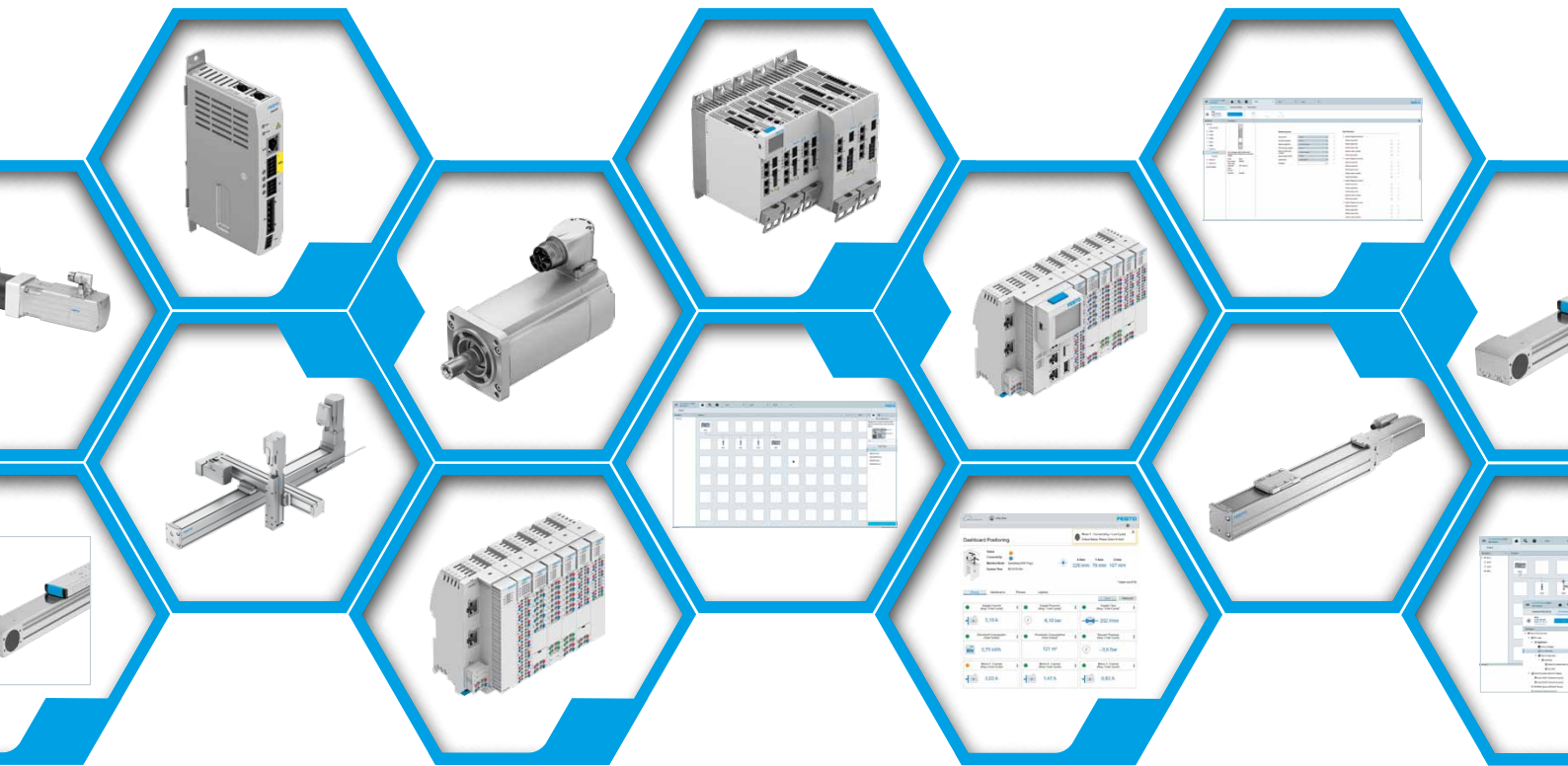


# Motion by Festo

**FESTO**



**Electric Automation – Products & Services Offer**

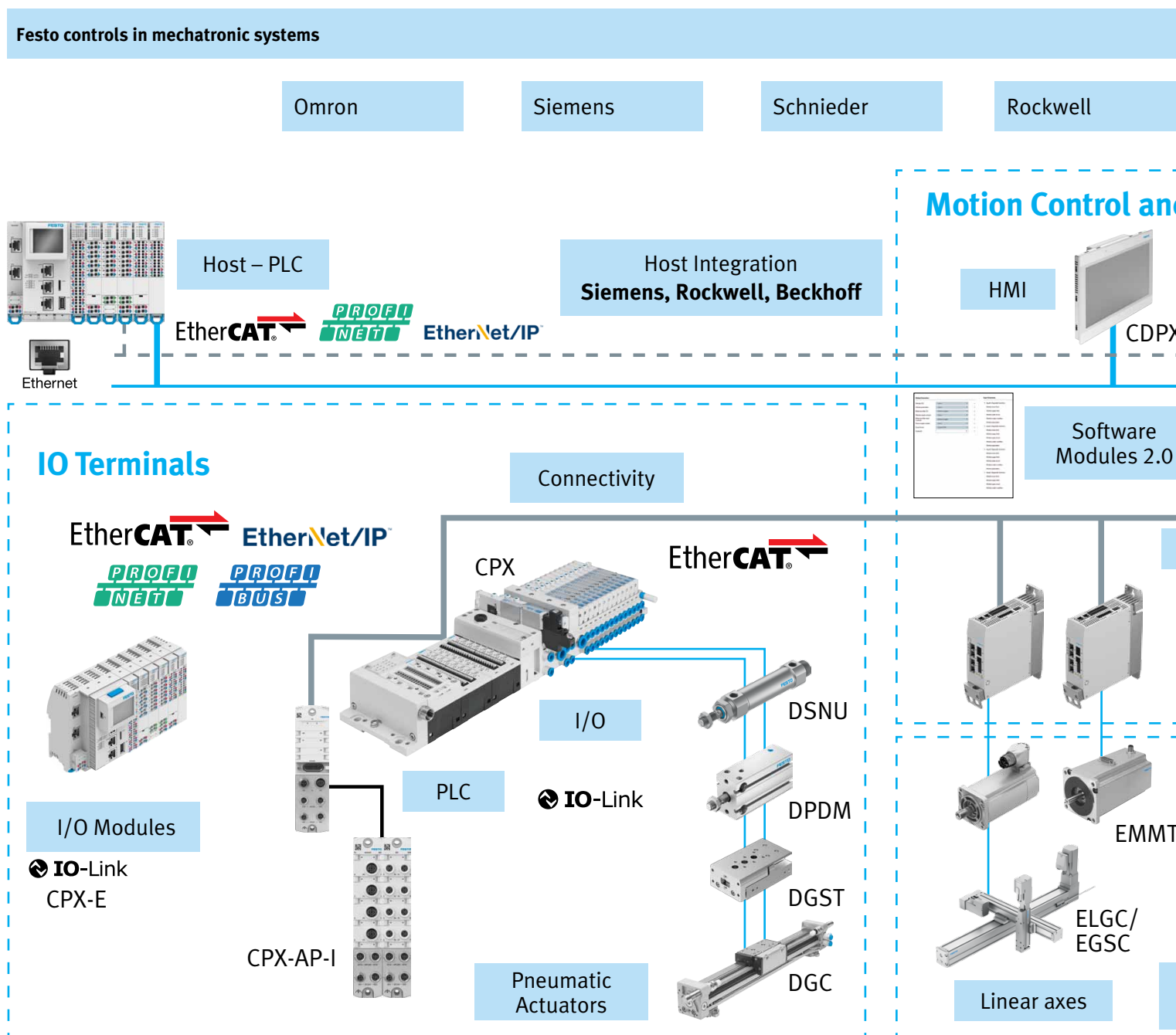
## Seamless connectivity with Festo. Mechatronic systems with interoperability as a core value

### → WE ARE THE ENGINEERS OF PRODUCTIVITY.

Through a consultative approach we commit to understand your needs. Our job is to match suitable products and services.

