

EWELLIX

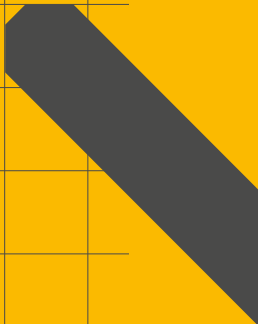
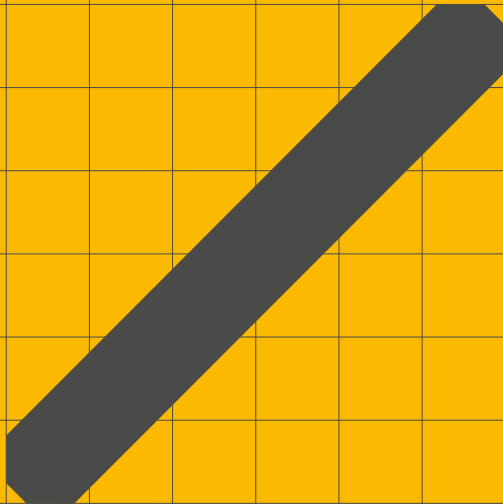
MAKERS IN MOTION

INSTALLATION, OPERATION AND MAINTENANCE MANUAL

Telesmart TXG

Telescopic pillar





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⚠ WARNING

WARNING: read this manual before installing, operating or maintaining this actuator. Failure to follow safety precautions and instructions could cause actuator failure and result in serious injury, death or property damage. Keep this manual nearby for future reference.

1.0 General information

1.1 Information in this manual

This manual provides important information on how to work with the actuator (also called device) safely and efficiently.

The Manual is part of the device, must always be kept in the device's direct proximity and should be available for the personnel at any time. All personnel working with the device must read and understand this Manual before starting any work. Strict compliance with all specified safety notes and instructions is a basic requirement for safety at work.

Moreover, the accident prevention guidelines and general safety regulations applicable at the place of use of the device must also be complied with.

For better representation of circumstances, the illustrations used are not necessarily to scale and may vary from the actual design of the device.

All information and notes in this manual were compiled under due consideration of valid standards and regulations, the present status of technology and our years of knowledge and experience.

1.2 Explanation of symbols and signal words

Safety precautions

Warnings are identified by symbols and signal words. These signal words indicate the severity of the hazard.

Adhere to these safety precautions and act cautiously in order to avoid accidents, personal injuries and damage to property.

DANGER

Indicates a dangerous situation, which will lead to death or serious personal injury, if the precautionary measures are ignored.

WARNING

Indicates a dangerous situation, which can lead to minor or moderate injury or property damage, if the precautionary measures are ignored.

CAUTION

Indicates a dangerous situation, which can lead to minor or moderate injury if the precautionary measures are ignored.

NOTICE

Indicates information considered important, but not hazard-related (e.g. messages relating to property damage).



NOTE

Emphasizes useful hints and recommendations as well as information for efficient and trouble-free operation.

1.3 Limitation of liability

The manufacturer will not be liable for damage resulting from:

- disregarding this manual
- unintended use
- employment of untrained personnel
- unauthorized conversions
- technical modifications
- manipulation or removal of the screws on the device
- use of unapproved spare parts

In case the actuator is customised, the actual product delivered may be different from what is described in the manual. In this case, ask Ewellix for any additional instructions or safety precautions relevant to these actuators.

We reserve the right to make technical modifications to the actuator to improve usability.

1.4 Copyright

This Manual is protected by copyright law and exclusively to be used for internal purposes.

Passing this Manual on to third parties, duplication of any kind – even in form of excerpts – as well as the use and/or disclosure of the contents without the written consent of the manufacturer is not permitted, except for internal purposes.

Violations oblige to compensation. The right for further claims remains reserved.

1.5 Spare parts

The telescopic pillar TXG is not designed for repair work. All warranty and service claims become void without notice if any screws on the linear actuator have been manipulated.

WARNING

Safety hazard caused by wrong parts

Wrong or faulty spare parts can adversely affect safety and cause damage, malfunctions or total failure.

Therefore:

- Use only genuine spare parts from the manufacturer
- Spare parts in/on the device may only be replaced by the manufacturer.

The device must be dismantled and sent to the manufacturer.

1.6 Warranty terms

The applicable and effective warranty terms are those contained in the manufacturer's terms and conditions of sale.

1.7 Customer service

Ewellix Customer Service is always available to provide technical information and answer questions.

Notes on the responsible contact partner are on call by phone, fax, e-mail or via internet, see address of manufacturer on cover back.

In addition, our employees are always interested in acquiring new information and experience gained from practical application: such information and experience may help improve our products.

2.0 Safety

This paragraph provides an overview of all important safety aspects for optimal protection of personnel as well as safe and trouble-free operation.

Disregarding this Manual and safety regulations specified therein may result in considerable danger and possible serious injury or death.

2.1 Use

2.1.1 Intended use

The telescopic pillar TXG have been designed and built exclusively for the intended purposes as described below.

- These pillars are to be only used for a dynamic centric and offcenter lift charged with pressure.
- These pillars have been especially designed for height adjustments of medical applications, computer work and assembly tables Any other use of these pillars must be authorized by the manufacturer.
- These pillars are only suitable for indoor applications and may not be exposed to the outdoors, heavy UV radiation or dusty, corrosive or explosive environments.

Any use that extends beyond the intended use or a use different than the one described above is deemed misuse.

⚠ WARNING

Risk from misuse

Any utilization of this device beyond its intended purpose may lead to potentially hazardous situations..

Therefore:

- Strictly adhere to all safety precautions and instructions in this operating manual.
- Do not make this device subject to weather conditions, strong UV rays, corrosive or explosive air media as well as other aggressive media.
- Do not modify, retool or change the structural design or individual components of the actuator.
- Never use the device outside of the technical application and operational limits.

Any injury, damage or loss caused by a failure to follow the instructions in this manual will be the responsibility of the purchaser.

2.1.1.1 Product life time

Telesmart telescopic pillar have been designed for a service life of 10 000 double strokes at a stroke length of 300 mm (this applies for a centric maximum load as per the data label).

The Telesmart requires no maintenance during this period. Internal tests must be performed if other requirements relating to service life are specified.

2.1.2 Unintended Use

Any use other than the intended use without the manufacturer's written agreement or operation beyond the technical limits is considered unauthorized.

Specific excluded applications are:

- Flammable Anaesthetic Mixture with air
- Flammable Anaesthetic Mixture with Oxygen or nitrous oxide increased radiation places exposed to water (wetrooms)

2.1.3 Essential performance

Holding or moving a load.

2.2 Responsibility of the owner and processor

The device is designed both for personal use and for use in in commercial applications by owner or processors.

The processor is the contracting partner of the reseller or the manufacturer. The processor installs the device in a complete system (application).

The owner or processor of the system is therefore subject to the requirements of the Occupational Health and Safety Act.

In addition to the safety instructions in this Manual, the owner or processor must do the following concerning these safety and accident prevention guidelines and environmental protection regulations, applicable to the site of the system's installation:

- Inform themselves of applicable industrial safety regulations and determine additional hazards that arise due to the specific working conditions prevailing at the site where the device is installed using risk assessment. The risk

assessment must be implemented in the form of work instructions for device operation.

- Must confirm that the work instructions created for the system including the device satisfy current legal requirements and must alter the instructions if they don't.
- Clearly regulate and specify the responsibilities for installation, operation, maintenance, and cleaning.
- Ensure that all employees who deal with the device have read and understood this Manual.
- Provide personnel with the required protective equipment.
- In addition, owner must train personnel at regular intervals and inform personnel of the hazards.

In addition, owner or processors must ensure that the device is in adequate working condition. They must do the following:

- Ensure that the maintenance intervals described in these instructions are complied with.
- Have all safety devices inspected regularly for to ensure proper functionality.

2.3 Personnel requirements

⚠️ WARNING

Improper installation, operation and maintenance can result in serious injury, death or property damage.

Use only qualified, instructed, or trained personnel (as described below) who have read, understand and follow these instructions.

2.3.1 Qualifications

The following qualifications are specified for different areas of activity listed in the manual.

- **An instructed person (Operator)**
has been instructed by the customer in an orientation session on the assigned tasks and possible dangers in case of improper behaviour.
- **Qualified personnel**
based on their professional training, know-how and experience as well as knowledge of the applicable standards and regulations is able to perform assigned work activities and to detect and avoid possible dangers on their own.
- **A professional electrician**
based on his/her professional training, know-how and experience as well as knowledge of the applicable standards and regulations is able to perform work on electrical systems and to detect and avoid possible dangers on his/her own.

