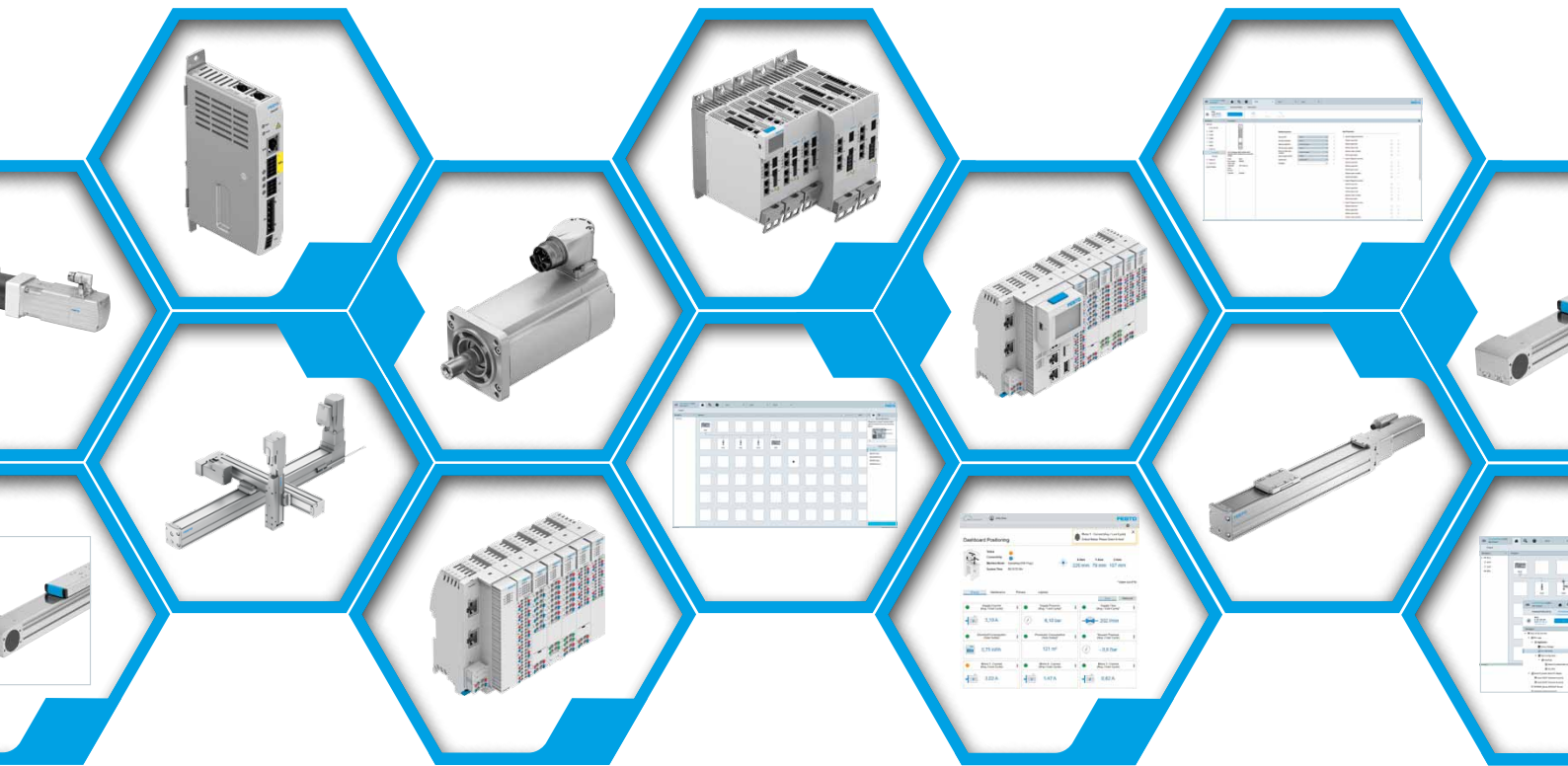


# Motion by Festo

**FESTO**

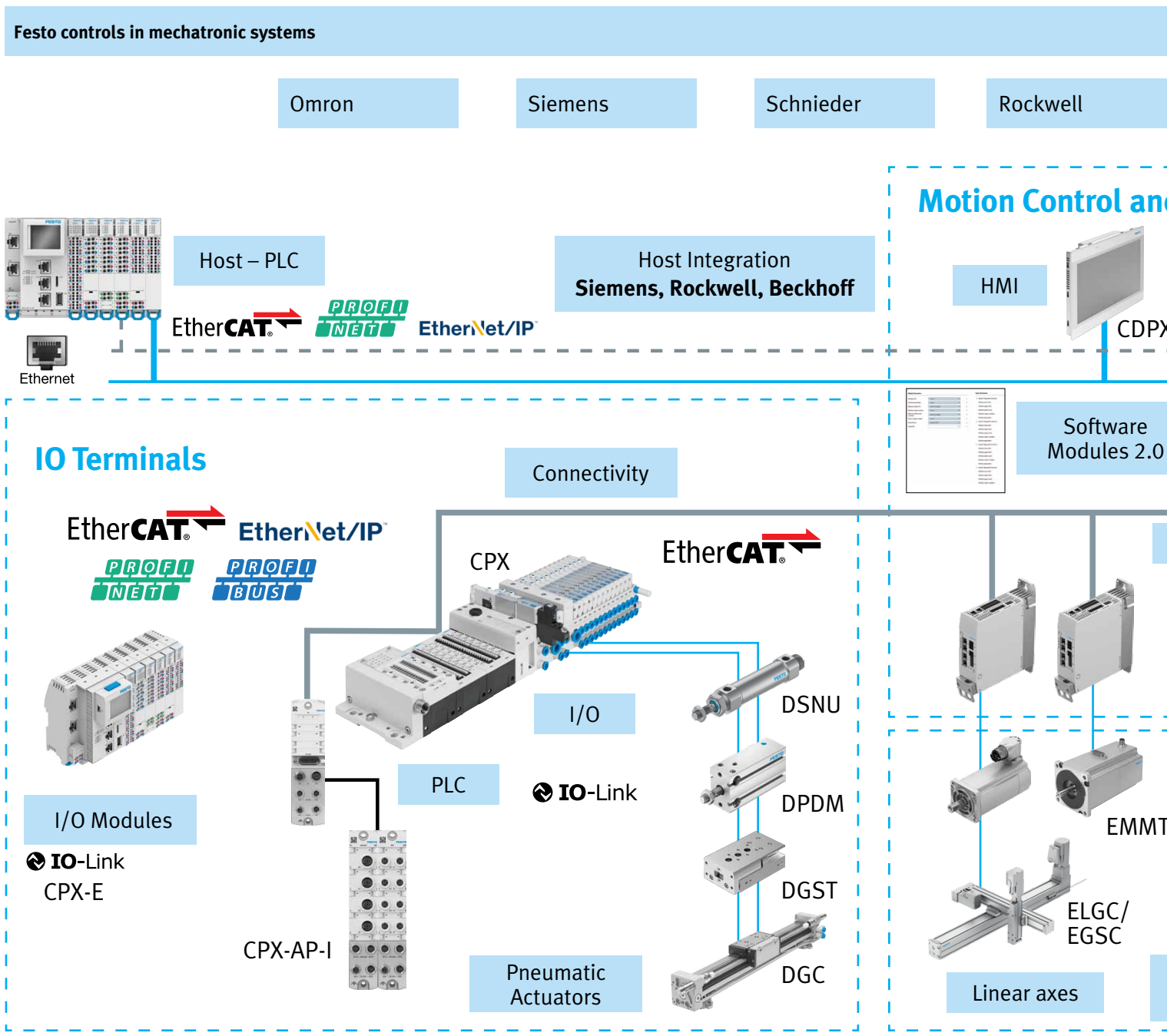


**Electric Automation – Products & Services Offer**

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

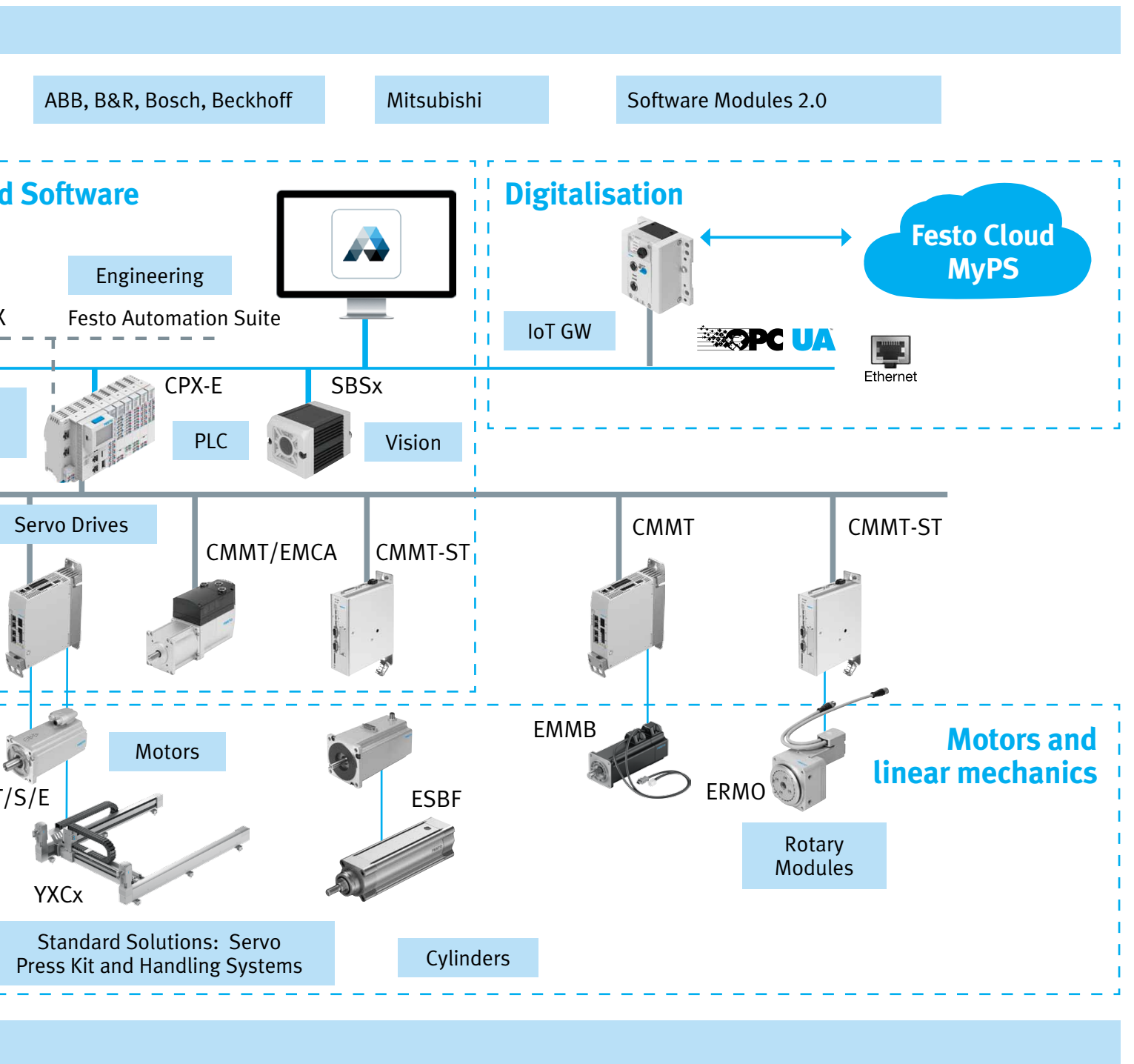
## → WE ARE THE ENGINEERS OF PRODUCTIVITY.

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

**Simple operation**

Simplified functionality for simple movements

Complete solution package for simple movement

Integrated products eliminate the need for a control cabinet

Quick and easy commissioning without software and special expertise

Digital I/O and IO-Link integrated as standard