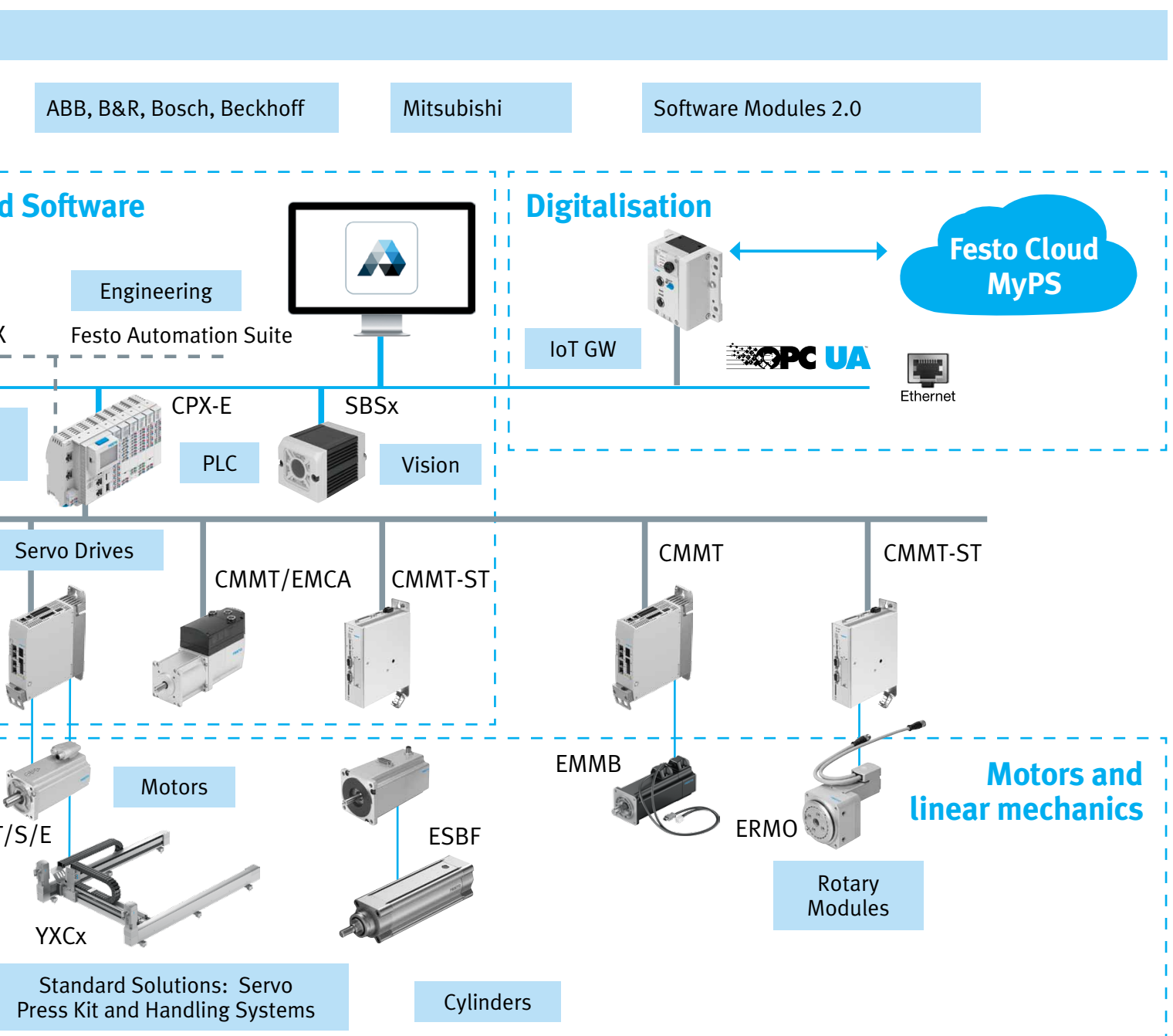
We can reduced time to design, reduce time to implement, reduce complexity, reduce risk and overall create value. Our products

We are more than just a supplier, we want to be your engineering partner.



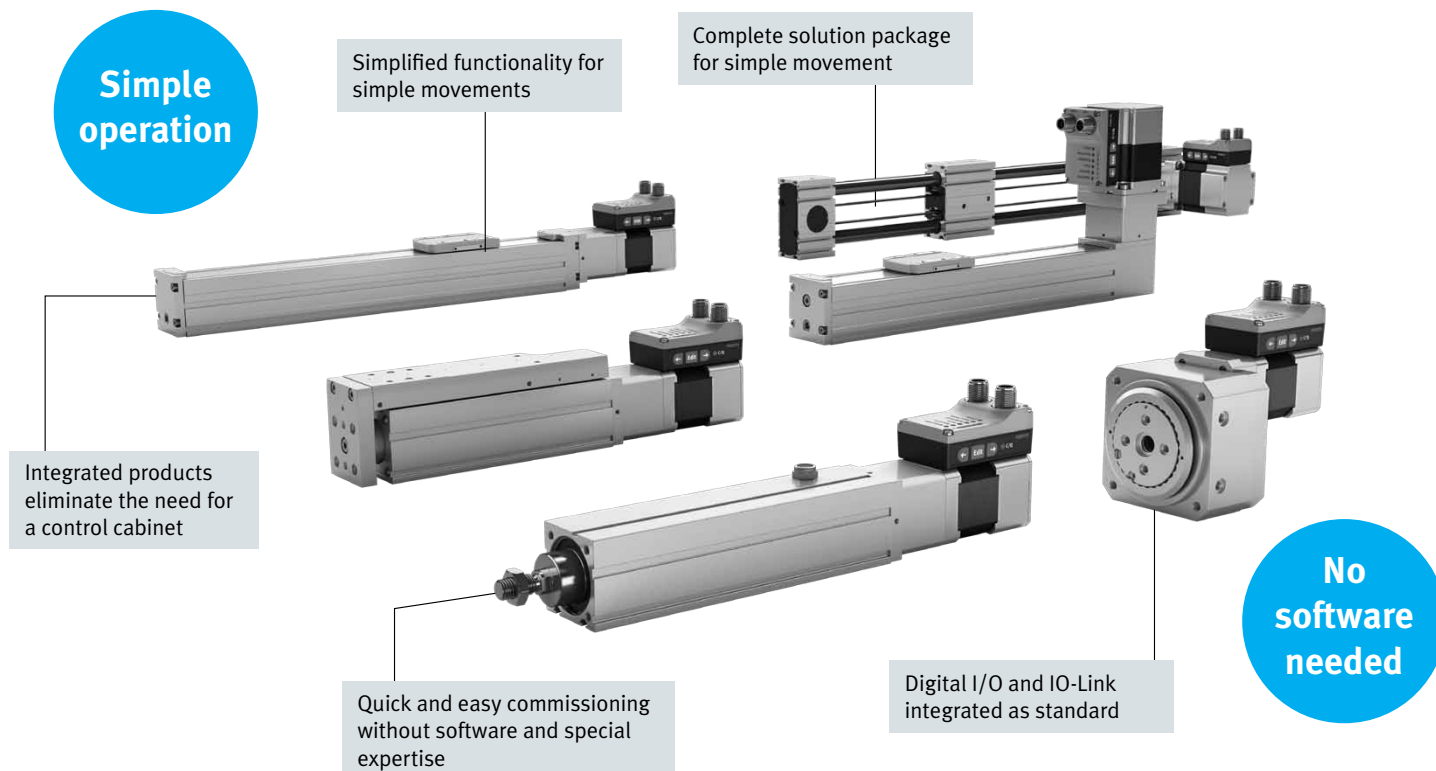
value

Products and services are enhanced by our software tools, engineering knowledge and added value services through the project.



# Simplified Motion Series

Combines the simplicity of pneumatics with the advantages of electric automation. Perfect for very simple movement and positioning tasks, and no need to program.



## Sizing and selection is made easy



Simplified Motion Series –  
Solution Finder

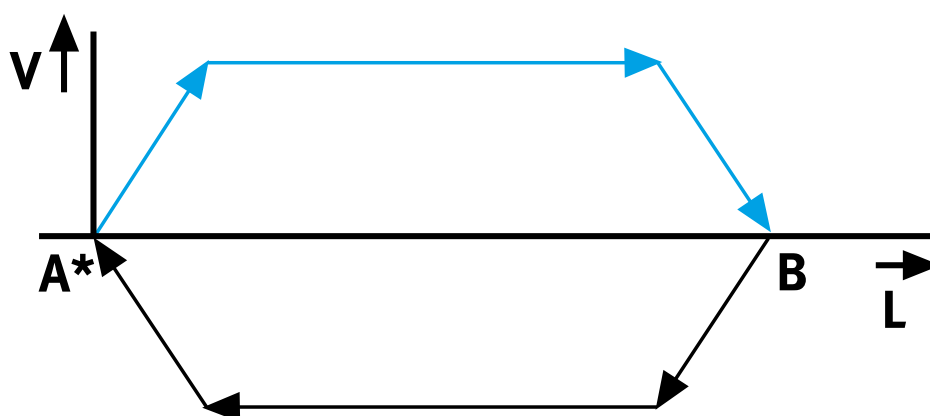
Stroke



Payload



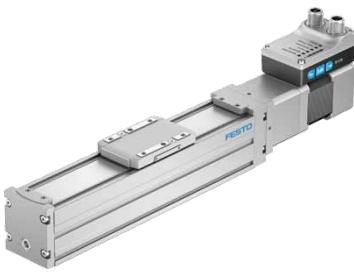
## Controlling simple motion



**24V Extend  
24V Retract**

Basic movement between two end positions: with speed control

## Overview of the products in the Simplified Motion Series



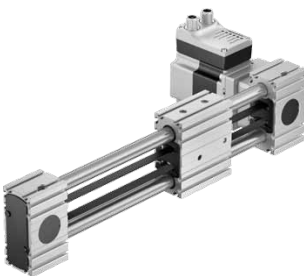
Spindle axis ELGC-BS



Electric gripper EHPS



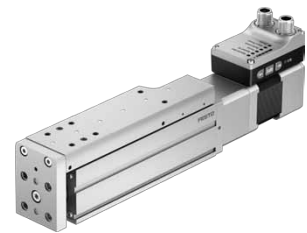
Electric cylinder EPCS



Toothed belt axis ELGE



Rotary drive ERMS



Mini slide EGSS

## Simple integrated controller

**Experts  
not  
needed**

**Fast and  
simple  
setup**

For commissioning, simply adjust directly on the drive:

- Set speed level 1–10
- Set force level 1–10
- Set end position
- Demo mode to test settings

Separate M12 plug & cable design

- Power (4-pin): power
- Logic (8-pin): Either D I/O or IO-Link



**No confusing  
combinations**

No uncertain oversizing

**IO-Link**

IO-Link control option

- Remotely adjustment settings
- Backup and copy setting

# 1D, 2D and 3D Cartesian Robots

The ready-to-install systems provide you with fast and reliable solutions for standard applications: fully assembled, tested and perfectly coordinated, including energy chain, connection technology and matching drive package.