The professional electrician has been trained for the special location where he/she works and knows the relevant standards and regulations.

Only persons who are expected to perform their tasks reliably are permitted as personnel. Persons whose reaction capability is impaired, e.g. through drugs, alcohol or medication, are not permitted.

2.4 Specific dangers

The following section lists the residual risks that have been determined by the risk assessment.

- Heed the safety instructions listed here, and the warnings in subsequent chapters of this Manual, to reduce health hazards and to avoid dangerous situations.

⚠️ DANGER

Danger to life caused by electric current!

Touching conductive parts causes a direct danger to life. Damage to insulation or individual components can cause danger to life. Therefore:

- In the event of damage to insulation, switch off the power supply immediately and have the parts repaired.
- Work on the electrical system must be carried out only by professional electricians.
- De-energize the system for all work on the electrical system.
- Before maintenance, cleaning or repair work, switch off the power supply and perform lockout procedures so it cannot be turned on again.
- Do not bridge fuses or make them ineffective. When changing fuses, make sure you use the correct amperage.
- Keep moisture away from conductive parts. If you do not, this can cause short circuit.

⚠️ WARNING

Danger of injury caused by moving components!

Rotating and/or linearly moving components can cause severe injury.

Therefore:

Do not work on or place any of your body, hands, or arms near moving components.

2.5 Safety equipment

Integration of an emergency-stop system (for certain applications)

The device is only intended for installation into an application system. It does not have its own operating control elements and does not have an independent emergency-stop function.

Install the device so that it is part of an emergency shut-off system and can be stopped if necessary.

The emergency shut-off system has to be connected in such a way that a disruption of the power supply or the reactivation of the power supply after a power disruption cannot cause a hazardous situation for persons and objects.

The emergency shut-off systems must always be freely accessible.

Integration of an emergency-stop system (for certain applications)

The device is only intended for installation into an application or system. It does not have its own operating control elements and does not have an independent patient release mechanism.

If required by the application, a separate provision for patient release has to be installed to allow safe release of a patient in case of emergency or equipment failure.

To increase more safety, anti-pinching protection can also be connected (optional).



NOTE

The processor decides which application requires the installation of the following safety systems:

- Emergency shut-off system
- Patient release system
- Anti-pinching protection



NOTE

The TXG telescopic pillar does not contain displaying operational conditions. For end applications in the medical field it is mandatory to ensure displaying operational conditions.

The following safety features may have been installed:

- The TXG telescopic pillar is fitted with a thermoswitch. The thermoswitch integrated into the transformer switches the actuator off if the temperature becomes excessive. For TXG10 a thermal protection must be provided by the used control unit.
- End limit switches are installed to provide a safe current cut off when the end position of the device is reached. In case of failure of the end limit switches, an additional limit switch prevents the device from exceeding its intended stroke.

2.6 Safeguard against restart

⚠ DANGER

Life-threatening situation through unauthorized restart!

For work in hazard zones, there is a risk that the power supply is turned on without prior authorization. This presents a life-threatening situation for people in the hazard zone.

Therefore:

- Follow the information concerning the safeguarding against re-starting of the power supply in the chapters of this operating manual.
- Always follow the process to safeguard against a restart as described below.

Protect TXG (AC version) against a restart.

Pull the power line plug out of the power outlet.

Protect TXG1 (DC version) against a restart.

Pull the power line plug of the Ewellix control unit or a master actuator out of the power outlet.

⚠ WARNING

To avoid hazardous situations and to ensure optimal performance, do not make any changes or modifications to the device unless they have been specifically authorized by Ewellix.

2.7 Modifications of device

2.7.1 Warning labels

The following symbols and information decals can be found in the danger zone. They refer to the immediate vicinity around their location.

⚠ WARNING

Danger of injury because of illegible symbols

Over the course of time stickers and decals may become dirty or illegible for some other reason.

Therefore:

- Keep any safety, warning and operation related decals in legible condition at all time.
- Replace damaged decals or stickers immediately.

3.0 Technical data



NOTE

The technical data (dimensions, weight, output, connection values etc.) can be found in the enclosed drawings and data sheets.

3.1 Ambient conditions

Operation

Indoor use only at:

- Ambient temperature +10 to +40 °C
- Relative humidity max. 85%
- Air pressure from 700 to 1 060 hPa
- Maximum altitude 3 000 m (MOPP)
- Supply mains with overvoltage category I
- Pollution degree 2

Storage/Transport

- Temperature -20 to +40 °C
- Humidity max. 95%

Operating mode

- Intermittent 10%; 1 min ON / 9 min OFF

The actuator has been designed for intermittent operation.

If a higher duty cycle is used, contact Ewellix.

The TXG is thermally protected. The thermostat integrated into the transformer winding switches the actuator off if the temperature becomes excessive.

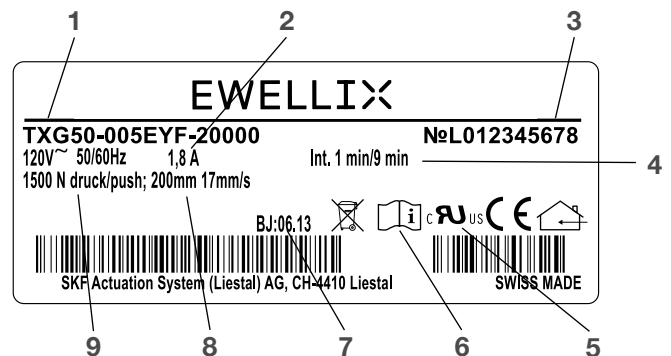
⚠ WARNING

If the duty cycle is excessively long, the TXG may be temporarily unserviceable!

When the actuator has cooled down, the mains connector must be disconnected from the mains power supply for approximately 1 minute to reset the thermostat.

3.2 Product label

Fig. 1



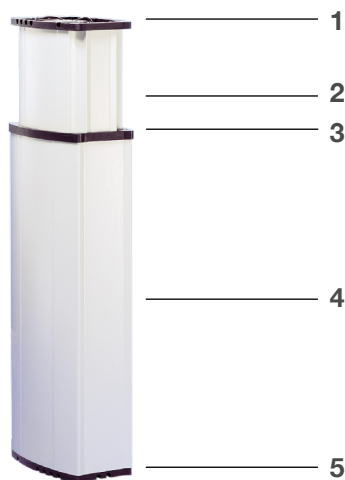
The product label provides the following information:

1. Identification of type
2. power consumption
3. Serial number
4. Power-on time
5. Inspection mark
6. Consult accompanying documents
7. Manufacturing date (month/year)
8. Stroke length and pillar speed
9. Compressive force

4.0 Structure and function

4.1 Overview

Fig. 2



1. Base plate top
2. Inner tube
3. Rim cover
4. Outer tube
5. Base plate bottom

4.2 Functional description

Explanation of terms

Stand-alone	Actuator with integrated control unit and power supply which is used as an individual lifting column.
Master	Actuator with integrated control unit and power supply and possible connection for a further actuator.
Slave	Actuator without integrated control unit and power supply. Can be used in combination with a master actuator or a separate control unit.
Master-slave	Two actuators, the master performing the control function and handling the power supply for the slave. (No parallel operation)

The TXG is an electrical linear actuator which uses virtually play-free guide tubes. It has been designed for holding and moving centric and eccentric loads. acc. data sheet.

A DC motor controls a threaded spindle via a bevel gear.

A threaded nut moves up and down on the spindle. This nut is secured to the push tube and thereby generates a forward motion. The telescopic tubes are inserted and retracted depending on the direction of the motor.

Where the TXG is equipped with a mains connection (stand-alone and master), the mains voltage is transformed to 24 V and rectified. The slave actuator is a 24 V DC unit.

Control unit (stand-alone and master)

The DC motor is fed via an integrated control unit.

- The simple control PCB contains a relay circuit which controls the running direction of the actuators.
- Where actuators are equipped with the “Parallel running” and/or “Memory” option, a microprocessor takes charge of control and regulation operations. These actuators are equipped in the factory with an encoder for position detection. If a slave actuator is to be connected, it must also be equipped with an encoder. These actuators are also equipped with a “soft start” function, i.e. the actuators start up smoothly, without any jerks. The “Memory” option decelerates the actuators using a “soft stop” before they reach the saved position.

The TXG is to a great extent protected against failures. However a first failure safety can't be guaranteed because of unvorseable defects, for example a control Element, which can lead to slow uncontrolled movements.