**No software needed**

## Sizing and selection is made easy



Simplified Motion Series – Solution Finder

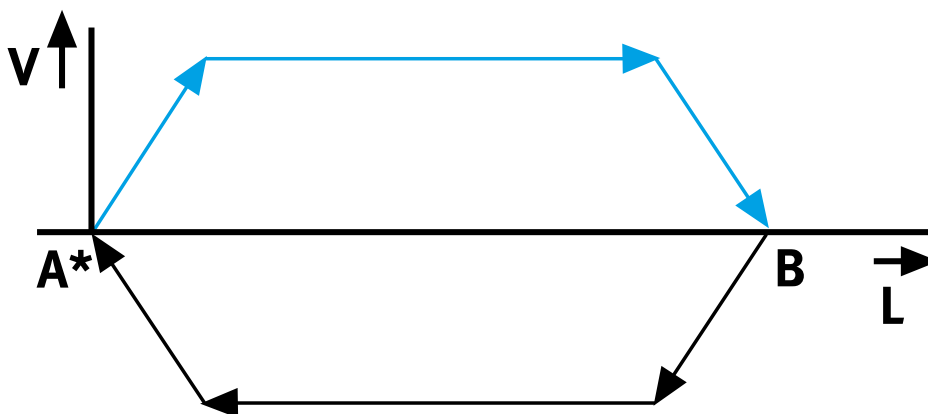
Stroke



Payload



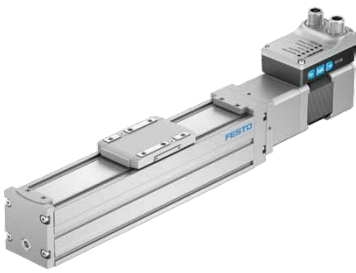
## Controlling simple motion



**24V Extend  
24V Retract**

Basic movement between two end positions: with speed control

Overview of the products in the Simplified Motion Series



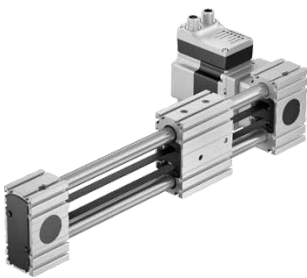
Spindle axis ELGC-BS



Electric gripper EHPS



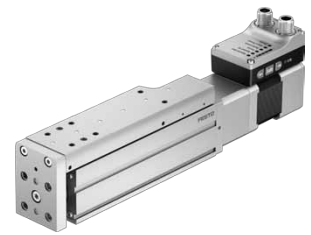
Electric cylinder EPCS



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 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.