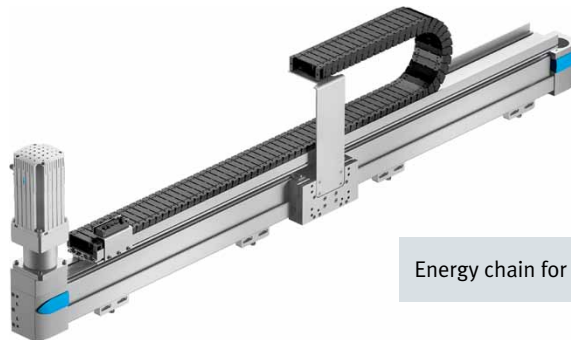
## 1D Handling Systems

**Bespoke solutions for your application**

Fully assembled and tested

**Sturdy design ideal for big or small loads**

No oversizing or undersizing risk. Correctly sized for your task



Energy chain for reliable operation

Motion package, motor plus controller plus linear drive

**Single-axis movement:**



## 2D Handling Systems

2D linear gantry system



**Excellent for pick and place or inspection applications**

**2D linear gantry:**



2D Planar surface type for horizontal motion

The tubing and cables are routed through energy chains

Ideal for long strokes and high payloads

**Great for long strokes**

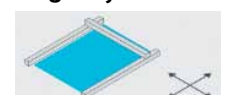
High mechanical rigidity

User-friendly mounting and assembly

Extremely precise

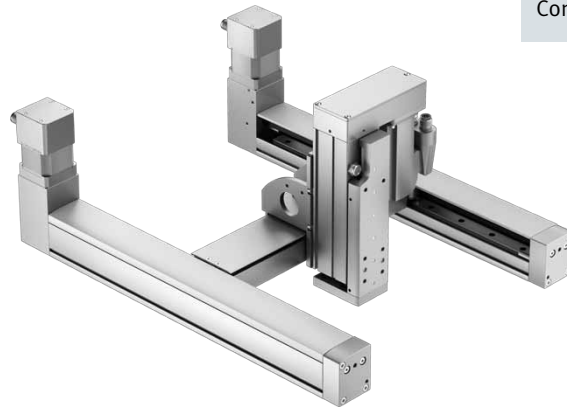


**2D gantry:**



## 3D Handling Systems

Excellent  
footprint to  
working  
envelope  
ratio



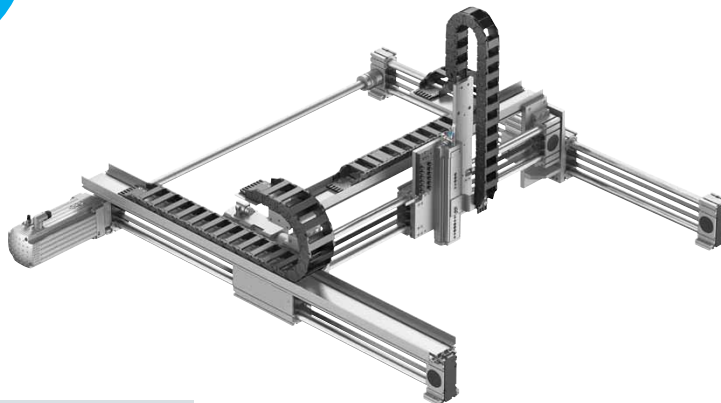
