016-09)

Although the control unit ensures that the maximum permissible operating forces in accordance with EN 12453 and EN 12445 are observed, this must be checked depending on which drive is used!

Authorised party for the compilation of the relevant technical documentation:
Becker-Antriebe GmbH, Friedrich-Ebert-Str. 2-4, 35764 Sinn, Germany

This declaration of conformity was issued:

Sinn, 29.05.2017
Place, Date


Dipl.-Ing. Dieter Fuchs, Management

This declaration certifies compliance with the Directives cited but does not represent any assurance of characteristics. The safety warnings in the supplied product documentation must be observed!

Document: TS 004/17 en





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