⚠ WARNING

First failure safety of the assembled equipment has to be verified in the particular application to prevent danger for life and limb.

Terminal-position shutdown

The stroke is limited by the integrated limit switches. If the actuator moves beyond one of these switches (in the case of a malfunction), an additional limit switch comes into play. The actuator power circuit is interrupted and the actuator can then no longer be moved (↳ **8 Maintenance, page 23**).



NOTE

Additional differences between the TXG pillars can be found in the appendix (↳ **11 Appendix, page 30**).

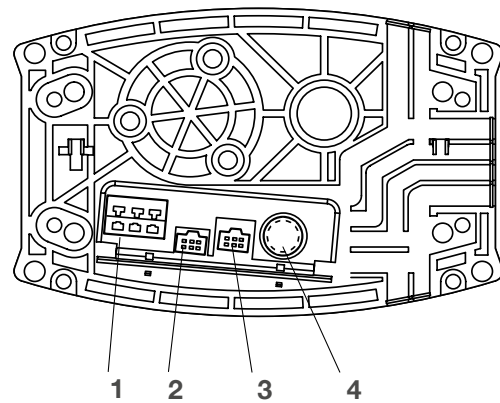
4.2.1 Requirements for third party control (Mandatory in medical applications)

These requirements are applicable for TXG10 types (stand alone). Control units which are not approved for TXG by Ewellix are treated as third party controls.

- Separated from supply mains by 2 MOPP
- Over current cut off
- “Puch-to-run” operation (recommended): The actuator operates as long as the switch is pressed
- Displaying operational conditions

4.3 Connections

Fig. 3



Connections for the following are marked on the TXG:

1. Mains cable (N,L,PE)
2. Electrical anti-pinching protection (optional)
3. Operating element (10 pole RJ45)
4. Second actuator for master/slave operation (optional, DIN-8 plug)

4.4 Operating elements

TXG10 (stand alone)



NOTE

The device does not feature its own operating elements. The operation takes place via a Ewellix operating element at an external Ewellix control (↳ [Separate operating manual](#)).

TXG (all types except TXG10)



NOTE

The device does not feature its own operating elements. The operation takes place via a Ewellix operating element which is connected directly to the device. (↳ [Separate operating manual](#)).

Requirements for operating elements (mandatory in medical applications)

General safety requirements according IEC 60601-1:2005.

Suitable Ewellix operating elements are given in section Accessories.

4.5 Options

- Mains cable feedthrough (max. 250 V AC, 50/60 Hz; load 6 A).
The TXG is isolated. The protective conductor is only fed through and is not connected to the metal elements of the telescopic column.
- Connection for controls, feedthrough
- Connection for second actuator (master/slave operation)
- Guide tube, powder-coated
- Connection for electrical anti-pinching protection



NOTE

Protection class II applies for TXG as standard.

Protection class I with feedthrough protective conductor applies for the TXG with mains cable feedthrough. The mains cable feedthrough is fused with 6,3 A on both sides.

The aluminium tubes have no earth wire connection.)

4.6 Accessories

Accessories	Comments
Cable for electrical anti-pinching protection	To increase safety, anti-pinching protection can be connected (optional)
Ewellix operating element	Handswitch (EHE), deskswitch, footswitch (Comfodesk)
Mains cable	2-core or 3-core, country specific
Mounting plates	Colourless anodised finish

Accessories listed above are not included and must be ordered separately.

5.0 Transport, packaging and storage

5.1 Safety information for the transport

⚠ CAUTION

Damage due to improper transport

Significant material damage can occur in conjunction with improper transport.

Therefore:

- Proceed carefully during the unloading of the packaged items, during the delivery as well as during the transport to its final destination and comply with the symbols and information shown on the packaging
- Only remove the actuator from its packaging right before installation
- Note storage requirements for return transport to the manufacturer (↳ **5.5 Storage, page 14**).

5.2 Transport inspection

The TXG telescopic pillar is delivered as one packaged unit in a box or on pallets.

Check the delivery for completeness and damage due to transport immediately upon receipt.

Check completeness of delivery

The TXG consist of:

- the complete lifting column (guide tube, colourless anodised finish)
- 8 x fastening screws M6x40 DIN 7500
- assembly instructions
- connecting cable ("slave" only)

Mains cable for specific countries can be ordered separately.

Proceed as follows in conjunction with visible exterior transport damage:

- Do not accept delivery or do so only with reservations.
- Record scope of damage on the transport documents or on the bill of delivery of the shipping company.
- Initiate complaint.



NOTE

Report any damage as soon as it has been recognized.

Damage claims can only be asserted within the transporter's applicable complaint period.

5.3 Return to the manufacturer

Proceed as follows for the return transport:

1. Dismantle the device if necessary (↳ **10 Dismantling, page 28**).
2. Pack device in its original packaging Follow storage conditions (↳ **5.5 Storage, page 14**).
3. Send to manufacturer. The address is listed on the cover back.

5.4 Packaging

For packaging

The individual packaged pieces have been packaged appropriately according to the expected transport conditions Only environmentally friendly materials were used for the packaging

The packaging is supposed to protect the individual components from damage caused by the transport, corrosion and other damage until they are ready for installation Therefore, do not destroy the packaging and only remove it shortly prior to the installation Keep packaging for possible return shipment to the manufacturer (↳ **5.3 Return to the manufacturer, page 13**).

If the packaging is to be disposed off, please note and adhere to the following:

⚠ CAUTION

Environmental damage due to incorrect disposal

Packaging material consists of valuable raw materials and in many cases they can be sensibly recycled and reused Therefore:

- Dispose of packaging material in an environmentally correct way
- Comply with locally applicable disposal regulations

5.5 Storage

Pack the actuator in its original packaging for storage.

- Do not store outside.
- Dry and dust-free storage.
- Keep away from any aggressive media.
- Protect from UV radiation.
- Avoid mechanical vibrations.
- Storage temperature: -20 to 40 °C.
- Relative atmospheric humidity: max. 95% (no build up of condensation).
- For storage for longer than three months, check the general condition of all parts of the packaging on a regular basis. If necessary, refresh or renew the conservation.



NOTE

It is possible that there are notices on the packaging concerning the storage, which go beyond the requirements listed here. Follow those accordingly.

6.0 Installation and first operation

Authorized personnel

- The installation and first start of operation may only be conducted by qualified personnel.
- Work on the electric system may only be performed by trained electricians.

⚠ WARNING

Electric shock and moving parts hazards

Serious injury or death can be caused by touching live electrical components and by unexpected movement of the actuator.

Be sure the system's power supply is off and actuator is locked out before installing.

⚠ WARNING

Danger if restarted without authorization!

When correcting faults, there is danger of the energy supply being switched on without authorization. This poses a lifethreatening hazard for persons in the danger zone.

Therefore:

- Prior to starting work switch off the system and safeguard it from being lockout.

⚠ WARNING

Risk of injury and material damage due to incorrect installation of the optional devices!

Therefore:

- Optional devices, in particular components that are part of a retrofitting, may only be installed in accordance with the respective instructions (circuit diagram).
- The electromagnetic compatibility must be tested for the routing and appropriate measures must be carried out if necessary.

6.1 Installation location

- Adhere to the technical data in accordance with operating conditions.
- Install in a location where the actuator is not exposed to strong UV radiation or corrosive or explosive air media.

6.2 Inspections prior to first operation

- Execution by professional electrician
- Prior to the first operation, a professional electrician must perform and document the following tests and readings:

- Check visual condition
- Function check of operating features and safety features
- Reading of leakage currents
- Reading of insulation resistance



NOTE

Additional information concerning inspections and readings (↳ **8 Maintenance, page 23**).

6.3 Installation

- Execution by qualified personnel

⚠ WARNING

Risk of injury and material damage due to manipulation of the screws on the device

Manipulation or loosening of the screws on the device or on the options may lead to injuries and material damage during the operation.

Therefore:

- Never loosen screws on the device or the options.

Please pay attention to the installation instructions which are delivered with the device.

The TXG can be secured to either Ewellix mounting plates (↳ 4.6 Accessories, page 12) or the customer's own plates. Plastic base plates are fitted to the end faces of the outer and inner tubes. The mounting plates are secured to the aluminium tubes by means of four bores in each of the base plates. When the screws are screwed in, a thread is formed in the prepressed holes in the aluminium tube. The outer tube is screw-connected using the outer bores (↳ fig. 4), while the inner tube is screw-connected by means of the inner bores (↳ fig. 5).

