

# Installation and operating instructions

## Motor lock M 315



**ELKA**

Translation of original installation and operating instructions

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# 1 Preface

## 1.1 General notes

These operating instructions must be available on site at all times. It should be read thoroughly by all persons who use, or service the appliances. Improper usage or servicing or ignoring the operating instructions can be a source of danger for persons, or result in material damage. If the meaning of any part of these instructions isn't clear, then please contact ELKA-Torantriebe GmbH u. Co. Betriebs KG before you use the appliance.

This applies to all setup procedures, fault finding, disposal of material, care and servicing of the appliance. The accident prevention regulations and applicable technical regulations (e.g. safety or electrical) and environment protection regulations of the country in which the appliance is used also apply.

All repairs on the appliances must be carried out by qualified persons. ELKA-Torantriebe GmbH u. Co. Betriebs KG accepts no liability for damage which is caused by using the appliance for purposes other than those for which it is built.

ELKA-Torantriebe GmbH u. Co. Betriebs KG cannot recognise every possible source of danger in advance. If the appliance is used other than in the recommended manner, the user must ascertain that no danger for himself or others will result from this use. He should also ascertain that the planned use will have no detrimental effect on the appliance itself. The appliance should only be used when all safety equipment is available and in working order. All faults which could be a source of danger to the user or to third persons must be eliminated immediately. All warning and safety notices on the appliances must be kept legible.

All electrical periphery equipment which is connected to the appliance must have a CE Mark, which ensures that it conforms to the relevant EEC regulations. Neither mechanical nor electrical alterations to the appliance, without explicit agreement of the manufacturer, are allowed. All alterations or extensions to the appliance must be carried out with parts which ELKA-Torantriebe GmbH u. Co. Betriebs KG have defined as suitable for such alterations, and be carried out by qualified personnel. Please note that with any alteration of the product, no matter whether mechanical or electrical, the warranty expires and the conformity is revoked. Only the use of ELKA accessories and original ELKA spare parts is allowed. In case of any contravention ELKA disclaims liability of any kind.



### INFORMATION!

The operation of the system within CEN countries must also be conformant with the European safety-relevant directives and standards.

*We reserve the right to make technical improvements without prior notice.*

### 1.1.1 Symbol explanation

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Remarks regarding the safety of persons and the gate opener itself are marked by special symbols. These remarks have to be absolutely observed in order to avoid accidents and material damage.

**DANGER!**

...points to an imminent dangerous situation, which can cause death or serious injuries if it is not avoided.

**WARNING!**

...points to a potentially dangerous situation, which can cause death or serious injuries if it is not avoided.

**ATTENTION!**

...points to a potentially dangerous situation, which can cause minor or slight injuries if it is not avoided.

**ATTENTION!**

...points to a potentially dangerous situation, which can cause property damage if it is not avoided.

**REMARK!**

Important notice for installation or functioning.

### 1.2 Copyright

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The operating manual and the contained text, drawings, pictures, and other depictions are protected by copyright. Reproduction of any kind – even in extracts – as well as the utilization and/or communication of the content without written release certificate are prohibited. Violators will be held liable for damages. We reserve the right to make further claims.

### 1.3 Information regarding installation instruction

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This document is to be used as installation instruction for partly completed machinery (according to machinery directive 2006/42/EG, article 13, (2)).

## 2 Safety

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### 2.1 Intended use

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The operating safety is only guaranteed with the intended use of the motor lock.

The motor lock of this series serves after installation as additional locking device for swing and slide gates.

The controller MO 90 is a component part and controls the motor lock.

**Any usage beyond this and/or any different application of the equipment is prohibited and is considered as not according to regulations.**

### 2.2 Danger, which could emanate from the site of operation

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The motor lock operates with movable parts.



**WARNING!**

**Rotating and/or linear movable components can cause serious injuries.**

Do not reach into moving parts or handle any moving components during operation.

- Turn the appliance off before any maintenance work, repair work or other work and secure it against unintentional restarting.

### 3 Transportation and storing

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#### 3.1 Transportation inspection

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The shipment has to be inspected for transportation damage immediately after receipt. In case of any damage record the type and extent on the delivery receipt or refuse acceptance.

Inform ELKA-Torantriebe immediately in the event of damage.

In case the above points are not observed claims will be denied due to insurance regulations.

#### 3.2 Storing

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The motor lock has to be stored as follows:



Do not expose the gate opener to aggressive substances.



Do not expose the motor lock to heat sources.