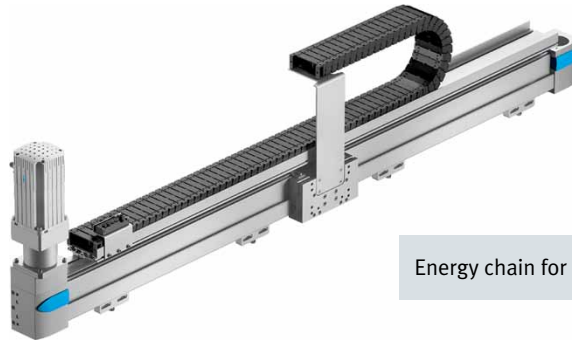
## 1D Handling Systems

Bespoke solutions for your application

Fully assembled and tested

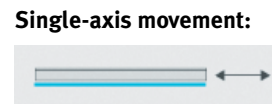
Sturdy design ideal for big or small loads

No oversizing or undersizing risk. Correctly sized for your task



Energy chain for reliable operation

Motion package, motor plus controller plus linear drive



## 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

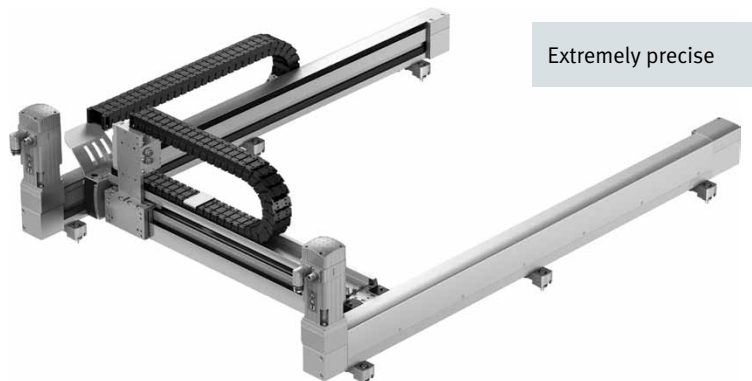
Ideal for long strokes and high payloads

Great for long strokes

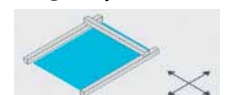
High mechanical rigidity

User-friendly mounting and assembly

Extremely precise

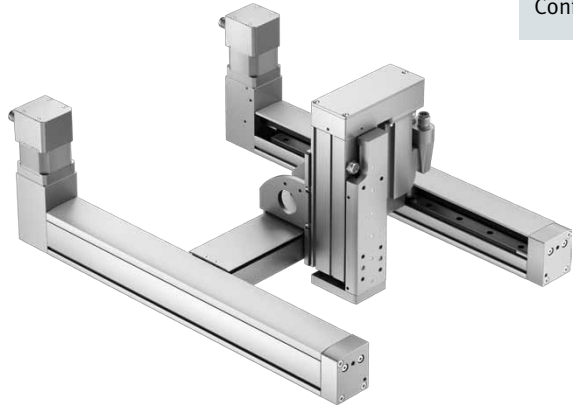


2D gantry:



## 3D Handling Systems

Excellent footprint to working envelope ratio



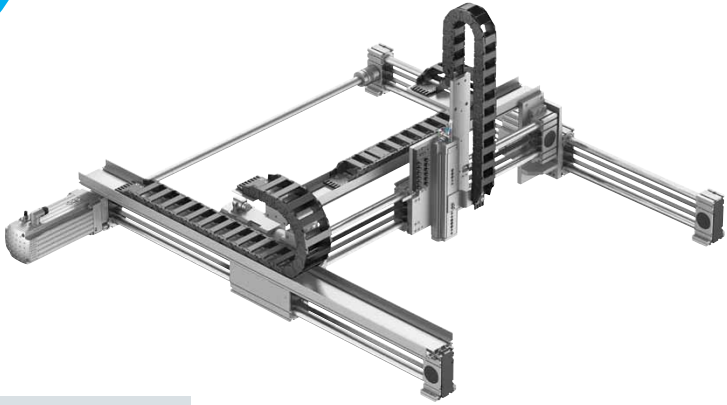
Configurable length and width

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



→ Start the Handling Guide Online

# Modular Control System CPX-E

## Festo remote IO Evolution

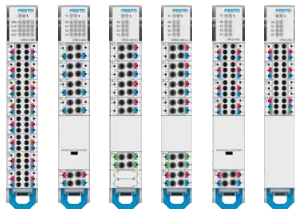
**Compact**

Very small footprint

**Servo control made easy**

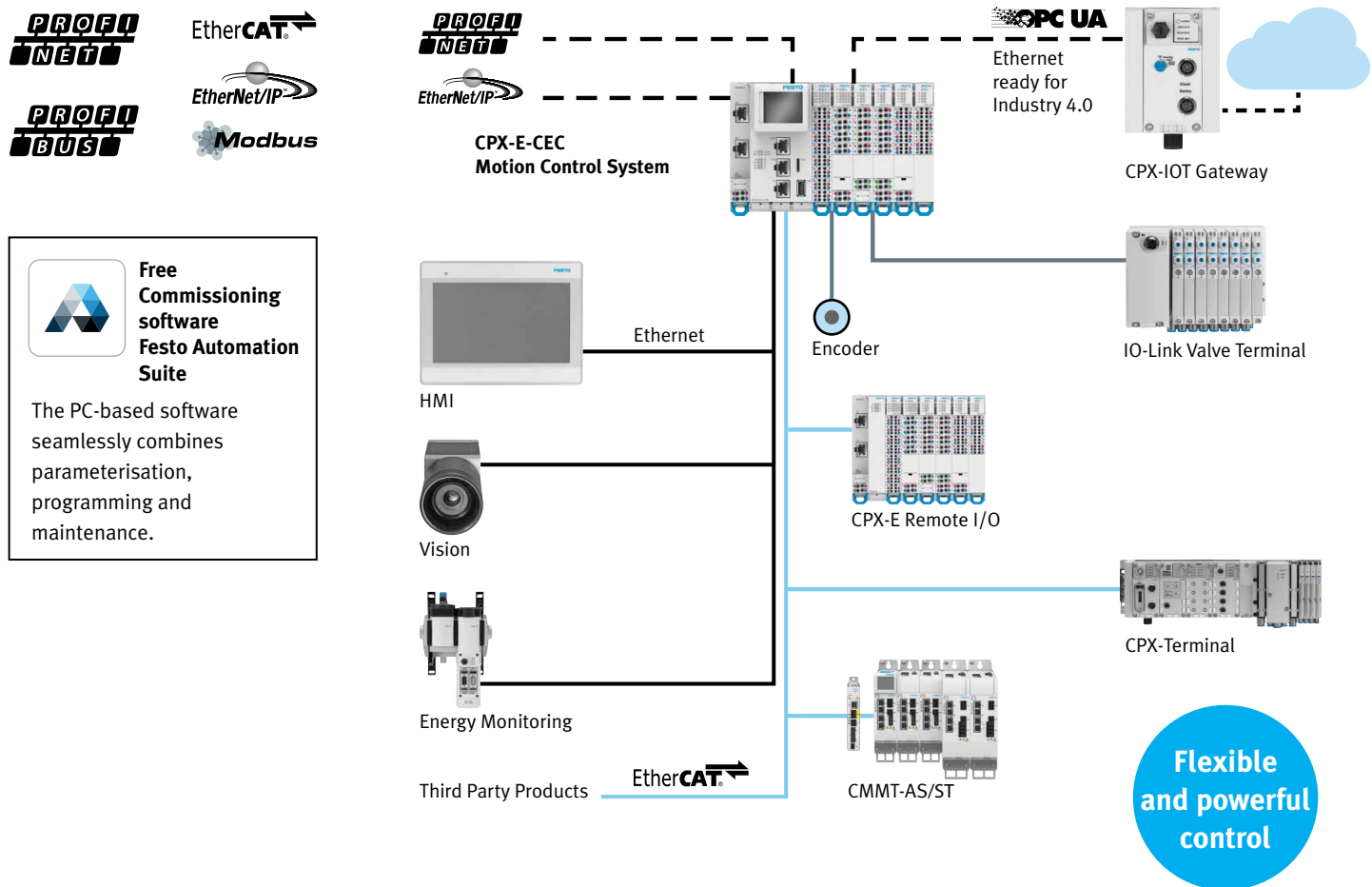
Integrated EtherCat Master

**CoDeSysV3**



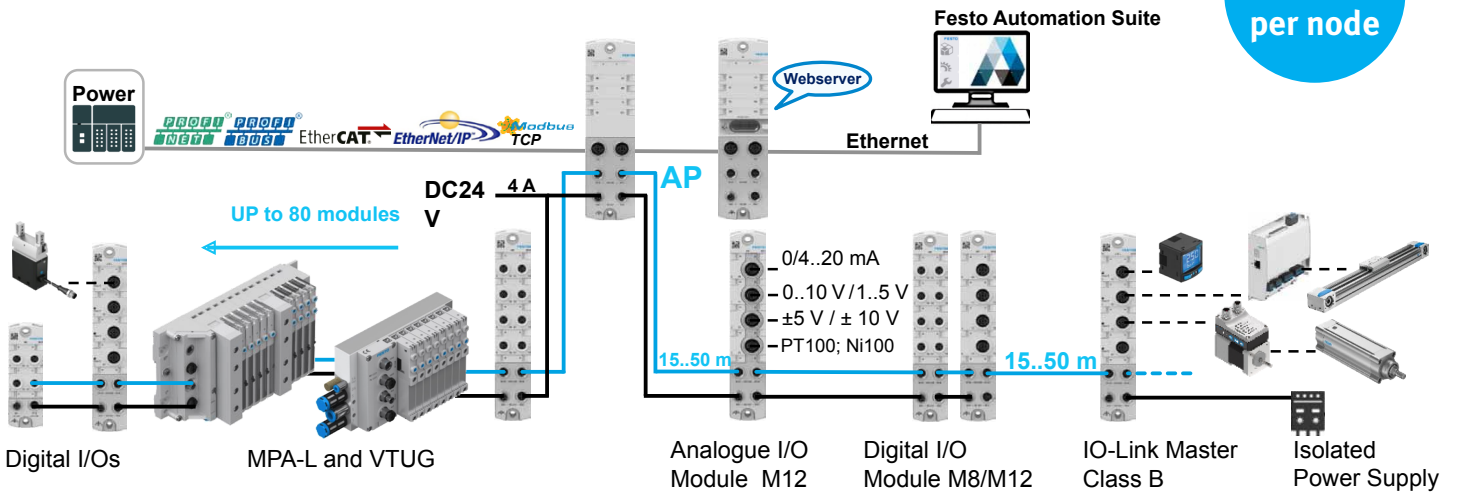
- Modular modules
- Digital input modules
- Digital output modules
- Analogue input modules
- Analogue output modules
- Counter module
- IO Link master modules

### Architecture of the automation system CPX-E



# CPX-API

Up to 80 devices per node



Very compact units

Reduce wiring cost and volume

## Available modules

Fieldbus Modules	Electric IO Modules	Valve Modules
<p>EtherCAT</p> <p>EtherNet/IP</p> <p>Modbus</p> <p>PROFINET</p> <p>PROFI-BUS</p>	<ul style="list-style-type: none"> <li>• 8 DI*</li> <li>• 4 DI</li> <li>• 4 DI / 4 DO*</li> <li>• 4 AI / RTD</li> <li>• 4 IO-Link Master</li> </ul>	<p>VTUG Module</p> <p>MPA-L Module</p>

Ingress protected

IP 65/67

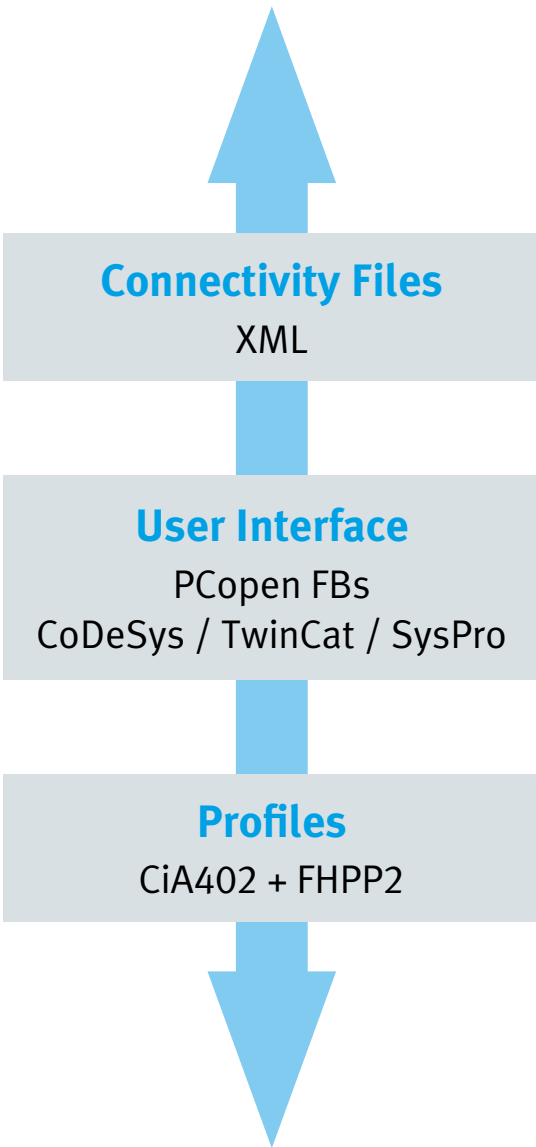
Decentral valve and IO management

Keep your cabinets small

# Connectivity and Interface Files

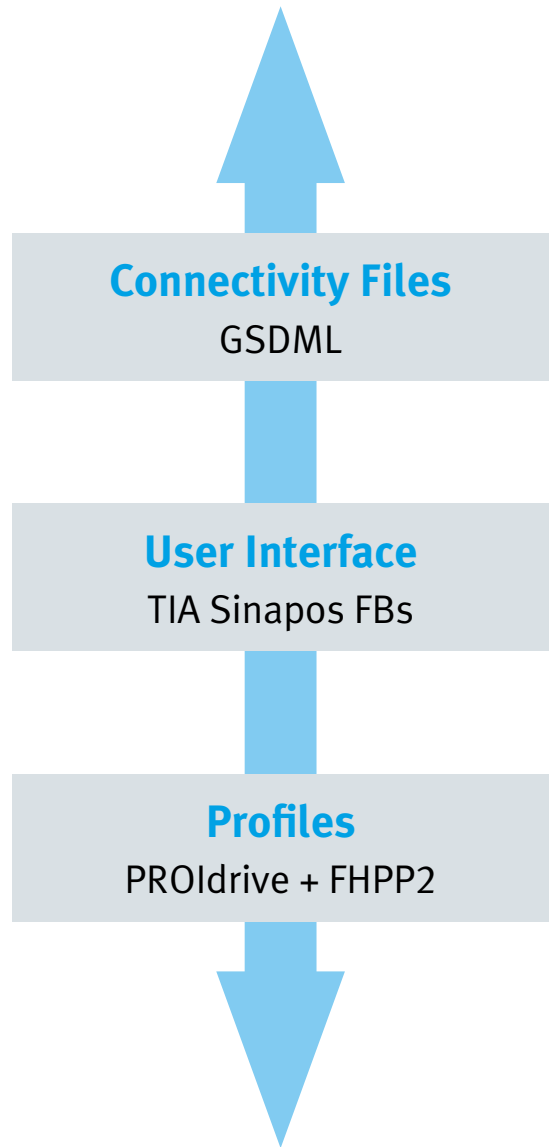
Files available to connect from us to you