Any subsequent fastening bores in the aluminium tubes may only be made by Ewellix. The sides of the inner tubes must not be scratched, otherwise the tube guide will be damaged. This can result in malfunctions.

⚠ CAUTION

Only use the screws supplied (M6 x 40 DIN 7500). Ensure that the screws are inserted to a minimum depth of 25 mm and that the torque is 9 to 11 Nm.

⚠ CAUTION

Do not form a thread into the bores with a thread tap. The actuator may be damaged.

⚠ CAUTION

When using your own mounting plates, ensure that the base plates are supported over their full area. The base plates may be damaged.

⚠ WARNING

Risk of injury and material damage!

Pay particular attention to avoid anything may be squeezed between the base plates of the inner and the outer tube.

⚠ WARNING

Risk of injury and material damage!

Ensure that metal mounting plates are not grounded using the TXG. They must be grounded or insulated by the customer if required. In case of using additional equipment which has not protection class II, the mounting plate must be connected to the earth wire.

Fig. 4

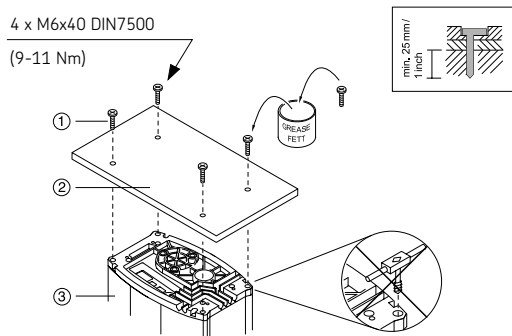
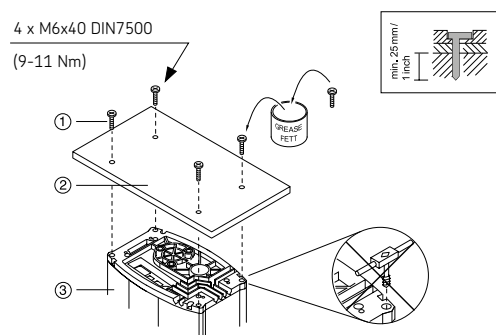


Fig. 5



6.4 Connect to the control unit

NOTE

This section is applicable for slave types of TXG (TXG10) without integrated control unit and power supply which can be used with a separate external control unit.

All control units which are not approved for the TXG devices by Ewellix are treated as third party controls.

CAUTION

Material damage due to third-party control unit

The use of a third-party control unit may lead to material damage. In conjunction with the use of a third-party control unit, the manufacturer does not assume any liability for damage that may be caused.

Therefore:

- It is recommended to use the Ewellix control unit from the manufacturer.
- When using the third-party control unit, the requirements stipulated for the third-party control unit must be adhered to (↳ 4.2.1 Requirements for third party control unit, page 11).

NOTE

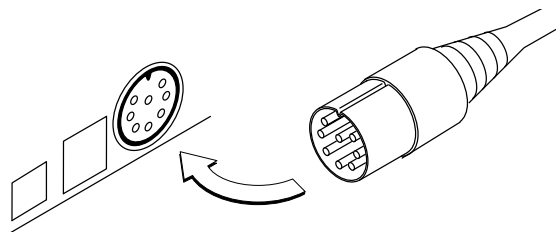
A low-voltage plug connects the device to an external control unit. Adhere to the instructions of the operating manual of the Ewellix Control unit during the connection process.

The low-voltage plug has been fitted with a DIN-8 plug.

Connect the external control unit to the eight-pin socket marked "Slave" (↳ fig. 3 on page 11) using the connection cable.

Ensure that the plug is correctly seated. The nose of the plug must face upwards (↳ fig. 6).

Fig. 6



NOTE

Please adhere also to the instructions of the control unit regarding connection.

6.5 Connection to operating element

WARNING

Risk of injury and material damage due to third party operating element

The use of a third party operating element may lead to significant injuries or material damage.

In conjunction with the use of a third-party operating element, the manufacturer does not assume any liability for damage that may be caused.

Therefore:

- Only use the manufacturer's Ewellix operating element. In case of using additional equipment which has not protection class II, the mounting plate must be connected to the earth wire

6.5.1 Connect TXG10 (stand alone) to operation element

NOTE

The device is connected to the operating element via an external control (↳ Separate operating manual of the control and the operating element).

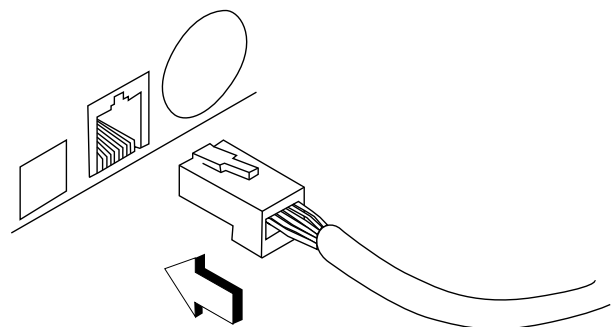
6.5.2 Connect TXG (all types except TXG10) to operating element

NOTE

The device is connected directly to an operating element. Adhere to the operating instructions for the operating elements in regard to the connection (↳ Separate operating manual).

The operating element is fitted into the socket 3 (↳ fig. 3 on page 11).

Fig. 7



Ensure that the nose of the plug engages correctly ("click").

6.6 Connect to power supply

6.6.1 Connect TXG10 (stand alone) to power supply



NOTE

The device is connected to the operating element via an external control (↳ **Separate operating manual of the control and the operating element**).

1. Connect linear actuator to control unit (↳ **fig. 3 on page 11**).
2. Connect control to electric grid (↳ **Separate operating manual for control**).
3. Ensure that the plug of the power line is accessible at all times.

6.6.2 Connect TXG (all types except TXG10) to power supply



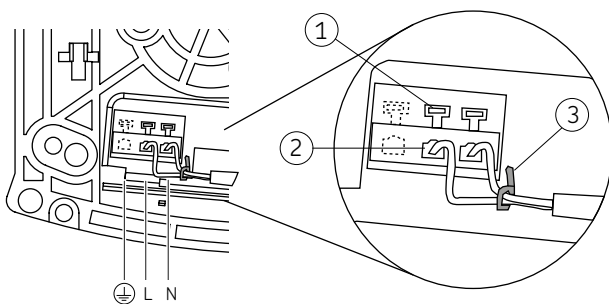
Electrical shock hazard!

Incorrect installation can result in serious injuries, death or damage. Only professional electricians should work on electrical systems

Connecting the mains cable

Connect the mains cable to the connection as shown in **figure 8**.

Fig. 8



Pay particular attention to how the wires are assigned. The clamp for the earth wire is only provided in the case of the optional mains cable feedthrough.

Proceed as follows to introduce the individual wires (↳ **fig.8**):

1. Press the lever **1** of the clamp downwards using a size 1 screwdriver
2. Insert the stripped wire into the opening **2**
3. Release the lever again.

Then fit a cable tie **3** in order to secure the wires. The cable tie should be secured as close to the clamp as possible.

Each wire (L and N on the electric circuits), is protected by a fuse. If one or both of these fuses are tripped out, replacement of the actuator will be necessary.

It is possible to order the actuator without internal fuse. In this case, the customer is responsible for adding the correct electrical protection (two fuses, max. 6,3 AT).



NOTE

When using your own mains cables, comply with the following specification:
H0W-FVDE 0,75 mm², wires 5-6 mm stripped.



NOTE

L = phase conductor
N = neutral conductor = earth wire (option mains cable feedthrough)



It is important to secure the cable tie. Otherwise in case of losing a braid from the clamp, an electrical shock hazard could result because of high leakage current.

Mains cable feedthrough (optional)

The earth wire must be at least 20 mm longer than the remaining wires in order to provide full protection.



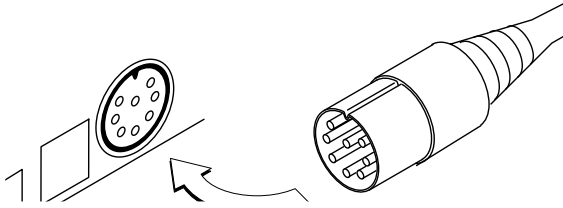
Electrical shock hazard!

Ensure that only one mains cable is connected (either top or bottom) at any one time. Otherwise the actuator may be damaged.

6.7 Connect the second actuator “master/slave” (optional)

Connect the second actuator to the eight-pin socket marked “Slave” (↳ **fig. 9**) using the connection cable.

Fig. 9



Ensure that the plug is correctly seated. The nose of the plug must face upwards.