Configurable length and width

Excellent at absorbing high forces  
and torques

Flat and compact for  
optimised use of space

Great  
for big  
jobs

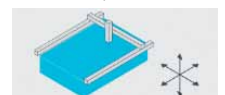
Very long lengths are no problem



For light to heavy  
payloads

Safe and precise thanks to high mechanical  
rigidity and sturdy design

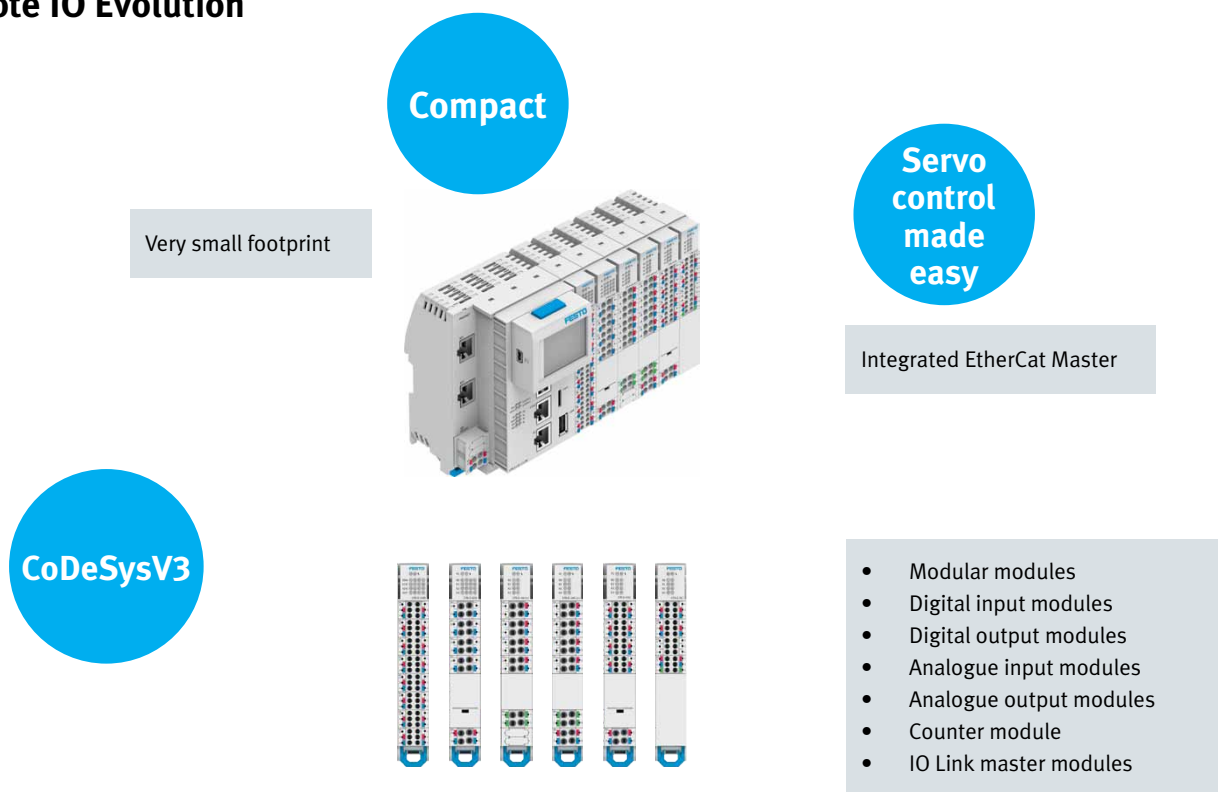
**3D gantry:**



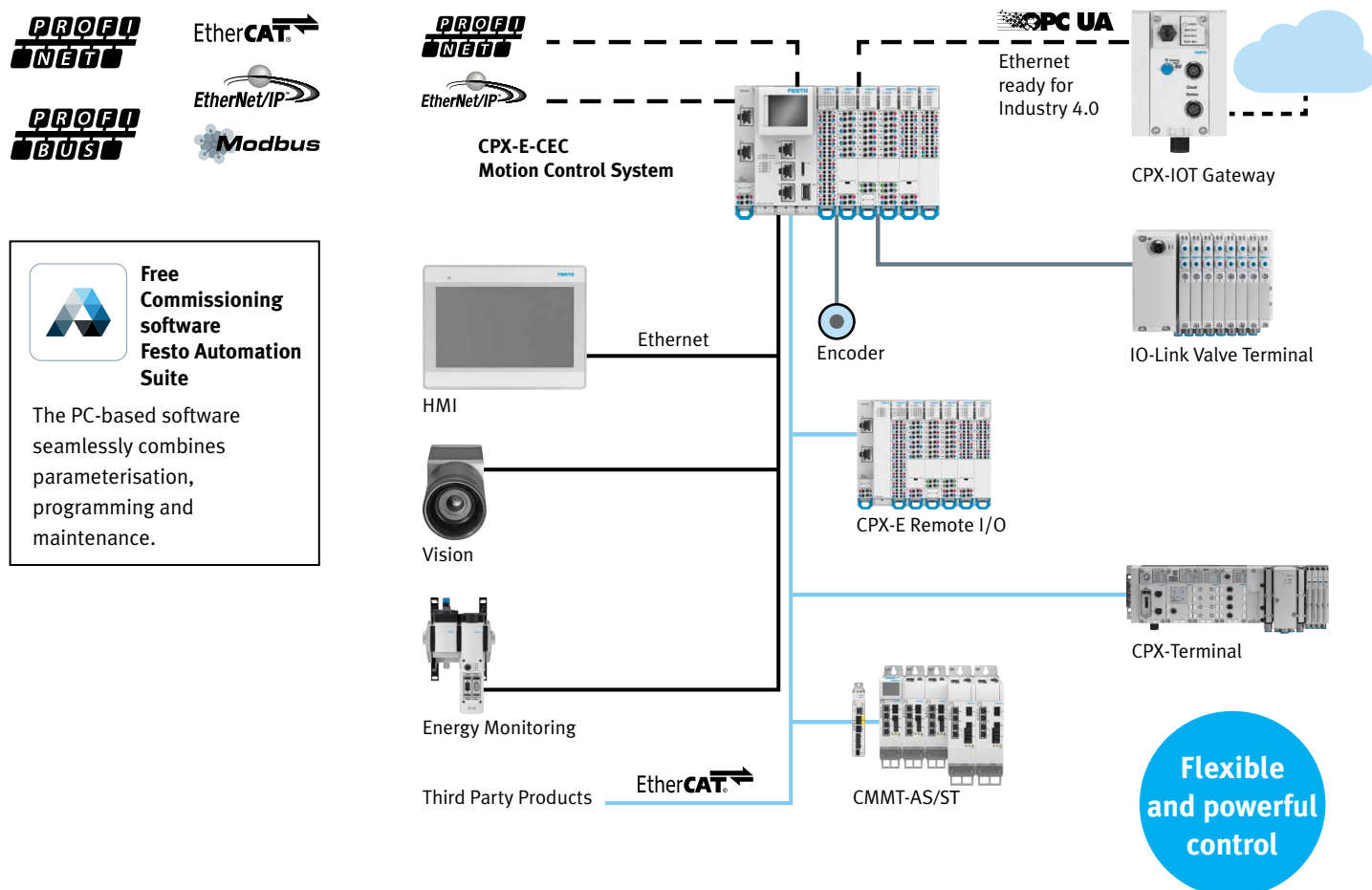
→ Start the Handling Guide Online

# Modular Control System CPX-E

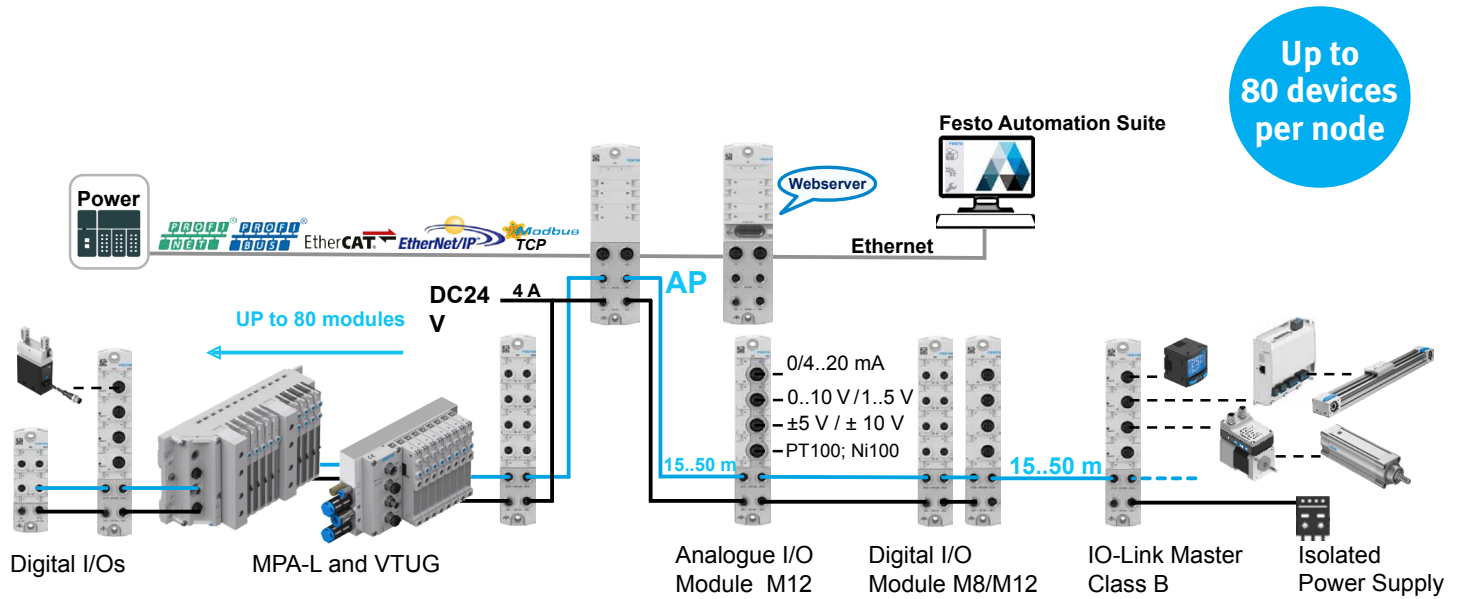
## Festo remote IO Evolution



## Architecture of the automation system CPX-E



# CPX-API



## Available modules

Very compact units

Reduce wiring cost and volume

Fieldbus Modules	Electric IO Modules	Valve Modules

Ingress protected

IP 65/67

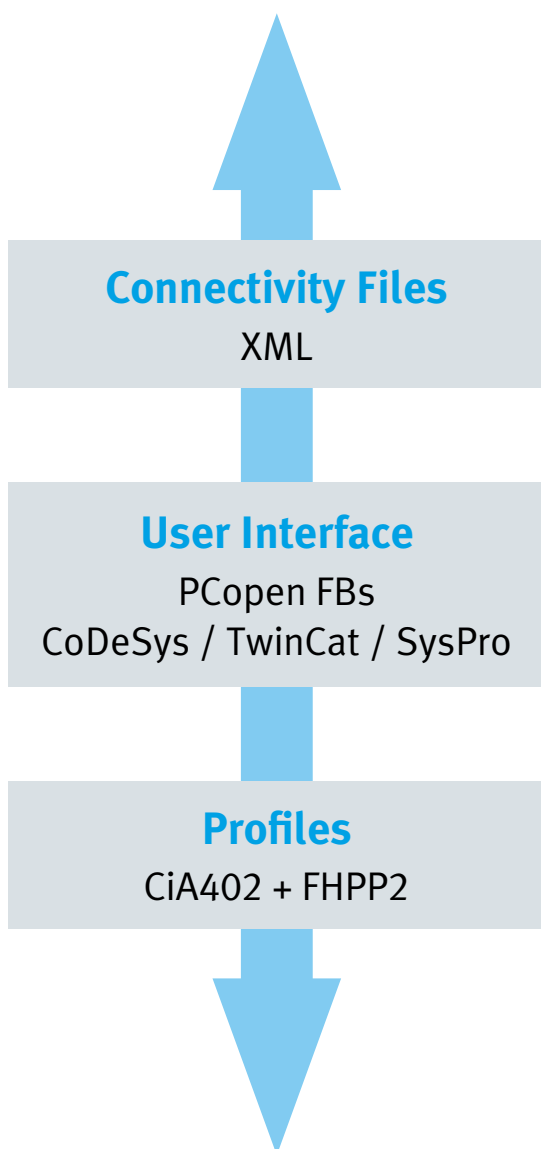
Decentral valve and IO management

Keep your cabinets small

## Connectivity and Interface Files

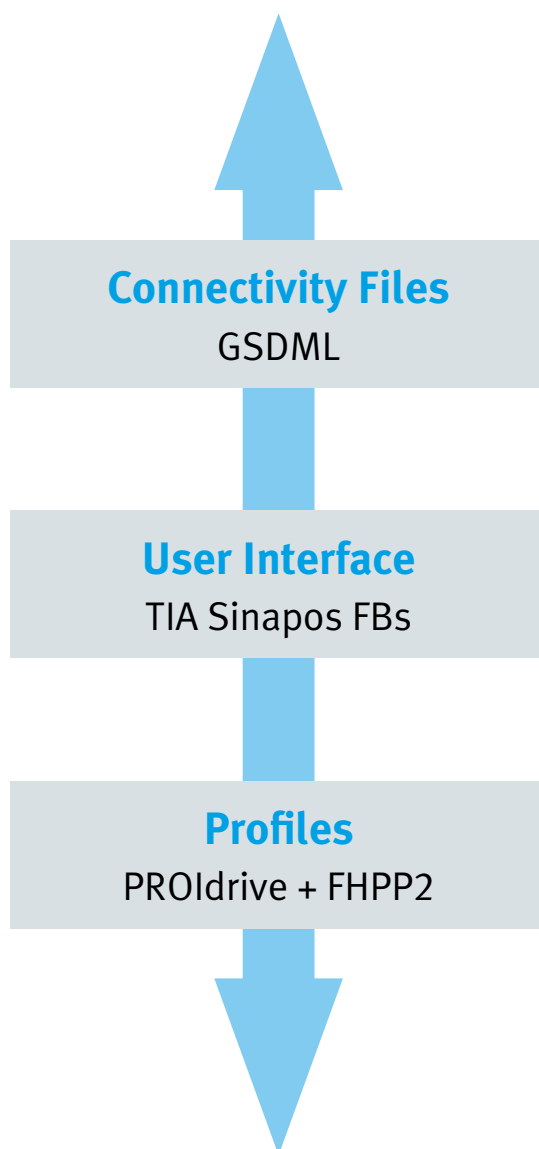
Files available to connect from us to you

