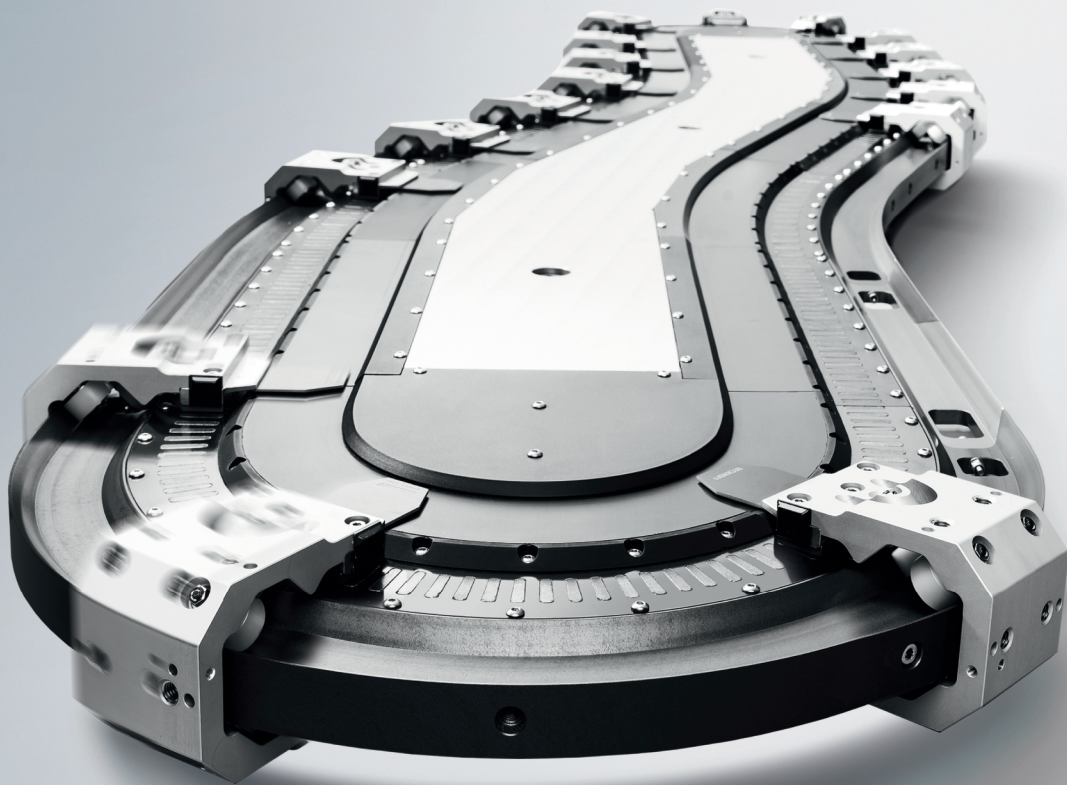


BECKHOFF

XTS | eXtended Transport System

Information Track Management | EN



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- EP1789857
- EP1456722
- EP2137893
- DE102015105702



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- Improper use
- Use of untrained personnel
- Use of unauthorized spare parts

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Scope of the documentation

In addition to this documentation, the following documents are part of the complete documentation:

XTS	Definition
Original operating instructions; this documentation	Description of the mechanical and electrical parameters as well as all information necessary for the use of the XTS
Instruction leaflet	Accompanying document with general notes on handling the XTS. This is included with every product.

Staff qualification

These operating instructions are intended for trained control and automation specialists with knowledge of the applicable and required standards and directives.

Specialists must have knowledge of drive technology and electrical equipment as well as knowledge of safe working on electrical systems and machines. This includes knowledge of proper setup and preparation of the workplace as well as securing the working environment for other persons.

The operating instructions published at the respective time of each installation and commissioning is to be used. The products must be used in compliance with all safety requirements, including all applicable laws, regulations, provisions and standards.

Instructed person

Instructed persons have a clearly defined task area and have been informed about the work to be carried out. Instructed persons are familiar with:

- the necessary protective measures and protective devices
- the intended use and risks that can arise from use other than for the intended purpose

Trained person

Trained persons meet the requirements for instructed persons. Trained persons have additionally received training from the machine manufacturer or vendor:

- machine-specific or
- plant-specific

Trained specialists

Trained specialists have received specific technical training and have specific technical knowledge and experience. Trained specialists can:

- apply relevant standards and directives
- assess tasks that they have been assigned
- recognize possible hazards
- prepare and set up workplaces

Qualified electricians

Qualified electricians have comprehensive technical knowledge gained from a course of study, an apprenticeship or technical training. They have an understanding of control technology and automation. They are familiar with relevant standards and directives. Qualified electricians can:

- independently recognize, avoid and eliminate sources of danger
- implement specifications from the accident prevention regulations
- assess the work environment
- independently optimize and carry out their work

Customer service

Customer service personnel and service personnel are verifiably trained and authorized by Beckhoff or the machine manufacturer for the work on the machine or plant.