⚠ CAUTION

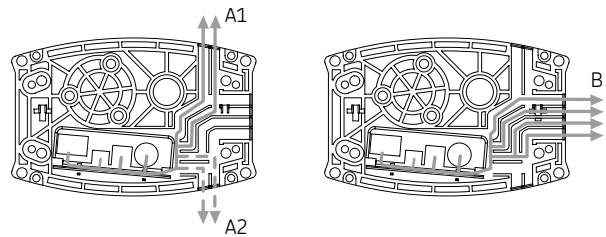
For use with a master with “parallel running” and/or “memory”, the slave has to be equipped with an encoder. The master may be damaged.

Otherwise a slave with encoder should not be connected to a master without “parallel running” and/or “memory”. The slave be damaged.

6.8 Strain relief

Run all the cables through the ducts in the base plate to the outside. (↳ **fig. 10**). This provides the necessary strain relief. Depending on the particular application, you can run the cables to the rear (A1) or to the side (B). If you run the cables to the front (A2), you have to ensure strain relief separately. The narrow ducts are suitable for cable diameters of 4,5 to 5,5 mm and the wider ducts for cable diameters of 5,5 to 7,5 mm.

Fig. 10



For strain relief requirements according IEC 60601-1:2005 following applies:

1. Cord with 2 braids (2 x 0,75 mm²) → the narrow duct of B suitable
2. Cord with 3 braids (3 x AWG) → all ducts of A1 and B suitable

⚠ CAUTION

Electric cables should not be exposed to pinching, bending or tensile loads.



NOTE

If you do not run the cables through the ducts or you run the cables as shown in **fig. 10, A2**, you must provide design measures to be ensure adequate strain relief.

7.0 Operation

7.1 Safety

⚠ DANGER

Risk of crashing!

While moving onto solid objects, the force of the device may cause injuries.

Therefore:

- Ensure that there are no persons in the stroke area of the device while in operation.
- Take note of maximum permissible operating data for the device (↳ **11 Appendix, page 30**).
- Never tamper with the elements that are connected to the device while the device is in operation.

⚠ CAUTION

Material damage due to static and dynamic overload of the device

Static and dynamic overload can lead to damage and failure of the device.

Therefore:

- Adhere to maximum permissible operating data for the device (↳ **11 Appendix, page 30**).
- Never exceed nominal load.
- Never tamper with the elements that are connected to the device while the device is in operation.

⚠ CAUTION

The device may be damaged if liquids penetrate the actuator during extension and retraction. Keep liquids away.

7.2 Turn on

7.2.1 Turn TXG10 (stand alone) on



NOTE

The device does not feature its own operating control unit. The operation takes place via a separate control unit (↳ **Separate operating manual**).

7.2.2 Turn TXG (all types except TXG10) on



NOTE

After the Connection to power supply and to operating element has been done (↳ **6 Installation and first operation, page 15**) the actuator is ready to operate.

7.2.3 Turn off



NOTE

The device does not feature its own operating elements. The operation takes place via a separate operating element (↳ **Separate operating manual**).

7.3 Action before use

⚠ CAUTION

Ensure that there are no persons or objects in the stroke area of the device.



7.4 Actions during operation

7.4.1 Startup



The lifting column – without any additional functions – is ready for operation once the correct electrical and mechanical connections have been made.

Before the TXG can be used in parallel operation or with the memory function, an initialisation run must first be performed.

Initialisation run for parallel operation

Run the actuators using directional buttons  and  on the control device in counter-load direction a single time as far as the terminal position (= reference point). Hold the button depressed until all actuators have reached the terminal position and have come to a stop .

Initialisation run for memory function

Run each actuator individually using directional buttons  and  on the control device in counter-load direction a single time as far as the terminal position (=reference point). Hold the button depressed until the actuator has reached the terminal position and has come to a stop.



NOTE

If no initialisation run is performed in parallel mode, the control unit assumes synchronised actuators are being used and travels with a stagger.



 **NOTE**

If no initialisation run is performed with the memory function, the actuator travels in counter-load direction to the terminal position when the "M" or position keys are actuated.

7.4.2 Instruction for use

The actuators can be operated with various operating elements depending on requirements (↳ **4.6 Accessories, page 12**). Operation using the Comfodesk deskswitch will be illustrated below.

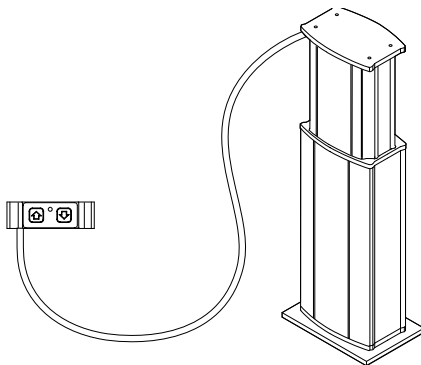
7.4.2.1 Controlling an individual actuator (Stand alone operation)



Use directional buttons  and  on the operating element to directly control an actuator. (↳ **fig. 11**).

 **CAUTION**

When actuator is retracted, ensure that physical objects (e.g. furniture) or parts of the body cannot become trapped. Risk of personal injury!

Fig. 11





- button  The actuator extends.
- button  The actuator retracts.

The actuator moves until you release the button or have reached the terminal position.

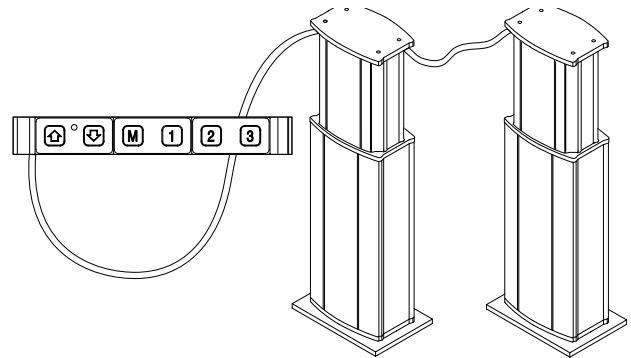
To increase safety, anti-pinching protection can be connected (optional).

7.4.2.2 Controlling parallel actuators (Parallel operation option)

Use directional buttons  and  on the operating element to directly control the actuators.

Only one pair of buttons is required for parallel operation. All actuators move at the same time. (↳ **fig. 12**).

Fig. 12



Parallel operation also incorporates a memory function (↳ **4.3 Connection, page 11**).

 **CAUTION**

The maximum load in parallel operation must not exceed the maximum load for an individual actuator. (↳ **11 Appendix, page 30**).

 **NOTE**

If the actuators travel with a stagger over the course of time, repeat the initialisation run.

7.4.2.3 Memory function



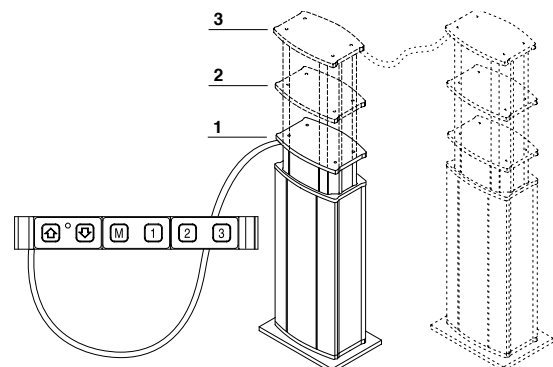





Buttons  to  on the operating element can be used to move to positions which have already been saved in the control unit (↳ **fig. 13**).

Fig. 13



Saving memory positions

1. Use the buttons to move all actuators to the positions that you want to save under button . Keep the buttons depressed until you have reached the required position.
2. Press button , hold the button depressed and also press button .
3. Release the two buttons. Saving will be confirmed by means of an audible signal.

Repeat steps 1 to 3 for programming buttons  and  if required.

Retrieving memory positions

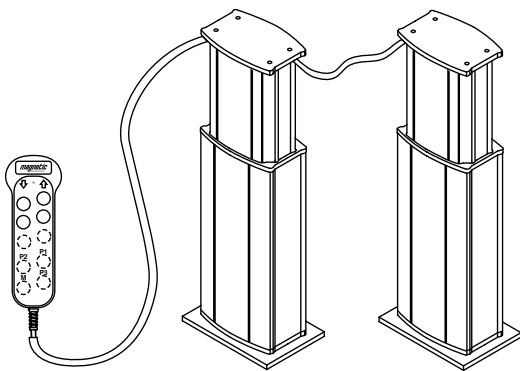
- To retrieve a memory position, press the relevant button 1, 2 or 3 on the operating element.