**FESTO**  
**BECKHOFF**  
**OMRON**



**EtherCAT** 

**SIEMENS**



**PROFI**  
**NET**

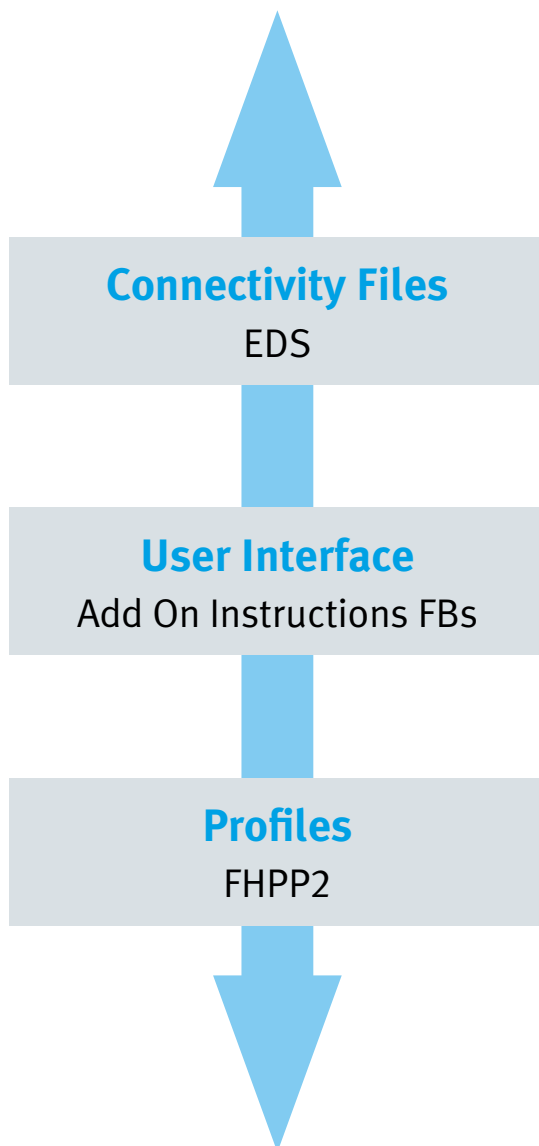


# Allen-Bradley

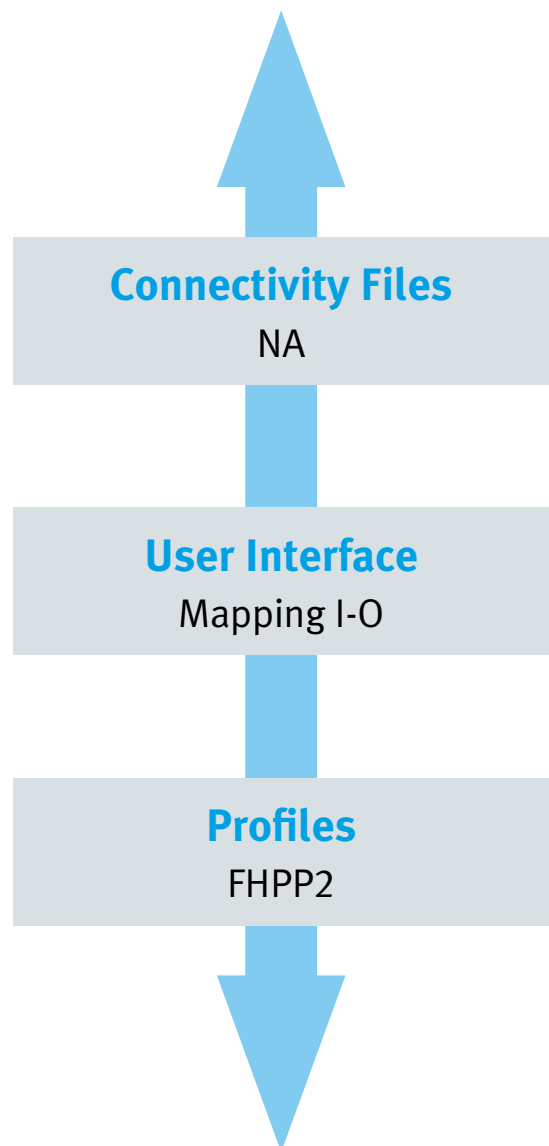
by ROCKWELL AUTOMATION



## PCs and Other Industrial PLCs



**Ethernet/IP™**



# The Festo Automation Suite: Free Software

**One automation solution – powered by one piece of software: the Festo Automation Suite.**

The new free software package from Festo revolutionises engineering, since commissioning, including the optimised design of a servo drive via EtherCAT, only takes a few minutes.

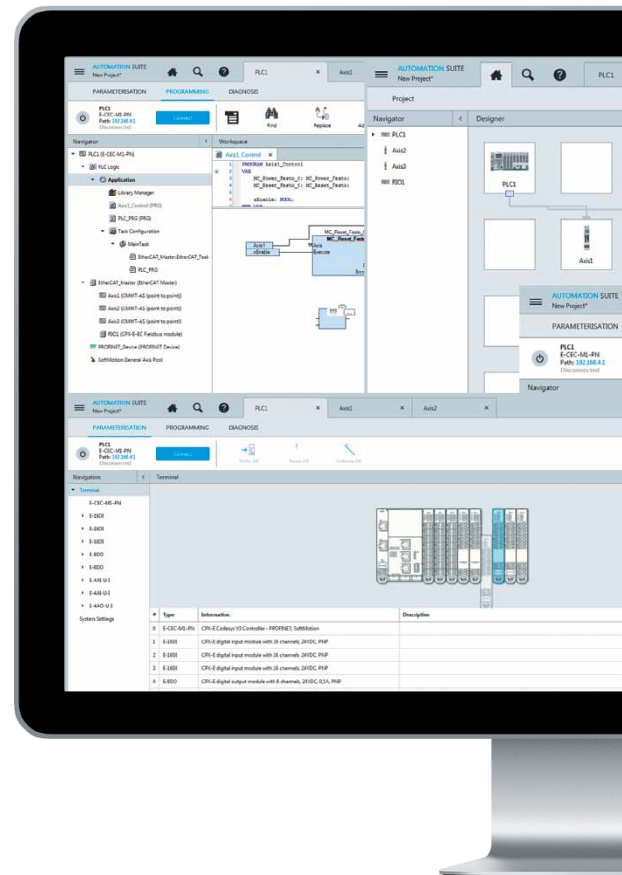
Festo Automation

The right  
files, when  
you need  
them

In app component specific  
documentation

Less  
searching,  
saves time

In app plug-in updates



## Parameterisation

- In the Festo Automation Suite, you can integrate servo drives via a plug-in, e.g. via the CMMT plug-in
- Clear, simple management within a project, comprehensive parameterisation (formerly FCT)
- All basic data of the design (e.g. from positioning Drives) is transferred

## CODESYS programming

- CODESYS provided by Festo is integrated into the Festo Automation Suite as an extension
- Universal language to IEC 61131-3, widely accepted in the control systems market
- Comprehensive CODESYS V3 function library and many Festo function blocks (Robotics lib)

## Automation Suite



Download for FREE:

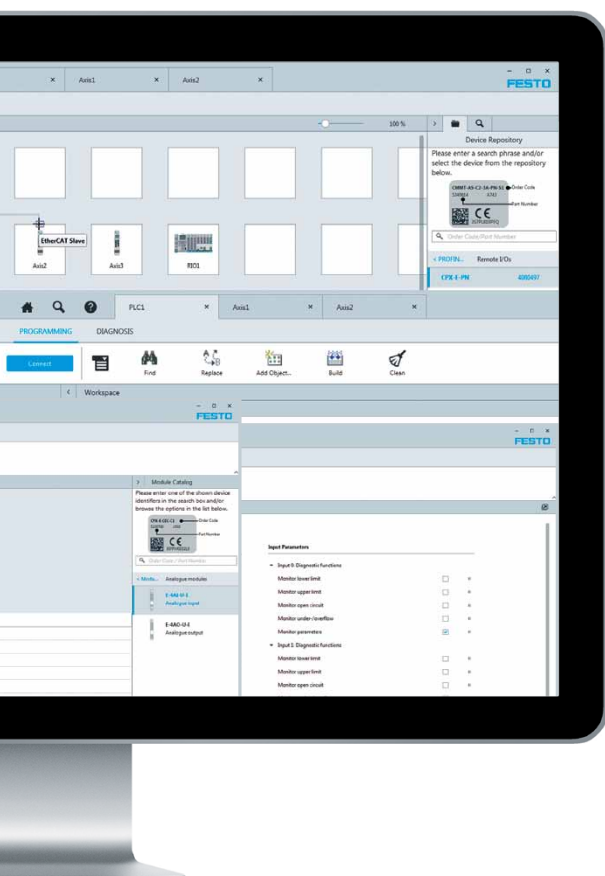
→ [Festo.com/AutomationSuite](https://Festo.com/AutomationSuite)

No licence  
costs

Free software, no subscriptions

Single  
software  
app

Integrated control application  
for commissioning & control and  
parameterisation

**Fieldbus commissioning**

- Commissioning via EtherCAT (formerly FFT) is also included into the Festo Automation Suite
- Just 1 click – and the connection loads all data in the background
- Secure firmware updates
- Add new features at no additional cost

**Motion control/robotics**

- CODESYS SoftMotion is a powerful software library for simple and complex motion control applications. It includes:
  - PLCopen part 1 and part 2, robotics (PLCopen part 4), Camshaft Editor, CNC Editor (.dxf file import)
  - Robotics lib extends SoftMotion to include Festo kinematic systems such as EXCT and EXCH

# Programming and Integration

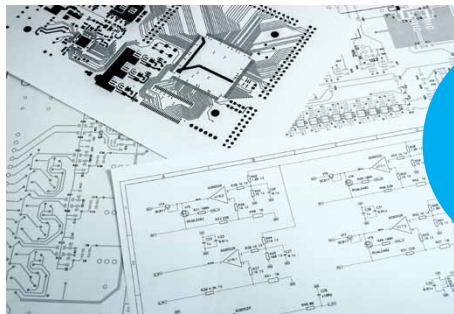
## Application notes



Integrate and operate quickly and confidently

Detailed work instructions supporting your project

## Wiring diagrams



Helps you assemble quickly

Examples specific to your configuration

## Instruction videos



See how it's done by an expert

Guided step through from beginning to the end

## Function blocks



Get programming quickly

Festo written FBs:  
CoDeSys, Siemens, Allen-Bradley, Omron, Beckhoff, Festo

## Festo Automation Suite



No licensing or subscription cost

Free programming app: Commissioning, Parameterisation, Control

## Sample program



## Topology overview



Understand  
the system  
easier

## FieldBus connecting files

Get your  
devices  
connected  
fast



Siemens (GSDML), Allen-Bradley (EDS),  
Omron (XML), Beckhoff (XML), Festo (XML)

## Function blocks II



Saves time

Different blocks for different functions:  
Position control, Speed control, Others

## Technical support



Known  
support  
available

Detailed work instructions  
supporting your project

## Safety @ Festo



Program  
your  
applications  
quickly and  
easily

Application notes to support you. Worked examples

Get  
started  
quickly

# Application Support and Technical Support Commitment

“We are the engineers of productivity.”

Through consultative approach we commit to understand your needs. Our job is to match suitable products and services to your project. We can reduce time to design, reduce time to implement, reduce complexity, reduce risk and overall create value.