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



**EtherCAT**<sup>®</sup>

**SIEMENS**



**PROFINET**

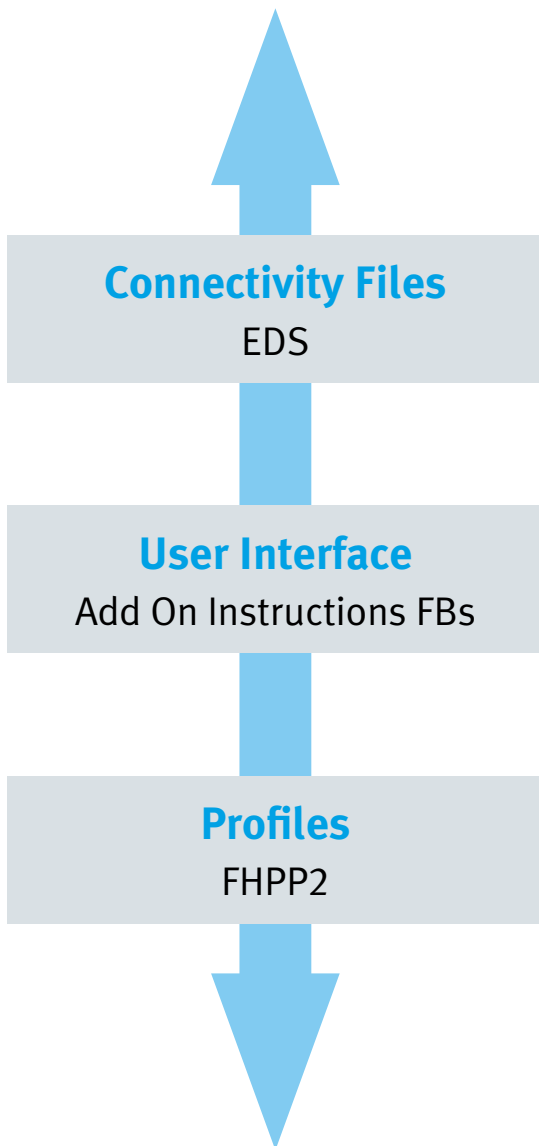


# Allen-Bradley

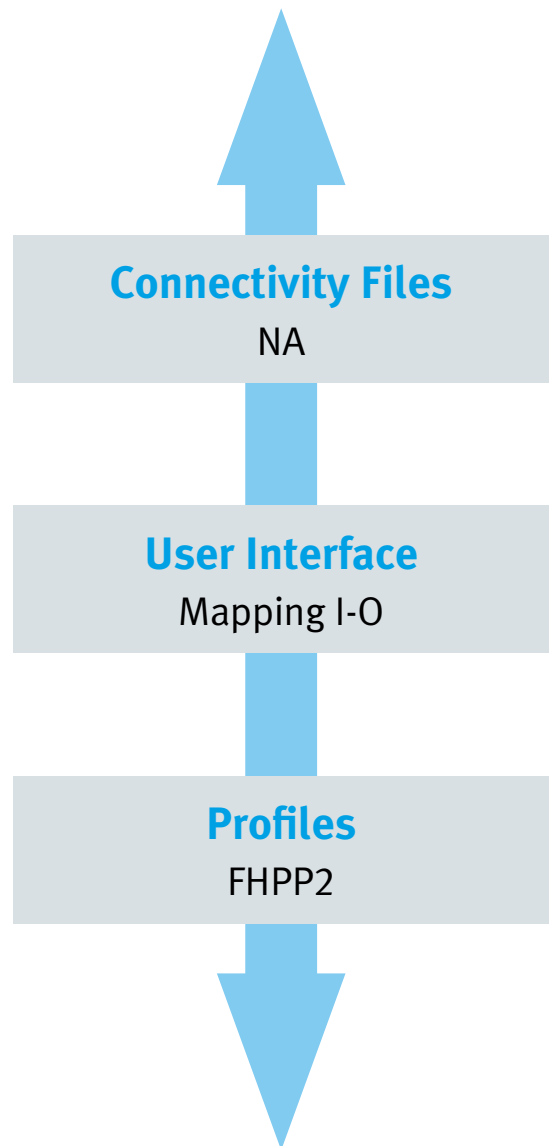
by ROCKWELL AUTOMATION



## 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.

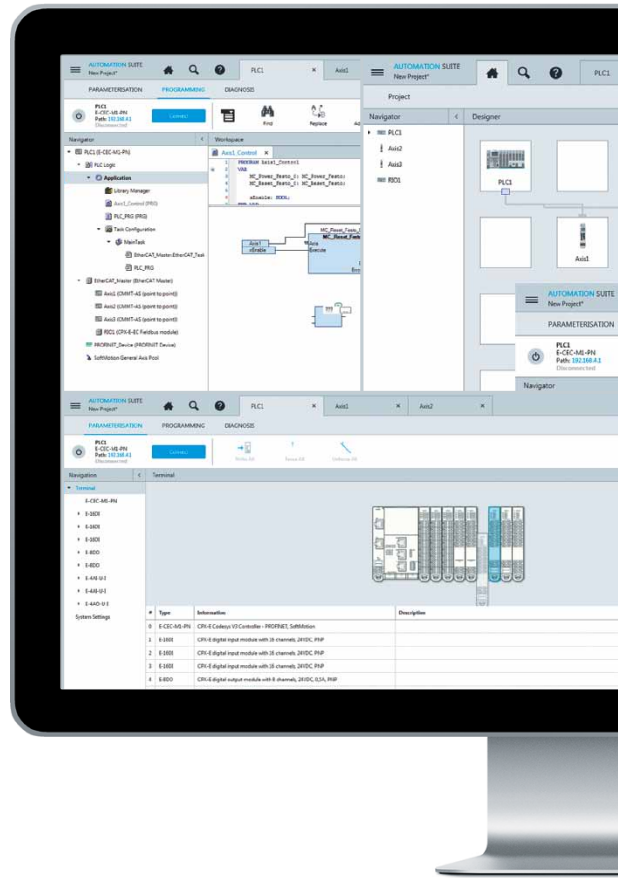
Festo Autom

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 rogramming**

- 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:

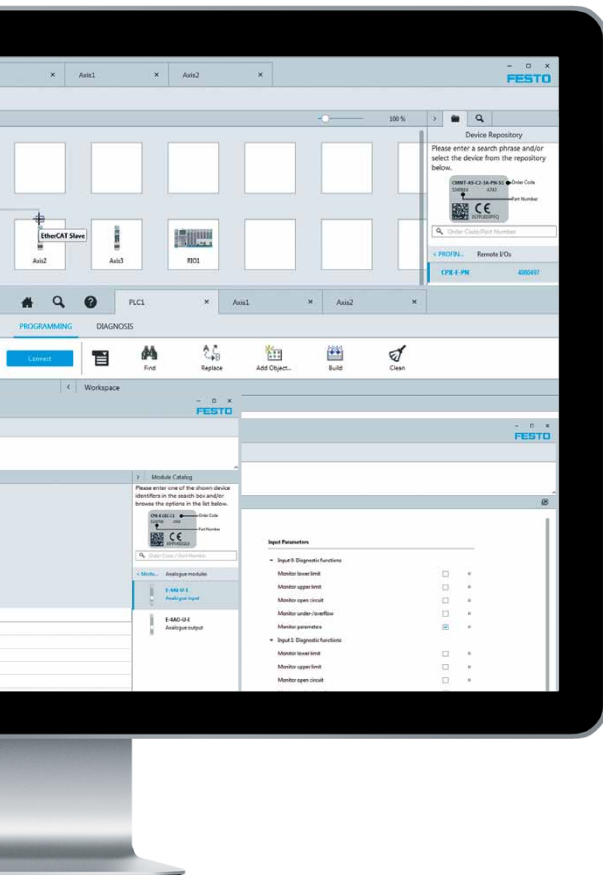
[→ Festo.com/AutomationSuite](https://Festo.com/AutomationSuite)


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

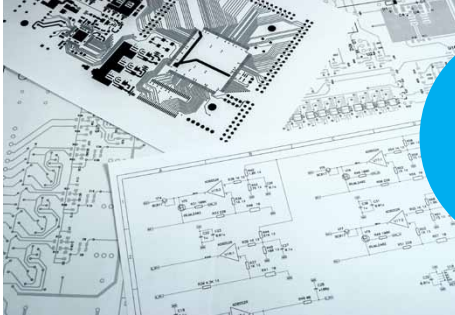
## Application notes



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

Get started quickly

### Safety @ Festo



Program your applications quickly and easily

Application notes to support you. Worked examples

# 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

Custom solution

Combination of technical sales team and technical support team

Bespoke engineered solutions for your applications

Our team will help you perform



A wealth of engineering experience across industries

Prototyping

Proof of concept to reduce risk

## 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)**

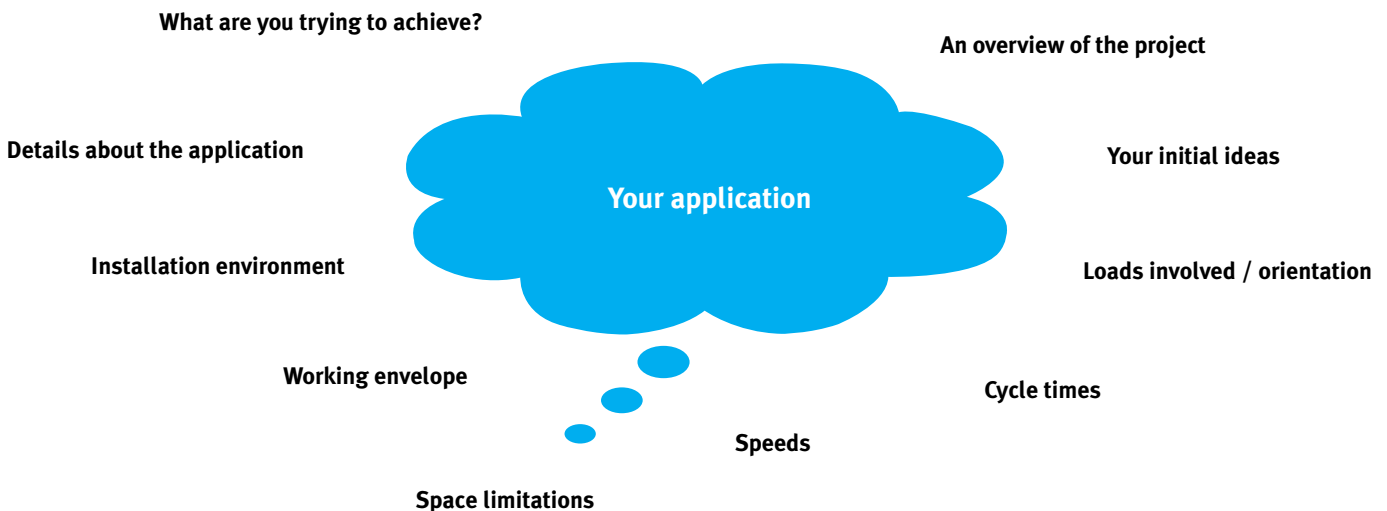
## Guide to get application support

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.

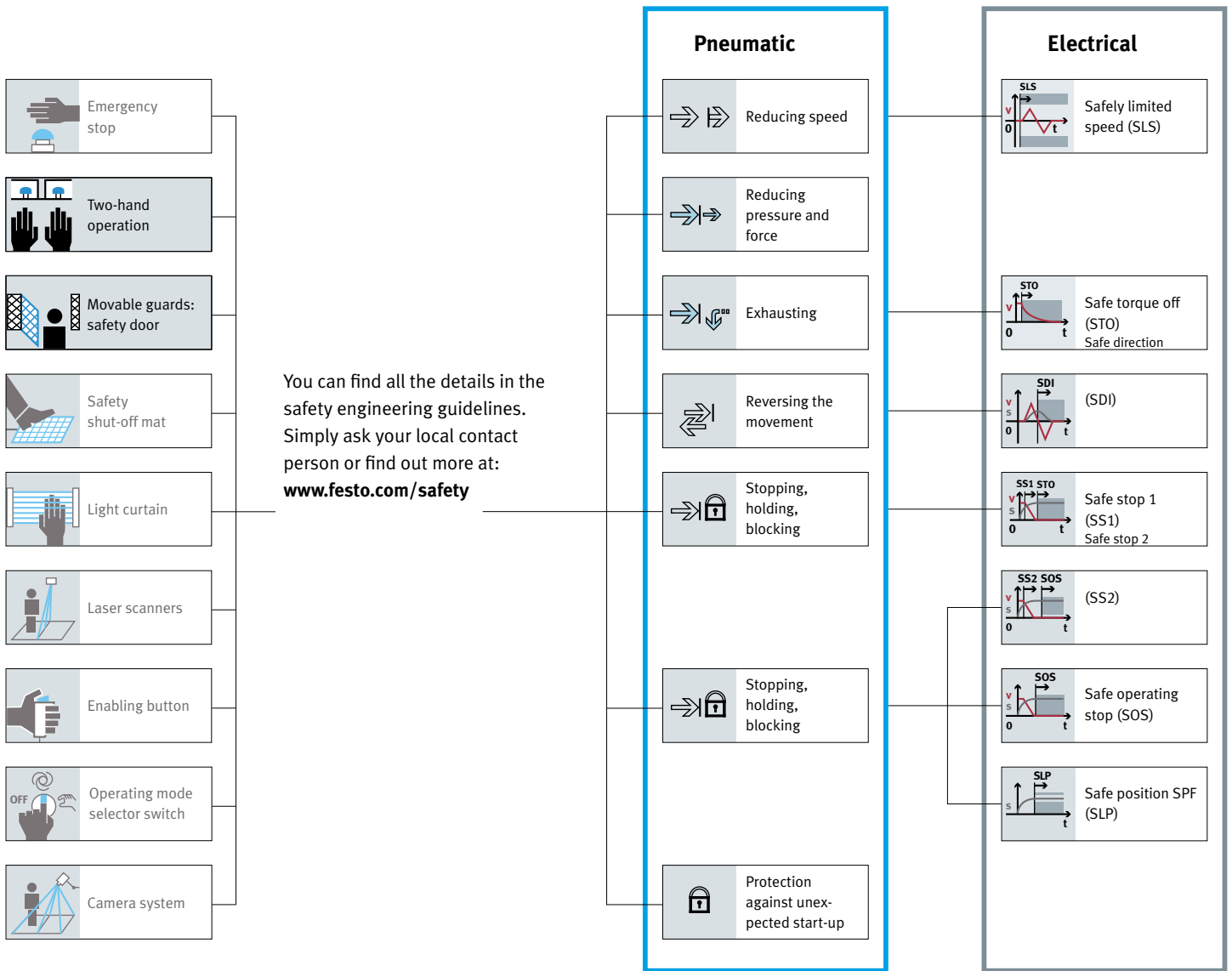
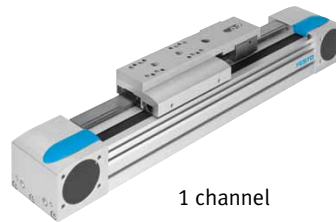
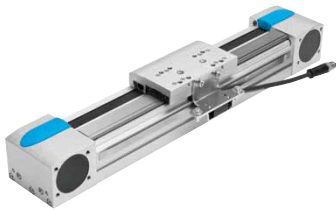