Hold the button depressed until the actuators have moved into position.

7.4.2.4 Master-Slave Operation

Buttons 1 and 2 on the operating element can be used to move master and slave independent of each other.

Fig. 14



- button 1 The actuator extends.
- button 2 The actuator retracts.

NOTE

If the memory positions become inaccurate over the course of time, repeat the initialisation run.

CAUTION

In case of a master without “parallel operation” and/or and/or “memory” the actuators should not be controlled at the same time. The control may be overloaded.

7.5 Disengagement in case of emergency

In hazardous situations, all movements of the device must be stopped as quickly as possible and the power supply must be turned off.

Procedure in hazardous situations:

1. Immediately engage emergency shut-off, if present, or cut off power for actuator (→ 7.5.1 Shut down, page 22).
2. Evacuate people from the hazard zone, initiate first aid measures.
3. Notify doctor and fire department, if necessary.
4. Notify responsible person on-site.
5. Keep access paths open for rescue vehicles. Order specialized staff to repair malfunction.

6. Based on severity of emergency, notify the authorities if necessary.
7. Order specialized staff to repair malfunction.

WARNING

Do not restart until all persons are outside the hazard zone. Check the device and application that uses the device prior to restarting the operation and ensure that all safety equipment is installed and fully functional.

8. Check the device and application that uses the device prior to restarting the operation and ensure that all safety equipment is installed and fully functional.

NOTE

The telescopic pillar TXG does not have its own on/off switch and must be disconnected from the mains supply. Only this measure will de-energize the device.

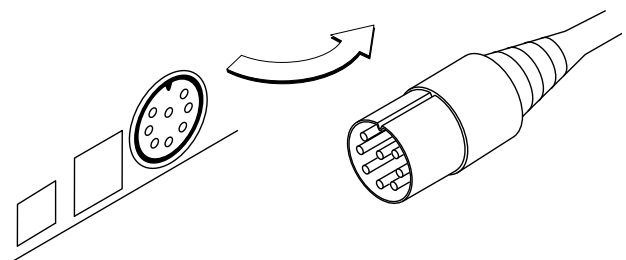
NOTE

The application doing further processing must provide an emergency stop switch or a separation from the mains supply on all poles.

7.5.1 Shut down TXG10 (slave or standalone)

Pull the power line plug DIN-8 out of the used control unit or the corresponding master actuator (→ fig. 15).

Fig. 15



7.5.2 Shut down TXG (all types except TXG10)

Pull the power line plug out of the power source.

8.0 Maintenance

Personnel

- The maintenance work described herein can be performed by the operator unless otherwise indicated.
- Some maintenance tasks should only be executed by especially trained, qualified personnel, or exclusively by the manufacturer; specific reference will be made in each case in the description of the respective maintenance task.
- Only professional electricians should perform work on the electrical equipment.

DANGER

Electrical shock hazard

Incorrect installation can result in serious injuries, death or damage. Only professional electricians should work on electrical systems.

DANGER

Danger if restarted without authorization!

When correcting faults, there is danger of the energy supply being switched on without authorization. This poses a life threatening hazard for persons in the danger zone.

Therefore:

- Prior to starting work, switch off the system and safeguard it from being lockout.
-



NOTE

It is recommended also to comply with the IEC 62353 regarding maintenance.

8.1 Maintenance plan

Maintenance tasks that are required for optimal and trouble-free operation are described in the sections below.

If increased wear is detected during regular inspections, shorten the required maintenance intervals according to the actual indications of wear.

Interval	Maintenance work	To be carried out by
Daily	Check actuator for visible damage (8.2.4 Check of visual condition, page 24)	Operator
	Clean off dust and dirt if necessary (↳ 8.2.1 Cleaning, page 23)	Operator
Monthly	Function check of operating features and safety features (↳ 8.2.2 Inspection and readings, page 24)	Qualified personnel
	Check actuator for audible damage	Operator
	Check tight fit of the device to the base plates, correct it if necessary. Check connection for tight fit.	Qualified personnel
Annually	Reading of protective conductor resistance (↳ 8.2.2 Inspection and readings, page 24).	Professional electrician
	Reading of leakage currents (↳ 8.2.2 Inspection and readings, page 24).	Professional electrician
	Reading of insulation resistance (↳ 8.2.2 Inspection and readings, page 24).	Professional electrician
	Check labels and warning notices for damage and replace if necessary.	Qualified personnel
	Check plug for tight fit.	Professional electrician



NOTE

If the linear actuator is used outside of the environmental conditions specified earlier in this manual, check such components once a month for any changes such as oxidation or sedimentation.

8.2 Maintenance work

8.2.1 Cleaning

To be performed by operator

⚠ CAUTION

Damage due to incorrect cleaning!

Therefore:

- Do not use any aggressive cleaning agents. Water used for cleaning including the chemical additives must be pH-neutral.
- Liquids must not touch the actuator during the retraction or extension.
- The IP30 degree of protection is only guaranteed when installed in the finished unit and mounted correctly.
- Only use additional cleaning materials listed by the manufacturer.
- No steam jets or pressure washers may be used for cleaning.
- Other cleaning agents or cleaning devices may only be utilized with the manufacturer's approval.

Clean line actuator:

1. Separate the actuator from the energy supply.
2. Use a damp cloth and water for manual cleaning. Add a little isopropyl alcohol if necessary.

If an actuator becomes dirty, it should be cleaned immediately in order to prevent the accretion of residues!

8.2.2 Inspections and readings

- Execution by professional electrician.
- The inspections and readings must be performed as stipulated by the applicable standards and regulations.

The inspections must be documented (↳ **8.2.3 Service log, page 25**).

Measuring of the protective conductor resistance (TXG5, TXG9)

The external metal parts are not connected with the projective conductor, with the exception of the external protective conductor connection. The separation/insulation takes place either through a double or reinforced insulation or through an intermediate circuit that is connected with a protective conductor within the housing

A reading of the protective conductor resistance is therefore not possible.

8.2.3 Service log

Complete the following entries in the service log:

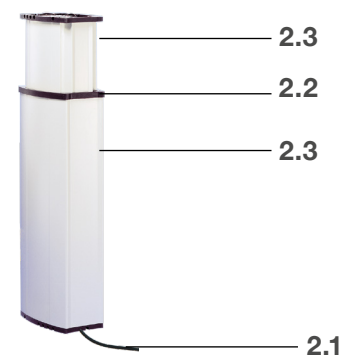
- Name of the executing body (company, department)
- Names of the staff on duty
- Identification of the device/system (type, serial number, inventory number) and the respective accessories
- Completed inspections and readings
- Scope and results of the inspections
- Measuring method, measuring device, measuring results for readings
- Overall assessment
- Date and signature of the assessing person; personal coding is a viable alternative for IT applications

8.2.4 Check of visual condition

To be performed by qualified personnel

1. Separate the actuator from the energy supply.
2. Check the following structural components for visual external damage:
 - 2.1. Check connecting cables for cracks, cuts and pinched sections
 - 2.2. Check rim cover for cracks, gaps and broken pieces
 - 2.3. Check casing tube for scratches and indentations
3. Notify processor or manufacturer in case of damage
4. If no damage is evident and the processor/manufacturer has not communicated any concerns, reconnect the device to the power supply.

Fig. 16



8.3 Measures after completed maintenance

Upon completion of the maintenance work, the following steps have been executed prior to restarting the device:

- Check all previously loosened screw connections for a tight fit.
- Ensure that all used tools, materials and other equipment have been removed from the work area.
- Clean work area and remove potential spills such as e.g. liquids, processing material or similar. Ensure that all safety measures of the system work without a problem.
- Check functions.
- Document the inspections in the service log.

9.0 Malfunctions

The following chapter describes potential causes for malfunctions and the work that is necessary to restore operation.

In the event of frequent malfunctions, shorten the maintenance intervals.

Contact the manufacturer concerning malfunctions which are not solved by the following suggestions.

Personnel

- Unless indicated otherwise, the work described herein to solve malfunctions may be performed by the operator.
- Some work may only be carried out by qualified personnel, which is specifically indicated in the description of the individual malfunction.
- Work on the electric system may only be performed by professional electricians.

DANGER

Electric shock and moving parts hazards

Serious injury or death can be caused by touching live electrical components and by unexpected movement of the actuator. Be sure power supply is off and actuator is locked out before installing.

DANGER

Danger if restarted without authorization!

When correcting faults, there is danger of the energy supply being switched on without authorization. This poses a life-threatening hazard for persons in the danger zone.