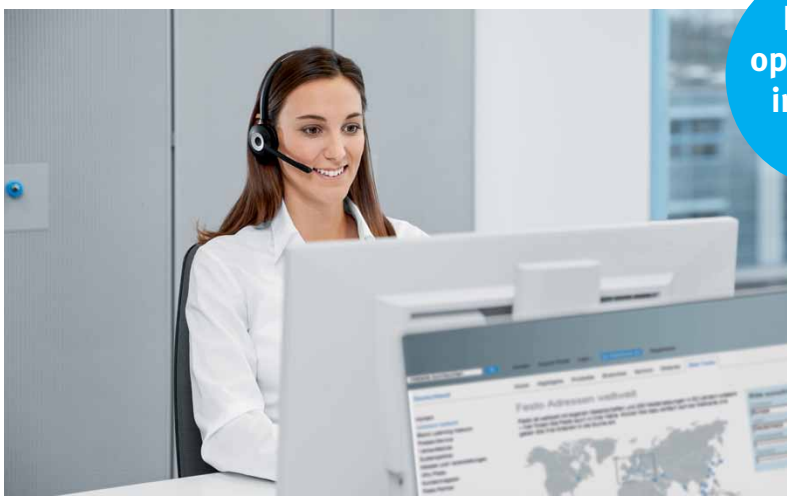
Our products and services are enhanced by our software tools, engineering knowledge and added value services throughout your project. We are more than just a supplier, we want to be your engineer partner.

## What is technical support at Festo?

Help with finding and using:

- Technical details of products
- Sizing and selection tools
- Application notes
- Connectivity files
- Sample programs
- Video tutorials
- Festo software tools

**Our team  
will help you  
perform**



**Design,  
operate and  
integrate  
fast**

## What is application support service at Festo?

**Project  
lifecycle  
support**

Higher level of engineering support

Combination of  
technical sales team  
and technical support  
team

**Our team  
will help you  
perform**



A wealth of engineering  
experience across industries

**Custom  
solution**

Bespoke engineered  
solutions for your  
applications

**Proof of  
concept to  
reduce  
risk**

Prototyping

## Guide to get quick technical product support



Send email to [technical.ie@festo.com](mailto:technical.ie@festo.com)

Include the part number and configuration in the body of the email. Explain the questions and include pictures, sketches or videos when possible.

**Technical support email:**  
**[technical.ie@festo.com](mailto:technical.ie@festo.com)**

## Guide to get application support

Contact your industry segment specialist or sales contact. Industry segment specialists are on the back page.

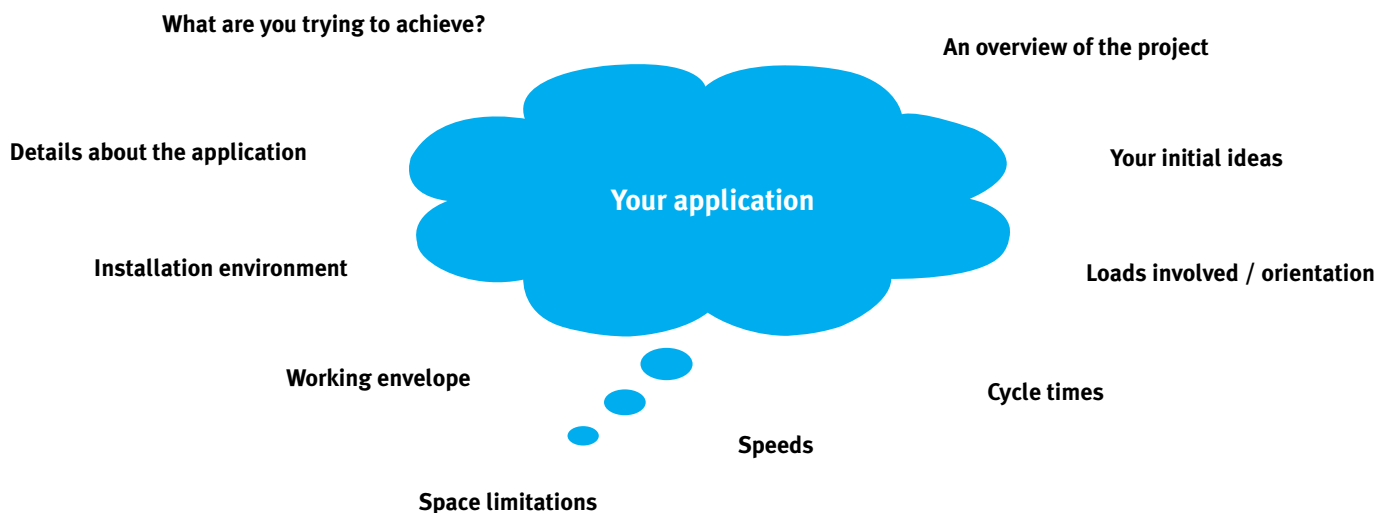
Or send an email directly to [sales\\_ie@festo.com](mailto:sales_ie@festo.com)

Explain the application and include pictures, sketches or videos when possible.



**Application support:**  
**[sales\\_ie@festo.com](mailto:sales_ie@festo.com)**

## Tell us about your application



# Motion Packages: Mechanics, Motor and Motor Controller

Try the Handling Guide Online now!



From  
concept to  
CAD model in  
10 mins!

Slick design tool available online

No  
time wasting  
sizing more  
parts

Automatic motor and gear box  
sizing as part of the solution

No  
time wasting  
fabricating  
parts

Mounting brackets and  
accessories available as  
standard

Files  
helpful for your  
documentation  
needs

Technical files including  
BOMs, motions profiles, motor  
characteristics, feed constants  
and dynamic data

No  
time wasting  
figuring out  
energy  
chains



**Makes your  
life easier**

Sizing tools available for 1D, 2D, 3D systems

**Remove risk  
with a Festo  
warranty**

Festo designed solution for your application

**Take  
the risk out  
of motion  
solution  
design**

**No sizing risk**

Mechanically and electrically  
matched solution

Option for delivery  
completely assembled

**Once  
mounted,  
it's ready to  
program**

Single source supplier from motor  
controller to mechanical

**Clear  
responsibility  
for fault  
finding**

Energy chains and sensors  
can be included



# Your Partner for Safety: Safety@Festo

## Reduce risk – think preventively!

Festo provides you with many safety features that can be used in safety applications with our pneumatic and electric and parts and sub-assemblies.

We cannot design your safety system but we can advise you on how our parts can be integrated into your solution. We have worked examples, application notes and diagrams to help you achieve your safety requirements.

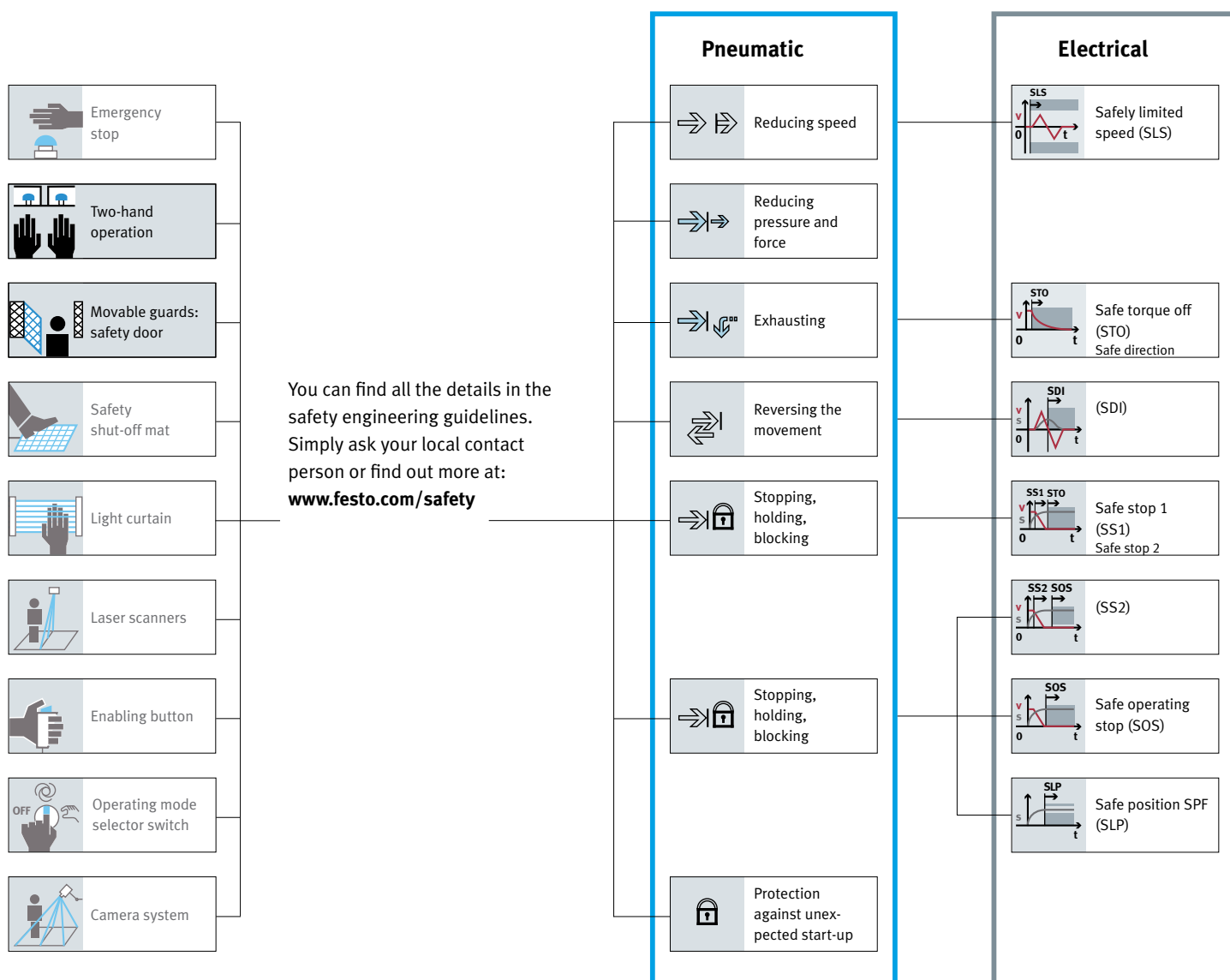
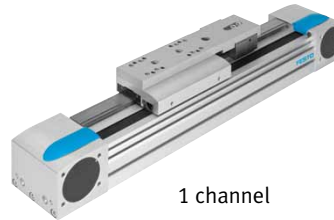
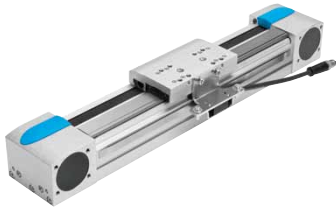


Figure 1: technical protective measures considered as a whole.  
The safety chain goes from the sensor via the safe evaluation to the drive.