Safety and instruction

Read the contents that refer to the activities you have to perform with the product. Always read the chapter For your safety in the operating instructions. Observe the warning notes in the chapters so that you can handle and work properly and safely with the product.

Explanation of symbols

Various symbols are used for a clear arrangement:

- ▶ The triangle indicates instructions that you should execute
- The bullet point indicates an enumeration
- [...] The square parentheses indicate cross-references to other text passages in the document
- [+] The plus sign in square brackets indicates ordering options and accessories

Pictograms

In order to make it easier for you to find text passages, pictograms and signal words are used in warning notices:

DANGER

Failure to observe will result in serious or fatal injuries.

WARNING

Failure to observe may result in serious or fatal injuries.

CAUTION

Failure to observe may result in minor or moderate injuries.



Notes

Notes are used for important information on the product. The possible consequences of failure to observe these include:

- Malfunctions of the product
- Damage to the product
- Damage to the environment



Information

This sign indicates information, tips and notes for dealing with the product or the software.



Examples

This symbol shows examples of how to use the product or software.



QR-Codes

This symbol shows a QR code, via which you can watch videos or animations. Internet access is required in order to use it.

You can read the QR code, for example, with the camera of your Smartphone or Tablet PC. If your camera doesn't support this function you can download a free QR code reader app for your Smartphone. Use the Appstore for Apple operating systems or the Google Playstore for Android operating systems.

If you cannot read the QR code on paper, make sure that the lighting is adequate and reduce the distance between the reading device and the paper. In the case of documentation on a monitor screen, use the zoom function to enlarge the QR code and reduce the distance.

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The Beckhoff Support offers technical advice on the use of individual Beckhoff products and system planning. Staff provide assistance for programming and commissioning complex automation systems and offer a comprehensive training program.

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Download area

In the download area you will find product information, software updates, the TwinCAT automation suite, documentation and much more.

Web: www.beckhoff.de/download

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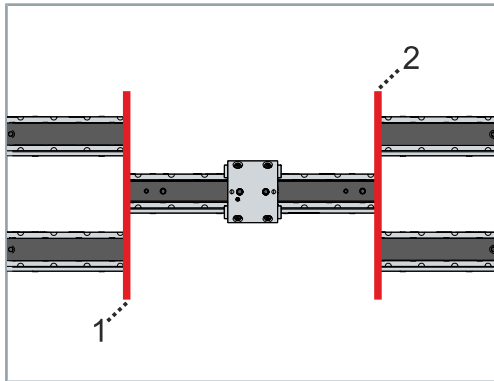
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The software function "Track Management" is a fixed component of the XTS software package. With the help of this software function you can swap track sections between different XTS systems. As a result, you have the possibility to unite several travel paths in one system and to move the movers between several systems. You need a suitable mechanism for the implementation, such as a spindle axis or a linear motor.