Therefore:

- Prior to starting work, switch off the system and safeguard it from being switched on again.

DANGER

Risk of injury and material damage due to incorrect repair of malfunction

The TXG telescopic pillar is not designed for repair work. Incorrect repair of a malfunction may lead to personal injury or material damage.

Therefore:

- Never loosen the screws on the device or try to open it.
- In the event of a malfunction that cannot be fixed by adhering to the subsequent notices, dismantle the actuator and send it to the manufacturer for repair. (→ 5 Transport, packaging and storage, page 13).

Behavior during malfunctions

In principle:

1. In the event of a malfunction that may present an immediate danger to persons or assets, turn off the actuator or control unit immediately and safeguard against a restart.
2. Determine cause of malfunction.
3. Depending on the type of a malfunction, have it repaired by qualified personnel.
4. Inform responsible party on-site concerning malfunction.



NOTE

The following malfunction table provides information as to who is authorized to perform the repair.

9.1 Malfunction table

9.1.1 Only actuators with main power connection (master / stand-alone)

Malfunction	Possible cause	Repair malfunction	To be repaid by
Telescopic pillars don't move	No supply voltage	Check power supply	Professional electrician
	Lack of plug contact or plug has not been inserted properly.	Plug contacts: Device-electric grid Check device operating element	Operator
	Defective network cable or power plug	Supply cable and plug of the lines: Device-electric grid, check for damage in device-operating element, if necessary replace defective elements	Professional electrician
	Obstacle in the stroke area of the actuators	Remove all obstacles in the stroke area	Operator
	Incorrect load	Measure static and dynamic load and compare with information on the type label. If the load capacity is exceeded, replace the device.	Qualified personnel
	Defective control unit/operating element.	Identification of defect concerning the Ewellix control unit; if necessary replace defective control, operating element	Qualified personnel
	Lifespan of the device is exceeded	If any actuator is older than 10 years and has performed more than 10 000 double strokes with a 300 mm stroke, the actuator needs to be replaced	Qualified personnel
	The actuator cannot be set in motion by any of the above listed measures	Exchange device	Qualified personnel
	Internal fuse defective	Return device to Ewellix Service Department	Qualified personnel
Actuator only operates in one direction	Cut-off mechanism jammed	Return device to Ewellix Service Department	Qualified personnel
Single function are not working (just in) case of "parallel operation" or "memory function")	Loss of data	Perform an initialisationrun (↳ 7.4.1 Startup, page 19)	Qualified personnel
Other devices connected to the actuator are not functioning	No mains power connected	Check mains power connection.	Operator
	Poor plug contact	Ensure that the mains plug is inserted correctly or check the terminal connection.	Operator
	Mains cable defective	Mains cable defective	Qualified personnel
	Internal fuse of the cable feedthrough is defective	Return device to Ewellix Service Department.	Qualified personnel
Significantly reduction in speed	Motor, gearbox or nut defective	Return device to Ewellix Service Department.	Qualified personnel
Significantly increase of noises during operation	Motor, gearbox or nut defective	Return device to Ewellix Service Department.	Qualified personnel
Free play in the guide system	Wear in the sliding elements	Return device to Ewellix Service Department.	Qualified personnel

9.1.2 Only TXG10 (slave or stand alone)

Malfunction	Possible cause	Repair malfunction	To be repaid by
Telescopic pillars don't move	No supply voltage	Check power supply	Professional electrician
	Lack of plug contact or plug has not been inserted properly.	Plug contacts: Device-electric grid Check device operating element	Operator
	Defective network cable or power plug	Supply cable and plug of the lines: Check device control unit, control of voltage network control operating element for damage, if necessary replace defective elements.	Professional electrician
	Obstacle in the stroke area of the actuators	Remove all obstacles in the stroke area	Operator
	Incorrect load	Measure static and dynamic load and compare with information on the type label. If the load capacity is exceeded, replace the device.	Qualified personnel
	Defective control unit/operating element.	Identification of defect concerning the Ewellix control unit; if necessary replace defective control, operating element	Qualified personnel
	Lifespan of the device is exceeded	If any actuator is older than 10 years and has performed more than 10 000 double strokes with a 300 mm stroke, the actuator needs to be replaced	Qualified personnel
The actuator cannot be lifted	The actuator cannot be set in motion by any of the above listed measures	Exchange device	Qualified personnel
	Obstacle in the stroke area of the linear actuator.	Remove all obstacles in the stroke area.	Operator
	Incorrect load	Remove all loads that are on the elements	Operator
Significantly reduced speed	Defective screw nut	Exchange device	Qualified personnel
	Obstacle in the stroke area of the linear actuator	Remove all obstacles in the stroke area	Operator
	Incorrect load	Remove all loads that are on the elements	Operator
Significantly increase of noises during operation	Defective motor, gear or screw nut	Exchange device	Qualified personnel
	Obstacle in the stroke area of the linear actuator	Remove all obstacles in the stroke area	Operator
	Incorrect load	Remove all loads that are on the elements	Operator
Single function are not working (just in case of "parallel operation" or "memory function")	Defective motor, gear or ball screw nut	Exchange device	Qualified personnel
	Poor plug contac	Ensure that the mains plug is inserted correctly	Operator

9.2 Start of operation after fixing malfunction

After the malfunction has been fixed, perform the steps from

↳ 6 Installation and first operation, page 15 prior to restart.

10.0 Dismantling

Personnel

- The dismantling may only be carried out by specifically qualified personnel.
- Work on the electric system may only be performed by professional electricians.

⚠ DANGER

Electric shock and moving parts hazards

Serious injury or death can be caused by touching live electrical components and by unexpected movement of the actuator.

Be sure power supply is off and actuator is locked out before installing.

⚠ WARNING

Risk of injury due to incorrect dismantling!

Stored residual power, sharp-edged components, pins and corners on the individual components or at the required tools can cause serious injuries.

Therefore:

- Ensure there is ample space for dismantling prior to starting with the work.
- Use caution when working with open, sharp-edged structural components.
- Ensure order and cleanliness at the dismantling site! Loosely stacked structural components or structural components and tools on the floor may present a source for accidents.
- Dismantle structural components professionally pursuant to applicable local regulations.
- Secure structural components in a way so they would not be able to fall or tip over.
- Contact Ewellix if you have any questions or concerns.

10.1 Dismantling

The TXG telescopic pillar is to be removed by qualified personnel.

1. Separate device from energy supply or external control unit
2. Separate device from all other connections (operating element, electrical anti-pinching, master-slave actuator, ect.).
3. Secure the elements in such a way that there is no pulling or pushing force resting on the device.
4. Dismantle the TXG from the application
 - 4.1. Ensure that there is no pressure acting on the pillar and the inner tube.
 - 4.2. Loosen and remove the fastening screws.
 - 4.3. Separate the TXG from the mounting points in the application.
5. Clean device
6. Carefully package for shipment to the manufacturer. For disposal, disassemble device according to applicable local occupational health and environmental regulations

10.2 Disposal

To the extent that no take-back or disposal agreement has been put in place, disassembled components should be recycled:

- Dispose of metals and plastic components at an appropriate recycling center.
- Sort remaining components based on the respective material and dispose of according to applicable local occupational health and environmental regulations.

⚠ CAUTION

Damage can be caused to the environment due to incorrect disposal!

Electronic waste, electronic components, lubricants and other additives are subject to special waste treatment regulations and may only be disposed of by approved specialized companies!

The local municipal authorities or specialized waste management companies can provide information concerning environmentally appropriate disposal.

11.0 Appendix

Technical Data Sheet

PUB IL-07012-EN-October 2019 Telescopic pillar TXG

For further technical information please contact Ewellix.