Figure 1: technical protective measures considered as a whole. The safety chain goes from the sensor via the safe evaluation to the drive.

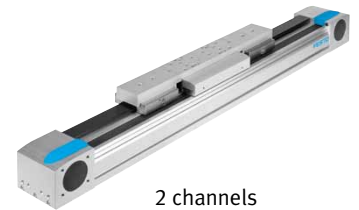
## Examples of mechanical safety solutions from Festo

### 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

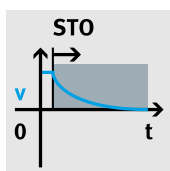
- 1- or 2-channel design, for holding loads
- Reliable holding is guaranteed since the forces act directly on the slides

	 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

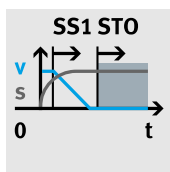
		
Kat	Can be used in higher category systems with additional measures	Can be used in higher category systems with additional measures
PL		
dC		
CCF		
Channels	1	2
Safety component to MD 2006/42/EC	no	no

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

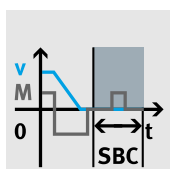
## Examples of electrical safety solutions from Festo with CMMT-AS



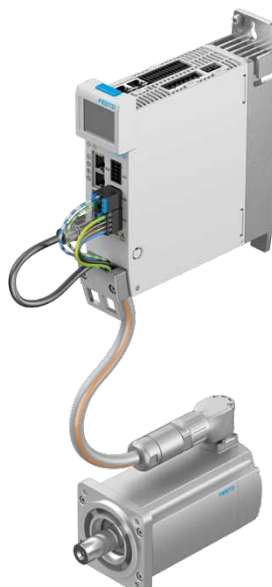
**STO**  
Safe torque off



**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**



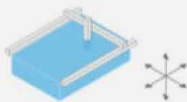
Movements in 2D in the vertical working space:  
Linear gantries as complete systems.  
Electric and pneumatic axes can be combined  
[Animation](#)

**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](#)

No download required!

From  
concept  
to budget  
price in 10  
minutes

Web-based and integrated into  
the Festo Online Shop

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

Wide range of products integrated into one sizing tool

**Configuration  
tool is a  
delight to  
use**

Data protection

[Continue](#)

---

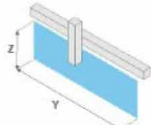
### Axis definition and payload

Axis definition

Drive system of the axis

Y Electric: several positions

Z Please select



Required working stroke

Working stroke in Z direction

Take the stroke reserve into account in your specification

Y  mm

Z  mm

**Payload**

Sum of the weight of the front unit and the workpiece

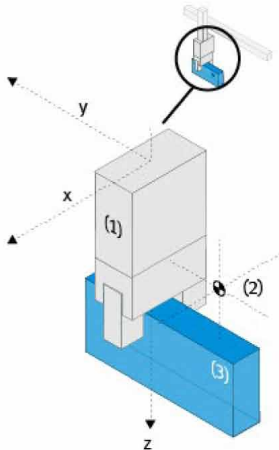
Distance from the centre of the load

kg

X  mm

Y  mm

Z  mm



Data protection

[Back](#) [Continue](#)

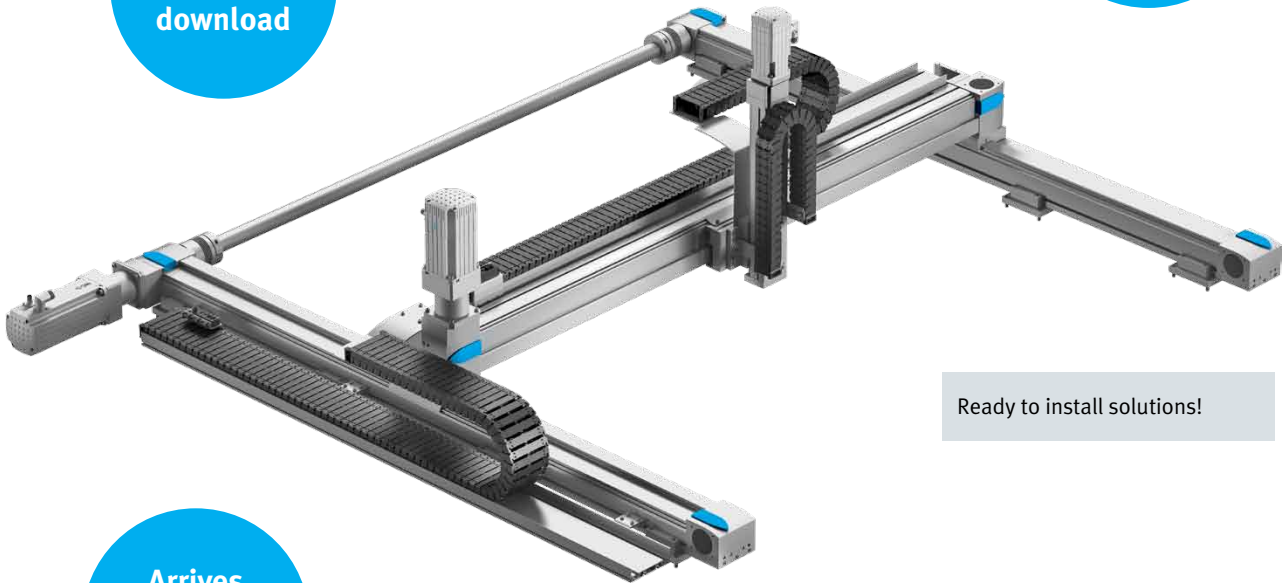
Solutions offered are based on Festo's extensive experience and engineering knowledge

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

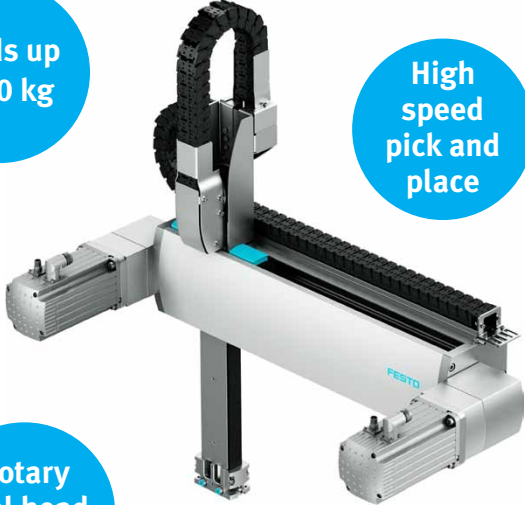
# All Set for Automation with IO-Link

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.