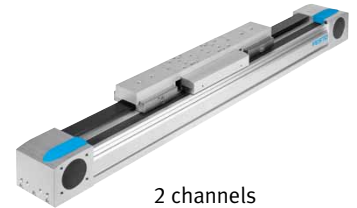
## Examples of mechanical safety solutions from Festo

### EGC – linear measuring system

The linear measuring system is not a complete safety solution but it can be used as part of a solution. A monitoring system is always required in this case. A 2-channel solution is possible together with a motor encoder and a suitable safety switching device.





1 channel





2 channels

### EGC – clamping unit

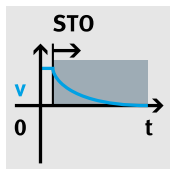
- 1- or 2-channel design, for holding loads
- Reliable holding is guaranteed since the forces act directly on the slides

	 Only linear measuring system	 With 2nd measuring system (encoder) in the servo motor
Kat	2	4
PL	d	e
dC	Medium	High
CCF	→65%	→65%
Channels	1	2
Safety component to MD 2006/42/EC	no	no

		
Kat	Can be used in higher category systems with additional measures	Can be used in higher category systems with additional measures
PL		
dC		
CCF		
Channels	1	2
Safety component to MD 2006/42/EC	no	no

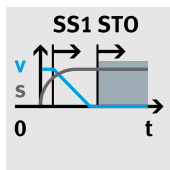
All specified values are maximum values, which can be achieved via correct operation and interconnection of the SRP/CS.

## Examples of electrical safety solutions from Festo with CMMT-AS



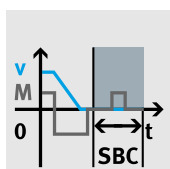
### STO

Safe torque off



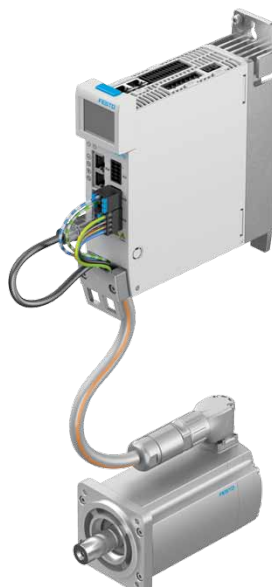
### SS1

Safe Stop 1



### SBC

Safe Brake Control



# The Handling Guide Online – the fast route to your handling system

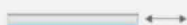
The Handling Guide Online is a powerful configuration tool. It minimises your engineering time and effort and guides you to the right solution in record time.

## From a concept to a CAD model in 10 minutes

### Selecting the handling solution

Select your handling system

#### Single-axis system



Single-axis movement:  
Single-axis module as a complete system.  
Easy to connect to your own front unit.

[Animation](#)

#### 2D linear gantry



Movements in 2D in the vertical working space:  
Linear gantries as complete systems.  
Electric and pneumatic axes can be combined

[Animation](#)

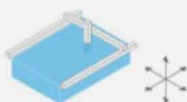
#### 2D gantry



Movements in 2D in the horizontal working space:  
Planar surface gantries as complete systems.  
Combining electric axes.  
Easy to connect to your own Z unit.

[Animation](#)

#### 3D gantry



Movements in 3D:  
Three-dimensional gantries as complete systems.  
Electric and pneumatic axes can be combined

[Animation](#)

1D, 2D, 3D Cartesian robots in one tool

No download required!

From  
concept  
to budget  
price in 10  
minutes

Web-based and integrated into  
the Festo Online Shop

Wide range of products integrated into one sizing tool

Data protection

[Continue](#)

### Axis definition and payload

Axis definition

Drive system of the axis

Y Electric: several positions

Z [Please select](#)

Required working stroke

[i](#)

Y  mm

Working stroke in Z direction

[i](#)

Z  mm

Take the stroke reserve into account in your specification

Payload

Sum of the weight of the front unit and the  
workpiece

kg

Distance from the centre of the load

[i](#)

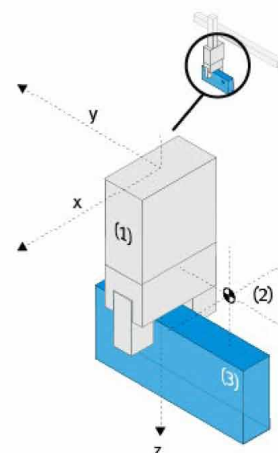
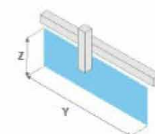
X  mm

[i](#)

Y  mm

[i](#)

Z  mm



Configuration  
tool is a  
delight to  
use

Solutions offered are based on Festo's  
extensive experience and engineering  
knowledge

Data protection

[Back](#)

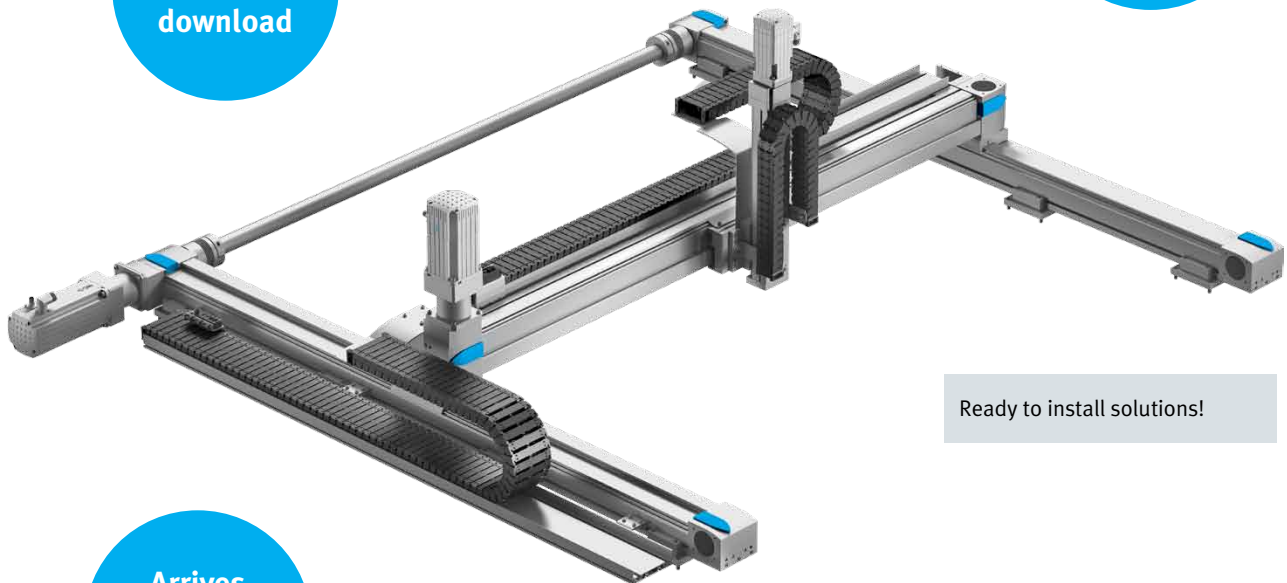
[Continue](#)

Your unique project number is stored for the future

Get your net price instantly

Free and  
instant CAD  
download

Delivery time:  
3 weeks



Ready to install solutions!

Arrives  
completely  
assembled

#### Festo warranty and technical files:

Each bespoke solution is based on your specific inputs. Each solution is accompanied by a project number specific to your configuration which can be kept for editing later, sent to a colleague or Festo contact. Included in the technical files are axis dimensions, motor characteristics, feed constants, dynamic data and so on.

Your cartesian robot is built up of mechanically and electrically matched parts to achieve your application loads and dynamics.