TXG

Telesmart telescopic pillar



Benefits

- Powerful and fast lifting
- Aesthetic design

Standards

- EN/IEC 60601-1
- UL 60601-1

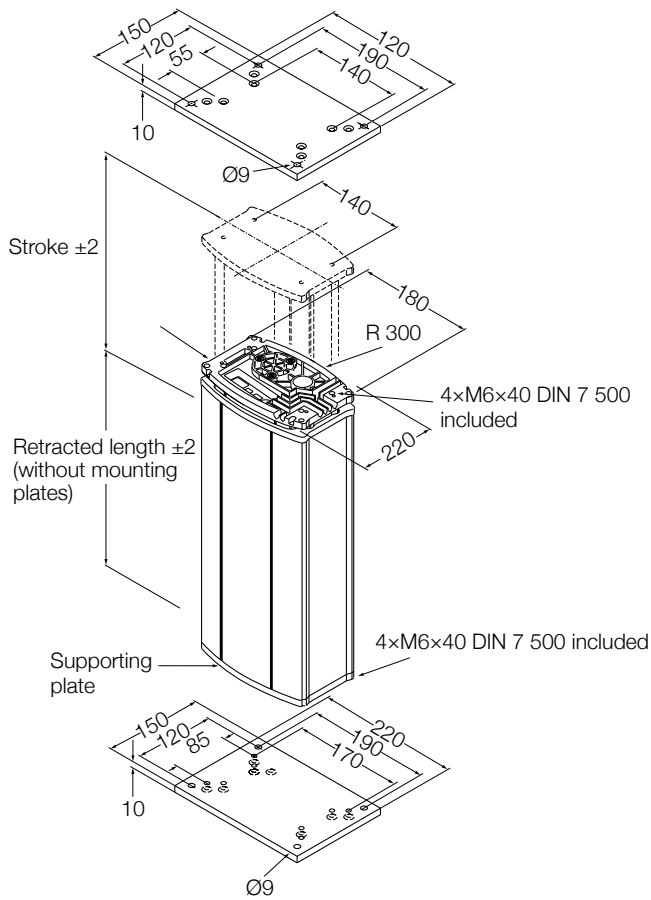
Technical data

	Unit	TXG1	TXG4/5	TXG8/9
Rated push load	N	1 500	1 500	1 500
Rated pull load	N	0	0	0
Bending load	Nm	up to 210 ¹⁾	up to 210 ¹⁾	up to 210 ¹⁾
Speed (full load to no load)	mm/s	17 to 23	17 to 23	17 to 23
Telescopic pillar version	# of section	2-section	2-section	2-section
Stroke	mm	200 to 600	200 to 600	200 to 600
Retracted length	mm	S+180	S+180	S+180
Voltage	–	24 V DC	120 V AC	230 V AC
Power	W	–	N/A	N/A
Current	A	5	1,8	0,9
Duty cycle: intermittent operation	min.	1 min./9 min.	1 min./9 min.	1 min./9 min.
Duty cycle: short-time operation	min.	–	N/A	N/A
Ambient temperature	°C	+10 to +40	+10 to +40	+10 to +40
Type of protection	IP	30	30	30
Protection class	–	SELV	II/(I)2	II/(I)2
Type of control	–	electrical	electrical	electrical
Weight	kg	8 to 13	9 to 14	9 to 14

¹⁾ For details, please see bending load diagrams (↳ page 4)

²⁾ Mandatory for cable feedthrough option

Dimensional drawing

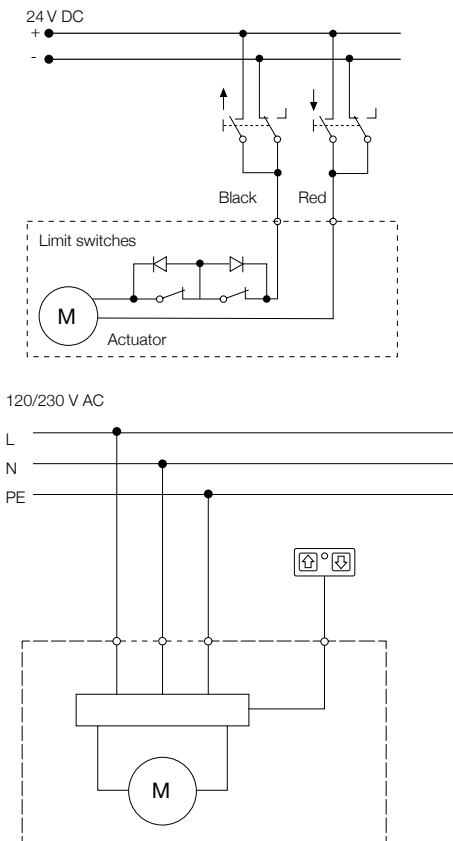


Note: mounting plates are not included. To be ordered separately.

Legend:

S = stroke
L = retracted length

Connecting diagrams

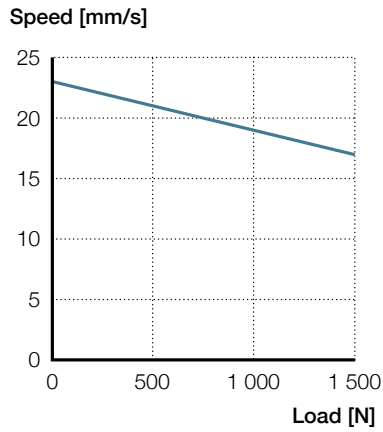


Suitable control units and accessories

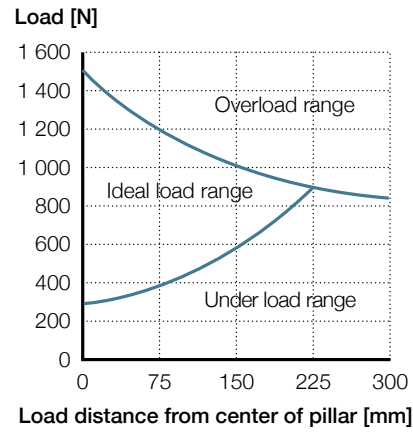
		Control units
		COMPACT
TXG 10		●
Operating switches		
EHA		
HSM		●
HSF		●
	Hand switch	

Performance diagram

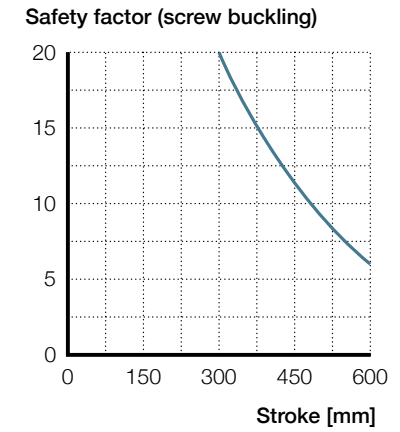
Speed-load diagram



Bending load diagram



Safety factor load conditions



Accessories

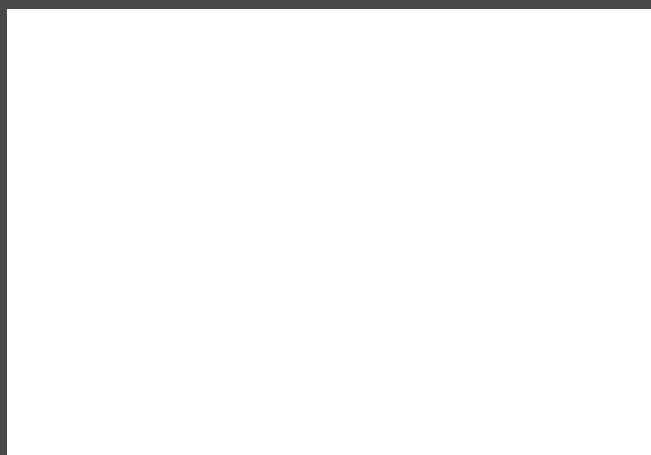
Mains cable	Plug	Country	Order number	Comment
Straight cable 3 m	Euro	General	0121730	2-pole
Straight cable 3 m	Schuko	General	0121729	3-pole
Straight cable 3 m	UL	USA	0126322	2-pole
Straight cable 3 m	SEV	Switzerland	0128699	3-pole
Straight cable 3 m	UL	USA	0121762	3-pole
Top or bottom mounting plate			0124874	

Mounting screws are included in the TXG.

Ordering key

	T	X	G	0	-	0	0			-				0	0		
Type																	
Voltage																	
24 V DC (slave actuator)																1	
120 V AC, 50/60 Hz, class II																4	
120 V AC, 50/60 Hz, class I (mandatory for cable feedthrough option)																5	
230 V AC, 50 Hz, class II																8	
230 V AC, 50 Hz, class I (mandatory for cable feedthrough option)																9	
Color																	
Natural anodized coating																5	
Option																	
None																000	
Control connection feedthrough																EYX	
Mains cable feedthrough																EYF	
1-Hall encoder for Compact/slave use																EYS	
Control connection feedthrough, mains cable feedthrough																2AA	
Connection of TXG to BCU/VCU																EXG	
Customer-specific																KKK	
Stroke (S) / Retr. length (L=S+180 or L= S+160 mm)																	
200 mm																	
300 mm																	
400 mm																	
500 mm																	
600 mm																	

Options written in yellow are only available on demand. Contact Ewellix for more information on minimum quantities and additional costs.



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