Scan me to watch a YouTube video

High load capacity

Loads up to 10 kg

High speed pick and place

Up to 90 picks per minute

3 different sizes available

Compact footprint

Y: 100–2000 mm  
Z: 100, 200, 250, 500, 800 mm

Rotary tool head available

Single belt and parallel design

End of arm tooling accessories

Enables closed loop control

Load sensor feedback

## 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.



Sophisticated pre-programmed control logic

Very accurate position and accuracy

Great value

Excellent price to performance ratio

Makes set-up easy

High force

Up to 17 kN

Simple user interface application

Enables closed loop control

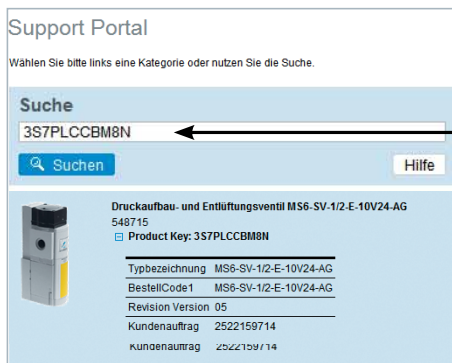
Process validation data available to record

Process monitoring for pass/fail

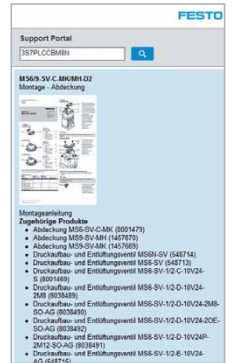
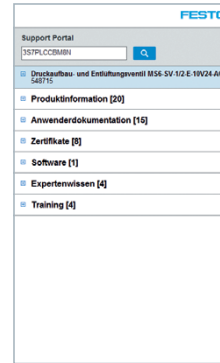
Load sensor feedback

Scan me to watch a YouTube video

# Digital Added Value



3S7PLCCBM8N



**Reliable, secure, efficient:**  
Product Key to access the digital twin

Find information quickly and without lengthy searches – that is the aim of the Support Portal and Product Key.

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

If the product consists of many individual parts/modules, you will even find everything at a glance!

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

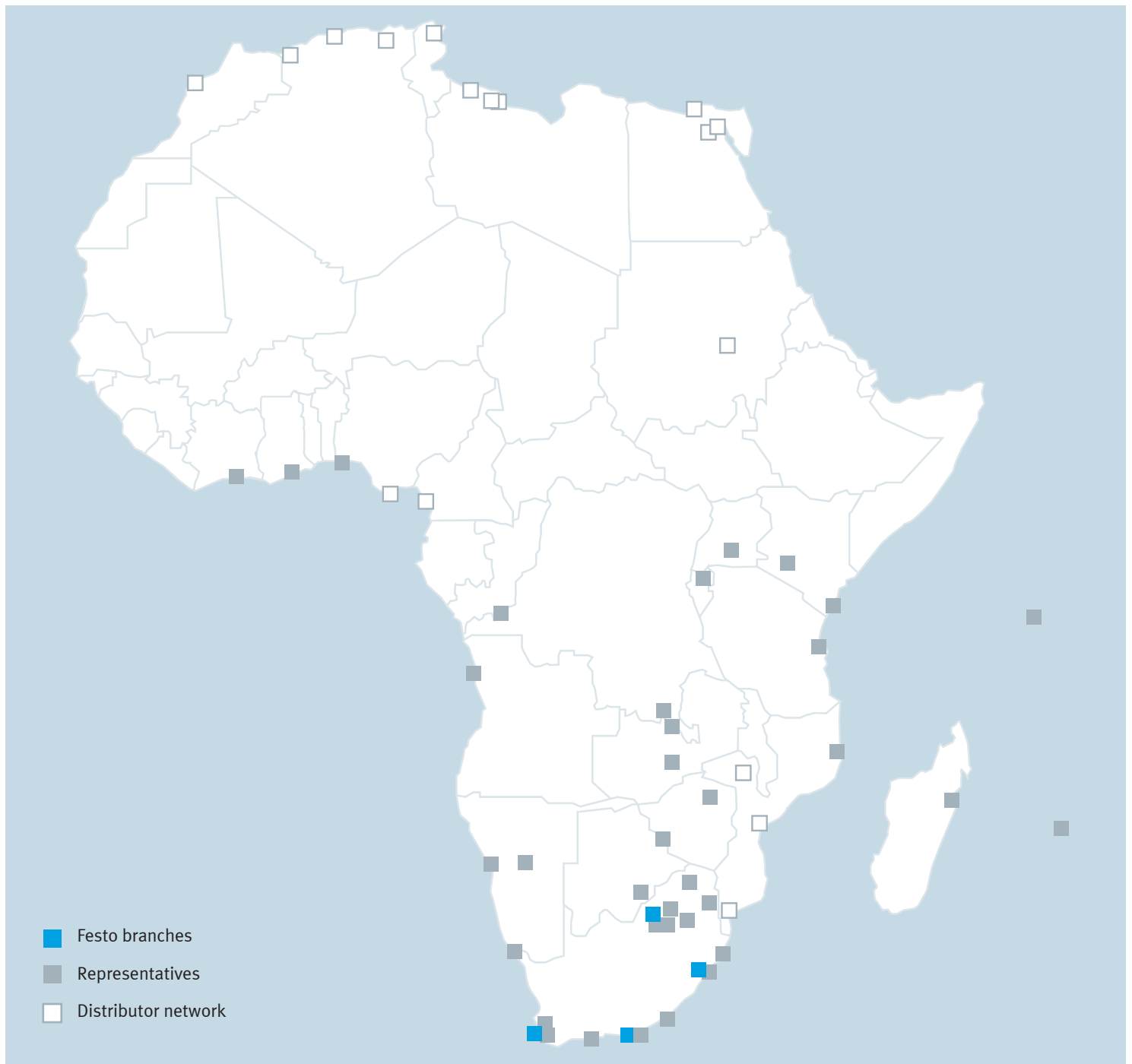


Many solutions can only be envisioned if they can be seen. Whether pneumatic or electrical, we create a circuit diagram for your solution using our simulation tools.

**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

# Festo - Your partner in automation



## Festo South Africa branches

### 1 Johannesburg

**Head office**  
18-26 Electron Avenue  
Isando, Kempton Park,  
1600

### 2 Durban

33 Island Circle, Unit 105,  
River horse Valley/Park,  
Newlands East, Durban  
4017

### 3 Gqeberha

70, 2nd Avenue, Southern Life  
Gardens, Block D  
Newton Park, Gqeberha  
6055

### 4 Cape Town

Unit 111, The Cliffs Office  
Block 2, Niagara Road Tyger  
Falls, Waterfront, Bellville  
7530

## Contact us

**Tel:** 08600 FESTO (33786)

**Email:** sales.za@festo.com

**www.festo.co.za**