Storage temperature -20°C to +70°C.

## 4 Declaration of incorporation



### Declaration of incorporation for the installation of a partly completed machinery

according to EC Machinery Directive 2006/42/EC, annex II part 1 B

The manufacturer ELKA-Torantriebe GmbH u. Co. Betriebs KG  
Dithmarscher Str. 9  
25832 Tönning, Germany

We herewith declare that the partly completed machinery

Product description: Locking devices  
Function: locking of swing gates and slide gates  
Type designation: M 315  
Serial number: 803900200140101 to 803900200145299  
Baujahr: 2014

complies with the essential requirements of the following directive, as far as possible with the scope of delivery (see attachment for information regarding which requirements are met)

2004/108/EG EMC-directive  
2006/42/EG Machinery directive

Folgende harmonisierte Normen wurden angewandt:

EN 60335-1: 2002 Safety of household and similar electrical appliances, part 1 General requirements

Further we declare that the special technical documentation for this partly completed machinery is compiled in accordance with annex VII part B, and we undertake to transmit relevant information to the market surveillance authorities upon request.

Further we declare that the special technical documentation for this partly completed machinery is compiled in accordance with annex VII part B, and we undertake to transmit relevant information to the market surveillance authorities upon request.

Empowered to draw up the declaration:  
ELKA-Torantriebe GmbH u. Co. Betriebs KG, Dithmarscher Str. 9, 25832 Tönning, Germany

Tönning, 02.01.2014

*i.V. Guido Christiansen*  
i.V. Guido Christiansen  
Dipl.-Ing. (FH)  
Chief Engineer

#### Attachment

Requirements of annex I of 2006/42/EG which are met. The numbers relate to the chapters of annex I:

1.1.2., 1.1.3., 1.1.5., 1.1.6., 1.2.1., 1.2.3., 1.2.6., 1.3.4., 1.3.8., 1.5.1., 1.5.6., 1.5.11., 1.7.1. (partially), 1.7.2., 1.7.3., 1.7.4. (partially),

Drawing 1

## 4.1 Installation information for partly completed machinery

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The partly completed machinery must not be put into service until the final machinery into which it has to be incorporated has been declared in conformity with the provisions of the machinery directive.



According to EC Directive 2006/42/EG the mains supply has to be equipped with an all-pole circuit breaker.



### **WARNING!**

#### **Danger through voltage!**

Danger of an electric shock.

- Only certified electricians (VDE 0100) should connect the controller to the mains supply.



According to DIN EN 12453, for an application with passenger traffic, depending on the type of use and type of activation, suitable safety devices have to be installed additionally, in order to provide the minimum level of protection.

## 4.2 Declaration of conformity

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After the installation an EG- declaration of conformity according to EC-machinery directive 2006/42/EG for the complete system has to be issued by the person responsible for the integration (according to product standard DIN EN 13241-1).

## 4.3 Name plate

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The name plate of the motor lock is located inside the housing (interior area close to the motor or at the motor support).



## 5 Function description

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Motor lock with max. 150mm stroke for the sturdy locking of swing gates and slide gates in the positions OPEN and CLOSED. Usable horizontally or vertically.

All-purpose usage by activating the warning light signal with pre-warning time, which is standard in all modern motor controllers.



In case of deviation from the a.m. application range, please check with your supplier.