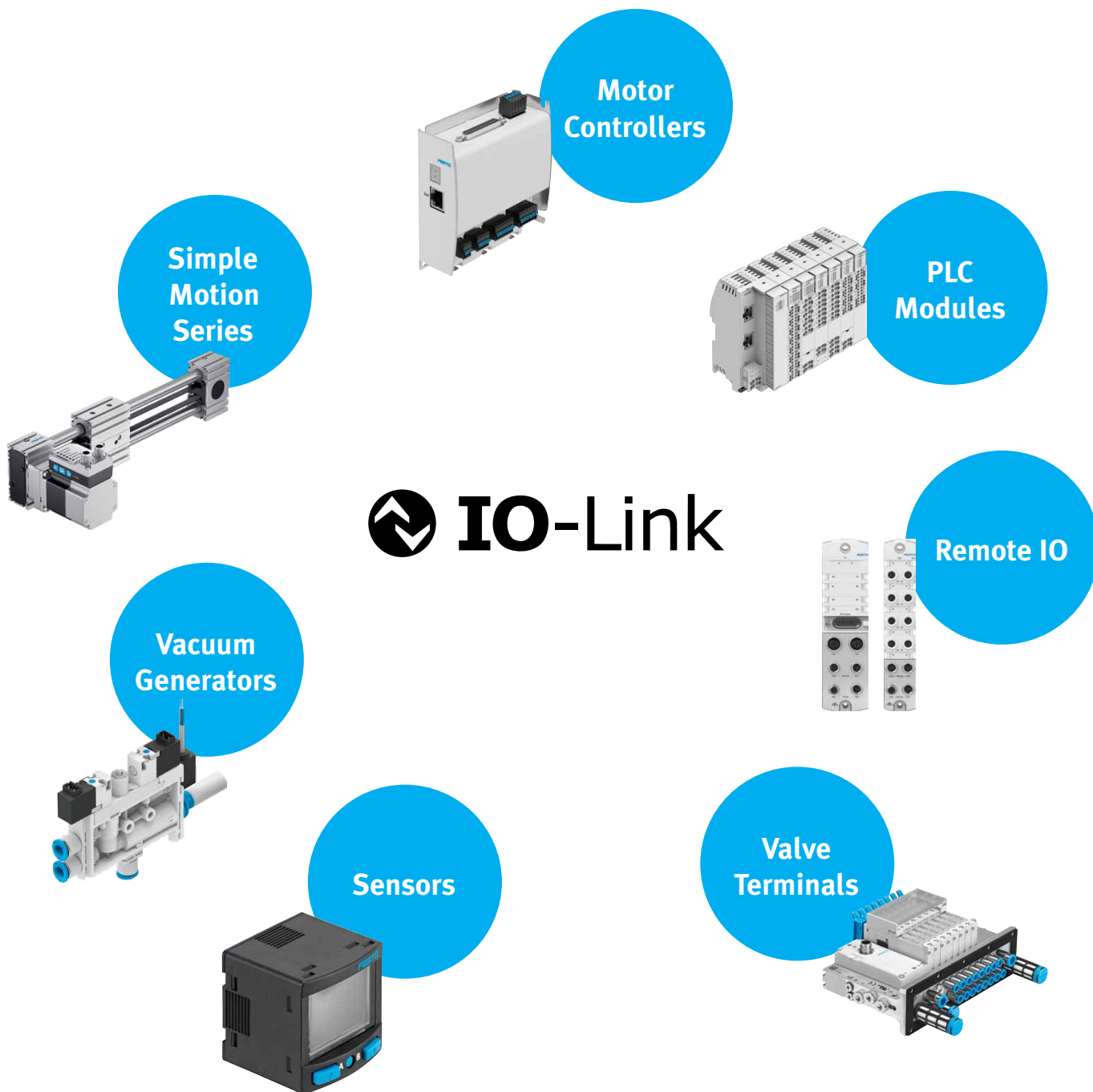


Scan me to configure a system

Reduce risk  
with a Festo  
warranty

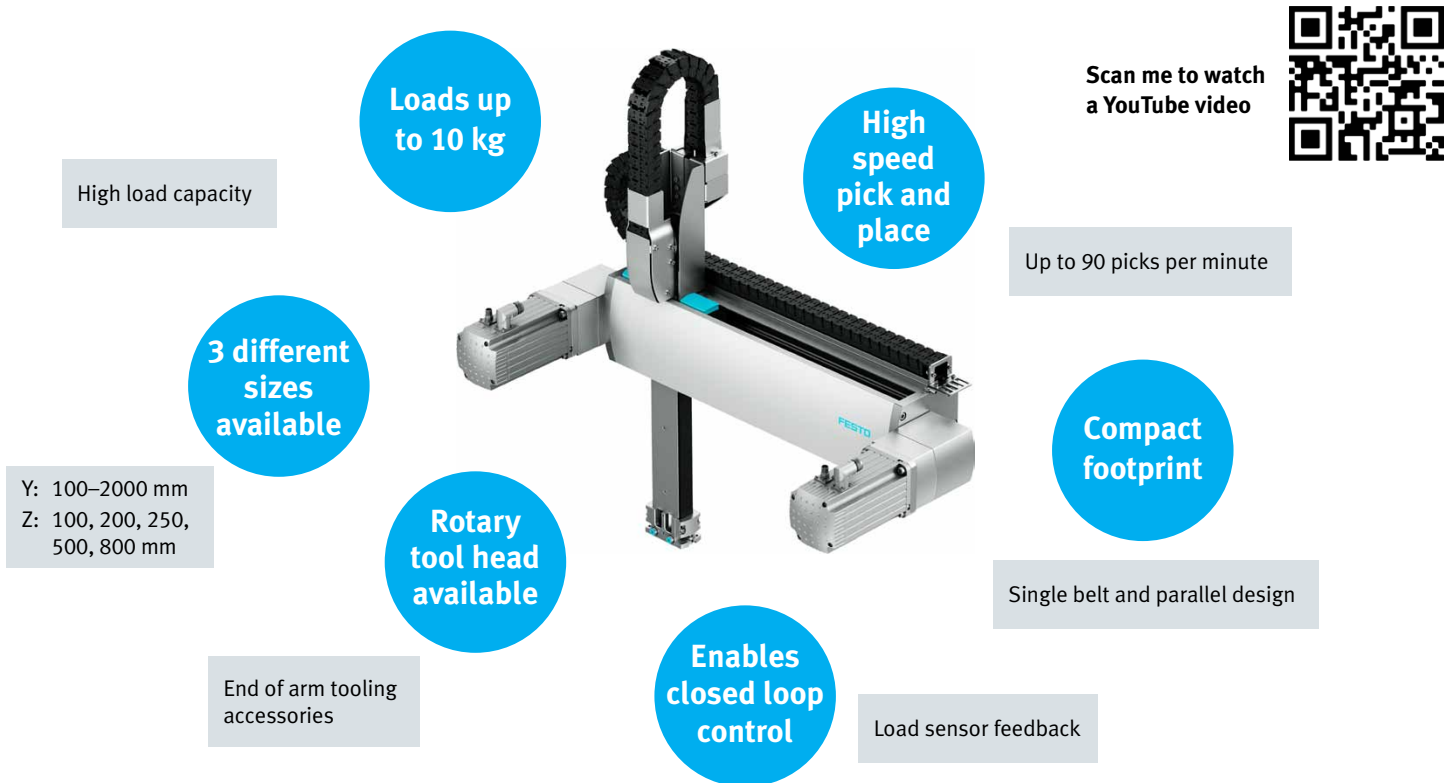
# All Set for Automation with IO-Link

Standardised IO-Link technology (IEC 61131-9) makes communication with sensors and actuators simple and economical. Achieves point-to-point connection without complex wiring and with minimal material requirements.



# High Speed Pick and Place: EXCT

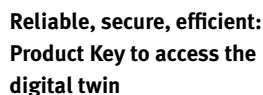
This cartesian high-speed handling system with robotic functionality has excellent dynamic response with over 90 picks/min and makes optimal use of the installation space.



# Servo Press Kit: YJKP

The modular servo press kit YJKP gives you just the software functions you need for your application. You get an extremely precise press-fitting system with a high level of repetition accuracy and an excellent price/performance ratio.





Enter it manually or scan it – and the Product Key gives you access to all available information for the product.

This enables you to order the spare part immediately. And to register (board) a cloud-enabled product directly in the cloud.

This not only makes all your processes more reliable and secure, it also boosts the efficiency, speed and profitability of your production.

## Circuit Diagrams and CAD models



## It's time to enjoy the benefits of accessing CAD data

- ✔ 2D/3D CAD interfaces for: AutoCAD®; Autodesk® Inventor™; CATIA® V5; Creo®; Pro/ENGINEER®; NX™; SOLID EDGE®; SolidWorks®
- ✔ EPLAN macros simplify and speed up electrical design
- ✔ FluidDraw for quickly creating electrical and pneumatic circuit diagrams

## Schematic Solutions for EPLAN projects

This circuit diagram service for complete EPLAN projects is unique to Festo. Schematic Solution for EPLAN projects documents your configured solutions in next to no time!

Simply enter the order code in App World and receive the complete plan in just a few minutes – error-free and trouble-free. Tedious searching, downloading and assembling of individual parts is a thing of the past.

Your engineering process will be much more efficient since you only need 4 minutes instead of 2 to 8 hours to design your system. This Eplan Schematic Solution Service is already available for complete, individually configured valve terminals and for customer-specific handling systems and control cabinets from Festo.

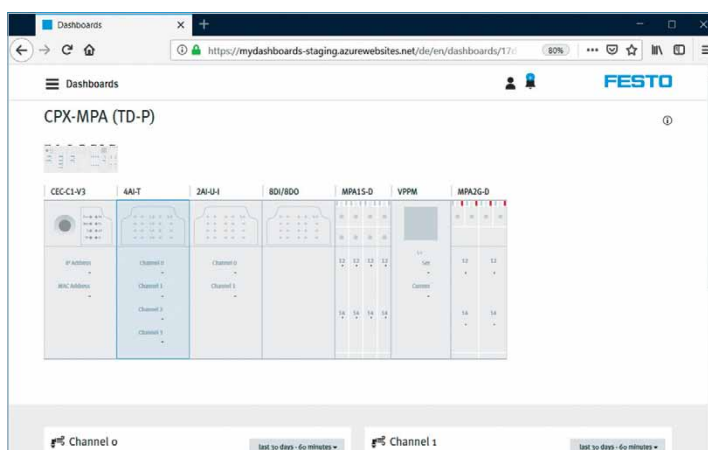
This also applies to the configurable products from the new CMMT range and the range of controllers CPX-E.



## Dashboards and Festo Cloud Dashboards

Through the Festo Cloud, Festo products can then also be connected to the Internet of Things (IoT). Whether you're a machine builder or operator, you'll benefit from the easy plug-and-play approach, as there is no longer any need for extensive configuration. This dramatically improves the transparency and availability of your automation solutions.

The IoT gateway CPX-IOT enables you to consolidate, analyse and provide important additional data via standardised interfaces. It can detect Festo components and integrate them into the cloud.



→ [www.festo.com/appworld](http://www.festo.com/appworld)

→ [www.festo.com/getdigitalnow](http://www.festo.com/getdigitalnow)

## Smartenance – Mobile digital maintenance management

The digital maintenance manager for production managers and system operators is being launched. Festo Smartenance is one of the first exclusively digital products from Festo. It enables our end customers to schedule, monitor and evaluate system maintenance independently of our components. Smartenance is easy to install, self-explanatory and provides a simple, low-cost introduction to the world of digitalisation.

- Mobile, digital maintenance instructions – for system operators
- Maintenance task reminders and feedback – for system operators
- Central evaluation of maintenance tasks – for production managers



# Meet the Festo Irish team



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