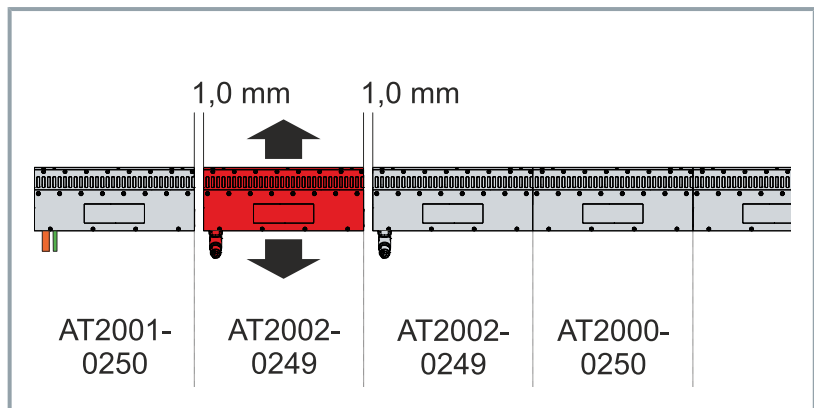
Specifications

Air gap



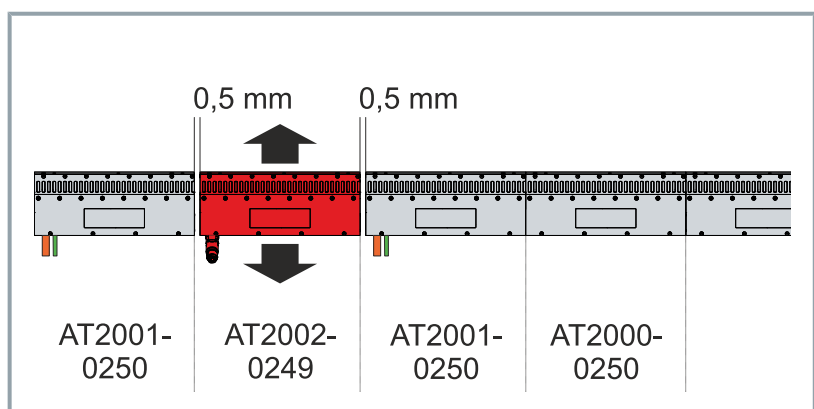
With movable track sections, a double-sided air gap 1 and 2 is required between moving and stationary track sections. The nominal air gap is 1.0 mm and must not exceed 3.0 mm.

In addition, the encoder system has been extended. A continuous position of the mover is defined in the air gap between the modules.



For this application you need:

- 1 x motor module 249 mm supply
- 1 x motor module 249 mm movable



For this application you need:

- 1 x motor module 249 mm movable

Module



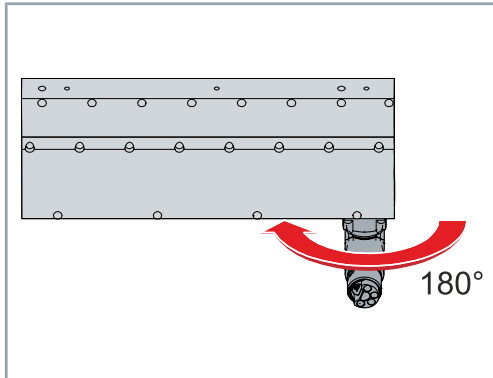
Only ten turning cycles allowed

Turn the plug backward and forward ten times at the most.
Disregarding this can lead to malfunctions and damage to the system.

The shortened motor module with supply AT2002-0249 is available for the air gap. The module is one millimeter shorter in total:

- Length of standard module, straight: 250 mm
- Length of Track Management module, straight: 249 mm

A B23-ENP connector is available to you as a connecting plug, which you can rotate by 180°.



Procedure



Avoid damage

Do not move the movable modules if any movers are located in the transition between the stationary and movable modules. First move the movers onto the movable modules and don't move them off again until the movable modules are aligned and in the target position.

Disregarding this can lead to damage to the movers and modules.

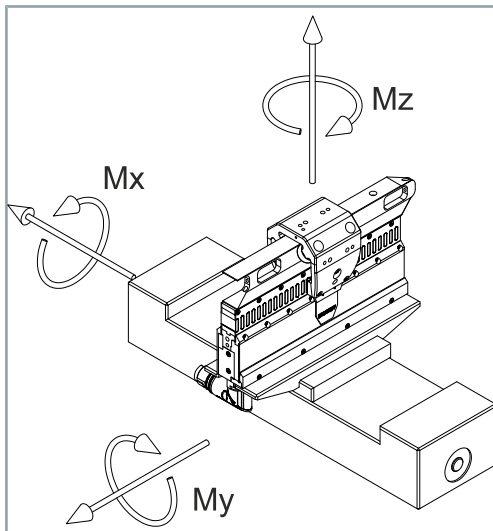
Mover

The following mover is the only permitted Beckhoff mover for the "Track Management":

- AT9011-0070

Technical data

Technical data	Track Management
Air gap in the direction of travel [mm]	At least: 0.5 Nominal value: 1.0 Maximum: 3.0
Offset at right angle to the direction of travel; transverse or upwards [mm] <i>If using a Beckhoff rail</i>	≤ 0.1
Maximum linear axis torque [Nm] <i>If using a Beckhoff rail</i>	$M_x = 50$ $M_z = 15$ $M_y = 15$
Maximum linear axis torque drive magnets [Nm]	$M_z = 6$
Observe different torques if using other guide rails.	



- Maximum linear axis torque [Nm] if using a Beckhoff rail

Track Parts

The "Track Parts" are the contiguous track sections into which all motor modules are subdivided in the configuration of a system. A track section can consist of one or any number of motor modules.

Tracks

The contiguous travel paths made up of individual "track parts" are called "tracks". A "track" can consist of one or more "track parts". You can integrate a "track part" several times in a "track" and in various "tracks".

Application examples

Some application examples are given below:

- Input and removal of movers without interrupting the product flow
- Software-based tool change
- Individual quality control
- Integration of optional workstations
- Sorting out of faulty products
- Maintenance intervals detached from the production process
- Integrated manual workplaces
- Product buffer through the arrangement of several XTS tracks above one another
- Secondary product flow: For example, a coating process in which the workstations can be passed through several times without changing direction with the help of a closed travel path
- Freely configurable order of products: Enables the combination of different products into packages, for example

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