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## 6 Technical data

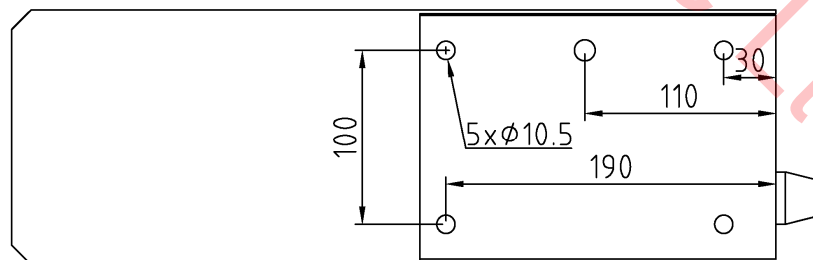
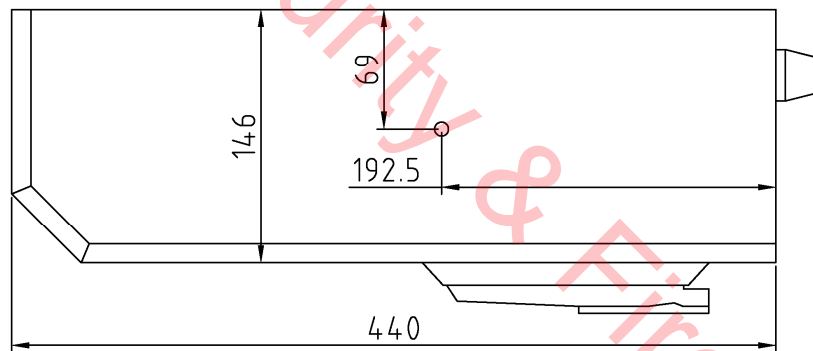
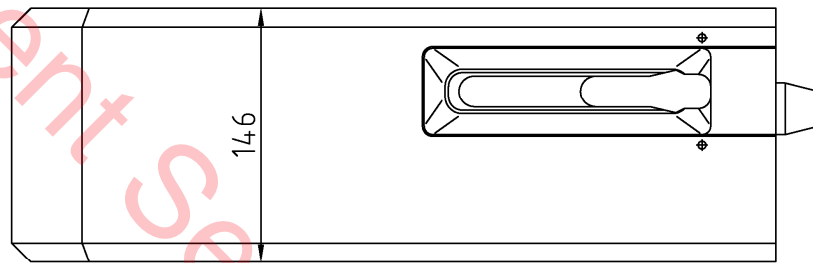
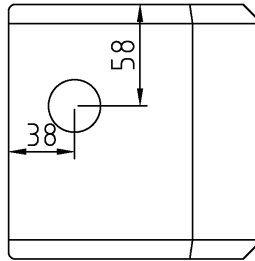
Mains supply	230Vac / 50Hz
Internal voltage	24Vdc
Degree of protection motor lock	IP44
Degree of protection controller	IP65
Floor bolt	
Diameter	30mm
Stroke	150mm
Running-time	2.5s
Controller	MO 90
Control box	230x140x95mm (IP 65)
Input signal	potential free or 24Vdc or 230Vac
Running time max.	3s
Stop-contact	yes
Reversing on obstacle	yes, adjustable
Weight	13.0kg

Table 1

## 7 Measurements

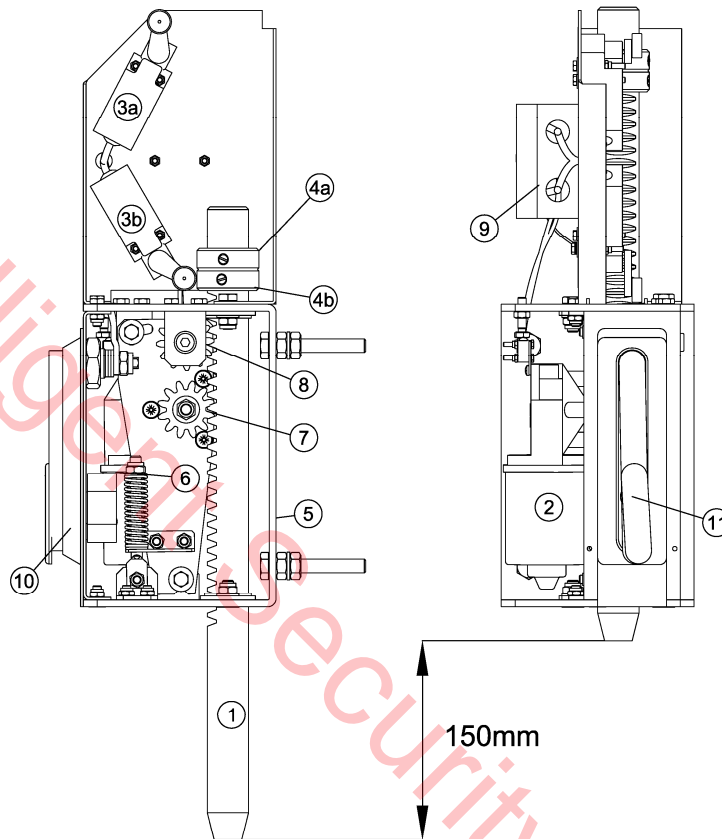


All measurements are stated in millimetres.



Drawing 2

## 8 Installation



Drawing 3

- 1 Floor bolt
- 2 Motor
- 3a Limit switch „OPEN“
- 3b Limit switch „CLOSED“
- 4a Actuator for limit switch „OPEN“
- 4b Actuator for limit switch „CLOSED“
- 5 Main support
- 6 Adjustment for reversing on obstacle
- 7 Motor-pinion
- 8 Pinion for emergency release
- 9 Junction box
- 10 Activity for emergency release
- 11 Standard type cylinder

**Montage:**

1. Find the right position for the motor lock at the gate. Make sure, that the gate is robust enough for a safe mounting of the motor lock. If necessary, reinforce the gate with a special mounting plate. For the measurements of this plate see previous page.
2. Mount the motor lock with the four fixing points of the main support (5) to the gate.
3. Use one 10mm nut at each fixing point to keep distance to the gate.
4. With the actuator (4b) you can now adjust the stroke (max. 150mm) of the floor bolt via the limit switch "CLOSED" (3b).



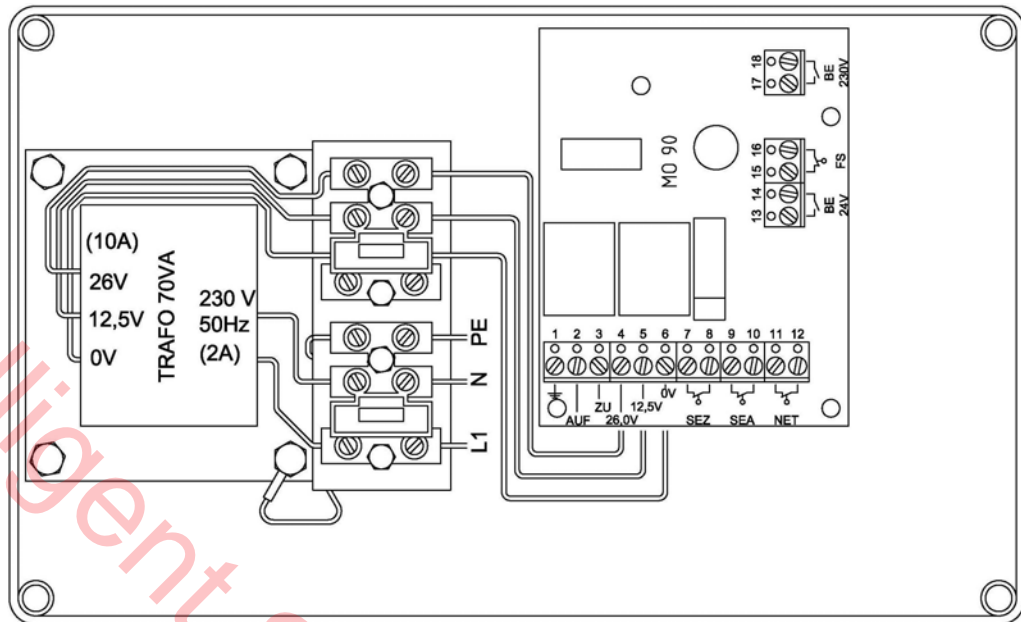
The actuator (4a) for the bolt position "OPEN" must not be displaced due to safety reasons (the floor bolt (1) always has to rise completely into the lock).



Make sure, that the gate can be opened / closed correctly when the bolt is in position "OPEN". The for the reversing function maximal allowed compression force of the floor bolt during closing, has to be adjusted using the hexagon-nut (6) not to exceed a force of 15kg.

## 9 Connections

### Controller MO 90:



Drawing 4

Terminal	Connection	Function
1	PE	Ground
2 + 3	AUF / ZU	Motor
4	26,0V	Internal voltage MO 90
5	12,5V	Internal voltage MO 90
6	0V	Internal voltage MO 90
7 + 8	SEZ	Limit switch bolt „CLOSED“(n.c.)
9 + 10	SEA	Limit switch bolt „OPEN“(n.c.)
11 + 12	NET	Stop-contact or jumper
13 + 14	BE 24V	Input signal for opening: (n.o.) <u>potential-free or 24Vdc</u>
15 + 16	FS	Signal for reversing on obstacle (n.c.)
17 + 18	BE 230V	Input signal for opening: (n.o.) <u>230Vac</u>



The controller MO 90 should be placed as near to the gate as possible (Best position is directly next to the controller of the gate opener).



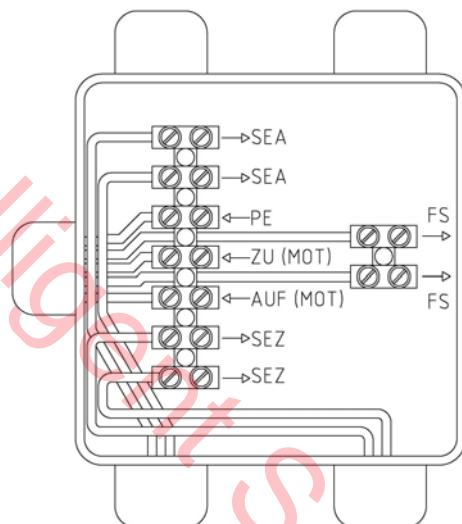
The control box should be mounted with the entrance for wiring at the bottom. The leads should have a cross section of at least 1.5mm<sup>2</sup>.



The optimal installation would be a mutual installation of both controllers in one large controller housing.

**Connection Controller MO 90 – Junction box**

*Junction box*



Drawing 5

Junction box		Controller MO 90	
Terminal		Terminal	Cross section
SEA	Limit switch OPEN	9 + 10	2x0.5mm <sup>2</sup>
SEZ	Limit switch CLOSED	7 + 8	2x0.5mm <sup>2</sup>
PE	Ground "PE"	1	1x0.75mm <sup>2</sup>
MOT	Motor	2 + 3	2x0.75mm <sup>2</sup>
FS	Reversing on obstacle	15 + 16	2x0.5mm <sup>2</sup>

**Main power**

Connect the main power 230V to the transformer of the MO 90 – N, L1 und PE.

**Connection Motor lock – external controller**

Connect the appropriate signal (warning light connection of the controller of the gate opener) for the motor lock to the MO 90.

1. Potential free or 24Vdc (Terminal 13 + 14)
2. 230Vac (Terminal 17 + 18)



**Activate the pre-warning time (min. 3.0s).**



At terminals 13 + 14 do not connect potential-free and 24Vdc-signals at the same time.

#### **Regard the direction of the motor**



Should the bolt, when a signal is present, move downwards and possibly reverse, then exchange the motor wires. (Junction box – MOT / MOT).

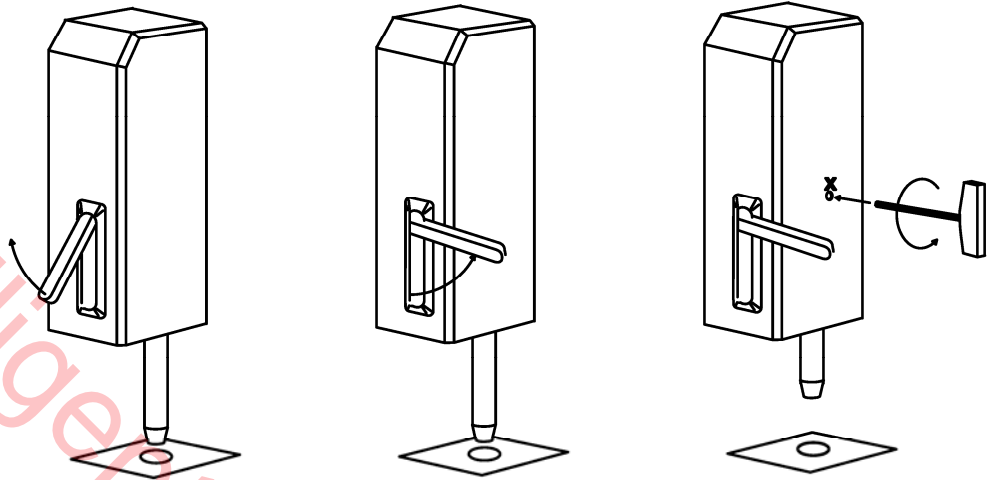
#### **Feedback signal**

For reporting of the position of the floor bolt, e.g. for locking systems, the respective limit switch contact of the motor lock has to be separated from the potential of the controller by the use of relays.

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## 10 Emergency release



Drawing 6

### Disengaging the emergency release

During a disturbance or a power failure the motor lock can be opened manually.

1. Unlock the emergency release using the standard type cylinder.
2. Insert the hexagonal key from the right side straight into the motor lock all the way into the emergency release.
3. Keep hold of the key.
4. Pull the lever to the front and turn it approx. 90° to the right. The connection to the motor is now released and the bolt can be moved upwards using the hexagonal key (turn to the left side).

### Re-engaging the emergency release

1. To engage the bolt again turn the lever downwards. If engaging is not possible, find the right position by slightly turning the hexagonal key.
2. When the power supply is available again and no opening signal is present, the floor bolt automatically moves into position CLOSED.

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